Yealink

SIP-T2 Series/T4 Series/T5 Series IP Phones Administrator Guide

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Yealink IP phone firmware contains third-party software under the GNU General Public License (GPL). Yealink uses software under the specific terms of the GPL. Please refer to the GPL for the exact terms and conditions of the license.

The original GPL license, source code of components licensed under GPL and used in Yealink products can be downloaded from Yealink web site: http://www.yealink.com/onepage_83.html.

Introduction

Yealink administrator guide provides general guidance on setting up phone network, provisioning and managing phones.

This guide is not intended for end users, but for administrators with experience in networking who understand the basic of open SIP networks and VoIP endpoint environments.

As an administrator, you can do the following with this guide:

- Set up a VoIP network and provisioning server.

- Provision the phone with features and settings.

- Troubleshoot, update and maintain phones.

The information detailed in this guide is applicable to the following Yealink devices running firmware version 83 or higher:

- T5 series IP phones, including T54S and T52S.

- T4 series IP phones, including T48S/G, T46S/G, T42S/G, T41S/P and T40P/G.

- T2 series IP phones, including T29G, T27P/G, T23P/G, T21(P) E2 and T19(P) E2.

- Expansion modules, including EXP20, EXP40 and EXP50.

Read the Yealink Products Regulatory Notices guide for all regulatory and safety guidance.

Related Documentations

The following related documents are available:

- Quick Start Guides, describe how to assemble IP phones and configure the most basic features available on IP phones.

- User Guides, describe how to configure and use the basic and advanced features available on IP phones via phone user interface or via web user interface.

- Auto Provisioning Guide, describes how to provision IP phones using the boot file and configuration files.

  The *Auto Provisioning Guide* is to serve as a basic guidance for provisioning Yealink IP phones with a provisioning server. If you are novice, this guide is helpful for you.

- Using features integrated with Broadsoft UC-One, refer to the following two guides to have a better knowledge of BroadSoft features.

  IP Phones Deployment Guide for BroadSoft UC-One Environments, describes how to configure BroadSoft features on the BroadWorks web portal and IP phones.

  IP Phone Features Integrated with BroadSoft UC-One User Guide, describes how to configure and

use IP phone features integrated with BroadSoft UC-One on Yealink IP phones.

For support or service, please contact your Yealink reseller or go to Yealink Technical Support online: http://support.yealink.com/.

Recommended References

For more information on configuring and administering other Yealink products not included in this guide, refer to product support page at Yealink Technical Support.

To access the latest Release Notes or other guides for Yealink IP phones, refer to the Document Download page for your phone at Yealink Technical Support.

If you want to find Request for Comments (RFC) documents, type *http://www.ietf.org/rfc/rfcNNNN.txt* (NNNN is the RFC number) into the location field of your browser.

For other references, look for the hyperlink or web info throughout this administrator guide.

Typographic and Writing Conventions

Yealink documentations contain a few typographic conventions and writing conventions.

You need to know the following basic typographic conventions to distinguish types of in-text information:

Convention	Description
Bold	Highlight the web/phone user interface items such as menus, menu selections, soft keys, or directory names when they are involved in a procedure or user action (for example, click **Settings**->**Upgrade**.). Also used to emphasize text (for example, **Important!**).
Italics	Used to emphasize text, to show the example values or inputs (format of examples: *http(s)://[IPv6 address]*).
Blue Text	Used for cross references to other topics related to this topic (for example, Ring Tones), for hyperlinks to external sites and documents, for example, RFC 3315 or Yealink_SIP_IP_Phones_Auto_Provisioning_Guide.

You also need to know the following writing conventions to distinguish conditional information:

Convention	Description
<>	Indicate that you must enter information specific to phone or network. For example, when you see <MAC>, enter your phone's 12-digit MAC address. If you see <phoneIPAddress>, enter your phone's IP address.

Convention	Description
->	Indicate that you need to select an item from a menu. For example, **Settings**->**Basic Settings** indicates that you need to select **Basic Settings** from the **Settings** menu.

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Getting Started

This chapter describes where Yealink IP phones fit in your network and provides basic initialization instructions of IP phones.

Topics

Requirements

In order to perform as SIP endpoints in your network successfully, you need the following in deployments:

- A working IP network is established.

- VoIP gateways configured for SIP.

- The latest (or compatible) firmware of IP phones is available.

- A call server is active and configured to receive and send SIP messages.

- A text editor, such as UltraEdit, to create and edit boot files, configuration files and resource files.

Yealink IP Phones in a Network

Most Yealink IP phones are connected physically through a Category 5E (CAT5E) cable to a 10/100/1000Mbps Ethernet LAN, and send and receive all data using the same packet-based technology. Some phones support wireless network.

Since the IP phone is a data terminal, digitized audio being just another type of data from its perspective, the phone is capable of vastly more than traditional business phones. Moreover, Yealink IP phones run the same protocols as your office personal computer, which means that you can develop many innovative applications without resorting to specialized technology.

There are many ways to set up a phone network using Yealink IP phones. The following shows an example of a network setup:
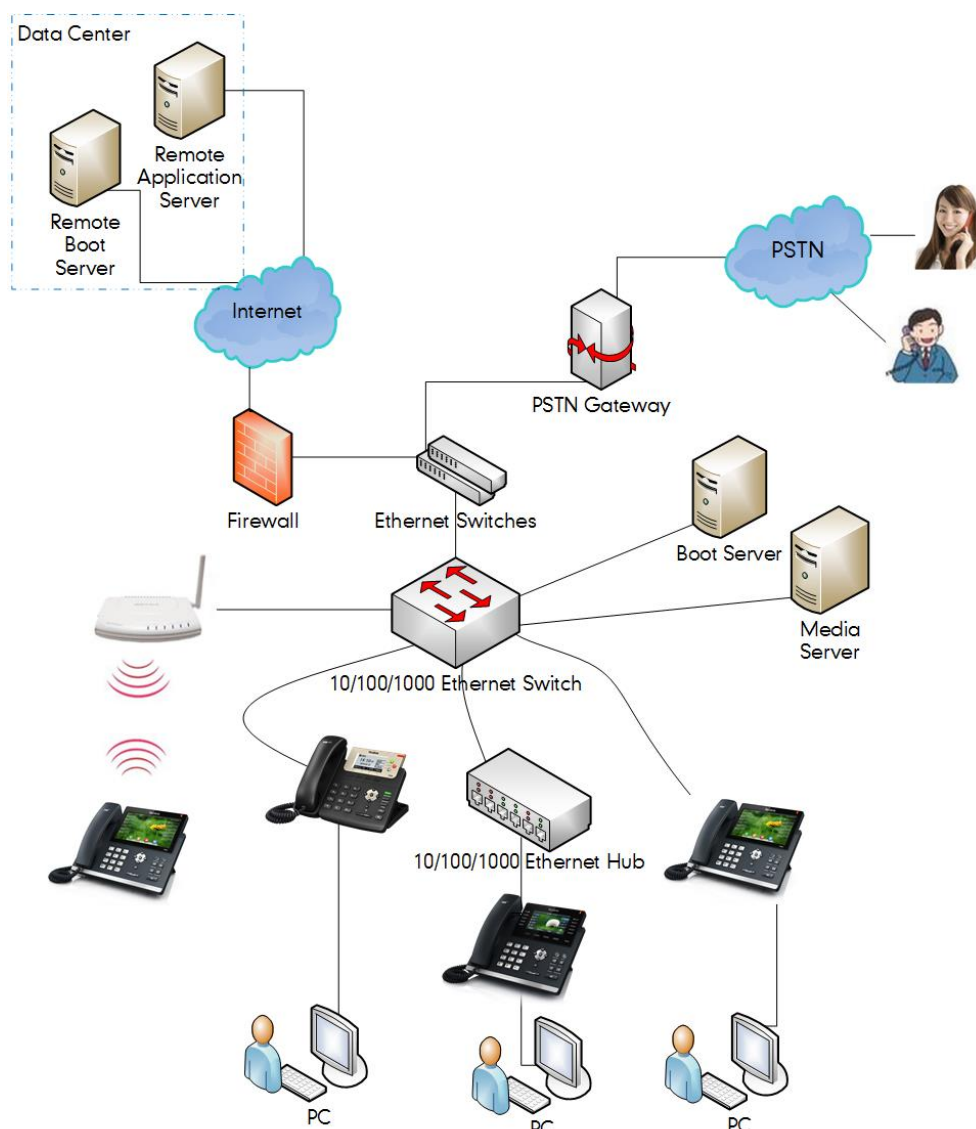
Initialization Process Overview

The initialization process of the IP phone is responsible for network connectivity and operation of the IP phone in your local network. Once you connect your IP phone to the network and to an electrical supply, the IP phone begins its initialization process.

Topics

Loading the ROM File

Configuring the VLAN

Querying the DHCP (Dynamic Host Configuration Protocol) Server

Contacting the Provisioning Server

Loading the ROM File

The ROM file resides in the flash memory of the IP phone. The IP phone comes from the factory with a ROM file preloaded. During initialization, the IP phone runs a bootstrap loader that loads and executes the ROM file.

Configuring the VLAN

If you connect the IP phone to a switch, the switch notifies the IP phone of the VLAN information defined on the switch (if using LLDP or CDP). The IP phone can then proceed with the DHCP request for its network settings (if using DHCP).

Querying the DHCP (Dynamic Host Configuration Protocol) Server

The IP phone is capable of querying a DHCP server.

After establishing network connectivity, the IP phone can obtain the following network parameters from the DHCP server during initialization:

- IP Address

- Subnet Mask

- Default Gateway

- Primary DNS (Domain Name Server)

- Secondary DNS

By default, the IP phones obtain these parameters from a DHCPv4. You can configure network parameters of the IP phone manually if any of them are not supplied by the DHCP server.

Contacting the Provisioning Server

If you configure the IP phone to obtain configurations from the provisioning server, it will be connected to the provisioning server, and then download the boot file and configuration file(s) during startup. The IP phone will be able to resolve and update configurations written in the configuration file(s). If the IP phone does not obtain configurations from the provisioning server, the IP phone will use the configurations stored in the flash memory.

Updating Firmware

If you define the access URL of firmware in the configuration file, the IP phone will download firmware from the provisioning server. If the MD5 value of the downloaded firmware file differs from that stored in the flash memory, the IP phone will perform a firmware update.

You can manually upgrade firmware if the IP phone does not download firmware from the provisioning server.

Downloading the Resource Files

In addition to configuration file(s), the IP phone may require resource files before it provides service. These resource files are optional, but if you deploy some particular features, these files are required.

Verifying Startup

After connected to the power and network, the IP phone begins the initialization process by cycling through the following steps:

1. The power LED indicator glows red.
2. The message "Welcome Initializing… please wait" appears on the LCD screen when the IP phone starts up.
3. The main LCD screen displays the following:
   - Time and date
   - Soft key labels
4. Press the OK/ √ key or press **Menu**->**Status** to check the IP phone status, the LCD screen displays the valid IP address, MAC address, firmware version, and so on.

   If the IP phone has successfully passed through these steps, it starts up properly and is ready for use.

Phone Network

Yealink IP phones operate on an Ethernet local area network (LAN) or wireless network. You can configure the local area network to accommodate a number of network designs, which varies by organization and Yealink IP phones.

Topics

IPv4 and IPv6 Network Settings

Yealink IP Phones support IPv4 addressing mode, IPv6 addressing mode, as well as an IPv4&IPv6 dual-stack addressing mode.

After connected to the wired network, the phones can obtain the IPv4 or IPv6 network settings from a Dynamic Host Configuration Protocol (DHCP) server if your network supports it. To make it easier to manage IP settings, we recommend using automated DHCP which is possible to eliminate repetitive manually data entry.

You can also configure IPv4 or IPv6 network settings manually.

Note
Yealink IP phones comply with the DHCPv4 specifications documented in RFC 2131, and DHCPv6 specifications documented in RFC 3315.

Topics

IP Addressing Mode Configuration

The following table lists the parameters you can use to configure IP addressing mode.

Parameter	static.network.ip_address_mode[1]	<y0000000000xx>.cfg
Description	It configures the IP addressing mode.	
Permitted Values	**0**-IPv4 **1**-IPv6 **2**-IPv4 & IPv6	
Default	0	
Web UI	Network->Basic->Internet Port->Mode(IPv4/IPv6)	
Phone UI	<u>T54S/T52S/T48S/T48G/T46S/T46G/T29G</u>: Menu->Advanced (default password: admin)->Network->WAN Port->IP Mode <u>T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2</u>: Menu->Settings->Advanced Settings (default password: admin)->Network->WAN Port->IP Mode	
Parameter	static.network.preference[1]	<y0000000000xx>.cfg
Description	It specifies IPv4 or IPv6 as the preferred network in a Dual Stack mode. **Note:** It works only if "static.network.ip_address_mode" is set to 2 (IPv4 & IPv6).	
Permitted Values	**0**-IPv6 **1**-IPv4	
Default	0	
Web UI	Network->Basic->Internet Port->Preference(IPv4/IPv6)	
Phone UI	<u>T54S/T52S/T48S/T48G/T46S/T46G/T29G</u>: Menu->Advanced (default password: admin) ->Network->WAN Port->Preference <u>T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2</u>: Menu->Settings->Advanced Settings (default password: admin)->Network->WAN Port->Preference	
Parameter	account.X.sip_server_mode[2]	<MAC>.cfg
Description	It specifies the preferred network and query mode in a Dual Stack mode, when a domain name is configured for a SIP server. **Note:** It works only if "static.network.ip_address_mode" is set to 2 (IPv4 & IPv6).	
Permitted	**0**-Specify IPv4 as the preferred network, and A query will be performed preferentially.	

Values	**1**-Specify IPv6 as the preferred network, and AAAA query will be performed preferentially.
	2-The preferred network is configured by "static.network.preference".
Default	0

[1]If you change this parameter, the IP phone will reboot to make the change take effect.

[2]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

IPv4 Configuration

The following table lists the parameters you can use to configure IPv4.

Parameter	static.network.internet_port.type[1]	<y0000000000xx>.cfg
Description	It configures the Internet port type for IPv4. **Note**: It works only if "static.network.ip_address_mode" is set to 0 (IPv4) or 2 (IPv4 & IPv6).	
Permitted Values	**0**-DHCP **2**-Static IP Address	
Default	0	
Web UI	Network->Basic->IPv4 Config	
Phone UI	<u>T54S/T52S/T48S/T48G/T46S/T46G/T29G</u>: Menu->Advanced (default password: admin)->Network->WAN Port->IPv4 <u>T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2</u>: Menu->Settings->Advanced Settings (default password: admin)->Network->WAN Port->IPv4	
Parameter	static.network.internet_port.ip[1]	<y0000000000xx>.cfg
Description	It configures the IPv4 address. **Example**: static.network.internet_port.ip = 192.168.1.20 **Note**: It works only if "static.network.ip_address_mode" is set to 0 (IPv4) or 2 (IPv4 & IPv6), and "static.network.internet_port.type" is set to 2 (Static IP Address).	
Permitted Values	IPv4 Address	
Default	Blank	
Web UI	Network->Basic->IPv4 Config->Static IP Address->IP Address	

Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin)->Network->WAN Port->IPv4->Static IP->IP Address T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password: admin)->Network->WAN Port->IPv4->Static IPv4 Client->IP Address

Parameter	static.network.internet_port.mask[1]	<y0000000000xx>.cfg

Description	It configures the IPv4 subnet mask. **Example**: static.network.internet_port.mask = 255.255.255.0 **Note**: It works only if "static.network.ip_address_mode" is set to 0 (IPv4) or 2 (IPv4 & IPv6), and "static.network.internet_port.type" is set to 2 (Static IP Address).
Permitted Values	Subnet Mask
Default	Blank
Web UI	Network->Basic->IPv4 Config->Static IP Address->Subnet Mask
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin)->Network->WAN Port->IPv4->Static IP->Subnet Mask T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password: admin)->Network->WAN Port->IPv4->Static IPv4 Client->Subnet Mask

Parameter	static.network.internet_port.gateway[1]	<y0000000000xx>.cfg

Description	It configures the IPv4 default gateway. **Example**: static.network.internet_port.gateway = 192.168.1.254 **Note**: It works only if "static.network.ip_address_mode" is set to 0 (IPv4) or 2 (IPv4 & IPv6), and "static.network.internet_port.type" is set to 2 (Static IP Address).
Permitted Values	IPv4 Address
Default	Blank
Web UI	Network->Basic->IPv4 Config->Static IP Address->Default Gateway
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin)->Network->WAN Port->IPv4->Static IP->Default Gateway

	T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password: admin)->Network->WAN Port->IPv4->Static IPv4 Client->Default Gateway

Parameter	static.network.static_dns_enable[1]	<y0000000000xx>.cfg
Description	It triggers the static DNS feature to on or off. **Note**: It works only if "static.network.internet_port.type" is set to 0 (DHCP).	
Permitted Values	**0**-Off, the IP phone will use the IPv4 DNS obtained from DHCP. **1**-On, the IP phone will use manually configured static IPv4 DNS.	
Default	0	
Web UI	Network->Basic->IPv4 Config->Static DNS	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin) ->Network->WAN Port->IPv4->Type(DHCP)->Static DNS T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password: admin) ->Network->WAN Port->IPv4->DHCP IPv4 Client->Static DNS	

Parameter	static.network.primary_dns[1]	<y0000000000xx>.cfg
Description	It configures the primary IPv4 DNS server. **Example**: static.network.primary_dns = 202.101.103.55 **Note**: It works only if "static.network.ip_address_mode" is set to 0 (IPv4) or 2 (IPv4 & IPv6). In DHCP environment, you also need to make sure "static.network.static_dns_enable" is set to 1 (On).	
Permitted Values	IPv4 Address	
Default	Blank	
Web UI	Network->Basic->IPv4 Config->Static IP Address->Primary DNS	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin)->Network->WAN Port->IPv4->Static IP->Primary DNS Or Menu->Settings->Advanced (default password: admin)->Network->WAN Port->IPv4->DHCP->Static DNS (Enabled) ->Primary DNS T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password: admin)->Network->WAN Port->IPv4->Static IPv4 Client->Pri.DNS Or Menu->Settings->Advanced Settings (default password: admin)->Network->WAN	

	Port->IPv4->DHCP IPv4 Client->Static DNS (Enabled) ->Pri.DNS	
Parameter	static.network.secondary_dns[1]	<y0000000000xx>.cfg
Description	It configures the secondary IPv4 DNS server. **Example**: static.network.secondary_dns = 202.101.103.54 **Note**: It works only if "static.network.ip_address_mode" is set to 0 (IPv4) or 2 (IPv4 & IPv6). In DHCP environment, you also need to make sure "static.network.static_dns_enable" is set to 1 (On).	
Permitted Values	IPv4 Address	
Default	Blank	
Web UI	Network->Basic->IPv4 Config->Static IP Address->Secondary DNS	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin)->Network->WAN Port->IPv4->Static IP->Secondary DNS Or Menu->Advanced (default password: admin)->Network->WAN Port->IPv4->DHCP->Static DNS (Enabled) ->Secondary DNS T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password: admin)->Network->WAN Port->IPv4->Static IPv4 Client->Sec.DNS Or Menu->Settings->Advanced Settings (default password: admin)->Network->WAN Port->IPv4->DHCP IPv4 Client->Static DNS (Enabled) ->Sec.DNS	

[1]If you change this parameter, the IP phone will reboot to make the change take effect.

IPv6 Configuration

If you configure the network settings on the phone for an IPv6 network, you can set up an IP address for the phone by using SLAAC (ICMPv6), DHCPv6 or by manually entering an IP address. Ensure that your network environment supports IPv6. Contact your ISP for more information.

When you enable both SLAAC and DHCPv6 on the phone, the server can specify the IP phone to obtain the IPv6 address and other network settings either from SLAAC or from DHCPv6, if the SLAAC server is not working, the IP phone will try to obtain the IPv6 address and other network settings via DHCPv6.

The following table lists the parameters you can use to configure IPv6.

Parameter	static.network.ipv6_internet_port.type[1]	<y0000000000xx>.cfg
Description	It configures the Internet port type for IPv6. **Note**: It works only if "static.network.ip_address_mode" is set to 1 (IPv6) or 2 (IPv4 & IPv6).	

Permitted Values	0-DHCP 1-Static IP Address	
Default	0	
Web UI	Network->Basic->IPv6 Config	
Phone UI	<u>T54S/T52S/T48S/T48G/T46S/T46G/T29G</u>: Menu->Advanced (default password: admin)->Network->WAN Port->IPv6 <u>T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2</u>: Menu->Settings->Advanced Settings (default password: admin)->Network->WAN Port->IPv6	
Parameter	static.network.ipv6_internet_port.ip[1]	<y0000000000xx>.cfg
Description	It configures the IPv6 address. **Example**: static.network.ipv6_internet_port.ip = 2026:1234:1:1:215:65ff:fe1f:caa **Note**: It works only if "static.network.ip_address_mode" is set to 1 (IPv6) or 2 (IPv4 & IPv6), and "static.network.ipv6_internet_port.type" is set to 1 (Static IP Address).	
Permitted Values	IPv6 Address	
Default	Blank	
Web UI	Network->Basic->IPv6 Config->Static IP Address->IP Address	
Phone UI	<u>T54S/T52S/T48S/T48G/T46S/T46G/T29G</u>: Menu->Advanced (default password: admin)->Network->WAN Port->IPv6->Static IP->IP Address <u>T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2</u>: Menu->Settings->Advanced Settings (default password: admin)->Network->WAN Port->IPv6->Static IPv6 Client->IP Address	
Parameter	static.network.ipv6_prefix[1]	<y0000000000xx>.cfg
Description	It configures the IPv6 prefix. **Note**: It works only if "static.network.ip_address_mode" is set to 1 (IPv6) or 2 (IPv4 & IPv6), and "static.network.ipv6_internet_port.type" is set to 1 (Static IP Address).	
Permitted Values	Integer from 0 to 128	
Default	64	
Web UI	Network->Basic->IPv6 Config->Static IP Address->IPv6 Prefix(0~128)	
Phone UI	<u>T54S/T52S/T48S/T48G/T46S/T46G/T29G</u>: Menu->Advanced (default password: admin)->Network->WAN Port->IPv6->Static	

	IP->IPv6 IP Prefix	
	T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2:	
	Menu->Settings->Advanced Settings (default password: admin)->Network->WAN Port->IPv6->Static IPv6 Client->IPv6 IP Prefix	
Parameter	static.network.ipv6_internet_port.gateway[1]	<y0000000000xx>.cfg
Description	It configures the IPv6 default gateway. **Example**: static.network.ipv6_internet_port.gateway = 3036:1:1:c3c7:c11c:5447:23a6:255 **Note**: It works only if "static.network.ip_address_mode" is set to 1 (IPv6) or 2 (IPv4 & IPv6), and "static.network.ipv6_internet_port.type" is set to 1 (Static IP Address).	
Permitted Values	IPv6 Address	
Default	Blank	
Web UI	Network->Basic->IPv6 Config->Static IP Address->Default Gateway	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin)->Network->WAN Port->IPv6->Static IP->Default Gateway T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password: admin)->Network->WAN Port->IPv6->Static IPv6 Client->Default Gateway	
Parameter	static.network.ipv6_static_dns_enable[1]	<y0000000000xx>.cfg
Description	It triggers the static IPv6 DNS feature to on or off. **Note**: It works only if "static.network.ipv6_internet_port.type" is set to 0 (DHCP).	
Permitted Values	**0**-Off, the IP phone will use the IPv6 DNS obtained from DHCP. **1**-On, the IP phone will use manually configured static IPv6 DNS.	
Default	0	
Web UI	Network->Basic->IPv6 Config->IPv6 Static DNS	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin) ->Network->WAN Port->IPv6->Type(DHCP)->Static DNS T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password: admin) ->Network->WAN Port->IPv6->DHCP IPv6 Client->Static DNS	
Parameter	static.network.ipv6_primary_dns[1]	<y0000000000xx>.cfg
Description	It configures the primary IPv6 DNS server.	

	Example: static.network.ipv6_primary_dns = 3036:1:1:c3c7:c11c:5447:23a6:256 **Note**: It works only if "static.network.ip_address_mode" is set to 1 (IPv6) or 2 (IPv4 & IPv6). In DHCP environment, you also need to make sure "static.network.ipv6_static_dns_enable" is set to 1 (On).	
Permitted Values	IPv6 Address	
Default	Blank	
Web UI	Network->Basic->IPv6 Config->Static IP Address->Primary DNS	
Phone UI	<u>T54S/T52S/T48S/T48G/T46S/T46G/T29G</u>: Menu->Advanced (default password: admin)->Network->WAN Port->IPv6->Static IP->Primary DNS Or Menu->Advanced (default password: admin)->Network->WAN Port->IPv6->DHCP->Static DNS(Enabled) ->Primary DNS <u>T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2</u>: Menu->Settings->Advanced Settings (default password: admin)->Network->WAN Port->IPv6->Static IPv6 Client->Pri.DNS Or Menu->Settings->Advanced Settings (default password: admin)->Network->WAN Port->IPv6->DHCP IPv6 Client->Static DNS(Enabled) ->Pri.DNS	
Parameter	static.network.ipv6_secondary_dns[1]	<y0000000000xx>.cfg
Description	It configures the secondary IPv6 DNS server. **Example**: static.network.ipv6_secondary_dns = 2026:1234:1:1:c3c7:c11c:5447:23a6 **Note**: It works only if "static.network.ip_address_mode" is set to 1 (IPv6) or 2 (IPv4 & IPv6). In DHCP environment, you also need to make sure "static.network.ipv6_static_dns_enable" is set to 1 (On).	
Permitted Values	IPv6 Address	
Default	Blank	
Web UI	Network->Basic->IPv6 Config->Static IP Address->Secondary DNS	
Phone UI	<u>T54S/T52S/T48S/T48G/T46S/T46G/T29G</u>: Menu->Advanced (default password: admin)->Network->WAN Port->IPv6->Static IP->Secondary DNS Or Menu->Advanced (default password: admin)->Network->WAN Port->IPv6->DHCP->Static DNS(Enabled) ->Secondary DNS <u>T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2</u>: Menu->Settings->Advanced Settings (default password: admin)->Network->WAN	

	Port->IPv6->Static IPv6 Client->Sec.DNS Or Menu->Settings->Advanced Settings (default password: admin)->Network->WAN Port->IPv6->DHCP IPv6 Client->Static DNS(Enabled) ->Sec.DNS	
Parameter	static.network.ipv6_icmp_v6.enable[1]	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to obtain IPv6 network settings via SLAAC (Stateless Address Autoconfiguration). **Note**: It works only if "static.network.ipv6_internet_port.type" is set to 0 (DHCP). It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones. SLAAC is enabled on T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2 IP phones by default. You are not allowed to configure this parameter for these IP phones.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Web UI	Network->Advanced->ICMPv6 Status->Active	

[1]If you change this parameter, the IP phone will reboot to make the change take effect.

DHCP Option for IPv4

The IP phone can obtain IPv4-related parameters in an IPv4 network via DHCP option.

Note
For more information on DHCP options, refer to RFC 2131 or RFC 2132.

Topics

Supported DHCP Option for IPv4

DHCP Option 66, Option 43 and Custom Option

DHCP Option 42, Option 2 and Option 100

DHCP Option 12

DHCP Option 120

DHCP Option 60

Supported DHCP Option for IPv4

The following table lists common DHCP options for IPv4 supported by Yealink IP phones.

Parameters	DHCP Option	Description
Subnet Mask	1	Specify the client's subnet mask.

Parameters	DHCP Option	Description
Time Offset	2	Specify the offset of the client's subnet in seconds from Coordinated Universal Time (UTC).
Router	3	Specify a list of IP addresses for routers on the client's subnet.
Time Server	4	Specify a list of time servers available to the client.
Domain Name Server	6	Specify a list of domain name servers available to the client.
Host Name	12	Specify the name of the client.
Domain Server	15	Specify the domain name that client should use when resolving hostnames via DNS.
Network Time Protocol Servers	42	Specify a list of NTP servers available to the client by IP address.
Vendor-Specific Information	43	Identify the vendor-specific information.
Vendor Class Identifier	60	Identify the vendor type.
TFTP Server Name	66	Identify a TFTP server when the 'sname' field in the DHCP header has been used for DHCP options.
Timezone/DST	100	Specify a POSIX timezone string.
SIP Server/outbound proxy server	120	Convey a SIP server's or outbound proxy server's location to the client.

DHCP Option 66, Option 43 and Custom Option

During the startup, the phone will automatically detect the custom option, option 66, or option 43 for obtaining the provisioning server address. The priority of obtaining the provisioning server address is as follows: custom option>option 66 (identify the TFTP server)>option 43.

The IP phone can obtain the Auto Configuration Server (ACS) address by detecting option 43 during startup.

To obtain the server address via DHCP option, make sure you have configured the DHCP option on the phone. The option must be in accordance with the one defined in the DHCP server.

Note
If you fail to configure the DHCP options for discovering the provisioning server on the DHCP server, an alternate method of automatically discovering the provisioning server address is required. One possibility is

Note
that connecting to the secondary DHCP server that responds to DHCP INFORM queries with a requested provisioning server address. For more information, refer to RFC 3925. If a single alternate DHCP server responds, this is functionally equivalent to the scenario where the primary DHCP server responds with a valid provisioning server address. If no DHCP server responds, the INFORM query process will retry and eventually time out.

Related Topic

DHCP Provision Configuration

DHCP Option 42, Option 2 and Option 100

Yealink IP phones support using the NTP server address offered by DHCP.

DHCP option 42 is used to specify a list of NTP servers available to the client by IP address. NTP servers should be listed in order of preference.

DHCP option 2 is used to specify the offset of the client's subnet in seconds from Coordinated Universal Time (UTC).

DHCP option 100 is used to specify the timezone information (time zone and daylight-saving offset). The priority is as follows: option 100>option 2.

Related Topic

NTP Settings

DHCP Option 12

You can specify a hostname for the phone when using DHCP. The DHCP client uses option 12 to send a predefined hostname to the DHCP registration server. The name may or may not be qualified with the local domain name (based on RFC 2132). See RFC 1035 for character restrictions.

Topic

DHCP Option 12 Hostname Configuration

DHCP Option 12 Hostname Configuration

The following table lists the parameter you can use to configure DHCP option 12 hostname.

Parameter	static.network.dhcp_host_name[1]	<y0000000000xx>.cfg
Description	It configures the DHCP Option 12 Hostname on the IP phone.	
Permitted Values	String within 99 characters	
Default	For T54S IP phones: SIP-T54S.	

	For T52S IP phones: SIP-T52S.
	For T48G IP phones: SIP-T48G.
	For T48S IP phones: SIP-T48S.
	For T46G IP phones: SIP-T46G.
	For T46S IP phones: SIP-T46S.
	For T42G IP phones: SIP-T42G.
	For T42S IP phones: SIP-T42S.
	For T41P IP phones: SIP-T41P.
	For T41S IP phones: SIP-T41S.
	For T40P IP phones: SIP-T40P.
	For T40G IP phones: SIP-T40G.
	For T29G IP phones: SIP-T29G.
	For T27P IP phones: SIP-T27P.
	For T27G IP phones: SIP-T27G.
	For T23P IP phones: SIP-T23P.
	For T23G IP phones: SIP-T23G.
	For T21(P) E2 IP phones: SIP-T21P_E2.
	For T19(P) E2 IP phones: SIP-T19P_E2.
Web UI	Features->General Information->DHCP Hostname

[1]If you change this parameter, the IP phone will reboot to make the change take effect.

DHCP Option 120

The DHCP option 120 is used by the SIP client to locate a local outbound proxy server.

Topic

DHCP Option 120 Configuration

DHCP Option 120 Configuration

The following table lists the parameter you can use to configure DHCP option 120.

Parameter	sip.dhcp.option120.mode	<y0000000000xx>.cfg
Description	It configures whether to use DHCP option 120 for obtaining the outbound proxy server IP address.	
Permitted Values	**0**-Do not check with the DHCP server for the outbound proxy server IP address. **1**-The value obtained from DHCP option 120 is used as outbound proxy server IP address (can resolve up to two domain names or IPv4 addresses). If	

	"account.X.outbound_proxy_enable = 1", and primary outbound proxy server is configured, the address from DHCP option 120 is used as secondary one; if primary outbound proxy server is not configured, the address from DHCP option 120 is used as primary one. **2**-The value obtained from DHCP option 120 is used as SIP server IP address (can resolve up to only one IPv4 address). If primary SIP server is configured, the address from DHCP option 120 is used as secondary one; if primary SIP server is not configured, the address from DHCP option 120 is used as primary one.
Default	0

DHCP Option 60

DHCP option 60 is used to identify the vendor and functionality of a DHCP client. You can set the format for option 60.

Note
The default vendor class ID is "yealink".

Topic

DHCP Option 60 Configuration

DHCP Option 60 Configuration

The following table lists the parameter you can use to configure DHCP option 60.

Parameter	static.network.dhcp.option60type	<y0000000000xx>.cfg
Description	It configures the DHCP option 60 type.	
Permitted Values	**0**-ASCII **1**-Binary (RFC 3925)	
Default	0	
Parameter	static.auto_provision.dhcp_option.option60_value	<y0000000000xx>.cfg
Description	It configures the value (vendor name of the device) of DHCP option 60.	
Permitted Values	String within 99 characters	
Default	yealink	
Web UI	Settings->Auto Provision->IPv4 DHCP Option Value	

DHCP Option for IPv6

The IP phone can obtain IPv6-related parameters in an IPv6 network via DHCP option.

Topics

Supported DHCP Option for IPv6

DHCP Option 59 and Custom Option

Supported DHCP Option for IPv6

The following table lists common DHCP options for IPv6 supported by Yealink IP phones.

Parameters	DHCP Option	Description
DNS Server	23	Specify a list of DNS servers available to the client.
DNS Domain Search List	24	Specify a domain search list to a client.
SNTP Server	31	Specify a list of Simple Network Time Protocol (SNTP) servers available to the client.
Information Refresh Time	32	Specify an upper bound for how long a client should wait before refreshing information retrieved from DHCPv6.
Boot File URL	59	Specify a URL for the boot file to be downloaded by the client.

DHCP Option 59 and Custom Option

During the startup, the phone will automatically detect the custom option or option 59 for obtaining the provisioning server address. The priority of obtaining the provisioning server address is as follows: custom option>option 59.

Related Topic

DHCP Provision Configuration

VLAN

The purpose of VLAN configurations on the IP phone is to insert tag with VLAN information to the packets generated by the IP phone. When VLAN is properly configured for the ports (Internet port and PC port) on the IP phone, the IP phone will tag all packets from these ports with the VLAN ID. The switch

receives and forwards the tagged packets to the corresponding VLAN according to the VLAN ID in the tag as described in IEEE Std 802.3.

VLAN on IP phones allows simultaneous access to a regular PC. This feature allows a PC to be daisy chained to an IP phone and the connection for both PC and IP phone to be trunked through the same physical Ethernet cable.

In addition to manual configuration, the IP phone also supports automatic discovery of VLAN via LLDP, CDP or DHCP. The assignment takes effect in this order: assignment via LLDP/CDP, manual configuration, then assignment via DHCP.

For more information on VLAN, refer to VLAN Feature on Yealink IP Phones.

Topics

LLDP Configuration

CDP Configuration

Manual VLAN Configuration

DHCP VLAN

VLAN Setting Configuration

LLDP Configuration

LLDP (Linker Layer Discovery Protocol) is a vendor-neutral Link Layer protocol, which allows IP phones to receive and/or transmit device-related information from/to directly connected devices on the network that are also using the protocol, and store the information about other devices.

When LLDP feature is enabled on IP phones, the IP phones periodically advertise their own information to the directly connected LLDP-enabled switch. The IP phones can also receive LLDP packets from the connected switch. When the application type is "voice", the IP phones decide whether to update the VLAN configurations obtained from the LLDP packets. When the VLAN configurations on the IP phones are different from the ones sent by the switch, the IP phones perform an update and reboot. This allows the IP phones to plug into any switch, obtain their VLAN IDs, and then start communications with the call control.

The following table lists the parameters you can use to configure LLDP.

Parameter	static.network.lldp.enable[1]	<y0000000000xx>.cfg
Description	It enables or disables the LLDP (Linker Layer Discovery Protocol) feature on the IP phone.	
Permitted Values	**0**-Disabled **1**-Enabled, the IP phone will attempt to determine its VLAN ID through LLDP.	
Default	1	
Web UI	Network->Advanced->LLDP->Active	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G:	

	Menu->Advanced (default password: admin) ->Network->LLDP->LLDP Status
	T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2:
	Menu->Settings->Advanced Settings (default password: admin) ->Network->LLDP->LLDP Status
Parameter	static.network.lldp.packet_interval[1] <y0000000000xx>.cfg
Description	It configures the interval (in seconds) that how often the IP phone sends the LLDP (Linker Layer Discovery Protocol) request. **Note**: It works only if "static.network.lldp.enable" is set to 1 (Enabled).
Permitted Values	Integer from 1 to 3600
Default	60
Web UI	Network->Advanced->LLDP->Packet Interval (1~3600s)
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin) ->Network->LLDP->Packet Interval T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password: admin) ->Network->LLDP->Packet Interval

[1]If you change this parameter, the IP phone will reboot to make the change take effect.

CDP Configuration

CDP (Cisco Discovery Protocol) allows IP phones to receive and/or transmit device-related information from/to directly connected devices on the network that are also using the protocol, and store the information about other devices.

If the CDP feature is enabled on IP phones, the IP phones will periodically advertise their own information to the directly connected CDP-enabled switch. The IP phones can also receive CDP packets from the connected switch. If the VLAN configurations on the IP phones are different from the ones sent by the switch, the IP phones will perform an update and reboot. This allows you to connect the IP phones into any switch, obtain their VLAN IDs, and then start communications with the call control.

The following table lists the parameters you can use to configure CDP.

Parameter	static.network.cdp.enable[1] <y0000000000xx>.cfg
Description	It enables or disables the CDP (Cisco Discovery Protocol) feature on the IP phone.
Permitted Values	**0**-Disabled **1**-Enabled, the IP phone will attempt to determine its VLAN ID through CDP.
Default	1
Web UI	Network->Advanced->CDP->Active

Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin) ->Network->CDP->CDP Status T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password: admin) ->Network->CDP->CDP Status	
Parameter	static.network.cdp.packet_interval[1]	<y0000000000xx>.cfg
Description	It configures the interval (in seconds) at which the IP phone sends the CDP (Cisco Discovery Protocol) request. **Note**: It works only if "static.network.cdp.enable" is set to 1 (Enabled).	
Permitted Values	Integer from 1 to 3600	
Default	60	
Web UI	Network->Advanced->CDP->Packet Interval (1~3600s)	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin) ->Network->CDP->CDP Interval T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password: admin) ->Network->CDP->CDP Interval	

Manual VLAN Configuration

VLAN is disabled on IP phones by default. You can configure VLAN for the Internet port and PC port manually. Before configuring VLAN on the IP phone, you need to obtain the VLAN ID from your network administrator.

The following table lists the parameters you can use to configure VLAN manually.

Parameter	static.network.vlan.internet_port_enable[1]	<y0000000000xx>.cfg
Description	It enables or disables the VLAN for the Internet port.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Network->Advanced->VLAN->WAN Port->Active	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin) ->Network->VLAN->WAN Port->VLAN Status T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2:	

	Menu->Settings->Advanced Settings (default password: admin) ->Network->VLAN->WAN Port->VLAN Status	
Parameter	static.network.vlan.internet_port_vid[1]	\<y0000000000xx\>.cfg
Description	It configures the VLAN ID for the Internet port. **Note**: It works only if "static.network.vlan.internet_port_enable" is set to 1 (Enabled).	
Permitted Values	Integer from 1 to 4094	
Default	1	
Web UI	Network->Advanced->VLAN->WAN Port->VID (1-4094)	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin) ->Network->VLAN->WAN Port->VID Number T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password: admin) ->Network->VLAN->WAN Port->VID Number	
Parameter	static.network.vlan.internet_port_priority[1]	\<y0000000000xx\>.cfg
Description	It configures the VLAN priority for the Internet port. 7 is the highest priority, 0 is the lowest priority. **Note**: It works only if "static.network.vlan.internet_port_enable" is set to 1 (Enabled).	
Permitted Values	Integer from 0 to 7	
Default	0	
Web UI	Network->Advanced->VLAN->WAN Port->Priority	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin) ->Network->VLAN->WAN Port->Priority T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password: admin) ->Network->VLAN->WAN Port->Priority	
Parameter	static.network.vlan.pc_port_enable[1]	\<y0000000000xx\>.cfg
Description	It enables or disables the VLAN for the PC port. **Note**: It works only if "static.network.pc_port.enable" is set to 1 (Auto Negotiation).	
Permitted Values	**0**-Disabled **1**-Enabled	

Default	0
Web UI	Network->Advanced->VLAN->PC Port->Active
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu-> Advanced (default password: admin) ->Network->VLAN->PC Port->VLAN Status T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password: admin) ->Network->VLAN->PC Port->VLAN Status

Parameter	static.network.vlan.pc_port_vid[1]	<y0000000000xx>.cfg

Description	It configures the VLAN ID for the PC port. **Note**: It works only if "static.network.pc_port.enable" is set to 1 (Auto Negotiation) and "static.network.vlan.pc_port_enable" is set to 1 (Enabled).
Permitted Values	Integer from 1 to 4094
Default	1
Web UI	Network->Advanced->VLAN->PC Port->VID (1-4094)
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin) ->Network->VLAN->PC Port->VID Number T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password: admin) ->Network->VLAN->PC Port->VID Number

Parameter	static.network.vlan.pc_port_priority[1]	<y0000000000xx>.cfg

Description	It configures the VLAN priority for the PC port. 7 is the highest priority, 0 is the lowest priority. **Note**: It works only if "static.network.pc_port.enable" is set to 1 (Auto Negotiation) and "static.network.vlan.pc_port_enable" is set to 1 (Enabled).
Permitted Values	Integer from 0 to 7
Default	0
Web UI	Network->Advanced->VLAN->PC Port->Priority
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin) ->Network->VLAN->PC Port->Priority T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password: admin)

->Network->VLAN->PC Port->Priority

[1]If you change this parameter, the IP phone will reboot to make the change take effect.

DHCP VLAN

Yealink IP phones support VLAN discovery via DHCP. When the VLAN discovery method is set to DHCP, the IP phone will examine DHCP option for a valid VLAN ID. The predefined option 132 is used to supply the VLAN ID by default. You can customize the DHCP option used to request the VLAN ID.

The following table lists the parameters you can use to configure DHCP VLAN discovery.

Parameter	static.network.vlan.dhcp_enable[1]	<y0000000000xx>.cfg
Description	It enables or disables the DHCP VLAN discovery feature on the IP phone.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Web UI	Network->Advanced->VLAN->DHCP VLAN->Active	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin) ->Network->VLAN->DHCP VLAN->DHCP VLAN T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password: admin) ->Network->VLAN->DHCP VLAN->DHCP VLAN	
Parameter	static.network.vlan.dhcp_option[1]	<y0000000000xx>.cfg
Description	It configures the DHCP option from which the IP phone will obtain the VLAN settings. You can configure at most five DHCP options and separate them by commas.	
Permitted Values	Integer from 1 to 255	
Default	132	
Web UI	Network->Advanced->VLAN->DHCP VLAN->Option (1-255)	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin) ->Network->VLAN->DHCP VLAN->Option T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password: admin) ->Network->VLAN->DHCP VLAN->Option	

[1]If you change this parameter, the IP phone will reboot to make the change take effect.

VLAN Setting Configuration

The following table lists the parameter you can use to configure VLAN setting.

Parameter	static.network.vlan.vlan_change.enable[1]	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to obtain VLAN ID using lower preference of VLAN assignment method or to close the VLAN feature when the IP phone cannot obtain VLAN ID using the current VLAN assignment method. The priority of each method is: LLDP/CDP>Manual>DHCP VLAN.	
Permitted Values	**0**-Disabled **1**-Enabled, the IP phone will attempt to use the lower priority method when failing to obtain the VLAN ID using higher priority method. If all the methods are attempted, the phone will disable VLAN feature.	
Default	0	

[1]If you change this parameter, the IP phone will reboot to make the change take effect.

Wi-Fi

Wi-Fi feature enables you to connect the phones to the organization's wireless network. The wireless network is more convenient and cost-effective than wired network. Wi-Fi feature is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T42S/T41S/T29G/T27G IP phones.

When the Wi-Fi feature is enabled, the IP phone will automatically scan the available wireless networks. All the available wireless networks will display in scanning list on the LCD screen. You can store up to 5 frequently used wireless networks on your phone and specify the priority for them.

You can check the Wi-Fi dongle MAC address at the path: **Menu**->**Status**->**Wi-Fi MAC** (phone user interface) or **Status**->**Status**->**Network Common**->**Wi-Fi MAC** (web user interface).

Note
To use Wi-Fi feature, make sure the Wi-Fi USB dongle is properly connected to the USB port on the back of the phone. The Wi-Fi USB dongle should be purchased separately.

Topic

Wi-Fi Configuration

Wi-Fi Configuration

The following table lists the parameters you can use to configure Wi-Fi.

Parameter	static.wifi.function.enable[1]	<y0000000000xx>.cfg

Description	It enables or disables the Wi-Fi feature. **Note**: It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T42S/T41S/T29G/T27G IP phones.
Permitted Values	**0**-Disabled **1**-Enabled
Default	1

Parameter	static.network.redundancy.mode[1]	<y0000000000xx>.cfg

Description	It configures the network connection mode to be used preferentially. **Note**: It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T42S/T41S/T29G/T27G IP phones.
Permitted Values	**0**-If Wi-Fi mode is activated, the wired network is unavailable; Wi-Fi mode must be deactivated if you want to use the wired network. **1**-Use wireless network preferentially. **2**-Use wired network preferentially.
Default	0

Parameter	static.network.redundancy.failback.timeout[1]	<y0000000000xx>.cfg

Description	It configures the time to wait (minutes) for the IP phone to switch to the preferred network (configured by "static.network.redundancy.mode"). **Note**: It works only if "static.network.redundancy.mode" is set to 1 or 2. It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T42S/T41S/T29G/T27G IP phones.
Permitted Values	Integer from 0 to 1440 **0**-The phone will not switch as long as the current network is available. **1 to 1440**-The phone will keep using the current network for the specified time after the preferentially used network becomes available. If the preferentially used network is still available after the specified time, the phone performs a network switch while the phone is not in use.
Default	55

Parameter	static.wifi.enable	<y0000000000xx>.cfg

Description	It activates or deactivates the Wi-Fi mode. **Note**: It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T42S/T41S/T29G/T27G IP phones. It works only if "static.wifi.function.enable" is set to 1 (Enabled).
Permitted Values	**0**-Disabled **1**-Enabled
Default	0

Web UI	Network->Wi-Fi->Wi-Fi Active
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Basic->Wi-Fi->Wi-Fi T42S/T41S/T27G: Menu->Settings->Basic Settings->Wi-Fi

Parameter	static.wifi.X.label[2]	<y0000000000xx>.cfg

Description	It configures the profile name of the wireless network X for the IP phone. **Note**: It works only if "static.wifi.enable" is set to 1 (Enabled). It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T42S/T41S/T29G/T27G IP phones.
Permitted Values	String within 32 characters
Default	Blank
Web UI	Network->Wi-Fi->Profile Name
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Basic->Wi-Fi->Wi-Fi (On)->Known Network (press Add)->Profile Name or Menu->Basic->Wi-Fi->Wi-Fi (On)->Known Network->Option->Edit->Profile Name T42S/T41S/T27G: Menu->Settings->Basic Settings->Wi-Fi (On)->Known Network (press Add)->Profile Name or Menu->Settings->Basic Settings->Wi-Fi->Wi-Fi (On)->Known Network->Option->Edit->Profile Name

Parameter	static.wifi.X.ssid[2]	<y0000000000xx>.cfg

Description	It configures the Service Set Identifier (SSID) of the wireless network X. SSID is a unique identifier for accessing wireless access points. **Note**: It works only if "static.wifi.enable" is set to 1 (Enabled). It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T42S/T41S/T29G/T27G IP phones.
Permitted Values	String within 32 characters
Default	Blank
Web UI	Network->Wi-Fi->SSID
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Basic->Wi-Fi->Wi-Fi (On)->Known Network (press Add)->SSID or

Menu->Basic->Wi-Fi->Wi-Fi (On)->Known Network->Option->Edit->SSID

T42S/T41S/T27G:

Menu->Settings->Basic Settings->Wi-Fi (On)->Known Network (press Add)->SSID

or

Menu->Settings->Basic Settings->Wi-Fi->Wi-Fi (On)->Known
Network->Option->Edit->SSID

Parameter	static.wifi.X.priority[2]	<y0000000000xx>.cfg
Description	It configures the priority for the wireless network X for the IP phone. 5 is the highest priority, 1 is the lowest priority. **Note**: It works only if "static.wifi.enable" is set to 1 (Enabled). It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T42S/T41S/T29G/T27G IP phones.	
Permitted Values	Integer from 1 to 5	
Default	1	
Web UI	Network->Wi-Fi->Change Priority	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Basic->Wi-Fi->Wi-Fi (On)->Known Network->Option->Move Up/Move Down T42S/T41S/T27G: Menu->Settings->Basic Settings->Wi-Fi->Wi-Fi (On)->Known Network->Option->Move Up/Move Down	
Parameter	static.wifi.X.security_mode[2]	<y0000000000xx>.cfg
Description	It configures the security mode of the wireless network X. **Note**: It works only if "static.wifi.enable" is set to 1 (Enabled). It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T42S/T41S/T29G/T27G IP phones.	
Permitted Values	NONE, WEP, WPA-PSK, WPA2-PSK, WPA-EAP or WPA2-EAP	
Default	NONE	
Web UI	Network->Wi-Fi->Secure Mode	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Basic->Wi-Fi->Wi-Fi (On)->Known Network (press Add)->Security Mode or Menu->Basic->Wi-Fi->Wi-Fi (On)->Known Network->Option->Edit->Security Mode T42S/T41S/T27G: Menu->Settings->Basic Settings->Wi-Fi (On)->Known Network (press Add)->Security Mode	

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	or
	Menu->Settings->Basic Settings->Wi-Fi->Wi-Fi (On)->Known
	Network->Option->Edit->Security Mode
Parameter	static.wifi.X.cipher_type[2] <y0000000000xx>.cfg
Description	It configures the encryption type of the wireless network X.
	If "static.wifi.X.security_mode" is set to **NONE**, the permitted value of this parameter is **NONE**.
	If "static.wifi.X.security_mode" is set to **WEP**, the permitted value of this parameter is **WEP**.
	If "static.wifi.X.security_mode" is set to other values, the permitted values of this parameter are **TKIP**, **AES** or **TKIP AES**.
	Note: It works only if "static.wifi.enable" is set to 1 (Enabled). It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T42S/T41S/T29G/T27G IP phones.
Permitted Values	NONE, WEP, TKIP, AES or TKIP AES
Default	NONE
Web UI	Network->Wi-Fi->Cipher Type
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G:
	Menu->Basic->Wi-Fi->Wi-Fi (On)->Known Network (press Add)->Cipher Type
	or
	Menu->Basic->Wi-Fi->Wi-Fi (On)->Known Network->Option->Edit->Cipher Type
	T42S/T41S/T27G:
	Menu->Settings->Basic Settings->Wi-Fi (On)->Known Network (press Add)->Cipher Type
	or
	Menu->Settings->Basic Settings->Wi-Fi->Wi-Fi (On)->Known Network->Option->Edit->Cipher Type
Parameter	static.wifi.X.password[2] <y0000000000xx>.cfg
Description	It configures the password of the wireless network X.
	Note: It works only if "static.wifi.enable" is set to 1 (Enabled) and "static.wifi.X.security_mode" is set to **WEP**, **WPA-PSK** or **WPA2-PSK**. It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T42S/T41S/T29G/T27G IP phones.
Permitted Values	String within 64 characters
Default	Blank
Web UI	Network->Wi-Fi->PSK

Phone UI	<u>T54S/T52S/T48S/T48G/T46S/T46G/T29G</u>: Menu->Basic->Wi-Fi->Wi-Fi (On)->Known Network (press Add)->WPA Shared Key or Menu->Basic->Wi-Fi->Wi-Fi (On)->Known Network->Option->Edit->WPA Shared Key <u>T42S/T41S/T27G</u>: Menu->Settings->Basic Settings->Wi-Fi (On)->Known Network (press Add)->WPA Shared Key or Menu->Settings->Basic Settings->Wi-Fi->Wi-Fi (On)->Known Network->Option->Edit->WPA Shared Key

Parameter	static.wifi.X.eap_type[2]	<y0000000000xx>.cfg

Description	It configures the EAP authentication mode of the wireless network X. **Note**: It works only if "static.wifi.enable" is set to 1 (Enabled) and "static.wifi.X.security_mode" is set to **WPA-EAP** or **WPA2-EAP**. It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T42S/T41S/T29G/T27G IP phones.

Permitted Values	TTLS, PEAP or TLS

Default	Blank

Parameter	static.wifi.X.eap_user_name[2]	<y0000000000xx>.cfg

Description	It configures the EAP authentication username of the wireless network X. **Note**: It works only if "static.wifi.enable" is set to 1 (Enabled), "static.wifi.X.security_mode" is set to **WPA-EAP** or **WPA2-EAP** and "static.wifi.X.eap_type" is set to **TTLS** or **PEAP**. It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T42S/T41S/T29G/T27G IP phones.

Permitted Values	String within 32 characters

Default	Blank

Web UI	Network->Wi-Fi->User Name

Phone UI	<u>T54S/T52S/T48S/T48G/T46S/T46G/T29G</u>: Menu->Basic->Wi-Fi->Wi-Fi (On)->Known Network (press Add) ->User Name or Menu->Basic->Wi-Fi->Wi-Fi (On)->Known Network->Option->Edit->User Name <u>T42S/T41S/T27G</u>: Menu->Settings->Basic Settings->Wi-Fi->Wi-Fi (On)->Known Network (press Add) ->User Name

	or
	Menu->Settings->Basic Settings->Wi-Fi->Wi-Fi (On)->Known Network->Option->Edit->User Name

Parameter	static.wifi.X.eap_password[2]	<y0000000000xx>.cfg
Description	It configures the EAP authentication password of the wireless network X. **Note**: It works only if "static.wifi.enable" is set to 1 (Enabled) and "static.wifi.X.security_mode" is set to **WPA-EAP** or **WPA2-EAP**. It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T42S/T41S/T29G/T27G IP phones.	
Permitted Values	String within 64 characters	
Default	Blank	
Web UI	Network->Wi-Fi->PSK	
Phone UI	<u>T54S/T52S/T48S/T48G/T46S/T46G/T29G</u>: Menu->Basic->Wi-Fi->Wi-Fi (On)->Known Network (press Add) ->WPA Shared Key or Menu->Basic->Wi-Fi->Wi-Fi (On)->Known Network->Option->Edit->WPA Shared Key <u>T42S/T41S/T27G</u>: Menu->Settings->Basic Settings->Wi-Fi->Wi-Fi (On)->Known Network (press Add) ->WPA Shared Key or Menu->Settings->Basic Settings->Wi-Fi->Wi-Fi (On)->Known Network->Option->Edit->WPA Shared Key	

Parameter	static.wifi.show_scan_prompt	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to prompt you whether to scan Wi-Fi or not after connecting Wi-Fi USB dongle WF40 to the IP phone. **Note**: It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T42S/T41S/T29G/T27G IP phones.	
Permitted Values	**0**-Disabled, the IP phone will enable the Wi-Fi feature and try to connect to the known wireless network (according to the priority) automatically. But if the IP phone fails to connect to any known wireless network, the IP phone will still display the Wi-Fi scanning prompt when connecting WF40 to the IP phone. **1**-Enabled	
Default	1	

[1]If you change this parameter, the IP phone will reboot to make the change take effect.

[2]X is Wi-Fi ID. X=1-5.

Real-Time Transport Protocol (RTP) Ports

You can specify the IP phone's RTP port range. Since the IP phone supports conferencing and multiple RTP streams, it can use several ports concurrently. The UDP port used for RTP streams is traditionally an even-numbered port. For example, the default RTP min port on the IP phones is 11780. The first voice session sends RTP using port 11780. Additional calls would then use ports 11782, 11784, 11786, and so on. The phone is compatible with RFC 1889 - RTP: A Transport Protocol for Real-Time Applications - and the updated RFC 3550.

Topic

RTP Ports Configuration

RTP Ports Configuration

The following table lists the parameters you can use to configure RTP ports.

Parameter	static.network.port.min_rtpport[1]	<y0000000000xx>.cfg
Description	It configures the minimum local RTP port.	
Permitted Values	Integer from 1024 to 65535	
Default	11780	
Web UI	Network->Advanced->Local RTP Port->Min RTP Port (1024~65535)	
Parameter	static.network.port.max_rtpport[1]	<y0000000000xx>.cfg
Description	It configures the maximum local RTP port. **Note**: The value of the maximum local RTP port cannot be less than that of the minimum local RTP port.	
Permitted Values	Integer from 1024 to 65535	
Default	12780	
Web UI	Network->Advanced->Local RTP Port->Max RTP Port (1024~65535)	
Parameter	features.rtp_symmetric.enable[1]	<y0000000000xx>.cfg
Description	It configures the symmetrical RTP (Real-Time Transport Protocol) feature on the IP phone. **Note**: IP address and port can be negotiated through the SDP protocol.	
Permitted Values	**0**-Disabled **1**-reject RTP packets arriving from a non-negotiated IP address	

	2-reject RTP packets arriving from a non-negotiated port
	3-reject RTP packets arriving from a non-negotiated IP address or a non-negotiated port
Default	0

[1]If you change this parameter, the IP phone will reboot to make the change take effect.

Network Address Translation (NAT)

Network Address Translation (NAT) is a function that allows multiple devices to share the same public, routable IP address to establish connections over the Internet. NAT is present in many broadband access devices to translate public and private IP address.

Yealink IP phones can work with certain types of NAT.

Topics

NAT Traversal Configuration

Keep Alive Configuration

Rport Configuration

SIP Port and TLS Port Configuration

NAT Traversal Configuration

In the VoIP environment, NAT breaks end-to-end connectivity. NAT traversal is a general term for techniques that establish and maintain IP connections traversing NAT gateways, typically required for client-to-client networking applications, especially for VoIP deployments.

Yealink IP phones support three NAT traversal techniques: manual NAT, STUN and ICE. If you enable manual NAT and STUN, the IP phone will use the manually-configured external IP address for NAT traversal. The TURN protocol is used as part of the ICE approach to NAT traversal.

The following table lists the parameters you can use to configure NAT traversal.

Parameter	account.X.nat.nat_traversal[1]	<MAC>.cfg
Description	It enables or disables the NAT traversal. **Note**: If it is set to 1 (STUN), it works only if "static.sip.nat_stun.enable" is set to 1 (Enabled); if it is set to 2 (Manual NAT), it works only if "network.static_nat.enable" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-STUN **2**-Manual NAT	
Default	0	

Web UI	Account->Register->NAT
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin)->Accounts->Account X->NAT Status T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password: admin)->Accounts->AccountX->NAT Status **Note**: Manual NAT cannot be configured via phone user interface.
Parameter	static.network.static_nat.enable[2] <y0000000000xx>.cfg
Description	It enables or disables the manual NAT feature on the IP phone.
Permitted Values	**0**-Disabled **1**-Enabled
Default	0
Web UI	Network->NAT->Nat Manual->Active
Parameter	static.network.static_nat.addr[2] <y0000000000xx>.cfg
Description	It configures the IP address to be advertised in SIP signaling. It should match the external IP address used by the NAT device. **Example**: static.network.static_nat.addr = 10.3.5.33 **Note**: It works only if "static.network.static_nat.enable" is set to 1 (Enabled).
Permitted Values	IP Address
Default	Blank
Web UI	Network->NAT->Nat Manual->IP Address
Parameter	static.sip.nat_stun.enable[2] <y0000000000xx>.cfg
Description	It enables or disables the STUN (Simple Traversal of UDP over NATs) feature on the IP phone.
Permitted Values	**0**-Disabled **1**-Enabled
Default	0
Web UI	Network->NAT->STUN->Active
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin) ->Network->NAT->NAT Status T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password: admin)

	->Network->NAT->NAT Status	
Parameter	static.sip.nat_stun.server[2]	<y0000000000xx>.cfg
Description	It configures the IP address or domain name of the STUN (Simple Traversal of UDP over NATs) server. **Example**: static.sip.nat_stun.server = 218.107.220.201 **Note**: It works only if "static.sip.nat_stun.enable" is set to 1 (Enabled).	
Permitted Values	IP Address or Domain Name	
Default	Blank	
Web UI	Network->NAT->STUN->STUN Server	
Phone UI	<u>T54S/T52S/T48S/T48G/T46S/T46G/T29G</u>: Menu->Advanced (default password: admin) ->Network->NAT->STUN Server <u>T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2</u>: Menu->Settings->Advanced Settings (default password: admin) ->Network->NAT->STUN Server	
Parameter	static.sip.nat_stun.port[2]	<y0000000000xx>.cfg
Description	It configures the port of the STUN (Simple Traversal of UDP over NATs) server. **Example**: static.sip.nat_stun.port = 3478 **Note**: It works only if "static.sip.nat_stun.enable" is set to 1 (Enabled).	
Permitted Values	Integer from 1024 to 65000	
Default	3478	
Web UI	Network->NAT->STUN->STUN Port (1024~65000)	
Phone UI	<u>T54S/T52S/T48S/T48G/T46S/T46G/T29G</u>: Menu->Advanced (default password: admin) ->Network->NAT->STUN Port <u>T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2</u>: Menu->Settings->Advanced Settings (default password: admin) ->Network->NAT->STUN Port	
Parameter	static.ice.enable[2]	<y0000000000xx>.cfg
Description	It enables or disables the ICE (Interactive Connectivity Establishment) feature on the IP phone.	
Permitted Values	**0**-Disabled	

	1-Enabled	
Default	0	
Web UI	Network->NAT->ICE->Active	
Parameter	static.sip.nat_turn.enable[2]	<y0000000000xx>.cfg
Description	It enables or disables the TURN (Traversal Using Relays around NAT) feature on the IP phone.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Network->NAT->TURN->Active	
Parameter	static.sip.nat_turn.server[2]	<y0000000000xx>.cfg
Description	It configures the IP address or the domain name of the TURN (Traversal Using Relays around NAT) server. **Example**: static.sip.nat_turn.server = 218.107.220.202 **Note**: It works only if "static.sip.nat_turn.enable" is set to 1 (Enabled).	
Permitted Values	IP Address or Domain Name	
Default	Blank	
Web UI	Network->NAT->TURN->TURN Server	
Parameter	static.sip.nat_turn.port[2]	<y0000000000xx>.cfg
Description	It configures the port of the TURN (Traversal Using Relays around NAT) server. **Example**: static.sip.nat_turn.port = 3478 **Note**: It works only if "static.sip.nat_turn.enable" is set to 1 (Enabled).	
Permitted Values	Integer from 1024 to 65535	
Default	3478	
Web UI	Network->NAT->TURN->TURN Port (1~65535)	
Parameter	static.sip.nat_turn.username[2]	<y0000000000xx>.cfg
Description	It configures the user name to authenticate to TURN (Traversal Using Relays around NAT) server. **Example**:	

	static.sip.nat_turn.username = admin	
	Note: It works only if "static.sip.nat_turn.enable" is set to 1 (Enabled).	
Permitted Values	String	
Default	Blank	
Web UI	Network->NAT->TURN->User Name	
Parameter	static.sip.nat_turn.password[2]	<y0000000000xx>.cfg
Description	It configures the password to authenticate to the TURN (Traversal Using Relays around NAT) server. **Example**: static.sip.nat_turn.password = yealink1105 **Note**: It works only if "static.sip.nat_turn.enable" is set to 1 (Enabled).	
Permitted Values	String	
Default	Blank	
Web UI	Network->NAT->TURN->Password	

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

[2]If you change this parameter, the IP phone will reboot to make the change take effect.

Keep Alive Configuration

Yealink IP phones can send keep-alive packets to the NAT device for keeping the communication port open.

The following table lists the parameters you can use to configure keep alive.

Parameter	account.X.nat.udp_update_enable[1]	<MAC>.cfg
Description	It configures the type of keep-alive packets sent by the IP phone to the NAT device to keep the communication port open so that NAT can continue to function.	
Permitted Values	**0**-Disabled **1**-Default (the IP phone sends UDP packets to the server). **2**-Options (the IP phone sends SIP OPTIONS packets to the server). **3**-Notify (the IP phone sends SIP NOTIFY packets to the server).	
Default	1	
Web UI	Account->Advanced->Keep Alive Type	

Parameter	account.X.nat.udp_update_time[1]	<MAC>.cfg
Description	It configures the keep-alive interval (in seconds). **Example**: account.1.nat.udp_update_time = 30 **Note**: It works only if "account.X.nat.udp_update_enable" is set to 1, 2 or 3.	
Permitted Values	Integer from 15 to 2147483647	
Default	30	
Web UI	Account->Advanced->Keep Alive Interval(Seconds)	

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

Rport Configuration

Yealink IP phones support rport described in RFC 3581. It allows a client to request that the server sends the response back to the source port from which the request came.

Rport feature depends on support from a SIP server.

The following table lists the parameter you can use to configure rport.

Parameter	account.X.nat.rport[1]	<MAC>.cfg
Description	It enables or disables the NAT Rport feature.	
Permitted Values	**0**-Disabled **1**-Enabled **2**-Enable Direct Process	
Default	0	
Web UI	Account->Advanced->RPort	

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

SIP Port and TLS Port Configuration

You can configure the SIP and TLS source ports on the IP Phone. Otherwise, the IP phone uses default values (5060 for UDP/TCP and 5061 for TLS).

If NAT is disabled, the port number shows in the Via and Contact SIP headers of SIP messages. If NAT is enabled, the phone uses the NAT port number (and NAT IP address) in the Via and Contact SIP headers of SIP messages, but still use the configured source port.

The following table lists the parameters you can use to configure SIP port and TLS port.

Parameter	sip.listen_port	<y0000000000xx>.cfg
Description	It configures the local SIP port.	
Permitted Values	Integer from 1024 to 65535	
Default	5060	
Web UI	Settings->SIP->Local SIP Port	
Parameter	sip.tls_listen_port	<y0000000000xx>.cfg
Description	It configures the local TLS listen port. If it is set to 0, the IP phone will not listen the TLS service.	
Permitted Values	Integer from 1024 to 65535	
Default	5061	
Web UI	Settings->SIP->TLS SIP Port	

Internet Port and PC Port

Yealink IP phones support two Ethernet ports: Internet port and PC port. You can enable or disable the PC port on the IP phones.

Topics

Supported Transmission Methods

Internet Port and PC Port Configuration

Supported Transmission Methods

Three optional methods of transmission configuration for IP phone Internet port and PC port:

● Auto-negotiate

● Half-duplex (transmit in 10Mbps or 100Mbps)

● Full-duplex (transmit in 10Mbps, 100Mbps or 1000Mbps (1000Mbps is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T42G/T42S/T40G/T29G/T27G/T23G IP phones))

Auto-negotiate is configured for both Internet and PC ports on the IP phone by default.

Internet Port and PC Port Configuration

The following table lists the parameters you can use to configure Internet port and PC port.

Parameter	static.network.pc_port.enable[1]	<y0000000000xx>.cfg
Description	It enables or disables the PC port.	
Permitted Values	**0**-Disabled **1**-Auto Negotiation	
Default	1	
Web UI	Network->PC Port->PC Port Active	
Parameter	static.network.internet_port.speed_duplex[1]	<y0000000000xx>.cfg
Description	It configures the transmission method of the Internet port. **Note**: For T54S/T52S/T48S/T48G/T46S/T46G/T42G/T42S/T40G/T29G/T27G/T23G IP phones, you can set the transmission speed to 1000Mbps/Auto Negotiation to transmit in 1000Mbps if the IP phone is connected to the switch supports Gigabit Ethernet. We recommend that you do not change this parameter.	
Permitted Values	**0**-Auto Negotiation **1**-Full Duplex 10Mbps **2**-Full Duplex 100Mbps **3**-Half Duplex 10Mbps **4**-Half Duplex 100Mbps **5**-Full Duplex 1000Mbps (only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T42G/T42S/T40G/T29G/T27G/T23G IP phones)	
Default	0	
Web UI	Network->Advanced->Port Link->WAN Port Link	
Parameter	static.network.pc_port.speed_duplex[1]	<y0000000000xx>.cfg
Description	It configures the transmission method of the PC port. **Note**: It works only if "static.network.pc_port.enable" is set to 1 (Auto Negotiation). For T54S/T52S/T48S/T48G/T46S/T46G/T42G/T42S/T40G/T29G/T27G/T23G IP phones, you can set the transmission speed to 1000Mbps/ Auto Negotiation to transmit in 1000Mbps if the IP phone is connected to the switch supports Gigabit Ethernet. We recommend that you do not change this parameter.	
Permitted Values	**0**-Auto Negotiation **1**-Full Duplex 10Mbps **2**-Full Duplex 100Mbps **3**-Half Duplex 10Mbps **4**-Half Duplex 100Mbps **5**-Full Duplex 1000Mbps (only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T42G/T42S/T40G/T29G/T27G/T23G IP phones)	

Default	0
Web UI	Network->Advanced->Port Link->PC Port Link
Parameter	static.network.vlan.pc_port_mode[1] \<y0000000000xx\>.cfg
Description	It configures the way the IP phone processes packets for the PC port when VLAN is enabled on the PC port. **Note**: When packets are sent from the Internet port to the PC port, remove the packet's tag if it is the same as the configured tag for the PC port, else forward the packets directly.
Permitted Values	**0**-when packets are sent from the PC port to the Internet port, the IP phone will forward the packets directly. **1**-when packets are sent from the PC port to the Internet port, and there is no VLAN tag in the packet, the IP phone will tag the packet with the configured tag for the PC port and then forward it.
Default	1

[1]If you change this parameter, the IP phone will reboot to make the change take effect.

VPN

Yealink IP phones use OpenVPN to achieve VPN feature. To prevent disclosure of private information, tunnel endpoints must authenticate each other before secure VPN tunnel is established. After you configure VPN feature on the IP phone, the IP phone will act as a VPN client and uses the certificates to authenticate with the VPN server.

For more information, refer to OpenVPN Feature on Yealink IP phones.

Topics

VPN Related Files

VPN Configuration

VPN Related Files

To use VPN, you should collect all VPN-related files into one archive file in .tar format and then upload this tar file. The related VPN files include certificates (ca.crt and client.crt), key (client.key) and the configuration file (vpn.cnf) of the VPN client.

The following table lists the unified directories of the OpenVPN certificates and key in the configuration file (vpn.cnf) for Yealink IP phones:

VPN Files	Description	Unified Directories
ca.crt	CA certificate	/config/openvpn/keys/ca.crt

VPN Files	Description	Unified Directories
client.crt	Client certificate	/config/openvpn/keys/client.crt
client.key	Private key of the client	/config/openvpn/keys/client.key

VPN Configuration

The following table lists the parameters you can use to configure VPN.

Parameter	static.network.vpn_enable[1]	<y0000000000xx>.cfg
Description	It enables or disables the OpenVPN feature on the IP phone.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Network->Advanced->VPN->Active	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin) ->Network->VPN->VPN Active T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password: admin) ->Network->VPN->VPN Active	
Parameter	static.openvpn.url	<y0000000000xx>.cfg
Description	It configures the access URL of the *.tar file for OpenVPN. **Example**: static.openvpn.url = http://192.168.10.25/OpenVPN.tar	
Permitted Values	URL within 511 characters	
Default	Blank	
Web UI	Network->Advanced->VPN->Upload VPN Config	

[1]If you change this parameter, the IP phone will reboot to make the change take effect.

Quality of Service (QoS)

VoIP is extremely bandwidth and delay-sensitive. QoS is a major issue in VoIP implementations, regarding how to guarantee that packet traffic not be delayed or dropped due to interference from other lower priority traffic. VoIP can guarantee high-quality QoS only if the voice and the SIP packets are given priority over other kinds of network traffic. IP phones support the DiffServ model of QoS.

Voice QoS

In order to make VoIP transmissions intelligible to receivers, voice packets should not be dropped, excessively delayed, or made to suffer varying delay. DiffServ model can guarantee high-quality voice transmission when the voice packets are configured to a higher DSCP value.

SIP QoS

SIP protocol is used for creating, modifying, and terminating two-party or multi-party sessions. To ensure good voice quality, SIP packets emanated from IP phones should be configured with a high transmission priority.

DSCPs for voice and SIP packets can be specified respectively.

Note
For voice and SIP packets, the IP phone obtains DSCP info from the network policy if LLDP feature is enabled, which takes precedence over manual settings. For more information on LLDP, refer to LLDP Configuration.

Topic

Voice and SIP QoS Configuration

Voice and SIP QoS Configuration

The following table lists the parameters you can use to configure voice voice and SIP QoS.

Parameter	static.network.qos.audiotos[1]	<y0000000000xx>.cfg
Description	It configures the DSCP (Differentiated Services Code Point) for voice packets. The default DSCP value for RTP packets is 46 (Expedited Forwarding).	
Permitted Values	Integer from 0 to 63	
Default	46	
Web UI	Network->Advanced->Voice QoS->Voice QoS (0~63)	
Parameter	static.network.qos.signaltos[1]	<y0000000000xx>.cfg
Description	It configures the DSCP (Differentiated Services Code Point) for SIP packets. The default DSCP value for SIP packets is 26 (Assured Forwarding).	
Permitted Values	Integer from 0 to 63	
Default	26	
Web UI	Network->Advanced->Voice QoS->SIP QoS (0~63)	

[1]If you change this parameter, the IP phone will reboot to make the change take effect.

802.1x Authentication

Yealink IP phones support the following protocols for 802.1X authentication:

- EAP-MD5

- EAP-TLS (requires Device and CA certificates, requires no password)

- EAP-PEAP/MSCHAPv2 (requires CA certificates)

- EAP-TTLS/EAP-MSCHAPv2 (requires CA certificates)

- EAP-PEAP/GTC (requires CA certificates)

- EAP-TTLS/EAP-GTC (requires CA certificates)

- EAP-FAST (supports EAP In-Band provisioning, requires CA certificates if the provisioning method is Authenticated Provisioning)

For more information on 802.1X authentication, refer to Yealink 802.1X Authentication.

Topic

802.1x Authentication Configuration

802.1x Authentication Configuration

The following table lists the parameters you can use to configure 802.1x authentication.

Parameter	static.network.802_1x.mode[1]	<y0000000000xx>.cfg
Description	It configures the 802.1x authentication method.	
Permitted Values	**0**-EAP-None, 802.1x authentication is not required. **1**-EAP-MD5 **2**-EAP-TLS **3**-EAP-PEAP/MSCHAPv2 **4**-EAP-TTLS/EAP-MSCHAPv2 **5**-EAP-PEAP/GTC **6**-EAP-TTLS/EAP-GTC **7**-EAP-FAST	
Default	0	
Web UI	Network->Advanced->802.1x->802.1x Mode	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin) ->Network->802.1x->802.1x Mode T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password: admin)	

	->Network->802.1x->802.1x Mode	
Parameter	static.network.802_1x.eap_fast_provision_mode[1]	<y0000000000xx>.cfg
Description	It configures the EAP In-Band provisioning method for EAP-FAST. **Note**: It works only if "static.network.802_1x.mode" is set to 7 (EAP-FAST).	
Permitted Values	**0**-Unauthenticated Provisioning, EAP In-Band provisioning is enabled by server unauthenticated PAC (Protected Access Credential) provisioning using anonymous Diffie-Hellman key exchange. **1**-Authenticated Provisioning, EAP In-Band provisioning is enabled by server authenticated PAC provisioning using certificate based server authentication.	
Default	0	
Web UI	Network->Advanced->802.1x->Provisioning Mode	
Parameter	static.network.802_1x.anonymous_identity[1]	<y0000000000xx>.cfg
Description	It configures the anonymous identity (user name) for 802.1X authentication. It is used for constructing a secure tunnel for 802.1X authentication. **Example**: static.network.802_1x.anonymous_identity = user@yealink.com **Note**: It works only if "static.network.802_1x.mode" is set to 2, 3, 4, 5, 6 or 7.	
Permitted Values	String within 512 characters	
Default	Blank	
Web UI	Network->Advanced->802.1x->Anonymous Identity	
Parameter	static.network.802_1x.identity[1]	<y0000000000xx>.cfg
Description	It configures the user name for 802.1x authentication. **Example**: static.network.802_1x.identity = yealink **Note**: It works only if "static.network.802_1x.mode" is set to 1, 2, 3, 4, 5, 6 or 7.	
Permitted Values	String within 32 characters	
Default	Blank	
Web UI	Network->Advanced->802.1x->Identity	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin) ->Network->802.1x->Identity T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password: admin)	

	->Network->802.1x->Identity	
Parameter	static.network.802_1x.md5_password[1]	<y0000000000xx>.cfg
Description	It configures the password for 802.1x authentication. **Example**: static.network.802_1x.md5_password = admin123 **Note**: It works only if "static.network.802_1x.mode" is set to 1, 3, 4, 5, 6 or 7.	
Permitted Values	String within 32 characters	
Default	Blank	
Web UI	Network->Advanced->802.1x->MD5 Password	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin) ->Network->802.1x->MD5 Password T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password: admin) ->Network->802.1x->MD5 Password	
Parameter	static.network.802_1x.root_cert_url	<y0000000000xx>.cfg
Description	It configures the access URL of the CA certificate. **Example**: static.network.802_1x.root_cert_url = http://192.168.1.10/ca.pem **Note**: It works only if "static.network.802_1x.mode" is set to 2, 3, 4, 5, 6 or 7. If the authentication method is EAP-FAST, you also need to set "static.network.802_1x.eap_fast_provision_mode" to 1 (Authenticated Provisioning). The format of the certificate must be *.pem, *.crt, *.cer or *.der.	
Permitted Values	URL within 511 characters	
Default	Blank	
Web UI	Network->Advanced->802.1x->CA Certificates	
Parameter	static.network.802_1x.client_cert_url	<y0000000000xx>.cfg
Description	It configures the access URL of the device certificate. **Example**: static.network.802_1x.client_cert_url = http://192.168.1.10/client.pem **Note**: It works only if "static.network.802_1x.mode" is set to 2 (EAP-TLS). The format of the certificate must be *.pem.	
Permitted Values	URL within 511 characters	

Default	Blank	
Web UI	Network->Advanced->802.1x->Device Certificates	
Parameter	static.network.802_1x.proxy_eap_logoff.enable[1]	<y0000000000xx>.cfg
Description	It enables or disables the 802.1x-logoff feature for the PC port.	
Permitted Values	**0**-Disabled **1**-Enabled, the 802.1x logoff message is sent to the authenticator when the PC is disconnected.	
Default	0	

[1]If you change this parameter, the IP phone will reboot to make the change take effect.

TR-069 Device Management

TR-069 is a technical specification defined by the Broadband Forum, which defines a mechanism that encompasses secure auto-configuration of a CPE (Customer-Premises Equipment), and incorporates other CPE management functions into a common framework. TR-069 uses common transport mechanisms (HTTP and HTTPS) for communication between CPE and ACS (Auto Configuration Servers). The HTTP(S) messages contain XML-RPC methods defined in the standard for configuration and management of the CPE.

For more information on TR-069, refer to Yealink TR-069 Technote.

Topics

Supported RPC Methods

TR069 Configuration

Supported RPC Methods

The following table provides a description of RPC methods supported by IP phones.

RPC Method	Description
GetRPCMethods	This method is used to discover the set of methods supported by the CPE.
SetParameterValues	This method is used to modify the value of one or more CPE parameters.
GetParameterValues	This method is used to obtain the value of one or more CPE parameters.
GetParameterNames	This method is used to discover the parameters accessible on a particular CPE.

RPC Method	Description
GetParameterAttributes	This method is used to read the attributes associated with one or more CPE parameters.
SetParameterAttributes	This method is used to modify attributes associated with one or more CPE parameters.
Reboot	This method causes the CPE to reboot.
Download	This method is used to cause the CPE to download a specified file from the designated location. File types supported by IP phones are: ● Firmware Image ● Configuration File
Upload	This method is used to cause the CPE to upload a specified file to the designated location. File types supported by IP phones are: ● Configuration File ● Log File
ScheduleInform	This method is used to request the CPE to schedule a one-time Inform method call (separate from its periodic Inform method calls) sometime in the future.
FactoryReset	This method resets the CPE to its factory default state.
TransferComplete	This method informs the ACS of the completion (either successful or unsuccessful) of a file transfer initiated by an earlier Download or Upload method call.
AddObject	This method is used to add a new instance of an object defined on the CPE.
DeleteObject	This method is used to remove a particular instance of an object.

TR069 Configuration

The following table lists the parameters you can use to configure TR069.

Parameter	static.managementserver.enable	<y0000000000xx>.cfg
Description	It enables or disables the TR069 feature.	
Permitted Values	**0**-Disabled **1**-Enabled	

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Default	0
Web UI	Settings->TR069->Enable TR069

Parameter	static.managementserver.username	<y0000000000xx>.cfg
Description	It configures the user name for the IP phone to authenticate with the ACS (Auto Configuration Servers). Leave it blank if no authentication is required. **Example**: static.managementserver.username = tr69	

Permitted Values	String within 128 characters
Default	Blank
Web UI	Settings->TR069->ACS Username

Parameter	static.managementserver.password	<y0000000000xx>.cfg
Description	It configures the password for the IP phone to authenticate with the ACS (Auto Configuration Servers). Leave it blank if no authentication is required. **Example**: static.managementserver.password = tr69	

Permitted Values	String within 64 characters
Default	Blank
Web UI	Settings->TR069->ACS Password

Parameter	static.managementserver.url	<y0000000000xx>.cfg
Description	It configures the access URL of the ACS (Auto Configuration Servers). **Example**: static.managementserver.url = http://officetelprov.orangero.net:8080/ftacs-digest/ACS	

Permitted Values	URL within 511 characters
Default	Blank
Web UI	Settings->TR069->ACS URL

Parameter	static.managementserver.connection_request_username	<y0000000000xx>.cfg
Description	It configures the user name for the IP phone to authenticate the incoming connection requests.	

	Example: static.managementserver.connection_request_username = accuser
Permitted Values	String within 128 characters
Default	Blank
Web UI	Settings->TR069->Connection Request Username
Parameter	static.managementserver.connection_request_password `<y0000000000xx>.cfg`
Description	It configures the password for the IP phone to authenticate the incoming connection requests. **Example**: static.managementserver.connection_request_password = acspwd
Permitted Values	String within 64 characters
Default	Blank
Web UI	Settings->TR069->Connection Request Password
Parameter	static.managementserver.periodic_inform_enable `<y0000000000xx>.cfg`
Description	It enables or disables the IP phone to periodically report its configuration information to the ACS (Auto Configuration Servers).
Permitted Values	**0**-Disabled **1**-Enabled
Default	1
Web UI	Settings->TR069->Enable Periodic Inform
Parameter	static.managementserver.periodic_inform_interval `<y0000000000xx>.cfg`
Description	It configures the interval (in seconds) at which the IP phone reports its configuration to the ACS (Auto Configuration Servers). **Note**: It works only if "static.managementserver.periodic_inform_enable" is set to 1 (Enabled).
Permitted Values	Integer from 5 to 4294967295
Default	60
Web UI	Settings->TR069->Periodic Inform Interval (seconds)

Phone Provisioning

This chapter provides basic instructions for setting up your IP phones with a provisioning server.

For more information, refer to Yealink_SIP_IP_Phones_Auto_Provisioning_Guide.

Topics

Boot Files, Configuration Files and Resource Files

Provisioning Methods

Setting Up a Provisioning Server

Keeping User's Personalized Settings after Auto Provisioning

Example: Deploying Phones from the Provisioning Server

Boot Files, Configuration Files and Resource Files

You can use boot files, configuration files and resource files to configure phone features and apply feature settings to phones. You can create or edit these files using a text editor such as UltraEdit.

You can ask the distributor or Yealink FAE for template files. You can also obtain the template files online: http://support.yealink.com/documentFront/forwardToDocumentFrontDisplayPage.

Topics

Boot Files

Configuration Files

Resource Files

Files Download Process

Boot Files

Yealink IP phones support boot files. The boot files maximize the flexibility to allow you to customize features and settings for multiple phones.

With the boot file, you can specify which configuration files should be downloaded. It is effective for you to provision the IP phones in different deployment scenarios:

- For all phones

- For a group of phones

- For specific phone models

- For a single phone

Yealink IP phones support two types of boot files: common boot file and MAC-Oriented boot file. You

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can use the default boot template file "y000000000000.boot" to create MAC-Oriented boot file by making a copy and renaming it.

Note
You can select whether to use the boot file or not according to your deployment scenario. If you do not want to use the boot file, please go to Configuration Files.

Topics

Common Boot File

MAC-Oriented Boot File

Boot File Attributes

Customizing a Boot File

Common Boot File

Common boot file, named y000000000000.boot, is effective for all phones. You can use a common boot file to apply common feature settings to all of the phones rather than a single phone.

MAC-Oriented Boot File

MAC-Oriented boot file, named <MAC>.boot. It will only be effective for a specific IP phone. In this way, you have a high permission to control over each phone by making changes on a per-phone basis.

You can create a MAC-Oriented boot file for each phone by making a copy and renaming the boot template file (y000000000000.boot). For example, if your phone MAC address is 00156574B150, rename the template file as 00156574b150.boot (lowercase).

Tip
MAC address, a unique 12-digit serial number is assigned to each phone. You can obtain it from the bar code on the back of the IP phone.

Boot File Attributes

The following table lists the attributes you need to know in the boot template file.

Attributes	Description
#!version:1.0.0.1	It must be placed in the first line. Do not edit and delete.
include:config <xxx.cfg> include:config "xxx.cfg"	Each "include" statement can specify a location of a configuration file. The configuration file format must be *.cfg. The locations in the angle brackets or double quotation marks support two forms: • Relative path (relative to the boot file): For example, sip.cfg, HTTP Directory/sip.cfg • Absolute path (or URL):

Attributes	Description
	For example, *http://10.2.5.258/HTTP Directory/sip.cfg*
	The location must point to a specific CFG file.
[$MODEL]	The [$MODEL] can be added to specify settings for specific phone models. $MODEL represents the phone model name.
	The valid phone model names are: T54S, T52S, T48S, T48G, T46S, T46G, T42S, T42G, T41P, T41S, T40P, T40G, T29G, T27P, T27G, T23P, T23G, T21P E2, T21 E2, T19P E2 and T19 E2.
	Multiple phone models are separated by commas. For example, [T46S, T23G].
overwrite_mode	Enable or disable the overwrite mode. The overwrite mode applies to the configuration files specified in the boot file. Note that it only affects the parameters pre-provisioned via central provisioning.
	1-**(Enabled)** - If the value of a parameter in configuration files is left blank, or if a non-static parameter in configuration files is deleted or commented out, the factory default value takes effect.
	0-**(Disabled)** - If the value of a parameter in configuration files is left blank, deleted or commented out, the pre-configured value is kept.
	Note: Overwrite mode can only be used in boot files. If a boot file is used but the value of the parameter "overwrite_mode" is not configured, the overwrite mode is enabled by default.
specific_model.excluded_mode	Enable or disable the exclude mode. The exclude mode applies to the configuration files specified in the boot file.
	0-**Disabled** (**Append Mode**), the phone downloads its own model-specific configuration files, and downloads other model-unspecified configuration files.
	1-**Enabled** (**Exclude Mode**), the phone attempts to download its own model-specific configuration files; if there is no own model-specific configuration files found on the server, it downloads model-unspecified configuration files.
	Note: Exclude mode can only be used in boot files. If a boot file is used but the value of the parameter "specific_model.excluded_mode" is not configured, the exclude mode is disabled by default.

Tip
The line beginning with "#" is considered to be a comment. You can use "#" to make any comment in the boot file.

Customizing a Boot File

Procedure

1. Open a boot template file.

2. To add a configuration file, add *include:config <>* or *include:config ""* to the file. Each starts on a separate line.

3. Specify a configuration file for downloading.

    For example:

    include:config <configure/sip.cfg>

    include:config "http://10.2.5.206/configure/account.cfg"

    include:config "http://10.2.5.206/configure/dialplan.cfg"

4. To specify configuration files for specific phone models, add specific phone models in front of *include:config <>* or *include:config ""*. Multiple phone model names are separated by commas.

    For example:

    [T46S, T48S]include:config <configure/sip.cfg>

    [T23G]include:config "http://10.2.5.206/configure/account.cfg"

    ## file *sip.cfg* only applies to T46S and T48S phones, file *account.cfg* only applies to T23G phones

5. Specify the overwrite mode and exclude mode.

    For example:

    overwrite_mode = 1

    specific_model.excluded_mode = 1

6. Save the boot file and place it on the provisioning server.

Related Topic

Boot File Attributes

Configuration Files

Yealink supports two configuration template files: Common CFG file and MAC-Oriented CFG file.

These configuration files contain two kinds of parameters:

- Static: The parameters start with a prefix "static.", for example, static.auto_provision.custom.protect.

- Non-static: The parameters do not start with a prefix "static.", for example, phone_setting.backgrounds.

You can deploy and maintain a mass of Yealink IP phones automatically through configuration files stored in a provisioning server.

Note
For protecting against unauthorized access, you can encrypt configuration files. For more information on encrypting configuration files, refer to Encrypting and Decrypting Files.

Topics

Common CFG File

MAC CFG File

Configuration File Customization

Configuration File Attributes

Common CFG File

Common CFG file, named <y0000000000xx>.cfg, contains parameters that affect the basic operation of the IP phone, such as language and volume. It will be effective for all IP phones in the same model. The common CFG file has a fixed name for each phone model.

The following table lists the name of the common CFG file for each IP phone model:

Phone Model	Common CFG file
T54S	y000000000070.cfg
T52S	y000000000074.cfg
T48G	y000000000035.cfg
T48S	y000000000065.cfg
T46G	y000000000028.cfg
T46S	y000000000066.cfg
T42G	y000000000029.cfg
T42S	y000000000067.cfg
T41P	y000000000036.cfg
T41S	y000000000068.cfg
T40P	y000000000054.cfg
T40G	y000000000076.cfg
T29G	y000000000046.cfg
T27P	y000000000045.cfg
T27G	y000000000069.cfg

Phone Model	Common CFG file
T23P/G	y000000000044.cfg
T21(P) E2	y000000000052.cfg
T19(P) E2	y000000000053.cfg

MAC CFG File

Yealink supports two MAC CFG file: MAC-Oriented file and MAC-local CFG file, which are both named after the MAC address of the IP phone. For example, if the MAC address of an IP phone is 00156574B150, the name of MAC-Oriented CFG file is 00156574b150.cfg (lowercase), and the name of MAC-local CFG file is 00156574b150-local.cfg (lowercase).

Tip
MAC address, a unique 12-digit serial number is assigned to each phone. You can obtain it from the bar code on the back of the IP phone.

Topics

MAC-Oriented CFG File

MAC-local CFG File

MAC-Oriented CFG File

MAC-Oriented CFG file, named <MAC>.cfg, contains parameters unique to a particular phone, such as account registration. It will only be effective for a MAC-specific IP phone.

MAC-local CFG File

MAC-local CFG file, named <MAC>-local.cfg, contains changes associated with non-static parameter that you make via web user interface or phone user interface (for example, changes for time and date formats, ring tones, and DSS keys).

This file generates only if you enable the provisioning priority mechanism. It is stored locally on the IP phone and you can upload it to the provisioning server each time the file updates. This file enables the users to keep their personalized configuration settings, even though the IP phone performs auto provisioning.

Note
The non-static changes that you made before enabling the provisioning priority mechanism are not saved in the generated MAC-local file, but the previous settings still take effect on the phone. The static changes are never be saved to the <MAC>-local.cfg file.
The provisioning priority mechanism is enabled by the parameter "static.auto_provision.custom.protect".

Topics

MAC-local CFG File Configuration

By default, the MAC-local.cfg file is stored on the IP phone. You can configure the phone to upload this file to the provisioning server each time the file updates.

The following table lists the parameters you can use to generate and upload the MAC-local CFG file.

Parameter	static.auto_provision.custom.protect	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to keep user's personalized settings after auto provisioning. **Note**: The provisioning priority mechanism (phone/web user interface >central provisioning >factory defaults) takes effect only if the value of this parameter is set to 1 (Enabled). If "overwrite_mode" is set to 1 in the boot file, the value of this parameter will be set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled, <MAC>-local.cfg file generates and personalized non-static settings configured via web or phone user interface will be kept after auto provisioning.	
Default	0	
Parameter	static.auto_provision.custom.sync	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to upload the <MAC>-local.cfg file to the server each time the file updates, and to download the <MAC>-local.cfg file from the server during auto provisioning. **Note**: It works only if "static.auto_provision.custom.protect" is set to 1 (Enabled). The upload/download path is configured by the parameter "static.auto_provision.custom.sync.path".	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Parameter	static.auto_provision.custom.sync.path	<y0000000000xx>.cfg
Description	It configures the URL for uploading/downloading the <MAC>-local.cfg file. If it is left blank, the IP phone will try to upload/download the <MAC>-local.cfg file to/from the provisioning server. **Note**: It works only if "static.auto_provision.custom.sync" is set to 1 (Enabled).	
Permitted Values	URL	

Default	Blank

Parameter	static.auto_provision.custom.upload_method[1]	<y0000000000xx>.cfg
Description	It configures the way the IP phone uploads the <MAC>-local.cfg file, <MAC>-calllog.xml file or <MAC>-contact.xml file to the provisioning server (for HTTP/HTTPS server only).	
Permitted Values	**0**-PUT **1**-POST	
Default	0	

Clearing MAC-local CFG File

When the IP phone is given to a new user but many personalized configurations settings of the last user are saved on the phone; or when the end user encounters some problems because of the wrong configurations, you can clear user's personalized configuration settings.

- Via phone user interface at the path: **Menu**->**Advanced** (default password: admin) ->**Reset Config**->**Reset local settings**.

- Via web user interface at the path: **Settings**->**Upgrade**->**Reset Local Settings**.

Note
The **Reset local settings** option on the web/phone user interface appears only if you set "static.auto_provision.custom.protect = 1".
If you set "static.auto_provision.custom.sync = 1", the MAC-local.cfg file on the provisioning server will be cleared too. If not, the MAC-local.cfg file is kept on the provisioning server, and the IP phone could download it and update the configurations to the phone after the next auto provisioning.

Configuration File Customization

You can create some new CFG files by making a copy and renaming the configuration template file (for example, sip.cfg, account.cfg). You can rearrange the parameters in the configuration template file and create your own configuration files with parameters you want. This flexibility is especially useful when you want to apply specific settings to a group of phones.

Topic

Customizing a Configuration File

Customizing a Configuration File

1. Copy and rename a configuration template file. For example, *sip.cfg*.

2. Rearrange the parameters in the *sip.cfg*, and set the valid values for them.

   For example:

   phone_setting.contrast = 7

local_time.time_format = 1

account.1.dnd.enable = 1

account.2.dnd.enable = 1

features.dnd.enable = 0

3. To specify parameters for specific phone models, add specific phone models in the front of the corresponding parameters. Multiple phone model names are separated by commas.

For example:

[T46S,T48S]voice_mail.number.1 = *5

[T27G]account.1.dnd.enable = 1

[T46S]account.2.dnd.enable = 1

[T48S]features.dnd.enable = 0

These parameters only apply to their own specific phone models.

4. Save the configuration file and place it on the provisioning server.

Related Topic

Configuration File Attributes

Configuration File Attributes

The following table lists the attributes you need to know in the configuration template file.

Attributes	Description
#!version:1.0.0.1	It must be placed in the first line. Do not edit and delete.
Configuration Parameter=Valid Value (for example, features.dnd_mode = 1)	Specify the parameters and values to apply specific settings to the phones. • Separate each configuration parameter and value with an equal sign • Set only one configuration parameter per line • Put the configuration parameter and value on the same line, and do not break the line
[$MODEL]	The [$MODEL] can be added in front of configuration parameter to specify the value for specific phone models. $MODEL represents the phone model. The valid phone model names are: T54S, T52S, T48S, T48G, T46S, T46G, T42S, T42G, T41P, T41S, T40P, T40G, T29G, T27P, T27G, T23P, T23G, T21P E2, T21 E2, T19P E2 and T19 E2. Multiple phone models are separated by commas. For example, [T46S, T23G]. **Note**: The phone updates model-specific configurations and those

Attributes	Description
	model-unspecified configurations.

Tip
The line beginning with "#" is considered to be a comment. You can use "#" to make any comment in the boot file.

Resource Files

Resource files are optional, but if the particular feature is being employed, these files are required. You need to place resource files on the provisioning server. The IP phones request the resource files in addition to the configuration files during auto provisioning.

Tip
If you want to specify the desired phone to use the resource file, the access URL of resource file should be specified in the MAC-Oriented CFG file. During auto provisioning, the IP phones will request the resource files in addition to the configuration files.

Topic

Supported Resource Files

Supported Resource Files

Yealink supplies some template of resource files for you, so you can directly edit the files as required.

The following table lists the resource files Yealink supplies:

Template File	File Name	Description	Reference in Section
AutoDST Template	AutoDST.xml	Add or modify time zone and DST settings.	DST Settings
Language Packs	For example, 000.GUI.English.lang 1.English_note.xml 1.English.js	Customize the translation of the existing language on the phone/web user interface.	Language Customization
Keypad Input Method File	ime.txt Russian_ime.txt Hebrew_ime.txt	Customize the existing input method.	Input Method File Customization
Replace Rule Template	DialPlan.xml	Customize replace rules for dial plan.	Replace Rule File Customization
Dial Now Template	DialNow.xml	Customize dial now rules for dial plan.	Dial Now File Customization

Template File	File Name	Description	Reference in Section
Softkey Layout Template	CallFailed.xml CallIn.xml Connecting.xml Dialing.xml RingBack.xml Talking.xml	Customize soft key layout for different call states.	Softkey Layout File Customization
Directory Template	favorite_setting.xml	Customize the directory list.	Directory List File Customization
Super Search Template	super_search.xml	Customize the search source list.	Search Source File Customization
Local Contact File	contact.xml	Add or modify multiple local contacts.	Local Contact File Customization
Remote Phone Book Template	Department.xml Menu.xml	Add or modify multiple remote contacts.	Remote Phone Book File Customization
Screen Saver Template	CustomScreenSaver.xml	Customize the XML items (for example, notifications, company logo) which will be displayed on screen saver.	Screensaver Display Customization

Files Download Process

When you provision the IP phones, the phones will request to download the boot files, configuration files and resource files from the provisioning server according to the following flowchart:
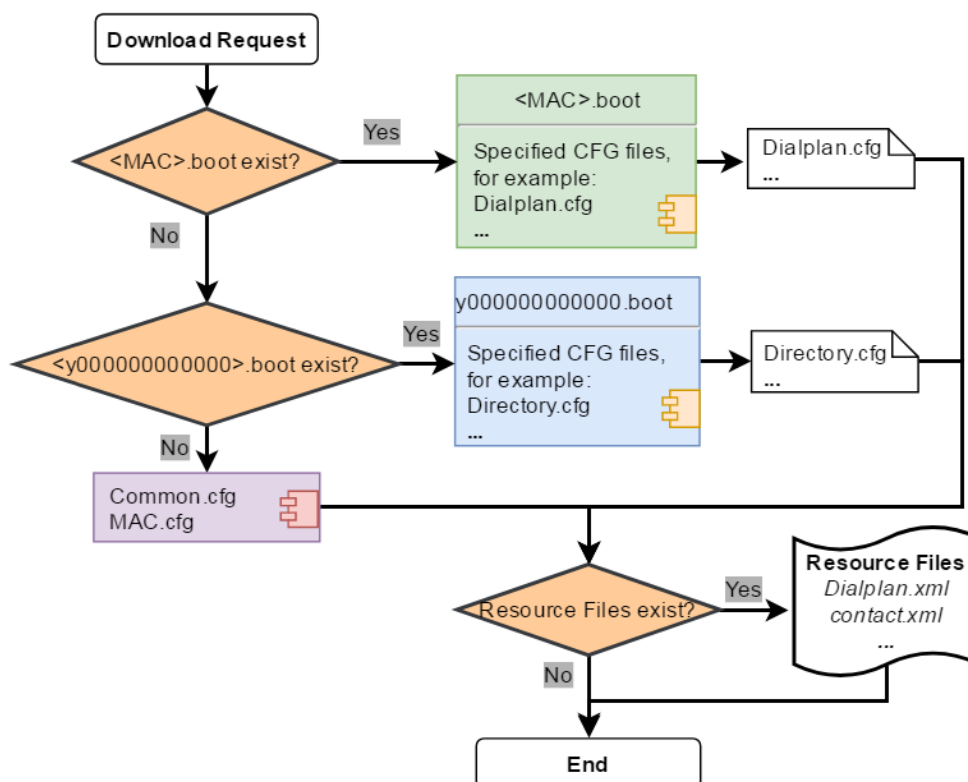
The parameters in the new downloaded configuration files will override the same parameters in files downloaded earlier.

Note
For the phone running firmware version 82 or earlier, it downloads configuration files referenced in the boot file in sequence.
For the phone running firmware version 83 or later, "specific_model.excluded_mode" determines which configuration files referenced in the boot file to be downloaded.

Provisioning Methods

Yealink provides two ways to provision your phones:

- Manual Provisioning: provisioning via the local phone user interface or web user interface.

- Central Provisioning: provisioning through configuration files stored in a central provisioning server.

The method you use depends on how many phones need to be deployed and what features and settings to be configured. Manual provisioning on web or phone user interface does not contain all of the phone settings available with centralized method. You can use the web user interface method in conjunction with central provisioning method and phone user interface method. We recommend using centralized provisioning as your primary provisioning method when provisioning multiple phones.

Topics

Provisioning Methods Priority

Manual Provisioning

Central Provisioning

Provisioning Methods Priority

There is a priority for configuration among the provisioning methods - settings you make using a higher priority provisioning method override settings made using a lower priority provisioning method.

The precedence order for configuration parameter changes is as follows (highest to lowest):
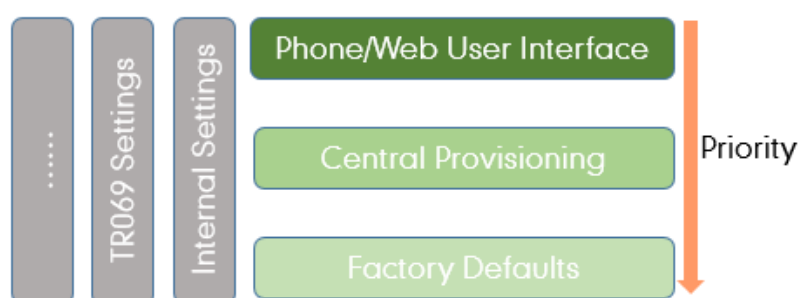
Note
The provisioning priority mechanism takes effect only if "static.auto_provision.custom.protect" is set to 1. For more information on this parameter, refer to MAC-local CFG File Configuration.
Static parameters have no priority. They take effect no matter what method (web user interface or phone user interface or configuration files) you are using for provisioning.
Static parameters are the parameters that start with a prefix "static.", for example, the parameters associated with auto provisioning/network/syslog, TR069 settings and internal settings (the temporary configurations to be used for program running).

Manual Provisioning

This method enables you to perform configuration changes on a per-phone basis.

Note
When you manually configure a phone via web user interface or phone user interface, the changes associated with non-static parameters you make will be stored in the MAC-local CFG file. For more information on MAC-local CFG file, refer to MAC-local CFG File.

Topics

Web User Interface

Phone User Interface

Web User Interface

You can configure IP phones via web user interface, a web-based interface that is especially useful for remote configuration. You can either import a configuration file to the phone or export a configuration

file containing phone's current settings to your computer to make changes.

Because features and configurations vary by phone models and firmware versions, options available on each page of the web user interface can vary as well. Note that the features configured via web user interface are limited. Therefore, you can use the web user interface in conjunction with central provisioning method and phone user interface.

Topics

Web User Interface Access

Navigating the Web User Interface

Importing CFG Configuration Files to Phone

Exporting CFG Configuration Files from Phone

Web User Interface Access

When configuring IP phones via web user interface, you require a user name and password for access. For a user, the default user name and password are "user" (case-sensitive). For an administrator, the default user name and password are "admin" (case-sensitive).

Topics

Accessing the Web User Interface

Quick Login Configuration

Web Server Type Configuration

Accessing the Web User Interface

Procedure

1. Find the phone IP address. Press the OK key when the phone is idle or navigate to **Menu**->**Status** on the phone.

2. Enter the IP address in the address bar of a web browser on your PC.

    For example, for IPv4: http://192.168.0.10 or 192.168.0.10; for IPv6: http://[2005:1:1:1:215:65ff:fe64:6e0a] or [2005:1:1:1:215:65ff:fe64:6e0a]

3. Enter the user name and password.

4. Click **Login**.

Related Topics

Web Server Type Configuration

User and Administrator Identification

Quick Login Configuration

You can access to web user interface quickly using the request URI "https://username:password@phoneIPAddress" (for example, https://admin:admin@192.168.0.10). It will locate you in the **Status** web page after accessing the web user interface. It is helpful to quickly log into the web user interface without entering the username and password in the login page.

Yealink IP phones support domain name customization. You can use a custom domain name to access the web user interface.

Note
Accessing the web user interface by request URI may be restricted by the web explorer (e.g., Internet Explorer).
For security purposes, we recommend you to use this feature in a secure network environment.

The following table lists the parameter you can use to configure quick login.

Parameter	wui.quick_login	<y0000000000xx>.cfg
Description	It enables or disables the quick login feature. **Note**: It works only if "static.wui.https_enable" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled, you can quickly log into the web user interface using a request URI (for example, https://admin:admin@192.168.0.10).	
Default	0	
Parameter	wui.secure_domain_list	<y0000000000xx>.cfg
Description	It configures the valid domain name to access the web user interface of the IP phone. Multiple domain names are separated by semicolons. **Example**: wui.secure_domain_list = test.yealink.com You are only allowed to use test.yealink.com or IP address to access the web user interface of the IP phone. **Note**: To use a domain name to access the web user interface of the IP phone, make sure your DNS server can resolve the domain name to the IP address of the IP phone.	
Permitted Values	String If it is left blank, you are only allowed to use IP address to access the web user interface of the IP phone. If it is set to "any", you can use IP address or any domain name to access the web user interface of the IP phone.	
Default	any	

Web Server Type Configuration

Yealink IP phones support both HTTP and HTTPS protocols for accessing the web user interface. You can configure the web server type. Web server type determines access protocol of the web user interface. If you disable to access web user interface using the HTTP/HTTPS protocol, both you and the user cannot access the web user interface.

The following table lists the parameters you can use to configure web server type.

Parameter	static.wui.http_enable[1]	<y0000000000xx>.cfg
Description	It enables or disables the user to access the web user interface of the IP phone using the HTTP protocol.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Web UI	Network->Advanced->Web Server->HTTP	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin) ->Network->Web Server->HTTP Status T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password: admin) ->Network->Web Server->HTTP Status	
Parameter	static.network.port.http[1]	<y0000000000xx>.cfg
Description	It configures the HTTP port for the user to access the web user interface of the IP phone using the HTTP protocol.	
Permitted Values	Integer from 1 to 65535	
Default	80	
Web UI	Network->Advanced->Web Server->HTTP Port (1~65535)	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin) ->Network->Web Server->HTTP Port T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password: admin) ->Network->Web Server->HTTP Port	
Parameter	static.wui.https_enable[1]	<y0000000000xx>.cfg
Description	It enables or disables the user to access the web user interface of the IP phone using the HTTPS protocol.	
Permitted	**0**-Disabled	

Values	**1**-Enabled	
Default	1	
Web UI	Network->Advanced->Web Server->HTTPS	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin) ->Network->Web Server->HTTPS Status T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password: admin) ->Network->Web Server->HTTPS Status	
Parameter	static.network.port.https[1]	<y0000000000xx>.cfg
Description	It configures the HTTPS port for the user to access the web user interface of the IP phone using the HTTPS protocol.	
Permitted Values	Integer from 1 to 65535	
Default	443	
Web UI	Network->Advanced->Web Server->HTTPS Port (1~65535)	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin) ->Network->Web Server->HTTPS Port T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password: admin) ->Network->Web Server->HTTPS Port	

[1]If you change this parameter, the IP phone will reboot to make the change take effect.

Navigating the Web User Interface

When you log into the web user interface successfully, the phone status is displayed on the first page of the web user interface. You can click the navigation bar to customize or click **Log Out** to log out of the web user interface.

The following figure is an example when you navigate to **Settings**->**Preference**:
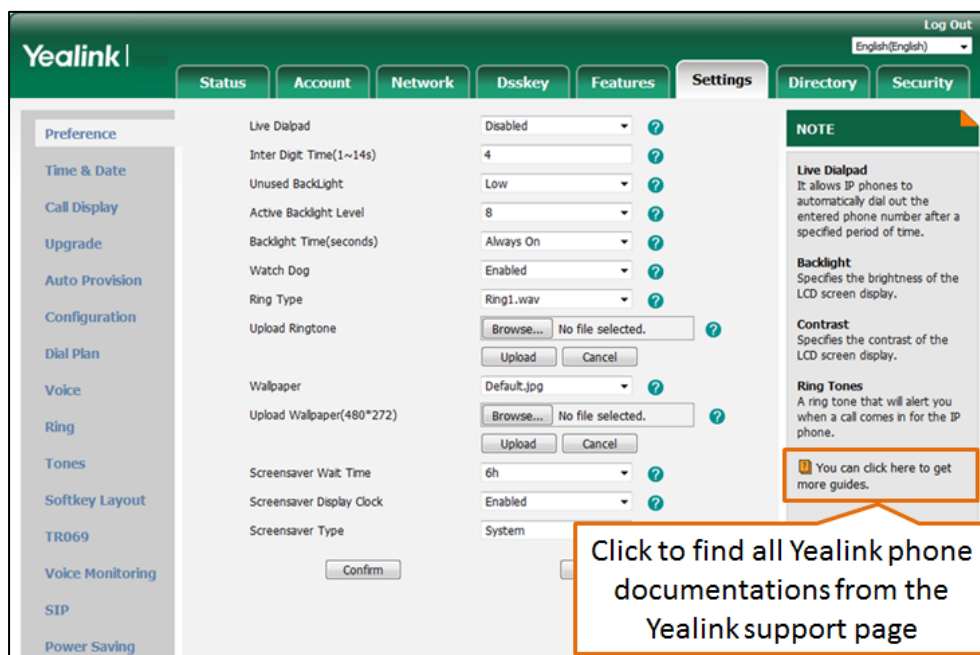
Importing CFG Configuration Files to Phone

You can import the configuration files from local to the IP phones via the web user interface. The configuration files contain the changes for phone features, and these changes will take effect after importing.

Procedure

1. Navigate to **Settings**->**Configuration**.

2. In the **Import CFG Configuration File** block, click **Browse** to locate a CFG configuration file in your local system.

3. Click **Import** to import the configuration file.

Topic

Configuration Files Import URL Configuration

Configuration Files Import URL Configuration

The following table lists the parameters you can use to configure the configuration files import URL.

Parameter	static.custom_mac_cfg.url	<y0000000000xx>.cfg
Description	It configures the access URL of the custom MAC-Oriented CFG file.	
Permitted Values	URL within 511 characters	
Default	Blank	

Exporting CFG Configuration Files from Phone

You can export the phone's configuration file to local and make changes to the phone's current feature settings. You can apply these changes to any phone by importing the configuration files via the web user interface.

You can export five types of CFG configuration files to local system:

- **<MAC>-local.cfg**: It contains changes associated with non-static parameters made via phone user interface and web user interface. It can be exported only if "static.auto_provision.custom.protect" is set to 1 (Enabled).

- **<MAC>-all.cfg**: It contains all changes made via phone user interface, web user interface and using configuration files.

- **<MAC>-static.cfg**: It contains all changes associated with static parameters (for example, network settings) made via phone user interface, web user interface and using configuration files.

- **<MAC>-non-static.cfg**: It contains all changes associated with non-static parameters made via phone user interface, web user interface and using configuration files.

- **<MAC>-config.cfg**: It contains changes associated with non-static parameters made using configuration files. It can be exported only if "static.auto_provision.custom.protect" is set to 1 (Enabled).

Procedure

1. Navigate to **Settings**->**Configuration**.

2. In the **Export or Import Configuration** block, click **Export** to open the file download window, and then save the file to your local system.

Phone User Interface

Phone user interface makes configurations available to users and administrators; but the **Advanced/Advanced Settings** option is only available to administrators and requires an administrator password (default: admin).

You can configure IP phones via phone user interface on a per-phone basis.

Related Topic

User and Administrator Identification

Central Provisioning

Central provisioning enables you to provision multiple phones from a provisioning server that you set up, and maintain a set of boot files, configuration files and resource files for all phones in the central provisioning server.

The following figure shows how the phone interoperates with provisioning server when you use the

centralized provisioning method:
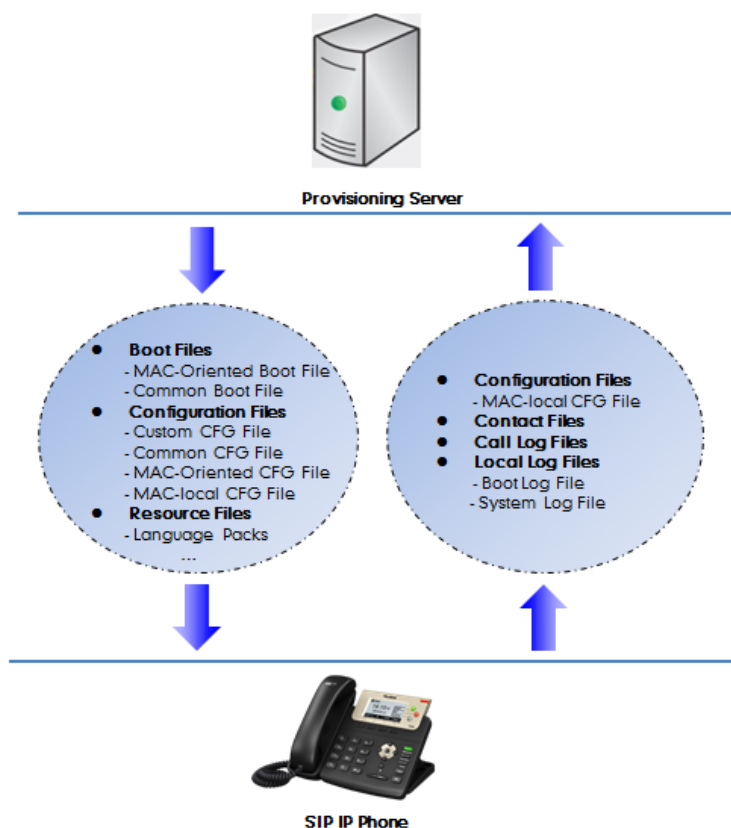
Yealink IP phones can obtain the provisioning server address during startup. Then IP phones first download boot files and configuration files from the provisioning server, and then resolve and update the configurations written in configuration files. This entire process is called auto provisioning. For more information on auto provisioning, refer to Yealink_SIP_IP_Phones_Auto_Provisioning_Guide.

The IP phones can be configured to upload log files (log files provide a history of phone events), call log files and contact files to the provisioning server. You can also configure a directory for each of these three files respectively.

Topics

Auto Provisioning Settings Configuration

User-Triggered Provisioning Settings Configuration

Auto Provisioning Settings Configuration

The following table lists the parameters you can use to configure settings for auto provisioning.

Parameter	static.auto_provision.attempt_expired_time	<y0000000000xx>.cfg
Description	It configures the timeout interval (in seconds) to transfer a file via auto provisioning. **Note**: It has a higher priority than the value defined by the parameter "static.network.attempt_expired_time".	

Permitted Values	Integer from 1 to 300	
Default	5	
Web UI	Settings->Auto Provision->Attempt Expired Time(s)	
Parameter	static.network.attempt_expired_time[1]	<y0000000000xx>.cfg
Description	It configures the timeout interval (in seconds) to transfer a file for HTTP/HTTPS connection. **Note**: It has a lower priority than the value defined by the parameter "static.auto_provision.attempt_expired_time".	
Permitted Values	Integer from 1 to 20	
Default	10	
Parameter	static.auto_provision.attempt_before_failed	<y0000000000xx>.cfg
Description	It configures the maximum number of attempts to transfer a file before the transfer fails. **Example**: static.auto_provision.attempt_before_failed = 5	
Permitted Values	Integer from 1 to 10	
Default	3	
Parameter	static.auto_provision.retry_delay_after_file_transfer_failed	<y0000000000xx>.cfg
Description	It configures the time (in seconds) to wait after a file transfer fails before retrying the transfer via auto provisioning. **Example**: static.auto_provision.retry_delay_after_file_transfer_failed = 5	
Permitted Values	Integer from 0 to 300	
Default	5	
Parameter	static.auto_provision.reboot_force.enable[1]	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to reboot after auto provisioning, even if there is no specific configuration requiring a reboot. It is especially useful when there is no specific configuration requiring reboot in the configuration files, but you want the IP phone to reboot after auto provisioning. **Note**: It works only for the current auto provisioning process. If you want the IP phone to reboot after every auto provisioning process, the parameter must be always	

	contained in the configuration file and set to 1. If the IP phone reboots repeatedly after it is set to 1, you can try to set "static.auto_provision.power_on" to 0 (Off).
Permitted Values	**0**-Disabled **1**-Enabled
Default	Blank
Parameter	features.action_uri_force_autop `<y0000000000xx>.cfg`
Description	It enables or disables the IP phone to end the call for triggering auto provisioning immediately when receiving an HTTP or HTTPS GET request with variable value set to AutoP during a call. **Note**: It works only if "features.action_uri.enable" is set to 1 (Enabled).
Permitted Values	**0**-Disabled, the IP phone will trigger auto provisioning after the call. **1**-Enabled
Default	0
Parameter	static.auto_provision.power_on `<y0000000000xx>.cfg`
Description	It triggers the power on feature to on or off.
Permitted Values	**0**-Off **1**-On, the IP phone will perform auto provisioning when powered on.
Default	1
Web UI	Settings->Auto Provision->Power On
Parameter	static.auto_provision.repeat.enable `<y0000000000xx>.cfg`
Description	It triggers the repeatedly feature to on or off.
Permitted Values	**0**-Off **1**-On
Default	0
Web UI	Settings->Auto Provision->Repeatedly
Parameter	static.auto_provision.repeat.minutes `<y0000000000xx>.cfg`
Description	It configures the interval (in minutes) for the IP phone to perform auto provisioning repeatedly. **Note**: It works only if "static.auto_provision.repeat.enable" is set to 1 (On).
Permitted Values	Integer from 1 to 43200
Default	1440

Web UI	Settings->Auto Provision->Interval(Minutes)	
Parameter	static.auto_provision.weekly.enable	<y0000000000xx>.cfg
Description	It triggers the weekly feature to on or off.	
Permitted Values	**0**-Off **1**-On, the IP phone will perform an auto provisioning process weekly.	
Default	0	
Web UI	Settings->Auto Provision->Weekly	
Parameter	static.auto_provision.weekly_upgrade_interval	<y0000000000xx>.cfg
Description	It configures the time interval (in weeks) for the IP phone to perform auto provisioning. If it is set to 0, the IP phone will perform auto provisioning at the specific day(s) configured by the parameter "static.auto_provision.weekly.dayofweek" every week. If it is set to other values (for example, 3), the IP phone will perform auto provisioning at a random day between the specific day(s) configured by the parameter "static.auto_provision.weekly.dayofweek" every three weeks. **Note**: It works only if "static.auto_provision.weekly.enable" is set to 1 (On).	
Permitted Values	Integer from 0 to 12	
Default	0	
Web UI	Settings->Auto Provision->Weekly Upgrade Interval(0~12week)	
Parameter	static.auto_provision.inactivity_time_expire	<y0000000000xx>.cfg
Description	It configures the delay time (in minutes) to perform auto provisioning when the IP phone is inactive at regular week. If it is set to 0, the IP phone will perform auto provisioning at random between a starting time configured by the parameter "static.auto_provision.weekly.begin_time" and an ending time configured by the parameter "static.auto_provision.weekly.end_time". If it is set to other values (for example, 60), the IP phone will perform auto provisioning only when the IP phone has been inactivated for 60 minutes (1 hour) between the starting time and ending time. **Note**: The IP phone may perform auto provisioning when you are using the IP phone on office hour. It works only if "static.auto_provision.weekly.enable" is set to 1 (On).	
Permitted Values	Integer from 0 to 120	
Default	0	

Web UI	Settings->Auto Provision->Inactivity Time Expire(0~120min)	
Parameter	static.auto_provision.weekly.dayofweek	<y0000000000xx>.cfg
Description	It configures the days of the week for the IP phone to perform auto provisioning weekly. **Example**: static.auto_provision.weekly.dayofweek = 01 If "static.auto_provision.weekly_upgrade_interval" is set to 0, it means the IP phone will perform auto provisioning every Sunday and Monday. If "static.auto_provision.weekly_upgrade_interval" is set to other value (for example, 3), it means the IP phone will perform auto provisioning by randomly selecting a day from Sunday and Monday every three weeks. **Note**: It works only if "static.auto_provision.weekly.enable" is set to 1 (On).	
Permitted Values	0,1,2,3,4,5,6 or a combination of these digits **0**-Sunday **1**-Monday **2**-Tuesday **3**-Wednesday **4**-Thursday **5**-Friday **6**-Saturday	
Default	0123456	
Web UI	Settings->Auto Provision->Day of Week	
Parameter	static.auto_provision.weekly.begin_time static.auto_provision.weekly.end_time	<y0000000000xx>.cfg
Description	It configures the starting/ending time of the day for the IP phone to perform auto provisioning weekly. **Note**: It works only if "static.auto_provision.weekly.enable" is set to 1 (On).	
Permitted Values	Time from 00:00 to 23:59	
Default	00:00	
Web UI	Settings->Auto Provision->Time	
Parameter	static.auto_provision.flexible.enable	<y0000000000xx>.cfg
Description	It triggers the flexible feature to on or off. **Note**: The day within the period is based upon the phone's MAC address and does not change with a reboot whereas the time within the start and end is calculated again	

	with every reboot.
Permitted Values	**0**-Off **1**-On, the IP phone will perform auto provisioning at random between a starting time configured by the parameter "static.auto_provision.flexible.begin_time" and an ending time configured by the parameter "static.auto_provision.flexible.end_time" on a random day within the period configured by the parameter "static.auto_provision.flexible.interval".
Default	0
Web UI	Settings->Auto Provision->Flexible Auto Provision

Parameter	static.auto_provision.flexible.interval	<y0000000000xx>.cfg

Description	It configures the interval (in days) for the IP phone to perform auto provisioning. The auto provisioning occurs on a random day within this period based on the phone's MAC address. **Example**: static.auto_provision.flexible.interval = 30 The IP phone will perform auto provisioning on a random day (for example, 18) based on the phone's MAC address. **Note**: It works only if "static.auto_provision.flexible.enable" is set to 1 (On).
Permitted Values	Integer from 1 to 1000
Default	30
Web UI	Settings->Auto Provision->Flexible Interval Days

Parameter	static.auto_provision.flexible.begin_time	<y0000000000xx>.cfg

Description	It configures the starting time of the day for the IP phone to perform auto provisioning at random. **Note**: It works only if "static.auto_provision.flexible.enable" is set to 1 (On).
Permitted Values	Time from 00:00 to 23:59
Default	02:00
Web UI	Settings->Auto Provision->Flexible Time

Parameter	static.auto_provision.flexible.end_time	<y0000000000xx>.cfg

Description	It configures the ending time of the day for the IP phone to perform auto provisioning at random. If it is left blank or set to a specific value equal to starting time configured by the parameter "static.auto_provision.weekly.begin_time", the IP phone will perform auto

	provisioning at the starting time.
	If it is set to a specific value greater than starting time configured by the parameter "static.auto_provision.weekly.begin_time", the IP phone will perform auto provisioning at random between the starting time and ending time.
	If it is set to a specific value less than starting time configured by the parameter "static.auto_provision.weekly.begin_time", the IP phone will perform auto provisioning at random between the starting time on that day and ending time in the next day.
	Note: It works only if "static.auto_provision.flexible.enable" is set to 1 (On).
Permitted Values	Time from 00:00 to 23:59
Default	Blank
Web UI	Settings->Auto Provision->Flexible Time
Parameter	static.auto_provision.prompt.enable `<y0000000000xx>.cfg`
Description	It enables or disables the IP phone to prompt you for the configuration update and the result (if any configuration changes) during auto provisioning. **Note**: If the IP phone performs auto provisioning when receiving a SIP NOTIFY message which contains the header "Event: check-sync", the IP phone will display the prompt message no matter whether the configuration is updated.
Permitted Values	**0**-Disabled **1**-Enabled
Default	0
Parameter	static.auto_provision.connect.keep_alive `<y0000000000xx>.cfg`
Description	It enables or disables the long connection for downloading files via auto provisioning.
Permitted Values	**0**-Disabled, the IP phone uses short connection for downloading files via auto provisioning **1**-Enabled
Default	0

[1]If you change this parameter, the IP phone will reboot to make the change take effect.

User-Triggered Provisioning Settings Configuration

You can enable the users to trigger IP phones to perform provisioning by dialing an activation code. This method works only if there is no registered account on the IP phone.

The following table lists the parameters you can use to configure settings for user-triggered provisioning.

Parameter	static.autoprovision.X.name[1][2] `<y0000000000xx>.cfg`
Description	It configures the code name to trigger auto provisioning.

Permitted Values	String within 64 characters	
Default	Blank	
Parameter	static.autoprovision.X.code[1][2]	\<y0000000000xx\>.cfg
Description	It configures the activation code to trigger auto provisioning. The activation code can be numeric characters, special characters # * or a combination of them. **Example**: static.autoprovision.1.code = 123 static.autoprovision.2.code = ** static.autoprovision.3.code = *123	
Permitted Values	String	
Default	Blank	
Parameter	static.autoprovision.X.url[1][2]	\<y0000000000xx\>.cfg
Description	It configures the access URL of the provisioning server for the IP phone to perform auto provisioning which is triggered by activation code.	
Permitted Values	URL within 511 characters	
Default	Blank	
Parameter	static.autoprovision.X.user[1][2]	\<y0000000000xx\>.cfg
Description	It configures the user name for authentication during auto provisioning which is triggered by activation code.	
Permitted Values	String within 64 characters	
Default	Blank	
Parameter	static.autoprovision.X.password[1][2]	\<y0000000000xx\>.cfg
Description	It configures the password for authentication during auto provisioning which is triggered by activation code.	
Permitted Values	String within 32 characters	
Default	Blank	
Parameter	static.auto_provision.dns_resolv_nosys	\<y0000000000xx\>.cfg
Description	It enables or disables the IP phone to resolve the access URL of the provisioning server	

	using download libraries mechanism.
	Note: It is only applicable to T41P/T42G IP phones.
Permitted Values	**0**-Disabled, the IP phone resolves the access URL of the provisioning server using system mechanism. **1**-Enabled
Default	1
Parameter	static.auto_provision.dns_resolv_nretry <y0000000000xx>.cfg
Description	It configures the retry times when the IP phone fails to resolve the access URL of the provisioning server. **Note**: For each different DNS server, it works only if "static.auto_provision.dns_resolv_nosys" is set to 1 (Enabled).
Permitted Values	Integer from 1 to 10
Default	2
Parameter	static.auto_provision.dns_resolv_timeout <y0000000000xx>.cfg
Description	It configures the timeout (in seconds) for the phone to retry to resolve the access URL of the provisioning server. **Note**: For each different DNS server, it works only if "static.auto_provision.dns_resolv_nosys" is set to 1 (Enabled).
Permitted Values	Integer from 1 to 60
Default	5

[1]X is activation code ID. For all IP phones, X=1-50.

[2]If you change this parameter, the IP phone will reboot to make the change take effect.

Setting Up a Provisioning Server

You can use a provisioning server to configure your IP phones. A provisioning server allows for flexibility in upgrading, maintaining and configuring the phone. Boot files, configuration files and resource files are normally located on this server.

Topics

Supported Provisioning Protocols

Supported Provisioning Server Discovery Methods

Configuring a Provisioning Server

Supported Provisioning Protocols

Yealink IP phones support several transport protocols for provisioning:

- Trivial File Transfer Protocol (TFTP)

- File Transfer Protocol (FTP)

- Hyper Text Transfer Protocol – Secure (HTTPS)

- File Transfer Protocol – Secure (FTPS)

Note

There are two types of FTP methods—active and passive. IP phones are not compatible with active FTP.

You can specify the transport protocol in the provisioning server address, for example, http://xxxxxxx. If not specified, the TFTP protocol is used.

Topic

Provisioning Protocols Configuration

Provisioning Protocols Configuration

The following table lists the parameter you can use to configure provisioning protocols.

Parameter	static.auto_provision.server.type	<y0000000000xx>.cfg
Description	It configures the protocol the IP phone uses to connect to the provisioning server. **Note**: It works only if the protocol type is not defined in the access URL of the provisioning server configured by the parameter "static.auto_provision.server.url".	
Permitted Values	**1**-HTTP **2**-HTTPS **3**-FTP **Other values**-TFTP	
Default	TFTP	
Parameter	static.auto_provision.user_agent_mac.enable[1]	<y0000000000xx>.cfg
Description	It enables or disables the IP phone's MAC address to be included in the User-Agent header of HTTP/HTTPS transfers via auto provisioning.	
Permitted Values	**0**-Disabled, the phone's MAC address is not included in the User-Agent header of HTTP/HTTPS transfers and communications to the web browser. **1**-Enabled	
Default	1	

[1]If you change this parameter, the IP phone will reboot to make the change take effect.

Supported Provisioning Server Discovery Methods

After the phone has established network settings, it must discover a provisioning server to obtain software updates and configuration settings.

The IP phone supports the following methods to discover the provisioning server address:

- **Zero Touch:** Zero Touch feature guides you to configure network settings and the provisioning server address via phone user interface after startup.

- **PnP**: PnP feature allows IP phones to discover the provisioning server address by broadcasting the PnP SUBSCRIBE message during startup.

- **DHCP**: DHCP option can be used to provide the address or URL of the provisioning server to IP phones. When the IP phone requests an IP address using the DHCP protocol, the resulting response may contain option 66 (for IPv4)/ option 59 (for IPv6) or the custom option (if configured) that contains the provisioning server address.

- **Static**: You can manually configure the server address via phone user interface or web user interface.

Topics

Zero Touch Provision Configuration

PnP Provision Configuration

DHCP Provision Configuration

Static Provision Configuration

Zero Touch Provision Configuration

The following table lists the parameters you can use to configure Zero Touch provision.

Parameter	static.zero_touch.enable	<y0000000000xx>.cfg
Description	It enables or disables the zero touch for the IP phone to configure the network parameters and provisioning server address via phone user interface during startup.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Settings->Auto Provision->Zero Active	
Parameter	static.zero_touch.wait_time	<y0000000000xx>.cfg
Description	It configures the duration time (in seconds) for the IP phone to display Zero Touch screen during startup. You can press the **OK** soft key to enter configuration screen or the **Cancel** soft key to exit Zero Touch screen.	
Permitted	Integer from 1 to 100	

Values	
Default	5
Web UI	Settings->Auto Provision->Wait Time(1~100s)
Parameter	static.zero_touch.network_fail_wait_times	<y0000000000xx>.cfg
Description	It configures the reconnection times when zero touch module fails to obtain network parameters.	
Permitted Values	Integer from 1 to 2147483646	
Default	8	
Parameter	static.zero_touch.network_fail_delay_times	<y0000000000xx>.cfg
Description	It configures the duration time (in milliseconds) of every reconnection when zero touch module fails to obtain network parameters.	
Permitted Values	Integer from 1000 to 2147483646	
Default	1000	
Parameter	static.features.hide_zero_touch_url.enable	<y0000000000xx>.cfg
Description	It enables or disables the phone to hide the provisioning URL item on the Zero Touch screen.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	

PnP Provision Configuration

The following table lists the parameters you can use to configure PnP provision.

Parameter	static.auto_provision.pnp_enable	<y0000000000xx>.cfg
Description	It triggers the Plug and Play (PnP) feature to on or off.	
Permitted Values	**0**-Off **1**-On, the IP phone will broadcast PnP SUBSCRIBE messages to obtain a provisioning server address during startup.	
Default	1	
Web UI	Settings->Auto Provision->PNP Active	

DHCP Provision Configuration

You can select to use IPv4 or IPv6 custom DHCP option according to your network environment. The IPv4 or IPv6 custom DHCP option must be in accordance with the one defined in the DHCP server.

The following table lists the parameters you can use to configure DHCP provision.

Parameter	static.auto_provision.dhcp_option.enable	<y0000000000xx>.cfg
Description	It triggers the DHCP Active feature to on or off.	
Permitted Values	**0**-Off **1**-On, the IP phone will obtain the provisioning server address by detecting DHCP options.	
Default	1	
Web UI	Settings->Auto Provision->DHCP Active	
Parameter	static.auto_provision.dhcp_option.list_user_options	<y0000000000xx>.cfg
Description	It configures the IPv4 custom DHCP option for requesting provisioning server address. Multiple options are separated by commas. **Note**: It works only if "static.auto_provision.dhcp_option.enable" is set to 1 (On).	
Permitted Values	Integer from 128 to 254	
Default	Blank	
Web UI	Settings->Auto Provision->IPv4 Custom Option	
Parameter	static.auto_provision.dhcp_option.list_user6_options	<y0000000000xx>.cfg
Description	It configures the IPv6 custom DHCP option for requesting provisioning server address. Multiple options are separated by commas. **Note:** It works only if the value of the parameter "static.auto_provision.dhcp_option.enable" is set to 1 (On).	
Permitted Values	Integer from 135 to 65535, except 143	
Default	Blank	
Web UI	Settings->Auto Provision->IPv6 Custom Option	
Parameter	static.auto_provision.url_wildcard.pn	<y0000000000xx>.cfg
Description	It configures the characters to replace the wildcard $PN in the received URL of the provisioning server. **Note**: The configured characters must be in accordance with the actual directory name of the provisioning server.	

Permitted Values	String within 32 characters
Default	For T54S IP phones: T54S.
	For T52S IP phones: T52S.
	For T48G IP phones: T48G.
	For T48S IP phones: T48S.
	For T46G IP phones: T46G.
	For T46S IP phones: T46S.
	For T42G IP phones: T42G.
	For T42S IP phones: T42S.
	For T41P IP phones: T41P.
	For T41S IP phones: T41S.
	For T40P IP phones: T40P.
	For T40G IP phones: T40G.
	For T29G IP phones: T29G.
	For T27P IP phones: T27P.
	For T27G IP phones: T27G.
	For T23P IP phones: T23P.
	For T23G IP phones: T23G.
	For T21(P) E2 IP phones: T21P_E2.
	For T19(P) E2 IP phones: T19P_E2.

Static Provision Configuration

To use the static provision method, you need to obtain the provisioning server address first when configuring a provisioning server.

The provisioning server address can be IP address, domain name or URL. If a user name and password are specified as part of the provisioning server address, for example, http://user:pwd@server/dir, they will be used only if the server supports them.

Note
A URL should contain forward slashes instead of back slashes and should not contain spaces. Escape characters are not supported.
If a user name and password are not specified as part of the provisioning server address, the User Name and Password of the provisioning server configured on the phone will be used.

The following table lists the parameters you can use to configure static provision.

Parameter	static.auto_provision.server.url	<y0000000000xx>.cfg
Description	It configures the access URL of the provisioning server.	

Permitted Values	URL within 511 characters	
Default	Blank	
Web UI	Settings->Auto Provision->Server URL	
Parameter	static.auto_provision.server.username	<y0000000000xx>.cfg
Description	It configures the user name for provisioning server access.	
Permitted Values	String within 32 characters	
Default	Blank	
Web UI	Settings->Auto Provision->User Name	
Parameter	static.auto_provision.server.password	<y0000000000xx>.cfg
Description	It configures the password for provisioning server access.	
Permitted Values	String within 32 characters	
Default	Blank	
Web UI	Settings->Auto Provision->Password	

Configuring a Provisioning Server

The provisioning server can be set up on the local LAN or anywhere on the Internet. Use the following procedure as a recommendation if this is your first provisioning server setup.

To set up the provisioning server:

1. Install a provisioning server application or locate a suitable existing server, such as 3CDaemon.

2. Create an account and home directory.

3. Set security permissions for the account.

4. Create boot files and configuration files, and then edit them as desired.

5. Copy the boot files, configuration files and resource files to the provisioning server.

6. If performing static provisioning, obtain the provisioning server address.

Tip
Typically, all phones are configured with the same server account, but the server account provides a means of conveniently partitioning the configuration. Give each account a unique home directory on the server and change the configuration on a per-line basis.

Keeping User's Personalized Settings after Auto Provisioning

Generally, you deploy phones in batch and timely maintain company phones via auto provisioning, yet some users would like to keep the personalized settings (for example, ring tones, wallpaper or DSS keys) after auto provisioning.

This section shows you how to keep the personalized settings.

Parameters Settings:

static.auto_provision.custom.protect =1

After provisioning, if the users make changes via phone user interface or web user interface, the MAC-local.cfg file with non-static personal settings generates locally.

Scenario: Keeping user's personalized settings when upgrading firmware

If you set "*static.auto_provision.custom.sync = 1*", then the phones attempt to upload the MAC-local.cfg file to the provisioning server each time the file updates. When performing auto provisioning, they download their own MAC-local.cfg file from the provisioning server, and then update settings in MAC-local.cfg file to the IP phone system. The personalized settings locally are overridden by the MAC-local.cfg file from the provisioning server.

If you set "*static.auto_provision.custom.sync = 0*", the MAC-local.cfg file will be kept locally. The personalized settings will not be overridden after auto provisioning.

Scenario: Keeping user personalized settings after factory reset

The IP phone requires factory reset when it has a breakdown, but the user wishes to keep personalized settings of the phone after factory reset. Before factory reset, make sure that you have set "*static.auto_provision.custom.sync = 1*", and the MAC-local.cfg file has kept on the provisioning server.

After resetting all configurations to factory defaults, both the parameters settings "*static.auto_provision.custom.protect*" and "*static.auto_provision.custom.sync*" are reset to 0. Although the MAC-local.cfg files locally are cleared, they are still kept on the provisioning server.

You can set "*static.auto_provision.custom.protect =1*" and "*static.auto_provision.custom.sync = 1*", and then trigger the phone to perform auto provisioning. The IP phones download their own MAC-local.cfg file from the provisioning server, and then update settings in MAC-local.cfg file to the IP phone system.

As a result, the personalized configuration settings of the phone are retrieved after factory reset.

Topic

Auto Provisioning Flowchart for Keep User's Personalized Configuration Settings

Auto Provisioning Flowchart for Keep User's Personalized Configuration Settings

The following shows auto provisioning flowchart for Yealink IP phones when a user wishes to keep user's personalized configuration settings.
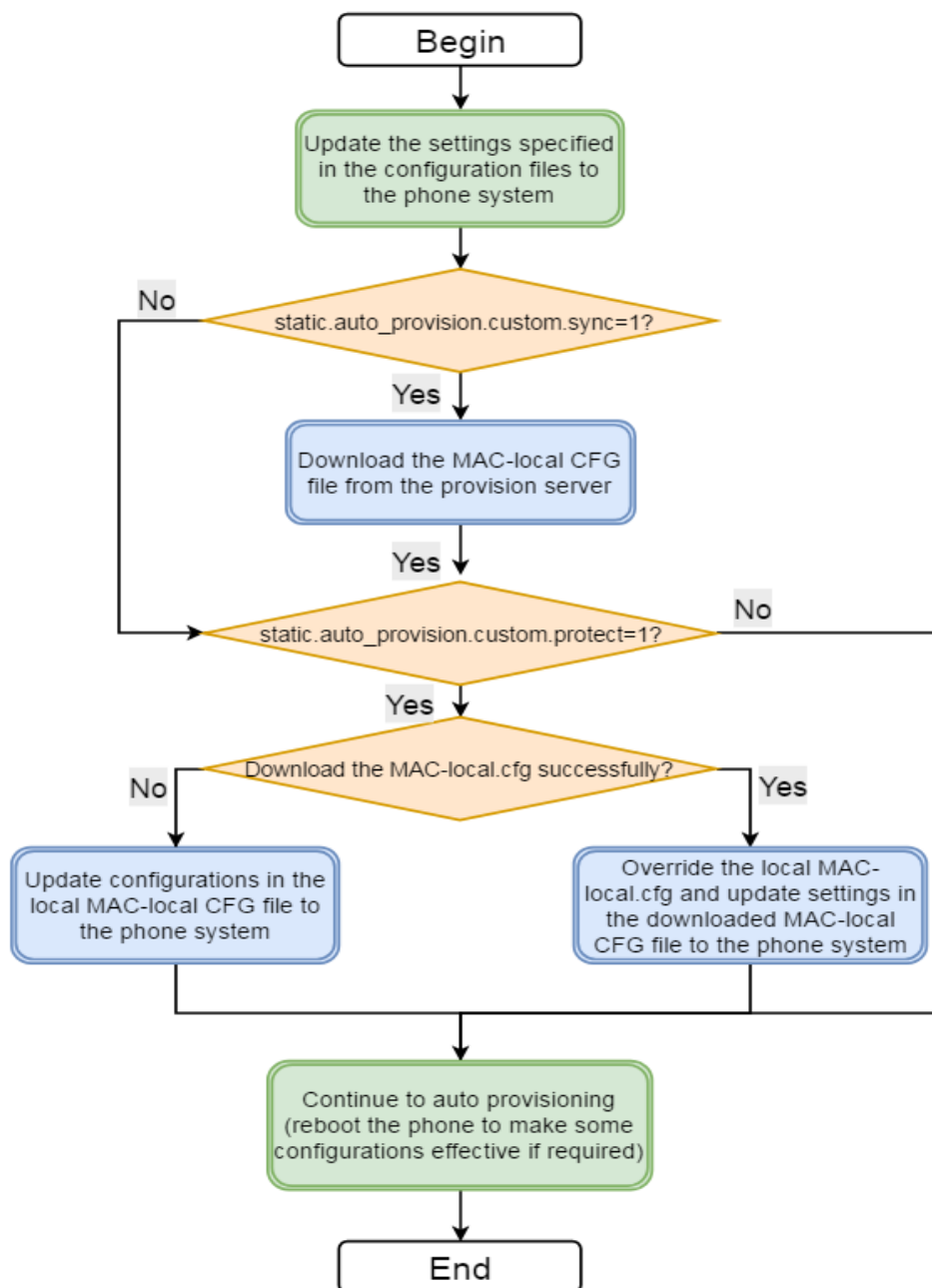
Example: Deploying Phones from the Provisioning Server

After setting up your provisioning server(s), you can deploy your phone devices. The following example shows you how to use the boot and configuration files to deploy phones from the provisioning server.

Procedure

1. Create per-phone boot file and common boot file.

   For example, 001565b09d886.boot and y000000000000.boot.

2. Create per-phone configuration files or common configuration files, and edit the feature parameters in the file you want to apply to the phones. For example,

Custom configuration file: CustomSettings.cfg	phone_setting.contrast = 7 local_time.time_format = 1 static.lang.gui = Chinese_S [T42S,T41S]voice_mail.number.1 = *5 [T27G]account.1.dnd.enable = 1 [T41S]account.1.dnd.enable = 0 [T42S]features.dnd.enable = 0
Custom configuration file: Linekey.cfg	linekey.2.type=13 linekey.2.line=1 linekey.2.value = 4603 linekey.2.label=Bill
MAC-Oriented configuration files: 001565b09d886.cfg	account.1.enable = 1 account.1.label = Bill account.1.display_name = 1023 account.1.auth_name = 1023 account.1.user_name = 1023 account.1.password = 1023 account.1.sip_server.1.address = 10.2.1.199 account.1.sip_server.1.port = 5060

3. Place the configuration files to the home directory of the provisioning server. For example, D:\TFTP Provision.

4. Specify the configuration files paths in the boot file as desired. For example,

y000000000000.boot	include:config<tftp:/10.2.5.193/CustomSettings.cfg> [T46S,T48S]include:config "tftp:/10.2.5.193/Linekey.cfg"
001565b09d886.boot	include:config<tftp:/10.2.5.193/Linekey.cfg> include:config<tftp:/10.2.5.193/001565b09d886.cfg>

5. Place the boot files to the home directory of the provisioning server. For example, D:\TFTP Provision.

6. Reboot IP phones to trigger auto provisioning.

For the phone with MAC 001565b09d886, it will download the *001565b09d886.boot* file, and then download *Linekey.cfg* and *001565b09d886.cfg* files referenced in the *001565b09d886.boot* file in sequence from the provisioning server.

For the IP phones except MAC-specific phone, they will request to download the *y000000000000.boot* file, and then request to download the referenced files. The phone-specific configuration file *Linekey.cfg* only applies to T46S and T48S IP phones. The only difference is that T46S and T48S IP phones will download both the two files, since the exclude mode is disabled by default. The other IP phones will only download the *CustomSettings.cfg* file.

For the parameter settings in the *CustomSettings.cfg* file, the phone-specific parameters will only take effect on the specific phone models.

The following shows provisioning flowchart for different phone models with phone-specific settings.
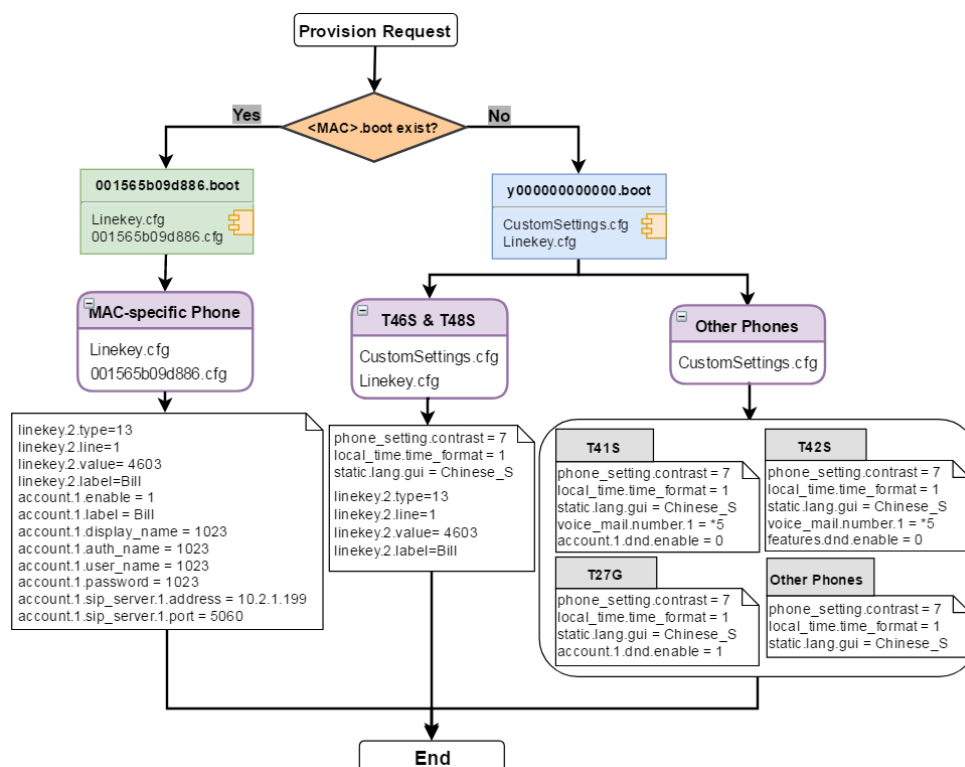
Firmware Upgrade

There are two methods of firmware upgrade:

- Manually, from the local system for a single phone via web user interface.

- Automatically, from the provisioning server for a mass of phones.

Note
We recommend that IP phones running the latest firmware should not be downgraded to an earlier firmware version. The new firmware is compatible with old configuration parameters, but not vice versa.

Topics

Firmware for Each Phone Model

Firmware Upgrade Configuration

Firmware for Each Phone Model

You can download the latest firmware online:

http://support.yealink.com/documentFront/forwardToDocumentFrontDisplayPage.

The following table lists the associated and latest firmware name for each IP phone model (X is replaced by the actual firmware version).

IP Phone Model	Firmware Name	Example
T54S/T52S (T5S firmware unified)	70.x.x.x.rom	70.83.0.30.rom
T48S/T46S/T42S/T41S (T4S firmware unified)	66.x.x.x.rom	66.83.0.30.rom
T48G	35.x.x.x.rom	35.83.0.30.rom
T46G	28.x.x.x.rom	28.83.0.30.rom
T42G	29.x.x.x.rom	29.83.0.30.rom
T41P	36.x.x.x.rom	36.83.0.30.rom
T40P	54.x.x.x.rom	54.83.0.30.rom
T40G	76.x.x.x.rom	76.83.0.30.rom
T29G	46.x.x.x.rom	46.83.0.30.rom
T27P	45.x.x.x.rom	45.83.0.30.rom

IP Phone Model	Firmware Name	Example
T27G	69.x.x.x.rom	69.83.0.30.rom
T23P/G	44.x.x.x.rom	44.83.0.30.rom
T21(P) E2	52.x.x.x.rom	52.83.0.30.rom
T19(P) E2	53.x.x.x.rom	53.83.0.30.rom

Firmware Upgrade Configuration

Before upgrading firmware, you need to know the following:

- Do not close and refresh the browser when the IP phone is upgrading firmware via web user interface.

- Do not unplug the network cables and power cables when the IP phone is upgrading firmware.

The following table lists the parameters you can use to upgrade firmware.

Parameter	static.firmware.url[1]	<y0000000000xx>.cfg
Description	It configures the access URL of the firmware file. **Example**: static.firmware.url = http://192.168.1.20/44.81.0.15.rom	
Permitted Values	URL within 511 characters	
Default	Blank	
Web UI	Settings->Upgrade->Select And Upgrade Firmware	

[1]If you change this parameter, the IP phone will reboot to make the change take effect.

Phone Customization

You can make the IP phone more personalized by customizing various settings.

Topics

Language

Contrast

Wallpaper

Transparency

Screen Saver

Backlight

Label Length for Line Key Display

Label Alignment for Line/Ext Key Display

Linekey Length in Short

Page Switch Key

Page Tips

Time and Date

Idle Clock Display

Logo Customization

Call Display

Display Method on Dialing

Key As Send

Softkey Layout

Input Method

Notification Popups

Power LED Indicator

Bluetooth

Handset/Headset/Speakerphone Mode

DSS Keys

Enhanced DSS Keys

Power Saving

USB Port Lock

Search Source List in Dialing

Recent Call Display in Dialing

Language

Yealink IP phones support multiple languages. Languages used on the phone user interface and web user interface can be specified respectively as required.

Topics

Supported Language

Language Display Configuration

Language Customization

Example: Setting a Custom Language for Phone

Supported Languages

You can ask the distributor or Yealink FAE for language packs. You can also obtain the language packs online: http://support.yealink.com/documentFront/forwardToDocumentFrontDisplayPage.

The following table lists available languages and associated language packs supported by the phone user interface and the web user interface.

Phone User Interface		Web User Interface		
Language	**Language Pack**	**Language**	**Language Pack**	**Note Language Pack**
English	000.GUI.English.lang	English	1.English.js	1.English_note.xml
Chinese Simplified	001.GUI.Chinese_S.lang	Chinese Simplified	2.Chinese_S.js	2.Chinese_S_note.xml
Chinese Traditional	002.GUI.Chinese_T.lang	Chinese Traditional	3.Chinese_T.js	3.Chinese_T_note.xml
French (Canada)	003.GUI.French_CA.lang	French	4.French.js	4.French_note.xml
French (EU)	004.GUI.French.lang	German	5.German.js	5.German_note.xml
German	005.GUI.German.lang	Italian	6.Italian.js	6.Italian_note.xml
Italian	006.GUI.Italian.lang	Polish	7.Polish.js	7.Polish_note.xml
Polish	007.GUI.Polish.lang	Portuguese	8.Portuguese.js	8.Portuguese_note.xml
Portuguese (EU)	008.GUI.Portuguese.lang	Spanish	9.Spanish.js	9.Spanish_note.xml
Portuguese (Latin)	009.GUI.Portuguese_LA.lang	Turkish	10.Turkish.js	10.Turkish_note.xml
Spanish (EU)	010.GUI.Spanish.lang	Russian	11.Russian.js	11.Russian_note.xml

Phone User Interface		Web User Interface		
Language	**Language Pack**	**Language**	**Language Pack**	**Note Language Pack**
Spanish (Latin)	011.GUI.Spanish_LA.lang			
Turkish	012.GUI.Turkish.lang			
Russian	013.GUI.Russian.lang			

Note
The T48G/T46G/T42G/T41P IP phones do not support French (Canada), Portuguese (Latin) and Spanish (Latin).

Language Display Configuration

The default language displayed on the phone user interface is English. If your web browser displays a language not supported by the IP phone, the web user interface will display English by default. You can specify the languages for the phone user interface and web user interface respectively.

The following table lists the parameters you can use to configure language display.

Parameter	static.lang.gui	<y0000000000xx>.cfg
Description	It configures the language used on the phone user interface.	
Permitted Values	T54S/T52S/T48S/T46S/T42S/T41S/T40G/T29G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: English, Chinese_S, Chinese_T, French_CA, French, German, Italian, Polish, Portuguese, Portuguese_LA, Spanish, Spanish_LA, Turkish, Russian or the custom language name. T48G/T46G/T42G/T41P/T40P: English, Chinese_S, Chinese_T, French, German, Italian, Polish, Portuguese, Spanish, Turkish, Russian or the custom language name.	
Default	English	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Basic->Language T42S/T42G/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Basic Settings->Language	
Parameter	static.lang.wui	<y0000000000xx>.cfg
Description	It configures the language used on the web user interface.	
Permitted Values	English, Chinese_S, Chinese_T, French, German, Italian, Polish, Portuguese, Spanish, Turkish, Russian or the custom language name.	
Default	English	

Web UI	On the top right corner of the web user interface

Language Customization

You can customize the translation of the existing language on the phone user interface or web user interface.

You can ask the distributor or Yealink FAE for language packs. You can also obtain the language packs online: http://support.yealink.com/documentFront/forwardToDocumentFrontDisplayPage.

Note
The new added language must be supported by the font library on the IP phone. If the characters in the custom language file are not supported by the phone, the IP phone will display "?" instead.

Topics

Language for Phone Display Customization

Language for Web Display Customization

Language for Phone Display Customization

Languages available for selection depend on language packs currently loaded to the IP phone. You can also add new languages (not included in the available language list) available for phone display by loading language packs to the IP phone.

Topics

Customizing a Language Pack for Phone Display

Custom Language for Phone Display Configuration

Customizing a Language Pack for Phone Display

When you add a new language pack for the phone user interface, the language pack must be formatted as "X.GUI.name.lang" (X starts from 014, "name" is replaced with the language name). If the language name is the same as the existing one, the existing language pack will be overridden by the new uploaded one. We recommend that the filename of the new language pack should not be the same as the existing one.

Note
To modify translation of an existing language, do not rename the language pack.

Procedure

1. Open the desired language template file (for example, 000.GUI.English.lang).

2. Modify the characters within the double quotation marks on the right of the equal sign. Do not modify the item on the left of equal sign.

   The following shows a portion of the language pack "000.GUI.English.lang" for the phone user interface:

3. Save the language pack and place it to the provisioning server.

Custom Language for Phone Display Configuration

The following table lists the parameters you can use to configure a custom language for phone display.

Parameter	gui_lang.url	<y0000000000xx>.cfg
Description	It configures the access URL of the custom LCD language pack for the phone user interface. You can also download multiple language packs to the phone simultaneously.	
Permitted Values	URL within 511 characters	
Default	Blank	
Parameter	gui_lang.delete	<y0000000000xx>.cfg
Description	It deletes the specified or all custom LCD language packs of the phone user interface.	
Permitted Values	For example: http://localhost/all or http://localhost/*X.GUI.name.lang* X starts from 014, "name" is replaced with the language name.	

Default	Blank

Language for Web Display Customization

You can modify translation of an existing language or adding a new language for web display. You can also customize the translation of the note language pack. The note information is displayed in the icon of the web user interface.

Topics

Customizing a Language Pack for Web Display

Customizing a Language Pack for Note Display

Custom Language for Web and Note Display Configuration

Customizing a Language Pack for Web Display

When you add a new language pack for the web user interface, the language pack must be formatted as "X.name.js" (X starts from 12, "name" is replaced with the language name). If the language name is the same as the existing one, the new uploaded language file will override the existing one. We recommend that the filename of the new language pack should not be the same as the existing one.

Note
To modify translation of an existing language, do not rename the language pack.

Procedure

1. Open the desired language template pack (for example, 1.English.js) using an ASCII editor.

2. Modify the characters within the double quotation marks on the right of the colon. Do not modify the translation item on the left of the colon.

The following shows a portion of the language pack "1.English.js" for the web user interface:

3. Save the language pack and place it to the provisioning server.

Customizing a Language Pack for Note Display

When you add a new language pack for the note, the note language pack must be formatted as "X.name_note.xml" (X starts from 12, "name" is replaced with the language name). If the note language name is the same as the existing one, the new uploaded note language pack will override the existing one. We recommend that the filename of the new note language pack should not be the same as the existing one.

Procedure

1. Open the desired note language template pack (for example, 1.English_note.xml) using an XML editor.

2. Modify the text of the note field. Do not modify the note name.

The following shows a portion of the note language pack "1.English_note.xml" for the web user interface:

3. Save the note language pack and place it to the provisioning server.

Custom Language for Web and Note Display Configuration

If you want to add a new language (for example, Wuilan) to IP phones, prepare the language file named as "12.Wuilan.js" and "12.Wuilan_note.xml" for downloading. After update, you will find a new language selection "Wuilan" at the top-right corner of the web user interface, and new note information is displayed in the icon when the new language is selected.

The following table lists the parameters you can use to configure a custom language for web and note display.

Parameter	wui_lang.url	<y0000000000xx>.cfg
Description	It configures the access URL of the custom language pack for the web user interface.	
Permitted Values	URL within 511 characters For example: http://localhost/X.GUI.name.lang X starts from 014, "name" is replaced with the language name	
Default	Blank	
Parameter	wui_lang_note.url	<y0000000000xx>.cfg
Description	It configures the access URL of the custom note language pack for web user interface.	
Permitted Values	URL within 511 characters For example: http://localhost/X.name_note.xml X starts from 12, "name" is replaced with the language name	
Default	Blank	

Parameter	wui_lang.delete	<y0000000000xx>.cfg
Description	It deletes the specified or all custom web language packs and note language packs of the web user interface.	
Permitted Values	http://localhost/all or http://localhost/*Y.name.js*	
Default	Blank	

Example: Setting a Custom Language for Phone Display

The following example shows configuration for uploading custom language files "015.GUI.English_15.lang" and "016.GUI.English_16.lang", and then specify "015.GUI.English_15.lang" to display on the phone user interface. These language files are customized and placed on the provisioning server "192.168.10.25".

Example

gui_lang.url= http://192.168.10.25/015.GUI.English_15.lang

gui_lang.url= http://192.168.10.25/016.GUI.English_16.lang

static.lang.gui=English_15

After provisioning, text displayed on the phone user interface will change to the custom language you defined in "*015.GUI.English_15.lang*". You can also find a new language selection "*English_15*" and "*English_16*" on the IP phone user interface: **Menu**->**Basic**->**Language**.

Contrast

Contrast determines the readability of the texts displayed on the LCD screen. Adjusting the contrast to a comfortable level can optimize the screen viewing experience.

You can adjust the contrast for T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2 IP phones, or for expansion module EXP20 (connected to T29G/T27P/T27G IP phones), EXP40 (connected to T48S/T48G/T46S/T46G IP phones).

Topic

Contrast Configuration

Contrast Configuration

The following table lists the parameters you can use to adjust contrast for the phone.

Parameter	phone_setting.contrast	<y0000000000xx>.cfg

Description	It configures the contrast of the LCD screen. For T48S/T48G/T46S/T46G IP phones, it configures the LCD's contrast of the connected EXP40 only. For T29G IP phones, it configures the LCD's contrast of the connected EXP20 only. For T27P/G IP phones, it configures the LCD's contrast of the IP phone and the connected EXP20. For T40P/T40G/T23P/T23G/T21(P) E2/T19(P) E2 IP phones, it configures the LCD's contrast of the IP phone. **Note:** We recommend that you set the contrast of the LCD screen to 6 as a more comfortable level. It is not applicable to T54S/T52S/T42G/T42S/T41P/T41S IP phones.
Permitted Values	Integer from 1 to 10
Default	6
Web UI	T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Settings->Preference->Contrast
Phone UI	T48S/T48G/T46S/T46G/T29G: Menu->Basic->Display->Contrast T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Basic Settings->Display->Contrast

Wallpaper

Wallpaper is a picture used as the background of the IP phone. The IP phone comes with a default picture. You can change it to a built-in picture or custom wallpaper from personal pictures.

The wallpaper is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones and expansion module EXP50 (connected to the T54S/T52S IP phones).

Topics

Wallpaper Configuration

Wallpaper Customization

Adding a Wallpaper from a USB Flash Drive

Example: Setting a Custom Picture as Wallpaper

Wallpaper Configuration

You can change the wallpaper to any built-in picture or custom picture.

On T48S/G IP phones, you can also separately set the wallpaper when the DSS key list is unfolded,

avoiding the display of the line key labels to be blocked by the background picture.

The following show wallpaper set on T48S/G IP phones:

Line key list is folded   Line key list is unfolded
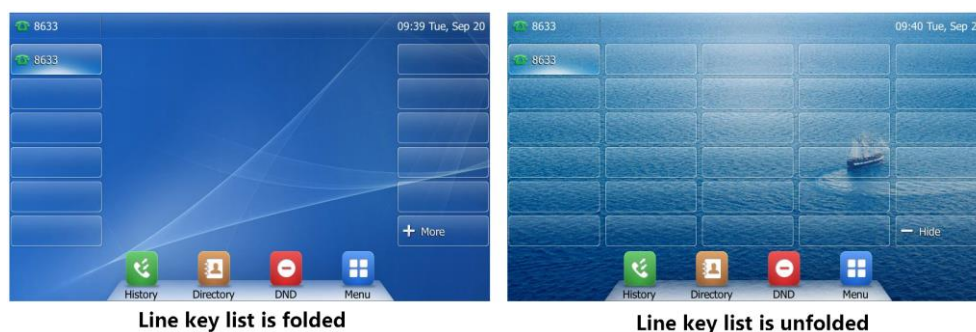
Note
On T54S/T52S/T46S/T46G/T29G IP phones, the line and soft key labels display over the wallpaper picture.

The following table lists the parameters you can use to change the wallpaper.

Parameter	phone_setting.backgrounds	<y0000000000xx>.cfg
Description	It configures the wallpaper displayed on the IP phone Idle screen. **Note**: It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.	
Permitted Values	Default.jpg, 01.jpg, 02.jpg, 03.jpg, 04.jpg, 05.jpg, 06.jpg, 07.jpg, 08.jpg, 09.jpg or 10.jpg or uploaded custom wallpaper name (for example, wallpaper.jpg)	
Default	Default.jpg	
Web UI	Settings->Preference->Wallpaper	
Phone UI	Menu->Basic->Display->Wallpaper	
Parameter	expansion_module.backgrounds	<y0000000000xx>.cfg
Description	It configures the wallpaper displayed on the expansion module. **Example**: expansion_module.backgrounds = Default-exp50.jpg **Note**: It is only applicable to EXP50 expansion modules connected to the T54S/T52S IP phones.	
Permitted Values	Default-exp50.jpg, 01-exp50.jpg, 02-exp50.jpg, 03-exp50.jpg, 04-exp50.jpg, 05-exp50.jpg, 06-exp50.jpg, 07-exp50.jpg, 08-exp50.jpg, 09-exp50.jpg or 10-exp50.jpg or custom	
Default	Default-exp50.jpg	
Web UI	Settings->Preference->Wallpaper for expansion modules	
Phone UI	Menu->Basic->Display->EXP Wallpaper->Wallpaper	
Parameter	phone_setting.backgrounds_with_dsskey_unfold	<y0000000000xx>.cfg
Description	It configures the wallpaper displayed on the IP phone when the DSS key list is	

	unfolded.
	Note: It is only applicable to T48S/T48G IP phones.
Permitted Values	Auto, Default.jpg, 01.jpg, 02.jpg, 03.jpg, 04.jpg, 05.jpg, 06.jpg, 07.jpg, 08.jpg, 09.jpg or 10.jpg or uploaded custom wallpaper name (for example, wallpaper.jpg)
Default	Auto
	(use the wallpaper configured by the parameter "phone_setting.backgrounds")
Web UI	Settings->Preference->Wallpaper with Dsskey Unfold
Phone UI	Menu->Basic->Display->Dsskey Wallpaper

Wallpaper Customization

You can configure a custom picture, such as company logo, and then upload the custom picture to the IP phone that users can choose from when changing wallpaper for idle screen or Dsskey screen.

Topics

Custom Wallpaper Picture Limit

Custom Wallpaper Configuration

Deleting a Custom Picture

Custom Wallpaper Picture Limit

Either the smaller or the larger picture will be scaled proportionally to fit the screen. The wallpaper picture format must meet the following:

Phone Model	Format	Resolution	Single File Size	Note
T54S/T52S/EXP50		<=4.2 megapixels	<=5MB	
T48S/G	*.jpg/*.png/ *.bmp/*.jpeg	<=2.0 megapixels	<=5MB	2MB of space should be reserved for the phone
T46S/T46G/T29G		<=1.8 megapixels	<=5MB	

Custom Wallpaper Configuration

The following table lists the parameter you can use to upload a custom picture.

Parameters	wallpaper_upload.url	<y0000000000xx>.cfg
Description	It configures the access URL of the custom wallpaper picture. **Note**: It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.	
Permitted	URL within 511 characters	

Values	
Default	Blank
Web UI	Settings->Preference->Upload Wallpaper->Browse
Phone UI	Menu->Basic->Display->Dsskey Wallpaper

Deleting a Custom Picture

You can delete the uploaded custom pictures for a specific IP phone via web user interface at the path: **Settings**->**Preference**->**Wallpaper**, select a desired custom picture and click **Del**. You can also delete the custom pictures via phone user interface at the path: **Menu**->**Basic**->**Display**->**Wallpaper**. You can only delete the custom pictures.

Adding a Wallpaper from a USB Flash Drive

The T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phone enables you to add wallpaper from a USB flash drive on their IP phones. You can navigate to **Menu**->**USB**->**Browse Photo**, preview pictures, and then set a desired picture as idle screen/Dsskey screen or EXP wallpaper. After you set a picture in USB flash drive as idle screen/Dsskey screen or EXP wallpaper, the picture is added to the Wallpaper list.

Related Topic

Custom Wallpaper Picture Limit

Example: Setting a Custom Picture as Wallpaper

The following example shows configuration for uploading custom picture named *"wallpaper.jpg"* and set it as idle screen wallpaper. The custom picture is placed on the provisioning server "192.168.10.25".

Example

wallpaper_upload.url = http://192.168.10.25/wallpaper.jpg

phone_setting.backgrounds = wallpaper.jpg

After provisioning, the phone idle screen wallpaper changes to custom picture *"wallpaper.jpg"*.

Transparency

The T54S/T52S/T48S/T48G IP phones display line keys and status bar transparently. If you use a custom picture with a color or complex background, it may affect the user's experience. You can choose an appropriate transparency for DSS key labels and status bar on the idle screen as required.

The following show line keys and status bar transparency set on T48S/G IP phones:
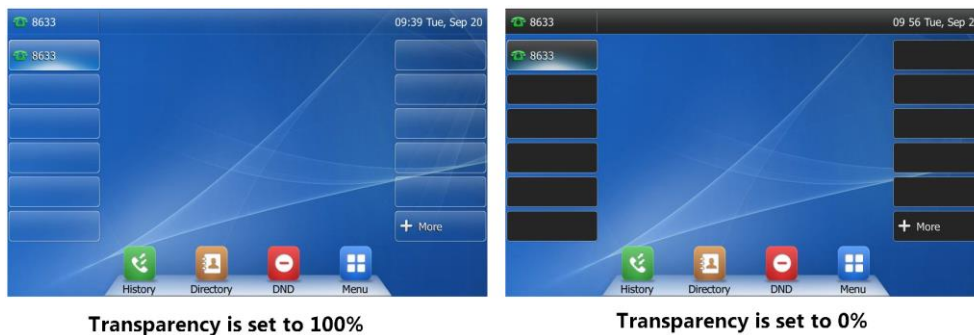
Transparency is set to 100%   Transparency is set to 0%

Topic

Transparency Configuration

Transparency Configuration

The following table lists the parameters you can use to adjust transparency.

Parameter	phone_setting.idle_dsskey_and_title.transparency	<y0000000000xx>.cfg
Description	It configures the transparency of the DSS key labels and status bar on the idle screen for the IP phone. **Note**: It is also applicable when the DSS key list is unfolded on the T48S/T48G IP phone. It is only applicable to T54S/T52S/T48S/T48G IP phones.	
Permitted Values	0%, the DSS key labels and status bar are non-transparent. 20%, 40%, 60%, 80% or 100%	
Default	100%	
Web UI	Settings->Preference->Transparency	
Phone UI	Menu->Basic->Display->Transparency	

Screen Saver

The screen saver will automatically start when the IP phone is idle for the preset waiting time. You can stop the screen saver at any time by pressing any key or touching the screen. When your phone is idle again for a preset waiting time, the screen saver starts again.

By default, the phone screen displays a built-in picture when screen saver starts. The following shows that the built-in screen saver is displaying on T46S/G IP phones:
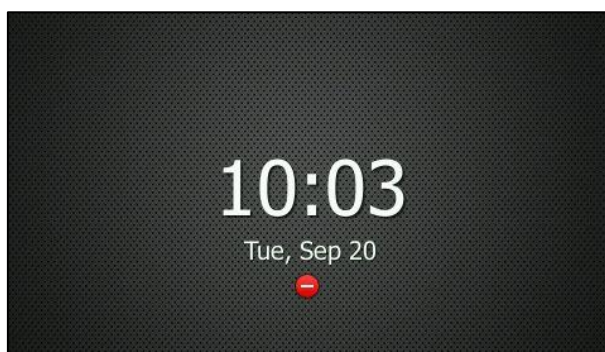
You can set custom pictures as the screen saver. You can also add personal pictures on your phone using a USB flash drive.

The time & date, certain status icons (for example, auto answer, DND, a new text message), or custom information (for example, notifications or company logo) is also configurable to display on the screen saver.

The T42S/T42G/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2 IP phone only displays custom information as the screen saver.

Topics

Screensaver Display Customization

Custom Screensaver Picture Limit

Screensaver Configuration

Adding a Screensaver Picture from a USB Flash Drive

Deleting a Screensaver Picture

Screensaver Display Customization

You can customize the screen saver file to configure the IP phone whether to display custom information (for example, notifications or company logo) on the screen saver.

For T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones, the custom infomation is displayed on the built-in picture or custom pictures (if uploaded).

The following show examples on T27P/G and T46S/G IP phones:
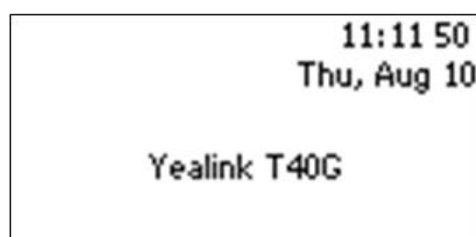
T27P/G

T46S/G

Topics

Screensaver File Elements and Attributes

The following table lists the elements and attributes you can use to add custom information in the screensaver file. We recommend you do not edit these elements and attributes.

Elements	Attributes	Description
YealinkIPPhoneCustomScreenSaver	LineSpacing	The vertical distance between different lines.
	InsertImageLineNum	Specify which line to insert the image (configured by the **Image** element). For T48S/G IP phones: Integer from 0 to 11 For T54S/T52S/T46S/T46G/T29G IP phones: Integer from 0 to 8 **Note:** It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.
SystemTime	Size horizontalAlign verticalAlign Color	Specify "show" or "hide" between <SystemTime > and </SystemTime > to decide whether to display the time and date. Edit the attributes to decide how to display the time and date, including the size, position and color. **Note**: Color is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.
StatusIcons	horizontalAlign verticalAlign	Specify "show" or "hide" between <StatusIcons> and </StatusIcons> to decide whether to display the status icons. Edit the attrbiutes to decide the icons displayed position.
Line	Size Align Color	Specify the display text between <Line> and </Line>. Edit the attrbiutes to decide how to display the text, including text size, position and color. **Note**: The T48S/G IP phones support displaying up to 11 lines of contents;

Elements	Attributes	Description
		T54S/T52S/T46S/T46G/T29G/T27P/T27G IP phones support displaying up to 8 lines of contents; T42S/T42G/T41P/T41S/T23P/T23G/T21(P) E2/T19(P) E2 IP phones support displaying up to 4 lines of contents. Color is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.
Image	horizontalAlign verticalAlign height width	Specify the display image source between <Image> and </Image>. Edit the attrbiutes to decide how to display the image, including position and size. **Note:** It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones. VerticalAlign works only if you do not configure **InsertImageLineNum** or set the **InsertImageLineNum** to 0.

Customizing the Screen Saver File

1. Open the screen saver file.
2. Modify settings as you want.

```
CustomScreenSaver.xml   x
|.........10.........20.........30.........40.........50.........60.........70.........80.........90.........100........110........120
<?xml version="1.0" encoding="ISO-8859-1"?>
<YealinkIPPhoneCustomScreenSaver  LineSpacing = "9"      InsertImageLineNum = "1"  >

<SystemTime Size="Large" horizontalAlign="right" verticalAlign="top" Color="black">show</SystemTime>

<StatusIcons horizontalAlign="middle" verticalAlign="top">show</StatusIcons>

<Line Size="large" Align="center" Color="blue">Yealink</Line>
<Line Size="large" Align="center" Color="RGB" >SIP Phone</Line>
<Line Size="large" Align="center" Color="RGB">Test</Line>

<Image horizontalAlign="middle"  verticalAlign="bottom"  height="30" width="30">http://192.168.1.1/Yealink.jpeg</Image>

</YealinkIPPhoneCustomScreenSaver>
```

3. Save this file and place it to the provisioning server.
4. Specify the access URL of the screen saver file in the configuration file.

Custom Screensaver Picture Limit

Either the smaller or the larger picture will be scaled proportionally to fit the screen. The screensaver picture format must meet the following:

Phone Model	Format	Resolution	Single File Size	Note
T54S/T52S/EXP50	*.jpg/*.png/*.	<=4.2 megapixels	<=5MB	2MB of space should

Phone Model	Format	Resolution	Single File Size	Note
T48G/S	bmp/*.jpeg	<=2.0 megapixels	<=5MB	be reserved for the phone
T46G/T46S/T29G		<=1.8 megapixels	<=5MB	

Screensaver Configuration

The following table lists the parameters you can use to configure screensaver.

Parameter	screensaver.wait_time	<y0000000000xx>.cfg
Description	It configures the time (in seconds) to wait in the idle state before the screen saver starts.	
Permitted Values	**15**-15s **30**-30s **60**-1min **120**-2min **300**-5min **600**-10min **1800**-30min **3600**-1h **7200**-2h **10800**-3h **21600**-6h	
Default	21600	
Web UI	Settings->Preference->Screensaver Wait Time	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Basic->Display->Screensaver->Wait Time T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Basic Settings->Display->Screensaver->Wait Time(s)	
Parameter	screensaver.display_clock.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to display the clock and icons when the screen saver starts. **Note**: It works only if "screensaver.type" is set to 0 (System) or 1 (Custom). It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.	
Permitted Values	**0**-Disabled	

	1-Enabled
Default	1
Web UI	Settings->Preference->Screensaver Display Clock (not configurable when the Screensaver Type is set to Server XML)
Phone UI	Menu->Basic->Display->Screensaver->Display Clock (not configurable when the Screensaver Type is set to Server XML)
Parameter	screensaver.type `<y0000000000xx>.cfg`
Description	It configures the type of screen saver to display. **Note**: It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.
Permitted Values	**0**-System, the LCD screen will display the built-in picture. **1**-Custom, the LCD screen will display the custom screen saver images (configured by the parameter "screensaver.upload_url "). If multiple images are uploaded, the IP phone will display all images alternately. The time interval is configured by the parameter "screensaver.picture_change_interval". **2**-Server XML, the LCD screen will display XML items (configured by the parameter "screensaver.xml_browser.url") when screen saver starts.
Default	0
Web UI	Settings->Preference->Screensaver Type
Phone UI	Menu->Basic->Display->Screensaver->Screensaver Type **Note**: It is configurable only if you have uploaded custom image files to the IP phone.
Parameter	screensaver.upload_url `<y0000000000xx>.cfg`
Description	It configures the access URL of the custom screen saver image. **Example**: screensaver.upload_url = http://192.168.10.25/Screencapture.jpg During auto provisioning, the IP phone connects to the HTTP provisioning server "192.168.10.25", and downloads the screen saver image "Screencapture.jpg". If you want to upload multiple screen saver images to the phone simultaneously, you can configure as following: screensaver.upload_url = http://192.168.10.25/Screencapture.jpg screensaver.upload_url = http://192.168.10.25/Screensaver.jpg **Note**: It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.
Permitted Values	URL within 511 characters
Default	Blank
Web UI	Settings->Preference->Screensaver Type (Custom)->Upload Screensaver

Parameter	screensaver.delete	<y0000000000xx>.cfg
Description	It deletes the specified or all custom screen saver images. **Example**: Delete all custom screen saver images: screensaver.delete = http://localhost/all Delete a custom screen saver image (for example, Screencapture.jpg): gui_lang.delete = http://localhost/Screencapture.jpg **Note**: It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.	
Permitted Values	http://localhost/all or http://localhost/name.(jpg/png/bmp)	
Default	Blank	
Parameter	screensaver.xml_browser.url	<y0000000000xx>.cfg
Description	It configures the access URL of the screen saver xml file. **Example**: screensaver.xml_browser.url = http://192.168.10.25/ScreenSaver.xml During auto provisioning process, the IP phone connects to the HTTP provisioning server "192.168.10.25", and downloads the screen saver xml file "ScreenSaver.xml".	
Permitted Values	URL within 511 characters	
Default	Blank	
Web UI	Settings->Preference->Screensaver Type (Server XML)->XML Browser URL	
Parameter	screensaver.clock_move_interval	<y0000000000xx>.cfg
Description	It configures the interval (in seconds) for the IP phone to move the clock and icons when the screen saver starts. **Note**: It works only if "screensaver.display_clock.enable" is set to 1 (Enabled). It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.	
Permitted Values	Integer from 5 to 1200	
Default	600	
Parameter	screensaver.picture_change_interval	<y0000000000xx>.cfg
Description	It configures the interval (in seconds) for the IP phone to change the picture when the screen saver starts. **Note**: It works only if "screensaver.type" is set to 1 (Upload Picture) and the parameter "screensaver.upload_url" should be configured in advance. It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.	

Permitted Values	Integer from 5 to 1200
Default	60
Parameter	features.blf_active_backlight.enable `<y0000000000xx>.cfg`
Description	It enables or disables the IP phone to turn on the backlight or stop the screen saver when the BLF/BLF list status changes. **Note**: It is not applicable to T19(P) E2 IP phones.
Permitted Values	**0**-Disabled **1**-Enabled
Default	1

Adding a Screensaver Picture from a USB Flash Drive

The T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phone enables you to add a screensaver picture from a USB flash drive on their IP phones. You can navigate to **Menu**->**USB**->**Browse Photo**, preview pictures, and then set a desired picture as screensaver. After you set a picture in USB flash drive as screensaver, the picture is added to the Screensaver list.

Related Topic

Custom Screensaver Picture Limit

Deleting a Screensaver Picture

You can delete the uploaded custom pictures for a specific IP phone via web user interface at the path: **Settings**->**Preference**, select **Custom** from the **Screensaver Type** field, and then select a desired custom picture from the **Screensaver** field, click **Del**. You can only delete the custom pictures.

Backlight

You can change the backlight brightness of the LCD screen during phone activity and inactivity. The backlight brightness automatically changes when the phone is idle for a specified time. It is not available on T19(P) E2 IP phones.

You can change the screen backlight brightness and time in the following settings:

Active Level: The brightness level of the LCD screen when the phone is active. Digits (1-10) represent different brightness levels. 10 is the brightest level.

Inactive Level: The brightness of the LCD screen when the phone is inactive. You can select a low brightness or turn off the backlight.

Backlight Time: The delay time to change the brightness of the LCD screen when the phone is inactive.

Backlight time includes the following settings you can choose from:

- **Always On**: Backlight is on permanently.

- **Always Off**: Backlight is off permanently. It is not available for the
  T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phone.

- **15s**, **30s**, **1min**, **2min**, **5min**, **10min** or **30min**: Backlight is changed when the phone is inactive after
  the designated time (in seconds).

Topics

Supported Backlight Options

Backlight Brightness and Time Configuration

Supported Backlight Options

The following table lists available configuration options to configure the backlight of phone
models/expansion modules:

Phone Model (and the connected expansion module)	Configuration Options
T54S/T52S(EXP50) T48S/G(EXP40) T46S/G(EXP40) T29G(EXP20)	Inactive Level (not applicable to EXP50) Active Level Backlight Time (not applicable to EXP50)
T27P/G(EXP20)	Active Level Backlight Time
T42S/G T41P/S T40P/G T23P/G T21(P) E2	Backlight Time

Backlight Brightness and Time Configuration

The following table lists the parameters you can use to configure screen backlight brightness and time.

Parameter	phone_setting.active_backlight_level	<y0000000000xx>.cfg
Description	It configures the intensity of the LCD screen when the phone is active. **Note**: It is applicable to the T54S/T52S/T48S/T48G/T46S/T46G/T29G/T27P/T27G IP phone. If expansion module is connected, the backlight on expansion module	

	automatically changes to match this setting.	
Permitted Values	Integer from 1 to 10	
Default	8	
Web UI	Settings->Preference->Active Backlight Level	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Basic->Display->Backlight->Active Level T27P/T27G: Menu->Settings->Basic Settings->Display->Backlight	
Parameter	phone_setting.inactive_backlight_level	<y0000000000xx>.cfg
Description	It configures the intensity of the LCD screen when the phone is inactive. **Note**: It is applicable to theT54S/T52S/T48S/T48G/T46S/T46G/T29G IP phone. If expansion module EXP20 or EXP40 is connected, the backlight on expansion module automatically changes to match this setting.	
Permitted Values	**0**-Off, it works only if the value of the parameter "phone_setting.backlight_time" is not set to 1 (Always On). **1**-Low	
Default	1	
Web UI	Settings->Preference->Inactive Level	
Phone UI	Menu->Basic->Display->Backlight->Inactive Level	
Parameters	phone_setting.backlight_time	<y0000000000xx>.cfg
Description	It configures the delay time (in seconds) to change the intensity of the LCD screen when the IP phone is inactive. **Note**: It is not applicable to T19(P) E2 IP phones.	
Permitted Values	**0**-Always On **1**-Always Off (not applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones) **15**-15s **30**-30s **60**-1min **120**-2min **300**-5min **600**-10min **1800**-30min	
Default	T54S/T52S/T48S/T48G/T46S/T46G/T29G: 0	

	T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2: 30
Web UI	Settings->Preference->Backlight Time(seconds)
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Basic->Display->Backlight->Backlight Time T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2: Menu->Settings->Basic Settings->Display->Backlight->Backlight Time

Label Length for Line Key Display

By default, the line key label only displays the first few characters when the length of the label exceeds the maximum length. You can specify the line key label length as needed. It is only applicable to T54S/T48S/T48G/T46S/T46G/T29G IP phones.

When label length feature is set to **Default**:

T46S/G   **T48S/G**

When label length feature is set to **Extended**:

- For T54S/T46S/T46G/T29G IP phones, the display length of the line key label is extended and the characters are displayed in one line.

- For T48S/G IP phones, the characters are displayed in two lines.

T46S/G   **T48S/G**

When label length feature is set to **Mid Range** (not applicable to T48S/G IP phones):

T46S/G

Topic

Label Length Display Configuration

The following table lists the parameters you can use to configure the label length display.

Parameter	features.config_dsskey_length	<y0000000000xx>.cfg
Description	It configures the label length displayed on the idle LCD screen for the line key. **Note**: It is only applicable to T54S/T48S/T48G/T46S/T46G/T29G IP phones.	
Permitted Values	**0**-Default **1**-Extended **2**-Mid Range (only applicable to T54S/T46S/T46G/T29G IP phones)	
Default	0	
Web UI	Dsskey->Line Key->Label Length	
Parameter	features.shorten_linekey_label.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to display the length of the line key label within 9 digits. **Note**: It works only if "features.config_dsskey_length" is set to 0 (Default). It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.	
Permitted Values	**0**-Disabled, the line key label can display at most 8 digits. **1**-Enabled, the line key label can display at most 9 digits.	
Default	0	

Label Alignment for Line/Ext Key Display

You can customize the line/ext key label alignment.

This feature is only applicable to T52S/T54S/T46S/T46G/T29G IP phones and expansion module EXP50 (connected to the T54S/T52S IP phones).

The following figures show the line key label alignment on T46S/G IP phones:

Default   **Custom**
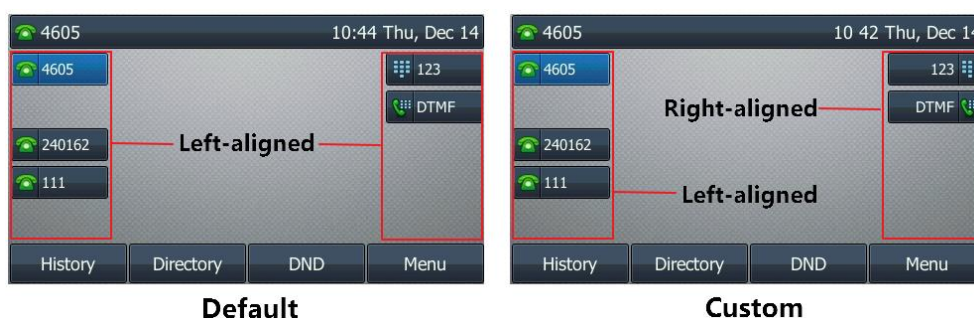
Topic

Label Alignment Display Configuration

Label Alignment Display Configuration

The following table lists the parameter you can use to configure the label alignment display.

Parameter	phone_setting.dsskey_label.display_method	<y0000000000xx>.cfg
Description	It configures the alignment mode of line key/ext key label. **Note**: It is only applicable to T54S/T52S/T46S/T46G/T29G IP phones and EXP50 expansion modules connected to the T54S/T52S IP phones. If some ext keys already exists before configuration, you need to refresh the page (press the page keys, or try re-connecting the expansion module) to make the change take effect.	
Permitted Values	**0**-the label and icon align left **1**-when the line key/ext key is on the left side of the screen, the label and icon align left; when the line key/ext key is on the right side of the screen, the label and icon align right	
Default	0	

Linekey Length in Short

Linekey length in short allows IP phones to shorten the line key label when the phone places a call, receives a call, is during a call, or is idle (if large DND icon appears). You can configure the phone to display 2 characters or nothing. It is only applicable to T52S IP phones.

The following figures show examples of label display:

2 Characters   No Label
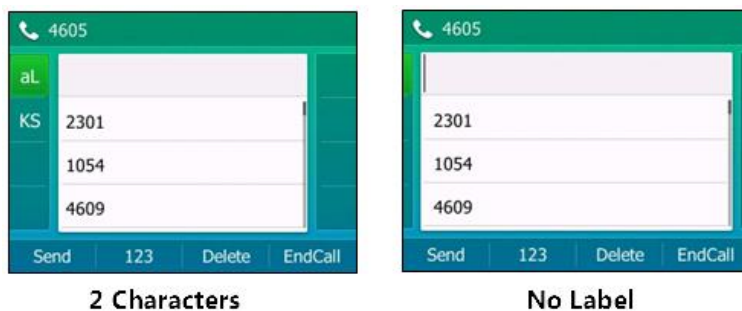
Topics

Linekey Length Shorten Rules

If you configure the phone to display 2 characters, the display will match the rules below:

Label	Short Label	Description
Any string or Blank	Configured (for example, aLine1)	"Short Label" has higher priority than "Label". If the value of "Short Label" is configured, the value of "Label" is ignored. Display the first two characters of the short label (for example, aL).
Configured (for example, aLine1) (for example, sunny)	Blank	• If the label contains uppercase characters or digits, only the uppercase characters and digits are displayed. It displays two characters from left to right (for example, L1).
Blank	Blank	• else, it displays the first two characters of the label (for example, su). If both left blank, the default label is used. The display rule is the same as above.

Linekey Length in Short Configuration

The following table lists the parameters you can use to configure linekey length in short.

Parameter	features.config_dsskey_length.shorten	<y0000000000xx>.cfg
Description	It configures the label length in short of line key displayed on LCD screen when the phone places a call, receives a call, is during a call, or is idle (if large DND icon is	

	enabled).
	Note: It is only applicable to T52S IP phones.
Permitted Values	**0**-No Label, you can press the line key to display the line key label when the label length is shorten.
	1-2 chars, the exceeding characters will be ignored.
Default	1
Web UI	Dsskey->Line Key->Linekey length in short

Page Switch Key

By default, the page switch key is available only if a line key not located on the first page is assigned functionality. If you want to configure line keys on pages 2 or 3 from the idle screen quickly, you can configure the line key in the right bottom to be a page switch key.

It is only applicable to T54S/T52S/T46S/T46G/T42S/T42G/T41P/T41S/T29G/T27P/T27G IP phones.

Topic

Page Switch Key Configuration

Page Switch Key Configuration

The following table lists the parameter you can use to configure the page switch key.

Parameter	features.keep_switch_page_key.enable	<y0000000000xx>.cfg
Description	It enables or disables the line key in the bottom right of the phone to be fixed as a page switch key. **Note**: It is only applicable to T54S/T52S/T46G/T46S/T42G/T42S/T41P/T41S/T29G/T27P/T27G IP phones.	
Permitted Values	**0**-Disabled, the page icons appear only if a line key not located on the first page is assigned functionality. Then you can use the hard line key in the right bottom to switch pages. **1**-Enabled	
Default	0	

Page Tips

Page tips feature allows the page switch key to indicate different key status on the non-current page. It is mainly used when multi-page line keys are configured.

Yealink T54S/T52S/T46S/T46G/T42S/T42G/T41P/T41S/T29G/T27P/T27G IP phones and expansion

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module EXP50 support page switch key.

Topics

Phone Page Tips

Expansion Module Page Tips

Phone Page Tips

On T54S/T52S/T46S/T46G/T42S/T42G/T41P/T41S/T29G/T27P/T27G IP phones, page tips supports the page icon and page switch key LED to indicate different line key status.

Topics

Phone Page Tips Indicator

Phone Page Tips Configuration

Phone Page Tips Indicator

The following shows the page icons on T46S/G IP phones:

The following table lists the status of page icons and page switch key LED displayed on the phones:

Phone Models	LED Status	Icons	Description
T54S/T52S/T46G/T46S/T29G	Fast-flashing red		Fast-flashing: the BLF monitored user receives an incoming call on the non-current page.
	Solid red		Solid: there is a parked call to the line on the non-current page.
	Fast-flashing green		Fast-flashing: the line receives an incoming call on the non-current page.
T42G/T42S/T41P/T41S/T27P/T27G	Fast-flashing red		Fast-flashing: The BLF monitored user receives an incoming call on the non-current page.

Phone Models	LED Status	Icons	Description
	Fast-flashing green		Fast-flashing: The line receives an incoming call on the non-current page.
	Solid red		Solid: There is a parked call on the non-current page.

Phone Page Tips Configuration

The following table lists the parameter you can use to configure phone page tips.

Parameter	phone_setting.page_tip	<y0000000000xx>.cfg
Description	It enables or disables the page icon and page switch key LED to indicate different status of line keys on the non-current page. **Note**: It is only applicable to T54S/T52S/T46S/T46G/T42S/T42G/T41S/T41P/T29G/T27P/T27G IP phones.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Dsskey->Line Key->Enable Page Tips	

Expansion Module Page Tips

On expansion module EXP50, page tips supports page switch key LED to indicate that BLF monitored user receives an incoming call on the non-current page.

Topics

Expansion Module Page Tips Indicator

Expansion Module Page Tips Configuration

Expansion Module Page Tips Indicator

The following table lists the status of page switch key LED displayed on the expansion module:

Models	LED Status	Icons	Description
EXP50	Flashing red	/	The BLF monitored user receives an incoming call on the non-current pages.

Expansion Module Page Tips Configuration

The following table lists the parameters you can use to configure expansion module page tips.

Parameter	expansion_module.page_tip.blf_call_in.enable	<y0000000000xx>.cfg
Description	It enables or disables the page switch key LED on the expansion module to indicate when BLF monitored user receives an incoming call on the non-current pages. **Note**: It is only applicable to EXP50 expansion modules connected to the T54S/T52S IP phones.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Parameter	expansion_module.page_tip.blf_call_in.led	<y0000000000xx>.cfg
Description	It configures the page switch key LED status on the expansion module when BLF monitored user receives an incoming call on the non-current pages. This value uses the same macro action string syntax as an Enhanced DSS key. If it is left blank, the default value takes effect. **Example**: expansion_module.page_tip.blf_call_in.led = $LEDr300o300$ It means an infinite loop for page switch key LED status: glow red for 300ms and then be in the off state for 300ms. **Note**: It works only if "expansion_module.page_tip.blf_call_in.enable" is set to 1 (Enabled). It is only applicable to EXP50 expansion modules connected to the T54S/T52S IP phones.	
Permitted Values	String	
Default	$LEDr300o300$	

Time and Date

Yealink IP phones maintain a local clock. You can choose to get the time and date from SNTP (Simple Network Time Protocol) time server to have the most accurate time and set DST (Daylight Saving Time) to make better use of daylight and to conserve energy, or you can set the time and date manually. The time and date can be displayed in several formats on the idle screen.

Topics

Time Zone

NTP Settings

Time Zone

The following table lists the values you can use to set the time zone location.

Time Zone	Time Zone Name	Time Zone	Time Zone Name
-12	Eniwetok,Kwajalein	+2	Estonia(Tallinn)
-11	Midway Island	+2	Finland(Helsinki)
-11	Samoa	+2	Gaza Strip(Gaza)
-10	United States-Hawaii-Aleutian	+2	Greece(Athens)
-10	United States-Alaska-Aleutian	+2	Israel(Tel Aviv)
-9:30	French Polynesia	+2	Jordan(Amman)
-9	United States-Alaska Time	+2	Latvia(Riga)
-8	Canada(Vancouver,Whitehorse)	+2	Lebanon(Beirut)
-8	Mexico(Tijuana,Mexicali)	+2	Moldova(Kishinev)
-8	United States-Pacific Time	+2	Jerusalem
-8	Baja California	+2	Russia(Kaliningrad)
-7	Canada(Edmonton,Calgary)	+2	Bulgaria(Sofia)
-7	Mexico(Mazatlan,Chihuahua)	+2	Lithuania(Vilnius)
-7	United States-Mountain Time	+2	Cairo
-7	United States-MST no DST	+2	Istanbul
-7	Chihuahua,La Paz	+2	E.Europe
-7	Arizona	+2	Harare,Pretoria
-6	Guatemala	+2	Tripoli
-6	El Salvador	+2	Romania(Bucharest)
-6	Honduras	+2	Syria(Damascus)
-6	Nicaragua	+2	Turkey(Ankara)
-6	Costa Rica	+2	Ukraine(Kyiv, Odessa)

Time Zone	Time Zone Name	Time Zone	Time Zone Name
-6	Belize	+3	East Africa Time
-6	Canada-Manitoba(Winnipeg)	+3	Iraq(Baghdad)
-6	Chile(Easter Islands)	+3	Russia(Moscow)
-6	Guadalajara	+3	St.Petersburg
-6	Monterrey	+3	Kuwait,Riyadh
-6	Mexico(Mexico City,Acapulco)	+3	Nairobi
-6	Saskatchewan	+3	Minsk
-6	United States-Central Time	+3	Volgograd (RTZ 2)
-5	Bogota,Lima	+3:30	Iran(Teheran)
-5	Quito	+4	Armenia(Yerevan)
-5	Peru	+4	Azerbaijan(Baku)
-5	Indiana (East)	+4	Georgia(Tbilisi)
-5	Bahamas(Nassau)	+4	Kazakhstan(Aktau)
-5	Canada(Montreal,Ottawa,Quebec)	+4	Russia(Samara)
-5	Cuba(Havana)	+4	Abu Dhabi,Muscat
-5	United States-Eastern Time	+4	Izhevsk,Samara (RTZ 3)
-4:30	Venezuela(Caracas)	+4	Port Louis
-4	Canada(Halifax,Saint John)	+4:30	Afghanistan(Kabul)
-4	Atlantic Time (Canada)	+5	Kazakhstan(Aqtobe)
-4	San Juan	+5	Kyrgyzstan(Bishkek)
-4	Manaus,Cuiaba	+5	Ekaterinburg (RTZ 4)
-4	Georgetown	+5	Karachi
-4	Chile(Santiago)	+5	Tashkent
-4	Paraguay(Asuncion)	+5	Pakistan(Islamabad)
-4	United Kingdom-Bermuda(Bermuda)	+5	Russia(Chelyabinsk)
-4	United Kingdom(Falkland Islands)	+5:30	India(Calcutta)
-4	Trinidad&Tobago	+5:30	Mumbai,Chennai
-3:30	Canada-New Foundland(St.Johns)	+5:30	Kolkata,New Delhi
-3	Greenland(Nuuk)	+5:30	Sri Jayawardenepura

Time Zone	Time Zone Name	Time Zone	Time Zone Name
-3	Argentina(Buenos Aires)	+5:45	Nepal(Katmandu)
-3	Brazil(no DST)	+6	Kazakhstan(Astana, Almaty)
-3	Brasilia	+6	Russia(Novosibirsk,Omsk)
-3	Cayenne,Fortaleza	+6	Bangladesh(Dhaka)
-3	Montevideo	+6:30	Myanmar(Naypyitaw)
-3	Salvador	+6:30	Yangon (Rangoon)
-3	Brazil(DST)	+7	Russia(Krasnoyarsk)
-2:30	Newfoundland and Labrador	+7	Thailand(Bangkok)
-2	Brazil(no DST)	+7	Vietnam(Hanoi)
-2	Mid-Atlantic	+7	Jakarta
-1	Portugal(Azores)	+8	China(Beijing)
-1	Cape Verde Islands	+8	Singapore(Singapore)
0	GMT	+8	Hong Kong,Urumqi
0	Western Europe Time	+8	Taipei
0	Monrovia	+8	Kuala Lumpur
0	Reykjavik	+8	Australia(Perth)
0	Casablanca	+8	Russia(Irkutsk, Ulan-Ude)
0	Denmark-Faroe Islands(Torshavn)	+8	Ulaanbaatar
0	Ireland(Dublin)	+8:45	Eucla
0	Edinburgh	+9	Korea(Seoul)
0	Portugal(Lisboa,Porto,Funchal)	+9	Japan(Tokyo)
0	Spain-Canary Islands(Las Palmas)	+9	Russia(Yakutsk,Chita)
0	United Kingdom(London)	+9:30	Australia(Adelaide)
0	Lisbon	+9:30	Australia(Darwin)
0	Morocco	+10	Australia(Sydney,Melboume,Canberra)
+1	Albania(Tirane)	+10	Australia(Brisbane)
+1	Austria(Vienna)	+10	Australia(Hobart)
+1	Belgium(Brussels)	+10	Russia(Vladivostok)
+1	Caicos	+10	Magadan (RTZ 9)

Time Zone	Time Zone Name	Time Zone	Time Zone Name
+1	Belgrade	+10	Guam,Port Moresby
+1	Bratislava	+10	Solomon Islands
+1	Ljubljana	+10:30	Australia(Lord Howe Islands)
+1	Chad	+11	New Caledonia(Noumea)
+1	Copenhagen	+11	Chokurdakh (RTZ 10)
+1	West Central Africa	+11	Russia(Srednekolymsk Time)
+1	Poland(Warsaw)	+11:30	Norfolk Island
+1	Spain(Madrid)	+12	New Zealand(Wellington,Auckland)
+1	Croatia(Zagreb)	+12	Fiji Islands
+1	Czech Republic(Prague)	+12	Russia(Kamchatka Time)
+1	Denmark(Kopenhagen)	+12	Anadyr
+1	France(Paris)	+12	Petropavlovsk-Kamchatsky (RTZ 11)
+1	Germany(Berlin)	+12	Marshall Islands
+1	Hungary(Budapest)	+12:45	New Zealand(Chatham Islands)
+1	Italy(Rome)	+13	Nuku'alofa
+1	Switzerland(Bern)	+13	Tonga(Nukualofa)
+1	Sweden(Stockholm)	+13:30	Chatham Islands
+1	Luxembourg(Luxembourg)	+14	Kiribati
+1	Macedonia(Skopje)		
+1	Netherlands(Amsterdam)		
+1	Namibia(Windhoek)		

NTP Settings

You can set a NTP time server for the desired area as required. The NTP time server address can be offered by the DHCP server or configured manually.

Topic

NTP Configuration

NTP Configuration

The following table lists the parameters you can use to configure the NTP.

Parameter	local_time.manual_ntp_srv_prior	<y0000000000xx>.cfg
Description	It configures the priority for the IP phone to use the NTP server address offered by the DHCP server.	
Permitted Values	**0**- High (use the NTP server address offered by the DHCP server preferentially) **1**- Low (use the NTP server address configured manually preferentially)	
Default Value	0	
Web UI	Settings->Time & Date->NTP by DHCP Priority	
Parameter	local_time.dhcp_time	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to update time with the offset time offered by the DHCP server. **Note**: It is only available to offset from Greenwich Mean Time GMT 0.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Settings->Time & Date->DHCP Time	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Basic->Time & Date->DHCP Time T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: For Gray-Screen: Menu->Settings->Basic Settings->Time & Date->DHCP Time	
Parameter	local_time.ntp_server1	<y0000000000xx>.cfg
Description	It configures the IP address or the domain name of the NTP server 1. The IP phone will obtain the current time and date from the NTP server 1.	
Permitted Values	IP address or domain name	
Default	cn.pool.ntp.org	
Web UI	Settings->Time & Date->Primary Server	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Basic->Time & Date->General->SNTP Settings->NTP Server1 T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Basic Settings->Time & Date->SNTP Settings->NTP Server1	

Parameter	local_time.ntp_server2	<y0000000000xx>.cfg
Description	It configures the IP address or the domain name of the NTP server 2. If the NTP server 1 is not configured (configured by the parameter "local_time.ntp_server1") or cannot be accessed, the IP phone will request the time and date from the NTP server 2.	
Permitted Values	IP address or domain name	
Default	pool.ntp.org	
Web UI	Settings->Time & Date->Secondary Server	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Basic->Time & Date->General->SNTP Settings->NTP Server2 T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Basic Settings->Time & Date->SNTP Settings->NTP Server2	
Parameter	local_time.interval	<y0000000000xx>.cfg
Description	It configures the interval (in seconds) at which the phone updates time and date from the NTP server.	
Permitted Values	Integer from 15 to 86400	
Default	1000	
Web UI	Settings->Time & Date->Update Interval (15~86400s)	
Parameter	local_time.time_zone	<y0000000000xx>.cfg
Description	It configures the time zone.	
Permitted Values	-12 to +14 For available time zones, refer to Time Zone.	
Default	+8	
Web UI	Settings->Time & Date->Time Zone	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Basic->Time & Date->General->SNTP Settings->Time Zone T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Basic Settings->Time & Date->SNTP Settings->Time Zone	
Parameter	**local_time.time_zone_name**	<y0000000000xx>.cfg
Description	It configures the time zone name. **Note**: It works only if the value of the parameter "local_time.summer_time" is set to 2 (Automatic) and the parameter "local_time.time_zone" should be configured in	

	advance.
Permitted Values	String within 32 characters The available time zone names depend on the time zone configured by the parameter "local_time.time_zone". For available time zone names, refer to Time Zone.
Default	China(Beijing)
Web UI	Settings->Time & Date->Location
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Basic->Time & Date->General->SNTP Settings->Location T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Basic Settings->Time & Date->SNTP Settings->Location

DST Settings

You can set DST for the desired area as required. By default, the DST is set to Automatic, so it can be adjusted automatically from the current time zone configuration.

The time zone and corresponding DST pre-configurations exist in the AutoDST file. If the DST is set to Automatic, the IP phone obtains the DST configuration from the AutoDST file.

You can customize the AutoDST file if required. The AutoDST file allows you to add or modify time zone and DST settings for your area each year.

Topics

Auto DST File Attributes

Customizing Auto DST File

Auto DST File Customization

Before customizing, you need to obtain the AutoDST file. You can ask the distributor or Yealink FAE for DST template. You can also obtain the DST template online:

http://support.yealink.com/documentFront/forwardToDocumentFrontDisplayPage.

Auto DST File Attributes

The following table lists description of each attribute in the template file:

Attributes	Type	Values	Description
szTime	required	[+/-][X]:[Y], X=0~14, Y=0~59	Time Zone
szZone	required	String (if the content is more than one city, it is the best to keep their daylight saving time	Time Zone name

Attributes	Type	Values	Description
		the same)	
iType	optional	0/1 **0**: DST by Date **1**: DST by Week	DST time type (This item is needed if you want to configure DST.)
szStart	optional	**Month/Day/Hour** (for **iType=0**) Month: 1~12 Day: 1~31 Hour: 0 (midnight)~23 **Month/Week of Month/Day of Week/Hour of Day** (for **iType=1**) Month: 1~12 Week of Month: 1~5 (the last week) Day of Week: 1~7 Hour of Day: 0 (midnight)~23	Starting time of the DST
szEnd	optional	Same as szStart	Ending time of the DST
szOffset	optional	Integer from -300 to 300	The offset time (in minutes) of DST

Customizing Auto DST File

1. Open the AutoDST file.
2. To add a new time zone, add <DST szTime="" szZone="" iType="" szStart="" szEnd="" szOffset=""/> between <DSTData> and </DSTData>.
3. Specify the DST attribute values within double quotes.

   For example:

   Add a new time zone (+6 Paradise) with daylight saving time 30 minutes:

   <DST szTime="+6" szZone="Paradise" iType="1" szStart="3/5/7/2" szEnd="10/5/7/3" szOffset="30"/>

Modify the DST settings for the existing time zone "+5 Pakistan(Islamabad)" and add DST settings for the existing time zone "+5:30 India(Calcutta)".

4. Save this file and place it to the provisioning server.

Related Topic

Time Zone

DST Configuration

The following table lists the parameters you can use to configure DST.

Parameter	local_time.summer_time	<y0000000000xx>.cfg
Description	It configures Daylight Saving Time (DST) feature.	
Permitted Values	**0**-Disabled **1**-Enabled **2**-Automatic	
Default	2	
Web UI	Settings->Time & Date->Daylight Saving Time	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Basic->Time & Date->General->SNTP Settings->Daylight Saving T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Basic Settings->Time & Date->SNTP Settings->Daylight Saving	
Parameter	local_time.dst_time_type	<y0000000000xx>.cfg

Description	It configures the Daylight Saving Time (DST) type. **Note**: It works only if the value of the parameter "local_time.summer_time" is set to 1 (Enabled).
Permitted Values	**0**-DST by Date **1**-DST by Week
Default	**0**
Web UI	Settings->Time & Date->Fixed Type

Parameter	local_time.start_time	<y0000000000xx>.cfg

Description	It configures the start time of the Daylight Saving Time (DST). It works only if the value of the parameter "local_time.summer_time" is set to 1 (Enabled).
Permitted Values	Month/Day/Hour-DST by Date, use the following mapping: **Month**: 1=January, 2=February,..., 12=December **Day**: 1=the first day in a month,..., 31= the last day in a month **Hour**: 0=0am, 1=1am,..., 23=11pm Month/Week of Month/Day of Week/Hour of Day- DST by Week, , use the following mapping: **Month**: 1=January, 2=February,..., 12=December **Week of Month**: 1=the first week in a month,..., 5=the last week in a month **Day of Week**: 1=Monday, 2=Tuesday,..., 7=Sunday **Hour of Day**: 0=0am, 1=1am,..., 23=11pm
Default	1/1/0
Web UI	Settings->Time & Date->Start Date

Parameter	local_time.end_time	<y0000000000xx>.cfg

Description	It configures the end time of the Daylight Saving Time (DST). **Note**: It works only if the value of the parameter "local_time.summer_time" is set to 1 (Enabled).
Permitted Values	Month/Day/Hour-DST by Date, use the following mapping: **Month**: 1=January, 2=February,..., 12=December **Day**: 1=the first day in a month,..., 31= the last day in a month **Hour**: 0=0am, 1=1am,..., 23=11pm Month/Week of Month/Day of Week/Hour of Day- DST by Week, , use the following mapping: **Month**: 1=January, 2=February,..., 12=December **Week of Month**: 1=the first week in a month,..., 5=the last week in a month

	Day of Week: 1=Monday, 2=Tuesday,…, 7=Sunday
	Hour of Day: 0=0am, 1=1am,…, 23=11pm
Default	12/31/23
Web UI	Settings->Time & Date->End Date

Parameter	local_time.offset_time	<y0000000000xx>.cfg
Description	It configures the offset time (in minutes) of Daylight Saving Time (DST). **Note**: It works only if the value of the parameter "local_time.summer_time" is set to 1 (Enabled).	
Permitted Values	Integer from -300 to 300	
Default	Blank	
Web UI	Settings->Time & Date->Offset(minutes)	

Parameter	auto_dst.url	<y0000000000xx>.cfg
Description	It configures the access URL of the DST file (AutoDST.xml). **Note**: It works only if "local_time.summer_time" is set to 2 (Automatic).	
Permitted Values	URL within 511 characters For example, tftp://192.168.1.100/AutoDST.xml	
Default	Blank	

Time and Date Manually Configuration

You can set the time and date manually when the phones cannot obtain the time and date from the NTP time server.

The following table lists the parameter you can use to configure time and date manually.

Parameters	local_time.manual_time_enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to obtain time and date from manual settings.	
Permitted Values	**0**-Disabled (obtain time and date from NTP server) **1**-Enabled (obtain time and date from manual settings)	
Default	0	
Web UI	Settings->Time & Date->Manual Time	
Phone UI	<u>T54S/T52S/T48S/T48G/T46S/T46G/T29G</u>: Menu->Basic->Time & Date->General->Manual Settings <u>T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2</u>:	

| | Menu->Settings->Basic Settings->Time & Date->Manual Settings |

Time and Date Format Configuration

You can customize the time and date by choosing between a variety of time and date formats, including options to date format with the day, month, or year, and time format in 12 hours or 24 hours, or you can also custom the date format as required.

The following table lists the parameters you can use to configure time and date format.

Parameters	local_time.time_format	<y0000000000xx>.cfg
Description	It configures the time format.	
Permitted Values	**0**-Hour 12, the time will be displayed in 12-hour format with AM or PM specified. **1**-Hour 24, the time will be displayed in 24-hour format (for example, 2:00 PM displays as 14:00).	
Default	1	
Web UI	Settings->Time & Date->Time Format	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Basic->Time & Date->Time & Date Format->Time Format T42S/T42G/T41S/T41P/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Basic Settings->Time & Date->Time & Date Format->Time Format	
Parameters	local_time.date_format	<y0000000000xx>.cfg
Description	It configures the date format. The value configured by the parameter "lcl.datetime.date.format" takes precedence over that configured by this parameter.	
Permitted Values	**0**-WWW MMM DD **1**-DD-MMM-YY **2**-YYYY-MM-DD **3**-DD/MM/YYYY **4**-MM/DD/YY **5**-DD MMM YYYY **6**-WWW DD MMM Use the following mapping: "WWW" represents the abbreviation of the week; "DD" represents a two-digit day; "MMM" represents the first three letters of the month; "YYYY" represents a four-digit year, and "YY" represents a two-digit year.	

Default	0
Web UI	Settings->Time & Date->Date Format
Phone UI	<u>T54S/T52S/T48S/T48G/T46S/T46G/T29G</u>: Menu->Basic->Time & Date->Time & Date Format->Date Format <u>T42S/T42G/T41S/T41P/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2</u>: Menu->Settings->Basic Settings->Time & Date->Time & Date Format->Date Format

Parameters	lcl.datetime.date.format	<y0000000000xx>.cfg
Description	It configures the display format of date.	

Permitted Values	Any combination of W, M, D and the separator (for example, space, dash, slash). Any combination of Y, M, D, W and the separator (for example, space, dash, slash). Use the following mapping: **Y** = year, **M** = month, **D** = day, **W** = day of week "Y"/"YY" represents a two-digit year, more than two "Y" letters (for example, YYYY) represent a four-digit year; "M"/"MM" represents a two-digit month, "MMM" represents the abbreviation of the month, three or more than three "M" letters (for example, MMM) represent the long format of the month; One or more than one "D" (for example, DDD) represents a two-digit day; "W"/"WW" represents the abbreviation of the day of week, three or more three "W" letters (for example, WWW) represent the long format of the day of week. For the more rules, refer to Date Customization Rule.
Default	Blank

Date Customization Rule

You need to know the following rules when customizing date formats:

Format	Description
Y/YY	It represents a two-digit year. For example, 16, 17, 18...
Y is used more than twice (for example, YYY, YYYY)	It represents a four-digit year. For example, 2016, 2017, 2018...
M/MM	It represents a two-digit month. For example, 01, 02,..., 12
MMM	It represents the abbreviation of the month. For example, Jan, Feb,..., Dec

Format	Description
M is used more than three times (for example, MMMM)	It represents the long format of the month. For example, January, February,..., December
D is used once or more than once (for example, DD)	It represents a two-digit day. For example, 01, 02,..., 31
W/WW	It represents the abbreviation of the day of week. For example, Mon, Tue,..., Sun
W is used more than twice (for example, WWW, WWWW)	It represents the long format of the day of week. For example, Monday, Tuesday,..., Sunday

Idle Clock Display

Idle clock is displayed on the center of the idle screen by default. You can hide the idle clock, and the time and date are displayed in the right of the status bar.

It is only applicable to T54S IP phones.

Topic

Idle Clock Display Configuration

Idle Clock Display Configuration

The following table lists the parameter you can use to configure the idle clock display.

Parameter	phone_setting.idle_clock_display.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to display the idle clock. **Note**: It is only applicable to T54S IP phones.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Phone UI	Menu->Basic->Display->Idle Clock->Idle Clock Display	

Logo Customization

Since a logo is the visual entity signifying an organization or company, you can upload a custom logo

shown on the LCD screen. The logo screen and the idle screen display alternately.

The following shows a system logo (Yealink logo) displayed on T27P/G:

It is not applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.

Topics

Custom Logo Picture Limit

Customizing a Logo Picture

Custom Logo Configuration

Example: Setting a Custom Logo Display

Custom Logo Picture Limit

The following table lists the supported logo picture format and resolution for each phone model.

Phone Model	Logo File Format	Resolution
T42S/T42G/T41P/T41S		<=192*64 2 gray scale
T27P/T27G	.dob	<=240*120 2 gray scale
T40P/T40G/T23P/T23G/T21(P) E2/ T19(P) E2		<=132*64 2 gray scale

Note

Before uploading your custom logo to IP phones, ensure your logo file is correctly formatted.

Customizing a Logo Picture

Yealink IP phones only support the *.dob format logo picture. Yealink provides PictureExDemo tool to convert *.bmp format to *.dob format. You can ask the distributor or Yealink FAE for the PictureExDemo tool.

Procedure

1. Double click the PictureExDemo.exe.
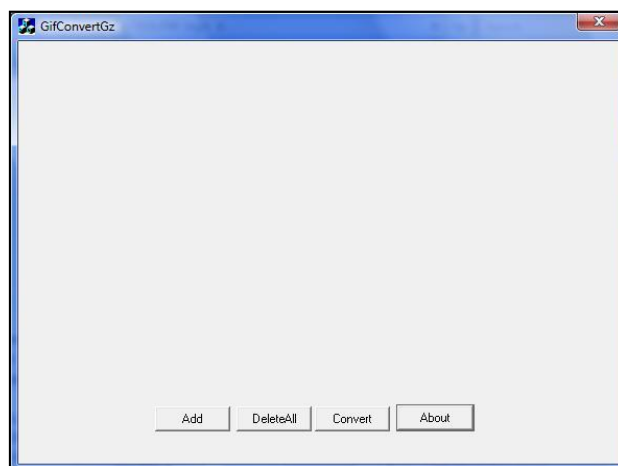
2. Click **Add** button to open a *.bmp file.

   You can repeat the step 2 to add multiple original picture files.
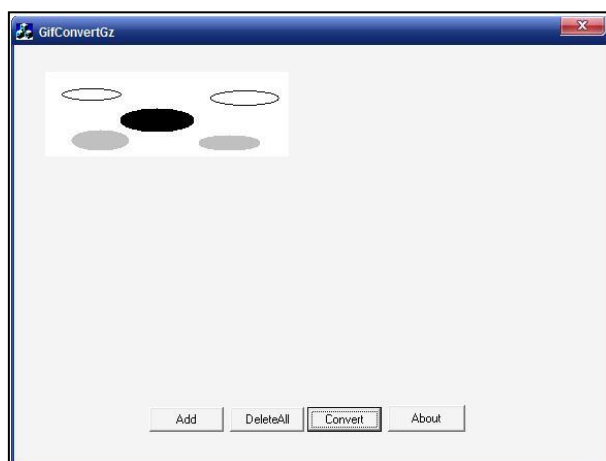
3. Click the **Convert** button.

   Then you can find the **DOB** logo files in the **adv** directory.

Custom Logo Configuration

The following table lists the parameters you can use to configure custom logo.

Parameter	phone_setting.lcd_logo.mode	<y0000000000xx>.cfg
Description	It configures the logo shown on the LCD screen. **Note**: It is not applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.	
Permitted Values	**0**-Off, the IP phone is not allowed to display a logo. **1**-System Logo, the LCD screen will display the system logo. **2**-Custom Logo, the LCD screen will display the custom logo (you need to upload a custom logo file to the IP phone).	

Default	0	
Web UI	Features->General Information->Use Logo	
Parameter	lcd_logo.url	<y0000000000xx>.cfg
Description	It configures the access URL of the custom logo file. **Note**: It works only if the value of the parameter "phone_setting.lcd_logo.mode" is set to 2 (Custom Logo). It is not applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.	
Permitted Values	URL within 511 characters	
Default	Blank	
Web UI	Features->General Information->Upload Logo	
Parameter	lcd_logo.delete	<y0000000000xx>.cfg
Description	It deletes all custom logo files. **Note**: It is not applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.	
Permitted Values	http://localhost/all	
Default	Blank	

Example: Setting a Custom Logo Display

The following example shows configuration for uploading a custom logo picture "logo.dob", and then setting it to display on the phone idle screen. The logo picture is customized and placed on the provisioning server "192.168.10.25".

Example

lcd_logo.url = http://192.168.10.25/logo.dob

phone_setting.lcd_logo.mode = 2

After provisioning, the phone displays the custom logo screen and the idle screen alternately.

Call Display

By default, the IP phones present the contact information (including avatar and identity) when receiving an incoming call, dialing an outgoing call or engaging in a call.

You can configure what contact information presents and how to display the contact information. If the contact exists in the phone directory, the phone displays the saved contact name and number. If not, it will use Calling Line Identification Presentation (CLIP) or Connected Line Identification Presentation (COLP) to display the contact's identity.

Topic

Call Display Configuration

Call Display Configuration

The following table lists the parameters you can use to configure call display.

Parameter	phone_setting.contact_photo_display.enable	<y0000000000xx>.cfg
Description	It configures whether to display contact avatar when it receives an incoming call, dials an outgoing call or engages in a call. **Note**: It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.	
Permitted Values	**0**-Never, do not display contact avatar no matter whether the contact avatar exists or not **1**-Always, display the customized contact avatar if it exists; display the built-in avatar if the customized contact avatar does not exist **2**-Adaptive, display the customized contact avatar if it exists; otherwise do not display	
Default	1	
Web UI	Settings->Call Display->Contact Photo Display Mode	
Parameter	account.X.picture_info_enable[1]	<MAC>.cfg
Description	It enables or disables the IP phone to download the picture from the URL contained in the Call-Info or Caller-Image Header of Invite message. **Note:** It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.	
Permitted Values	**0**-Disabled **1**-Enabled	

Default	0
Parameter	phone_setting.called_party_info_display.enable <y0000000000xx>.cfg
Description	It enables or disables the IP phone to display the identity of the callee when it receives an incoming call. **Note**: The information display method is configured by the parameter "phone_setting.call_info_display_method".
Permitted Values	**0**-Disabled **1**-Enabled
Default	0
Web UI	Settings->Call Display->Display Called Party Information
Parameter	phone_setting.call_info_display_method <y0000000000xx>.cfg
Description	It configures the call information display method when the IP phone receives an incoming call, dials an outgoing call or is during an active call.
Permitted Values	**0**-Name+Number **1**-Number+Name **2**-Name **3**-Number **4**-Full Contact Info (display name<sip:xxx@domain.com>) **5**-Null
Default	0
Web UI	Settings->Call Display->Call Information Display Method
Parameter	phone_setting.incoming_call.horizontal_roll_interval <y0000000000xx>.cfg
Description	It configures the interval (in milliseconds) for the IP phone to horizontally scroll the caller information when the phone is ringing.
Permitted Values	Integer from 100 to 2000
Default	500
Parameter	account.X.update_ack_while_dialing[1] <MAC>.cfg
Description	It enables or disables the IP phone to update the display of call ID according to the ACK message. **Note**: It works only if "account.X.refresh_remote_id.enable" is set to 1 (Enabled).
Permitted Values	**0**-Disabled **1**-Enabled
Default	0

Parameter	account.X.refresh_remote_id.enable[1]	<MAC>.cfg
Description	It enables or disables the IP phone to update the identity of the caller according to the request message from the remote party.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Parameter	sip.disp_incall_to_info[2]	<y0000000000xx>.cfg
Description	It enables or disables the phone to display the identity contained in the To field of the INVITE message when it receives an incoming call.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	

Display Method on Dialing

When the IP phone is on the pre-dialing or dialing screen, the account information will be displayed on the LCD screen.

T46S/G   **T27P/G**
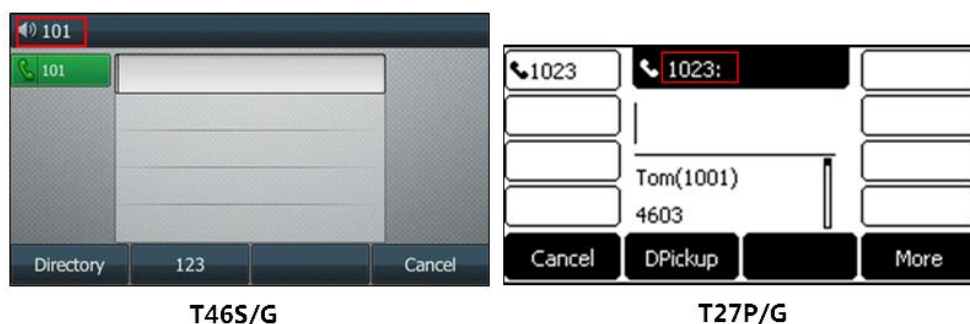
Yealink IP phones support three display methods: Label, Display Name and User Name. You can customize the account information to be displayed on the IP phone as required.

Topic

Display Method on Dialing Configuration

Display Method on Dialing Configuration

The following table lists the parameters you can use to configure display method on dialing.

Parameter	features.caller_name_type_on_dialing	<y0000000000xx>.cfg
Description	It configures the selected line information displayed on the pre-dialing or dialing	

	screen.
	Note: It works only if "features.station_name.value" is left blank.
Permitted **Values**	**1**-Label, configured by the parameter "account.X.label". **2**-Display Name, configured by the parameter "account.X.display_name". **3**-User Name, configured by the parameter "account.X.user_name".
Default	3
Web UI	Features->General Information->Display Method on Dialing

Key As Send

Key as send allows you to assign the pound key ("#") or asterisk key ("*") as the send key.

Topic

Key As Send Configuration

Key As Send Configuration

The following table lists the parameters you can use to configure key as send.

Parameter	features.key_as_send	<y0000000000xx>.cfg
Description	It configures the "#" or "*" key as the send key.	
Permitted **Values**	**0**-Disabled, neither "#" nor "*" can be used as the send key. **1**-# key, the pound key is used as the send key. **2**-* key, the asterisk key is used as the send key.	
Default	1	
Web UI	Features->General Information->Key As Send	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Features->Others->General->Key As Send T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Features->Key As Send	
Parameter	features.send_pound_key	<y0000000000xx>.cfg
Description	It configures the behavior when the user presses the # key twice on dialing screen. **Note**: It works only if "features.key_as_send" is set to 1 (Enabled).	
Permitted **Values**	**0**-The IP phone will dial out "#". **1**-The IP phone will not dial out "#". After the user presses the # key again, the IP	

	phone will dial out "##".
Default	0
Web UI	Features->General Information->Send Pound Key

Softkey Layout

Softkey layout is used to customize the soft keys at the bottom of the LCD screen for best meet users' requirements. In addition to specifying which soft keys to display, you can determine their display order. The configurations for softkey layout are based on call states.

The following shows the soft keys displaying on the phone in the dialing state:

> **Note**
>
> You can configure the EDK soft keys in different call states. Configuring the EDK soft keys may affect the softkey layout in different call states. For more information on EDK soft keys, refer to EDK Soft Keys Configuration.

Topics

Supported Call States and Soft Keys

Softkey Layout File Customization

Softkey Layout Configuration

Example: Setting the Soft Keys Layout

Supported Call States and Soft Keys

The following table lists soft keys available for IP phones in different call states.

Call States	Default Soft Keys	Optional Soft Keys
CallFailed (Call Fail)	NewCall Empty Empty Cancel	Empty End Call
CallIn (Incoming Call)	Answer	Empty

Call States		Default Soft Keys	Optional Soft Keys
		Forward	Switch
		Silence	Decline
		Reject	
Connecting	Connecting	Empty	Empty
		Empty	
		Empty	
		End Call	
	SemiAttendTrans (Transfer Connecting)	Transfer	Empty
		Empty	Switch
		Empty	
		End Call	
Dialing	Dialing (not applicable to T48S/G IP phones)	Send	Empty
		IME	History
		Delete	Line (not applicable to T19(P) E2 IP phones)
		End Call	Directories
	DialingEmpty (not applicable to T48G/S IP phones)	Directories	Empty
		IME	History
		Empty	Line (not applicable to T19(P) E2 IP phones)
		End Call	Favorite (Directory)
			GPickup
			DPickup
			Retrieve
	DialConference	Send	Empty
		IME	History
		Delete	Directories
		Cancel	
	DialConferenceEmpty (not applicable to T48G/S IP phones)	Directories	Empty
		IME	History
		Empty	
		Cancel	
	DialTrans (Transfer to, not	B Transfer	Empty

Call States		Default Soft Keys	Optional Soft Keys
	applicable to T48S/G IP phones)	Send Delete Cancel	History Directories IME
	DialTransEmpty (not applicable to T48S/G IP phones)	Directories IME Empty Cancel	Empty History
RingBack	RingBack (Ring Back)	Empty Empty Empty End Call	Empty Switch
	SemiAttendTrans Back (Transfer Ring Back)	Transfer Empty Empty End Call	Empty Switch
Talking	Talk (On Talk)	Transfer Hold Conference End Call	Empty Mute SWAP NewCall Switch PriHold Park GPark RTP Status Security
	Hold	Transfer Resume NewCall End Call	Empty Switch Park GPark RTP Status Security
	Held	Transfer Hold Conference	Empty Switch NewCall

Call States	Default Soft Keys	Optional Soft Keys
	End Call	Park
		GPark
		RTP Status
		Security
Conferenced	Split	
	Hold	Empty
	Manager (not applicable to T48G/S IP phones)	Switch
		Mute
	End Call	
ConferencedHold	Split	Empty
	Resume	Switch
	NewCall	
	End Call	
NewCallIn	Transfer	Empty
	Answer	Switch
	Reject	
	End Call	
ConferencedNewCallIn	Empty	Empty
	Answer	Switch
	Reject	
	End Call	
Paging	Empty	Empty
	Hold	
	Empty	
	End Call	
ListeningPaging	Empty	Empty
	Hold	
	Empty	
	End Call	
BeTransferred	Empty	Empty
	Hold	Switch
	Empty	NewCall
	End Call	

Softkey Layout File Customization

You can also configure the softkey layout using the softkey layout templates for different call states.

You can ask the distributor or Yealink FAE for softkey layout template. You can also obtain the softkey layout template online:

http://support.yealink.com/documentFront/forwardToDocumentFrontDisplayPage.

Topics

Softkey Layout File Elements and Attributes

Customizing Softkey Layout File

Softkey Layout File Elements and Attributes

The following table lists the elements and attributes you need to understand in the softkey layout file. We recommend you do not edit these elements and attributes.

Elements & Attributes	Description
<Disable> </Disable>	Specify the disabled soft key list. The phone screen will not display the disabled soft keys.
<Enable> </Enable>	Specify the enabled soft key list. The phone screen will display the enabled soft keys.
<Default> </Default>	Specify the default soft key list. The phone screen displays these soft keys by default.
<Key Type=" "/>	Specify the soft key type.

Customizing Softkey Layout File

1. Open the template file.

2. For each soft key that you want to enable, move the string from the disabled soft key list to enabled soft key list in the file or replace the Empty in the enabled soft key list. The **More** soft key appears when more than 4 soft keys are enabled.

The following shows a portion of the softkey layout file "CallFailed.xml":

3. For each soft key that you want to disabled, just move the string from the enabled soft key list to disabled soft key list.

The following shows a portion of the softkey layout file "CallFailed.xml":

4. Save the change and place this file to the provisioning server.

Softkey Layout Configuration

The following table lists the parameters you can use to configure the softkey layout.

Parameter	phone_setting.custom_softkey_enable	<y0000000000xx>.cfg
Description	It enables or disables the custom soft keys layout feature.	
Permitted Values	**0**-Disabled **1**-Enabled	

Default	0
Web UI	Settings->Softkey Layout->Custom SoftKey
Parameter	phone_setting.custom_softkey.apply_to_states `<y0000000000xx>.cfg`
Description	It configures the desired call state to apply the custom softkey layout. **To configure the call states to apply the custom softkey layout**: **Example:** phone_setting.custom_softkey.apply_to_states = DialingEmpty,DialTransEmpty It means that DialingEmpty and DialTransEmpty call states will use the custom softkey layout. **To configure the call states not to apply the custom softkey layout**: **Example:** phone_setting.custom_softkey.apply_to_states = -DialingEmpty,DialTransEmpty It means that DialingEmpty and DialTransEmpty call states will not use the custom softkey layout. **Note**: Multiple call states are separated by commas. It works only if "phone_setting.custom_softkey_enable" is set to 1 (Enabled).
Permitted Values	Blank (all call states will use the custom softkey layout) Dialing, DialingEmpty, DialTrans, DialTransEmpty, DialConference, DialConferenceEmpty, Talk, Hold, Held, CallIn, NewCallIn, BeTransferred, SemiAttendTrans, Conferenced, ConferencedHold, ConferencedNewCallIn, Connecting, CallFailed, Paging, ListeningPaging, RingBack, SemiAttendTransBack
Default	Blank
Parameter	features.custom_softkey_dynamic.enable `<y0000000000xx>.cfg`
Description	It enables or disables the IP phone to display the soft keys relevant to the features (call center, centralized call recording and executive-assistant). **Note**: It works only if the value of the parameter "phone_setting.custom_softkey_enable" is set to 1 (Enabled).
Permitted Values	**0**-Disabled **1**-Enabled, the functional soft keys display on the phone screen if the corresponding feature is available.
Default	1
Parameter	custom_softkey_call_failed.url `<y0000000000xx>.cfg`
Description	It configures the access URL of the custom file for the soft key presented on the LCD screen in the CallFailed state. **Example**: custom_softkey_call_failed.url = http://192.168.1.20/XMLfiles/CallFailed.xml

	During auto provisioning, the IP phone connects to the provisioning server "192.168.1.20", and downloads the CallFailed.xml file from the "XMLfiles" directory. **Note**: It works only if "phone_setting.custom_softkey_enable" is set to 1 (Enabled).
Permitted Values	URL within 511 characters
Default	Blank

Parameter	custom_softkey_call_in.url	<y0000000000xx>.cfg

Description	It configures the access URL of the custom file for the soft key presented on the LCD screen in the CallIn state. **Example**: custom_softkey_call_in.url = http://192.168.1.20/XMLfiles/CallIn.xml During auto provisioning, the IP phone connects to the provisioning server "192.168.1.20", and downloads the CallIn.xml file from the "XMLfiles" directory. **Note**: It works only if "phone_setting.custom_softkey_enable" is set to 1 (Enabled).
Permitted Values	URL within 511 characters
Default	Blank

Parameter	custom_softkey_connecting.url	<y0000000000xx>.cfg

Description	It configures the access URL of the custom file for the soft key presented on the LCD screen in the Connecting state. **Example**: custom_softkey_connecting.url = http://192.168.1.20/XMLfiles/Connecting.xml During auto provisioning, the IP phone connects to the provisioning server "192.168.1.20", and downloads the Connecting.xml file from the "XMLfiles" directory. **Note**: It works only if "phone_setting.custom_softkey_enable" is set to 1 (Enabled).
Permitted Values	URL within 511 characters
Default	Blank

Parameter	custom_softkey_dialing.url	<y0000000000xx>.cfg

Description	It configures the access URL of the custom file for the soft key presented on the LCD screen in the Dialing state. **Example**: custom_softkey_dialing.url = http://192.168.1.20/XMLfiles/Dialing.xml During auto provisioning, the IP phone connects to the provisioning server "192.168.1.20", and downloads the Dialing.xml file from the "XMLfiles" directory. **Note**: It works only if "phone_setting.custom_softkey_enable" is set to 1 (Enabled). It is

	not applicable to T48G/T48S IP phones.
Permitted Values	URL within 511 characters
Default	Blank

Parameter	custom_softkey_ring_back.url	<y0000000000xx>.cfg
Description	It configures the access URL of the custom file for the soft key presented on the LCD screen in the RingBack state. **Example**: custom_softkey_ring_back.url = http://192.168.1.20/XMLfiles/RingBack.xml During auto provisioning, the IP phone connects to the provisioning server "192.168.1.20", and downloads the RingBack.xml file from the "XMLfiles" directory. **Note**: It works only if "phone_setting.custom_softkey_enable" is set to 1 (Enabled).	

Permitted Values	URL within 511 characters
Default	Blank

Parameter	custom_softkey_talking.url	<y0000000000xx>.cfg
Description	It configures the access URL of the custom file for the soft key presented on the LCD screen in the Talking state. **Example**: custom_softkey_talking.url = http://192.168.1.20/XMLfiles/Talking.xml During auto provisioning, the IP phone connects to the provisioning server "192.168.1.20", and downloads the Talking.xml file from the "XMLfiles" directory. **Note**: It works only if "phone_setting.custom_softkey_enable" is set to 1 (Enabled).	

Permitted Values	URL within 511 characters
Default	Blank

Example: Setting the Soft Keys Layout in Talking State

The following example shows configuration for setting the soft key layout in talking state.

Customize a softkey layout file *"Talking.xml"* and place this file to the provisioning server *"http://192.168.10.25"*.

Example

phone_setting.custom_softkey_enable = 1

custom_softkey_talking.url = http://192.168.10.25/Talking.xml

After provisioning, you can use the enabled soft keys during a call.

Input Method

Yealink IP phones support 6 input methods: 2aB, abc, Abc, 123, ABC and Hebrew. You can specify the default input method for entering different types of data. You can also customize the existing input method.

Topics

Input Method File Customization

Input Method Configuration

Input Method File Customization

You can first customize the Yealink-supplied keypad input method file "ime.txt", "Russian_ime.txt" or "Hebrew_ime.txt", and then download it to the IP phone. The changes in the "Russian_ime.txt" file becomes effective when the language is set to Russian. The changes in the "ime.txt" file is effective for all the languages.

Note
By default, Hebrew input method is hidden, the IP phone will automatically use the Hebrew input method when the language is set to Hebrew. If you want to set the language to Hebrew, you have to add the new custom language - Hebrew to your IP phone in advance.
The changes in the "Hebrew_ime.txt" file becomes effective when the language is set to Hebrew.

You can ask the distributor or Yealink FAE for keypad input method file. You can also obtain the keypad input method file online:

http://support.yealink.com/documentFront/forwardToDocumentFrontDisplayPage.

Topic

Customizing the Input Method File

Customizing the Input Method File

When adding new characters for the existing input method, ensure that the added characters are supported by IP phones. The IP phone can only recognize the keypad input method files uploaded using Unicode encoding.

1. Open the desired keypad input method file (for example, ime.txt).

2. Under the input method field (for example, [abc]), add new characters or adjust the characters order within the double quotation marks on the right of the equal sign.

3. Save the keypad input method file and place it to the provisioning server.

Caution
Do not rename the input method file. If you just want to customize the input method for a certain language, the filename must be formatted as "language name_ime.txt" (for example, German_ime.txt).

Input Method Configuration

The following table lists the parameters you can use to configure input method.

Parameter	gui_input_method.url	<y0000000000xx>.cfg
Description	It configures the access URL of the custom keypad input method file for phone user interface. **Example**: gui_input_method.url = http://192.168.10.25/ime.txt During auto provisioning process, the IP phone connects to the provisioning server "192.168.1.25", and downloads the custom keypad input method file "ime.txt". gui_input_method.url = http://192.168.10.25/Russian_ime.txt During auto provisioning, the IP phone connects to the provisioning server "192.168.1.25", and downloads the custom keypad input method file "Russian_ime.txt" for Russian language. **Note**: If you want to upload a custom keypad input method file for the desired language, you can name the file "language name_ime.txt".	
Permitted Values	URL within 511 characters	

Default	Blank

Parameter	gui_input_method.delete	<y0000000000xx>.cfg

Description	It deletes the specified or all custom keypad input method files of the phone user interface. Delete all custom keypad input method files: gui_input_method.delete = http://localhost/all Delete a custom keypad input method file (for example, ime.txt) for the phone: gui_input_method.delete = http://localhost/ime.txt

Permitted Values	http://localhost/all or http://localhost/Name.txt

Default	Blank

Parameter	default_input_method.dialing	<y0000000000xx>.cfg

Description	It configures the default input method in the dialing screen.

Permitted Values	**0**-2aB **1**-123 **2**-abc **3**-ABC **4**-Abc **5**-2aB

Default	1

Parameter	directory.edit_default_input_method	<y0000000000xx>.cfg

Description	It configures the default input method when the user edits contacts in the Local Directory, LDAP, Remote Phone Book, Blacklist or Network Directory. **Example**: directory.edit_default_input_method = abc

Permitted Values	Abc, 2aB, 123, abc or ABC

Default	Abc

Parameter	directory.search_default_input_method	<y0000000000xx>.cfg

Description	It configures the default input method when the user searches for contacts in the Local Directory, LDAP, Remote Phone Book, Blacklist or Network Directory. **Example**: directory.search_default_input_method = abc

Permitted	Abc, 2aB, 123, abc or ABC

Values		
Default	Abc	
Parameter	default_input_method.xml_browser_input_screen	<y0000000000xx>.cfg
Description	It configures the default input method when the type for input box is set to "string" in the InputScreen object.	
Permitted Values	Abc, 2aB, 123, abc or ABC	
Default	2aB	
Parameter	phone_setting.virtual_keyboard.enable[1]	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to use onscreen keyboard. **Note**: It is only applicable to T48G/S IP phones.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	

[1]If you change this parameter, the IP phone will reboot to make the change take effect.

Notification Popups

Notification popups feature allows the IP phone to pop up the message when it misses a call, forwards an incoming call to other party, receives a new voice mail or a new text message.

The following shows an example of receiving a new voice mail:
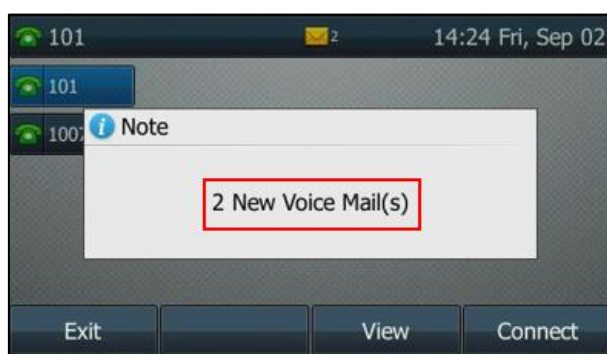
Topic

Notification Popups Configuration

The following table lists the parameters you can use to configure notification popups.

Parameter	features.voice_mail_popup.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to pop up the message when it receives a new voice mail. If the message disappears, it will not pop up again unless the user receives a new voice mail or the user re-registers the account that has unread voice mail(s). **Note**: It works only if "account.X.display_mwi.enable" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Web UI	Features->Notification Popups->Display Voice Mail Popup	
Parameter	features.voice_mail_alert.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to pop up the message when receiving the same amount of new voicemails.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Parameter	features.missed_call_popup.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to pop up the message when it misses a call. **Note**: It works only if "account.X.missed_calllog" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Web UI	Features->Notification Popups->Display Missed Call Popup	
Parameter	features.forward_call_popup.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to pop up the message when it forwards an incoming call to other party.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Web UI	Features->Notification Popups->Display Forward Call Popup	

Parameter	features.text_message_popup.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to pop up the message when it receives a new text message. **Note**: It works only if "features.text_message.enable" is set to 1.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Web UI	Features->Notification Popups->Display Text Message Popup	

Power LED Indicator

Power LED indicator indicates power status and phone status.

You can configure the power LED indicator behavior in the following scenarios:

- The IP phone receives an incoming call

- The IP phone receives a voice mail or a text message

- A call is muted

- A call is placed on hold or is held

- The IP phone is busy

- The IP phone misses a call

Topic

Power LED Indicator Configuration

Power LED Indicator Configuration

The following table lists the parameters you can use to configure power LED indicator.

Parameter	phone_setting.common_power_led_enable	<y0000000000xx>.cfg
Description	It enables or disables the power LED indicator to be turned on.	
Permitted Values	**For T54S/T52S/T48S/T48G/T46S/T46G/T42G/T42S/T41P/T41S/T40P/T40G/T29G/T27P/T27G/T23P/T23G/T21(P) E2 IP phones:** **0**-Disabled (power LED indicator is off) **1**-Enabled (power LED indicator glows red) **For T19(P) E2 IP phones:** **0**-Disabled (power LED indicator is off)	

	1-Enabled (power LED indicator glows yellow)
Default	0
Web UI	Features->Power LED->Common Power Light On
Parameter	phone_setting.ring_power_led_flash_enable <y0000000000xx>.cfg
Description	It enables or disables the power LED indicator to flash when the IP phone receives an incoming call.
Permitted Values	**For T54S/T52S/T48S/T48G/T46S/T46G/T42G/T42S/T41P/T41S/T40P/T40G/T29G/T27P/T27G/T23P/T23G/T21(P) E2 IP phones:** **0**-Disabled (power LED indicator does not flash) **1**-Enabled (power LED indicator fast flashes (300ms) red) **For T19(P) E2 IP phones:** **0**-Disabled (power LED indicator does not flash) **1**-Enabled (power LED indicator fast flashes (300ms) yellow)
Default	1
Web UI	Features->Power LED->Ringing Power Light Flash
Parameter	phone_setting.mail_power_led_flash_enable <y0000000000xx>.cfg
Description	It enables or disables the power LED indicator to flash when the IP phone receives a voice mail or a text message. **Note**: It works only if "account.X.display_mwi.enable" is set to 1 (Enabled).
Permitted Values	**For T54S/T52S/T48S/T48G/T46S/T46G/T42G/T42S/T41P/T41S/T40P/T40G/T29G/T27P/T27G/T23P/T23G/T21(P) E2 IP phones:** **0**-Disabled (power LED indicator does not flash) **1**-Enabled (power LED indicator slowly flashes (1000ms) red) **For T19(P) E2 IP phones:** **0**-Disabled (power LED indicator does not flash) **1**-Enabled (power LED indicator slowly flashes (1000ms) yellow)
Default	1
Web UI	Features->Power LED->Voice/Text Mail Power Light Flash
Parameter	phone_setting.mute_power_led_flash_enable <y0000000000xx>.cfg
Description	It enables or disables the power LED indicator to flash when a call is muted.
Permitted Values	**For T54S/T52S/T48S/T48G/T46S/T46G/T42G/T42S/T41P/T41S/T40P/T40G/T29G/T27P/T27G/T23P/T23G/T21(P) E2 IP phones:**

	0-Disabled (power LED indicator does not flash)
	1-Enabled (power LED indicator fast flashes (300ms) red)
	For T19(P) E2 IP phones:
	0-Disabled (power LED indicator does not flash)
	1-Enabled (power LED indicator fast flashes (300ms) yellow)
Default	0
Web UI	Features->Power LED->Mute Power Light Flash
Parameter	phone_setting.hold_and_held_power_led_flash_enable <y0000000000xx>.cfg
Description	It enables or disables the power LED indicator to flash when a call is placed on hold or is held.
Permitted Values	**For T54S/T52S/T48S/T48G/T46S/T46G/T42G/T42S/T41P/T41S/T40P/T40G/T29G/T27P/T27G/T23P/T23G/T21(P) E2 IP phones:** **0**-Disabled (power LED indicator does not flash) **1**-Enabled (power LED indicator fast flashes (500ms) red) **For T19(P) E2 IP phones:** **0**-Disabled (power LED indicator does not flash) **1**-Enabled (power LED indicator fast flashes (500ms) yellow)
Default	0
Web UI	Features->Power LED->Hold/Held Power Light Flash
Parameter	phone_setting.talk_and_dial_power_led_enable <y0000000000xx>.cfg
Description	It enables or disables the power LED indicator to be turned on when the IP phone is busy.
Permitted Values	**For T54S/T52S/T48S/T48G/T46S/T46G/T42G/T42S/T41P/T41S/T40P/T40G/T29G/T27P/T27G/T23P/T23G/T21(P) E2 IP phones:** **0**-Disabled (power LED indicator is off) **1**-Enabled (power LED indicator glows red) **For T19(P) E2 IP phones:** **0**-Disabled (power LED indicator is off)
Default	0
Web UI	Features->Power LED->Talk/Dial Power Light On
Parameter	phone_setting.missed_call_power_led_flash.enable <y0000000000xx>.cfg
Description	It enables or disables the power LED indicator to flash when the IP phone misses a call.

Permitted Values	**For T54S/T52S/T48S/T48G/T46S/T46G/T42G/T42S/T41P/T41S/T40P/T40G/T29G/T27P/T27G/T23P/T23G/T21(P) E2 IP phones:** **0**-Disabled (power LED indicator does not flash) **1**-Enabled (power LED indicator slowly flashes (1000ms) red) **For T19(P) E2 IP phones:** **0**-Disabled (power LED indicator does not flash) **1**-Enabled (power LED indicator slowly flashes (1000ms) yellow)
Default	1
Web UI	Features->Power LED->MissCall Power Light Flash

Bluetooth

Yealink IP phones support Bluetooth. You can pair and connect a Bluetooth headset or Bluetooth-Enabled mobile phone with the IP phone. After connecting the Bluetooth-Enabled mobile phone, you can choose to synchronize the mobile contacts to the IP phone. It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T42S/T41S/T29G/T27G IP phones. For T54S/T52S IP phones, they can also make and receive mobile calls on IP phone.

Note
To use Bluetooth feature on T48S/T48G/T46S/T46G/T42S/T41S/T29G/T27G phones, make sure the Bluetooth USB dongle is properly connected to the USB port on the back of the IP phones. The Bluetooth dongle should be purchased separately.

Topic

Bluetooth Configuration

Bluetooth Configuration

You can activate or deactivate the Bluetooth mode, and personalize the Bluetooth device name for the IP phone. The pre-configured Bluetooth device name will display in scanning list of other devices. It is helpful for the other Bluetooth devices to identify and pair with your IP phone.

The following table lists the parameters you can use to configure Bluetooth.

Parameter	static.bluetooth.function.enable[1]	<y0000000000xx>.cfg
Description	It enables or disables the Bluetooth feature. **Note**: It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T42S/T41S/T29G/T27G IP phones. For T48G/T48S/T46G/T46S/T42S/T41S/T29G/T27G IP phones, it woks only if "static.usb.power.enable" is set to 1 (Enabled).	

Permitted Values	**0**-Disabled, you are not allowed to trigger Bluetooth mode to on. **1**-Enabled
Default	1
Parameter	features.bluetooth_enable <y0000000000xx>.cfg
Description	It triggers the Bluetooth mode to on or off. **Note**: It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T42S/T41S/T29G/T27G IP phones. It works only if "static.bluetooth.function.enable" is set to 1 (Enabled).
Permitted Values	**0**-Off **1**-On
Default	0
Web UI	Features->Bluetooth->Bluetooth Active
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Basic->Bluetooth->Bluetooth T42S/T41S/T27G: Menu->Settings->Basic Settings->Bluetooth
Parameter	features.bluetooth_adapter_name <y0000000000xx>.cfg
Description	It configures the Bluetooth device name. **Note**: It works only if "features.bluetooth_enable" is set to 1 (On). It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T42S/T41S/T29G/T27G IP phones.
Permitted Values	String within 64 characters
Default	For T54S IP phones: Yealink T54S. For T52S IP phones: Yealink T52S. For T48G IP phones: Yealink T48G. For T48S IP phones: Yealink T48S. For T46G IP phones: Yealink T46G. For T46S IP phones: Yealink T46S. For T42S IP phones: Yealink T42S. For T41S IP phones: Yealink T41S. For T27G IP phones: Yealink T27G. For T29G IP phones: Yealink T29G.
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Basic->Bluetooth->Bluetooth (On)->Edit My Device Information->Device Name

	T42S/T41S/T27G:
	Menu->Settings->Basic Settings->Bluetooth->Bluetooth (On)->Edit My Device Information->Device Name

[1]If you change this parameter, the IP phone will reboot to make the change take effect.

Handset/Headset/Speakerphone Mode

Yealink IP phones support three ways to place/answer a call: using the handset, using the headset or using the speakerphone. You can disable the infrequently used audio device as required.

Topic

Handset/Headset/Speakerphone Mode Configuration

Handset/Headset/Speakerphone Mode Configuration

The following table lists the parameters you can use to configure handset/headset/speakerphone mode.

Parameter	features.speaker_mode.enable	<y0000000000xx>.cfg
Description	It enables or disables the phone's speakerphone mode.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Parameter	features.handset_mode.enable	<y0000000000xx>.cfg
Description	It enables or disables the phone's handset mode	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Parameter	features.group_listen_in_talking_enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to enter into the group listening mode by pressing the Speakerphone key when you first answer the call using the handset. **Note**: The audio is sent only through the handset. So you are able to speak and listen through the handset, but you can only listen through the speaker.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Parameter	features.headset_mode.enable	<y0000000000xx>.cfg

Description	It enables or disables the phone's headset mode.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Parameter	phone_setting.headsetkey_mode	\<y0000000000xx\>.cfg
Description	It configures headset mode precedence during a call.	
Permitted Values	**0**-Always use (pressing the Speakerphone key and picking up the handset are not effective when the headset mode is activated) **1**-Use as normal	
Default	1	

DSS Keys

There are three kinds of DSS keys: Line Keys, Programmable Keys and Ext Keys. You can assign various functions to DSS keys. This section explains how to set these keys.

Line key is not applicable to T19(P) E2 IP phones, ext key is only applicable to expansion modules connected to T54S/T52S/T48S/T48G/T46S/T46G/T29G/T27P/T27G IP phones.

Note
If the phone is downgraded to an earlier firmware from firmware version 83, the DSS key configuration will be reset after downgrading.

Topics

Supported DSS Keys

Supported Dsskey Types

Line Keys

Programmable Keys

Ext Keys

Supported DSS Keys

The following table lists the number of DSS keys you can configure for each phone model:

Phone Model	Line Keys	Programmable Keys	Ext Keys
T54S	27	15	60
T52S	21	13	60
T48G/S	29	15	40

Phone Model	Line Keys	Programmable Keys	Ext Keys
T46G/S	27	15	40
T42G/S	15	13	/
T41P/S	15	13	/
T40P/G	3	13	/
T29G	27	16	39
T27P/G	21	16	39
T23P/G	3	13	/
T21(P) E2	2	13	/
T19(P) E2	/	13	/

Supported Dsskey Types

The supported Dsskey functiaon types vary by line keys, programmable keys and Ext keys.

ID	DSS Key Types	ID	DSS Key Types	ID	DSS Key Types
0	N/A	17	URL (Line key/Ext key)	39	BLF List (Line key/Ext key)
1	Conference (Line key/Ext key)	18	Group Listening (Line key/Ext key)	40	Prefix
2	Forward	20	Private Hold (Line key/Ext key)	41	Zero Touch
3	Transfer (Line key/Ext key)	22	XML Group	42	ACD (Line key/Ext key)
4	Hold (Line key/Ext key)	23	Group Pickup	43	Local Directory/Local Phonebook (Programmable key)
5	DND	24	Paging	45	Local Group
7	ReCall	25	Record	47	XML Directory/ XML Phonebook (Programmable key)
8	SMS	27	XML Browser	50	Phone Lock
9	Pick up	28	History	51	Switch Account Up (Programmable key)
10	Call Park	30	Menu	52	Switch Account Down

ID	DSS Key Types (Line key/Ext key)	ID	DSS Key Types (Programmable key)	ID	DSS Key Types (Programmable key)
11	DTMF (Line key/Ext key)	32	New SMS (Programmable key)	56	Retrieve Park (Line key/Ext key)
12	Voice Mail (Line key/Ext key)	33	Status (Programmable key)	61	Directory
13	Speed Dial	34	Hot Desking	66	Paging List
14	Intercom	35	URL Record (Line key/Ext key)	73	Custom Key (Line key/Ext key)
15	Line (Line key/Ext key)	37	Switch (Ext key)	77	Mobile Account (Line key/Ext key)
16	BLF (Line key/Ext key)	38	LDAP (Line key/Ext key)		

Line Keys

Line keys provide one-touch feature (for example, one-touch park). This allows you to quickly access features and view the monitored status when the line keys are assigned with particular features (for example, BLF).

Topics

Line Keys Configuration

Example: Setting a Line Key as Park/Retrieve Key

Example: Setting a Line Key as Directed Pickup key

Example: Setting a Line Key as Group Pickup key

Example: Setting a Line Key as Forward Key

Example: Setting a Line Key as BLF List key

Example: Setting a Line Key as Private Hold key

Example: Setting a Line Key as Multicast Paging key

Line Keys Configuration

The following table lists the parameters you can use to configure line keys.

Parameter	linekey.type_range.custom	<y0000000000xx>.cfg
Description	It configures the list for available line key types when configuring line keys. To assign function types, specify line key type IDs which start with or without a symbol "+". For example, "+2,15,16,7,4" or "2,15,16,7,4" means only "N/A", "Forward",	

	"Line", "BLF", "ReCall", "Hold" types are available when you configure line keys. To remove a function type, specify line key type IDs which start with symbol "-". For example, "-14, 5, 2" means to remove "Intercom", "DND", "Forward" types from the line key types list. These line key types are not available when you configure line keys. **Note:** Multiple line key type IDs are separated by commas. "N/A" type is always kept.
Permitted Values	blank or 0 (all valid function types are available); line key type IDs. For supported line key types and IDs, refer to Supported Dsskey Types.
Default	Blank

Parameter	linekey.X.type[1]	<y0000000000xx>.cfg

Description	It configures key feature. **Note**: It is not applicable to T19(P) E2 IP phones.

Permitted Values	**0**-N/A **1**-Conference **2**-Forward **3**-Transfer **4**-Hold **5**-DND **7**-ReCall **8**-SMS **9**-Pick up **10**-Call Park **11**-DTMF **12**-Voice Mail **13**-Speed Dial **14**-Intercom	**15**-Line **16**-BLF **17**-URL **18**-Group Listening **20**-Private Hold **22**-XML Group **23**-Group Pickup **24**-Paging **25**-Record **27**-XML Browser **34**-Hot Desking **35**-URL Record	**38**-LDAP (only appear when "ldap.enable=1") **39**-BLF List **40**-Prefix **41**-Zero Touch **42**-ACD **45**-Local Group **50**-Phone Lock **56**-Retrieve Park **61**-Directory **66**-Paging List **73**-Custom Key (only available when "features.enhanced_dss_keys.enable=1") **77**-Mobile Account (only applicable to T52S/T54S IP phones when the Bluetooth-Enabled mobile phone is connected)
	Note: The permitted values are configurable by "linekey.type_range.custom".		

Default	15	T54S/T48S/T48G/T46S/T46G/T29G: X= 1-16; T52S/T42S/T42G: X = 1-12; T41S/T41P/T27P/T27G: X = 1-6; T40P/T40G/T23P/T23G/T21(P) E2: all line keys.
	0	other line keys

Web UI	Dsskey->Line Key->Line KeyX->Type

Phone UI	Menu->Features->DSS Keys->Line Key X->Type
Parameter	linekey.X.line[1] <y0000000000xx>.cfg
Description	It configures the desired line to apply the line key feature. **Note**: You do not need to configure this parameter when "linekey.X.type" is set to 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 17, 18, 20, 22, 24, 25, 27, 34, 35, 38, 39, 40, 41, 42, 45, 50, 61, 66 or 73". It is not applicable to T19(P) E2 IP phones.
Permitted Values	T54S/T48S/T48G/T46S/T46G/T29G: 1-16; T52S/T42S/T42G: 1-12; T41S/T41P/T27P/T27G: 1-6; T40P/T40G/T23P/T23G: 1-3 T21(P) E2: 1-2
Default	1
Web UI	Dsskey->Line Key->Line KeyX->Line
Phone UI	Menu->Features->DSS Keys->Line Key X->Account ID
Parameter	linekey.X.value[1] <y0000000000xx>.cfg
Description	It configures the value for some line key features. For example, When you assign the Speed Dial to the line key, this parameter is used to specify the number you want to dial out. **Note**: You do not need to configure this parameter when "linekey.X.type" is set to 4, 5, 7, 8, 18, 20, 22, 25, 34, 38, 39, 41, 42, 45, 50, 61 or 66. It is not applicable to T19(P) E2 IP phones.
Permitted Values	String within 99 characters
Default	Blank
Web UI	Dsskey->Line Key->Line KeyX->Value
Phone UI	Menu->Features->DSS Keys->Line Key X->Value
Parameter	linekey.X.label[1] <y0000000000xx>.cfg
Description	It configures the label displayed on the LCD screen. This is an optional configuration. **Note**: It is not applicable to T19(P) E2 IP phones.
Permitted Values	String within 99 characters
Default	Blank
Web UI	Dsskey->Line Key->Line KeyX->Label

Phone UI	Menu->Features->DSS Keys->Line Key X->Label
Parameter	linekey.X.shortlabel[1] <y0000000000xx>.cfg
Description	It configures the short label displayed on the LCD screen. **Note**: It is only applicable to T52S IP phones.
Permitted Values	String within 99 characters
Default	Blank
Web UI	Dsskey->Line Key->Line KeyX->Short
Phone UI	It configures the short label displayed on the LCD screen. **Note**: It is only applicable to T52S IP phones.
Parameter	linekey.X.extension[1] <y0000000000xx>.cfg
Description	For multicast paging: It configures the channel of multicast paging group. For BLF/BLF list/intercom feature: It configures the pickup code. **Note**: It is only applicable when "linekey.X.type" is set to 14, 16, 24 or 39. It is not applicable to T19(P) E2 IP phones.
Permitted Values	For multicast paging: 0 to 31 For BLF/BLF list/intercom feature: String within 256 characters
Default	Blank
Web UI	Dsskey->Line Key->Line KeyX->Extension
Phone UI	Menu->Features->DSS Keys->Line Key X->Channel or Menu->Features->DSS Keys->Line Key X->PIN/ID or Menu->Features->DSS Keys->Line Key X->Extension
Parameter	linekey.X.xml_phonebook[1] <y0000000000xx>.cfg
Description	It specifies a specific group/phone book when multiple groups/phone books are configured on the IP phone. For example, Remote Phone Book 1 "Sell" and Remote Phone Book 2 "Market" are configured on the phone, you can configure "linekey.X.xml_phonebook = 0" to specify the Remote Phone Book 1 "Sell" for the specific line key. The user can press this line key to access the Remote Phone Book 1 "Sell". **Note**: It is only applicable when "linekey.X.type" is set to 22 or 45. It is not applicable to T19(P) E2 IP phones.

Permitted Values	Interger from 0 to 48	
Default	0	
Web UI	Dsskey->Line Key->Line KeyX->Line	
Parameter	features.flash_url_dsskey_led.enable	<y0000000000xx>.cfg
Description	It enables or disables the LED indicator of the URL DSS key. The LED indicator behavior depends on the response message from the server when you press the URL DSS key on the phone. **Note**: It is not applicable to T19(P) E2 IP phones.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Parameter	features.block_linekey_in_menu.enable	<y0000000000xx>.cfg
Description	It enables or disables the phone to prevent user from using line keys when browsing the menu. **Note**: It is not applicable to T48S/T48G/T19(P) E2 IP phones.	
Permitted Values	**0**-Disabled **1**-Enabled, it prevents user from using line keys.	
Default	0	

[1]]X is the line key ID. For T48G/T48S, X=1-29; for T54S/T46G/T46S/T29G, X=1-27; for T52S/T27P/T27G, X=1-21; for T42G/T42S/T41P/T41S, X=1-15; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2.

Example: Setting a Line Key as Park/Retrieve Key

The following examples show configuration for a Park key and a Retrieve key:

Example1: Set a Park/Retrieve Key for FAC Call Park Mode

Example2: Set a Park/Retrieve Key for Transfer Call Park Mode

Example1: Set a Park/Retrieve Key for FAC Call Park Mode

Scenario Conditions	Related Topic
*features.call_park.park_code = *68*	
*features.call_park.park_retrieve_code = *88*	Call Park and Retrieve
features.call_park.park_mode = 1	

Example

######Set a Park key######

linekey.1.type = 10

linekey.1.value = 4603

linekey.1.label = Bill

######Set a Retrieve key####

linekey.3.type = 56

linekey.3.line = 1

linekey.3.value = 4603

linekey.3.label = Retrieve Bill

After provisioning, you can easily press the Park key (line key 1) to park a call to a specific extension (4603) during a call, and press the Retrieve key (line key 3) to retrieve the parked call from the specific extension (4603) when the phone is idle.

If the "*linekey.1.value*" is set to blank, the park key will perform as the **Park** soft key.

Note
In FAC call park mode, the Park/Retrieve key invokes the call park code/park retrieve code by default. Therefore, the IP phone dials out *684603 to park a call, and dials out *884603 to retrieve a call. If these codes are not set, you can assign code and extension to "*linekey.X.value*", for example, "*684603".

Example2: Set a Park/Retrieve Key for Transfer Call Park Mode

Scenario Conditions	Related Topic
features.call_park.park_mode = 2	Call Park and Retrieve
features.call_park.line_restriction.enable = 1	

Example

######Set a Park key######

linekey.1.type = 10

*linekey.1.value = *01*

linekey.1.line = 1

linekey.1.label = Bill

######Set a Retrieve key####

linekey.3.type = 56

linekey.3.line = 1

*linekey.3.value = *11*

linekey.3.label = Retrieve Bill

After provisioning, you can easily press the Park key (line key 1) to park a call to the specific shared parking lot (*01) during a call, and press the Retrieve key (line key 3) to retrieve the parked call from the shared parking lot (*01) using the retrieve code (*11). You can only perform call park feature on the

specific line (line 1).

If the "*features.call_park.line_restriction.enable*" is set to 0 (Disabled), the IP phone will park/retrieve the call to the server on the current line in use.

Note
In Transfer call park mode, if you press the Park key when the phone is idle, the Park key will invoke the call park code. Therefore, you can use a Park key to park and retrieve a call. In this case, you need to assign the park retrieve code (*11) to "*features.call_park.park_code*". When you press the Park key again on idle screen, the IP phone will dial out "*11*01" to retrieve the parked call.

Example: Setting a Line Key as Directed Pickup key

Scenario Conditions	Related Topic
*account.1.direct_pickup_code = *97* or *features.pickup.direct_pickup_code = *97*	Directed Call Pickup

Example

> *linekey.1.type = 9*
>
> *linekey.1.line = 1*
>
> *linekey.1.value= 4603*
>
> *linekey.1.label=Bill*

After provisioning, you can easily press the Directed Pickup key (line key 1) to pick up an incoming call to a specific phone (4603).

Note
The Directed Pickup key invokes the directed pickup code by default. Therefore, the IP phone dials out *974603 to pick up a call. If the directed code is not set, you can assign code and extension to "*linekey.X.value*", for example, "*974603".

Example: Setting a Line Key as Group Pickup key

The following example shows configuration for a Group Pickup key.

Example

> *linekey.1.type = 23*
>
> *linekey.1.line = 1*
>
> *linekey.1.value = *98*
>
> *linekey.1.label = Sell*

After provisioning, you can easily press the Group Pickup key (line key 1) to pick up an incoming call to any phone within a predefined group of phones.

Note

If the "*linekey.X.value*" is not assigned with a group pickup code, the Park key will invoke the group pickup code set by "*features.pickup.group_pickup_code*" or "*account.X.group_pickup_code*".

Example: Setting a Line Key as Forward Key

When the phone receives an incoming call, you can press a Forward key to forward the incoming call to the preset number.

When the phone is idle, the key behavior depends on the forward modes:

Forward Modes	Key Behavior
Phone Mode	**Destination number is configured:** Press the Forward key to activate/deactivate the always forward feature or switch the target among Forward keys. **Destination number is blank:** Press the Forward key to enter the forward setting screen or activate/deactivate the forward feature (if forward has been configured from the Call Forward menu).
Custom Mode	Press the Forward key to enter the forward setting screen.

The following example shows configuration for Forward keys.

Scenario Conditions	Related Topic
features.fwd.allow = 1	Call Forward
features.fwd_mode = 0	
forward.idle_access_always_fwd.enable = 0	

Example

######Set a Forward key for Bill######

  linekey.1.type = 2

  linekey.1.line = 1

  linekey.1.value = 4603

  linekey.1.label = Bill

######Set a Forward key for Tom######

  linekey.2.type = 2

  linekey.2.line = 1

  linekey.2.value = 4605

  linekey.2.label = Tom

After provisioning, you can easily press the Forward key (line key 1 or line key 2) to activate/deactivate the always forward feature. For example, after pressing line key 1 to activate always forward and forward

all calls to Bill (4603), you can press the line key 1 to deactivate always forward, or press line key 2 to switch the forward target and forward all calls to Tom (4605).

Example: Setting a Line Key as BLF List key

The following example shows configuration for a BLF List key.

Scenario Conditions	Related Topic
phone_setting.auto_blf_list_enable = 0	BLF List Configuration

Example

> *linekey.1.type = 39*
>
> *linekey.1.line = 1*

After provisioning, a BLF List key displays on line key 1. You can easily use this key to monitor a remote line. The monitored line depends on a pre-configured SIP server.

Example: Setting a Line Key as Private Hold key

The following example shows configuration for a Private Hold key.

Example

> *linekey.1.type = 20*
>
> *linekey.1.label = Private Hold*

After provisioning, you can press the line key 1 to hold calls without notifying other phones registered with the shared line, the shared line displays active to others shared line. It is only applicable to Shared Line Appearance.

Example: Setting a Line Key as Multicast Paging key

The following example shows configuration for a Multicast Paging key.

Example

> *linekey.1.type = 24*
>
> *linekey.1.value = 224.5.6.20:10008*
>
> *linekey.1.label = Sales*
>
> *linekey.1.extension = 2*

After provision, you can press the line key 1 to send announcements quickly to the Sales group.

Programmable Keys

You can customize the programmable keys, including soft keys, navigation keys and function keys. This feature is typically used to access frequently-used functions, to create menu shortcuts to frequently-used phone settings; or, if your phone does not have a particular hard key, you can create a soft key. For example, if the phone does not have a Do Not Disturb hard key, you can create a Do Not Disturb soft key.

The programmable key takes effect only when the IP phone is idle.

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Supported Programmable Keys

The following tables list programmable keys for each phone model.

Phone Module Programmable Key IDs	T19(P) E2	T23P/T23G /T21(P) E2	T29G/T27P /T27G	T52S/T42G/T42S /T41P/T41S /T40P/T40G	T54S/T48G /T48S/T46G /T46S
1	SoftKey1	SoftKey1	SoftKey1	SoftKey1	SoftKey1
2	SoftKey2	SoftKey2	SoftKey2	SoftKey2	SoftKey2
3	SoftKey3	SoftKey3	SoftKey3	SoftKey3	SoftKey3
4	SoftKey4	SoftKey4	SoftKey4	SoftKey4	SoftKey4
5	Up	Up	Up	Up	Up
6	Down	Down	Down	Down	Down
7	Left	Left	Left	Left	Left
8	Right	Right	Right	Right	Right
9	OK	OK	OK	OK	OK
10		Cancel	Cancel	Cancel	Cancel
11			CONF		
12			HOLD		HOLD
13	MUTE		MUTE	MUTE	MUTE
14	TRAN	TRAN	TRAN		TRAN
17	Redial	Redial	Redial	Redial	Redial
18	Message	Message	Message	Message	Message

Programmable Keys Configuration

For T23P/T23G/T21(P) E2 IP phones, Cancel key can be configured only when "*features.keep_mute.enable*" is set to 0 (Disabled).

For T54S/T52S/T48S/T48G/T46S/T46G/T42G/T42S/T41P/T41S/T40P/T40G/T29G/T27P/T27G/T19(P) E2 IP phones, Mute key can be configured only when "features.keep_mute.enable" is set to 0 (Disabled).

The following table lists the parameters you can use to configure programmable keys.

Parameter	programablekey.type_range.custom		<y0000000000xx>.cfg
Description	It configures the list for available programmable key types when configuring programmable keys. To assign function types, specify programmable key type IDs which start with or without a symbol "+". For example, "+2,15,16,7,4" or "2,15,16,7,4" means only "N/A", "Forward", "Line", "BLF", "ReCall", "Hold" types are available when you configure programmable keys. To remove a function type, specify programmable key type IDs which start with symbol "-". For example, "-14, 5, 2" means to remove "Intercom", "DND", "Forward" types from the Dsskey function types list. These programmable key types are not available when you configure programmable keys. **Note:** Multiple programmable key type IDs are separated by commas. "N/A" type is always kept.		
Permitted Values	blank or 0 (all valid function types are available); Dsskey type IDs. For supported Dsskey types and IDs, refer to Supported Dsskey Types.		
Default	Blank		
Parameter	programablekey.X.type[1]		<y0000000000xx>.cfg
Description	It configures key feature for a specific programmable key.		
Permitted Values	**0**-N/A **2**-Forward **5**-DND **7**-ReCall **8**-SMS **9**-Pick up **13**-Speed Dial **14**-Intercom **22**-XML Group **23**-Group Pickup **24**-Multicast Paging (Paging)	**27**-XML Browser **28**-History **30**-Menu **32**-New SMS **33**-Status **34**-Hot Desking **38**-LDAP (only appear when "ldap.enable = 1" **40**-Prefix (only applicable to soft keys 1-4) **41**-Zero Touch	**43**-Local Directory (Local Phonebook) **45**-Local Group **47**-XML Directory (XML Phonebook) **50**-Phone Lock **51**-Switch Account Up (not applicable to T19(P) E2 IP phones) **52**-Switch Account Down (not applicable to T19(P) E2 IP phones) **61**-Directory **66**-Paging List **73**-Custom Key (only appear when "features.enhanced_dss_keys.enable = 1") **85**-Favorite (Local Favorite)
	Note: The permitted values are configurable by "programablekey.type_range.custom".		
Default	X=1, default: 28 - History X=2, default: 61 - Directory	X=9, default: 33- Status X=10, default: 0 - NA	

	X=3, default: 5 – DND	X =11, default: 0 – NA
	X=4, default: 30 - Menu	X=12, default: 0 - NA
	X=5, default: 28- History	X=13, default: 0 – NA
	X=6, default: 61- Directory	X=14, default: 2- Forward
	X=7, default: 51- Switch Account Up	X=17, default: 0 – NA
	X=8, default: 52- Switch Account Down	X=18, default: 0 – NA
Web UI	Dsskey->Programmable Key->Type	
Parameter	programablekey.X.history_type[1]	<y0000000000xx>.cfg
Description	It configures the history type of programmable key. For more information, refer to Programmable Key sheet.	
Permitted Values	**0**-Local History **1**-Network History	
Default	0	
Web UI	Dsskey->Programmable Key->Line	
Parameter	programablekey.X.line[1]	<y0000000000xx>.cfg
Description	It configures the desired line to apply the programmable key feature. **Note**: It is not applicable to T19(P) E2 IP phones.	
Permitted Values	T48G/T48S/T54S/T46G/T46S/T29G: 1-16; T52S/T42S/T42G: 1-12; T41S/T41P/T27P/T27G: 1-6; T40P/T40G/T23P/T23G: 1-3 T21(P) E2: 1-2	
Default	1	
Web UI	Dsskey>Programmable Key->Line	
Parameter	programablekey.X.value[1]	<y0000000000xx>.cfg
Description	It configures the value for some programmable key features. **Note**: You need to configure this parameter when "programablekey.X.type" is set to 2, 9, 13, 14, 23, 24, 27, 40 or 73.	
Permitted Values	String within 99 characters	
Default	Blank	
Web UI	Dsskey->Programmable Key->Value	
Parameter	programablekey.X.label[1]	<y0000000000xx>.cfg

	(X=1-4)	
Description	It configures the label displayed on the LCD screen for a specific programmable key. This is an optional configuration.	
Permitted Values	String within 99 characters	
Default	Blank	
Web UI	Dsskey->Programmable Key->Label	
Parameter	programablekey.X.extension[1]	<y0000000000xx>.cfg
Description	For multicast paging: It configures the channel of multicast paging group. For intercom feature: It configures the pickup code. **Note**: It is only applicable when "programablekey.X.type" is set to 14 or 24.	
Permitted Values	For multicast paging: 0 to 31 For intercom feature: String within 256 characters	
Default	0	
Web UI	Dsskey->Programmable Key->Extension	
Parameter	programablekey.X.xml_phonebook[1]	<y0000000000xx>.cfg
Description	It specifies a specific group/phone book when multiple groups/phone books are configured on the IP phone. For, example, Remote Phone Book 1 "Sell" and Remote Phone Book 2 "Market" are configured on the phone, you can configure "programablekey.X.xml_phonebook = 0" to specify the Remote Phone Book 1 "Sell" for the specific programmable key. The user can press this line key to access the Remote Phone Book 1 "Sell". **Note**: It is only applicable when "programablekey.X.type" is set to 22 or 45.	
Permitted Values	Interger from 0 to 48	
Default	0	
Web UI	Dsskey->Programmable Key->Line	

[1]]X is the programmable key ID. For T54S/T48S/T48G/T46S/T46G, X=1-10, 12-14, 17-18; for T52S/T42G/T42S/T41P/T41S/T40P/T40G, X=1-10, 13, 17-18; for T29G/T27P/T27G, X=1-14, 17-18; for T23P/T23G/T21(P) E2, X=1-10, 14, 17-18; for T19(P) E2, X=1-9, 13, 14, 17-18.

Ext Keys

The ext keys take effect only if the expansion module is connected to the IP phone.

It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G/T27P/T27G IP phones.

Topic

Ext Keys Configuration

Ext Keys Configuration

The following table lists the parameters you can use to configure ext keys.

Parameter	expkey.type_range.custom	<y0000000000xx>.cfg
Description	It configures the list for available ext key types list when configuring ext keys. To assign function types, specify ext key type IDs which start with or without a symbol "+". For example, "+2,15,16,7,4" or "2,15,16,7,4" means only "N/A", "Forward", "Line", "BLF", "ReCall", "Hold" types are available when you configure ext keys. To remove a function type, specify ext key type IDs which start with symbol "-". For example, "-14, 5, 2" means to remove "Intercom", "DND", "Forward" types from the ext key types list. These ext key types are not available when you configure ext keys. **Note:** Multiple ext key type IDs are separated by commas. N/A type is always kept.	
Permitted Values	blank or 0 (all valid function types are available); Dsskey type IDs. For supported Dsskey types and IDs, refer to Supported Dsskey Types.	
Default	Blank	
Parameter	expansion_module.X.key.Y.type[1]	<y0000000000xx>.cfg
Description	It configures the feature for a specific ext key. **Note**: It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G/T27P/T27G IP phones.	
Permitted Values	**0**-N/A **1**-Conference **2**-Forward **3**-Transfer **4**-Hold **5**-DND **7**-ReCall **8**-SMS **9**-Direct Pickup	**15**-Line **16**-BLF **17**-URL **18**-Group Listening **20**-Private Hold **22**-XML Group **23**-Group Pickup **24**-Multicast Paging (Paging)	**37**-Switch (only applicable to ext key 1 for T29G/T27P/T27G IP phones) **38**-LDAP (only appear when "ldap.enable=1") **39**-BLF List **40**-Prefix **41**-Zero Touch **42**-ACD **45**-Local Group

	10-Call Park	**25**-Record	**50**-Phone Lock
	11-DTMF	**27**-XML Browser	**56**-Retrieve Park
	12-Voice Mail	**34**-Hot Desking	**61**-Directory
	13-Speed Dial	**35**-URL Record	**66**-Paging List
	14-Intercom		**73**-Custom Key (only available when "features.enhanced_dss_keys.enable=1")
			77-Mobile Account (only available to T52S/T54S IP phones when the Bluetooth-Enabled mobile phone is connected)
	Note: The permitted values are configurable by "expkey.type_range.custom".		
Default	Y = 1-40 or 1-60, default: 0 – NA Y=1 or 21, default: 37 – Switch, only for T29G/T27P/T27G Y=2-20, 22-40, default: 0 – NA, only for T29G/T27P/T27G		
Web UI	Dsskey->Ext Key->Type		
Parameter	expansion_module.X.key.Y.line[1]		<y0000000000xx>.cfg
Description	It configures the desired line to apply the ext key feature. **Note**: It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G/T27P/T27G IP phones.		
Permitted Values	T48G/T48S/T54S/T46G/T46S/T29G: 1-16; T52S/T42S/T42G: 1-12; T41S/T41P/T27P/T27G: 1-6; T40P/T40G/T23P/T23G: 1-3; T21(P) E2: 1-2.		
Default	1		
Web UI	Dsskey->Ext Key->Line		
Parameter	expansion_module.X.key.Y.value[1]		<y0000000000xx>.cfg
Description	It configures the value for some ext key features. **Note**: You do not need to configure this parameter when "linekey.X.type" is set to 4, 5, 7, 8, 18, 20, 22, 25, 34, 37, 38, 39, 41, 42, 45, 50, 61 or 66. It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G/T27P/T27G IP phones.		
Permitted Values	String within 99 characters		
Default	Blank		
Web UI	Dsskey->Ext Key->Value		

Parameter	expansion_module.X.key.Y.label[1]	<y0000000000xx>.cfg
Description	It configures the label displayed on the LCD screen for a specific programmable key. This is an optional configuration. **Note**: It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G/T27P/T27G IP phones.	
Permitted Values	String within 99 characters	
Default	Blank	
Web UI	Dsskey->Ext Key->Label	
Parameter	expansion_module.X.key.Y.extension[1]	<y0000000000xx>.cfg
Description	For multicast paging: It configures the channel of multicast paging group. For BLF/BLF list/intercom feature: It configures the pickup code. **Note**: It is only applicable when "expansion_module.X.key.Y.type" is set to 14, 16, 24 or 39. It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G/T27P/T27G IP phones.	
Permitted Values	For multicast paging: 0 to 31 For BLF/BLF list/intercom feature: String within 256 characters	
Default	0	
Web UI	Dsskey->Ext Key->Extension	
Parameter	expansion_module.X.key.Y.xml_phonebook[1]	<y0000000000xx>.cfg
Description	It specifies a specific group/phone book when multiple groups/phone books are configured on the IP phone. For, example, Remote Phone Book 1 "Sell" and Remote Phone Book 2 "Market" are configured on the phone, you can configure "programablekey.X.xml_phonebook = 0" to specify the Remote Phone Book 1 "Sell" for the specific ext key. The user can press this line key to access the Remote Phone Book 1 "Sell". **Note**: It is only applicable when "expansion_module.X.key.Y.type" is set to 22 or 45. It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G/T27P/T27G IP phones.	
Permitted Values	Interger from 0 to 48	
Default	0	

Web UI	Dsskey->Ext Key->Ext KeyX->Line

[1]]X is the expansion module ID, Y is the EXT key ID. For T54S/T52S, X=1-3, Y=1-60; for T48S/T48G/T46S/T46G, X=1-6, Y=1-40; for T29G/T27P/T27G, X=1-6, Y=1-20, 22-40.

Enhanced DSS Keys

Enhanced DSS Keys (EDK) enables users to customize the functions of a phone's DSS keys. You can use EDK to assign frequently-used function to DSS keys or to create menu shortcuts to frequently-used phone settings as need.

Application scenarios involve the following:

- Adding new DSS keys to simplify the operation of common telephony tasks that may need more than one key press with the default configuration.

- Removing certain default DSS keys for the functions that may be redundant or never used.

The rules for configuring EDK for DSS keys are different. Before using EDK, you are advised to become familiar with the macro language.

For more information on Enhanced DSS Keys, refer to Using Enhanced DSS Keys on Yealink IP Phones.

Topics

Some Guidelines for Configuring Enhanced DSS Keys

Macro Action Strings

EDK Configuration

EDK List Configuration

EDK Prompt Configuration

EDK Soft Keys Configuration

Example: Configuring EDK List for a Line Key

Some Guidelines for Configuring Enhanced DSS Keys

The following guidelines will help you to configure EDK efficiently:

- Activation of EDK functions requires valid macro construction.

- "$" character delimits the parts of the macro string (except the digits only) and it must exist in pairs. For more information, refer to Macro Action Strings.

- Macros can be invoked in the format "!<macro name>", where *<macro name>* is defined by the parameter "edk.edklist.X.mname".

- If there are two or more same macros, the soft key or DSS key will invoke the macro with a smallest value of X defined by the parameter "*edk.edklist.X.mname*".

Macro Action Strings

Before using EDK, you must be familiar with macro language shown in this section.

The following table shows the basic macro action string syntax when creating EDK macros:

Macro Action	Description
Digits	The digits to be sent. You can use only *, #, +, 0-9. The appearance of this parameter depends on the action string. **Example:** *981135.
$C<command>$	This is the command. It can appear anywhere in the action string. Supported commands (or shortcuts) include: ● hang up (hu) ● hold (h) ● waitconnect (wc) ● pause <number of seconds> (p <num sec>) where the maximum value is 10 **Example:** 4411$Cwc$$Cp10$ defines dialing 4411>>waitconnect>>connected and lasts 10 seconds.
$T<type>$	The embedded action type. Multiple actions can be defined. Supported action types include: ● invite ● dtmf ● refer ● intercom **Example:** *338$Tdtmf$ defines sending the *338 by the type of dtmf. **Note**: We recommend that you always define this field. If it is not defined, the supplied digits are dialed using INVITE.
$M<macro>$	The embedded macro. The <macro> string must begin with a letter. If the macro name is not defined, the execution of the action string will be ignored. **Example:** MAA means invoking the EDK macro AA.
$S<softkey ID>$	The functionality of performing this action is the same as that of pressing the desired soft key. Each soft key has a unique identifier on the IP phone, you

Macro Action	Description
	can configure this parameter according to the system-defined softkey ID. If the softkey ID is not defined on the phone or there is no matched soft key on the current screen, the execution of the action string will be ignored. The softkey ID is case-insensitive.
	Example: $Sanswer$ means pressing the **Answer** soft key.
	Yealink IP phones support customizing soft keys. When invoking a custom soft key, the prefix "#" must be added.
	Example: If the custom softkey label is IVR1, the custom softkey id is custom_macro, then $S#custom_macro$ means pressing the **IVR1** soft key.
	Note: To view the softkey ID, you can set "*features.enhanced_dss_keys.enable*" and "*edk.id_mode.enable*" to 1 (Enabled) and then long press the Volume Up key when the phone is idle.
$K<key name>$	The functionality of performing this action is the same as that of pressing the desired hard key. Supported key names include: • LineKeyX (for T48S/G, X=1-29; for T54S/T46S/T46G/T29G, X=1-27; for T42S/T42G/T41S/T41P, X=1-15; for T52S/T27P/T27G, X=1-21; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2). • SoftKeyX (X ranges from 1 to 4) • ArrowUp • ArrowDown • ArrowLeft • ArrowRight • VolDown • VolUp • Cancel • OK • DialPadX (X ranges from 0 to 9) • DialPadPound • DialPadStar

Macro Action	Description
	● Headset
	● Mute
	● Message
	● Hold
	● Redial
	● Transfer
	● Speaker
	● Conference
	● ExtX@Y (X stands for the serial number of expansion module key, Y stands for the serial number of expansion module; For T48S/T48G/T46S/T46G/T29G: X ranges from 1 to 40, Y ranges from 1 to 6; For T54S/T52S: X ranges from 1 to 60, Y ranges from 1 to 3; @Y can be omitted if there is only one expansion module connected to the phone.)
	● Menu (You can enter menu by executing this command at any interface except the non-executable situations. For example, entering menu is blocked during an active call.)
	● Home (You can return back to idle screen by executing this command at dialing screen for T48S/G IP phones)
	Example: $KDialPadPound$ means pressing the pound key.
	Note: If a key (for example, Redial key) is not found but the function is available, perform the corresponding action. If a key is not found and the function is unavailable, the execution of the action string will be ignored.
$I<menu item ID>$	The action to position and enter the desired menu item. Each menu item has a unique identifier on the IP phone, you can configure this parameter according to the system-defined menu item ID. If the menu item ID is not defined on the phone or there is no matched menu item on the current screen, the execution of the action string will be ignored. The menu item ID is case-insensitive.
	Example: $Istatus_list& means entering the Status menu.
	Note: To view the menu item ID, you can set

Macro Action	Description
	"*edk.id_mode.enable*" to 1 (Enabled) and then long press the Volume Up key when the phone is idle.
$P<label>&C<characters number allowed>&N&M$	The user input prompt string. Enable to prompt the pop-up box, specify the label for the input box, specify the maximum input characters, specify the character type for the input box, and specify whether to mask the input by the "*". "label" means the specified label for pop-up box. "characters number allowed" defines the maximum number of input characters. If &N is included, the character type is Number (default input method: 123). If &N is not included, the character type is Text (default input method: abc), you can manually change input method. If &M is included, the input are masked by the "*". **Example:** $PEnter name&C3&N&M means prompting an Enter name pop-up box, the maximum number of input characters is 3, the input type is Number, and the input is masked by the "*".
$P<EDK prompt X>N<characters number allowed>$	This is a macro substitution string. "EDK prompt X" means which EDK prompt is invoked. It indicates the X defined by "*edk.edkprompt.X.enable*". "*characters number allowed*" defines the maximum number of input characters. You need to press the **Enter** soft key to complete data entry. **Example:** $P2N5$ means invoking the EDK prompt 2 and inputting 5 characters at most. **Note**: For more information on EDK prompt, refer to EDK Prompt Configuration.
$L<label>$	This is the label for the entire operation. The value can be any string including the null string (in this case, no label displays). This label is used if no label is configured for a custom key DSS key or soft key, otherwise this one is ignored. Make this the first entry in the action string. **Example:** $LEDK2$1234$Tinvite$ defines calling out the number 1234 and using the label "EDK2" for a Custom Key DSS key or soft key.

Macro Action	Description
$LED<color and time>&L<label>$ (not applicable to T19(P) E2 IP phones)	The status of the BLF/BLF list DSS key LED. Enable to specify the LED color for the BLF/BLF list DSS key, and specify the duration time (in milliseconds) for the corresponding status of the BLF/BLF list DSS key. The valid value of the duration time ranges from 100 to 60000ms. Can be composed of multiple combination of "color" and "time". The status will be stuck in an infinite loop until triggered by other macros. Supported colors include (must be lowercase): ● r (red) ● ri (red; red with incoming mark for T48S/G) ● ro (red; red with outgoing mark for T48S/G) ● g (green) ● gi (green; green with incoming mark for T48S/G) ● go (green; green with outgoing mark for T48S/G) ● o (off) &L<label> (Optional.): You have to put the "&L<label>" last in the command flow. **Example:** $LEDg1000o100r300&Lidle$ means an infinite loop for BLF/BLF list DSS key LED status: glow green for 1000ms, be in the off state for 100ms and then glow red for 300ms. At the same time, the label of the BLF/BLF list DSS key is changed to "idle". **Note**: The last "color" can be configured without "time", and it means permanently displaying the last color until triggered by other macros. This macro can be only used for BLF/BLF list feature. For more information, refer to BLF/BLF List Key LED Status and Behavior Configuration.

EDK Configuration

To configure EDK list, EDK prompt, EDK soft keys and custom DSS keys, you have to enable EDK feature. By default, the EDK feature is disabled.

Yealink IP phones support displaying the softkey ID or menu item ID by long pressing the Volume Up key. It is especially useful for those users who need to view the softkey ID or menu item ID when configuring EDK macros.

The following graphic shows an example for displaying the softkey ID and menu item ID after accessing the menu of T46S/G IP phones:

The following table lists the parameters you can use to configure EDK.

Parameter	features.enhanced_dss_keys.enable	<y0000000000xx>.cfg
Description	It enables or disables the Enhanced DSS Keys (EDK) feature.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Parameter	edk.id_mode.enable	<y0000000000xx>.cfg
Description	It enables or disables to view the softkey or menu item ID by long pressing the Volume Up key for three seconds on any screen. **Note**: The menu item id displays on the status bar of the phone. Long pressing the Volume Up key again for three seconds to exit. It works only if "features.enhanced_dss_keys.enable" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	

EDK List Configuration

Using the Enhanced DSS Keys (EDK) List parameters to define a macro is useful when defining more than one soft key or DSS key.

The following table lists the parameters you can use to configure EDK list.

Parameter	edk.edklist.X.enable[1]	<y0000000000xx>.cfg
Description	It enables or disables Enhanced DSS Keys (EDK) macro X. **Note**: It works only if "features.enhanced_dss_keys.enable" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled	

Default	0

Parameter	edk.edklist.X.mname[1]	<y0000000000xx>.cfg

Description	It configures the unique identifier used by the soft key or DSS key configuration to reference the enhanced DSS keys entry for macro X. It cannot start with a digit. This parameter must have a value, it cannot be left blank. **Example**: edk.edklist.2.mname = macro2 **Note**: If there are two or more same macros, the soft key or DSS key will invoke the macro with a smallest value of X. It works only if "features.enhanced_dss_keys.enable" is set to 1 (Enabled).

Permitted Values	String

Default	Blank

Parameter	edk.edklist.X.action[1]	<y0000000000xx>.cfg

Description	It configures the action string that contains a macro definition of the action that the softkey or DSS key performs. This parameter must have a value, it cannot be left blank. **Example**: edk.edklist.2.action = 1013$Tinvite$ **Note**: It works only if "features.enhanced_dss_keys.enable" is set to 1 (Enabled).

Permitted Values	String

Default	Blank

[1]X is the macro ID. X=1-255.

EDK Prompt Configuration

The Enhanced DSS Keys (EDK) Prompt parameters must be used if interactivity with user is implemented as part of any macro.

The following table lists the parameters you can use to configure EDK prompt.

Parameter	edk.edkprompt.X.enable[1]	<y0000000000xx>.cfg

Description	It enables or disables Enhanced DSS Keys (EDK) prompt X. **Note**: If a macro attempts to use an EDK prompt that is disabled, the macro execution fails. It works only if "features.enhanced_dss_keys.enable" is set to 1 (Enabled).

Permitted	**0**-Disabled

Values	**1**-Enabled

Default	0

Parameter	edk.edkprompt.X.label[1]	<y0000000000xx>.cfg
Description	It configures the prompt text to be displayed on the Enhanced DSS Keys (EDK) prompt X screen. If it is left blank, no prompt displays. **Example**: edk.edkprompt.1.label = Enter Password **Note**: It works only if the values of the parameters "features.enhanced_dss_keys.enable" and "edk.edkprompt.X.enable" are set to 1 (Enabled).	

Permitted Values	String

Default	Blank

Parameter	edk.edkprompt.X.type[1]	<y0000000000xx>.cfg
Description	It configures the type of characters entered by the user for Enhanced DSS Keys (EDK) prompt X. If it is set to numeric, the default input method is 123, and you can switch to abc/ABC/2aB input method. If it is set to text, the default input method is abc, and you can switch to ABC/2aB/123 input method. **Example**: edk.edkprompt.1.type = numeric **Note**: It works only if the values of the parameters "features.enhanced_dss_keys.enable" and "edk.edkprompt.X.enable" are set to 1 (Enabled).	

Permitted Values	text or numeric

Default	text

Parameter	edk.edkprompt.X.userfeedback[1]	<y0000000000xx>.cfg
Description	It configures the user input feedback method for Enhanced DSS Keys (EDK) prompt X. **Example**: edk.edkprompt.1.userfeedback = masked **Note**: It works only if the values of the parameters "features.enhanced_dss_keys.enable" and "edk.edkprompt.X.enable" are set to 1 (Enabled).	

Permitted Values	**visible**-the entered text is visible.
	masked-the entered text displays as asterisk characters (*). It can be used to mask password fields.
Default	visible

[1]X is the prompt ID. X=1-10.

EDK Soft Keys Configuration

You can customize the soft keys as need. This feature is typically used to access frequently-used functions or to create menu shortcuts to frequently-used phone settings.

Custom soft keys can be added in the following phone states:

- **Idle** - There are no active calls on the phone.

- **Alerting (or ringing)** – There is an incoming call on the phone.

- **Connecting** – There is an outgoing call on the phone. Moreover, the call is connecting.

- **Transfer connecting** – There is a call being transferred to another phone. Moreover, the call is connecting.

- **Talk** – There is an active call on the phone.

- **Call failed** – The outgoing call encounters a failure.

- **Ring back** - There is an outgoing call on the phone. Moreover, the phone is in the ringback state.

- **Transfer ring back** - There is a call being transferred to another phone. Moreover, the phone is in the ringback state.

- **Hold** – The call is placed on hold on the phone.

- **Held** – The call is held.

- **Conference** – The phone sets up a conference call.

- **Dial tone** –The phone is on the dialing screen without entering the number.

- **Dialing** – The phone is on the dialing screen with entering the number but not dialing.

Note
Configuring the custom soft keys may affect the softkey layout in different call states. For more information on softkey layout, refer to Softkey Layout.

The following table lists the parameters you can use to configure EDK soft keys.

Parameter	softkey.X.enable[1]	<y0000000000xx>.cfg
Description	It enables or disables the custom soft key X. **Note**: It works only if "features.enhanced_dss_keys.enable" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled	

Default	0

Parameter	softkey.X.label[1]	<y0000000000xx>.cfg

Description	It configures the text displayed on the soft key label. **Example**: softkey.1.label = IVR1 **Note**: It works only if the values of the parameters "features.enhanced_dss_keys.enable" and "softkey.X.enable" are set to 1 (Enabled).

Permitted Values	String

Default	Blank

Parameter	softkey.X.position[1]	<y0000000000xx>.cfg

Description	It configures the position on the LCD screen for soft key X. **Example**: softkey.1.position = 3 **Note**: It works only if the values of the parameters "features.enhanced_dss_keys.enable" and "softkey.X.enable" are set to 1 (Enabled).

Permitted Values	Integer from 0 to 10 It it is set to 0, the soft key X is positioned in the first available position from the left. If it is set to other values, a **More** soft key appears and the soft key X is placed in the specified position. The following soft keys are moved by one position to the right. Press the **More** soft key to view the remaining soft keys.

Default	0

Parameter	softkey.X.action[1]	<y0000000000xx>.cfg

Description	It configures the action or function for custom soft key X. This value uses the same macro action string syntax as an Enhanced DSS key. You can also invoke the EDK macro that was already defined. The macro name follows the character "!". **Example**: softkey.1.action = !macro1 In this example, macro1 stands for the macro name configured by the parameter "edk.edklist.X.mname". **Note**: It works only if the values of the parameters "features.enhanced_dss_keys.enable" and "softkey.X.enable" are set to 1 (Enabled).

Permitted Values	String

Default	Blank
Parameter	softkey.X.softkey_id[1] \<y0000000000xx>.cfg
Description	It configures the softkey id for custom soft key X. **Example**: softkey.1.softkey_id = custom_macro1 **Note**: It works only if the values of the parameters "features.enhanced_dss_keys.enable" and "softkey.X.enable" are set to 1 (Enabled).
Permitted Values	String
Default	Blank
Parameter	softkey.X.use.idle[1] \<y0000000000xx>.cfg
Description	It enables or disables the custom soft key X to be displayed in the idle state. **Note**: It works only if the values of the parameters "features.enhanced_dss_keys.enable" and "softkey.X.enable" are set to 1 (Enabled).
Permitted Values	**0**-Disabled **1**-Enabled
Default	0
Parameter	softkey.X.use.incoming_call[1] \<y0000000000xx>.cfg
Description	It enables or disables the custom soft key X to be displayed in the alerting (ringing) state. **Note**: It works only if the values of the parameters "features.enhanced_dss_keys.enable" and "softkey.X.enable" are set to 1 (Enabled).
Permitted Values	**0**-Disabled **1**-Enabled
Default	0
Parameter	softkey.X.use.connecting[1] \<y0000000000xx>.cfg
Description	It enables or disables the custom soft key X to be displayed in the connecting state. **Note**: It works only if the values of the parameters "features.enhanced_dss_keys.enable" and "softkey.X.enable" are set to 1 (Enabled).
Permitted Values	**0**-Disabled **1**-Enabled
Default	0
Parameter	softkey.X.use.transfer_connecting[1] \<y0000000000xx>.cfg
Description	It enables or disables the custom soft key X to be displayed in the transfer connecting

	state.
	Note: It works only if the values of the parameters
	"features.enhanced_dss_keys.enable" and "softkey.X.enable" are set to 1 (Enabled).

Permitted Values	**0**-Disabled
	1-Enabled

Default	0

Parameter	softkey.X.use.on_talk[1]	<y0000000000xx>.cfg

Description	It enables or disables the custom soft key X to be displayed in the talk state.
	Note: It works only if the values of the parameters
	"features.enhanced_dss_keys.enable" and "softkey.X.enable" are set to 1 (Enabled).

Permitted Values	**0**-Disabled
	1-Enabled

Default	0

Parameter	softkey.X.use.call_failed[1]	<y0000000000xx>.cfg

Description	It enables or disables the custom soft key X to be displayed in the call failed state.
	Note: It works only if the values of the parameters
	"features.enhanced_dss_keys.enable" and "softkey.X.enable" are set to 1 (Enabled).

Permitted Values	**0**-Disabled
	1-Enabled

Default	0

Parameter	softkey.X.use.ring_back[1]	<y0000000000xx>.cfg

Description	It enables or disables the custom soft key X to be displayed in the ring back state.
	Note: It works only if the values of the parameters
	"features.enhanced_dss_keys.enable" and "softkey.X.enable" are set to 1 (Enabled).

Permitted Values	**0**-Disabled
	1-Enabled

Default	0

Parameter	softkey.X.use.transfer_ring_back[1]	<y0000000000xx>.cfg

Description	It enables or disables the custom soft key X to be displayed in the transfer ring back state.
	Note: It works only if the values of the parameters
	"features.enhanced_dss_keys.enable" and "softkey.X.enable" are set to 1 (Enabled).

Permitted Values	**0**-Disabled
	1-Enabled

Default	0
Parameter	softkey.X.use.hold[1] <y0000000000xx>.cfg
Description	It enables or disables the custom soft key X to be displayed in the hold state. **Note**: It works only if the values of the parameters "features.enhanced_dss_keys.enable" and "softkey.X.enable" are set to 1 (Enabled).
Permitted Values	**0**-Disabled **1**-Enabled
Default	0
Parameter	softkey.X.use.held[1] <y0000000000xx>.cfg
Description	It enables or disables the custom soft key X to be displayed in the held state. **Note**: It works only if the values of the parameters "features.enhanced_dss_keys.enable" and "softkey.X.enable" are set to 1 (Enabled).
Permitted Values	**0**-Disabled **1**-Enabled
Default	0
Parameter	softkey.X.use.conferenced[1] <y0000000000xx>.cfg
Description	It enables or disables the custom soft key X to be displayed in the conference state. **Note**: It works only if the values of the parameters "features.enhanced_dss_keys.enable" and "softkey.X.enable" are set to 1 (Enabled).
Permitted Values	**0**-Disabled **1**-Enabled
Default	0
Parameter	softkey.X.use.dialtone[1] <y0000000000xx>.cfg
Description	It enables or disables the custom soft key X to be displayed in the dial tone (no numbers entered) state. **Note**: It works only if the values of the parameters "features.enhanced_dss_keys.enable" and "softkey.X.enable" are set to 1 (Enabled).
Permitted Values	**0**-Disabled **1**-Enabled
Default	0
Parameter	softkey.X.use.dialing[1] <y0000000000xx>.cfg
Description	It enables or disables the custom soft key X to be displayed in the dialing state. **Note**: It works only if the values of the parameters "features.enhanced_dss_keys.enable" and "softkey.X.enable" are set to 1 (Enabled).

Permitted Values	**0**-Disabled
	1-Enabled
Default	0

[1]X is the soft key ID. X=1-10.

Example: Configuring EDK List for a Line Key

The following takes an example to help you understand how to execute the macro action string.

Example

> *features.enhanced_dss_keys.enable = 1*
>
> *edk.edklist.1.enable = 1*
>
> *edk.edklist.1.mname = IVR1*
>
> *edk.edklist.1.action = 1013$Tinvite$$Cwc$$Cp10$$Penter number&C4&N$$Tdtmf$$Cp3$$Chu$*
>
> *linekey.1.type = 73*
>
> *linekey.1.value = IVR1*
>
> *linekey.1.label = Custom*

After provisioning, the line key 1 will invokes the macro "*IVR1*". You can press the line key 1 to execute the action "*1013$Tinvite$$Cwc$$Cp10$$Penter number&C4&N$$Tdtmf$$Cp3$$Chu$*".

You can also set "*linekey.1.value = 1013$Tinvite$$Cwc$$Cp10$$Penter number&C4&N$$Tdtmf$$Cp3$$Chu$*" without configuring an EDK list. You can also manually assign a line key using the macro "*IVR1*" or action string "*1013$Tinvite$$Cwc$$Cp10$$Penter number&C4&N$$Tdtmf$$Cp3$$Chu$*" manually on their phone.

Power Saving

The power-saving feature turns off the backlight and screen (turning off the screen is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones and EXP50 expansion module (connected to the T54S/T52S IP phones) to conserve energy. The IP phone and EXP50 (if connected) enter power-saving mode after the phone has been idle for a certain period of time. And the IP phone and EXP50 (if connected) will exit power-saving mode if a phone/EXP50 event occurs - for example, the phone receives an incoming call or a new message, or you press a key on the phone/EXP50 or tap the touch screen (touch screen is only applicable to T48S/G IP phones). The power saving is not applicable to T19(P) E2 IP phones.

Note
If the Screen Saver is enabled on your phone, power-saving mode will still occur. For example, if a screen saver is configured to display after the phone has been idle for 5 minutes, and power-saving mode is configured to turn off the backlight and screen after the phone has been idle for 15 minutes, the backlight and screen will be turned off after the screen saver displays for 10 minutes.

Topic

Power Saving Configuration

You can enable or disable power saving, and set different idle timeout for office hours and off hours.

- **Office Hour**: specify the start time and end time of the day's office hour. You can change the office hours to avoid affecting your work.

- **Idle Timeout**: specify the period of time before the IP phone enters power-saving mode.

You can specify the following three types of idle timeout:

- **Office Hours Idle TimeOut**: specify the idle timeout for office hours.

- **Off Hours Idle TimeOut**: specify the idle timeout for non-office hours.

- **User Input Extension Idle TimeOut**: specify the idle timeout that applies after you use the IP phone (for example, press a key on the phone or pick up/hang up the handset).

By default, the Office Hours Idle Timeout is much longer than the Off Hours Idle TimeOut. If you use the IP phone, the idle timeout that applies (User Input Extension Idle Timeout or Office Hours/Off Hours Idle TimeOut) is the timeout with the highest value.

If the phone has an incoming call or new message, the User Input Extension Idle TimeOut is ignored.

Tip
You can choose to set a higher **User Input Extension Idle TimeOut** than the **Office Hours Idle TimeOut** and **Off Hours Idle TimeOut** so that the phone does not enter the power-saving mode too often after you use the phone.

The following table lists the parameters you can use to configure power saving.

Parameter	features.power_saving.intelligent_mode	<y0000000000xx>.cfg
Description	It enables or disables the power saving intelligent mode. **Note**: It is not applicable to T19(P) E2 IP phones.	
Permitted Values	**0**-Disabled, the IP phone stays in power-saving mode even if the office hour arrives the next day. **1**-Enabled, the IP phone will automatically identify the office hour and exit power-saving mode once the office hour arrives the next day.	
Default	1	
Parameter	features.power_saving.enable	<y0000000000xx>.cfg
Description	It enables or disables the power saving feature. **Note**: It is not applicable to T19(P) E2 IP phones.	
Permitted Values	**0**-Disabled, the IP phone will automatically enter power-saving mode to protect the screen when the phone is inactive for 72 hours. That is, the color screen phones will turn off the	

	backlight and screen, and the black-and-white screen phones will only turn off the backlight. Image persistence may be caused on LCD. **1**-Enabled
Default	1
Web UI	Settings->Power Saving->Power Saving
Parameter	features.power_saving.office_hour.idle_timeout ⟨y0000000000xx⟩.cfg
Description	It configures the time (in minutes) to wait in the idle state before IP phone enter power-saving mode during the office hours. **Example**: features.power_saving.office_hour.idle_timeout = 600 The IP phone will enter power-saving mode when it has been inactivated for 600 minutes (10 hour) during the office hours. **Note**: It is not applicable to T19(P) E2 IP phones.
Permitted Values	Integer from 1 to 960
Default	960
Web UI	Settings->Power Saving->Office Hour Idle TimeOut
Parameter	features.power_saving.off_hour.idle_timeout ⟨y0000000000xx⟩.cfg
Description	It configures the time (in minutes) to wait in the idle state before IP phone enter power-saving mode during the non-office hours. **Example**: features.power_saving.off_hour.idle_timeout = 5 The IP phone will enter power-saving mode when it has been inactivated for 5 minutes during the non-office hours. **Note**: It is not applicable to T19(P) E2 IP phones.
Permitted Values	Integer from 1 to 10
Default	10
Web UI	Settings->Power Saving->Off Hour Idle TimeOut
Parameter	features.power_saving.user_input_ext.idle_timeout ⟨y0000000000xx⟩.cfg
Description	It configures the minimum time (in minutes) to wait in the idle state - after using the phone - before the IP phone enters power-saving mode. **Example**: features.power_saving.user_input_ext.idle_timeout = 5 **Note**: It is not applicable to T19(P) E2 IP phones.

Permitted Values	Integer from 1 to 30
Default	10
Web UI	Settings->Power Saving->User Input Extension Idle TimeOut

Parameter	features.power_saving.office_hour.monday features.power_saving.office_hour.tuesday features.power_saving.office_hour.wednesday features.power_saving.office_hour.thursday features.power_saving.office_hour.friday features.power_saving.office_hour.saturday features.power_saving.office_hour.sunday	<y0000000000xx>.cfg

Description	It configures the start time and end time of the day's office hour. Start time and end time are separated by a comma. **Example**: features.power_saving.office_hour.monday = 7,19 **Note**: It is not applicable to T19(P) E2 IP phones.
Permitted Values	Integer from 0 to 23, Integer from 0 to 23
Default	7,19 - for Monday, Tuesday, Wednesday, Thursday, Friday. 7,7 - for Saturday, Sunday.
Web UI	Settings->Power Saving->Monday/Tuesday/Wednesday/Thursday/Friday/Saturday/Sunday

Parameter	features.power_saving.power_led_flash.on_time	<y0000000000xx>.cfg

Description	It configures the period of time (in milliseconds) when the power LED indicator is on in the power-saving mode. If it is set to 0 and "features.power_saving.power_led_flash.off_time" is not set to 0, the power LED indicator will be off when the IP phone enters the power-saving mode. **Note**: It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.
Permitted Values	0, Integer from 100 to 10000
Default	500

Parameter	features.power_saving.power_led_flash.off_time	<y0000000000xx>.cfg

Description	It configures the period of time (in milliseconds) when the power LED indicator is off in the power-saving mode. If it is set to 0, the power LED indicator will be on when the IP phone enters the

	power-saving mode.
	Note: It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.
Permitted Values	0, Integer from 100 to 10000
Default	3000

USB Port Lock

You can lock the USB port on T54S/T52S/T48S/T48G/T46S/T46G/T42S/T41S/T29G/T27G IP phones. The following features are not available when you disable the USB port:

- Adding a Wallpaper from a USB Flash Drive

- Adding a Screensaver Picture from a USB Flash Drive

- Wi-Fi

- Bluetooth (except T54S/T52S)

- USB Recording

Topic

USB Port Lock Configuration

USB Port Lock Configuration

The following table lists the parameters you can use to configure USB port lock.

Parameter	static.usb.power.enable[1]	<y0000000000xx>.cfg
Description	It enables or disables the USB port. **Note**: It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T42S/T41S/T29G/T27G IP phones.	
Permitted Values	**0**-Disabled, the phone does not power to USB port and not detect USB devices connected to the USB port. **1**-Enabled	
Default	1	

[1]If you change this parameter, the IP phone will reboot to make the change take effect.

Search Source List in Dialing

Search source list in dialing allows you to search entries from the source list when the phone is on the pre-dialing/dialing screen. You can select the desired entry to dial out quickly.

The following shows search results displayed on T46S/G IP phones:

The search source list can be configured using a supplied super search template file (super_search.xml).

Topics

Search Source File Customization

Search Source List Configuration

Search Source File Customization

You can ask the distributor or Yealink FAE for super search template. You can also obtain the super search template online: http://support.yealink.com/documentFront/forwardToDocumentFrontDisplayPage.

Topics

Search Source File Attributes

Customizing Search Source File

Search Source File Attributes

The following table lists the attributes you can use to add source lists to the super search file:

Attributes	Valid Values	Description
id_name	local_directory_search calllog_search remote_directory_search ldap_search BroadSoft_directory_search BroadSoft_UC_search plcm_directory_search genband_directory_search MetaSwitch_directory_search MetaSwitch_calllog_search	The directory list (For example, "local_directory_search" for the local directory list). **Note**: Do not edit this field.

Attributes	Valid Values	Description
	mobile_directory_search	
display_name	Local Contacts History Remote Phonebook LDAP Network Directories BroadSoft Buddies PhoneBook Personal Address Book Network Contacts Network Call List Mobile Contacts	The display name of the directory list. **Note**: We recommend you do not edit this field.
priority	1 to 11 1 is the highest priority, 11 is the lowest.	The priority of the search results.
enable	0/1 **0**: Disabled **1**: Enabled.	Enable or disable the IP phone to search the desired directory list.
dev	T19 T21 T23 T40 T27 T27G T29 T41 T42 T42S T41S T46 T46S T48 T48S T54S T52; T29 T46 T46S T48 T48S T52 T54S	The applicable phone models of the directory list. **Note**: Do not edit this field.

Customizing Search Source File

1. Open the search source file.

2. To configure each directory list, edit the values within double quotes in the corresponding field.

   For example, enable the local directory search, disable the call log search and specify a priority.

   <item id_name="local_directory_search" display_name="Local Contacts" priority="1" enable="1" />

   <item id_name="calllog_search" display_name="History" priority="2" enable="0" />

3. Save the change and place this file to the provisioning server.

Search Source List Configuration

The following table lists the parameter you can use to configure the search source list.

Parameter	super_search.url	<y0000000000xx>.cfg
Description	It configures the access URL of the super search template file. **Example**: super_search.url = http://192.168.1.20/super_search.xml During auto provisioning, the IP phone connects to the provisioning server "192.168.1.20", and downloads the super search template file "super_search.xml".	
Permitted Values	URL within 511 characters	
Default	Blank	
Web UI	Directory->Setting->Search Source List In Dialing	
Parameter	search_in_dialing.local_directory.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to automatically search entries from the local directory, and display results on the pre-dialing/dialing screen.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Parameter	search_in_dialing.local_directory.priority	<y0000000000xx>.cfg
Description	It configures the search priority of the local directory.	
Permitted Values	Integer greater than or equal to 0	
Default	1	
Parameter	search_in_dialing.history.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to automatically search entries from the call log list, and display results on the pre-dialing/dialing screen.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Parameter	search_in_dialing.history.priority	<y0000000000xx>.cfg
Description	It configures the search priority of the call log list.	
Permitted Values	Integer greater than or equal to 0	
Default	2	
Parameter	search_in_dialing.remote_phone_book.enable	<y0000000000xx>.cfg

Description	It enables or disables the IP phone to automatically search entries from the remote phone book, and display results on the pre-dialing/dialing screen.
Permitted Values	**0**-Disabled **1**-Enabled
Default	0

Parameter	search_in_dialing.remote_phone_book.priority	<y0000000000xx>.cfg

Description	It configures the search priority of the remote phone book.
Permitted Values	Integer greater than or equal to 0
Default	3

Parameter	search_in_dialing.ldap.enable	<y0000000000xx>.cfg

Description	It enables or disables the IP phone to automatically search entries from the LDAP, and display results on the pre-dialing/dialing screen.
Permitted Values	**0**-Disabled **1**-Enabled
Default	0

Parameter	search_in_dialing.ldap.priority	<y0000000000xx>.cfg

Description	It configures the search priority of the LDAP.
Permitted Values	Integer greater than or equal to 0
Default	4

Recent Call Display in Dialing

Recent call display allows you to view the placed calls list when the phone is on the dialing screen (lifts the handset, presses the Speakerphone key or desired line key). You can select to place a call from the placed calls list.

The following shows the recent calls displayed on T46S/G IP phones:

Topic

Recent Call in Dialing Configuration

Recent Call in Dialing Configuration

The following table lists the parameter you can use to configure the recent call display in dialing.

Parameter	super_search.recent_call	<y0000000000xx>.cfg
Description	It enables or disables Recent Call in Dialing feature.	
Permitted Values	**0**-Disabled	
	1-Enabled, users can view the placed calls list when the phone is on the dialing screen.	
Default	1	
Web UI	Directory->Setting->Recent Call In Dialing	

Account Settings

This chapter shows you how to register accounts and configure account settings on Yealink IP phones.

Topics

Account Registration

Registering an account makes it easier for the IP phones to receive an incoming call or dial an outgoing call. Yealink IP phones support registering multiple accounts on a phone; each account requires an extension or phone number.

Topics

Supported Accounts

The number of the registered accounts must meet the following:

Phone Model	Accounts
T54S/T48S/T48G/T46S/T46G/T29G	<=16
T52S/T42S/T42G	<=12
T41P/T41S/T27P/T27G	<=6
T40P/T40G/T23P/T23G	<=3
T21(P) E2	<=2
T19(P) E2	1

Accounts Registration Configuration

The following table lists the parameters you can use to register accounts.

Parameter	account.X.enable[1]	<MAC>.cfg
Description	It enables or disables the user to use a specific account.	
Permitted Values	**0**-Disabled, the account is not available for the user. **1**-Enabled	
Default	0	
Web UI	Account->Register->Line Active	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin)->Accounts->Account X->Activation T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password: admin)->Accounts->Activation	
Parameter	account.X.label[1]	<MAC>.cfg
Description	It configures the label to be displayed on the LCD screen .	
Permitted Values	String within 99 characters	
Default	Blank	
Web UI	Account->Register->Label	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin)->Accounts->Account X->Label T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password: admin)->Accounts->Label	
Parameter	account.X.display_name[1]	<MAC>.cfg
Description	It configures the display name .	
Permitted Values	String within 99 characters	
Default	Blank	
Web UI	Account->Register->Display Name	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin)->Accounts->Account X->Display Name T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2:	

	Menu->Settings->Advanced Settings (default password: admin)->Accounts->Display Name

Parameter	account.X.auth_name[1]	<MAC>.cfg
Description	It configures the user name for register authentication .	
Permitted Values	String within 99 characters	
Default	Blank	
Web UI	Account->Register->Register Name	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin)->Accounts->Account X->Register Name T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password: admin)->Accounts->Register Name	

Parameter	account.X.user_name[1]	<MAC>.cfg
Description	It configures the register user name.	
Permitted Values	String within 99 characters	
Default	Blank	
Web UI	Account->Register->User Name	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin)->Accounts->Account X->User Name T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password: admin)->Accounts->User Name	

Parameter	account.X.password[1]	<MAC>.cfg
Description	It configures the password for register authentication.	
Permitted Values	String within 99 characters	
Default	Blank	
Web UI	Account->Register->Password	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin)->Accounts->Account X->Password T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2:	

	Menu->Settings->Advanced Settings (default password: admin)->Accounts->Password	
Parameter	account.X.sip_server.Y.address[1]	\<MAC>.cfg
Description	It configures the IP address or domain name of the SIP server Y in which the account is registered. **Example**: account.1.sip_server.1.address = 10.2.1.48	
Permitted Values	String within 256 characters	
Default	Blank	
Web UI	Account->Register->SIP Server Y->Server Host	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin)->Accounts->Account X->SIP ServerY T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password: admin)->Accounts->SIP ServerY	
Parameter	account.X.sip_server.Y.port[1]	\<MAC>.cfg
Description	It configures the port of SIP server Y. **Example**: account.1.sip_server.1.port = 5060	
Permitted Values	Integer from 0 to 65535	
Default	5060	
Web UI	Account->Register->SIP Server Y->Port	
Parameter	account.X.outbound_proxy_enable[1]	\<MAC>.cfg
Description	It enables or disables the IP phone to send requests to the outbound proxy server.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Account->Register->Enable Outbound Proxy Server	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin)->Accounts->Outbound Status T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password:	

	admin)->Accounts->Outbound Status	
Parameter	account.X.outbound_proxy.Y.address[1]	<MAC>.cfg
Description	It configures the IP address or domain name of the outbound proxy server Y. **Example**: account.1.outbound_proxy.1.address = 10.1.8.11 **Note**: It works only if "account.X.outbound_proxy_enable" is set to 1 (Enabled). To use outbound proxy server address, "account.X.sip_server.Y.outbound_proxy_enable" should be set to 1 (Enabled).	
Permitted Values	IP address or domain name	
Default	Blank	
Web UI	Account->Register->Outbound Proxy Server Y	
Phone UI	<u>T54S/T52S/T48S/T48G/T46S/T46G/T29G</u>: Menu->Advanced (default password: admin)->Accounts->Account X->Outbound ProxyY <u>T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2</u>: Menu->Settings->Advanced Settings (default password: admin)->Accounts->Outbound ProxyY	
Parameter	account.X.outbound_proxy.Y.port[1]	<MAC>.cfg
Description	It configures the port of the outbound proxy server Y. **Example**: account.1.outbound_proxy.1.port = 5060 **Note**: It works only if "account.X.outbound_proxy_enable" is set to 1 (Enabled).	
Permitted Values	Integer from 0 to 65535	
Default	5060	
Web UI	Account->Register->Outbound Proxy Server Y->Port	
Parameter	account.X.reg_fail_retry_interval[1]	<MAC>.cfg
Description	It configures the interval (in seconds) at which the IP phone to retries to re-register account X when registration fails. **Example**: account.1.reg_fail_retry_interval = 30 **Note**: It works only if the values of the parameters "account.X.reg_failed_retry_min_time" and "account.X.reg_failed_retry_max_time" are set to 0.	

Permitted Values	Integer from 0 to 1800
Default	30
Web UI	Account->Advanced->SIP Registration Retry Timer (0~1800s)
Parameter	account.X.reg_failed_retry_min_time[1] \<MAC>.cfg
Description	It configures the base time to wait (in seconds) for the IP phone to retry to re-register account X when registration fails. **Note:** It is used in conjunction with the parameter "account.X.reg_failed_retry_max_time" to determine how long to wait. The algorithm is defined in RFC 5626. We recommend you to set this value to an integer between 10 to 120, if needed. If the values of this parameter and the parameter "account.X.reg_failed_retry_max_time" are set to 0, the interval configured by "account.X.reg_fail_retry_interval" will be used.
Permitted Values	Integer greater than or equal to 0
Default	0
Parameter	account.X.reg_failed_retry_max_time[1] \<MAC>.cfg
Description	It configures the maximum time to wait (in seconds) for the IP phone to retry to re-register account X when registration fails. **Note:** It is used in conjunction with the parameter "account.X.reg_failed_retry_min_time" to determine how long to wait. The algorithm is defined in RFC 5626. We recommend you to set this value to an integer between 60 to 1800, if needed. If the values of this parameter and the parameter "account.X.reg_failed_retry_min_time" are set to 0, the interval configured by "account.X.reg_fail_retry_interval" will be used.
Permitted Values	Integer greater than or equal to 0
Default	60

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

Registration Settings Configuration

The following table lists the parameters you can use to change the registration settings.

Parameter	account.X.enable_user_equal_phone[1] \<MAC>.cfg
Description	It enables or disables the IP phone to add "user=phone" to the SIP header of the INVITE message.

Permitted Values	**0**-Disabled **1**-Enabled
Default	0
Web UI	Account->Advanced->Send user=phone

Parameter	account.X.register_mac[1]	<MAC>.cfg

Description	It enables or disables the IP phone to add MAC address to the SIP header of the REGISTER message.
Permitted Values	**0**-Disabled **1**-Enabled
Default	0
Web UI	Account->Advanced->SIP Send MAC

Parameter	account.X.register_line[1]	<MAC>.cfg

Description	It enables or disables the IP phone to add line number to the SIP header of the REGISTER message.
Permitted Values	**0**-Disabled **1**-Enabled
Default	0
Web UI	Account->Advanced->SIP Send Line

Parameter	account.X.contact_take_line_param[1]	<MAC>.cfg

Description	It enables or disables the IP phone to carry the line parameter in the Contact header of the Register message.
Permitted Values	**0**-Disabled **1**-Enabled
Default	0

Parameter	account.X.unregister_on_reboot[1]	<MAC>.cfg

Description	It enables or disables the IP phone to unregister first before re-registering account X after a reboot.
Permitted Values	**0**-Disabled **1**-Enabled
Default	0
Web UI	Account->Advanced->Unregister When Reboot

Parameter	account.X.sip_server_type[1]	<MAC>.cfg

Description	It configures the type of the SIP server.
Permitted Values	**0**-Default **2**-BroadSoft (It works only if "bw.enable" is set to 1(Enabled)) **8**-Genesys **10**-Genesys Advanced **12**-Star2Star
Default	0
Web UI	Account->Advanced->SIP Server Type

Parameter	account.X.gruu.enable[1]	<MAC>.cfg

Description	It enables or disables the Globally Routable User Agent URI (GRUU) feature. GRUU provides a unique user-agent identifier to a specific user agent (UA) instance. It is required in which the REFER request must be routed to the correct UA instance, for example, a call transfer.
Permitted Values	**0**-Disabled **1**-Enabled, the IP phone will add +sip.instance attribute with the public GRUU to the Contact header of the REGISTER message. **For example:** Contact: <sip:1012@10.2.20.160:5060>;+sip.instance="<urn:uuid:5acd54e8-f197-57e2-aa42-5f4a5d04367c>"
Default	0

Parameter	sip.reg_surge_prevention[2]	<y0000000000xx>.cfg

Description	It configures the waiting time (in seconds) for account register after startup.
Permitted Values	Integer from 0 to 60
Default	0
Web UI	Network->Advanced->Registration Random->Registration Random (0~60s)

Parameter	account.X.subscribe_register[1]	<MAC>.cfg

Description	It enables or disables the IP phone to subscribes the registration state change notifications.
Permitted Values	**0**-Disabled **1**-Enabled
Default	0
Web UI	Account->Advanced->Subscribe Register

Parameter	phone_setting.disable_account_without_username.enable	<MAC>.cfg
Description	It enables or disables the IP phone to disable the account whose username is empty.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Parameter	account.X.register_expires_overlap[1]	<MAC>.cfg
Description	It configures the renewal time (in seconds) away from the registration lease.	
Permitted Values	Positive integer and -1	
Default	-1	
Parameter	account.X.subscribe_expires_overlap[1]	<MAC>.cfg
Description	It configures the renewal time (in seconds) away from the subscription lease.	
Permitted Values	Positive integer and -1	
Default	-1	

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

[2]If you change this parameter, the IP phone will reboot to make the change take effect.

Outbound Proxy in Dialog

An outbound proxy server can receive all initiating request messages and route them to the designated destination. If the IP phone is configured to use an outbound proxy server within a dialog, all SIP request messages from the IP phone will be sent to the outbound proxy server as mandatory requirement.

Note
To use this feature, make sure the outbound server has been correctly configured on the IP phone. For more information on how to configure outbound server, refer to Server Redundancy.

Topic

Outbound Proxy in Dialog Configuration

Outbound Proxy in Dialog Configuration

The following table lists the parameter you can use to configure outbound proxy in dialog.

Parameter	sip.use_out_bound_in_dialog	<y0000000000xx>.cfg

Description	It enables or disables the IP phone to send all SIP requests to the outbound proxy server mandatorily in a dialog. **Note**: It works only if "account.X.outbound_proxy_enable" is set to 1 (Enabled).
Permitted Values	**0**-Disabled, only the new SIP request messages from the IP phone will be sent to the outbound proxy server in a dialog. **1**-Enabled, all the SIP request messages from the IP phone will be sent to the outbound proxy server in a dialog.
Default	0
Web UI	Features->General Information->Use Outbound Proxy In Dialog

Server Redundancy

Server redundancy is often required in VoIP deployments to ensure continuity of phone service, for example, take the call server offline for maintenance, the server fails, or the connection between the IP phone and the server fails.

Two types of redundancy are possible. In some cases, a combination of the two may be deployed:

- **Failover:** In this mode, the full phone system functionality is preserved by having a second equivalent capability call server take over from the one that has gone down/off-line. This mode of operation should be done using the DNS mechanism from the primary to the secondary server. Therefore, if you want to use this mode, the server must be configured with a domain name.

- **Fallback:** In this mode, a second less featured call server with SIP capability takes over call control to provide basic calling capability, but without some advanced features (for example, shared line and MWI) offered by the working server. IP phones support configuration of two servers per SIP registration for fallback purpose.

Note
For concurrent registration mode, it has certain limitation when using some advanced features, and for successive registration mode, the phone service may have a brief interrupt while the server fails. So we recommend you to use the failover mode for server redundancy because this mode can ensure the continuity of the phone service and you can use all the call features while the server fails.

Phone Configuration for Redundancy Implementation

To assist in explaining the redundancy behavior, an illustrative example of how an IP phone may be configured is shown as below. In the example, server redundancy for fallback and failover purposes is deployed. Two separate servers (a working server and a fallback server) are configured for per line registration.

Working Server: yealink.pbx.com

Fallback Server: 192.168.1.15
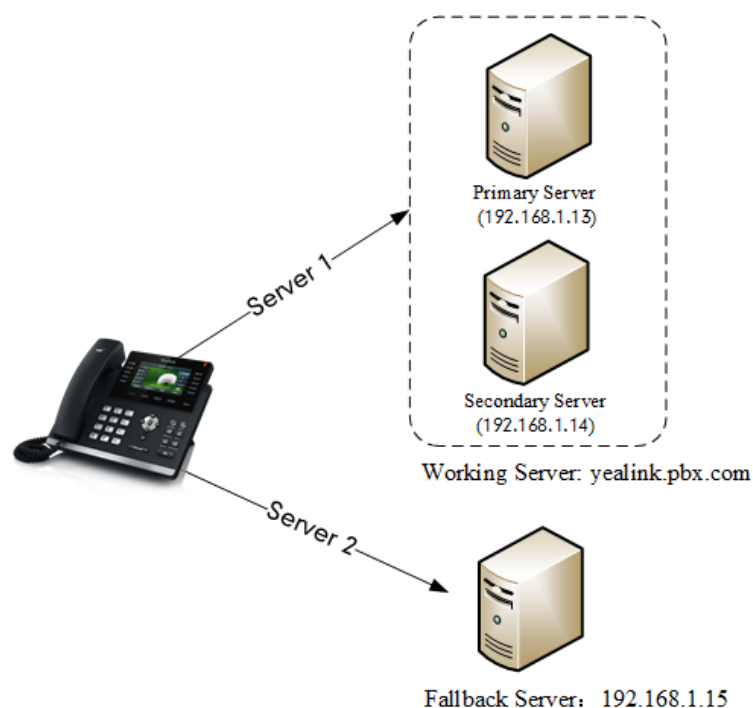
- **Working Server**: Server 1 is configured with the domain name of the working server. For example: yealink.pbx.com. DNS mechanism is used such that the working server is resolved to multiple servers with different IP addresses for failover purpose. The working server is deployed in redundant pairs, designated as primary and secondary servers. The primary server (for example, 192.168.1.13) has the highest priority server in a cluster of servers resolved by the DNS server. The secondary server (for example, 192.168.1.14) backs up a primary server when the primary server fails and offers the same functionality as the primary server.

- **Fallback Server**: Server 2 is configured with the IP address of the fallback server. For example, 192.168.1.15. A fallback server offers less functionality than the working server.

Yealink IP phones support Failover and Fallback server redundancy types. In some cases, you can deploy a combination of the two server redundancy types. For more information on server redundancy, refer to Server Redundancy on Yealink IP Phones.

Topics

Behaviors When Working Server Connection Fails

Registration Method of the Failover/Fallback Mode

Fallback Server Redundancy Configuration

Failover Server Redundancy Configuration

Behaviors When Working Server Connection Fails

For Outgoing Call

When you initiate a call, the IP phone will go through the following steps to connect the call:

1. Sends the INVITE request to the primary server.

2. If the primary server does not respond correctly to the INVITE (that is, the primary server responds to the INVITE with 503 message or the request for responding with 100 Trying message times out (64*T1 seconds, defined in RFC 3261)), then tries to make the call using the secondary server.

3. If the secondary server is also unavailable, the IP phone will try the fallback server until it either succeeds in making a call or exhausts all servers at which point the call will fail.

   At the start of a call, server availability is determined by SIP signaling failure. SIP signaling failure depends on the SIP protocol being used as described below:

   ● If TCP is used, then the signaling fails if the connection or the send fails.

   ● If UDP is used, then the signaling fails if ICMP is detected or if the signal times out. If the signaling has been attempted through all servers in the list (this list contains all the server addresses resolved by the DNS server) and this is the last server, then the signaling fails after the complete UDP timeout defined in RFC 3261. If it is not the last server in the list, the maximum number of retries depends on the configured retry counts (configured by the parameter "*account.X.sip_server.Y.retry_counts*").

Registration Method of the Failover/Fallback Mode

Registration method of the failover mode:

The IP phone must always register to the primary server first except in failover conditions. If this is unsuccessful, the phone will re-register as many times as configured until the registration is successful. When the primary server registration is unavailable, the secondary server will serve as the working server. As soon as the primary server registration succeeds, it returns to be the working server.

Registration methods of the fallback mode include (not applicable to outbound proxy servers):

● **Concurrent registration (default)**: The IP phone registers to SIP server 1 and SIP server 2 (working server and fallback server) at the same time. Note that although the IP phone registers to two SIP servers, only one server works at the same time. If it fails, a fallback server can take over the basic calling capability, but without some advanced features (for example, shared lines and MWI) offered by the working server.

● **Successive registration**: The IP phone only registers to one server at a time. The IP phone first registers to the working server. In a failure situation, the IP phone registers to the fallback server, and the fallback server can take over all calling capabilities.

Fallback Server Redundancy Configuration

The following table lists the parameters you can use to configure fallback server redundancy.

Parameter	account.X.fallback.redundancy_type[1][2]	<MAC>.cfg

Description	It configures the registration mode in fallback mode. **Note**: It is not applicable to outbound proxy servers.	
Permitted Values	**0**-Concurrent registration **1**-Successive registration	
Default	0	
Parameter	account.X.fallback.timeout[1][2]	<MAC>.cfg
Description	It configures the time interval (in seconds) for the IP phone to detect whether the working server is available by sending the registration request after the fallback server takes over call control. **Note**: It is not applicable to outbound proxy servers.	
Permitted Values	Integer from 10 to 2147483647	
Default	120	
Parameter	account.X.outbound_proxy_fallback_interval[1][2]	<MAC>.cfg
Description	It configures the time interval (in seconds) for the IP phone to detect whether the working outbound proxy server is available by sending the registration request after the fallback server takes over call control. **Note**: It is only applicable to outbound proxy servers.	
Permitted Values	Integer from 0 to 65535	
Default	3600	
Web UI	Account->Register->Proxy Fallback Interval	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin)->Accounts->Account X->Proxy Fallback Interval T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings->Accounts->Proxy Fallback Interval	
Parameter	account.X.redundancy_with_reg_fail.enable[1]	<MAC>.cfg
Description	It enables or disables the IP phone to send the request to the next server when failing to register an account. **Note**: It works only if "account.X.fallback.redundancy_type" is set to 1 (Successive registration).	
Permitted Values	**0**-Disabled. Only if the working server does not respond, will the IP phone send the request to the next server. **1**-Enabled	

Default	0

Failover Server Redundancy Configuration

The following table lists the parameters you can use to configure failover server redundancy.

Parameter	account.X.sip_server.Y.register_on_enable[1][2]	<MAC>.cfg
Description	It enables or disables the IP phone to send registration requests to the secondary server when encountering a failover.	
Permitted Values	**0**-Disabled, the IP phone will not attempt to register to the secondary server, since the phone assumes that the primary and secondary servers share registration information. So the IP phone will directly send the requests to the secondary server. **1**-Enabled, the IP phone will register to the secondary server first, and then send the requests to it.	
Default	0	
Parameter	sip.skip_redundant_failover_addr	<y0000000000xx>.cfg
Description	It enables or disables the IP phone only to send requests to the servers with different IP addresses when encountering a failover.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Parameter	account.X.sip_server.Y.expires[1][2]	<MAC>.cfg
Description	It configures the registration expiration time (in seconds) of SIP server Y. **Example**: account.1.sip_server.1.expires = 3600	
Permitted Values	Integer from 30 to 2147483647	
Default	3600	
Web UI	Account->Register->SIP Server Y->Server Expires	
Parameter	account.X.sip_server.Y.retry_counts[1][2]	<MAC>.cfg
Description	It configures the retry times for the IP phone to resend requests when the SIP server Y is unavailable or there is no response from the SIP server Y. **Example**:	

	account.1.sip_server.1.retry_counts= 3	
	The IP phone moves to the next available server after three failed attempts.	
Permitted Values	Integer from 0 to 20	
Default	3	
Web UI	Account->Register->SIP Server Y->Server Retry Counts	
Parameter	account.X.sip_server.Y.only_signal_with_registered[1][2]	<MAC>.cfg
Description	It enables or disables the IP phone to only send requests to the registered server when encountering a failover. **Note**: It works only if "account.X.sip_server.Y.register_on_enable" is set to 1 (Enabled) and "account.X.sip_server.Y.failback_mode" is set to 1, 2 or 3.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Parameter	account.X.sip_server.Y.invite_retry_counts[1][2]	<MAC>.cfg
Description	It configures the number of retries attempted before sending requests to the next available server when encountering a failover.	
Permitted Values	Integer from 1 to 10	
Default	3	
Parameter	account.X.sip_server.Y.failback_mode[1][2]	<MAC>.cfg
Description	It configures the mode for the IP phone to retry the primary server in failover. **Note**: It works only if "account.X.sip_server.Y.address" is set to the domain name of the SIP server.	
Permitted Values	**0**-newRequests: all requests are sent to the primary server first, regardless of the last server that was used. **1**-DNSTTL: the IP phone will send requests to the last registered server first. If the time defined by DNSTTL on the registered server expires, the phone will retry to send requests to the primary server. **2**-Registration: the IP phone will send requests to the last registered server first. If the registration expires, the phone will retry to send requests to the primary server. **3**-duration: the IP phone will send requests to the last registered server first. If the time defined by the "account.X.sip_server.Y.failback_timeout" parameter expires, the phone will retry to send requests to the primary server.	
Default	0	

Parameter	account.X.sip_server.Y.failback_timeout[1][2]	<MAC>.cfg
Description	It configures the timeout (in seconds) for the IP phone to retry to send requests to the primary server after failing over to the current working server. If you set the parameter to 0, the IP phone will not send requests to the primary server until a failover event occurs with the current working server. If you set the parameter between 1 and 59, the timeout will be 60 seconds. **Note**: It works only if ""account.X.sip_server.Y.failback_mode" is set to 3 (duration).	
Permitted Values	0, Integer from 60 to 65535	
Default	3600	
Parameter	account.X.sip_server.Y.failback_subscribe.enable[1][2]	<MAC>.cfg
Description	It enables or disables the IP phone to retry to re-subscribe after registering to the secondary server with different IP addresses when encountering a failover. **Note**: It works only if "account.X.sip_server.Y.failback_mode" is set to 1, 2 or 3.	
Permitted Values	**0**-Disabled **1**-Enabled, the IP phone will immediately re-subscribe to the secondary server, for ensuring the normal use of the features associated with subscription (for example, BLF, SCA).	
Default	0	
Parameter	account.X.outbound_proxy.Y.register_on_enable[1][2]	<MAC>.cfg
Description	It enables or disables the IP phone to register to the secondary outbound proxy server before sending requests to it when encountering a failover.	
Permitted Values	**0**-Disabled, the IP phone will not attempt to register to the secondary outbound proxy server, since the phone assumes that the primary and secondary outbound proxy servers share registration information. So the IP phone will directly send the requests to the secondary outbound proxy server. **1**-Enabled, the IP phone will register to the secondary outbound proxy server first, and then send the requests to it.	
Default	**-1**, the IP phone will invoke "account.X.sip_server.Y.register_on_enable" to take effect.	
Parameter	account.X.outbound_proxy.Y.retry_counts[1][2]	<MAC>.cfg
Description	It configures the retry times for the IP phone to resend requests when the outbound proxy server Y is unavailable or there is no response from the outbound proxy server Y. **Example**: account.1.outbound_proxy.1.retry_counts = 3 The IP phone moves to the next available outbound proxy server after three failed	

	attempts.
Permitted Values	Integer from 0 to 20
Default	**-1**, the IP phone will invoke "account.X.sip_server.Y.retry_counts" to take effect.
Parameter	account.X.outbound_proxy.Y.only_signal_with_registered[1][2] <div align=right><MAC>.cfg</div>
Description	It enables or disables the IP phone to only send requests to the registered outbound proxy server when encountering a failover. **Note**: It works only if "account.X.outbound_proxy.Y.register_on_enable" is set to 1 (Enabled) and "account.X.outbound_proxy.Y.failback_mode" is set to 1, 2 or 3.
Permitted Values	**0**-Disabled **1**-Enabled
Default	**-1**, the IP phone will invoke "account.X.sip_server.Y.only_signal_with_registered" to take effect.
Parameter	account.X.outbound_proxy.Y.invite_retry_counts[1][2] <div align=right><MAC>.cfg</div>
Description	It configures the number of retries attempted before sending requests to the next available outbound proxy server when encountering a failover.
Permitted Values	Integer from 1 to 10
Default	**-1**, the IP phone will invoke "account.X.sip_server.Y.invite_retry_counts" to take effect.
Parameter	account.X.outbound_proxy.Y.failback_mode[1][2] <div align=right><MAC>.cfg</div>
Description	It configures the failback mode for the IP phone to retry the primary outbound proxy server in failover. **Note**: DNSTTL, Registration and duration mode can only be processed when the IP phone is idle (that is, no incoming/outbound calls, no active calls or meetings, etc.).
Permitted Values	**0**-newRequests: all requests are sent to the primary outbound proxy server first, regardless of the last server that was used. If the primary outbound proxy server does not respond correctly, the IP phone will try to send requests to the secondary outbound proxy server. **1**-DNSTTL: the IP phone will send requests to the last registered outbound proxy server first. If the TTL for the DNS A records on the registered outbound proxy server expires, the phone will retry to send requests to the primary outbound proxy server. **2**-Registration: the IP phone will send requests to the last registered outbound proxy server first. If the registration expires, the phone will retry to send requests to the primary outbound proxy server. **3**-duration: the IP phone will send requests to the last registered outbound proxy server first. If the time defined by the parameter "account.X.outbound_proxy.Y.failback_timeout" expires, the phone will retry to send

	requests to the primary outbound proxy server.
Default	**-1**, the IP phone will invoke "account.X.sip_server.Y.failback_mode" to take effect.

Parameter	account.X.outbound_proxy.Y.failback_timeout[1][2]	<MAC>.cfg

Description	It configures the timeout (in seconds) for the phone to retry to send requests to the primary outbound proxy server after failing over to the current working server.
	If you set the parameter to 0, the IP phone will not send requests to the primary outbound proxy server until a failover event occurs with the current working server.
	Note: It works only if "account.X.outbound_proxy.Y.failback_mode" is set to 3 (duration).
Permitted Values	0, Integer from 60 to 65535
Default	**-1**, the IP phone will invoke "account.X.sip_server.Y.failback_timeout" to take effect.

Parameter	account.X.outbound_proxy.Y.failback_subscribe.enable[1][2]	<MAC>.cfg

Description	It enables or disables the IP phone to retry to re-subscribe after registering to the secondary outbound proxy server with different IP addresses when encountering a failover.
	Note: It works only if "account.X.outbound_proxy.Y.failback_mode" is set to 1, 2 or 3.
Permitted Values	**0**-Disabled
	1-Enabled, the IP phone will immediately re-subscribe to the secondary outbound proxy server, for ensuring the normal use of the features associated with subscription (for example, BLF, SCA).
Default	**-1**, the IP phone will invoke "account.X.sip_server.Y.failback_subscribe.enable" to take effect.

Parameter	account.X.sip_server.Y.outbound_proxy_enable[1][2]	<MAC>.cfg

Description	It enables or disables the IP phone to use outbound proxy server address configured by "account.X.outbound_proxy.Y.address".
	Note: It works only if "account.X.outbound_proxy_enable" is set to 1 (Enabled).
Permitted Values	**0**-Disabled
	1-Enabled
Default	**1**

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

[2]Y is the server ID. Y=1-2.

SIP Server Name Resolution

If a domain name is configured for a server, the IP address(es) associated with that domain name will be resolved through DNS as specified by RFC 3263. The DNS query involves NAPTR, SRV and A queries, which allows the IP phone to adapt to various deployment environments. The IP phone performs NAPTR query for the NAPTR pointer and transport protocol (UDP, TCP and TLS), the SRV query on the record returned from the NAPTR for the target domain name and the port number, and the A query for the IP addresses.

If an explicit port (except 0) is specified, A query will be performed only. If a server port is set to 0 and the transport type is set to DNS-NAPTR, NAPTR and SRV queries will be tried before falling to A query. If no port is found through the DNS query, 5060 will be used.

Topic

SIP Server Name Resolution Configuration

SIP Server Name Resolution Configuration

The following table lists the parameters you can use to configure SIP server name resolution.

Parameter	account.X.sip_server.Y.transport_type[1][2][3]	<MAC>.cfg
Description	It configures the type of transport protocol.	
Permitted Values	**0**-UDP **1**-TCP **2**-TLS **3**-DNS-NAPTR, if no server port is given, the IP phone performs the DNS NAPTR and SRV queries for the service type and port.	
Default	0	
Web UI	Account->Register->SIP Server Y->Transport	
Parameter	account.X.naptr_build[1]	<MAC>.cfg
Description	It configures the way of SRV query for the IP phone to be performed when no result is returned from NAPTR query.	
Permitted Values	**0**-SRV query using UDP only **1**-SRV query using UDP, TCP and TLS.	
Default	0	
Parameter	sip.dns_transport_type	<y0000000000xx>.cfg
Description	It configures the transport protocol the IP phone uses to perform a DNS query.	
Permitted	**0**-UDP	

Values	**1**-TCP
Default	0

Parameter	static.network.dns.query_timeout[1]	<y0000000000xx>.cfg

Description	It configures the interval (in seconds) at which the phone retries to resolve a domain name when the DNS server does not respond.
Permitted Values	0 to 65535
Default	3

Parameter	static.network.dns.retry_times[1]	<y0000000000xx>.cfg

Description	It configures the retry times when the DNS server does not respond.
Permitted Values	0 to 65535
Default	2

[1]If you change this parameter, the IP phone will reboot to make the change take effect.

Static DNS Cache

Failover redundancy can only be utilized when the configured domain name of the server is resolved to multiple IP addresses. If the IP phone is not configured with a DNS server, or the DNS query returns no result from a DNS server, you can statically configure a set of DNS NAPTR/SRV/A records into the IP phone. The IP phone will attempt to resolve the domain name of the SIP server with static DNS cache.

Support for negative caching of DNS queries as described in RFC 2308 is also provided to allow faster failover when prior DNS queries have returned no results from the DNS server.

Topics

Behave with a Configured DNS Server

Static DNS Cache Configuration

Behave with a Configured DNS Server

When the IP phone is configured with a DNS server, it will behave as follows to resolve domain name of the server:

- The IP phone performs a DNS query to resolve the domain name from the DNS server.

- If the DNS query returns no results for the domain name, or the returned record cannot be contacted, the values in the static DNS cache (if configured) are used when their configured time intervals are not elapsed.

- If the configured time interval is elapsed, the IP phone will attempt to perform a DNS query again.

- If the DNS query returns a result, the IP phone will use the returned record from the DNS server and ignore the statically configured cache values.

When the IP phone is not configured with a DNS server, it will behave as follows:

- The IP phone attempts to resolve the domain name within the static DNS cache.

- The IP phone will always use the results returned from the static DNS cache.

Static DNS Cache Configuration

The following table lists the parameters you can use to configure static DNS cache.

Parameter	account.X.dns_cache_type[1]	<MAC>.cfg
Description	It configures whether the IP phone uses the DNS cache for domain name resolution of the SIP server and caches the additional DNS records.	
Permitted Values	**0**-Perform real-time DNS query rather than using DNS cache. **1**-Use DNS cache, but do not record the additional records. **2**-Use DNS cache and cache the additional DNS records.	
Default	1	
Parameter	account.X.static_cache_pri[1]	<MAC>.cfg
Description	It configures whether preferentially to use the static DNS cache for domain name resolution of the SIP server.	
Permitted Values	**0**-Use domain name resolution from server preferentially **1**-Use static DNS cache preferentially	
Default	0	
Parameter	dns_cache_naptr.X.name[2]	<y0000000000xx>.cfg
Description	It configures the domain name to which NAPTR record X refers. **Example**: dns_cache_naptr.1.name = yealink.pbx.com	
Permitted Values	Domain name	
Default	Blank	
Parameter	dns_cache_naptr.X.order[2]	<y0000000000xx>.cfg
Description	It configures the order of NAPTR record X. NAPTR record with lower order is more preferred. **Example**: dns_cache_naptr.1.order = 90	

Permitted Values	Integer from 0 to 65535
Default	0

Parameter	dns_cache_naptr.X.preference[2]	<y0000000000xx>.cfg

Description	It configures the preference of NAPTR record X. NAPTR record with lower preference is more preferred. **Example**: dns_cache_naptr.1.preference = 50

Permitted Values	Integer from 0 to 65535
Default	0

Parameter	dns_cache_naptr.X.replace[2]	<y0000000000xx>.cfg

Description	It configures a domain name to be used for the next SRV query in NAPTR record X. **Example**: dns_cache_naptr.1.replace = _sip._tcp.yealink.pbx.com

Permitted Values	Domain name
Default	Blank

Parameter	dns_cache_naptr.X.service[2]	<y0000000000xx>.cfg

Description	It configures the transport protocol available for the SIP server in NAPTR record X. **Example**: dns_cache_naptr.1.service = SIP+D2T

Permitted Values	**SIP+D2U**-SIP over UDP **SIP+D2T**-SIP over TCP **SIPS+D2T**-SIPS over TCP
Default	Blank

Parameter	dns_cache_naptr.X.ttl[2]	<y0000000000xx>.cfg

Description	It configures the time interval (in seconds) that NAPTR record X may be cached before the record should be consulted again. **Example**: dns_cache_naptr.1.ttl = 3600

Permitted Values	Integer from 30 to 2147483647
Default	300

Parameter	dns_cache_srv.X.name[2]	<y0000000000xx>.cfg
Description	It configures the domain name in SRV record X. **Example**: dns_cache_srv.1.name = _sip._tcp.yealink.pbx.com	
Permitted Values	Domain name	
Default	Blank	
Parameter	dns_cache_srv.X.port[2]	<y0000000000xx>.cfg
Description	It configures the port to be used in SRV record X. **Example**: dns_cache_srv.1.port = 5060	
Permitted Values	Integer from 0 to 65535	
Default	0	
Parameter	dns_cache_srv.X.priority[2]	<y0000000000xx>.cfg
Description	It configures the priority for the target host in SRV record X. Lower priority is more preferred.	
Permitted Values	Integer from 0 to 65535	
Default	0	
Parameter	dns_cache_srv.X.target[2]	<y0000000000xx>.cfg
Description	It configures the domain name of the target host for an A query in SRV record X. **Example**: dns_cache_srv.1.target = server1.yealink.pbx.com	
Permitted Values	Domain name	
Default	Blank	
Parameter	dns_cache_srv.X.weight[2]	<y0000000000xx>.cfg
Description	It configures the weight of the target host in SRV record X. When priorities are equal, weight is used to differentiate the preference. Higher weight is more preferred. **Example**: dns_cache_srv.1.weight = 1	
Permitted	Integer from 0 to 65535	

Values	
Default	0
Parameter	dns_cache_srv.X.ttl[2] <y0000000000xx>.cfg
Description	It configures the time interval (in seconds) that SRV record X may be cached before the record should be consulted again. **Example**: dns_cache_srv.1.ttl = 3600
Permitted Values	Integer from 30 to 2147483647
Default	300
Parameter	dns_cache_a.X.name[2] <y0000000000xx>.cfg
Description	It configures the domain name in A record X. **Example**: dns_cache_a.1.name = yealink.pbx.com
Permitted Values	Domain name
Default	Blank
Parameter	dns_cache_a.X.ip[2] <y0000000000xx>.cfg
Description	It configures the IP address that the domain name in A record X maps to. **Example**: dns_cache_a.1.ip = 192.168.1.13
Permitted Values	IP address
Default	Blank
Parameter	dns_cache_a.X.ttl[2] <y0000000000xx>.cfg
Description	It configures the time interval (in seconds) that A record X may be cached before the record should be consulted again. **Example**: dns_cache_a.1.ttl = 3600
Permitted Values	Integer from 30 to 2147483647
Default	300
Parameter	static.network.dns.ttl_enable[3] <y0000000000xx>.cfg
Description	It enables or disables the phone to use TTL (Time To Live) in the A record.

Permitted Values	**0**-Disabled	
	1-Enabled	
Default	1	
Parameter	static.network.dns.last_cache_expired	<y0000000000xx>.cfg
Description	It configures the validity period of the expired DNS cache. **Note:** It works only if "static.network.dns.last_cache_expired.enable" is set to 1 (Enabled).	
Permitted Values	Integer from 0 to 65535 **0**-the expired DNS cache can only be used once. After using, the IP phone will perform a DNS query again. **1 to 65535**-the IP phone will use the expired DNS cache during the specify period. After that, the IP phone will perform a DNS query again.	
Default	3600	
Parameter	static.network.dns.last_cache_expired.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to use the DNS cache (even if the cache has expired) when the DNS server fails to resolve the domain name.	
Permitted Values	**0**-Disabled	
	1-Enabled	
Default	0	

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

[2]X is the record ID. X=1-12.

[3]If you change this parameter, the IP phone will reboot to make the change take effect.

Logon Wizard

Logon wizard allows IP phones to provide the logon wizard during the first startup. It works only if there is no registered account on the IP phone.

Topic

Logon Wizard Configuration

Logon Wizard Configuration

The following table lists the parameters you can use to configure logon wizard.

Parameter	phone_setting.logon_wizard	<y0000000000xx>.cfg

Description	It enables or disables the IP phone to provide the logon wizard after startup when there is no registered account.
Permitted Values	**0**-Disabled **1**-Enabled
Default	0
Web UI	Features->General Information->Logon Wizard
Parameter	hotdesking.startup_register_name_enable \<y0000000000xx\>.cfg
Description	It enables or disables the IP phone to provide input field of register name on the logon wizard after startup when there is no registered account. **Note**: It works only if "phone_setting.logon_wizard" is set to 1 (Enabled).
Permitted Values	**0**-Disabled **1**-Enabled
Default	0
Parameter	hotdesking.startup_username_enable \<y0000000000xx\>.cfg
Description	It enables or disables the IP phone to provide input field of user name on the logon wizard after startup when there is no registered account. **Note**: It works only if "phone_setting.logon_wizard" is set to 1 (Enabled).
Permitted Values	**0**-Disabled **1**-Enabled
Default	1
Parameter	hotdesking.startup_password_enable \<y0000000000xx\>.cfg
Description	It enables or disables the IP phone to provide input field of password on the logon wizard after startup when there is no registered account. **Note**: It works only if "phone_setting.logon_wizard" is set to 1 (Enabled).
Permitted Values	**0**-Disabled **1**-Enabled
Default	1
Parameter	hotdesking.startup_sip_server_enable \<y0000000000xx\>.cfg
Description	It enables or disables the IP phone to provide input field of SIP server on the logon wizard after startup when there is no registered account. **Note**: It works only if "phone_setting.logon_wizard" is set to 1 (Enabled).
Permitted Values	**0**-Disabled **1**-Enabled

Default	0

Parameter	hotdesking.startup_outbound_enable	*\<y0000000000xx\>.cfg*
Description	It enables or disables the IP phone to provide input field of outbound server on the logon wizard after startup when there is no registered account. **Note**: It works only if "phone_setting.logon_wizard" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	

Parameter	phone_setting.logon_wizard_forever_wait	*\<y0000000000xx\>.cfg*
Description	It enables or disables the IP phone to remain at the hot desking logon wizard even though timeout.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	

Multiple Line Keys per Account

You can assign multiple line keys to associate with a specific account. The line keys are automatically assigned with Line type from the first unused one (unused one means the line key is configured as N/A or the associated account is not registered). All calls on this account will be distributed evenly among these line keys. It is useful for managing a high volume of calls to an account.

When you assign multiple line keys to be associated with an account, you can configure the IP phone whether transferring a call or setting up a conference call on the current line key or on a new distribution line key.

It is not applicable to T19(P) E2 IP phones.

Topics

Multiple Line Keys per Account Configuration

Auto Line Labels Rule Configuration

Default Account

Multiple Line Keys per Account Configuration

The following table lists the parameters you can use to configure multiple line keys per account.

Parameter	features.auto_linekeys.enable	*\<y0000000000xx\>.cfg*
Description	It enables or disables to assign multiple line keys to associate with a specific account.	

	Note: The number of the line keys is determined by "account.X.number_of_linekey". It is not applicable to T19(P) E2 IP phones.
Permitted Values	**0**-Disabled **1**-Enabled
Default	0
Web UI	Features->General Information->Auto Linekeys

Parameter	account.X.number_of_linekey[1]	<MAC>.cfg

Description	It configures the number of line keys to be assigned with a specific account from the first unused one. If a line key is in used, the IP phone will skip to the next unused DSS key. **Note**: It is not applicable to T19(P) E2 IP phones.
Permitted Values	Integer from 1 to 999 The number of the line keys varies by phone models, for the supported line keys, refer to Supported DSS Keys.
Default	1
Web UI	Account->Advanced->Number of line key

Parameter	phone_setting.call_appearance.transfer_via_new_linekey	<y0000000000xx>.cfg

Description	It enables or disables to distribute a transferring call to a new line key (the new line key is not seized). If all line keys are seized, the current line key will be used. **Note**: The number of the line keys is determined by "account.X.number_of_linekey". The value configured by the parameter "account.X.phone_setting.call_appearance.transfer_via_new_linekey" takes precedence over that configured by this parameter. It is not applicable to T19(P) E2 IP phones.
Permitted Values	**0**-Disabled, the IP phone will transfer a call on the current line key. **1**-Enabled
Default	1

Parameter	account.X.phone_setting.call_appearance.transfer_via_new_linekey[1]	<MAC>.cfg

Description	It enables or disables to distribute a transferring call to a new line key (the new line key is not seized) for account X. If all line keys are seized, the current line key will be used. **Note**: The number of the line keys is determined by "account.X.number_of_linekey". The value configured by this parameter takes precedence over that configured by the parameter "phone_setting.call_appearance.transfer_via_new_linekey". It is not applicable to T19(P) E2 IP phones.
Permitted Values	**0**-Disabled, the IP phone will transfer a call on the current line key. **1**-Enabled

Default	Blank	
Parameter	phone_setting.call_appearance.conference_via_new_linekey	<y0000000000xx>.cfg

Description	It enables or disables to distribute a conference call to a new line key (the new line key is not seized). If all line keys are seized, the current line key will be used. **Note**: The number of the line keys is determined by "account.X.number_of_linekey". The value configured by the parameter "account.X.phone_setting.call_appearance.conference_via_new_linekey" takes precedence over that configured by this parameter. It is not applicable to T19(P) E2 IP phones.
Permitted Values	**0**-Disabled, the IP phone will place a new call using the current line key when pressing the **Conf**/**Conference** soft key. **1**-Enabled, the IP phone will place a new call by automatically selecting a new line key (the corresponding line key is not seized) when pressing the **Conf**/**Conference** soft key. If all line keys are seized, the current line key will be used.
Default	1

Parameter	account.X.phone_setting.call_appearance.conference_via_new_linekey[1]	<MAC>.cfg

Description	It enables or disables to distribute a conference call to a new line key (the new line key is not seized) for account X. If all line keys are seized, the current line key will be used. **Note**: The number of the line keys is determined by "account.X.number_of_linekey". The value configured by this parameter takes precedence over that configured by the parameter "phone_setting.call_appearance.conference_via_new_linekey". It is not applicable to T19(P) E2 IP phones.
Permitted Values	**0**-Disabled, the IP phone will place a new call using the current line key when pressing the **Conf**/**Conference** soft key. **1**-Enabled, the IP phone will place a new call by automatically selecting a new line key (the corresponding line key is not seized) when pressing the **Conf**/**Conference** soft key. If all line keys are seized, the current line key will be used.
Default	Blank

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2.

Auto Line Labels Rule Configuration

When assigning multiple line keys per account, these automatically assigned line keys use its Account Label (set by "*account.X.label*") as default label to display on the screen. In order to distinguish these automatically assigned line keys, you can customize the line key labels one by one or configure the auto line labels rule for these line keys.

The following table lists the parameters you can use to configure the auto line labels rule.

Parameter	account.X.auto_label.enable[1]	<MAC>.cfg
Description	It enables or disables the Auto Label feature. It is only applicable to the automatically assigned line DSS keys. **Note**: It works only if "features.auto_linekeys.enable" is set to 1 (Enabled). It is not applicable to T19(P) E2 IP phones.	
Permitted Values	**0**-Disabled, the line keys labels are determined by "account.X.label". **1**-Enabled, the line keys labels are determined by the custom label rule (configure by the parameter "accout.X.auto_label.rule").	
Default	0	
Parameter	account.X.auto_label.rule[1]	<MAC>.cfg
Description	It configures the Auto Label rule. You need to know the following basic regular expression syntax: **{L}**: The value is configured by the parameter "account.X.label". **{N}**: An increasing number from N. For example, abc{1}{5} represents the following labels: abc15, abc26, abc37, and so on. Multiple labels are separated by "|". For example, Yea|Yea|Yea|Tom_{2} means to display "Yea" for first three line keys, and from the fourth one, display label Tom_2, Tom_3, and so on in turn. **Other Characters**: for example, ABC, will display ABC same as what you have configured. **Note**: It works only if the values of the parameters "features.auto_linekeys.enable" and "account.X.auto_label.enable" are set to 1 (Enabled). The number of valid labels is configured by the parameter "account.X.number_of_linekey". It is not applicable to T19(P) E2 IP phones.	
Permitted Values	String	
Default	{L}_{1}	

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2.

Default Account

If there are multiple accounts registered on the phone, the phone will use the default account to dial out by default.

From the idle screen, you can press the left or right navigation key to select the desired account as the default account for all IP phones. You can also do the following to configure the default account.

The following table lists the parameters you can use to configure the default account.

Parameter	static.features.default_account	<y0000000000xx>.cfg
Description	It configures the default account. 1-Account 1 2-Account 2 3-Account 3 … 16-Account 16 For T54S/T48S/T48G/T46S/T46G/T29G, accounts 1-16. For T52S/T42G/T42S, accounts 1-12. For T41P/T41S/T27P/T27G, accounts 1-6. For T40P/T40G/T23P/T23G, accounts 1-3. For T21(P) E2, accounts 1-2. **Note**: It is not applicable to T19(P) E2 IP phones.	
Permitted Values	Integer from 1 to 16	
Default	1	
Parameter	features.show_default_account	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to display the label of the default account in the left of the status bar on the idle screen. **Note**: For T42G/T42S/T41P/T41S/T27P/T27G IP phones, the label of the default account is displayed in the middle bottom of the idle screen. It works only if "features.station_name.value" is left blank.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Parameter	features.linekey_call_with_default_account	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to switch the default account when pressing the line key to dial. For example, account on line 2 is not the default account, if this feature is enabled, when pressing the line key 2 to dial, the default account will switch to the account on line 2. **Note:** It is not applicable to T19(P) E2 IP phones.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	

Call Log

Yealink IP phones record and maintain phone events to a call log, also known as a call list.

Call log consists of four lists: Missed Calls, Placed Calls, Received Calls, and Forwarded Calls. Each call log list supports up to 100 entries.

Topics

Call Log Display

Call Log Configuration

Call Logs Backup

Call Log Display

You can access the call history information via web user interface at the path: **Directory**->**Phone Call Info** or via phone user interface at the path: **Menu**->**History**.

The following table describes the detailed call log information:

Display Field	Description
Name	Shows the name of remote party.
Number	Shows the number of remote party.
Time	Shows the call initiation time.
Line	Shows which line is used.
Duration	Shows the duration of the call.
Relation	Shows what happened to the call. The valid display contents are: ● **Rejected**: Reject an incoming call. ● **Forward to X**: Forward an incoming call to X. For example, **Forward to 1048** meands you forward an incoming call to 1048. ● **Busy**: The outgoing call is rejected. ● **Transfer to X**: Transfer a call to X. For example, **Transfer to 1048** meands you transfer a call to 1048. ● **X**: Answer a transferred/forwarded call from remote party X; your call is transferred/forwarded to X. For example, **1048** meands you answer a transferred/forwarded call from remote party 1048. It is configurable by "*features.calllog_detailed_information*".

Call Log Configuration

The following table lists the parameters you can use to change the call log settings.

Parameter	features.save_call_history	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to log the call history (missed calls, placed calls, received calls and forwarded calls) in the call lists. **Note**: To log the missed calls, "account.X.missed_calllog" should be set to 1 (Enabled).	
Permitted Values	**0**-Disabled, the IP phone cannot log the placed calls, received calls, missed calls and the forwarded calls in the call lists. **1**-Enabled	
Default	1	
Web UI	Features->General Information->Save Call Log	
Phone UI	<u>T54S/T52S/T48S/T48G/T46S/T46G/T29G</u>: Menu->Features->Others->General->History Record <u>T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2</u>: Menu->Features->History Setting->History Record	
Parameter	account.X.missed_calllog[1]	<MAC>.cfg
Description	It enables or disables the IP phone to record missed calls. **Note:** It works only if "features.save_call_history" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Web UI	Account->Basic->Missed Call Log	
Parameter	features.call_log_show_num	<y0000000000xx>.cfg
Description	It configures the display type of the other party's information in the call log lists. **Note**: It works only if "features.save_call_history" is set to 1 (Enabled).	
Permitted Values	**0**-Name, the name is displayed preferentially; if there is no name, the number is displayed **1**-Number **2**-Name & Number, the name and number are displayed; if there is no name, the number is displayed	
Default	0	
Web UI	Features->General Information->Call List Show Number	
Parameter	features.calllog_detailed_information	<y0000000000xx>.cfg

	It enables or disables the IP phone to indicate what happened to the call in the call log lists.
Description	It is applicable to to following scenarios:
	● Reject an incoming call
	● Forward an incoming call
	● The outgoing call is rejected
	● Transfer a call
	● Answer a transferred/forwarded call from remote party; your call is transferred/forwarded to another party.
	Note: It works only if "features.save_call_history" is set to 1 (Enabled).
Permitted Values	**0**-Disabled
	1-Enabled, you can get the detailed call-disposition information at the path via phone user interface: **History**->**Option**->**Detail->Relation**.
Default	1
Parameter	features.save_init_num_to_history.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to log the transfer party's phone number in the call history list.
Permitted Values	**0**-Disabled, the IP phone will log the transfer-to party's phone number in the call history list.
	1-Enabled
Default	1
Parameter	features.call_out_history_by_off_hook.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to dial out automatically once you go off hook or press the Speakerphone key in the call history list.
Permitted Values	**0**-Disabled
	1-Enabled
Default	0

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for
T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

Call Logs Backup

Yealink IP phones support storing all call logs to a call log file named <MAC>-calllog.xml. You can back up this file to the server, avoiding data loss. Once the call logs update, the IP phone will automatically upload this file to the provisioning server or a specific server. If a call log file exists on the server, it will be overridden. The IP phone will request to download the <MAC>-calllog.xml file according to its MAC

address from the server during auto provisioning.

The call log file is named after the MAC address of the IP phone. For example, if the MAC address of an IP phone is 00156574B150, the name of the call log file is 00156574b150-calllog.xml (lowercase).

Tip
MAC address, a unique 12-digit serial number is assigned to each phone. You can obtain it from the bar code on the back of the IP phone.

The following table lists the parameters you can use to back up the call log.

Parameter	static.auto_provision.local_calllog.backup.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to upload the <MAC>-calllog.xml file to the server each time the call logs update and download the <MAC>-calllog.xml file from the server during auto provisioning.	
Permitted Values	**0**-Disabled, the IP phone does not upload/download the call log file "<MAC>-calllog.xml" to the server. **1**-Enabled, the IP phone uploads the call log file "<MAC>-calllog.xml" to the specific path configured by the parameter "static.auto_provision.local_calllog.backup.path" each time the call logs update; and downloads the call logs in the "<MAC>-calllog.xml" according to its MAC address from the specific path during auto provisioning.	
Default	0	
Parameter	static.auto_provision.local_calllog.backup.path	<y0000000000xx>.cfg
Description	It configures a path or URL for the IP phone to upload/download the <MAC>-calllog.xml file. If it is left blank, the IP phone connects to the provisioning server URL, and uploads/downloads the contact file "<MAC>-calllog.xml". **Example**: static.auto_provision.local_calllog.backup.path = http://192.168.1.20/calllog Once the call logs update, the IP phone will upload the call log file to the specified path "http://192.168.1.20/calllog". During auto provisioning, the IP phone downloads the call log file "<MAC>-calllog.xml" from the specified path "http://192.168.1.20/calllog". **Note**: It works only if "static.auto_provision.local_calllog.backup.enable" is set to 1 (Enabled).	
Permitted Values	String	
Default	Blank	
Parameter	static.auto_provision.local_calllog.write_delay.terminated	<y0000000000xx>.cfg
Description	It configures the delay time (in seconds) for the IP phone to upload the	

	<MAC>-calllog.xml file each time the call logs update.	
	Note: It works only if "static.auto_provision.local_calllog.backup.enable" is set to 1 (Enabled)	
Permitted Values	Integer from 10 to 600	
Default	60	
Parameter	static.auto_provision.custom.upload_method[1]	<y0000000000xx>.cfg
Description	It configures the way the IP phone uploads the <MAC>-local.cfg file, <MAC>-calllog.xml file or <MAC>-contact.xml file to the provisioning server (for HTTP/HTTPS server only).	
Permitted Values	**0**-PUT **1**-POST	
Default	0	

Directory

The Yealink IP phone provides several types of phone directories.

Topics

Local Directory

Yealink IP phones maintain a local directory that you can use to store contacts. The local directory can store up to 1000 contacts and 48 groups.

Contacts and groups can be added either one by one, or in batch using a local contact file. Yealink IP phones support both *.xml and *.csv format contact files, but you can only customize the *.xml format contact file.

Topics

Contact Avatars and Icons Picture Limit

For T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones, you can customize the contact avatar. You can also customize a contact icon for T48S/T48G IP phones.

The contact avatar format must meet the following:

Phone Model	Format	Resolution	Single File Size
T48S/T46S	.jpg/.png/.bmp/.jpeg	<=110*110	<=5MB
T54S/T52S			
T48G/T46G/T29G		<=110*110	<=5MB

The contact icon format must meet the following:

Phone Model	Format	Resolution
T48S/G	.jpg/.png/.bmp/.jpeg	<=41*41

Preparing the Tar Formatted File

This section provides you on how to package the tar file using 7-Zip.

Note
You can package the tar formatted file using the tool 7-Zip or GnuWin32. You can download 7-Zip online: http://www.7-zip.org/ and GnuWin32 online: http://gnuwin32.sourceforge.net/packages/gtar.htm.

Procedure

1. Download and install 7-Zip on the local system.

2. Create a folder (for example, photo) on the local system (for example, C:\Program Files) and place the file that will be compressed (for example, cutom1.jpg, cutom2.png) to this folder.

3. Start the 7-Zip file manager application (7zFM.exe).

4. Locate the photo folder from the local system (C:\Program Files\photo\).
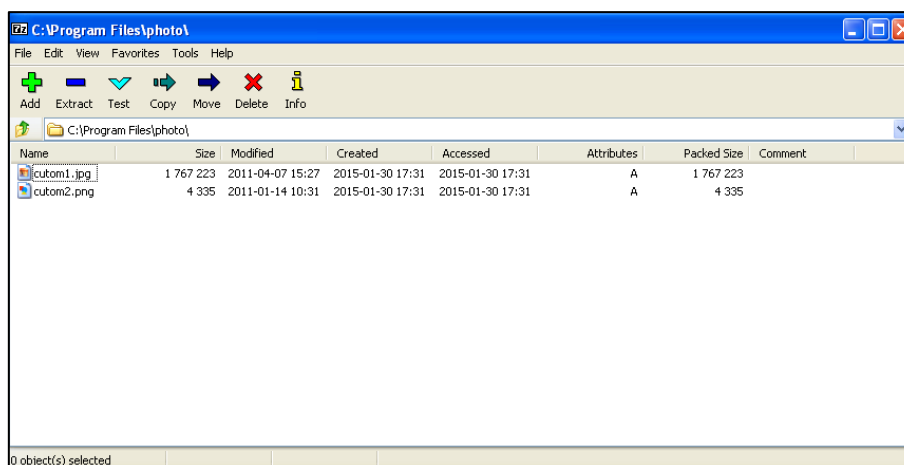
5. Select the desired photos that will be compressed.

6. Click the **Add** button.

7. Select **tar** from the pull-down list of **Archive format**.
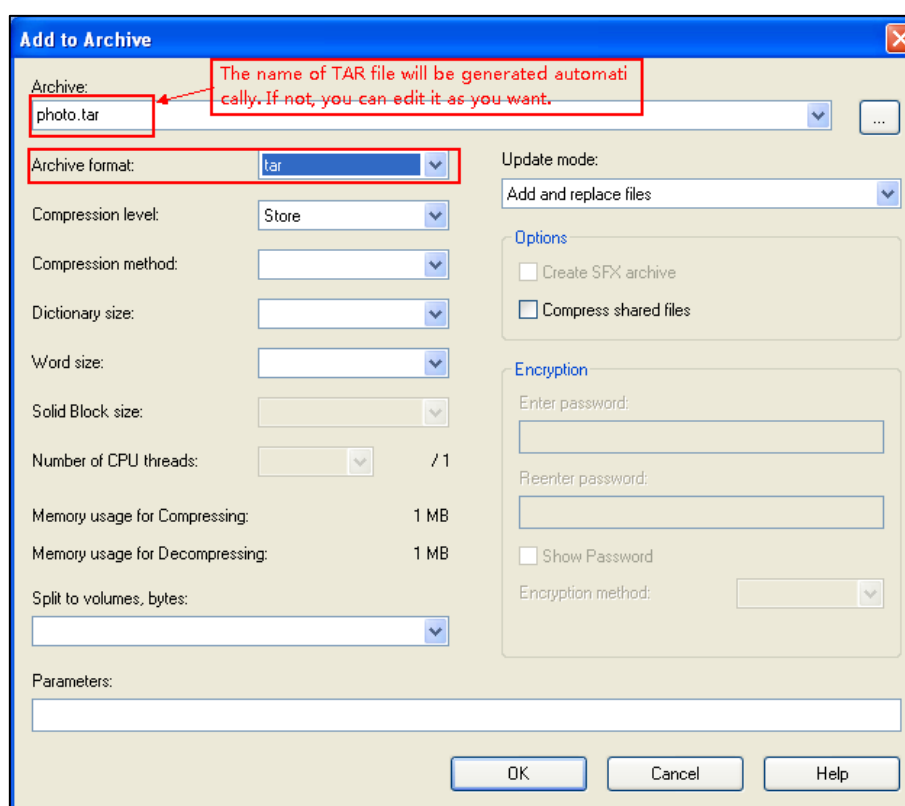
8. Click the **OK** button.

A photo.tar file is generated in the directory C:\Program Files\photo.

Local Contact File Customization

You can ask the distributor or Yealink FAE for local contact template. You can also obtain the local contact template online:

http://support.yealink.com/documentFront/forwardToDocumentFrontDisplayPage.

Topics

Local Contact File Elements and Attributes

Customizing Local Contact File

Local Contact File Elements and Attributes

The following table lists the elements and attributes you can use to add groups or contacts in the local contact file. We recommend you do not edit these elements and attributes.

Elements	Attributes	Description

Elements	Attributes	Description
group	**display_name**	Specify the group name. For example: All Contacts, Blacklist or Friend
	ring	Specify a ringtone for group. **System ring tone:** Auto Silent.wav Splash.wav RingN.wav (integer N ranges from 1 to 8) **Custom ring tone:** Name.wav (the custom ring tone should be uploaded in advance)
Contact	**display_name**	Specify the contact name. For example: Jim **Note**: The contact name cannot be blank or duplicated.
	office_number	Specify the office number. For example: 12456
	mobile_number	Specify the mobile number.
	other_number	Specify the other number.
	line	Specify a registered line for this contact for calling. Valid Values: -1~15; -1 stands for Auto (the first registered line); 0~15 stand for line1~line16. vary by phone models: T54S/T48S/T48G/T46S/T46G/T29G: 0~15; T52S/T42S/T42G: 0~11; T41P/T41S/T27P/T27G: 0~5; T40P/T40G/T23P/T23G: 0~2; T21(P) E2: 0~1 Note: This is not applicable to T19(P) E2 IP phones.
	ring	Specify a ringtone for this contact. **System ring tone:** Auto Silent.wav Splash.wav RingN.wav (integer N ranges from 1 to 8) **Custom ring tone:**

Elements	Attributes	Description
		XX.wav (for example, *Music.wav*, the custom ring tone should be uploaded in advance)
	group_id_name	Specify which group the contact adds to. **Built-in group:** All Contacts, Blacklist **Custom group:** XXX (for example, *Friend*)
	default_photo	**Built-in avatar:** Resource:*avatar name* **Custom avatar:** Config:*custom avatar name* **Note**: It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.
	auto_divert	Specify a destination number for diverted calls.

Customizing Local Contact File

1. Open the local contact file.

2. To add a group, add *<group display_name="" ring=""/>* to the file. Each starts on a new line.

3. To add a contact, add *<contact display_name="" office_number="" mobile_number="" other_number="" line="" ring="" group_id_name="" default_photo="" auto_divert = ""/>* to the file. Each starts on a new line.

4. Specify the values within double quotes.

   For example:

   <group display_name="Friend" ring="Splash.wav"/>

   <contact display_name="Lily" office_number="1020" mobile_number="1021" other_number="1112" line="1" ring="Ring1.wav" group_id_name="Friend" default_photo="Lily_photo.jpg" auto_divert = "2022"/>

   <contact display_name="Tom" office_number="2020" mobile_number="2021" other_number="2112" line="2" ring="Ring1.wav" group_id_name="Friend" default_photo="Resource:icon_family_b.png" auto_divert = "2023" />

5. Save the changes and place this file to the provisioning server.

Local Contact Files and Resource Upload

You can upload local contact files to add multiple contacts at a time, or upload the contact resource, such as contact avatar and icon pictures.

The following table lists the parameters you can use to upload the local contact files and resource.

Parameter	local_contact.data.url	<y0000000000xx>.cfg
Description	It configures the access URL of the local contact file (*.xml). **Example**: local_contact.data.url = http://192.168.10.25/contact.xml **Note**: If "static.auto_provision.local_contact.backup.enable" is set to 1 (Enabled), the contacts in the contact file "contact.xml" downloaded from the provisioning server do not take effect.	
Permitted Values	URL within 511 characters	
Default	Blank	
Web UI	Directory->Local Directory->Import Local Directory File	
Parameter	local_contact.data.delete	<y0000000000xx>.cfg
Description	It deletes all local contacts. **Example**: local_contact.data.delete = http://localhost/all	
Permitted Values	String	
Default	Blank	
Parameter	local_contact.photo.url	<y0000000000xx>.cfg
Description	It configures the access URL of a contact avatar file. The format of the contact avatar must be *.png, *.jpg, *.bmp, *.jpeg. The contact avatar file should be uploaded to the provisioning server in advance. **Example**: local_contact.photo.url = tftp://192.168.10.25/Photo.jpg **Note**: It is not applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.	
Permitted Values	URL within 511 characters	
Default	Blank	
Parameter	local_contact.icon_image.url	<y0000000000xx>.cfg
Description	It configures the access URL of a contact icon file. The format of the contact icon must be *.png, *.jpg, *.bmp, *.jpeg. The contact icon file should be uploaded to the provisioning server in advance. **Example**:	

	local_contact.icon_image.url = tftp://192.168.10.25/Photo.jpg	
	Note: It is only applicable to T48S/T48G IP phones.	
Permitted Values	URL within 511 characters	
Default	Blank	
Parameter	local_contact.image.url	<y0000000000xx>.cfg
Description	It configures the access URL of a TAR contact avatar file. The format of the contact avatar must be *.png, *.jpg, *.bmp, *.jpeg. The contact avatar file should be compressed as a TAR file in advance and then place it to the provisioning server. **Example**: local_contact.image.url = tftp://192.168.10.25/photo.tar **Note**: It is not applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.	
Permitted Values	URL within 511 characters	
Default	Blank	
Parameter	local_contact.data_photo_tar.url	<y0000000000xx>.cfg
Description	It configures the access URL of the compressed TAR file consisting of the avatars TAR file and contact XML file. All avatars needed for contacts should be compressed as a TAR file in advance. **Example**: local_contact.data_photo_tar.url = tftp://192.168.10.25/Contact.tar **Note**: The name of the avatars TAR file must be photo.tar (case-sensitive), and the name of the contact XML file must be ContactData.xml (case-sensitive). It is not applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.	
Permitted Values	URL within 511 characters	
Default	Blank	
Parameter	local_contact.icon.url	<y0000000000xx>.cfg
Description	It configures the access URL of a TAR contact icon file. The format of the contact icon must be *.png, *.jpg, *.bmp. The contact icon file should be compressed as a TAR file in advance and then place it to the provisioning server. **Example**: local_contact.icon.url = tftp://192.168.10.25/photo2.tar	

	Note: It is only applicable to T48G/T48S IP phones.
Permitted Values	URL within 511 characters
Default	Blank

Example: Adding Contacts Using a Contact File

The following example shows configuration for customizing a local contact file.

Customize the contact file "*contact.xml*" and place the contact file "*contact.xml*" and custom contact source (avatars or icons) to the provisioning server "*http://192.168.10.25*".

Example

local_contact.photo.url = http://192.168.10.25/Lily_photo.jpg

local_contact.data.url = tftp://192. 8.10.25/contact.xml

During auto provisioning, the IP phone connects to the provisioning server "192.168.10.25", and downloads the local contact file "*contact.xml*" and an avatar "*Lily_photo.jpg*". You can view the contacts on their phone, and specify the avatar "*Lily_photo.jpg*" for a contact.

On T48S/T48G IP phones, when uploading a contact avatar, you can also upload a contact icon named the same as this avatar, since a one-to-one correspondence between the icon and avatar. For example, an icon file and avatar file both named "*Lily_photo.jpg*" are available on the phone, the contact with specified *default_photo="Lily_photo.jpg"* will use corresponding name "*Lily_photo.jpg*" as directory icon and avatar display.

The following show the custom contact Lily with corresponding avatar and icon display:
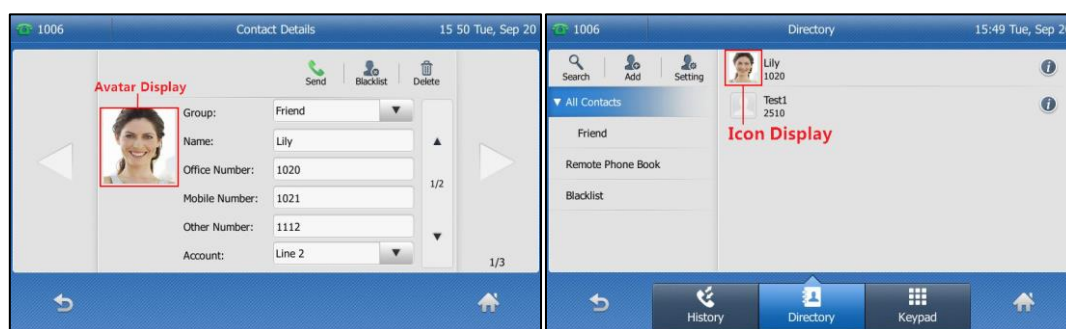
Note

If you have configured to back up the local contacts to the server, the IP phone will download the contact file "<MAC>-contact.xml" from the backup path from the server and display the downloaded contacts in the local directory list. The contacts in the local contact file "contact.xml" downloaded from the provisioning server do not take effect.

Local Contacts Backup

Yealink IP phones support storing all local contacts to a contact file named <MAC>-contact.xml. You can

back up this file to the server, avoiding data loss. Once the contacts update, the IP phone will automatically upload this file to the provisioning server or a specific server. If a contact file exists on the server, this file will be overridden. The IP phone will request to download the <MAC>-contact.xml file according to its MAC address from the server during auto provisioning.

The contact file is named after the MAC address of the IP phone. For example, if the MAC address of an IP phone is 00156574B150, the name of the contact file is 00156574b150-contact.xml (lowercase).

Tip
MAC address, a unique 12-digit serial number is assigned to each phone. You can obtain it from the bar code on the back of the IP phone.

The following table lists the parameters you can use to back up the local contacts.

Parameter	static.auto_provision.local_contact.backup.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to upload the <MAC>-contact.xml file to the server each time the contacts update and download the <MAC>-contact.xml file from the server during auto provisioning. **Note**: It does not affect the downloading of the contact avatar/icon files.	
Permitted Values	**0**-Disabled, the IP phone will not upload the contact file "<MAC>-contact.xml" to the server, so the IP phone downloads the contacts in the "contact.xml" from the access URL configured by the parameter "local_contact.data.url" or "local_contact.data_photo_tar.url" during auto provisioning. **1**-Enabled, the IP phone uploads the contact file "<MAC>-contact.xml" to the specific path configured by the parameter "static.auto_provision.local_contact.backup.path" each time the contacts update; and downloads the contacts in the "<MAC>-contact.xml" according to its MAC address from the specific path during auto provisioning.	
Default	0	
Parameter	static.auto_provision.local_contact.backup.path	<y0000000000xx>.cfg
Description	It configures a path or URL for the IP phone to upload/download the <MAC>-contact.xml file. If it is left blank, the IP phone connects to the provisioning server URL, and uploads/downloads the contact file "<MAC>-contact.xml". **Example**: static.auto_provision.local_contact.backup.path = http://192.168.1.20/contact Once the contacts update, the IP phone will upload the contact file to the specified path "http://192.168.1.20/contact". During auto provisioning, the IP phone downloads the contact file "<MAC>-contact.xml" from the specified path "http://192.168.1.20/contact". **Note**: It works only if "static.auto_provision.local_contact.backup.enable" is set to 1 (Enabled).	

Permitted Values	String	
Default	Blank	
Parameter	static.auto_provision.custom.upload_method[1]	<y0000000000xx>.cfg
Description	It configures the way the IP phone uploads the <MAC>-local.cfg file, <MAC>-calllog.xml file or <MAC>-contact.xml file to the provisioning server (for HTTP/HTTPS server only).	
Permitted Values	**0**-PUT **1**-POST	
Default	0	

Favorite Contacts

You can enable the user to mark local contacts as favorite. The favorite contacts are stored in the Favorites directory and the phone will automatically assign Speed Dial keys for these favorite contacts.

The following figures show that you have three favorite contacts:

In the Favorites directory:

On the idle screen:
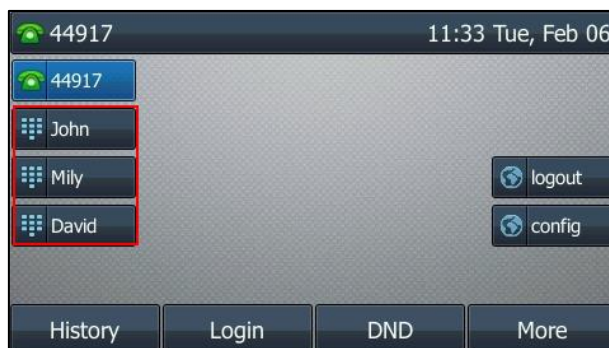
Favorites Configuration

The following table lists the parameters you can use to configure the favorites.

Parameter	local_contact.favorite.enable	<y0000000000xx>.cfg
Description	It enables or disables the Favorites feature.	
Permitted Values	**0**-Disabled **1**-Enabled, the phone automatically assigns Speed Dial keys for favorite contacts.	
Default	0	
Parameter	local.dsskey_type_config.mode	<y0000000000xx>.cfg
Description	It configures which screen to enter by long pressing the line key or ext key. **Note**: It works only if "local_contact.favorite.enable" is set to 1 (Enabled). It is not applicable to T19(P) E2 IP phones.	
Permitted Values	**0**-Enter the line key/ext key configuration screen **1**-Enter the Add Contact screen	
Default	0	
Parameter	phone_setting.favorite_sequence_type	<y0000000000xx>.cfg
Description	It configures the order of Speed Dial (Favorite) keys to be assigned automatically. **Note:** It works only if "local_contact.favorite.enable" is set to 1 (Enabled). To assign Ext key, make sure the expansion module has been connected to the phone in advance. It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G/T27P/T27G IP phones.	
Permitted Values	**0** - linekey->exp1 key->…->expN key **1** - exp1 key->…->expN key->linekey **2** - linekey page1->page1 from exp1 to expN->page2 from exp1 to expN->…->linekey from page2 to page3 **3**-page1 from exp1 to expN->page2 from exp1 to expN->…->linekey **Note:** N is the number of your connected expansion modules.	
Default	0	

Lightweight Directory Access Protocol (LDAP)

LDAP is an application protocol for accessing and maintaining information services for the distributed directory over an IP network. You can configure the IP phones to interface with a corporate directory server that supports LDAP version 2 or 3. The following LDAP servers are supported:

● Microsoft Active Directory

● Sun ONE Directory Server

- Open LDAP Directory Server

- Microsoft Active Directory Application Mode (ADAM)

For more information on LDAP, refer to LDAP Directory on Yealink IP Phones.

Topics

LDAP Attributes

LDAP Configuration

LDAP Attributes

The following table lists the most common attributes used to configure the LDAP lookup on IP phones.

Abbreviation	Name	Description
gn	givenName	First name
cn	commonName	LDAP attribute is made up from given name joined to surname.
sn	surname	Last name or family name
dn	distinguishedName	Unique identifier for each entry
dc	dc	Domain component
-	company	Company or organization name
-	telephoneNumber	Office phone number
mobile	mobilephoneNumber	Mobile or cellular phone number
ipPhone	IPphoneNumber	Home phone number

LDAP Configuration

The following table lists the parameters you can use to configure LDAP.

Parameter	ldap.enable	<y0000000000xx>.cfg
Description	It enables or disables the LDAP feature on the IP phone.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Directory->LDAP->Enable LDAP	
Parameter	ldap.search_type	<y0000000000xx>.cfg
Description	It configures the search type for LDAP contact look up.	

Permitted Values	**0**-Prefix matching, the IP phone will search the LDAP contact numbers or names start with the entered character(s). **1**-Approximate string matching, the IP phone will search the LDAP contact numbers or names contain the entered character(s).
Default	0

Parameter	ldap.name_filter	<y0000000000xx>.cfg

Description	It configures the search criteria for LDAP contact names look up. The "*" symbol in the filter stands for any character. The "%" symbol in the filter stands for the name entered by the user. **Example**: ldap.name_filter = (|(cn=%)(sn=%)) When the cn or sn of the LDAP contact matches the entered name, the record will be displayed on the LCD screen. ldap.name_filter = (&(cn=*)(sn=%)) When the cn of the LDAP contact is set and the sn of the LDAP contact matches the entered name, the records will be displayed on the phone LCD screen. ldap.name_filter = (!(cn=%)) When the cn of the LDAP contact does not match the entered name, the records will be displayed on the phone LCD screen.
Permitted Values	String within 99 characters
Default	Blank
Web UI	Directory->LDAP->LDAP Name Filter

Parameter	ldap.number_filter	<y0000000000xx>.cfg

Description	It configures the search criteria for LDAP contact numbers look up. The "*" symbol in the filter stands for any number. The "%" symbol in the filter stands for the number entered by the user. **Example**: ldap.number_filter = (|(telephoneNumber=%)(mobile=%)(ipPhone=%)) When the number of the telephoneNumber, mobile or ipPhone of the contact record matches the search criteria, the record will be displayed on the LCD screen. ldap.number_filter = (&(telephoneNumber=*)(mobile=%)) When the telephoneNumber of the LDAP contact is set and the mobile of the LDAP contact matches the entered number, the record will be displayed on the phone LCD screen.
Permitted	String within 99 characters

Values	
Default	Blank
Web UI	Directory->LDAP->LDAP Number Filter
Parameter	ldap.tls_mode <y0000000000xx>.cfg
Description	It configures the connection mode between the LDAP server and the IP phone.
Permitted Values	**0**-LDAP—Unencrypted connection between LDAP server and the IP phone (port 389 is used by default). **1**-LDAP TLS Start—TLS/SSL connection between LDAP server and the IP phone (port 389 is used by default). **2**-LDAPs—TLS/SSL connection between LDAP server and the IP phone (port 636 is used by default).
Default	0
Web UI	Directory->LDAP->LDAP TLS Mode
Parameter	ldap.host <y0000000000xx>.cfg
Description	It configures the IP address or domain name of the LDAP server. **Example**: ldap.host = 192.168.1.20
Permitted Values	IP address or domain name
Default	Blank
Web UI	Directory->LDAP->Server Address
Parameter	ldap.port <y0000000000xx>.cfg
Description	It configures the port of the LDAP server. **Example**: ldap.port = 389
Permitted Values	Integer from 1 to 65535
Default	389
Web UI	Directory->LDAP->Port
Parameter	ldap.base <y0000000000xx>.cfg
Description	It configures the LDAP search base which corresponds to the location of the LDAP phonebook from which the LDAP search request begins. The search base narrows the search scope and decreases directory search time. **Example**:

	ldap.base = dc=yealink,dc=cn	
Permitted Values	String within 99 characters	
Default	Blank	
Web UI	Directory->LDAP->Base	
Parameter	ldap.user	<y0000000000xx>.cfg
Description	It configures the user name used to login the LDAP server. This parameter can be left blank in case the server allows anonymity to login. Otherwise you will need to provide the user name to login the LDAP server. **Example**: ldap.user = cn=manager,dc=yealink,dc=cn	
Permitted Values	String within 99 characters	
Default	Blank	
Web UI	Directory->LDAP->Username	
Parameter	ldap.password	<y0000000000xx>.cfg
Description	It configures the password to login the LDAP server. This parameter can be left blank in case the server allows anonymous to login. Otherwise you will need to provide the password to login the LDAP server. **Example**: ldap.password = secret	
Permitted Values	String within 99 characters	
Default	Blank	
Web UI	Directory->LDAP->Password	
Parameter	ldap.max_hits	<y0000000000xx>.cfg
Description	It configures the maximum number of search results to be returned by the LDAP server. If the value of the "Max.Hits" is blank, the LDAP server will return all searched results. Please note that a very large value of the "Max. Hits" will slow down the LDAP search speed, therefore it should be configured according to the available bandwidth. **Example**: ldap.max_hits = 50	
Permitted Values	Integer from 1 to 32000	
Default	50	

Web UI	Directory->LDAP->Max Hits (1~32000)
Parameter	ldap.name_attr <y0000000000xx>.cfg
Description	It configures the name attributes of each record to be returned by the LDAP server. It compresses the search results. You can configure multiple name attributes separated by spaces. **Example**: ldap.name_attr = cn sn This requires the "cn" and "sn" attributes set for each contact record on the LDAP server.
Permitted Values	String within 99 characters
Default	Blank
Web UI	Directory->LDAP->LDAP Name Attributes
Parameter	ldap.numb_attr <y0000000000xx>.cfg
Description	It configures the number attributes of each record to be returned by the LDAP server. It compresses the search results. You can configure multiple number attributes separated by spaces. **Example**: ldap.numb_attr = mobile ipPhone This requires the "mobile" and "ipPhone" attributes set for each contact record on the LDAP server.
Permitted Values	String within 99 characters
Default	Blank
Web UI	Directory->LDAP->LDAP Number Attributes
Parameter	ldap.display_name <y0000000000xx>.cfg
Description	It configures the display name of the contact record displayed on the LCD screen. The value must start with "%" symbol. **Example**: ldap.display_name = %cn The cn of the contact record is displayed on the LCD screen.
Permitted Values	String within 99 characters
Default	Blank
Web UI	Directory->LDAP->LDAP Display Name

Parameter	ldap.version	<y0000000000xx>.cfg
Description	It configures the LDAP protocol version supported by the IP phone. The version must be the same as the version assigned on the LDAP server.	
Permitted Values	2 or 3	
Default	3	
Web UI	Directory->LDAP->Protocol	
Parameter	ldap.call_in_lookup	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to perform an LDAP search when receiving an incoming call.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Directory->LDAP->LDAP Lookup For Incoming Call	
Parameter	ldap.call_out_lookup	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to perform an LDAP search when placing a call.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Web UI	Directory->LDAP->LDAP Lookup For Callout	
Parameter	ldap.ldap_sort	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to sort the search results in alphabetical order or numerical order.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Directory->LDAP->LDAP Sorting Results	
Parameter	ldap.incoming_call_special_search.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to search the telephone numbers starting with "+" symbol and "00" from the LDAP server if the incoming phone number starts with"+" or "00". When completing the LDAP search, all the search results will be displayed on the LCD screen. **Example**:	

	If the phone receives an incoming call from the phone number 0044123456789, it will search 0044123456789 from the LDAP sever first, if no result found, it will search +44123456789 from the server again. The phone will display all the search results. **Note**: It works only if "ldap.call_in_lookup" is set to 1 (Enabled). You may need to set "ldap.name_filter" to be (|(cn=%)(sn=%)(telephoneNumber=%)(mobile=%)) for searching the telephone numbers starting with "+" symbol.
Permitted Values	**0**-Disabled **1**-Enabled
Default	0

Parameter	ldap.numb_display_mode	<y0000000000xx>.cfg

Description	It configures the display mode of the attribute name for the LDAP contact number. **Note**: It works only if "ldap.enable" is set to 1 (Enabled).
Permitted Values	**0**-NumberN (N is an increasing number), for example: Number1, Number2, Number3... **1**-Attribute name pushed by server
Default	0

Parameter	ldap.customize_label	<y0000000000xx>.cfg

Description	It configures the display name of the LDAP phone book. **Example**: ldap.customize_label = Friends "Friends" will be displayed on the LCD screen at the path Menu->Directory. If it is left blank, "LDAP" will be the displayed on the LCD screen at the path Menu->Directory. **Note**: It works only if "ldap.enable" is set to 1 (Enabled).
Permitted Values	String within 99 characters
Default	Blank
Web UI	Directory->LDAP->LDAP Label

Remote Phone Book

Remote phone book is a centrally maintained phone book, stored on the remote server. Users only need the access URL of the remote phone book. The IP phone can establish a connection with the remote server and download the phone book, and then display the remote phone book entries on the phone.

Yealink IP phones support up to 5 remote phone books. Remote phone book is customizable.

Note
For T40P/T40G/T23P/T23G/T21(P) E2/T19(P) E2 IP phones, we recommend you to download less than 3000 remote contacts from the remote server. For other IP phones, we recommend you to download less than 5000 remote contacts from the remote server.

Topics

Remote Phone Book File Customization

Remote Phone Book Configuration

Example: Configuring a Remote Phone Book

Remote Phone Book File Customization

Yealink IP phones support remote phone book contact customization.

You can add multiple contacts at a time and/or share contacts between IP phones using the supplied template files (Menu.xml and Department.xml).

You can ask the distributor or Yealink FAE for remote phone book template. You can also obtain the remote phone book template online:

http://support.yealink.com/documentFront/forwardToDocumentFrontDisplayPage.

Topics

Remote Phone Book File Elements

Customizing Remote Phone Book File

Remote Phone Book File Elements

Yealink IP phones support two template files: Menu.xml and Department.xml.

The Menu.xml file defines group/department of a remote phone book. The Department.xml file defines contact lists for a department/group, which is nested in Menu.xml file.

The following table lists the elements you can use to add groups or contacts in the remote phone book file. We recommend you do not edit these elements.

Template	Element	Valid Values
Department.xml	<DirectoryEntry> <Name>*Contact Name*</Name> <Telephone>*Contact Number*</Telephone> </DirectoryEntry>	Add a contact in a department/group: Specify the contact name between <Name> and </Name>; Specify the contact number between <Telephone>

Template	Element	Valid Values
		and</Telephone>
Menu.xml	<MenuItem> <Name>*Department*</Name> <URL>*Department URI*</URL> </MenuItem>	Add a contact department/group file: Specify the department/group name between <Name> and </Name>; Specify the department/group access URL between <URL> and</URL>
	<SoftKeyItem> <Name>#</Name> <URL>http://10.2.9.1:99/Department.xml</URL> </SoftKeyItem>	Specify a department/group file for a key: Specify *key, # key or digit key between <Name> and </Name>; Specify the department/group access URL between <URL> and</URL>

Customizing Remote Phone Book File

1. Add contacts in a Department.xml file. Each starts on a new line.

   For example,

   <DirectoryEntry>
       *<Name>*Lily*</Name>*
       *<Telephone>*123456*</Telephone>*

   </DirectoryEntry>

   <DirectoryEntry>
       *<Name>*Jim*</Name>*
       *<Telephone>*654321*</Telephone>*

   </DirectoryEntry>

2. You can create multiple department.xml files, rename these files and specify multiple contacts in these files. For example, *Market.xml* with contact *Lily* and *Jim*, *Propaganda.xml* with other contacts and so on.

3. Save these files and place them to the provisioning server.

4. Copy the department files URLs and specify them in the Menu.xml file.

   For example,

   <MenuItem>

   <Name>Market</Name>

<URL>http://192.168.0.1:99/Market.xml</URL>

</MenuItem>

<SoftKeyItem>

<Name>1</Name>

<URL>http://192.168.0.1:99/Propaganda.xml</URL>

</SoftKeyItem>

5. Save Menu.xml file and place it to the provisioning server.

Remote Phone Book Configuration

The following table lists the parameters you can use to configure remote phone book.

Parameter	remote_phonebook.data.X.url[1]	\<y0000000000xx\>.cfg
Description	It configures the access URL of the remote phone book. **Example**: remote_phonebook.data.1.url = http://192.168.1.20/phonebook.xml **Note**: For T19(P) E2/T21(P) E2/T23P/T23G/T40P/T40G IP phones, the size of a remote phone book file should be less than 750K. For T27P/T27G/T41P/T41S/T42G/T42S/T46G/T46S/T48G/T48S IP phones, the size of a remote phone book file should be less than 1.5M.	
Permitted Values	URL within 511 characters	
Default	Blank	
Web UI	Directory->Remote Phone Book->Remote URL	
Parameter	remote_phonebook.data.X.name[1]	\<y0000000000xx\>.cfg
Description	It configures the display name of the remote phone book item. **Example**: remote_phonebook.data.1.name = Xmyl	
Permitted Values	String within 99 characters	
Default	Blank	
Web UI	Directory->Remote Phone Book->Display Name	
Parameter	remote_phonebook.display_name	\<y0000000000xx\>.cfg
Description	It configures the display name of the remote phone book. **Example**:	

	remote_phonebook.display_name = Friends	
	"Friends" will be displayed on the LCD screen at the path Menu->Directory.	
	If it is left blank, "Remote Phone Book" will be the display name.	
Permitted Values	String within 99 characters	
Default	Blank	
Parameter	features.remote_phonebook.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to perform a remote phone book search for an incoming or outgoing call and display the matched results on the LCD screen.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Directory->Remote Phone Book->Incoming/Outgoing Call Lookup	
Parameter	features.remote_phonebook.flash_time	<y0000000000xx>.cfg
Description	It configures how often to refresh the local cache of the remote phone book. If it is set to 3600, the IP phone will refresh the local cache of the remote phone book every 3600 seconds (1 hour). If it is set to 0, the IP phone will not refresh the local cache of the remote phone book.	
Permitted Values	0, Integer from 3600 to 1296000	
Default	21600	
Web UI	Directory->Remote Phone Book->Update Time Interval(Seconds)	
Parameter	features.remote_phonebook.enter_update_enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to refresh the local cache of the remote phone book at a time when accessing the remote phone book.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	

[1]X is phone book ID. X=1-5.

Example: Configuring a Remote Phone Book

The following example shows configuration for remote phone book.

Customize the "*Department.xml* "and "*Menu.xml*" files, and then place these files to the provisioning server "*http://192.168.10.25*".

Example

> *remote_phonebook.data.1.url = http://192.168.10.25/Menu.xml*
>
> *remote_phonebook.data.1.name = Yealink*
>
> *remote_phonebook.data.2.url = http://192.168.10.25/Market.xml*
>
> *remote_phonebook.data.2.name = Market*

After provision, you can navigate to **Menu**->**Directory**->**Remote Phone Book** to access the corporate directory straight from their phones.

Directory List for Directory/Dir Soft Key

Users can access frequently used directory lists by pressing the **Directory**/**Dir** soft key when the IP phone is idle. The lists include Local Directory, History, Remote Phone Book and LDAP.

You can add the desired lists to directory list using a directory list file (favorite_setting.xml).

Topics

Directory List File Customization

Directory List Configuration

Example: Configuring a Directory List

Directory List File Customization

You can ask the distributor or Yealink FAE for directory template. You can also obtain the directory template online: http://support.yealink.com/documentFront/forwardToDocumentFrontDisplayPage.

Topics

Directory List File Attributes

Customizing Directory List File

Directory List File Attributes

The following table lists the attributes you can use to add contact lists to the directory list file. We recommend you do not edit these attributes.

Attributes	Valid Values	Description
id_name	localdirectory history networkcalllog remotedirectory ldap	The existing directory list (For example, "localdirectory" for the local directory list). **Note**: Do not edit this field.

Attributes	Valid Values	Description
	broadsoftdirectory plcmdirectory gabdirectory pabdirectory metaswitchcontacts metaswitchcalllog uc_buddies mobilecontant blacklist	
display_name	Local Directory History Network CallLog Remote Phone Book LDAP Network Directories PhoneBook Global Address Book Personal Address Book Network Contacts Network Call List Buddies Mobile Contacts Blacklist	The display name of the directory list. **Note**: We recommend you do not edit this field. Network Directories and Network CallLog lists are hidden for IP phones in GA firmware, GA firmware which are designed for the BroadWorks environment.
priority	1 to 14 1 is the highest priority, 14 is the lowest.	The display priority of the directory list.
enable	0/1 **0**: Disabled **1**: Enabled	Directory list whether to display on the IP phone LCD screen.
dev	common T19 T21 T23 T40 T27 T27G T29 T41 T42 T42S T41S T46 T46S T48 T48S T52 T54S	The applicable phone models of the directory list. Common represents that the desired directory list is applicable to all IP phone models. **Note**: Do not edit this field.

Customizing Directory List File

1. Open the directory list XML file.

2. To configure each directory list, edit the values within double quotes in the corresponding field.

   For example, enable the local directory, disable the history and specify a priority.

   <item id_name="localdirectory" display_name="Local Directory" priority="1" enable="1" dev="common"/>

   <item id_name="history" display_name="History" priority="2" enable="0" dev="common"/>

3. Save the change and place this file to the provisioning server.

Directory List Configuration

The following table lists the parameter you can use to configure directory list.

Parameter	static.directory_setting.url	<y0000000000xx>.cfg
Description	It configures the access URL of the directory template file. **Example**: static.directory_setting.url = http://192.168.1.20/favorite_setting.xml During auto provisioning, the IP phone connects to the provisioning server "192.168.1.20", and downloads the directory file "favorite_setting.xml".	
Permitted Values	URL within 511 characters	
Default	Blank	
Web UI	Directory->Setting->Directory	
Parameter	directory_setting.local_directory.enable	<y0000000000xx>.cfg
Description	It enables or disables the users to access the local directory by pressing the **Directory/Dir** soft key.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Parameter	directory_setting.local_directory.priority	<y0000000000xx>.cfg
Description	It configures the display priority of the local directory.	
Permitted Values	Integer greater than or equal to 0	
Default	1	
Parameter	directory_setting.history.enable	<y0000000000xx>.cfg

Description	It enables or disables the users to access the call log list by pressing the **Directory**/**Dir** soft key.
Permitted Values	**0**-Disabled **1**-Enabled
Default	0
Parameter	directory_setting.history.priority <y0000000000xx>.cfg
Description	It configures the display priority of the call log list.
Permitted Values	Integer greater than or equal to 0
Default	2
Parameter	directory_setting.remote_phone_book.enable <y0000000000xx>.cfg
Description	It enables or disables the users to access the remote phone book by pressing the **Directory**/**Dir** soft key.
Permitted Values	**0**-Disabled **1**-Enabled
Default	0
Parameter	directory_setting.remote_phone_book.priority <y0000000000xx>.cfg
Description	It configures the display priority of the remote phone book.
Permitted Values	Integer greater than or equal to 0
Default	4
Parameter	directory_setting.ldap.enable <y0000000000xx>.cfg
Description	It enables or disables the users to access the LDAP by pressing the **Directory**/**Dir** soft key.
Permitted Values	**0**-Disabled **1**-Enabled
Default	0
Parameter	directory_setting.ldap.priority <y0000000000xx>.cfg
Description	It configures the display priority of the LDAP.
Permitted Values	Integer greater than or equal to 0
Default	5

Example: Configuring a Directory List

The following example shows configuration for directory list.

Customize the directory list file, and then place this file to the provisioning server "*http://192.168.10.25*".

Example

> *static.directory_setting.url = http://192.168.10.25/favorite_setting.xml*

After provisioning, you can press the **Directory**/**Dir** soft key to access the desired contact list quickly.

Directory Search Settings

You can configure how the phones search contacts and whether to highlight the matched keywords for contact searching.

The following shows a search result on T46S/G IP phones:

Topic

Directory Search Settings Configuraion

Directory Search Settings Configuraion

The following table lists the parameters you can use to configure directory search settings.

Parameter	directory.search_type	<y0000000000xx>.cfg
Description	It configures the search type when searching the contact in Local Directory or Remote Phone Book.	
Permitted Values	**0**-Approximate string matching, the IP phone will search the contact numbers or names contain the entered character(s). **1**-Prefix matching, the IP phone will search the contact numbers or names start with the entered character(s).	
Default	0	

Parameter	phone_setting.search.highlight_keywords.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to highlight the matched characters in the search results. **Note**: It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	

Call Features

This chapter shows you how to configure call feature on Yealink IP phones.

Topics

Dial Plan

Dial plan is a string of characters that governs the way how IP phones processes the inputs received from the IP phone's keypads. You can use regular expression to define dial plan.

Yealink IP phones support two mechanisms to help creat a dial plan:

- **Dial plan defined by four patterns** (old dial plan mechanism): replace rule, dial now, area code and block out, and each dial plan needs its own matched rule.

- **Dial plan defined by digit map** (new dial plan mechanism): supports one or more matched rules in one digit map string. It is helpful for completing multiple dial plan features: replace, dial now, block out, and so on by one matching string.

If you enable new dial plan mechanism, old dial plan will be ignored.

Topics

Dial Plan Defined by Four Patterns
Dial Plan Defined by Digit Map

Dial Plan Defined by Four Patterns

Yealink IP phones support four patterns:

- **Replace rule**: is an alternative string that replaces the numbers entered by the user. Yealink IP phones support up to 100 replace rules.

- **Dial now**: is a string used to match numbers entered by the user. When entered numbers match the predefined dial now rule, the IP phone will automatically dial out the numbers without pressing the send key. Yealink IP phones support up to 100 dial now rules.

- **Area code**: are also known as Numbering Plan Areas (NPAs). They usually indicate geographical areas in one country. When entered numbers match the predefined area code rule, the IP phone will automatically add the area code before the numbers when dialing out them. Yealink IP phones only support one area code rule.

- **Block out**: prevents users from dialing out specific numbers. When entered numbers match the predefined block out rule, the LCD screen prompts "Forbidden Number". Yealink IP phones support up to 10 block out rules.

You can configure these four patterns via web user interface or auto provisioning. For replace rule and dial now, you can select to add the rule one by one or using the template file to add multiple rules at a time.

Topics

Basic Regular Expression Syntax for Four Patterns

Replace Rule File Customization

Dial Now File Customization

Basic Regular Expression Syntax for Four Patterns

You need to know the following basic regular expression syntax when creating old dial plan:

Regular expression	Description
.	The dot "." can be used as a placeholder or multiple placeholders for any string. Example: "12." would match "12**3**", "12**34**", "12**345**", "12**abc**", and so on.
x	The "x" can be used as a placeholder for any character. Example: "12x" would match "12**1**", "12**2**", "12**3**", "12**a**", and so on.
-	The dash "-" can be used to match a range of characters within the brackets. Example: "[5-7]" would match the number "**5**", "**6**" or "**7**".
,	The comma "," can be used as a separator within the bracket. Example: "[2,5,8]" would match the number "**2**", "**5**" or "**8**".
[]	The square bracket "[]" can be used as a placeholder for a single character which matches any of a set of characters. Example: "91[5-7]1234"would match "91**5**1234", "91**6**1234", "91**7**1234".
()	The parenthesis "( )" can be used to group together patterns, for instance, to logically combine two or more patterns. Example: "([1-9])([2-7])3" would match "**92**3", "**15**3", "**67**3", and so on.
$	The "$" followed by the sequence number of a parenthesis means the characters placed in the parenthesis. The sequence number stands for the corresponding parenthesis. Example: A replace rule configuration, Prefix: "001(xxx)45(xx)", Replace: "9001$145$2". When you dial out "0012354599" on your phone, the IP phone will replace the number with "9001**235**45**99**". "$1" means 3 digits in the first parenthesis, that is, "235". "$2" means 2 digits in the second parenthesis, that is, "99".

Replace Rule File Customization

The replace rule file helps create multiple replace rules. At most 100 replace rules can be added to the IP phone. It is not applicable to T19(P) E2 IP phones.

You can ask the distributor or Yealink FAE for replace rule file template. You can also obtain the replace rule file template online:

http://support.yealink.com/documentFront/forwardToDocumentFrontDisplayPage.

Topics

Replace Rule File Attributes

Customizing the Replace Rule File

Replace Rule File Attributes

The following table lists the attributes you can use to add replace rules to the replace rule file:

Attributes	Description
Prefix	Specify the number to be replaced.
Replace	Specify the alternate string instead of what the user enters.
LineID	Specify a registered line to apply the replace rule. Valid Values: -1~15 -1 stands for Auto (the first registered line); 0~15 stand for line1~line16 (Vary by phone models: T54S/T48S/T48G/T46S/T46G/T29G: 0~15; T52S/T42G/T42S: 0~11; T41P/T41S/T27P/T27G: 0~5; T40P/T40G/T23P/T23G: 0~2; T21(P) E2: 0~1) Multiple line IDs are separated by commas. **Note**: This is not applicable to T19(P) E2 IP phones.

Customizing the Replace Rule File

1. Open the replace rule file.

2. To add a replace rule, add *<Data Prefix="" Replace="" LineID="" />* to the file. Each starts on a new line.

3. Specify the values within double quotes.

   For example,

   <Data Prefix="2512" Replace="05922512" LineID="1" />

4. Save the changes and place this file to the provisioning server.

Dial Now File Customization

The dial now file helps create multiple dial now rules. At most 100 dial now rules can be added to the IP phone. It is not applicable to T19(P) E2 IP phones.

You can ask the distributor or Yealink FAE for dial now file template. You can also obtain the dial now file template online: http://support.yealink.com/documentFront/forwardToDocumentFrontDisplayPage.

Topics

Dial Now File Attributes

Customizing the Dial Now File

Dial Now File Attributes

The following table lists the attributes you can use to add dial-now rules to the dial now file:

Attributes	Description
DialNowRule	Specify the dial-now number.
LineID	Specify a registered line to apply the dial-now rule. Valid Values: -1~15 -1 stands for Auto (the first registered line); 0~15 stand for line1~line16 (Vary by phone models: T54S/T48S/T48G/T46S/T46G/T29G: 0~15; T52S/T42G/T42S: 0~11; T41P/T41S/T27P/T27G: 0~5; T40P/T40G/T23P/T23G: 0~2; T21(P) E2: 0~1) Multiple line IDs are separated by commas. **Note**: This is not applicable to T19(P) E2 IP phones.

Customizing the Dial Now File

1. Open the dial now file.

2. To add a dial-now rule, add *<Data DialNowRule="" LineID="" />* to the file. Each starts on a new line.

3. Specify the values within double quotes.

   For example,

   <Data DialNowRule="1001" LineID="0" />

4. Save the changes and place this file to the provisioning server.

Replace Rule Configuration

You can configure replace rules either one by one or in batch using a replace rule template.

The following table lists the parameters you can use to configure replace rule.

Parameter	dialplan.replace.prefix.X[1]	<y0000000000xx>.cfg
Description	It configures the entered number to be replaced. **Example**: dialplan.replace.prefix.1 =1 **Note**: It works only if the values of the parameters "dialplan.digitmap.enable" and "account.X.dialplan.digitmap.enable" are set to 0 (Disabled).	
Permitted Values	String within 32 characters	
Default	Blank	
Web UI	Settings->Dial Plan->Replace Rule->Prefix	
Parameter	dialplan.replace.replace.X[1]	<y0000000000xx>.cfg
Description	It configures the alternate number to replace the entered number. **Example**: dialplan.replace.prefix.1 = 1 and dialplan.replace.replace.1 = 254245 When you enter the number "1" and press the send key, the number "254245" will replace the entered number "1". **Note**: It works only if the values of the parameters "dialplan.digitmap.enable" and "account.X.dialplan.digitmap.enable" are set to 0 (Disabled).	
Permitted Values	String within 32 characters	
Default	Blank	
Web UI	Settings->Dial Plan->Replace Rule->Replace	
Parameter	dialplan.replace.line_id.X[1]	<y0000000000xx>.cfg
Description	It configures the desired line to apply the replace rule. The digit 0 stands for all lines. If it is left blank, the replace rule will apply to all lines on the IP phone. **Note**: Multiple line IDs are separated by commas. It works only if the values of the parameters "dialplan.digitmap.enable" and "account.X.dialplan.digitmap.enable" are set to 0 (Disabled). It is not applicable to T19(P) E2 IP phones.	
Permitted Values	0 to 16 (for T54S/T48S/T48G/T46S/T46G/T29G) 0 to 12 (for T52S/T42G/T42S) 0 to 6 (for T41P/T41S/T27P/T27G) 0 to 3 (for T40P/T40G/T23P/T23G) 0 to 2 (for T21(P) E2)	
Default	Blank	
Web UI	Settings->Dial Plan->Replace Rule->Account	

Parameter	dialplan_replace_rule.url	<y0000000000xx>.cfg
Description	It configures the access URL of the replace rule template file. For customizing replace rule template file, refer to Replace Rule File Customization. **Note**: It works only if the values of the parameters "dialplan.digitmap.enable" and "account.X.dialplan.digitmap.enable" are set to 0 (Disabled).	
Permitted Values	URL within 511 characters	
Default	Blank	

[1]X is from 1 to 100.

Dial Now Configuration

You can configure dial now rules either one by one or in batch using a dial now template.

The following table lists the parameters you can use to configure dial now.

Parameter	dialplan.dialnow.rule.X[1]	<y0000000000xx>.cfg
Description	It configures the dial now rule (the string used to match the numbers entered by the user). When entered numbers match the predefined dial now rule, the IP phone will automatically dial out the numbers without pressing the send key. **Example**: dialplan.dialnow.rule.1 = 123 **Note**: It works only if the values of the parameters "dialplan.digitmap.enable" and "account.X.dialplan.digitmap.enable" are set to 0 (Disabled).	
Permitted Values	String within 511 characters	
Default	Blank	
Web UI	Settings->Dial Plan->Dial Now->Rule	
Parameter	dialplan.dialnow.line_id.X[1]	<y0000000000xx>.cfg
Description	It configures the desired line to apply the dial now rule. The digit 0 stands for all lines. If it is left blank, the dial-now rule will apply to all lines on the IP phone. **Note**: Multiple line IDs are separated by commas. It works only if the values of the parameters "dialplan.digitmap.enable" and "account.X.dialplan.digitmap.enable" are set to 0 (Disabled). It is not applicable to T19(P) E2 IP phones.	
Permitted Values	0 to 16 (for T54S/T48S/T48G/T46S/T46G/T29G) 0 to 12 (for T52S/T42G/T42S) 0 to 6 (for T41P/T41S/T27P/T27G)	

	0 to 3 (for T40P/T40G/T23P/T23G)	
	0 to 2 (for T21(P) E2)	
Default	Blank	
Web UI	Settings->Dial Plan->Dial Now->Account	
Parameter	phone_setting.dialnow_delay	<y0000000000xx>.cfg
Description	It configures the delay time (in seconds) for the dial now rule. When entered numbers match the predefined dial now rule, the IP phone will automatically dial out the entered number after the designated delay time. If it is set to 0, the IP phone will automatically dial out the entered number immediately. **Note**: It works only if the values of the parameters "dialplan.digitmap.enable" and "account.X.dialplan.digitmap.enable" are set to 0 (Disabled).	
Permitted Values	Integer from 0 to 14	
Default	1	
Web UI	Features->General Information->Time Out for Dial Now Rule	
Parameter	dialplan_dialnow.url	<y0000000000xx>.cfg
Description	It configures the access URL of the dial now template file. For customizing dial now template file, refer to Dial Now File Customization. **Note**: It works only if the values of the parameters "dialplan.digitmap.enable" and "account.X.dialplan.digitmap.enable" are set to 0 (Disabled).	
Permitted Values	String within 511 characters	
Default	Blank	

[1]X is from 1 to 100.

Area Code Configuration

The following table lists the parameters you can use to configure area code.

Parameter	dialplan.area_code.code	<y0000000000xx>.cfg
Description	It configures the area code to be added before the entered numbers when dialing out. **Example**: dialplan.area_code.code = 0592 **Note**: The length of the entered number must be between the minimum length configured by the parameter "dialplan.area_code.min_len" and the maximum length configured by the parameter "dialplan.area_code.max_len". It works only if the values	

	of the parameters "dialplan.digitmap.enable" and "account.X.dialplan.digitmap.enable" are set to 0 (Disabled).
Permitted Values	String within 16 characters
Default	Blank
Web UI	Settings->Dial Plan->Area Code->Code
Parameter	dialplan.area_code.min_len `<y0000000000xx>.cfg`
Description	It configures the minimum length of the entered number. **Note**: It works only if the values of the parameters "dialplan.digitmap.enable" and "account.X.dialplan.digitmap.enable" are set to 0 (Disabled).
Permitted Values	Integer from 1 to 15
Default	1
Web UI	Settings->Dial Plan->Area Code->Min Length (1-15)
Parameter	dialplan.area_code.max_len `<y0000000000xx>.cfg`
Description	It configures the maximum length of the entered number. **Note**: The value must be larger than the minimum length. It works only if the values of the parameters "dialplan.digitmap.enable" and "account.X.dialplan.digitmap.enable" are set to 0 (Disabled).
Permitted Values	Integer from 1 to 15
Default	15
Web UI	Settings->Dial Plan->Area Code->Max Length (1-15)
Parameter	dialplan.area_code.line_id `<y0000000000xx>.cfg`
Description	It configures the desired line to apply the area code rule. The digit 0 stands for all lines. If it is left blank, the area code rule will apply to all lines on the IP phone. **Note**: Multiple line IDs are separated by commas. It works only if the values of the parameters "dialplan.digitmap.enable" and "account.X.dialplan.digitmap.enable" are set to 0 (Disabled). It is not applicable to T19(P) E2 IP phones.
Permitted Values	0 to 16 (for T54S/T48S/T48G/T46S/T46G/T29G) 0 to 12 (for T52S/T42G/T42S) 0 to 6 (for T41P/T41S/T27P/T27G) 0 to 3 (for T40P/T40G/T23P/T23G) 0 to 2 (for T21(P) E2)
Default	Blank

Web UI	Settings->Dial Plan->Area Code->Account

Block Out Configuration

The following table lists the parameters you can use to configure block out.

Parameter	dialplan.block_out.number.X[1]	<y0000000000xx>.cfg
Description	It configures the block out numbers. **Example**: dialplan.block_out.number.1 = 4321 When you dial the number "4321" on your phone, the dialing will fail and the LCD screen will prompt "Forbidden Number". **Note**: It works only if the values of the parameters "dialplan.digitmap.enable" and "account.X.dialplan.digitmap.enable" are set to 0 (Disabled).	
Permitted Values	String within 32 characters	
Default	Blank	
Web UI	Settings->Dial Plan->Block Out->BlockOut NumberX(X=1,2,...,10)	
Parameter	dialplan.block_out.line_id.X[1]	<y0000000000xx>.cfg
Description	It configures the desired line to apply the block out rule. The digit 0 stands for all lines. If it is left blank, the block out rule will apply to all lines on the IP phone. **Note**: Multiple line IDs are separated by commas. It works only if the values of the parameters "dialplan.digitmap.enable" and "account.X.dialplan.digitmap.enable" are set to 0 (Disabled). It is not applicable to T19(P) E2 IP phones.	
Permitted Values	0 to 16 (for T54S/T48S/T48G/T46S/T46G/T29G) 0 to 12 (for T52S/T42G/T42S) 0 to 6 (for T41P/T41S/T27P/T27G) 0 to 3 (for T40P/T40G/T23P/T23G) 0 to 2 (for T21(P) E2)	
Default	Blank	
Web UI	Settings->Dial Plan->Block Out->Account	

[1]X is from 1 to 10.

Example: Adding Replace Rules Using a Replace Rule File

The following example shows configuration for adding replace rules.

Customize the replace rule template file and place this file to the provisioning server "*http://192.168.10.25*".

Example

dialplan_replace_rule.url = http://192.168.10.25/DialPlan.xml

After provisioning, the rules defined in this file are added to the IP phone, and you can use the replace rules on the phone.

Dial Plan Defined by Digit Map

Digit maps, described in RFC 3435, are defined by a single string or a list of strings. If a number entered matches any string of a digit map, the call is automatically placed. If a number entered matches no string - an impossible match - you can specify the phone's behavior. You can specify the digit map timeout, the period of time before the entered number is dialed out.

Topics

Basic Regular Expression Syntax for Digit Map

Digit Map for All Lines Configuration

Digit Map for a Specific Line Configuration

Basic Regular Expression Syntax for Digit Map

You need to know the following basic regular expression syntax when creating new dial plan:

T	The timer letter "T" indicates a timer expiry. If "T" is used alone (for example, 123T), the default timeout value of 3 will be used. If "T" is not used alone (for example, 123<Tx>, x can be a digit from 0 to 99), a complete match occurs when waiting x seconds after inputting 123.
x	The "x" can be used as a placeholder for any digit from 0 to 9. Example: "12x" would match "12**1**", "12**2**", "12**3**", and so on.
[]	The square bracket "[]" can be used as a placeholder for a single character which matches any of a set of characters. Example: "91[5-7]1234" would match "91**5**1234", "91**6**1234", "91**7**1234".
-	The dash "-" can be used to match a range of digits within the brackets. Example: "[35-7]" would match the number "**3**", "**5**", "**6**" or "**7**". **Note**: The digits must be concrete, for example, [3-x] is invalid.
.	The dot "." can be used as a placeholder or multiple placeholders, including zero, of occurrences of the preceding construct. Examples:

	"123.T" would match "12**3**", "12**33**", "12**333**", "12**3333**", and so on.
	"x.T" would match an arbitrary number.
	"[x*#+].T" would match an arbitrary character.
	Note: If the string ends with a dot (for example, 123.), a match will occur immediately after inputting the characters before the dot (e., 123) since the dot allows for zero occurrences of the preceding construct. Therefore, we recommend you to add a letter "T" after the dot (for example, 123.T) for inputting more characters.
R	The letter "R" indicates that certain matched strings are replaced. Using a RRR syntax, you can replace the digits between the first two *R*s with the digits between the last two *R*s. Example:
	"R12R234R" would replace **12** with **234**.
<:>	The letter ":" in the angle bracket indicates that certain matched strings are replaced. Using the <:> syntax, you can replace the digits before the colon with the digits after the colon.
	Example:
	"<12:234>" would replace **12** with **234**. It is the same with R12R234R.
!	The exclamation mark "!" can be used to prevent users from dialing out specific numbers. It can only be put last in each string of the digit map.
	Example:
	"235x!" would match "2351", "2352", "2353", and so on. The number starting with 235 will be blocked to dial out.
,	The comma "," can be used as a separator to generate secondary dial tone.
	Example:
	"<9,:55>xx", after entering digit "9", secondary dial tone plays and you can complete the remaining two-digit number.
	Note: The secondary dial tone can be customized. For more information, refer to Tones.
A	The letter "A" indicates the account that is applied to the digit map. You can use A alone or a combination of A and account ID (for example, <A1>).
	Example:
	"123A", the default account will be applied to the digit map.
	"123<A2>", the second account will be applied to the digit map.
	Note: It is not applicable to the digit map on a per-line basis.

Digit Map for All Lines Configuration

The following table lists the parameters you can use to configure digit map for all lines.

Parameter	dialplan.digitmap.enable	<y0000000000xx>.cfg
Description	It enables or disables the digit map feature for the IP phone. **Note**: The value configured by the parameter "account.X.dialplan.digitmap.enable" takes precedence over that configured by this parameter.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Parameter	dialplan.digitmap.string	<y0000000000xx>.cfg
Description	It configures digit map pattern used for the dial plan. **Example**: dialplan.digitmap.string = <[2-9]x:86>3.T|0x.!|1xxx **Note**: The string must be compatible with the digit map feature of MGCP described in 2.1.5 of RFC 3435. It works only if "dialplan.digitmap.enable" or "account.X.dialplan.digitmap.enable" is set to 1 (Enabled). The value configured by the parameter "account.X.dialplan.digitmap.string" takes precedence over that configured by this parameter.	
Permitted Values	String within 2048 characters	
Default	[2-9]11	0T	011xxx.T	[0-1][2-9]xx xxxxxxx	[2-9]xx xxxxxxx	[2-9]xxxT	**x.T	+x.T| 00x.T	
Parameter	dialplan.digitmap.interdigit_long_timer	<y0000000000xx>.cfg
Description	It configures the time (in seconds) for the IP phone to wait before dialing an entered number if it matches part of any string of the digit map. If it is set to 0, the IP phone will not dial the entered number if only a partial match exists. The value of this parameter should be greater than that configured by the parameter "dialplan.digitmap.interdigit_short_timer". **For example:** dialplan.digitmap.string = 1xxT|xxxxx<T1> dialplan.digitmap.interdigit_long_timer = 10 dialplan.digitmap.interdigit_short_timer = 5 When you enter 1, it matches part of two digit maps, the IP phone tries to wait 10 seconds and then dials out 1 if no numbers entered; When you enter 15, it also matches part of two digit maps, the IP phone tries to wait	

	10 seconds and then dials out 15 if no numbers entered;
	When you enter 153, it also matches part of two digit maps, the IP phone tries to wait 10 seconds. But after waiting for 5 seconds, it completely matches the first digit map and then immediately dials out 153.
	Note: It works only if "dialplan.digitmap.enable" or "account.X.dialplan.digitmap.enable" is set to 1 (Enabled). The value configured by the parameter "account.X.dialplan.digitmap.interdigit_long_timer" takes precedence over that configured by this parameter.
Permitted Values	Integer from 0 to 255
Default	10
Parameter	dialplan.digitmap.interdigit_short_timer <y0000000000xx>.cfg
Description	It configures the timeout interval (in seconds) for any string of digit map. The IP phone will wait this many seconds before matching the entered digits to the dial plan and placing the call. **Note**: It works only if "dialplan.digitmap.enable" or "account.X.dialplan.digitmap.enable" is set to 1 (Enabled). The value configured by the parameter "account.X.dialplan.digitmap.interdigit_short_timer" takes precedence over that configured by this parameter.
Permitted Values	**Single configuration** (configure a specific value for the timer letter "T" for all strings with "T" of the digit map) **Example**: dialplan.digitmap.interdigit_short_timer = 5 If "dialplan.digitmap.string" is set to <[2-9]x:86>3.T|0T, the IP phone will wait 5 seconds before matching the entered digits to this dial plan and placing the call. **Distribution configuration** (configure a string of positive integers separated by "|" for each string of the digit map in the corresponding position) If there are more digit maps than timeout values, the last timeout is applied to the extra digit map. If there are more timeout values than digit maps, the extra timeout values are ignored. **Example**: dialplan.digitmap.interdigit_short_timer = 4|5|3|6|2|1 If "dialplan.digitmap.string" is set to <[2-9]x:86>3.T|2T|1xxT|0x.!|[2-9]11T, 4 is applied to the "<[2-9]x:86>3.T" digit map, 5 is applied to "2T" digit map, 3 is applied to "1xxT" digit map, 6 is applied to "0x.!" digit map, 2 is applied to the "[2-9]11T" digit map, the last digit 1 is ignored.
Default	3
Parameter	dialplan.digitmap.no_match_action <y0000000000xx>.cfg

Description	It configures the behavior when an impossible digit map match occurs. **Note**: It works only if "dialplan.digitmap.enable" or "account.X.dialplan.digitmap.enable" is set to 1 (Enabled). The value configured by the parameter "account.X.dialplan.digitmap.no_match_action" takes precedence over that configured by this parameter.
Permitted Values	**0**-prevent users from entering a number and immediately dial out the entered numbers **1**-the dialing will fail and the LCD screen will prompt "Forbidden Number" **2**-allow users to accumulate digits and dispatch call manually with the send key or automatically dial out the entered number after a certain period of time configured by the parameter "dialplan.digitmap.interdigit_long_timer"
Default	0

Parameter	dialplan.digitmap.active.on_hook_dialing	<y0000000000xx>.cfg

Description	It enables or disables the entered numbers to match the predefined string of the digit map in real time. It is only applicable to the on-hook dialing. **Note**: It works only if "dialplan.digitmap.enable" or "account.X.dialplan.digitmap.enable" is set to 1 (Enabled). The value configured by the parameter "account.X.dialplan.digitmap.active.on_hook_dialing" takes precedence over that configured by this parameter.
Permitted Values	**0**-Disabled **1**-Enabled
Default	0

Parameter	dialplan.digitmap.apply_to.on_hook_dial	<y0000000000xx>.cfg

Description	It enables or disables the entered number to match the predefined string of the digit map after pressing a send key when dialing on-hook or pressing the DSS key (for example, speed dial, BLF or prefix key). **Note**: It works only if "dialplan.digitmap.enable" or "account.X.dialplan.digitmap.enable" is set to 1 (Enabled). The value configured by the parameter "account.X.dialplan.digitmap.apply_to.on_hook_dial" takes precedence over that configured by this parameter.
Permitted Values	**0**-Disabled **1**-Enabled
Default	1

Parameter	dialplan.digitmap.apply_to.directory_dial	<y0000000000xx>.cfg

Description	It enables or disables the digit map to be applied to the numbers dialed from the directory. **Note**: It works only if "dialplan.digitmap.enable" or

	"account.X.dialplan.digitmap.enable" is set to 1 (Enabled). The value configured by the parameter "account.X.dialplan.digitmap.apply_to.directory_dial" takes precedence over that configured by this parameter.
Permitted Values	**0**-Disabled **1**-Enabled
Default	1
Parameter	dialplan.digitmap.apply_to.history_dial <y0000000000xx>.cfg
Description	It enables or disables the digit map to be applied to the numbers (received calls or missed calls) dialed from call log lists. **Note**: It works only if "dialplan.digitmap.enable" or "account.X.dialplan.digitmap.enable" is set to 1 (Enabled). The value configured by the parameter "account.X.dialplan.digitmap.apply_to.history_dial" takes precedence over that configured by this parameter.
Permitted Values	**0**-Disabled **1**-Enabled
Default	0
Parameter	dialplan.digitmap.apply_to.forward <y0000000000xx>.cfg
Description	It enables or disables the digit map to be applied to the numbers that you want to forward to when performing call forward. **Note**: It works only if "dialplan.digitmap.enable" or "account.X.dialplan.digitmap.enable" is set to 1 (Enabled). The value configured by the parameter "account.X.dialplan.digitmap.apply_to.forward" takes precedence over that configured by this parameter.
Permitted Values	**0**-Disabled **1**-Enabled, the incoming calls will be forwarded to a desired destination number according to the string of the digit map.
Default	1
Parameter	dialplan.digitmap.apply_to.press_send <y0000000000xx>.cfg
Description	It enables or disables the entered number to match the predefined string of the digit map after pressing a send key. It is only applicable to the off-hook dialing. The off-hook dialing includes: pick up the handset, press the Speakerphone key or press the line key when the phone is idle. **Note**: It works only if "dialplan.digitmap.enable" or "account.X.dialplan.digitmap.enable" is set to 1 (Enabled). The value configured by the parameter "account.X.dialplan.digitmap.apply_to.press_send" takes precedence over that configured by this parameter.
Permitted	**0**-Disabled

Values	**1**-Enabled
Default	1
Parameter	dialplan.digitmap.apply_to.prefix_key	<y0000000000xx>.cfg
Description	It enables or disables the phone to apply the predefined string of the digit map after pressing a Prefix key. **Note:** It works only if "dialplan.digitmap.enable" or "account.X.dialplan.digitmap.enable" is set to 1 (Enabled).	
Permitted **Values**	**0**-Disabled **1**-Enabled	
Default	1	
Parameter	dialplan.transfer.mode	<y0000000000xx>.cfg
Description	It configures the transfer type the IP phone will perform when the entered transferee numbers match the Dial Now rule of dial plan. **Note**: It is only applicable to old dial plan mechanism.	
Permitted **Values**	**0**-Semi-attended Transfer/Attended Transfer **1**-Blind Transfer	
Default	0	

Digit Map for a Specific Line Configuration

The following table lists the parameters you can use to configure digit map for a specific line.

Parameter	account.X.dialplan.digitmap.enable[1]	<MAC>.cfg
Description	It enables or disables the digit map feature for the account X. **Note**: The value configured by the parameter "account.X.dialplan.digitmap.enable" takes precedence over that configured by the parameter "dialplan.digitmap.enable".	
Permitted **Values**	**0**-Disabled **1**-Enabled	
Default	0	
Parameter	account.X.dialplan.digitmap.string[1]	<MAC>.cfg
Description	It configures digit map pattern used for the dial plan. **Example**: account.1.dialplan.digitmap.string = <[2-9]x:86>3.T|0x.!|1xxx **Note**: The string must be compatible with the digit map feature of MGCP described in 2.1.5 of RFC 3435. It works only if "account.X.dialplan.digitmap.enable" is set to 1 (Enabled). The value configured by the parameter "account.X.dialplan.digitmap.string"	

	takes precedence over that configured by the parameter "dialplan.digitmap.string".
Permitted Values	String within 2048 characters
Default	Blank
Parameter	account.X.dialplan.digitmap.interdigit_long_timer[1] <MAC>.cfg
Description	It configures the time (in seconds) to wait before dialing an entered number if it matches part of any string of the digit map for the account X.
	If it is set to 0, the IP phone will not dial the entered number if it only a partial match exists.
	The value of this parameter should be greater than that configured by the parameter "account.X.dialplan.digitmap.interdigit_short_timer".
	For example:
	account.1.dialplan.digitmap.string = 1xxT|xxxxx<T1>
	account.1.dialplan.digitmap.interdigit_long_timer = 10
	account.1.dialplan.digitmap.interdigit_short_timer = 5
	When you enter 1, it matches part of two digit maps, the IP phone tries to wait 10 seconds and then dials out 1 if no numbers entered;
	When you enter 15, it also matches part of two digit maps, the IP phone tries to wait 10 seconds and then dials out 15 if no numbers entered;
	When you enter 153, it also matches part of two digit maps, the IP phone tries to wait 10 seconds. But after waiting for 5 seconds, it completely matches the first digit map and then immediately dials out 153.
	Note: It works only if "account.X.dialplan.digitmap.enable" is set to 1 (Enabled). The value configured by the parameter "account.X.dialplan.digitmap.interdigit_long_timer" takes precedence over that configured by the parameter "dialplan.digitmap.interdigit_long_timer".
Permitted Values	Integer from 0 to 255
Default	Blank
Parameter	account.X.dialplan.digitmap.interdigit_short_timer[1] <MAC>.cfg
Description	It configures the timeout interval (in seconds) for any string of digit map.
	The IP phone will wait this many seconds before matching the entered digits to the dial plan and placing the call.
	Note: It works only if "account.X.dialplan.digitmap.enable" is set to 1 (Enabled). The value configured by the parameter "account.X.dialplan.digitmap.interdigit_short_timer" takes precedence over that configured by the parameter "dialplan.digitmap.interdigit_short_timer".

Permitted Values	**Single configuration** (configure a specific value for the timer letter "T" for all strings with "T" of the digit map)
	Example:
	account.1.dialplan.digitmap.interdigit_short_timer = 5
	If "dialplan.digitmap.string" is set to <[2-9]x:86>3.T|0T, the IP phone will wait 5 seconds before matching the entered digits to this dial plan and placing the call.
	Distribution configuration (configure a string of positive integers separated by "|" for each string of the digit map in the corresponding position)
	If there are more digit maps than timeout values, the last timeout is applied to the extra digit map. If there are more timeout values than digit maps, the extra timeout values are ignored.
	Example:
	account.1.dialplan.digitmap.interdigit_short_timer = 4|5|3|6|2|1
	If "dialplan.digitmap.string" is set to <[2-9]x:86>3.T|2T|1xxT|0x.!|[2-9]11T, 4 is applied to the "<[2-9]x:86>3.T" digit map, 5 is applied to "2T" digit map, 3 is applied to "1xxT" digit map, 6 is applied to "0x.!" digit map, 2 is applied to the "[2-9]11T" digit map, the last digit 1 is ignored.
Default	3
Parameter	account.X.dialplan.digitmap.no_match_action[1] <MAC>.cfg
Description	It configures the behavior when an impossible digit map match occurs.
	Note: It works only if "account.X.dialplan.digitmap.enable" is set to 1 (Enabled). The value configured by the parameter "account.X.dialplan.digitmap.no_match_action" takes precedence over that configured by the parameter "dialplan.digitmap.no_match_action".
Permitted Values	**0**-prevent users from entering a number and immediately dial out the entered numbers
	1-the dialing will fail and the LCD screen will prompt "Forbidden Number"
	2-allow users to accumulate digits and dispatch call manually with the send key or automatically dial out the entered number after a certain period of time configured by the parameter "dialplan.digitmap.interdigit_long_timer"
Default	Blank
Parameter	account.X.dialplan.digitmap.active.on_hook_dialing[1] <MAC>.cfg
Description	It enables or disables the entered numbers to match the predefined string of the digit map in real time on the pre-dialing screen.
	To enter the pre-dialing screen, directly enter numbers when the phone is idle.
	Note: It works only if "account.X.dialplan.digitmap.enable" is set to 1 (Enabled). The value configured by the parameter "account.X.dialplan.digitmap.active.on_hook_dialing" takes precedence over that

	configured by the parameter "dialplan.digitmap.active.on_hook_dialing".	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	Blank	
Parameter	account.X.dialplan.digitmap.apply_to.on_hook_dial[1]	<MAC>.cfg
Description	It enables or disables the entered number to match the predefined string of the digit map after pressing a send key on the pre-dialing screen or pressing the DSS key (for example, speed dial, BLF or prefix DSS key). To enter the pre-dialing screen, directly enter numbers when the phone is idle. **Note**: It works only if "account.X.dialplan.digitmap.enable" is set to 1 (Enabled). The value configured by the parameter "account.X.dialplan.digitmap.apply_to.on_hook_dial" takes precedence over that configured by the parameter "dialplan.digitmap.apply_to.on_hook_dial".	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	Blank	
Parameter	account.X.dialplan.digitmap.apply_to.directory_dial[1]	<MAC>.cfg
Description	It enables or disables the digit map to be applied to the numbers dialed from the directory. **Note**: It works only if "account.X.dialplan.digitmap.enable" is set to 1 (Enabled). The value configured by the parameter "account.X.dialplan.digitmap.apply_to.directory_dial" takes precedence over that configured by the parameter "dialplan.digitmap.apply_to.directory_dial".	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	Blank	
Parameter	account.X.dialplan.digitmap.apply_to.history_dial[1]	<MAC>.cfg
Description	It enables or disables the digit map to be applied to the numbers (received calls or missed calls) dialed from call log lists. **Note**: It works only if "account.X.dialplan.digitmap.enable" is set to 1 (Enabled). The value configured by the parameter "account.X.dialplan.digitmap.apply_to.history_dial" takes precedence over that configured by this parameter.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	Blank	

Parameter	account.X.dialplan.digitmap.apply_to.forward[1]	<MAC>.cfg
Description	It enables or disables the digit map to be applied to the numbers that you want to forward to when performing call forward. **Note**: It works only if "account.X.dialplan.digitmap.enable" is set to 1 (Enabled). The value configured by the parameter "account.X.dialplan.digitmap.apply_to.forward" takes precedence over that configured by the parameter "dialplan.digitmap.apply_to.forward".	
Permitted Values	**0**-Disabled **1**-Enabled, the incoming calls will be forwarded to a desired destination number according to the string of the digit map.	
Default	Blank	
Parameter	account.X.dialplan.digitmap.apply_to.press_send[1]	<MAC>.cfg
Description	It enables or disables the entered number to match the predefined string of the digit map after pressing a send key using off-hook dialing. The off-hook dialing includes: pick up the handset, press the Speakerphone key or press the line key when the phone is idle. **Note**: It works only if "account.X.dialplan.digitmap.enable" is set to 1 (Enabled). The value configured by the parameter "account.X.dialplan.digitmap.apply_to.press_send" takes precedence over that configured by the parameter "dialplan.digitmap.apply_to.press_send".	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	Blank	

X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

Emergency Dialplan and Enhanced 911

You can dial the emergency telephone number (emergency services number) at any time when the IP phone is powered on and has been connected to the network. It is available even if your phone keypad is locked or no SIP account is registered.

Yealink IP phones support emergency dialplan and enhanced 911.

Emergency Dial Plan

You can configure the emergency dial plan for the phone (for example, emergency number, emergency routing). The phone determines if this is an emergency number by checking the emergency dial plan. When placing an emergency call, the call is directed to the configured emergency server. Multiple emergency servers may need to be configured for emergency routing, avoiding that emergency calls

could not get through because of the server failure. If the phone is not locked, it checks against the regular dial plan. If the phone is locked, it checks against the emergency dial plan.

Enhanced 911

E911 (Enhanced 911) is a location technology that enables the called party to identify the geographical location of the calling party. For example, if a caller makes an emergency call to E911, the feature extracts the caller's information for the police department to immediately identify the caller's location.

Topic

Emergency Dialplan and Enhanced 911 Configuration

The following table lists the parameters you can use to configure emergency dialplan and Enhanced 911.

Parameter	dialplan.emergency.enable	<y0000000000xx>.cfg
Description	It enables or disables the Emergency dialplan feature.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Parameter	dialplan.emergency.asserted_id_source	<y0000000000xx>.cfg
Description	It configures the precedence of the source of emergency outbound identities when placing an emergency call. **Note**: If the obtained LLDP-MED ELIN value is blank and no custom outbound identity, the PAI header will not be included in the SIP INVITE request. It works only if "dialplan.emergency.enable" is set to 1 (Enabled).	
Permitted Values	**ELIN**-If it is set to **ELIN**, the outbound identity used in the P-Asserted-Identity (PAI) header of the SIP INVITE request is taken from the network using an LLDP-MED Emergency Location Identifier Number (ELIN). The custom outbound identity configured by "dialplan.emergency.custom_asserted_id" will be used if the phone fails to get the LLDP-MED ELIN value. **CUSTOM**-If it is set to **CUSTOM**, the custom outbound identity configured by "dialplan.emergency.custom_asserted_id" will be used; if "dialplan.emergency.custom_asserted_id" is left blank, the LLDP-MED ELIN value will be used. **HELD**-If it is set to **HELD**, the IP phone will use the HELD protocol to retrieve location information from the Location Information Server. **GENBAND**-If it is set to GENBAND, GENBAND E911 feature is enabled, the location ID will be added to the INVITE and REGISTER SIP messages.	

Default	ELIN

Parameter	dialplan.emergency.asserted_id.sip_account	<y0000000000xx>.cfg

Description	It configures the account to be used to retrieve E911 location information.

Permitted Values	T54S/T48S/T48G/T46S/T46G/T29G: Integer from 1 to 16; T52S/T42S/T42G: Integer from 1 to 12; T41P/T41S/T27P/T27G: Integer from 1 to 6; T40P/T40G/T23P/T23G: Integer from 1 to 3; T21(P) E2: Integer from 1 to 2; T19(P) E2: 1.

Default	1

Parameter	dialplan.emergency.custom_asserted_id	<y0000000000xx>.cfg

Description	It configures the custom outbound identity when placing an emergency call. **Note**: It works only if "dialplan.emergency.enable" is set to 1 (Enabled) and "dialplan.emergency.asserted_id_source" is not set to **HELD**.

Permitted Values	10-25 digits - for example, 1234567890. The SIP URI constructed from the number and SIP server (for example, abc.com) is included in the P-Asserted-Identity (PAI) header (for example, <sip:1234567890@abc.com>). SIP URI - for example, sip:1234567890123@abc.com. The full URI is included in the P-Asserted-Identity (PAI) header and the address will be replaced by the emergency server (for example, <sip:1234567890123@emergency.com>). TEL URI - for example, tel:+16045558000. The full URI is included in the P-Asserted-Identity (PAI) header (for example, <tel:+16045558000>).

Default	Blank

Parameter	dialplan.emergency.server.X.address[1]	<y0000000000xx>.cfg

Description	It configures the IP address or domain name of the emergency server X to be used for routing calls. **Note**: If the account information has been configured (no matter whether the account registration succeeds or fails), the emergency calls will be dialed using the following priority: SIP server>emergency server; if not, the emergency server will be used. It works only if "dialplan.emergency.enable" is set to 1 (Enabled) and "dialplan.emergency.asserted_id_source" is not set to **HELD**.

Permitted Values	IP address or domain name

Default	Blank

Parameter	dialplan.emergency.server.X.port[1]	<y0000000000xx>.cfg

Description	It configures the port of emergency server X to be used for routing calls.
	Note: It works only if "dialplan.emergency.enable" is set to 1 (Enabled) and "dialplan.emergency.asserted_id_source" is not set to **HELD**.
Permitted Values	Integer from 1 to 65535
Default	5060

Parameter	dialplan.emergency.server.X.transport_type[1]	<y0000000000xx>.cfg

Description	It configures the transport protocol the IP phone uses to communicate with the emergency server X.
	Note: It works only if "dialplan.emergency.enable" is set to 1 (Enabled) and "dialplan.emergency.asserted_id_source" is not set to **HELD**.
Permitted Values	**0**-UDP **1**-TCP **2**-TLS **3**-DNS-NAPTR
Default	0

Parameter	dialplan.emergency.X.value[2]	<y0000000000xx>.cfg

Description	It configures the emergency number to use on your IP phone so a caller can contact emergency services in the local area when required.
	Note: It works only if "dialplan.emergency.enable" is set to 1 (Enabled) and "dialplan.emergency.asserted_id_source" is not set to **HELD**.
Permitted Values	Number or SIP URI
Default	When X = 1, the default value is 911; When X = 2-255, the default value is Blank.

Parameter	dialplan.emergency.X.server_priority[2]	<y0000000000xx>.cfg

Description	It configures the priority of which the emergency servers to be used first. Multiple values are separated by commas. The servers to be used in the order listed (left to right). The IP phone tries to make emergency calls using the emergency server with higher priority, and then with lower priority. The IP phone tries to send the INVITE request to each emergency server three times. **Note**: If the account information has been configured (no matter whether the account registration succeeds or fails), the emergency calls will be dialed using the following priority: SIP server>emergency server; if not, the emergency server will be used. It works only if "dialplan.emergency.enable" is set to 1 (Enabled) and

	"dialplan.emergency.asserted_id_source" is not set to **HELD**.
Permitted Values	a combination of digits 1, 2 and 3
Default	1, 2, 3
Parameter	dialplan.emergency.held.server_url `<y0000000000xx>.cfg`
Description	It configures the Location Information Server URL for the IP phone to send HELD location request. **Note**: It works only if "dialplan.emergency.enable" is set to 1 (Enabled) and "dialplan.emergency.asserted_id_source" is set to **HELD**.
Permitted Values	String
Default	Blank
Parameter	dialplan.emergency.held.request_type `<y0000000000xx>.cfg`
Description	It configures the type of the location request message. **Note**: It works only if "dialplan.emergency.enable" is set to 1 (Enabled) and "dialplan.emergency.asserted_id_source" is set to **HELD**.
Permitted Values	SIMPLE or REDSKY If it is set to **SIMPLE**, the IP phone will send the location request message defined in RFC5985. If it is set to **REDSKY**, the IP phone will send the location request message defined by REDSKY.
Default	SIMPLE
Parameter	dialplan.emergency.held.request_element.X.name[1] `<y0000000000xx>.cfg`
Description	It configures the custom element name to be sent in a location request message. **For example:** dialplan.emergency.held.request_element.1.name = mac dialplan.emergency.held.request_element.2.name = companyID dialplan.emergency.held.request_element.3.name = nai **Note**: It works only if "dialplan.emergency.enable" is set to 1 (Enabled) and "dialplan.emergency.asserted_id_source" is set to **HELD**.
Permitted Values	String
Default	Blank
Parameter	dialplan.emergency.held.request_element.X.value[2] `<y0000000000xx>.cfg`
Description	It configures the custom element value to be sent in a location request message.

	For example:
	dialplan.emergency.held.request_element.1.value = 001565B38ECB
	dialplan.emergency.held.request_element.2.value = 6f2f2d50-c385-4b72-b84a-ce0ca3a77cb7
	dialplan.emergency.held.request_element.3.value = 8611@pbx.yealink.com
	Note: It works only if "dialplan.emergency.enable" is set to 1 (Enabled) and "dialplan.emergency.asserted_id_source" is set to **HELD**.
Permitted Values	String
Default	Blank

Parameter	account.X.reg_with_pani_header.enable[3]	<MAC>.cfg
Description	It enables or disables the IP phone to carry the PANI header in the REGISTER request message.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	

Parameter	account.X.invite_with_pani_header.enable[3]	<MAC>.cfg
Description	It enables or disables the IP phone to carry the PANI header in the INVITE request message. The PANI header format is: P-Access-Network-Info:IEEE-802.3; eth-location=<*MAC Address Of The Phone*>; local-time-zone="0800"	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	

[1] is from 1 to 3.

[2] is from 1 to 255.

[3]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

Hotline

Hotline, sometimes referred to as hot dialing, is a point-to-point communication link in which a call is automatically directed to the preset hotline number. If you lift the handset, press the Speakerphone key or the line key, and do nothing for a specified time interval, the IP phone will automatically dial out the hotline number. Yealink IP phones only support one hotline number.

Note

If you do not specify a line, the phone uses the first available line to dial out the hotline number by default.

This feature works only if the Off Hook Hot Line Dialing feature is disabled. For more information, refer to Off Hook Hot Line Dialing.

Topic

Hotline Configuration

Hotline Configuration

The following table lists the parameters you can use to configure hotline.

Parameter	features.hotline_number	<y0000000000xx>.cfg
Description	It configures the hotline number that the IP phone automatically dials out when you lift the handset, press the Speakerphone key or the line key. Leaving it blank disables hotline feature. **Example**: features.hotline_number = 1234 **Note**: Line key is not applicable to T19(P) E2 IP phones.	
Permitted Values	String within 32 characters	
Default	Blank	
Web UI	Features->General Information->Hotline Number	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Features->Others->Hot Line->Hotline Number T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Features->Hot Line->Hotline Number	
Parameter	features.hotline_delay	<y0000000000xx>.cfg
Description	It configures the waiting time (in seconds) for the IP phone to automatically dial out the preset hotline number. If it is set to 0 (0s), the IP phone will immediately dial out the preset hotline number when you lift the handset, press the Speakerphone or press the line key. If it is set to a value greater than 0, the IP phone will wait the designated seconds before dialing out the preset hotline number when you lift the handset, press the Speakerphone key or press the line key. **Note**: Line key is not applicable to T19(P) E2 IP phones.	
Permitted	Integer from 0 to 10	

Values	
Default	4
Web UI	Features->General Information->Hotline Delay(0~10s)
Phone UI	<u>T54S/T52S/T48S/T48G/T46S/T46G/T29G</u>: Menu->Features->Others->Hot Line->Hotline Delay <u>T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2</u>: Menu->Features->Hot Line->Hotline Delay

Off Hook Hot Line Dialing

For security reasons, IP phones support off hook hot line dialing feature, which allows the phone to first dial out the pre-configured number when you lift the handset, press the Speakerphone key or desired line key, dial out a call using the account with this feature enabled. The SIP server may then prompt you to enter an activation code for call service. Only if you enter a valid activation code, the IP phone will use this account to dial out a call successfully.

Off hook hot line dialing feature is configurable on a per-line basis and depends on support from a SIP server. The server actions may vary from different servers.

It is also applicable to the IP call and intercom call.

Note
Off hook hot line dialing feature limits the call-out permission of this account and disables the hotline feature. For example, when the phone goes off hook using the account with this feature enabled, the configured hotline number will not be dialed out automatically.

Topic

Off Hook Hot Line Dialing Configuration

Off Hook Hot Line Dialing Configuration

The following table lists the parameters you can use to configure off hook hot line dialing.

Parameter	account.X.auto_dial_enable[1]	<MAC>.cfg
Description	It enables or disables the IP phone to first dial out a pre-configured number when a user lifts the handset, presses the Speakerphone or desired line key or dials out a call using account X. **Note**: Line key is not applicable to T19(P) E2 IP phones.	
Permitted Values	**0**-Disabled **1**-Enabled, the phone will first dial out the pre-configured number (configured by the parameter "account.X.auto_dial_num").	

Default	0	
Parameter	account.X.auto_dial_num[1]	<MAC>.cfg
Description	It configures the number that the IP phone first dials out when a user lifts the handset, presses the Speakerphone or desired line key or dials out a call using account X. **Note**: It works only if "account.X.auto_dial_enable" is set to 1 (Enabled). Line key is not applicable to T19(P) E2 IP phones.	
Permitted Values	String within 1024 characters	
Default	Blank	

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

Live Dialpad

Live Dialpad allows IP phones automatically dial out the entered phone number without pressing the send key after a designated period of time.

Topic

Live Dialpad Configuration

Live Dialpad Configuration

The following table lists the parameters you can use to configure live dialpad.

Parameter	phone_setting.predial_autodial	<y0000000000xx>.cfg
Description	It enables or disables the live dialpad feature.	
Permitted Values	**0**-Disabled **1**-Enabled, the IP phone will automatically dial out the entered phone number on the pre-dialing screen without pressing a send key.	
Default	0	
Web UI	Settings->Preference->Live Dialpad	
Parameter	phone_setting.inter_digit_time	<y0000000000xx>.cfg
Description	It configures the delay time (in seconds) for the IP phone to automatically dial out the entered phone number without pressing a send key. **Note**: It works only if "phone_setting.predial_autodial" is set to 1 (Enabled).	
Permitted	Integer from 1 to 14	

Values	
Default	4
Web UI	Settings->Preference->Inter Digit Time (1~14s)

Auto Redial

You can set the phone automatically redial the last dialed number when the callee is temporarily unavailable. Both the number of attempts and waiting time between redials are configurable.

Topic

Auto Redial Configuration

Auto Redial Configuration

The following table lists the parameters you can use to configure auto redial.

Parameter	auto_redial.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to automatically redial the last dialed number when the callee is temporarily unavailable.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Features->General Information->Auto Redial	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Features->Others->Auto Redial->Auto Redial T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Features->Auto Redial->Auto Redial	
Parameter	auto_redial.interval	<y0000000000xx>.cfg
Description	It configures the interval (in seconds) for the IP phone to wait between redials. The IP phone redials the last dialed number at regular intervals till the callee answers the call.	
Permitted Values	Integer from 1 to 300	
Default	10	
Web UI	Features->General Information->Auto Redial Interval (1~300s)	

Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Features->Others->Auto Redial->Redial Interval T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Features->Auto Redial->Redial Interval	
Parameter	auto_redial.times	<y0000000000xx>.cfg
Description	It configures the auto redial times when the callee is temporarily unavailable. The IP phone tries to redial the callee as many times as configured till the callee answers the call.	
Permitted Values	Integer from 1 to 300	
Default	10	
Web UI	Features->General Information->Auto Redial Times (1~300)	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Features->Others->Auto Redial->Redial Times T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Features->Auto Redial->Redial Times	
Parameter	features.redial_via_local_sip_server.enable	<y0000000000xx>.cfg
Description	It configures the IP phone to redial via local SIP server or remote SIP server.	
Permitted Values	**0**-Remote SIP Server **1**-Local SIP Server	
Default	1	

ReCall Configuration

ReCall, also known as last call return, allows you to dial the last received call. Recall is implemented on IP phones using a Recall key.

The following shows configuration for a Recall key.

Line Key Configuration	Programmable Key Configuration
linekey.X.type = 7 *linekey.X.label = Recall*	*programablekey.X.type = 7*

After provisioning, a Recall key is available on the phone. When you press the Recall key, the phone places a call to the phone number that last called you.

Related Topics

Line Keys Configuration

Speed Dial

Speed dial allows you to speed up dialing the contacts on the phone's idle screen using dedicated DSS keys.

Topic

Speed Dial Key Configuration

There are two ways to configure a Speed Dial key:

● Manually, configure a line key or programmable key as Speed Dial key.

● Automatically, assign a favorite contact, the phone automatically links the contact to a line key.

The following shows manually configuration for a Speed Dial key.

Scenario Conditions	Related Topic
local_contact.favorite.enable = 0	Favorite Contacts

Line Key Configuration	Programmable Key Configuration
linekey.X.type = 13 *linekey.X.line = 1* *linekey.X.value = 4603* *linekey.X.label = Bill*	*programablekey.X.type = 13* *programablekey.X.line = 1* *programablekey.X.value = 4603*

After provisioning, a Speed Dial key for Bill (4603) is available on the phone, and you can press the Speed Dial key to call Bill (4603) quickly.

You can configure multiple Speed Dial keys for different contacts which are used frequently or hard to remember. Alternatively, you can use favorite contact feature, and automatically assign Speed Dial keys for favorite contacts.

Related Topics

Password Dial

Password dial feature allows the callee number to be partly displayed on the IP phone when placing a call.

The hidden digits are displayed as asterisks on the LCD screen. The number in placed call list is also partly displayed on the IP phone. This feature is especially useful for users who often places important and confidential calls.

Topic

Password Dial Configuration

Password Dial Configuration

The following table lists the parameters you can use to configure password dial.

Parameter	features.password_dial.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to partly display the callee number when placing a call.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Features->General Information->PswDial	
Parameter	features.password_dial.prefix	<y0000000000xx>.cfg
Description	It configures the prefix of the number that needs to be partly displayed. **Example**: features.password_dial.prefix = 12 **Note**: It works only if "features.password_dial.enable" is set to 1 (Enabled).	
Permitted Values	String within 32 characters	
Default	Blank	
Web UI	Features->General Information->PswPrefix	
Parameter	features.password_dial.length	<y0000000000xx>.cfg
Description	It configures how many digits to be displayed as asterisks. **Example**: features.password_dial.length = 3 If set the prefix to 12 and the length to 3, when you want to dial the number 123456, the entered number is displayed as 12***6 on the LCD screen. **Note**: It works only if "features.password_dial.enable" is set to 1 (Enabled).	
Permitted Values	Integer from 0 to 32	

Default	Blank
Web UI	Features->General Information->PswLength

Call Timeout

Call timeout defines a specific period of time after which the IP phone will cancel the dialing if the call is not answered.

Topic

Call Timeout Configuration

Call Timeout Configuration

The following table lists the parameter you can use to configure call timeout.

Parameter	phone_setting.ringback_timeout	<y0000000000xx>.cfg
Description	It configures the duration time (in seconds) in the ringback state. If it is set to 180, the phone will cancel the dialing if the call is not answered after 180 seconds.	
Permitted Values	Integer from 0 to 3600	
Default	180	

Anonymous Call

Anonymous call allows the caller to conceal the identity information shown to the callee. The callee's phone LCD screen prompts an incoming call from anonymity.

Anonymous call can be performed locally or on the server. When performing anonymous call on local, the IP phone sends an INVITE request with a call source "*From: "Anonymous"* *sip:anonymous@anonymous.invalid*". If performing Anonymous call on a specific server, you may need to configure anonymous call on code and off code to activate and deactivate server-side anonymous call feature.

Topic

Anonymous Call Configuration

Anonymous Call Configuration

The following table lists the parameters you can use to configure anonymous call.

Parameter	account.X.anonymous_call[1]	<MAC>.cfg
Description	It triggers the anonymous call feature to on or off.	
Permitted Values	**0**-Off **1**-On, the IP phone will block its identity from showing to the callee when placing a call. The callee's phone LCD screen presents "Anonymous" instead of the caller's identity.	
Default	0	
Web UI	Account->Basic->Anonymous ("account.X.anonymous_call.server_base_only" must not be left blank)	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Features->Anonymous->Line X->Anonymous ("account.X.anonymous_call.server_base_only" must not be left blank) T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Features->Anonymous Call->Anonymous ("account.X.anonymous_call.server_base_only" must not be left blank)	
Parameter	account.X.send_anonymous_code[1]	<MAC>.cfg
Description	It configures the IP phone to send anonymous on/off code to activate/deactivate the server-side anonymous call feature for account X.	
Permitted Values	**0**-Off Code, the IP phone will send anonymous off code to the server when you deactivate the anonymous call feature. **1**-On Code, the IP phone will send anonymous on code to the server when you activate the anonymous call feature.	
Default	0	
Web UI	Account->Basic->Send Anonymous Code	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Features->Anonymous->LineX->Send Anony Code T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Features->Anonymous Call->Send Anonymous Code	
Parameter	account.X.anonymous_call.server_base_only[1]	<MAC>.cfg
Description	It enables or disables the IP phone to perform the anonymous call feature on server-side only. **Note**: You need to configure parameters "account.X.anonymous_call_oncode" and	

	"account.X.anonymous_call_offcode" to activate or deactivate the server-side anonymous call feature.
Permitted Values	**0**-Disabled, the IP phone will perform the anonymous call feature on server-side and locally. If the anonymous call feature is enabled on the IP phone, the IP phone will carry the Anonymous attribute in the From header of the INVITE message. **1**-Enabled, the IP phone will perform the anonymous call feature on server-side only. The IP phone will not carry the Anonymous attribute in the From header of the INVITE message even if the anonymous call feature is enabled on the IP phone.
Default	Blank

Parameter	account.X.anonymous_call_oncode[1]	<MAC>.cfg

Description	It configures the anonymous call on code. The IP phone will send the code to activate anonymous call feature on server-side when you activate it on the IP phone. **Example**: account.1.anonymous_call_oncode = *72
Permitted Values	String within 32 characters
Default	Blank
Web UI	None ("account.X.anonymous_call.server_base_only" must not be left blank)
Phone UI	None ("account.X.anonymous_call.server_base_only" must not be left blank)

Parameter	account.X.anonymous_call_offcode[1]	<MAC>.cfg

Description	It configures the anonymous call off code. The IP phone will send the code to deactivate anonymous call feature on server-side when you deactivate it on the IP phone. **Example**: account.1.anonymous_call_offcode = *73
Permitted Values	String within 32 characters
Default	Blank
Web UI	None ("account.X.anonymous_call.server_base_only" must not be left blank)
Phone UI	None ("account.X.anonymous_call.server_base_only" must not be left blank)

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

Call Number Filter

Call number filter feature allows IP phone to filter designated characters automatically when dialing.

Topic

Call Number Filter Configuration

Call Number Filter Configuration

The following table lists the parameter you can use to configure call number filter.

Parameter	features.call_num_filter	<y0000000000xx>.cfg
Description	It configures the characters the IP phone filters when dialing. If the dialed number contains configured characters, the IP phone will automatically filter these characters when dialing. **Example**: features.call_num_filter = - If you dial 3-61, the IP phone will filter the character - and then dial out 361. **Note**: If it is left blank, the IP phone will not automatically filter any characters when dialing.	
Permitted Values	String within 99 characters	
Default	, -()	
Web UI	Features->General Information->Call Number Filter	

IP Address Call

You can set the phone whether to receive or place an IP call. You can neither receive nor place an IP call if you disable this feature.

Topic

IP Address Call Configuration

IP Address Call Configuration

The following table lists the parameter you can use to configure IP address call.

Parameter	features.direct_ip_call_enable	<y0000000000xx>.cfg

Description	It enables or disables to allow IP address call. **Note**: If you want to receive an IP address call, make sure "sip.trust_ctrl" is set to 0 (Disabled).
Permitted Values	**0**-Disabled **1**-Enabled
Default	1
Web UI	Features->General Information->Allow IP Call

Ignoring Incoming Calls

By default, when a phone receives an incoming call, the phone screen prompts the incoming call information. You should handle the incoming call first before performing other features. For example, you should handle the incoming call when there is an active call in progress, otherwise you cannot hold or set up a conference on the current call.

You can configure the phone to ignore incoming call. The incoming call is still in the progress and is not rejected, you can choose to answer it or not, or perform other features.

When the phone receives an incoming call in the idle state, the screen prompt the incoming call information.

- To ignore the call, and initial a new call, pick up the handset, press the Speakerphone key or HEADSET key, press keypad or other line key.

- To answer the incoming call, press the corresponding line key, the **Answer** soft key or the **OK** key.

When the phone receives an incoming call in the call state, the screen does not prompt the incoming call information. You can perform other features on the current call. You can only answer the incoming call after ending the current call.

Topic

Ignoring Incoming Calls Configuration

Ignoring Incoming Calls Configuration

The following table lists the parameter you can use to configure ignoring incoming calls.

Parameter	features.ignore_incoming_call.enable	<y0000000000xx>.cfg
Description	It enables or disables to ignore the incoming call.	
Permitted Values	**0**-Disabled **1**-Enabled, the incoming call is still in the progress and is not rejected, the user can choose to answer it or not, or perform other features.	
Default	0	

Off Hook Answering

You can set whether to answer an incoming call by picking up the handset, pressing the Speakerphone key or pressing the HEADSET key directly.

Topic

Off Hook Answering Configuration

Off Hook Answering Configuration

The following table lists the parameter you can use to configure off hook answering.

Parameter	features.off_hook_answer.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to answer an incoming call by picking up the handset, pressing the Speakerphone key or pressing the HEADSET key directly.	
Permitted Values	**0**-Disabled, the user needs to press the corresponding line key, the **Answer** soft key or the OK key to answer an incoming call after picking up the handset, pressing the Speakerphone key or pressing the HEADSET key. **1**-Enabled	
Default	1	

Auto Answer

Yealink IP phones support answer a SIP call or an IP address call automatically. Auto answer is configurable on a per-line basis, while IP address call is not.

By default, the IP phones will not automatically answer the incoming call during a call or while dialing even if auto answer is enabled; and the incoming call will not be automatically answered after you end

the current call or cancel the dialing. You can configure how the phone answers the call automatically.

Topic

Auto Answer Configuration

Auto Answer Configuration

The following table lists the parameters you can use to configure auto answer.

Parameter	account.X.auto_answer[1]	<MAC>.cfg
Description	It enables or disables auto answer a SIP call. **Note**: The IP phone cannot automatically answer the incoming call during a call or while dialing even if auto answer is enabled.	
Permitted Values	**0**-Disabled **1**-Enabled, the IP phone can automatically answer an incoming call.	
Default	0	
Web UI	Account->Basic->Auto Answer	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Features->Auto Answer->Line X->Auto Answer T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Features->Auto Answer->Status	
Parameter	features.ip_call.auto_answer.enable	<y0000000000xx>.cfg
Description	It enables or disables the auto answer feature for IP call. **Note**: It works only if "features.direct_ip_call_enable" is set to 1 (Enabled). The IP phone cannot automatically answer the incoming IP call when the IP hone is in a call or dialing even if IP call auto answer is enabled.	
Permitted Values	**0**-Disabled **1**-Enabled, the IP phone can automatically answer IP call.	
Default	0	
Web UI	Features->General Information->IP Direct Auto Answer	
Parameter	features.auto_answer.first_call_only	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to only automatically answer the incoming call when the phone is idle. **Note**: It works only if "account.X.auto_answer" or "features.ip_call.auto_answer.enable" is set to 1 (Enabled).	
Permitted	**0**-Disabled. If there is an incoming call arrived when the IP phone is in a call or dialing,	

Values	the IP phone will automatically answer after you end the current call or cancel the dialing. **1**-Enabled. The IP phone can only automatically answer the incoming call arrived when the phone is idle. If there is an incoming call arrived when the IP phone is in a call or dialing, you have to manually pick up the incoming call.	
Default	1	
Parameter	features.auto_answer_delay	<y0000000000xx>.cfg
Description	It configures the delay time (in seconds) before the IP phone automatically answers an incoming call. **Note**: For the call coming from a SIP account, it works only if "account.X.auto_answer" is set to 1 (Enabled).	
Permitted Values	Integer from 1 to 4	
Default	1	
Web UI	Features->General Information->Auto Answer Delay(1~4s)	
Parameter	features.auto_answer_tone.enable	<y0000000000xx>.cfg
Description	It enables or disables the phone to play a warning tone when an incoming call is automatically answered. **Note**: For the call coming from a SIP account, it works only if "account.X.auto_answer" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Web UI	Features->General Information->Enable Auto Answer Tone	
Parameter	features.custom_auto_answer_tone.enable	<y0000000000xx>.cfg
Description	It configures the type of auto answer tone. **Note**: It works only if "features.auto_answer_tone.enable" is set to 1 (Enabled).	
Permitted Values	**0**-One beep **1**-Double beep	
Default	1	
Parameter	features.mute.autoanswer_mute.enable	<y0000000000xx>.cfg
Description	It enables or disables auto answer mute feature. **Note**: It works only if "account.X.auto_answer" and "features.allow_mute" are set to 1 (Enabled). It is not available to the intercom call.	

Permitted Values	**0**-Disabled **1**-Enabled, the IP phone will mute the microphone when an incoming call is automatically answered, and then the other party cannot hear you.
Default	0

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

Anonymous Call Rejection

Anonymous call rejection allows IP phone to automatically reject incoming calls from callers whose identity has been deliberately concealed.

Anonymous call rejection can be performed locally or on the server. When performing anonymous call rejection on local, the IP phone sends server a status message "*Status-Line: SIP/2.0 433 Anonymity Disallowed*". If performing Anonymous call rejection on a specific server, you may need to configure anonymous call rejection on code and off code to activate and deactivate server-side anonymous call rejection feature.

Topic

Anonymous Call Rejection Configuration

Anonymous Call Rejection Configuration

The following table lists the parameters you can use to configure anonymous call rejection.

Parameter	account.X.reject_anonymous_call[1]	<MAC>.cfg
Description	It triggers the anonymous call rejection feature to on or off.	
Permitted Values	**0**-Off **1**-On, the IP phone will automatically reject incoming calls from users enabled anonymous call feature. The anonymous user's phone LCD screen presents "Anonymity Disallowed".	
Default	0	
Web UI	Account->Basic->Anonymous Rejection ("account.X.anonymous_call.server_base_only" must not be left blank)	
Phone UI	<u>T54S/T52S/T48S/T48G/T46S/T46G/T29G</u>: Menu->Features->Anonymous->Line X->Anonymous Rejection ("account.X.anonymous_call.server_base_only" cannot be left blank) <u>T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2</u>: Menu->Features->Anonymous Call->Anonymous Rejection	

	("account.X.anonymous_call.server_base_only" cannot be left blank)	
Parameter	features.anonymous_response_code	<y0000000000xx>.cfg
Description	It configures the code the phone responds with to the server when it receives an anonymous call. **Note**: It works only if "account.X.reject_anonymous_call" is set to 1 (On).	
Permitted Values	Integer from 0 to 65535	
Default	433	
Parameter	account.X.anonymous_reject_oncode[1]	<MAC>.cfg
Description	It configures the anonymous call rejection on code. The IP phone will send the code to activate anonymous call rejection feature on server-side when you activate it on the IP phone. **Example**: account.1.anonymous_reject_oncode = *74	
Permitted Values	String within 32 characters	
Default	Blank	
Web UI	None ("account.X.anonymous_call.server_base_only" cannot be left blank)	
Phone UI	None ("account.X.anonymous_call.server_base_only" cannot be left blank)	
Parameter	account.X.send_anonymous_rejection_code[1]	<MAC>.cfg
Description	It configures the IP phone to send anonymous call rejection on/off code to activate/deactivate the server-side anonymous call rejection feature for account X.	
Permitted Values	**0**-Off Code, the IP phone will send anonymous rejection off code to the server when you deactivate the anonymous call rejection feature. **1**-On Code, the IP phone will send anonymous rejection on code to the server when you activate the anonymous call rejection feature.	
Default	0	
Web UI	Account->Basic->Send Anonymous Rejection Code	
Phone UI	<u>T54S/T52S/T48S/T48G/T46S/T46G/T29G</u>: Menu->Features->Anonymous->Line X->Send Rejection Code <u>T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2</u>: Menu->Features->Anonymous Call->Send Rejection Code	
Parameter	account.X.anonymous_reject_offcode[1]	<MAC>.cfg
Description	It configures the anonymous call rejection off code.	

	The IP phone will send the code to deactivate anonymous call rejection feature on server-side when you deactivate it on the IP phone. **Example**: account.1.anonymous_reject_offcode = *75
Permitted Values	String within 32 characters
Default	Blank
Web UI	None ("account.X.anonymous_call.server_base_only" cannot be left blank)
Phone UI	None ("account.X.anonymous_call.server_base_only" cannot be left blank)

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

Call Waiting

Call waiting enables you to receive another call when there is already an active call on your phone. If it is disabled, the new incoming call will be rejected automatically.

You can enable call waiting feature and set the phone to play a warning tone to avoid missing important calls during a call.

Yealink IP phones also support call waiting on code and off code to activate and deactivate server-side call waiting feature. They may vary on different servers.

Topic

Call Waiting Configuration

Call Waiting Configuration

The following table lists the parameters you can use to configure call waiting.

Parameter	call_waiting.enable	<y0000000000xx>.cfg
Description	It enables or disables the call waiting feature.	
Permitted Values	**0**-Disabled, a new incoming call is automatically rejected by the IP phone with a busy message during a call. **1**-Enabled, the LCD screen will present a new incoming call during a call.	
Default	1	
Web UI	Features->General Information->Call Waiting	
Phone UI	Menu->Features->Call Waiting->Call Waiting	
Parameter	call_waiting.tone	<y0000000000xx>.cfg

Description	It enables or disables the IP phone to play the call waiting tone when the IP phone receives an incoming call during a call. **Note**: It works only if "call_waiting.enable" is set to 1 (Enabled).
Permitted Values	**0**-Disabled **1**-Enabled
Default	1
Web UI	Features->Audio->Call Waiting Tone
Phone UI	Menu->Features->Call Waiting->Play Tone

Parameter	call_waiting.on_code	<y0000000000xx>.cfg

Description	It configures the call waiting on code. The IP phone will send the code to activate call waiting on server-side when you activate it on the IP phone. **Example**: call_waiting.on_code = *71
Permitted Values	String within 32 characters
Default	Blank
Web UI	Features->General Information->Call Waiting On Code
Phone UI	Menu->Features->Call Waiting->On Code

Parameter	call_waiting.off_code	<y0000000000xx>.cfg

Description	It configures the call waiting off code. The IP phone will send the code to deactivate call waiting on server-side when you deactivate it on the IP phone. **Example**: call_waiting.off_code = *72
Permitted Values	String within 32 characters
Default	Blank
Web UI	Features->General Information->Call Waiting Off Code
Phone UI	Menu->Features->Call Waiting->Off Code

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

Do Not Disturb (DND)

DND feature enables the phone to reject all incoming calls automatically when you do not want to be interrupted. You can choose to implement DND locally on the phone or on the server-side.

Usually, you can activate DND when the phone is idle. The phone stays in the DND state until you deactivate DND manually.

You can also temporarily activate DND during calls, the new incoming calls are rejected automatically. After ending the call, the DND is deactivated automatically. It prevents from interrupting during current calls and avoids missing calls after calls end.

Topics

DND Settings Configuration

DND Feature Configuration

DND Synchronization for Server-side Configuration

DND Settings Configuration

You can change the following DND settings:

- Enable or disable the DND feature. If disabled, DND soft key is not available, the users have no permission to configure DND on their phone.

- Choose a DND mode. You can configure DND for all lines or specific lines.

- Enable or disable the phone to persist DND state across calls when activating DND during calls. If disabled, the DND is automatically deactivated after calls end.

- Enable or disable DND emergency feature and specify DND authorized numbers. These numbers will not to be DND when the DND feature is enabled. The incoming call will not be logged in the Missed Calls list.

- Define the return code and the reason of the SIP response message for a rejected incoming call when DND is activated. The caller's phone LCD screen displays the received return code.

- Allow or disallow the IP phone to display a large DND icon on the idle screen. It helps users to clearly view that DND is activated.

The following table lists the parameters you can use to configure the DND settings.

Parameter	features.dnd.allow	<y0000000000xx>.cfg
Description	It enables or disables the DND feature.	
Permitted Values	**0**-Disabled, DND cannot be activated and users are not allowed to configure DND on the phone. **1**-Enabled	
Default	1	

Parameter	features.dnd_mode	<y0000000000xx>.cfg
Description	It configures the DND mode for the IP phone. **Note**: It works only if "features.dnd.allow" is set to 1 (Enabled). It is not applicable to T19(P) E2 IP phones.	
Permitted Values	**0**-Phone, DND feature is effective for the phone system. **1**-Custom, you can configure DND feature for each or all accounts.	
Default	0	
Web UI	Features->Forward&DND->DND->Mode	

Parameter	features.keep_dnd.enable	<y0000000000xx>.cfg
Description	It configures if the DND state persists between calls after you activate DND during the call. **Note**: To activate DND during the call, you need to configure a DND key in advance.	
Permitted Values	**0**-DND state is automatically deactivated after the call. **1**-DND state persists across calls. The phone stays in the DND state until you deactivate the DND manually.	
Default	1	

Parameter	features.dnd.emergency_enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to receive incoming calls from authorized numbers when DND feature is enabled. **Note**: The authorized numbers are configured by the parameter "features.dnd.emergency_authorized_number". It works only if the "features.dnd.allow" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Features->Forward&DND->DND->DND Emergency	

Parameter	features.dnd.emergency_authorized_number	<y0000000000xx>.cfg
Description	It configures the authorized numbers the IP phone can receive incoming calls from even if DND feature is activated. Multiple numbers are separated by commas. **Example**: features.dnd.emergency_authorized_number = 123,124 **Note**: It works only if the values of the parameters "features.dnd.allow" and "features.dnd.emergency_enable" are set to 1 (Enabled).	

Permitted Values	String within 511 characters	
Default	Blank	
Web UI	Features->Forward&DND->DND->DND Authorized Numbers	
Parameter	features.dnd_refuse_code	<y0000000000xx>.cfg
Description	It configures a return code and reason of SIP response messages when rejecting an incoming call by DND. A specific reason is displayed on the caller's phone LCD screen. **Note**: For Yealink IP phones, it works only if "features.dnd.allow" is set to 1 (Enabled).	
Permitted Values	**404**-Not Found **480**-Temporarily Unavailable **486**-Busy Here, the caller's phone LCD screen will display the reason "Busy Here" when the callee enables DND feature. **603**-Decline	
Default	480	
Web UI	Features->General Information->Return Code When DND	
Parameter	features.dnd.large_icon.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to display a large DND icon on the idle screen. **Note**: It works only if "features.dnd.allow" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	

DND Feature Configuration

After you choose a DND mode, you can configure DND feature for all lines or specific lines. It depends on the DND mode (except T19(P) E2):

- **Phone** (default)**:** DND feature is effective for all lines.

- **Custom:** DND feature can be configured for a specific line or multiple lines.

Note
DND mode is set by the parameter "*features.dnd_mode*".

Yealink IP phones also support DND on code and off code to activate and deactivate server-side DND feature. They may vary on different servers.

Topics

DND in Phone Mode Configuration

The following table lists the parameters you can use to configure DND in Phone mode.

Parameter	features.dnd.enable	<y0000000000xx>.cfg
Description	It triggers the DND feature to on or off. **Note**: It works only if "features.dnd.allow" is set to 1 (Enabled) and value of the parameter "features.dnd_mode" is set to 0 (Phone) (except T19(P) E2 IP phones) .	
Permitted Values	**0**-Off **1**-On, the IP phone will reject incoming calls on all accounts.	
Default	0	
Web UI	Features->Forward&DND->DND->DND Status	
Phone UI	Menu->Features->DND->DND Status	
Parameter	features.dnd.on_code	<y0000000000xx>.cfg
Description	It configures the DND on code to activate the server-side DND feature. The IP phone will send the DND on code to the server when you activate DND feature on the IP phone. **Example**: features.dnd.on_code = *71 **Note**: It works only if "features.dnd.allow" is set to 1 (Enabled) and value of the parameter "features.dnd_mode" is set to 0 (Phone) (except T19(P) E2 IP phones) .	
Permitted Values	String within 32 characters	
Default	Blank	
Web UI	Features->Forward&DND->DND->On Code	
Phone UI	Menu->Features->DND->On Code	
Parameter	features.dnd.off_code	<y0000000000xx>.cfg
Description	It configures the DND off code to deactivate the server-side DND feature. The IP phone will send the DND off code to the server when you deactivate DND feature on the IP phone. **Example**: features.dnd.off_code = *72 **Note**: It works only if "features.dnd.allow" is set to 1 (Enabled) and value of the parameter "features.dnd_mode" is set to 0 (Phone) (except T19(P) E2 IP phones) .	
Permitted	String within 32 characters	

Values	
Default	Blank
Web UI	Features->Forward&DND->DND->Off Code
Phone UI	Menu->Features->DND->Off Code

DND in Custom Mode Configuration

The following table lists the parameters you can use to configure DND in Custom mode.

Parameter	account.X.dnd.enable[1]	<MAC>.cfg
Description	It triggers the DND feature to on or off. **Note**: It works only if "features.dnd.allow" is set to 1 (Enabled) and value of the parameter "features.dnd_mode" is set to 1 (Custom). It is not applicable to T19(P) E2 IP phones.	
Permitted Values	**0**-Off **1**-On, the IP phone will reject incoming calls on account X.	
Default	0	
Web UI	Features->Forward& DND->DND->AccountX->DND Status	
Phone UI	Menu->Features->DND->AccountX->DND Status	
Parameter	account.X.dnd.on_code[1]	<MAC>.cfg
Description	It configures the DND on code to activate the server-side DND feature. The IP phone will send the DND on code to the server when you activate DND feature on the IP phone. **Example**: account.1.dnd.on_code = *73 **Note**: It works only if the values of the parameters "features.dnd.allow", "features.dnd_mode" and "account.X.dnd.enable" are both set to 1. It is not applicable to T19(P) E2 IP phones.	
Permitted Values	String within 32 characters	
Default	Blank	
Web UI	Features->Forward& DND->DND->AccountX->On Code	
Phone UI	Menu->Features->DND->AccountX->On Code	
Parameter	account.X.dnd.off_code[1]	<MAC>.cfg
Description	It configures the DND off code to deactivate the server-side DND feature. The IP phone will send the DND off code to the server when you deactivate DND	

	feature on the IP phone.
	Example:
	account.1.dnd.off_code = *74
	Note: It works only if the values of the parameters "features.dnd.allow", "features.dnd_mode" and "account.X.dnd.enable" are both set to 1. It is not applicable to T19(P) E2 IP phones.
Permitted Values	String within 32 characters
Default	Blank
Web UI	Features->Forward& DND->DND->AccountX->Off Code
Phone UI	Menu->Features->DND->AccountX->Off Code

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2.

DND Synchronization for Server-side Configuration

DND synchronization feature provides the capability to synchronize the status of the DND features between the IP phone and the server.

If the DND is activated in phone mode, the DND status changing locally will be synchronized to all registered accounts on server; but if the DND status of a specific account is changed on server, the DND status locally will be changed.

The following table lists the parameters you can use to configure DND synchronization for server-side.

Parameter	features.feature_key_sync.enable	<y0000000000xx>.cfg
Description	It enables or disables to synchronize the feature status between the IP phone and the server. **Note**: It applies to the DND synchromization and forward synchromization.	
Permitted Values	**0**-Disabled **1**-Enabled, the IP phone sends a SUBSCRIBE message with event "as-feature-event".	
Default	0	
Parameter	features.dnd.feature_key_sync.enable	<y0000000000xx>.cfg
Description	It enables or disables the DND feature synchronization. **Note**: It works only if "features.feature_key_sync.enable" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled, server-based DND is enabled. Server and local phone DND are synchronized.	

Default	1
Parameter	features.dnd.feature_key_sync.local_processing.enable <y0000000000xx>.cfg
Description	It enables or disables the local DND when DND feature synchronization is enabled. **Note**: It works only if s "features.feature_key_sync.enable" and "features.dnd.feature_key_sync.enable" are set to 1 (Enabled). The value configured by the parameter "account.X.features.dnd.feature_key_sync.local_processing.enable" takes precedence over that configured by this parameter.
Permitted Values	**0**-Disabled, DND is performed on server side only. **1**-Enabled, DND is performed on both server side and locally.
Default	0
Parameter	account.X.features.dnd.feature_key_sync.local_processing.enable[1] <MAC>.cfg
Description	It enables or disables the local DND when DND feature synchronization is enabled. **Note**: It works only if s "features.feature_key_sync.enable" and "features.dnd.feature_key_sync.enable" are set to 1 (Enabled).
Permitted Values	**0**-Disabled, DND is performed on server side only. **1**-Enabled, DND is performed on both server side and locally.
Default	Blank

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2.

Multiple Call Appearances

You can enable each registered line to support multiple concurrent calls. For example, you can place one call on hold, switch to another call on the same registered line, and have both calls displayed.

You can set the maximum number of concurrent calls per line key on all-lines basis or a per-line basis. For example, if you specify 3 concurrent-calls for account 1, you can only have three call appearances on a corresponding line key. The additional incoming calls will be rejected.

Note
The number of concurrent calls applies to all line keys. For example, if three line keys are associated with an account, you can have three call appearances per line key.

Topic

Multiple Call Appearances Configuration

You can specify the maximum concurrent-call numbers per line key.

The following table lists the parameters you can use to configure multiple call appearances.

Parameter	phone_setting.call_appearance.calls_per_linekey	<y0000000000xx>.cfg
Description	It configures the maximum number of concurrent calls per line key for all registered lines. If it is set to 0, there is no limit for the number of concurrent calls. **Example**: phone_setting.call_appearance.calls_per_linekey = 2 It means that you can have up to two concurrent calls per line key on the IP phone. **Note**: The value configured by the parameter "account.X.phone_setting.call_appearance.calls_per_linekey" takes precedence over that configured by this parameter. It is not applicable to T19(P) E2 IP phones.	
Permitted Values	Integer from 0 to 24	
Default	0	
Parameter	account.X.phone_setting.call_appearance.calls_per_linekey[1]	<MAC>.cfg
Description	It configures the maximum number of concurrent calls per line key for a specific line. If it is set to 0, there is no limit for the number of concurrent calls. **Example**: account.1.phone_setting.call_appearance.calls_per_linekey = 2 It means that you can have up to two concurrent calls per line key associated with account 1. **Note**: The value configured by this parameter takes precedence over that configured by the parameter "phone_setting.call_appearance.calls_per_linekey". It is not applicable to T19(P) E2 IP phones.	
Permitted Values	Integer from 0 to 24	
Default	Blank	

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2.

Call Hold

Call hold provides a service of placing an active call on hold. It enables you to pause activity on an active call so that you can use the phone for another task, for example, to place or receive another call.

When a call is placed on hold, the IP phones send an INVITE request with HOLD SDP to request remote parties to stop sending media and to inform them that they are being held. IP phones support two call hold methods, one is RFC 3264, which sets the "a" (media attribute) in the SDP to sendonly, recvonly or

inactive (for example, a=sendonly). The other is RFC 2543, which sets the "c" (connection addresses for the media streams) in the SDP to zero (for example, c=0.0.0.0).

When you place an active call on hold or the call is held by remote parry, a call hold tone or held tone alerts you after a specific period of time that a call is still on hold or is still held by remote party. You can configure the call hold tone and held tone.

If supported by the server, you can also configure a music-on-hold URI.

Topics

Call Hold Configuration

Music on Hold (MoH) Configuration

Call Hold Configuration

The following table lists the parameters you can use to configure call hold.

Parameter	sip.rfc2543_hold	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to use RFC 2543 (c=0.0.0.0) outgoing hold signaling.	
Permitted Values	**0**-Disabled, SDP media direction attributes (such as a=sendonly) per RFC 3264 is used when placing a call on hold. **1**-Enabled, SDP media connection address c=0.0.0.0 per RFC 2543 is used when placing a call on hold.	
Default	0	
Web UI	Features->General Information->RFC 2543 Hold	
Parameter	account.X.hold_use_inactive[1]	<MAC>.cfg
Description	It enables or disables the IP phone to use inactive outgoing hold signaling. **Note**: It works only if "sip.rfc2543_hold" is set to 0 (Disabled).	
Permitted Values	**0**-Disabled, SDP media direction attribute "a=sendonly" is used when placing a call on hold. **1**-Enabled, SDP media direction attribute "a=inactive" is used when placing a call on hold. RTP packets will not be sent or received.	
Default	0	
Parameter	features.play_hold_tone.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to play the call hold tone when you place a call on hold.	
Permitted Values	**0**-Disabled **1**-Enabled	

Default	1
Web UI	Features->General Information->Play Hold Tone
Parameter	features.play_hold_tone.delay \<y0000000000xx\>.cfg
Description	It configures the time (in seconds) to wait for the IP phone to play the initial call hold tone. If it is set to 30 (30s), the IP phone will wait 30 seconds to play the initial call hold tone after you place a call on hold. **Note**: It works only if "features.play_hold_tone.enable" is set to 1 (Enabled).
Permitted Values	Integer from 3 to 3600
Default	30
Web UI	Features->General Information->Play Hold Tone Delay
Parameter	features.play_hold_tone.interval \<y0000000000xx\>.cfg
Description	It configures the time (in seconds) between subsequent call hold tones. If it is set to 3 (3s) and "features.play_hold_tone.delay" is set to 30 (30s), the IP phone will begin to play a hold tone after you place a call on hold for 30 seconds, and repeat the call hold tone every 3 seconds. **Note**: It works only if "features.play_hold_tone.enable" is set to 1 (Enabled).
Permitted Values	Integer from 3 to 3600
Default	30
Web UI	Features->General Information->Hold Tone Interval(second)
Parameter	features.play_held_tone.enable \<y0000000000xx\>.cfg
Description	It enables or disables the IP phone to play the call held tone when a call is held by the other party.
Permitted Values	**0**-Disabled **1**-Enabled
Default	0
Web UI	Features->General Information->Play Held Tone
Parameter	features.play_held_tone.delay \<y0000000000xx\>.cfg
Description	It configures the time (in seconds) to wait for the IP phone to play the initial call held tone. If it is set to 30 (30s), the IP phone will wait 30 seconds to play the initial call held tone after you are held by the other party.

	Note: It works only if the Music on Hold feature is disabled and "features.play_held_tone.enable" is set to 1 (Enabled).
Permitted Values	Integer from 3 to 3600
Default	30
Web UI	Features->General Information->Play Held Tone Delay
Parameter	features.play_held_tone.interval `<y0000000000xx>.cfg`
Description	It configures the time (in seconds) between subsequent call held tones. If it is set to 3 (3s) and "features.play_held_tone.delay" is set to 30 (30s), the IP phone will begin to play a held tone after a call is held by the other party for 30 seconds, and repeat the call held tone every 3 seconds. **Note**: It works only if the Music on Hold feature is disabled and "features.play_held_tone.enable" is set to 1 (Enabled).
Permitted Values	Integer from 3 to 3600
Default	60
Web UI	Features->General Information->Held Tone Interval(second)
Parameter	phone_setting.hold_or_swap.mode `<y0000000000xx>.cfg`
Description	It configures the display rule of the Hold/Swap soft key when there are two calls on the phone. **Note:** You can also configure the softkey layout feature to display the Hold or Swap soft key.
Permitted Values	**0**-Only display the **Hold** soft key. **1**-Only display the **Swap** soft key. **2**-Display the **Hold** and **Swap** soft keys.
Default	0

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2.

Music on Hold (MoH) Configuration

When a call is placed on hold, the IP phone will send an INVITE message to the specified MoH server account according to the SIP URI. The MoH server account automatically responds to the INVITE message and immediately plays audio from some source located anywhere (LAN, Internet) to the held party. For more information, refer to draft RFC draft-worley-service-example.

The following table lists the parameters you can use to configure music on hold.

Parameter	account.X.music_server_uri[1]	<MAC>.cfg
Description	It configures the address of the Music On Hold server. The URI points to a Music On Hold (MoH) server. Examples for valid values: <10.1.3.165>, 10.1.3.165, sip:moh@sip.com, <sip:moh@sip.com>, <yealink.com> or yealink.com. **Example**: account.1.music_server_uri = sip:moh@sip.com **Note**: The DNS query in this parameter only supports A query.	
Permitted Values	SIP URI within 256 characters	
Default	Blank	
Web UI	Account->Advanced->Music Server URI	
Parameter	account.X.music_on_hold_type[1]	<MAC>.cfg
Description	It configures the way to process Music On Hold when placing an active call on hold.	
Permitted Values	**0**-Calling the Music On Hold server before holding the call **1**-Calling the Music On Hold server after holding the call	
Default	0	

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

Call Mute

You can mute the microphone of the active audio device (handset, headset or speakerphone) on Yealink IP phones during an active call or when the phone is on the pre-dialing/dialing/calling/ringing screen. The call is automatically muted when setting up successfully. Muting before a call is answered prevents the other party from hearing local discussion.

You can activate the mute feature by pressing the MUTE key. Normally, mute feature is automatically deactivated when the active call ends. You can use keep mute feature to keep the mute state persisting across the calls.

Note
Mute microphone on the pre-dialing/dialing/calling/ringing screen is not available on T23P/T23G/T21(P) E2 IP phones when keep mute feature is disabled.

Topics

Microphone Mute Configuration

Keep Mute

Microphone Mute Configuration

The following table lists the parameter you can use to enable or disable mute feature.

Parameter	features.allow_mute	<y0000000000xx>.cfg
Description	It enables or disables the allow mute feature for the IP phone. **Note**: For T23P/T23G/T21(P) E2 IP phones, you are allowed to activate the mute feature on the pre-dialing/dialing/calling/ringing screen only if "features.keep_mute.enable" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled, you are allowed to mute an active call, or activate the mute feature on the pre-dialing/dialing/calling/ringing screen. (Mute the microphone on the calling screen is only applicable to the T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones).	
Default	1	
Web UI	Features->General Information->Allow Mute	

Keep Mute

Keep mute, also known as persistent mute, allows you to keep the mute state persisting across call.

In a call center or meet room, if incoming calls are answered automatically, the callers may hear local discussion. Therefore, you can mute the phone in an idle state to prevent the unintended situation. The mute state persists across calls until you unmute the microphone manually or until the phone restarts.

You can activate the keep mute feature by pressing the MUTE key in idle/pre-dialing/dialing/ringing/calling/talking state.

Note
For T23P/T23G/T21(P) E2 IP phones, the Cancel key (⊗) can be used to cancel actions, reject incoming calls, mute/un-mutes calls or activate the mute feature. If keep mute feature is enabled, the Cancel key can only be used as a mute key.

Topic

Keep Mute Configuration

The following table lists the parameter you can use to enable or disable keep mute.

Parameter	features.keep_mute.enable	<y0000000000xx>.cfg
Description	It configures the keep mute feature for the IP phone. **Note**: If it is set to 1 (Enabled), you cannot customize the Cancel key for T23P/T23G/T21(P) E2 IP phones, or the Mute key for	

	T54S/T52S/T48S/T48G/T46S/T46G/T42G/T42S/T41P/T41S/T40P/T40G/T29G/T27P/T27 G/T19(P) E2 IP phones. It works only if "features.allow_mute" is set to 1 (Enabled).
Permitted Values	**0**-The mute feature is automatically deactivated when the active call ends. **1**-The mute state is kept until you change the mute state manually or the phone restarts.
Default	0

Call Forward

You can forward calls from any line on your phone to a contact. There are two ways of forwarding your calls:

● Forward calls in special situations, such as when the phone is busy or there is no answer, or forwarding all incoming calls to a contact immediately.

You can set the phone not to forward a call coming from authorized numbers.

● Manually forward an incoming call to a number.

Topics

Call Forward Settings Configuration
Call Forward Feature Configuration
Call Forward Synchronization for Server-side Configuration

Call Forward Settings Configuration

You can change the following call forward settings:

● Enable or disable the call forward feature. If disabled, the users have no permission to configure call forward on their phone.

● Choose a call forward mode. You can configure call forward for all lines or specific lines.

● Allow or disallow users to forward an incoming call to an international telephone number (the prefix is 00).

● Enable or disable forward emergency feature and specify forward authorized numbers. These numbers will not to be forwarded when the call forward feature is enabled. The incoming call will not be logged in the Forwarded Calls list.

● Enable or disable the display of the Diversion header. The Diversion header allows the phone which receives a forwarded-call to indicate where the call was from.

The following table lists the parameters you can use to change the call forward settings.

Parameter	features.fwd.allow	<y0000000000xx>.cfg
Description	It enables or disables the call forward feature.	

Permitted Values	**0**-Disabled, call forward feature is not available to the users. **1**-Enabled	
Default	1	
Parameter	features.fwd_mode	\<y0000000000xx\>.cfg
Description	It configures the call forward mode. **Note**: It is not applicable to T19(P) E2 IP phones. It works only if "feautes.fwd.allow" is set to 1 (Enabled).	
Permitted Values	**0**-Phone, call forward feature is effective on a phone basis. **1**-Custom, you can configure call forward feature on a per-line basis.	
Default	0	
Web UI	Features->Forward&DND->Forward->Mode	
Parameter	features.forward.emergency.enable	\<y0000000000xx\>.cfg
Description	It enables or disables the IP phone to receive the call from authorized numbers when the call forward feature is activated. **Note:** It works only if "features.fwd.allow" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled, the call from authorized numbers will not be forwarded when the call forward feature is activated.	
Default	0	
Web UI	Features->Forward&DND->Forward->Forward Emergency	
Parameter	features.forward.emergency.authorized_number	\<y0000000000xx\>.cfg
Description	It configures the authorized numbers. The call from the authorized numbers cannot be forwarded even if the call forward feature is activated. Multiple numbers are separated by commas. **Note:** It works only if the values of the parameters "features.fwd.allow" and "features.forward.emergency.enable" are set to 1 (Enabled).	
Permitted Values	String within 511 characters	
Default	Blank	
Web UI	Features->Forward&DND->Forward->Forward Authorized Numbers	
Parameter	forward.international.enable	\<y0000000000xx\>.cfg
Description	It enables or disables the IP phone to forward incoming calls to international numbers (the prefix is 00).	

	Note: For Yealink IP phones, it works only if "features.fwd.allow" is set to 1 (Enabled).
Permitted Values	**0**-Disabled **1**-Enabled
Default	1
Web UI	Features->General Information->Fwd International
Phone UI	<u>T54S/T52S/T48S/T48G/T46S/T46G/T29G</u>: Menu->Advanced (default password: admin)->FWD International->FWD International <u>T42S/T42G/T41S/T41P/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2</u>: Menu->Settings->Advanced Settings (default password: admin) ->FWD International->FWD International
Parameter	forward.idle_access_always_fwd.enable <y0000000000xx>.cfg
Description	It enables or disables the IP phone to always enter the Always Forward setting screen when pressing the Forward key on Idle screen.
Permitted Values	**0**-Disabled. When pressing the Forward key, the IP phone may activate/deactivate the call forward or enter the Always Forward/Busy Forward/No Answer Forward setting screen. **1**-Enabled
Default	0
Parameter	features.fwd_diversion_enable <y0000000000xx>.cfg
Description	It enables or disables the IP phone to present the diversion information when an incoming call is forwarded to the IP phone.
Permitted Values	**0**-Disabled **1**-Enabled, the server can use the Diversion field with a SIP header to inform the phone of a call's history.
Default	1
Web UI	Features->General Information->Diversion/History-Info

Call Forward Feature Configuration

After you choose a call forward mode, you can configure call forward feature for all lines or specific lines. It depends on the call forward mode (T19(P) E2 except):

- **Phone** (default)**:** Call forward feature is effective for all lines.

- **Custom:** Call forward feature can be configured for a specific line or multiple lines.

Note
Forward mode is set by the parameter "*features.fwd_mode*".

Yealink IP phones also support call forward on code and off code to activate and deactivate server-side call forward feature. They may vary on different servers.

Tip
You can set a DSS key as a Forward key, and specify a contact you want to forward the incoming calls to for this key. For more information, refer to DSS Keys.

Topics

Call Forward in Phone Mode Configuration

Call Forward in Custom Mode Configuration

Call Forward in Phone Mode Configuration

The following table lists the parameters you can use to configure call forward in Phone mode.

Parameter	forward.always.enable	<y0000000000xx>.cfg
Description	It triggers the always forward feature to on or off on a phone basis. **Note:** It works only if "features.fwd.allow" is set to 1 (Enabled) and value of the parameter "features.fwd_mode" is set to 0 (Phone) (except T19(P) E2 IP phones).	
Permitted Values	**0**-Off **1**-On, incoming calls are forwarded to the destination number (configured by the parameter "forward.always.target") immediately.	
Default	0	
Web UI	Features->Forward&DND->Forward->Always Forward->On/Off	
Phone UI	Menu->Features->Call Forward->Always Forward->Always Forward	
Parameter	forward.always.target	<y0000000000xx>.cfg
Description	It configures the destination number of the always forward on a phone basis. **Note:** It works only if "features.fwd.allow" and "forward.always.enable" are set to 1 and value of the parameter "features.fwd_mode" is set to 0 (Phone) (except T19(P) E2 IP phones).	
Permitted Values	String within 32 characters	
Default	Blank	
Web UI	Features->Forward&DND->Forward->Always Forward->Target	
Phone UI	Menu->Features->Call Forward->Always Forward->Forward to	
Parameter	forward.always.on_code	<y0000000000xx>.cfg
Description	It configures the always forward on code to activate the server-side always forward feature.	

	The IP phone will send the always forward on code and the pre-configured destination number (configured by the parameter "forward.always.target") to the server when you activate always forward feature on a phone basis. **Note:** It works only if "features.fwd.allow" and "forward.always.enable" are set to 1 and value of the parameter "features.fwd_mode" is set to 0 (Phone) (except T19(P) E2 IP phones).
Permitted Values	String within 32 characters
Default	Blank
Web UI	Features->Forward&DND->Forward->Always Forward->On Code
Phone UI	Menu->Features->Call Forward->Always Forward->On Code

Parameter	forward.always.off_code	<y0000000000xx>.cfg

Description	It configures the always forward off code to deactivate the server-side always forward feature. The IP phone will send the always forward off code to the server when you deactivate always forward feature on a phone basis. **Note:** It works only if "features.fwd.allow" and "forward.always.enable" are set to 1 and value of the parameter "features.fwd_mode" is set to 0 (Phone) (except T19(P) E2 IP phones).
Permitted Values	String within 32 characters
Default	Blank
Web UI	Features->Forward&DND->Forward->Always Forward->Off Code
Phone UI	Menu->Features->Call Forward->Always Forward->Off Code

Parameter	forward.busy.enable	<y0000000000xx>.cfg

Description	It triggers the busy forward feature to on or off on a phone basis. **Note:** It works only if "features.fwd.allow" is set to 1 (Enabled) and value of the parameter "features.fwd_mode" is set to 0 (Phone) (except T19(P) E2 IP phones).
Permitted Values	**0**-Off **1**-On, incoming calls are forwarded to the destination number (configured by the parameter "forward.busy.target") when the callee is busy.
Default	0
Web UI	Features->Forward&DND->Forward->Busy Forward->On/Off
Phone UI	Menu->Features->Call Forward->Busy Forward->Busy Forward

Parameter	forward.busy.target	<y0000000000xx>.cfg

Description	It configures the destination number of the busy forward on a phone basis. **Note:** It works only if "features.fwd.allow" and "forward.busy.enable" are set to 1 and value of the parameter "features.fwd_mode" is set to 0 (Phone) (except T19(P) E2 IP phones).
Permitted Values	String within 32 characters
Default	Blank
Web UI	Features->Forward&DND->Forward->Busy Forward->Target
Phone UI	Menu->Features->Call Forward->Busy Forward->Forward to
Parameter	forward.busy.on_code <y0000000000xx>.cfg
Description	It configures the busy forward on code to activate the server-side busy forward feature. The IP phone will send the busy forward on code and the pre-configured destination number (configured by the parameter "forward.busy.target") to the server when you activate busy forward feature on a phone basis. **Note:** It works only if "features.fwd.allow" and "forward.busy.enable" are set to 1 and value of the parameter "features.fwd_mode" is set to 0 (Phone) (except T19(P) E2 IP phones).
Permitted Values	String within 32 characters
Default	Blank
Web UI	Features->Forward&DND->Forward->Busy Forward->On Code
Phone UI	Menu->Features->Call Forward->Busy Forward->On Code
Parameter	forward.busy.off_code <y0000000000xx>.cfg
Description	It configures the busy forward off code to deactivate the server-side busy forward feature. The IP phone will send the busy forward off code to the server when you deactivate busy forward feature on a phone basis. **Note:** It works only if "features.fwd.allow" and "forward.busy.enable" are set to 1 and value of the parameter "features.fwd_mode" is set to 0 (Phone) (except T19(P) E2 IP phones).
Permitted Values	String within 32 characters
Default	Blank
Web UI	Features->Forward&DND->Forward->Busy Forward->Off Code

Phone UI	Menu->Features->Call Forward->Busy Forward->Off Code

Parameter	forward.no_answer.enable	<y0000000000xx>.cfg

| **Description** | It triggers the no answer forward feature to on or off on a phone basis.

Note: It works only if "features.fwd.allow" is set to 1 (Enabled) and value of the parameter "features.fwd_mode" is set to 0 (Phone) (except T19(P) E2 IP phones). DND activated on the IP phone deactivates the local No Answer Forward settings. | |

Permitted Values	**0**-Off **1**-On, incoming calls are forwarded to the destination number (configured by the parameter "forward.no_answer.target") after a period of ring time.

Default	0
Web UI	Features->Forward&DND->Forward->No Answer Forward->On/Off
Phone UI	Menu->Features->Call Forward->No Answer Forward->No Answer Forward

Parameter	forward.no_answer.target	<y0000000000xx>.cfg

| **Description** | It configures the destination number of the no answer forward on a phone basis.

Note: It works only if "features.fwd.allow" and "forward.no_answer.enable" are set to 1 and value of the parameter "features.fwd_mode" is set to 0 (Phone) (except T19(P) E2 IP phones). | |

Permitted Values	String within 32 characters

Default	Blank
Web UI	Features->Forward&DND->Forward->No Answer Forward->Target
Phone UI	Menu->Features->Call Forward->No Answer Forward->Forward to

Parameter	forward.no_answer.timeout	<y0000000000xx>.cfg

| **Description** | It configures ring times (N) to wait before forwarding incoming calls.

The incoming calls will be forwarded when not answered after N*M (M is configurable by "phone_setting.ring_duration") seconds.

Note: It works only if "features.fwd.allow" and "forward.no_answer.enable" are set to 1 and "features.fwd_mode" is set to 0 (Phone) (except T19(P) E2 IP phones). | |

Permitted Values	Integer from 0 to 20 (determined by "features.forward.no_answer.show_ring_times")

Default	2
Web UI	Features->Forward&DND->Forward->No Answer Forward->After Ring Time (0~120s)
Phone UI	Menu->Features->Call Forward->No Answer Forward->After Ring Time

Parameter	features.forward.no_answer.show_ring_times	<y0000000000xx>.cfg

Description	It configures the permitted values of the ring times (N) to wait before forwarding incoming calls. **Example**: features.forward.no_answer.show_ring_times = 0,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19 **Note:** It works only if "forward.no_answer.enable" or "account.X.timeout_fwd.enable" is set to 1 (Enabled).
Permitted Values	String within 512 characters
Default	0,1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20

Parameter	phone_setting.ring_duration	<y0000000000xx>.cfg

Description	It configures the interval (in seconds) of the ring for no answer forward feature. **Note:** It works only if "forward.no_answer.enable" or "account.X.timeout_fwd.enable" is set to 1 (Enabled).
Permitted Values	Integer greater than or equal to 0
Default	6

Parameter	forward.no_answer.on_code	<y0000000000xx>.cfg

Description	It configures the no answer forward on code to activate the server-side no answer forward feature. The IP phone will send the no answer forward on code and the pre-configured destination number (configured by the parameter "forward.no_answer.target") to the server when you activate no answer forward feature on a phone basis. **Note:** It works only if "features.fwd.allow" and "forward.no_answer.enable" are set to 1 and value of the parameter "features.fwd_mode" is set to 0 (Phone) (except T19(P) E2 IP phones).
Permitted Values	String within 32 characters
Default	Blank
Web UI	Features->Forward&DND->Forward->No Answer Forward->On Code
Phone UI	Menu->Features->Call Forward->No Answer Forward->On Code

Parameter	forward.no_answer.off_code	<y0000000000xx>.cfg

Description	It configures the no answer forward off code to deactivate the server-side no answer forward feature. The IP phone will send the no answer forward off code to the server when you deactivate no answer forward feature on a phone basis.

	Note: It works only if "features.fwd.allow" and "forward.no_answer.enable" are set to 1 and value of the parameter "features.fwd_mode" is set to 0 (Phone) (except T19(P) E2 IP phones).
Permitted Values	String within 32 characters
Default	Blank
Web UI	Features->Forward&DND->Forward->No Answer Forward->Off Code
Phone UI	Menu->Features->Call Forward->No Answer Forward->Off Code

Call Forward in Custom Mode Configuration

The following table lists the parameters you can use to configure call forward in Custom mode.

Parameter	account.X.always_fwd.enable[1]	<MAC>.cfg
Description	It triggers always forward feature to on or off. **Note:** It works only if "features.fwd.allow" is set to 1 (Enabled) and value of the parameter "features.fwd_mode" is set to 1 (Custom). It is not applicable to T19(P) E2 IP phones.	
Permitted Values	**0**-Off **1**-On, incoming calls to the account X are forwarded to the destination number (configured by the parameter "account.X.always_fwd.target") immediately.	
Default	0	
Web UI	Features->Forward&DND->Forward->AccountX->Always Forward->On/Off	
Phone UI	Menu->Features->Call Forward->AccountX->Always Forward->Always Forward	
Parameter	account.X.always_fwd.target[1]	<MAC>.cfg
Description	It configures the destination number of the always forward. **Note:** It works only if "features.fwd.allow" is set to 1 (Enabled) and value of the parameter "features.fwd_mode" is set to 1 (Custom). It is not applicable to T19(P) E2 IP phones.	
Permitted Values	String within 32 characters	
Default	Blank	
Web UI	Features->Forward&DND->Forward->AccountX->Always Forward->Target	
Phone UI	Menu->Features->Call Forward->AccountX->Always Forward->Forward to	
Parameter	account.X.always_fwd.on_code[1]	<MAC>.cfg
Description	It configures the always forward on code to activate the server-side always forward	

	feature.
	The IP phone will send the always forward on code and the pre-configured destination number (configured by the parameter "account.X.always_fwd.target") to the server when you activate always forward feature on the IP phone.
	Note: It works only if "features.fwd.allow" is set to 1 (Enabled) and value of the parameter "features.fwd_mode" is set to 1 (Custom). It is not applicable to T19(P) E2 IP phones.
Permitted Values	String within 32 characters
Default	Blank
Web UI	Features->Forward&DND->Forward->AccountX->Always Forward->On Code
Phone UI	Menu->Features->Call Forward->AccountX->Always Forward->On Code

Parameter	account.X.always_fwd.off_code[1]	<MAC>.cfg
Description	It configures the always forward off code to deactivate the server-side always forward feature. The IP phone will send the always forward off code to the server when you deactivate always forward feature on the IP phone. **Note:** It works only if "features.fwd.allow" is set to 1 (Enabled) and value of the parameter "features.fwd_mode" is set to 1 (Custom). It is not applicable to T19(P) E2 IP phones.	
Permitted Values	String within 32 characters	
Default	Blank	
Web UI	Features->Forward&DND->Forward->AccountX->Always Forward->Off Code	
Phone UI	Menu->Features->Call Forward->AccountX->Always Forward->Off Code	

Parameter	account.X.busy_fwd.enable[1]	<MAC>.cfg
Description	It triggers busy forward feature to on or off. **Note:** It is not applicable to T19(P) E2 IP phones.	
Permitted Values	**0**-Off **1**-On, incoming calls to the account X are forwarded to the destination number (configured by the parameter "account.X.busy_fwd.target") when the callee is busy.	
Default	0	
Web UI	Features->Forward&DND->Forward->AccountX->Busy Forward->On/Off	
Phone UI	Menu->Features->Call Forward->AccountX->Busy Forward->Busy Forward	

Parameter	account.X.busy_fwd.target[1]	<MAC>.cfg

Description	It configures the destination number of the busy forward. **Note:** It works only if "features.fwd.allow" is set to 1 (Enabled) and value of the parameter "features.fwd_mode" is set to 1 (Custom). It is not applicable to T19(P) E2 IP phones.
Permitted Values	String within 32 characters
Default	Blank
Web UI	Features->Forward&DND->Forward->AccountX->Busy Forward->Target
Phone UI	Menu->Features->Call Forward->AccountX->Busy Forward->Forward to

Parameter	account.X.busy_fwd.on_code[1]	<MAC>.cfg

Description	It configures the busy forward on code to activate the server-side busy forward feature. The IP phone will send the busy forward on code and the pre-configured destination number (configured by the parameter "account.X.busy_fwd.target") to the server when you activate busy forward feature on the IP phone. **Note:** It works only if "features.fwd.allow" is set to 1 (Enabled) and value of the parameter "features.fwd_mode" is set to 1 (Custom). It is not applicable to T19(P) E2 IP phones.
Permitted Values	String within 32 characters
Default	Blank
Web UI	Features->Forward&DND->Forward->AccountX->Busy Forward->On Code
Phone UI	Menu->Features->Call Forward->AccountX->Busy Forward->On Code

Parameter	account.X.busy_fwd.off_code[1]	<MAC>.cfg

Description	It configures the busy forward off code to deactivate the server-side busy forward feature. The IP phone will send the busy forward off code to the server when you deactivate busy forward feature on the IP phone. **Note:** It works only if "features.fwd.allow" is set to 1 (Enabled) and value of the parameter "features.fwd_mode" is set to 1 (Custom). It is not applicable to T19(P) E2 IP phones.
Permitted Values	String within 32 characters
Default	Blank
Web UI	Features->Forward&DND->Forward->AccountX->Busy Forward->Off Code

Phone UI	Menu->Features->Call Forward->AccountX->Busy Forward->Off Code	
Parameter	account.X.timeout_fwd.enable[1]	<MAC>.cfg
Description	It triggers no answer forward feature to on or off. **Note:** It works only if "features.fwd.allow" is set to 1 (Enabled) and value of the parameter "features.fwd_mode" is set to 1 (Custom). It is not applicable to T19(P) E2 IP phones. DND activated on the specific account deactivates the local No Answer Forward settings.	
Permitted Values	**0**-Off **1**-On, incoming calls to the account X are forwarded to the destination number (configured by the parameter "account.X.timeout_fwd.target") after a period of ring time.	
Default	0	
Web UI	Features->Forward&DND->Forward->AccountX->No Answer Forward->On/Off	
Phone UI	Menu->Features->Call Forward->AccountX->No Answer Forward->No Answer Forward	
Parameter	account.X.timeout_fwd.target[1]	<MAC>.cfg
Description	It configures the destination number of the no answer forward. **Note:** It works only if "features.fwd.allow" is set to 1 (Enabled) and value of the parameter "features.fwd_mode" is set to 1 (Custom). It is not applicable to T19(P) E2 IP phones.	
Permitted Values	String within 32 characters	
Default	Blank	
Web UI	Features->Forward&DND->Forward->AccountX->No Answer Forward->Target	
Phone UI	Menu->Features->Call Forward->AccountX->No Answer Forward->Forward to	
Parameter	account.X.timeout_fwd.timeout[1]	<MAC>.cfg
Description	It configures ring times (N) to wait before forwarding incoming calls. The incoming calls will be forwarded when not answered after N*M (M is configurable by "phone_setting.ring_duration") seconds. **Note:** It works only if "features.fwd.allow" is set to 1 (Enabled) and value of the parameter "features.fwd_mode" is set to 1 (Custom). It is not applicable to T19(P) E2 IP phones.	
Permitted Values	Integer from 0 to 20 (determined by "features.forward.no_answer.show_ring_times")	
Default	2	

Web UI	Features->Forward&DND->Forward->AccountX->No Answer Forward->After Ring Time(0~120s)
Phone UI	Menu->Features->Call Forward->AccountX->No Answer Forward->After Ring Time

Parameter	account.X.timeout_fwd.on_code[1]	<MAC>.cfg

Description	It configures the no answer forward on code to activate the server-side no answer forward feature. The IP phone will send the no answer forward on code and the pre-configured destination number (configured by the parameter "account.X.timeout_fwd.target") to the server when you activate no answer forward feature on the IP phone. **Note:** It works only if "features.fwd.allow" is set to 1 (Enabled) and value of the parameter "features.fwd_mode" is set to 1 (Custom). It is not applicable to T19(P) E2 IP phones.
Permitted Values	String within 32 characters
Default	Blank
Web UI	Features->Forward&DND->Forward->AccountX->No Answer Forward->On Code
Phone UI	Menu->Features->Call Forward->AccountX->No Answer Forward->On Code

Parameter	account.X.timeout_fwd.off_code[1]	<MAC>.cfg

Description	It configures the no answer forward off code to deactivate the server-side no answer forward feature. The IP phone will send the no answer forward off code to the server when you deactivate no answer forward feature on the IP phone. **Note:** It works only if "features.fwd.allow" is set to 1 (Enabled) and value of the parameter "features.fwd_mode" is set to 1 (Custom). It is not applicable to T19(P) E2 IP phones.
Permitted Values	String within 32 characters
Default	Blank
Web UI	Features->Forward&DND->Forward->AccountX->No Answer Forward->Off Code
Phone UI	Menu->Features->Call Forward->AccountX->No Answer Forward->Off Code

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2.

Call Forward Synchronization for Server-side Configuration

Call forward synchronization feature provides the capability to synchronize the status of the call forward features between the IP phone and the server.

If the call forward is activated in phone mode, the forward status changing locally will be synchronized to all registered accounts on server; but if the forward status of specific account is changed on server, the forward status locally will be changed.

The following table lists the parameters you can use to configure call forward synchronization for server-side.

Parameter	features.feature_key_sync.enable	<y0000000000xx>.cfg
Description	It enables or disables to synchronize the feature status between the IP phone and the server. **Note**: It applies to the DND synchromization and forward synchromization.	
Permitted Values	**0**-Disabled **1**-Enabled, the IP phone to send a SUBSCRIBE message with event "as-feature-event".	
Default	0	
Parameter	features.forward.feature_key_sync.enable	<y0000000000xx>.cfg
Description	It enables or disables the forward feature synchronization. **Note:** It works only if "features.feature_key_sync.enable" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled, server-based call forward is enabled. Server and local phone call forward are synchronized.	
Default	1	
Parameter	features.forward.feature_key_sync.local_processing.enable	<y0000000000xx>.cfg
Description	It enables or disables the local forward when call forward feature synchronization is enabled. **Note:** It works only if s "features.feature_key_sync.enable" and "features.forward.feature_key_sync.enable" are set to 1 (Enabled). The value configured by the parameter "account.X.features.forward.feature_key_sync.local_processing.enable" takes precedence over that configured by this parameter.	
Permitted Values	**0**-Disabled, DND is performed on server side only. **1**-Enabled, DND is performed on both server side and locally.	
Default	0	
Parameter	account.X.features.forward.feature_key_sync.local_processing.enable[1]	<MAC>.cfg
Description	It enables or disables the local forward when call forward feature synchronization is enabled. **Note:** It works only if s "features.feature_key_sync.enable" and "features.forward.feature_key_sync.enable" are set to 1 (Enabled).	

Permitted Values	**0**-Disabled, DND is performed on server side only.
	1-Enabled, DND is performed on both server side and locally.
Default	Blank

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2.

Call Transfer

Call transfer enables IP phones to transfer an existing call to a third party. For example, if party A is in an active call with party B, party A can transfer this call to party C (the third party). Then, party B will begin a new call with party C, and party A will disconnect.

Yealink IP phones support call transfer using the REFER method specified in RFC 3515 and offer three types of transfer:

- **Blind Transfer** -- Transfer a call directly to another party without consulting. Blind transfer is implemented by a simple REFER method without Replaces in the Refer-To header.

- **Semi-attended Transfer** -- Transfer a call after hearing the ringback tone. Semi-attended transfer is implemented by a REFER method with Replaces in the Refer-To header.

  Semi-attended transfer is applicable to that when users do not want to consult with the third party after hearing the ringback tone, and the third party has not answer the call, the users can cancel transfer or implement transfer.

- **Attended Transfer (Consultative Transfer)** -- Transfer a call with prior consulting. Attended transfer is implemented by a REFER method with Replaces in the Refer-To header.

Topics

Call Transfer Configuration
Transfer Mode for Dsskey Configuration

Call Transfer Configuration

The following table lists the parameters you can use to configure call transfer.

Parameter	transfer.semi_attend_tran_enable	<y0000000000xx>.cfg
Description	It enables or disables the semi-attended transfer.	
Permitted Values	**0**-Disabled, when the user presses the **Trans**/**Transfer** soft key after hearing the ringback tone, the IP phone will blind transfer the call.	
	1-Enabled, when the user presses the **Trans**/**Transfer** soft key after hearing the ringback tone, the IP phone will transfer the call after the transferee answers the call.	
Default	1	

Web UI	Features->Transfer->Semi-Attended Transfer	
Parameter	account.X.transfer_refer_to_contact_header.enable[1]	<MAC>.cfg
Description	It enables or disables the Refer -To header to use the information of the Contact header in the second 200 OK message when attended transfer.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Parameter	transfer.multi_call_trans_enable	<y0000000000xx>.cfg
Description	It enables or disables the users to transfer the current call to another existing call when there are multiple calls. **Note**: It is not applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.	
Permitted Values	**0**-Disabled **1**-Enabled, when the users press the **Trans**/**Transfer** soft key or TRAN/TRANSFER key, they can choose to transfer the current call to a new call or another existing call.	
Default	1	
Web UI	Features->General Information->Allow Trans Exist Call	
Parameter	transfer.blind_tran_on_hook_enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to complete the blind transfer through on-hook besides pressing the **Trans**/**Transfer** soft key or TRAN/TRANSFER key. **Note**: Blind transfer means transfer a call directly to another party without consulting.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Web UI	Features->Transfer->Blind Transfer On Hook	
Parameter	transfer.on_hook_trans_enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to complete the semi-attended/attended transfer through on-hook besides pressing the **Trans**/**Transfer** soft key or TRAN/TRANSFER key. **Note**: Semi-attended transfer means transfering a call after hearing the ringback tone; Attended transfer means transfering a call with prior consulting.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Web UI	Features->Transfer->Attended Transfer On Hook	

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

Transfer Mode for Dsskey Configuration

You can configure the transfer mode for the IP phone when transferring the current call via a specified DSS key. Yealink IP phones support three transfer modes: New Call, Blind Transfer and Attended Transfer. The transfer mode is applicable to the following DSS keys:

● Speed Dial key

● Transfer key with an assigned value

● BLF/BLF List key

It is not applicable to T19(P) E2 IP phones.

The following table lists the parameter you can use to configure transfer mode for Dsskey.

Parameter	transfer.dsskey_deal_type	<y0000000000xx>.cfg
Description	It configures the transfer mode for DSS key. When the user presses the DSS Key during a call, the DSS Key behavior depends on the transfer mode. **Note**: This feature is only applicable to the Speed Dial key, BLF/BLF List key or Transfer key with an assigned value. It is not applicable to T19(P) E2 IP phones.	
Permitted Values	**0**-New Call **1**-Attended Transfer **2**-Blind Transfer	
Default	2	
Web UI	Features->Transfer->Transfer Mode via Dsskey	

Conference

The Yealink IP phones support three-way local conference and multi-way network conference.

Topics

Conference Type Configuration

Local Conference Configuration

Network Conference Configuration

Conference Type Configuration

You can specify which type of conference to establish.

The following table lists the parameter you can use to set a conference type.

Parameter	account.X.conf_type[1]	<MAC>.cfg
Description	It configures the conference type for a specific account.	
Permitted Values	**0**-Local Conference, conference is set up with other two parties via the IP phone when "features.conference.local.enable" is set to 1 (Enabled). **2**-Network Conference, conference is set up with multiple parties via the server.	
Default	0	
Web UI	Account->Advanced->Conference Type	

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

Local Conference Configuration

Local conference requires a host phone to process the audio of all parties. Yealink IP phones support up to 3 parties (including yourself) in a local conference call.

You can enable or disable the local conference feature, and configure the way to set up a local conference.

For a local three-way conference, if the conference initiator leaves the conference, all parties are disconnected and the conference call ends. You can enable Transfer on Conference Hang Up feature, and allows the other two parties to remain connected when the conference initiator drops the conference call.

The following table lists the parameters you can use to configure local conference.

Parameter	features.conference.local.enable	<y0000000000xx>.cfg
Description	It enables or disables the local conference feature for the IP phone. **Note**: The CONF key is only applicable to T29G/T27P/T27G IP phones.	
Permitted Values	**0**-Disabled, the **Conf/Conference** soft key will disappear during a call and the CONF key/conference DSS key will not work. Local conference cannot be set up even though the value of the parameter "account.X.conf_type" is set to 0 (Local Conference). **1**-Enabled, the user can set up a local conference with other two parties. It works only when the value of the parameter "account.X.conf_type" is set to 0 (Local Conference).	
Default	1	
Parameter	features.conference.with_previous_call.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to merge two calls into a conference directly by pressing the **Conf/Conference** soft key, CONF key or conference DSS key when there are two calls on the phone. **Note**: The CONF key is only applicable to T29G/T27P/T27G IP phones.	
Permitted	**0**-Disabled, you can select to set up a conference with the held party or a new party	

Values	when pressing the **Conf/Conference** soft key, CONF key or conference DSS key during multiple calls. **1**-Enabled
Default	0

Parameter	features.local_conf.combine_with_one_press.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to set up a three-way conference directly after the second party answers the call. **Note**: The CONF key is only applicable to T29G/T27P/T27G IP phones.	
Permitted Values	**0**-Disabled, the first call is placed on hold. The user needs to press the **Conf/Conference** soft key, CONF key or conference DSS key again to set up a conference after the second party answers the call. **1**-Enabled. The second party joins a conference with the first party after answering the call, both phones play a warning tone.	
Default	0	

Parameter	transfer.tran_others_after_conf_enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to transfer the local conference call to the other two parties after the conference initiator drops the local conference call.	
Permitted Values	**0**-Disabled, all parties are disconnected when the conference initiator drops the conference call. **1**-Enabled, the other two parties remain connected when the conference initiator drops the conference call.	
Default	0	
Web UI	Features->Transfer->Transfer on Conference Hang up	

Network Conference Configuration

Network conference, also known as centralized conference, provides you with flexibility of call with multiple participants (more than three). The IP phones implement network conference using the REFER method specified in RFC 4579. This feature depends on the support from a SIP server

For network conference, if any party leaves the conference, the remaining parties are still connected.

The following table lists the parameter you can use to configure network conference.

Parameter	account.X.conf_uri[1]	<MAC>.cfg
Description	It configures the network conference URI for a specific account. **Note**: It works only if the value of the parameter "account.X.conf_type" is set to 2 (Network Conference).	
Permitted	SIP URI within 511 characters	

Values	
Default	Blank
Web UI	Account->Advanced->Conference URI

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

USB Recording

Yealink IP phones support manual recording during a call or automatic recording once the call is set up. Before recording, ensure that the USB flash drive has been connected to the IP phone. USB recording is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T42S/T41S/T29G/T27G IP phones.

The recorded calls are saved in *.wav format and include a date/time stamp, the other party's number/IP address/name (or the first person's number/IP address/name you called), duration of the call and the recording file size. For example, 20160422-1515-Bob was created on Apr. 22, 2016, at 15:15 and you have a call with Bob. Recorded calls can be played on either the phone itself or on a computer using an application capable of playing *.wav files.

Important
Before recording any call, especially those involving PSTN, it is necessary to know about the rules and restrictions of any governing call-recording in the place where you are. It is also very important to have the consent of the person you are calling before recording the conversation.

Topic

USB Recording Configuration

USB Recording Configuration

For manual recording, you need to use the recording soft keys (for example, **Start REC**) to record audio calls or conference.

The following table lists the parameter you can use to configure USB recording.

Parameter	features.usb_call_recording.enable	<y0000000000xx>.cfg
Description	It enables or disables the call recording (using a USB flash drive) feature for the IP phone. **Note**: It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T42S/T41S/T29G/T27G IP phones.	
Permitted Values	**0**-Disabled **1**-Enabled, you can record the active audio call for the phone by pressing the **Start REC** soft key, and the recorded calls will be saved to the USB flash drive.	
Default	0	

Parameter	features.auto_recording.enable	<y0000000000xx>.cfg
Description	It enables or disables the automatic recording feature for the IP phone. **Note**: It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T42S/T41S/T29G/T27G IP phones. It works only if "features.usb_call_recording.enable" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled, you can record the active audio call automatically for the phone.	
Default	0	

Multicast Paging

Multicast Paging allows you to easily and quickly broadcast instant audio announcements to users who are listening to a specific multicast group on a specific channel.

Yealink IP phones support the following 31 channels:

- **0**: Broadcasts are sent to channel 0. Note that the Yealink IP phones running firmware version 80 or earlier can be regarded as listening to channel 0. It is the default channel.

- **1 to 25**: Broadcasts are sent to channel 1 to 25. We recommend that you specify these channels when broadcasting with Polycom IP phones which have 25 channels you can listen to.

- **26 to 30**: Broadcasts are sent to channel 26 to 30.

The IP phones can only send and receives broadcasts to/from the listened channels. Other channels' broadcasts will be ignored automatically by the IP phone.

Topics

Multicast Paging Group Configuration

Multicast Listening Group Configuration

Multicast Paging Settings

Multicast Paging Group Configuration

Yealink IP phones support up to 31 groups for paging. You can assign multicast IP address with channel for each group, and specify a label to each group to identify the phones in the group, such as All, Sales, or HR.

Tip
You can set a DSS key as Multicast Paging key or Paging list key on the phone, which allows you to send announcements to the phones with pre-configured multicast address(es) on specific channel(s). For more information, refer to DSS Keys.

The following table lists the parameters you can use to configure a multicast paging group.

Parameter	multicast.paging_address.X.ip_address[1]	<y0000000000xx>.cfg
Description	It configures the IP address and port number of the multicast paging group in the paging list. It will be displayed on the LCD screen when placing the multicast paging call. **Example**: multicast.paging_address.1.ip_address = 224.5.6.20:10008 multicast.paging_address.2.ip_address = 224.1.6.25:1001 **Note**: The valid multicast IP addresses range from 224.0.0.0 to 239.255.255.255.	
Permitted Values	String	
Default	Blank	
Web UI	Directory->Multicast IP->Paging List->Paging Address	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Features->Paging List->Edit->Address T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Features->Paging List->Option->Edit->Address	
Parameter	multicast.paging_address.X.label[1]	<y0000000000xx>.cfg
Description	It configures the name of the multicast paging group to be displayed in the paging list. It will be displayed on the LCD screen when placing the multicast paging calls. **Example**: multicast.paging_address.1.label = Product	
Permitted Values	String	
Default	Blank	
Web UI	Directory->Multicast IP->Paging List->Label	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Features->Paging List->Edit->Label T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Features->Paging List->Option->Edit->Label	
Parameter	multicast.paging_address.X.channel[1]	<y0000000000xx>.cfg
Description	It configures the channel of the multicast paging group in the paging list. **Example**: multicast.paging_address.1.channel = 3 multicast.paging_address.2.channel = 5	

Permitted Values	**0**-all the Yealink IP phones running firmware version 80 or earlier or Yealink IP phones listens to channel 0 or third-party available devices (for example, Cisco IP phones) in the paging group can receive the RTP stream. **1 to 25**-the Polycom or Yealink IP phones preconfigured to listen to the channel can receive the RTP stream. **26 to 30**-the Yealink IP phones preconfigured to listen to the channel can receive the RTP stream.
Default	0
Web UI	Directory->Multicast IP->Paging List->Paging Address
Phone UI	<u>T54S/T52S/T48S/T48G/T46S/T46G/T29G</u>: Menu->Features->Paging List->Edit->Address <u>T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2</u>: Menu->Features->Paging List->Option->Edit->Address

[1]X ranges from 1 to 31

Multicast Listening Group Configuration

Yealink IP phones support up to 31 groups for listening. You can assign multicast IP address with channel for each group, and specify a label to each group to identify the phones in the group, such as All, Sales, or HR.

The following table lists the parameters you can use to configure multicast listening group.

Parameter	multicast.listen_address.X.ip_address[1]	<y0000000000xx>.cfg
Description	It configures the multicast address and port number that the IP phone listens to. **Example**: multicast.listen_address.1.ip_address = 224.5.6.20:10008 **Note**: The valid multicast IP addresses range from 224.0.0.0 to 239.255.255.255.	
Permitted Values	IP address: port	
Default	Blank	
Web UI	Directory->Multicast IP->Multicast Listening->Listening Address	
Parameter	multicast.listen_address.X.label[1]	<y0000000000xx>.cfg
Description	It configures the label to be displayed on the LCD screen when receiving the multicast paging calls. **Example**: multicast.listen_address.1.label = Paging1	

Permitted Values	String within 99 characters	
Default	Blank	
Web UI	Directory->Multicast IP->Multicast Listening->Label	
Parameter	multicast.listen_address.X.channel[1]	<y0000000000xx>.cfg
Description	It configures the channel that the IP phone listens to. **Example**: multicast.listen_address.1.channel = 2	
Permitted Values	**0**-the IP phone can receive an RTP stream of the pre-configured multicast address from the IP phones running firmware version 80 or earlier, from the IP phones listen to the channel 0, or from the available third-party devices (for example, Cisco IP phones). **1 to 25**-the IP phone can receive an RTP stream of the pre-configured multicast address on the channel 1 to 25 respectively from Yealink or Polycom IP phones. **26 to 30**-the IP phone can receive the RTP stream of the pre-configured multicast address on the channel 26 to 30 respectively from Yealink IP phones.	
Default	0	
Web UI	Directory->Multicast IP->Multicast Listening->Channel	

[1]X ranges from 1 to 31

Multicast Paging Settings

You can configure some general settings for multicast paging, for example, specify a codec, configure the volume and audio device for listening to a paging call.

By default, all the listening group are considered with a certain priority from 1 (lower priority) to 31 (higher priority). If you neither want to receive some paging calls nor miss urgent paging calls when there is a voice call or paging call, or when DND is activated, you can use the priority to define how your phone handles different incoming paging calls.

Paging Barge

You can set your phone whether an incoming paging call interrupts an active call.

The Paging Barge defines the lowest priority of the paging group from which the phone can receive a paging call when there is a voice call (a normal phone call rather than a multicast paging call) in progress. You can specify a priority that the incoming paging calls with higher or equal priority are automatically answered, and the lower ones are ignored.

If it is disabled, all incoming paging calls will be automatically ignored.

Paging Priority

You can set your phone whether a new incoming paging call interrupts a current paging call.

The Paging Priority feature decides how the phone handles incoming paging calls when there is already a paging call on the phone. If enabled, the phone will ignore incoming paging calls with lower priorities, otherwise, the phone will answer incoming paging calls automatically and place the previous paging call on hold. If disabled, the phone will automatically ignore all incoming paging calls.

DND for Ignoring Paging Call

If you do not want to miss some urgent paging calls when DND is activated. You can use Ignore DND feature to define the lowest priority of paging group from which the phone can receive an urgent paging call when DND is activated. You can specify a priority that the incoming paging calls with higher or equal priority are automatically answered, and the lower ones are ignored.

If it is disabled, all the incoming paging calls will be ignored when DND is activated in phone mode.

Topic

Multicast Paging Settings

Multicast Paging Settings Configuration

The following table lists the parameters you can use to change multicast paging settings.

Parameter	multicast.codec	<y0000000000xx>.cfg
Description	It configures the codec for multicast paging. **Example**: multicast.codec = G722 **Note**: It is not applicable to T19(P) E2 IP phones.	
Permitted Values	PCMU, PCMA, G729, G722	
Default	G722	
Web UI	Features->General Information->Multicast Codec	
Parameter	multicast.receive_priority.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to handle the incoming multicast paging calls when there is an active multicast paging call on the IP phone.	
Permitted Values	**0**-Disabled, the IP phone will ignore the incoming multicast paging calls when there is an active multicast paging call on the IP phone. **1**-Enabled, the IP phone will receive the incoming multicast paging call with a higher priority and ignore the one with a lower priority.	
Default	1	
Web UI	Directory->Multicast IP->Paging Priority Active	

Parameter	multicast.receive_priority.priority	<y0000000000xx>.cfg
Description	It configures the priority of the voice call (a normal phone call rather than a multicast paging call) in progress. 1 is the highest priority, 31 is the lowest priority.	
Permitted Values	**0**-Disabled, all incoming multicast paging calls will be automatically ignored when a voice call is in progress. **1**-1 **2**-2 **3**-3 … **31**-31 If it is set to other values, the IP phone will receive the incoming multicast paging call with a higher or equal priority and ignore the one with a lower priority when a voice call is in progress.	
Default	31	
Web UI	Directory->Multicast IP->Paging Barge	
Parameter	multicast.receive.ignore_dnd.priority	<y0000000000xx>.cfg
Description	It configures the lowest priority of the multicast paging call that can be received when DND is activated in phone mode. 1 is the highest priority, 31 is the lowest priority.	
Permitted Values	**0**-Disabled, all incoming multicast paging calls will be automatically ignored when DND is activated in phone mode. **1**-1 **2**-2 **3**-3 … **31**-31 If it is not set to 0 (Disabled), the IP phone will receive the incoming multicast paging call with a higher or same priority than this value and ignore that with a lower priority than this value when DND is activated in phone mode.	
Default	0	
Web UI	Directory->Multicast IP->Ignore DND	
Parameter	multicast.listen_address.X.volume[1]	<y0000000000xx>.cfg
Description	It configures the volume of the speaker when receiving the multicast paging calls. If it is set to 0, the current volume of the speaker takes effect. The volume of the speaker can be adjusted by pressing the Volume key in advance when the phone is	

	during a call. You can also adjust the volume of the speaker during the paging call.
	If it is set to 1 to 15, the configured volume takes effect and the current volume of the speaker will be ignored. You are not allowed to adjust the volume of the speaker during the paging call.
	Example:
	multicast.listen_address.1.volume = 1
Permitted Values	Integer from 0 to 15
Default	0
Parameter	multicast.receive.enhance_volume <y0000000000xx>.cfg
Description	It enables or disables the volume enhancement feature when receiving the multicast paging calls.
	Note: It works only if "multicast.listen_address.X.volume" is not set to 0. If the value the parameter "multicast.listen_address.X.volume" is set to 1-15 and the value of this parameter is set to 1 (Enabled), the receiving volume will be 16-30.
Permitted Values	**0**-Disabled
	1-Enabled, the receiving volume will be increased by 15 level.
Default	0
Parameter	multicast.receive.use_speaker <y0000000000xx>.cfg
Description	It enables or disables the IP phone to always use the speaker as the audio device when receiving the multicast paging calls.
	Note: If there is an active call on the phone, the call will not be interrupted by the incoming multicast paging calls even if the value of this parameter is set to 1. But there is a warning tone from the speaker.
Permitted Values	**0**-Disabled, the engaged audio device will be used when receiving the multicast paging calls.
	1-Enabled
Default	0

[1]X ranges from 1 to 31.

Audio Features

This chapter describes the audio sound quality features and options you can configure for the IP phone.

Topics

Alert Tone

You can configure the following audio alert for the phone:

- Redial tone: allow IP phones to continue to play the dial tone after inputting the preset numbers on the dialing screen.

- Voice mail tone: allow the IP phone to play a warning tone when receiving a new voice mail. You can customize the warning tone or select specialized tone sets (vary from country to country) for your IP phone.

- Send tone: allow the IP phone to play a key tone when a you press the send key. It works only if key tone is enabled.

- Dial tone: allow the IP phone play a specific dial tone for a specified time.

- Key tone: allow the IP phone to play a key tone when you press any key.

Topic

Alert Tone Configuration

The following table lists the parameters you can use to configure the alert tone.

Parameter	features.redial_tone	<y0000000000xx>.cfg
Description	It configures that after you entering a specific number on the dialing screen, the IP phone will replay the dial tone. **Example**: features.redial_tone = 123 The IP phone will continue to play the dial tone after inputting "123" on the dialing screen.	
Permitted Values	Integer within 6 digits	
Default	Blank	
Web UI	Features->Audio->Redial Tone	
Parameter	account.X.dial_tone[1]	<MAC>.cfg
Description	It configures the dial tone for the IP phone.	
Permitted Values	**0**-Default (depend on the country tone by "voice.tone.country") **1**-440/250,0/250 **2**-1000/250,0/250	
Default	0	
Parameter	features.call.dialtone_time_out	<y0000000000xx>.cfg
Description	It configures the duration time (in seconds) that a dial tone plays before a call is dropped. **Example**: features.call.dialtone_time_out = 30 The IP phone will stop playing the dial tone after 30 seconds when on the dialing screen and then return back to the idle screen. If it is set to 0, the call is not dropped.	
Permitted Values	0 to 65535	
Default	15	
Parameter	features.voice_mail_tone_enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to play a warning tone when it receives a new voice mail.	

	Note: It works only if "account.X.display_mwi.enable" is set to 1 (Enabled).
Permitted Values	**0**-Disabled **1**-Enabled
Default	1
Web UI	Features->General Information->Voice Mail Tone

Parameter	features.send_key_tone	\<y0000000000xx\>.cfg

Description	It enables or disables the IP phone to play a key tone when a user presses a send key. **Note**: It works only if "features.key_tone" is set to 1 (Enabled).
Permitted Values	**0**-Disabled **1**-Enabled
Default	1
Web UI	Features->Audio->Send Tone

Parameter	features.key_tone	\<y0000000000xx\>.cfg

Description	It enables or disables the IP phone to play a key tone when a user presses any key on your phone keypad.
Permitted Values	**0**-Disabled **1**-Enabled
Default	1
Web UI	Features->Audio->Key Tone
Phone UI	<u>T54S/T52S/T48S/T48G/T46S/T46G/T29G</u>: Menu->Basic->Sound->Key Tone <u>T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2</u>: Menu->Settings->Basic Settings->Sound->Key Tone

Ring Tones

Ring tones are used to play for incoming calls. You can select a built-in ring tone or a custom ring tone for the phone system or specific line registration. To set the custom ring tones, you need to upload the custom ring tones to the IP phone in advance.

You can also specify period of time after which the IP phone will stop ringing if the call is not answered.

Topics

Custom Ringtone Limit

Ringtone Configuration

Custom Ringtone Limit

The ring tone format must meet the following:

Phone Model	Format	Single File Size	Note
T54S/T52S/T48S/T46S/T42S/T41S/T27G	.wav	<=8MB	2MB of space should be reserved for the phone
T48G/T46G/T29G	.wav	<=8MB	2.4MB of space should be reserved for the
T42G/T41P/T40P/T40G/T27P/T23P/T23G/T21(P) E2/T19(P) E2	.wav	<=100KB	5KB of space should be reserved for the phone

Note
The ring tone file must be in PCMU/PCMA audio format, mono channel, 8K sample rate and 16 bit resolution.

Ringtone Configuration

The following table lists the parameters you can use to configure ringtone.

Parameter	phone_setting.ring_type	<y0000000000xx>.cfg
Description	It configures a ring tone for the IP phone. **Example**: phone_setting.ring_type = Ring1.wav	
Permitted Values	Ring1.wav, Ring2.wav, Ring3.wav, Ring4.wav, Ring5.wav, Ring6.wav, Ring7.wav, Ring8.wav, Silent.wav, Splash.wav or custom ring tone name (for example, Customring.wav)	
Default	Ring1.wav	
Web UI	Settings->Preference->Ring Type	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Basic->Sound->Ring Tones->Common T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Basic Settings->Sound->Ring Tones->Common	
Parameter	account.X.ringtone.ring_type[1]	<MAC>.cfg
Description	It configures a ring tone.	

	Example:
	account.1.ringtone.ring_type = Ring3.wav
	It means configuring Ring3.wav for account1.
	account.1.ringtone.ring_type = Common
	It means account1 will use the ring tone selected for the IP phone configured by the parameter "phone_setting.ring_type".
Permitted Values	Common, Ring1.wav, Ring2.wav, Ring3.wav, Ring4.wav, Ring5.wav, Ring6.wav, Ring7.wav, Ring8.wav, Silent.wav, Splash.wav or custom ring tone name (for example, Customring.wav)
Default	Common
Web UI	Account->Basic->Ring Type
Phone UI	<u>T54S/T52S/T48S/T48G/T46S/T46G/T29G</u>: Menu->Basic->Sound->Ring Tones->AccountX <u>T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2</u>: Menu->Settings->Basic Settings->Sound->Ring Tones->AccountX

Parameter	ringtone.url	<y0000000000xx>.cfg
Description	It configures the access URL of the custom ring tone file. **Example**: ringtone.url = tftp://192.168.1.100/Customring.wav	
Permitted Values	URL within 511 characters	
Default	Blank	
Web UI	Settings->Preference->Upload Ringtone	

Parameter	ringtone.delete	<y0000000000xx>.cfg
Description	It deletes all custom ring tone files. **Example**: ringtone.delete = http://localhost/all	
Permitted Values	http://localhost/all	
Default	Blank	

Parameter	phone_setting.ringing_timeout	<y0000000000xx>.cfg
Description	It configures the duration time (in seconds) in the ringing state. If it is set to 180, the phone will stop ringing if the call is not answered within 180 seconds.	

Permitted Values	Integer from 0 to 3600
Default	120

Parameter	phone_setting.ring_for_tranfailed	<y0000000000xx>.cfg

Description	It configures the ring tone when the IP phone fails to transfer a call and display "Transfer failed" on the screen.
Permitted Values	Ring1.wav, Ring2.wav, Ring3.wav, Ring4.wav, Ring5.wav, Ring6.wav, Ring7.wav, Ring8.wav, Silent.wav or Splash.wav
Default	Ring1.wav

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

Distinctive Ring Tones

Distinctive ring tones allows certain incoming calls to trigger IP phones to play distinctive ring tones. The IP phone inspects the INVITE request for an "Alert-Info" header when receiving an incoming call. If the INVITE request contains an "Alert-Info" header, the IP phone strips out the URL or keyword parameter and maps it to the appropriate ring tone.

Note
If the caller already exists in the local directory, the ring tone assigned to the caller should be preferentially played.

Topics

Supported Alert-Info Headers Format

Distinctive Ring Tones Configuration

Supported Alert-Info Headers Format

Yealink IP phones support Alert-Info headers in four formats: Bellcore-drN, ringtone-N (or MyMelodyN), <URL> and info=info text;x-line-id=0.

Note
If the Alert-Info header contains multiple types of keywords, the IP phone will process the keywords in the following order: AutoAnswer>URL>info text/Bellcore-drN/ringtone-N (ringtone-RingN)>MyMelodyN (MyMelodyRingN).

Topics

Alert-Info: Bellcore-drN

Alert-Info: ringtone-N/Alert-Info: ringtone-RingN.wav (or Alert-Info: MyMelodyN/Alert-Info:

MyMelodyRingN.wav)

Alert-Info: <URL>

Alert-Info: info=info text;x-line-id=0

Alert-Info: Bellcore-drN

When the Alter-Info header contains the keyword "Bellcore-drN", the IP phone will play the desired ring tone.

The following table identifies the corresponding ring tone:

Value of N	Ring Tone (features.alert_info_tone = 1)	Ring Tone (features.alert_info_tone = 0)
1	Bellcore-dr1	Ring1.wav
2	Bellcore-dr2	Ring2.wav
3	Bellcore-dr3	Ring3.wav
4	Bellcore-dr4	Ring4.wav
5	Bellcore-dr5	Ring5.wav
6	Ring6.wav	
7	Ring7.wav	
8	Ring8.wav	
9	Silent.wav	
10	Splash.wav	
N<1 or N>10	Ring1.wav	

Examples:

Alert-Info: http://127.0.0.1/Bellcore-dr1

Alert-Info: test/Bellcore-dr1

Alert-Info: Bellcore-dr1

Alert-Info: Bellcore-dr1;x-line-id=1

Alert-Info: <http://10.1.0.31>;info=Bellcore-dr1

The following table identifies the different Bellcore ring tone patterns and cadences (These ring tones are designed for the BroadWorks server).

Bellcore Tone	Pattern ID	Pattern	Cadence	Minimum Duration (ms)	Nominal Duration (ms)	Maximum Duration (ms)
Bellcore-dr1(standard)	1	Ringing	● 2s On	1800	2000	2200
		Silent	● 4s Off	3600	4000	4400
Bellcore-dr2	2	Ringing	Long	630	800	1025
		Silent		315	400	525
		Ringing	Long	630	800	1025
		Silent		3475	4000	4400
Bellcore-dr3	3	Ringing	Short	315	400	525
		Silent		145	200	525
		Ringing	Short	315	400	525
		Silent		145	200	525
		Ringing	Long	630	800	1025
		Silent		2975	4000	4400
Bellcore-dr4	4	Ringing	Short	200	300	525
		Silent		145	200	525
		Ringing	Long	800	1000	1100
		Silent		145	200	525
		Ringing	Short	200	300	525
		Silent		2975	4000	4400
Bellcore-dr5	5	Ringing		450	500	550

Note

If the user is waiting for a call, "Bellcore-dr5" is a ring splash tone that reminds the user that the DND or Always Call Forward feature is enabled on the server side.

Alert-Info: ringtone-N/Alert-Info: ringtone-RingN.wav (or Alert-Info: MyMelodyN/Alert-Info: MyMelodyRingN.wav)

When the Alter-Info header contains the keyword "ringtone-N/ringtone-RingN" or "MyMolodyN/MyMelodyRingN", the IP phone will play the corresponding local ring tone (RingN.wav), or play the first local ring tone (Ring1.wav) in about 10 seconds if "N" is greater than 10 or less than 1.

Examples:

Alert-Info: ringtone-2

Alert-Info: ringtone-Ring2.wav

Alert-Info: ringtone-2;x-line-id=1

Alert-Info: <http://10.1.0.31>;info=ringtone-2

Alert-Info: <http://127.0.0.1/ringtone-2>

Alert-Info: MyMelody2

Alert-Info: MyMelodyRing2.wav

Alert-Info: MyMelody2;x-line-id=1

Alert-Info: <http://10.1.0.31>;x-line-id=0;info=MyMelody2

The following table identifies the corresponding local ring tone:

Value of N	Ring Tone
1	Ring1.wav
2	Ring2.wav
3	Ring3.wav
4	Ring4.wav
5	Ring5.wav
6	Ring6.wav
7	Ring7.wav
8	Ring8.wav
9	Silent.wav
10	Splash.wav
N<1 or N>10	Ring1.wav

Alert-Info: <URL>

When the Alert-Info header contains a remote URL, the IP phone will try to download the WAV ring tone file from the URL and then play the remote ring tone if "*account.X.alert_info_url_enable*" is set to 1 (or the item called "Distinctive Ring Tones" on the web user interface is Enabled), or play the preconfigured local ring tone in about 10 seconds if "*account.X.alert_info_url_enable*" is set to 0 or if the IP phone fails to download the remote ring tone.

Example:

Alert-Info: http://192.168.0.12:8080/Custom.wav

Alert-Info: info=info text;x-line-id=0

When the Alert-Info header contains an info text, the IP phone will map the text with the Internal Ringer Text preconfigured (or "*distinctive_ring_tones.alert_info.X.text*" is configured) on the IP phone, and then play the ring tone associated with the Internal Ringer Text (the ring tone can be configured by the parameter "*distinctive_ring_tones.alert_info.X.ringer*"). If no internal ringer text maps, the IP phone will play the preconfigured local ring tone in about 10 seconds.

Example:

Alert-Info: info=family;x-line-id=0

Alert-Info: <http://10.1.0.31>;info=family

Alert-Info: <http://10.1.0.31>;info=family;x-line-id=0

Auto Answer

If the INVITE request contains the following type of strings, the IP phone will answer incoming calls automatically without playing the ring tone:

- Alert-Info: Auto Answer

- Alert-Info: info = alert-autoanswer

- Alert-Info: answer-after = 0 (or Alert-Info: Answer-After = 0)

- Alert-Info: Intercom

If enable auto answer tone feature is enabled, the phone plays a warning tone to alert you before answering the incoming call.

Related Topic

Auto Answer

Distinctive Ring Tones Configuration

The following table lists the parameters you can use to configure distinctive ring tones.

Parameter	account.X.alert_info_url_enable[1]	<MAC>.cfg
Description	It enables or disables the IP phone to download the ring tone from the URL contained in the Alert-Info header.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Web UI	Account->Advanced->Distinctive Ring Tones	
Parameter	features.alert_info_tone	<y0000000000xx>.cfg

Description	It enables and disables the IP phone to map the keywords in the Alert-Info header to the specified Bellcore ring tones.

Permitted Values	**0**-Disabled **1**-Enabled

Default	0

Parameter	distinctive_ring_tones.alert_info.X.text[2]	<y0000000000xx>.cfg

Description	It configures the internal ringer text to map the keywords contained in the Alert-Info header. **Example**: distinctive_ring_tones.alert_info.1.text = Family

Permitted Values	String within 32 characters

Default	Blank

Web UI	Settings->Ring->Internal Ringer Text

Parameter	distinctive_ring_tones.alert_info.X.ringer[2]	<y0000000000xx>.cfg

Description	It configures the desired ring tone for each internal ringer text.

Permitted Values	• Integer from 1 to 10 (the digit stands for the appropriate ring tone) or ring tone name: **1** or **Ring1.wav** **2** or **Ring2.wav** **3** or **Ring3.wav** **4** or **Ring4.wav** **5** or **Ring5.wav** **6** or **Ring6.wav** **7** or **Ring7.wav** **8** or **Ring8.wav** **9** or **Silent.wav** **10** or **Splash.wav** • custom ring tone name (for example, Customring.wav)

Default	1

Web UI	Settings->Ring->Internal Ringer File

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

[2]X is the ring tone ID. X=1-10.

Ringer Device

The IP phones support either or both speaker and headset ringer devices. You can configure which ringer device to be used when receiving an incoming call. For example, if the ringer device is set to Headset, ring tone will be played through your headset.

If the ringer device is set to Headset or Headset&Speaker, the headset (either a wired headset, Bluetooth headset or USB headset) should be connected to the IP phone and the headset mode also should be activated in advance. The USB headset is only applicable to T41S/T42S/T46S/T48S/T52S/T54S IP phones.

You can press the HEADSET key to activate the headset mode. For more information, refer to the Yealink phone-specific user guide.

Topic

Ringer Device Configuration

Ringer Device Configuration

The following table lists the parameters you can use to configure ringer device.

Parameter	features.ringer_device.is_use_headset	<y0000000000xx>.cfg
Description	It configures the ringer device for the IP phone. If the ringer device is set to Headset or Headset&Speaker, the headset should be connected to the IP phone and the headset mode also should be activated in advance. **Note**: If you want to user speaker ringer device for the phone, you have to set "features.speaker_mode.enable" to 1 (Enabled). If you want to user headset ringer device for the phone, you have to set "features.headset_mode.enable" to 1 (Enabled).	
Permitted Values	**0**-Use Speaker **1**-Use Headset **2**-Use Headset & Speaker	
Default	0	
Web UI	Features->Audio->Ringer Device for Headset	

Audio Volume

You can configure the sending volume and ringer volume for the phone.

Topics

Ringer Volume Configuration

Sending Volume Configuration

Ringer Volume Configuration

You can configure the ringer volume as a fixed level, so the user cannot adjust the ringer volume on the phone. This feature is used to avoid missing calls when the user turns down the ringer volume.

The following table lists the parameters you can use to configure ringer volume.

Parameter	force.voice.ring_vol	<y0000000000xx>.cfg
Description	It configures the ring tone as a fixed volume.	
Permitted Values	**0 to 15**-the user cannot adjust the ringer volume on the phone. The user can press the Silence soft key to mute the ringer when receiving an incoming call. **Blank**-the user can adjust the ringer volume on the phone.	
Default	Blank	

Sending Volume Configuration

You can configure the sending volume of currently engaged audio devices (handset, speakerphone or headset) when the phone is in use.

The following table lists the parameters you can use to configure sending volume.

Parameter	voice.handfree_send[1]	<y0000000000xx>.cfg
Description	It configures the sending volume of the speaker. **Note**: We recommend that you modify this parameter cautiously. An suitable value may render the voice quality bad.	
Permitted Values	Integer from -50 to 50	
Default	0	
Web UI	Features->Audio->Handfree Send Volume (-50~50)	
Parameter	voice.handfree.autoreset_spk_vol	<y0000000000xx>.cfg
Description	It configures the speaker's volume level during a call.	
Permitted Values	0-The speakerphone volume at the end of a call persists between calls. 1 to 15-The speakerphone volume does not persist between calls, and resets to this specified level each new call.	
Default	0	
Parameter	voice.handset_send[1]	<y0000000000xx>.cfg
Description	It configures the sending volume of the handset. **Note**: We recommend that you modify this parameter cautiously. An suitable value	

	may render the voice quality bad.
Permitted Values	Integer from -50 to 50
Default	0
Web UI	Features->Audio->Handset Send Volume (-50~50)

Parameter	voice.handset.autoreset_spk_vol	<y0000000000xx>.cfg
Description	It configures the handset's volume level during a call.	
Permitted Values	0-The handset volume at the end of a call persists between calls. 1 to 15-The handset volume does not persist between calls, and resets to this specified level each new call.	
Default	0	

Parameter	voice.headset_send[1]	<y0000000000xx>.cfg
Description	It configures the sending volume of the headset. **Note**: We recommend that you modify this parameter cautiously. An suitable value may render the voice quality bad.	
Permitted Values	Integer from -50 to 50	
Default	0	
Web UI	Features->Audio->Headset Send Volume (-50~50)	

Parameter	voice.headset.autoreset_spk_vol	<y0000000000xx>.cfg
Description	It configures the headset's volume level during a call.	
Permitted Values	0-The headset volume at the end of a call persists between calls. 1 to 15-The headset volume does not persist between calls, and resets to this specified level each new call.	
Default	0	

Parameter	voice.side_tone[1]	<y0000000000xx>.cfg
Description	It configures the volume of the side tone.	
Permitted Values	Integer from -100 to 0	
Default	-25	

[1]If you change this parameter, the IP phone will reboot to make the change take effect.

Tones

When receiving a message, the IP phone will play a warning tone. You can customize tones or select specialized tone sets (vary from country to country) to indicate different conditions of the IP phone.

Topics

Supported Tones

Tones Configuration

Supported Tones

The default tones used on IP phones are the US tone sets. Available tone sets for IP phones:

- Australia

- Austria

- Brazil

- Belgium

- China

- Czech

- Denmark

- Finland

- France

- Germany

- Great Britain

- Greece

- Hungary

- Lithuania

- India

- Italy

- Japan

- Mexico

- New Zealand

- Netherlands

- Norway

- Portugal

- Spain

- Switzerland

- Sweden

- Russia

- United States

- Chile

- Czech ETSI

Configured tones can be heard on IP phones in the following conditions.

Condition	Description
Dial	When in the dialing interface
Secondary Dial	When adding a comma "," to the digit map (For more information on digit map, refer to Dial Plan Defined by Digit Map)
Ring Back	Ring-back tone
Busy	When the callee is busy
Congestion	When the network is congested
Call Waiting	Call waiting tone (For more information on call waiting, refer to Call Waiting)
Dial Recall	When receiving a call back
Info	When receiving a special message
Stutter	When receiving a voice mail (For more information on voice mail tone, refer to Alert Tone)
Message	When receiving a text message (For more information on text message, refer to Alert Tone)
Auto Answer	When automatically answering a call (For more information on auto answer, refer to Auto Answer)

Tones Configuration

The following table lists the parameters you can use to configure tones.

Parameter	voice.tone.country	<y0000000000xx>.cfg
Description	It configures the country tone for the IP phone. **Example**: voice.tone.country = Custom	

Permitted Values	Custom, Australia, Austria, Brazil, Belgium, Chile, China, Czech, Czech ETSI, Denmark, Finland, France, Germany, Great Britain, Greece, Hungary, Lithuania, India, Italy, Japan, Mexico, New Zealand, Netherlands, Norway, Portugal, Spain, Switzerland, Sweden, Russia, United States
Default	Custom
Web UI	Settings->Tones->Select Country

Parameter	voice.tone.dial	<y0000000000xx>.cfg

Description	It customizes the dial tone. tone list = element[,element] [,element]... Where **element** = [!]Freq1[+Freq2][+Freq3][+Freq4] /Duration **Freq**: the frequency of the tone (ranges from 200 to 4000 Hz). If it is set to 0 Hz, it means the tone is not played. **For T40P/T40G/T23P/T23G/T21(P) E2/T19(P) E2:** A tone is comprised of at most two different frequencies. **For T54S/T52S/T48S/T48G/T46S/T46G/T42G/T42S/T41P/T41S/T29G/T27P/T27G:** A tone is comprised of at most four different frequencies. **Duration**: the duration (in milliseconds) of the dial tone, ranges from 0 to 30000ms. You can configure at most eight different tones for one condition, and separate them by commas. (for example, 250/200,0/1000,200+300/500,200+500+800+1500/1000). If you want the IP phone to play tones once, add an exclamation mark "!" before tones (for example, !250/200,0/1000, 200+300/500,200+500+800+1500/1000). **Note**: It works only if "voice.tone.country" is set to Custom.

Permitted Values	String
Default	Blank
Web UI	Settings->Tones->Dial

Parameter	features.partition_tone[1]	<y0000000000xx>.cfg

Description	It enables or disables the IP phone to play the different dial tones when there is no active account. **Note**: It works only if "voice.tone.dial" is configured.
Permitted Values	**0**-Disabled **1**-Enabled. If there is an active account, the IP phone will play the default dial tone. If there is no active account, the IP phone will play the dial tone configured by "voice.tone.dial".

Default	0

Parameter	voice.tone.secondary_dial	<y0000000000xx>.cfg

Description	It customizes the secondary dial tone. The value format is Freq/Duration. For more information on the value format, refer to the parameter "voice.tone.dial". **Note**: It works only if "voice.tone.country" is set to Custom. If you want to disable this warning tone, set it to 0.
Permitted Values	String
Default	350+440/3000
Web UI	Settings->Tones->Secondary Dial

Parameter	voice.tone.ring	<y0000000000xx>.cfg

Description	It customizes the ringback tone. The value format is Freq/Duration. For more information on the value format, refer to the parameter "voice.tone.dial". **Note**: It works only if "voice.tone.country" is set to Custom. If you want to disable this warning tone, set it to 0.
Permitted Values	String
Default	Blank
Web UI	Settings->Tones->Ring Back

Parameter	voice.tone.busy	<y0000000000xx>.cfg

Description	It customizes the tone when the callee is busy. The value format is Freq/Duration. For more information on the value format, refer to the parameter "voice.tone.dial". **Note**: It works only if "voice.tone.country" is set to Custom. If you want to disable this warning tone, set it to 0.
Permitted Values	String
Default	Blank
Web UI	Settings->Tones->Busy

Parameter	voice.tone.congestion	<y0000000000xx>.cfg

Description	It customizes the tone when the network is congested. The value format is Freq/Duration. For more information on the value format, refer to the parameter "voice.tone.dial".

	Note: It works only if "voice.tone.country" is set to Custom. If you want to disable this warning tone, set it to 0.
Permitted Values	String
Default	Blank
Web UI	Settings->Tones->Congestion

Parameter	voice.tone.callwaiting	<y0000000000xx>.cfg

Description	It customizes the call waiting tone. The value format is Freq/Duration. For more information on the value format, refer to the parameter "voice.tone.dial". **Note**: It works only if "voice.tone.country" is set to Custom. If you want to disable this warning tone, set it to 0.
Permitted Values	String
Default	Blank
Web UI	Settings->Tones->Call Waiting

Parameter	voice.tone.dialrecall	<y0000000000xx>.cfg

Description	It customizes the call back tone. The value format is Freq/Duration. For more information on the value format, refer to the parameter "voice.tone.dial". **Note**: It works only if "voice.tone.country" is set to Custom. If you want to disable this warning tone, set it to 0.
Permitted Values	String
Default	Blank
Web UI	Settings->Tones->Dial Recall

Parameter	voice.tone.info	<y0000000000xx>.cfg

Description	It customizes the info tone. The phone will play the info tone with the special information, for example, the number you are calling is not in service. The value format is Freq/Duration. For more information on the value format, refer to the parameter "voice.tone.dial". **Note**: It works only if "voice.tone.country" is set to Custom. If you want to disable this warning tone, set it to 0.
Permitted Values	String

Default	Blank	
Web UI	Settings->Tones->Info	
Parameter	voice.tone.stutter	<y0000000000xx>.cfg
Description	It customizes the tone when the IP phone receives a voice mail. The value format is Freq/Duration. For more information on the value format, refer to the parameter "voice.tone.dial". **Note**: It works only if "voice.tone.country" is set to Custom. If you want to disable this warning tone, set it to 0.	
Permitted Values	String	
Default	Blank	
Web UI	Settings->Tones->Stutter	
Parameter	voice.tone.message	<y0000000000xx>.cfg
Description	It customizes the tone when the IP phone receives a text message. The value format is Freq/Duration. For more information on the value format, refer to the parameter "voice.tone.dial". **Note**: It works only if "voice.tone.country" is set to Custom. If you want to disable this warning tone, set it to 0.	
Permitted Values	String	
Default	Blank	
Web UI	Settings->Tones->Message	
Parameter	voice.tone.autoanswer	<y0000000000xx>.cfg
Description	It customizes the warning tone for auto answer. The value format is Freq/Duration. For more information on the value format, refer to the parameter "voice.tone.dial". **Note**: It works only if "voice.tone.country" is set to Custom. If you want to disable this warning tone, set it to 0.	
Permitted Values	String	
Default	Blank	
Web UI	Settings->Tones->Auto Answer	

Audio Codecs

CODEC is an abbreviation of COmpress-DECompress, capable of coding or decoding a digital data stream or signal by implementing an algorithm. The object of the algorithm is to represent the high-fidelity audio signal with minimum number of bits while retaining the quality. This can effectively reduce the frame size and the bandwidth required for audio transmission.

The audio codec that the phone uses to establish a call should be supported by the SIP server. When placing a call, the IP phone will offer the enabled audio codec list to the server and then use the audio codec negotiated with the called party according to the priority.

Topics

Supported Audio Codecs

Audio Codecs Configuration

Supported Audio Codecs

The following table summarizes the supported audio codecs on IP phones:

Codec	Algorithm	Reference	Bit Rate	Sample Rate	Packetization Time
G722	G.722	RFC 3551	64 Kbps	16 Ksps	20ms
PCMA	G.711	RFC 3551	64 Kbps	8 Ksps	20ms
PCMU	G.711	RFC 3551	64 Kbps	8 Ksps	20ms
G729	G.729	RFC 3551	8 Kbps	8 Ksps	20ms
G726-16	G.726	RFC 3551	16 Kbps	8 Ksps	20ms
G726-24	G.726	RFC 3551	24 Kbps	8 Ksps	20ms
G726-32	G.726	RFC 3551	32 Kbps	8 Ksps	20ms
G726-40	G.726	RFC 3551	40 Kbps	8 Ksps	20ms
G723_53/ G723_63	G.723.1	RFC 3551	5.3 Kbps 6.3 Kbps	8 Ksps	30ms
iLBC_15_2kbps	iLBC	RFC 3952	15.2 Kbps	8 Ksps	20ms
iLBC_13_33kbps	iLBC	RFC 3952	13.33 Kbps	8 Ksps	30ms
opus	opus	RFC 6716	8-12 Kbps 16-20 Kbps 28-40 Kbps 48-64 Kbps	8 Ksps 12 Ksps 16 Ksps 24 Ksps	20ms

Codec	Algorithm	Reference	Bit Rate	Sample Rate	Packetization Time
			64-128 Kbps	48 Ksps	

Note

The network bandwidth necessary to send the encoded audio is typically 5~10% higher than the bit rate due to packetization overhead. For example, a two-way G.722 audio call at 64 Kbps consumes about 135 Kbps of network bandwidth.

The Opus codec supports various audio bandwidths, defined as follows:

Abbreviation	Audio Bandwidth	Sample Rate (Effective)
NB (narrowband)	4 kHz	8 kHz
MB (medium-band)	6 kHz	12 kHz
WB (wideband)	8 kHz	16 kHz
SWB (super-wideband)	12 kHz	24 kHz
FB (fullband)	20 kHz	48 kHz

Note

The T40P/T40G/T23P/T23G/T21(P) E2/T19(P) E2 IP phones support using WB for Opus encoding; and using NB, MB, WB, SWB and FB for Opus decoding.

The T54S/T52S/T48S/T46S/T42S/T41S/T27G IP phones support using WB (default) or NB for Opus encoding; and using NB, MB, WB, SWB and FB for Opus decoding.

The IP phones support up to two calls or a three-way conference when using Opus.

The following table lists the audio codecs supported by each phone model:

Phone Model	Supported Audio Codecs	Default Audio Codecs
T48G/T46G/T42G/T41P/T29G	G722, PCMA, PCMU, G729, G726-16, G726-24, G726-32, G726-40, G723_53, G723_63, iLBC_15_2kpbs, iLBC_13_33kpbs	G722, PCMA, PCMU, G729
T54S/T52S/T48S/T46S/T42S/T41S/T27G	G722, PCMA, PCMU, G729, G726-16, G726-24, G726-32, G726-40, G723_53, G723_63, opus, iLBC_15_2kpbs, iLBC_13_33kpbs	G722, PCMA, PCMU, G729
T27P	G722, PCMA, PCMU, G729, G726-16, G726-24, G726-32, G726-40, iLBC_15_2kpbs, iLBC_13_33kpbs	G722, PCMA, PCMU, G729
T40P/T40G/T23P/T23G/T2	G722, PCMA, PCMU, G729,	G722, PCMA, PCMU,

Phone Model	Supported Audio Codecs	Default Audio Codecs
1(P) E2/T19(P) E2	G726-16, G726-24, G726-32, G726-40, opus, iLBC_15_2kpbs, iLBC_13_33kpbs	G729

Audio Codecs Configuration

Yealink IP phones running firmware version 81 or later support a new configuration behavior for the audio codecs. It is more effective for you to provision different IP phone modules.

The configuration parameters are different for the new configuration behavior and the older one. For more information on old configuration behavior, refer to *Yealink_SIP-T2_Series_T19(P) E2_T4_Series_T5_Series_CP860_IP_Phones_Administrator_Guide_V81*.

The following table lists the parameters you can use to configure the audio codecs.

Parameter	account.X.codec.<payload_type>.enable[1]	<MAC>.cfg
Description	It enables or disables the specified audio codec. **The name of audio codec:** **g722**-G722　　　**pcmu**-PCMU　　　**pcma**-PCMA　　　**g729**-G729 **g726_16**-G726-16 **g726_24**-G726-24 **g726_32**-G726-32 **g726_40**-G726-40, **g723_53**-G723_53 **g723_63**-G723_63 **opus**-opus **ilbc_15_2kpbs**-iLBC_15_2kbps　　　**ilbc_13_33kpbs**-iLBC_13_33kbps **Example:** account.1.codec.g722.enable = 1 **Note**: The name of audio codec in this parameter should be the correct one as listed in the above example, otherwise the corresponding configuration will not take effect.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	**Default:** When audio codec is G722, the default value is 1; When audio codec is PCMU, the default value is 1; When audio codec is PCMA, the default value is 1; When audio codec is G729, the default value is 1; When audio codec is G726-16, the default value is 0; When audio codec is G726-24, the default value is 0; When audio codec is G726-32, the default value is 0; When audio codec is G726-40, the default value is 0; When audio codec is G723_53, the default value is 0; When audio codec is G723_63, the default value is 0; When audio codec is opus, the default value is 0; When audio codec is iLBC_15_2kbps, the default value is 0; When audio codec is iLBC_13_33kpbs, the default value is 0;	

Web UI	Account->Codec->Audio Codec	
Parameter	account.X.codec.<payload_type>.priority[1]	<MAC>.cfg
Description	It configures the priority of the enabled audio codec. **The name of audio codec:** **g722**-G722　　**pcmu**-PCMU　　**pcma**-PCMA　　**g729**-G729 **g726_16**-G726-16 **g726_24**-G726-24 **g726_32**-G726-32 **g726_40**-G726-40 **g723_53**-G723_53 **g723_63**-G723_63 **opus**-opus **ilbc_15_2kpbs**-iLBC_15_2kbps　　　　**ilbc_13_33kpbs**-iLBC_13_33kbps **Example:** account.1.codec.g722.priority = 1 **Note:** The priority of codec in disable codec list is not specified, and numerical value 1 is defined as the highest priority in the enable codec list. The name of audio codec in this parameter should be the correct one as listed in the above example, otherwise the corresponding configuration will not take effect.	
Permitted Values	Integer from 0 to 13	
Default	**Default:** When audio codec is G722, the default value is 1; When audio codec is PCMU, the default value is 2; When audio codec is PCMA, the default value is 3; When audio codec is G729, the default value is 4; When audio codec is G726_16, the default value is 0; When audio codec is G726_24, the default value is 0; When audio codec is G726_32, the default value is 0; When audio codec is G726_40, the default value is 0; When audio codec is G723_53, the default value is 0; When audio codec is G723_63, the default value is 0; When audio codec is opus, the default value is 0; When audio codec is iLBC_15_2kbps, the default value is 0; When audio codec is iLBC_13_33kpbs, the default value is 0;	
Web UI	Account->Codec->Audio Codec	
Parameter	account.X.codec.opus.para[1]	<MAC>.cfg
Description	It configures the sample rate of the Opus audio codec. **Note:** It is only applicable to T54S/T52S/T48S/T46S/T42S/T41S/T27G IP phones.	
Permitted Values	**opus-wb**-Opus-WB (16KHz) **opus-nb**-Opus-NB (8KHz)	
Default	opus-wb	
Web UI	Account->Codec->Opus Sample Rate	
Parameter	voice.g726.aal2.enable	<y0000000000xx>.cfg

Description	It enables or disables the IP phone to use the AAL2-G726-16, 24, 32 and 40 MIME type.
Permitted Values	**0**-Disabled
	1-Enabled
Default	0

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

Packetization Time (PTime)

PTime is a measurement of the duration (in milliseconds) of the audio data in each RTP packet sent to the destination, and defines how much network bandwidth is used for the RTP stream transfer. Before establishing a conversation, codec and ptime are negotiated through SIP signaling. The valid values of ptime range from 10 to 60, in increments of 10 milliseconds. The default ptime is 20ms. You can also disable the ptime negotiation.

Topics

Supported PTime of Audio Codec

PTime Configuration

Supported PTime of Audio Codec

The following table summarizes the valid values of ptime for each audio codec:

Codec	Packetization Time (Minimun)	Packetization Time (Maximun)
G722	10ms	40ms
PCMA	10ms	40ms
PCMU	10ms	40ms
G729	10ms	80ms
G726-16	10ms	30ms
G726-24	10ms	30ms
G726-32	10ms	30ms (40ms for T40P/T40G/T23P/T23G/T21(P) E2/T19(P) E2)
G726-40	10ms	30ms

Codec	Packetization Time (Minimun)	Packetization Time (Maximun)
G723_53/ G723_63	30ms	60ms
iLBC	20ms	30ms
opus	10ms	20ms
iLBC_15_2kpbs	20ms, 40ms, 60ms	
iLBC_13_33kpbs	30ms, 60ms	

PTime Configuration

The following table lists the parameter you can use to configure the PTime.

Parameter	account.X.ptime[1]	<MAC>.cfg
Description	It configures the ptime (in milliseconds) for the codec.	
Permitted Values	**0**-Disabled **10**-10 **20**-20 **30**-30 **40**-40 **50**-50 **60**-60	
Default	20	
Web UI	Account->Advanced->PTime(ms)	

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

Early Media

Early media refers to the media (for example, audio and video) played to the caller before a SIP call is actually established.

Current implementation supports early media through the 183 message. When the caller receives a 183 message with SDP before the call is established, a media channel is established. This channel is used to provide the early media stream for the caller.

You can also configure 180 ring workaround which defines whether to deal with the 180 message received after the 183 message. When the caller receives a 183 message, it suppresses any local ringback tone and begins to play the media received. 180 ring workaround allows IP phones to resume and play

the local ringback tone upon a subsequent 180 message received.

Topic

Early Media Configuration

The following table lists the parameter you can use to configure the early media.

Parameter	phone_setting.early_media.rtp_sniffer.timeout[1]	<y0000000000xx>.cfg
Description	It configures the time to wait for the IP phone to play the local ringback tone when the early media cannot be played.	
Permitted Values	**-1**-Do not play the local ringback tone **0**-Play the local ringback tone immediately **1-100**-Wait for specified time to play the local ringback tone	
Default	1	
Parameter	phone_setting.is_deal180	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to deal with the 180 SIP message received after the 183 SIP message.	
Permitted Values	**0**-Disabled **1**-Enabled, the IP phone will resume and play the local ringback tone upon a subsequent 180 message received.	
Default	1	
Web UI	Features->General Information->180 Ring Workaround	
Parameter	phone_setting.change_183_to_180	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to handle the received second 183 message as the 180 message.	
Permitted Values	**0**-Disabled **1**-Enabled, the IP phone will play the early media first and play the local ringback tone when receiving the second 183 message.	
Default	0	

[1]If you change this parameter, the IP phone will reboot to make the change take effect.

Headset Prior

Headset prior allows users to use headset preferentially if a headset is physically connected to the IP

phone. This feature is especially useful for permanent or full-time headset users.

Note
It is not applicable to the Bluetooth headset and USB headset.

Topic

Headset Prior Configuration

Headset Prior Configuration

The following table lists the parameters you can use to configure headset prior.

Parameter	features.headset_prior	<y0000000000xx>.cfg
Description	It enables or disables to preferentially use the headset mode for all incoming and outgoing calls. **Note**: It works only if "features.headset_mode.enable" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled, the headset mode will be deactivated after the call, if you switch the headset mode to speakerphone/handset mode. **1**-Enabled, the headset mode will not be deactivated after the call, even if you switch the headset mode to speakerphone/handset mode.	
Default	0	
Web UI	Features->General Information->Headset Prior	
Parameter	features.headset.ctrl_call.enable	<y0000000000xx>.cfg
Description	It enables or disables the user to initiate or end a call by pressing the HEADSET key. **Note**: It works only if "features.headset_mode.enable" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	

Dual Headset

Dual headset allows you to use two headsets on one IP phone. To use this feature, you need to physically connect two headsets to the headset and handset jacks respectively. Once the IP phone connects to a call, the user with the headset connected to the headset jack has full-duplex capability, while the user with the headset connected to the handset jack is only able to listen.

Note
Dual headset is not applicable to the Bluetooth headset and USB headset.

Topic

Dual Headset Configuration

The following table lists the parameter you can use to configure dual headset.

Parameter	features.headset_training	<y0000000000xx>.cfg
Description	It enables or disables the dual headset feature. **Note**: It works only if "features.headset_mode.enable" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled, users can use two headsets on one phone. When the IP phone joins a call, the users with the headset connected to the headset jack have a full-duplex conversation, while the users with the headset connected to the handset jack are only allowed to listen to.	
Default	0	
Web UI	Features->General Information->Dual-Headset	

Acoustic Clarity Technology

To optimize the audio quality of your network, Yealink IP phones support the acoustic clarity technology: Acoustic Echo Cancellation (AEC), Background Noise Suppression (BNS), Automatic Gain Control (AGC), Voice Activity Detection (VAD), Comfort Noise Generation (CNG) and jitter buffer.

Topics

Acoustic Echo Cancellation (AEC)

Yealink IP phones employ advanced AEC for hands-free operation. You can configure the AEC feature to remove the echo of the local loudspeaker from the local microphone without removing the near-end speech.

AEC is not normally required for calls via the handset. In some cases, where echo is experienced by the

remote party, AEC may be used to reduce/avoid echo when the you use the handset.

Note
Utilizing acoustic echo cancellation will introduce a small increase of delay into audio path which might cause a lower voice quality.

Topic

AEC Configuration

AEC Configuration

The following table lists the parameter you can use to configure AEC.

Parameter	voice.echo_cancellation	<y0000000000xx>.cfg
Description	It enables or disables the AEC (Acoustic Echo Canceller) feature on the IP phone.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Web UI	Settings->Voice->Echo Cancellation->ECHO	

Background Noise Suppression (BNS)

Background noise suppression (BNS) is designed primarily for hands-free operation and reduces background noise to enhance communication in noisy environments.

Automatic Gain Control (AGC)

Automatic Gain Control (AGC) is applicable to hands-free operation and is used to keep audio output at nearly a constant level by adjusting the gain of signals in some circumstances. This increases the effective user-phone radius and helps with the intelligibility of soft-talkers.

Voice Activity Detection (VAD)

VAD can avoid unnecessary coding or transmission of silence packets in VoIP applications, saving on computation and network bandwidth.

Topic

VAD Configuration

VAD Configuration

The following table lists the parameter you can use to configure VAD.

Parameter	voice.vad	<y0000000000xx>.cfg
Description	It enables or disables the VAD (Voice Activity Detection) feature on the IP phone.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Settings->Voice->Echo Cancellation->VAD	

Comfort Noise Generation (CNG)

Comfort Noise Generation (CNG) is used to generate background noise for voice communications during periods of silence in a conversation.

Note
VAD is used to send CN packets when phone detect a "silence" period; CNG is used to generate comfortable noise when phone receives CN packets from the other side.

Topic

CNG Configuration

CNG Configuration

The following table lists the parameter you can use to configure CNG.

Parameter	voice.cng	<y0000000000xx>.cfg
Description	It enables or disables the CNG (Comfortable Noise Generation) feature on the IP phone.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Settings->Voice->Echo Cancellation->CNG	

Jitter Buffer

Yealink IP phones support two types of jitter buffers: fixed and adaptive. A fixed jitter buffer adds the fixed delay to voice packets. You can configure the delay time for the static jitter buffer on IP phones. An adaptive jitter buffer is capable of adapting the changes in the network's delay. The range of the delay time for the dynamic jitter buffer added to packets can be also configured on IP phones.

Topic

Jitter Buffer Configuration

You can configure the mode of jitter buffer and the delay time for jitter buffer in the wired network or wireless network.

The following table lists the parameters you can use to configure the jitter buffer.

Parameter	voice.jib.adaptive	<y0000000000xx>.cfg
Description	It configures the type of jitter buffer in the wired network.	
Permitted Values	**0**-Fixed **1**-Adaptive	
Default	1	
Web UI	Settings->Voice->JITTER BUFFER->Type	
Parameter	voice.jib.min	<y0000000000xx>.cfg
Description	It configures the minimum delay time (in milliseconds) of jitter buffer in the wired network. **Note**: It works only if "voice.jib.adaptive" is set to 1 (Adaptive). The value of this parameter should be less than the values of the parameters "voice.jib.max" and "voice.jib.normal".	
Permitted Values	Integer from 0 to 400	
Default	60	
Web UI	Settings->Voice->JITTER BUFFER->Min Delay	
Parameter	voice.jib.max	<y0000000000xx>.cfg
Description	It configures the maximum delay time (in milliseconds) of jitter buffer in the wired network. **Note**: It works only if "voice.jib.adaptive" is set to 1 (Adaptive). The value of this parameter should be greater than the values of the parameters "voice.jib.normal" and "voice.jib.min".	
Permitted Values	Integer from 0 to 400	
Default	240	
Web UI	Settings->Voice->JITTER BUFFER->Max Delay	
Parameter	voice.jib.normal	<y0000000000xx>.cfg

Description	It configures the normal delay time (in milliseconds) of jitter buffer in the wired network. **Note**: It works only if "voice.jib.adaptive" is set to 0 (Fixed). The value of this parameter should be greater than "voice.jib.min" and less than "voice.jib.max".	
Permitted Values	Integer from 0 to 400	
Default	120	
Web UI	Settings->Voice->JITTER BUFFER->Normal	
Parameter	voice.jib.wifi.adaptive	<y0000000000xx>.cfg
Description	It configures the type of jitter buffer in the wireless network. **Note**: It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T42S/T41S/T29G/T27G IP phones.	
Permitted Values	**0**-Fixed **1**-Adaptive	
Default	1	
Parameter	voice.jib.wifi.min	<y0000000000xx>.cfg
Description	It configures the minimum delay time (in milliseconds) of jitter buffer in the wireless network. **Note**: It works only if "voice.jib.wifi.adaptive" is set to 1 (Adaptive). The value of the minimum delay time should be less than or equal to that of the normal delay time (configured by the parameter "voice.jib.wifi.normal"). The value of this parameter should be less than the values of the parameters "voice.jib.wifi.normal" and "voice.jib.wifi.max". It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T42S/T41S/T29G/T27G IP phones.	
Permitted Values	Integer from 0 to 500	
Default	60	
Parameter	voice.jib.wifi.max	<y0000000000xx>.cfg
Description	It configures the maximum delay time (in milliseconds) of jitter buffer in the wireless network. **Note**: It works only if "voice.jib.wifi.adaptive" is set to 1 (Adaptive). The value of this parameter should be greater than the values of the parameters "voice.jib.wifi.normal" and "voice.jib.wifi.min". It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T42S/T41S/T29G/T27G IP phones.	
Permitted Values	Integer from 0 to 500	

Default	500	
Parameter	voice.jib.wifi.normal	<y0000000000xx>.cfg
Description	It configures the normal delay time (in milliseconds) of jitter buffer in the wireless network. **Note**: It works only if "voice.jib.wifi.adaptive" is set to 0 (Fixed). The value of the normal delay time should be less than or equal to that of the maximum delay time (configured by the parameter "voice.jib.wifi.max"). The value of this parameter should be greater than "voice.jib.wifi.min" and less than "voice.jib.wifi.min". It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T42S/T41S/T29G/T27G IP phones.	
Permitted Values	Integer from 0 to 500	
Default	240	

DTMF

DTMF is the signal sent from the IP phone to the network, which is generated when pressing the IP phone's keypad during a call. Each key pressed on the IP phone generates one sinusoidal tone of two frequencies. One is generated from a high frequency group and the other from a low frequency group.

Topics

DTMF Keypad

Transmitting DTMF Digit

Suppress DTMF Display

Transfer via DTMF

Local DTMF Tone

DTMF Keypad

The DTMF keypad is laid out in a 4×4 matrix, with each row representing a low frequency, and each column representing a high frequency. Pressing a digit key (such as '1') will generate a sinusoidal tone for each of two frequencies (697 and 1209 hertz (Hz)).

DTMF Keypad Frequencies:

	1209 Hz	1336 Hz	1477 Hz	1633 Hz
697 Hz	1	2	3	A
770 Hz	4	5	6	B
852 Hz	7	8	9	C

	1209 Hz	1336 Hz	1477 Hz	1633 Hz
941 Hz	*	0	#	D

Note
The IP phones will not send DTMF sequence when the call is placed on hold or is held.

Transmitting DTMF Digit

Three methods of transmitting DTMF digits on SIP calls:

● **RFC 2833** -- DTMF digits are transmitted by RTP Events compliant with RFC 2833. You can configure the payload type and sending times of the end RTP Event packet. The RTP Event packet contains 4 bytes. The 4 bytes are distributed over several fields denoted as Event, End bit, R-bit, Volume and Duration. If the End bit is set to 1, the packet contains the end of the DTMF event. You can configure the sending times of the end RTP Event packet.

● **INBAND** -- DTMF digits are transmitted in the voice band. It uses the same codec as your voice and is audible to conversation partners.

● **SIP INFO** -- DTMF digits are transmitted by SIP INFO messages. DTMF digits are transmitted by the SIP INFO messages when the voice stream is established after a successful SIP 200 OK-ACK message sequence. The SIP INFO message can transmit DTMF digits in three ways: DTMF, DTMF-Relay and Telephone-Event.

Topic

Transmitting DTMF Digit Configuration

Transmitting DTMF Digit Configuration

The following table lists the parameters you can use to configure the transmitting DTMF digit.

Parameter	account.X.dtmf.type[1]	<MAC>.cfg
Description	It configures the DTMF type.	
Permitted Values	**0**-INBAND, DTMF digits are transmitted in the voice band. **1**-RFC2833, DTMF digits are transmitted by RTP Events compliant to RFC 2833. **2**-SIP INFO, DTMF digits are transmitted by the SIP INFO messages. **3**-RFC2833 + SIP INFO, DTMF digits are transmitted by RTP Events compliant to RFC 2833 and the SIP INFO messages.	
Default	1	
Web UI	Account->Advanced->DTMF Type	
Parameter	account.X.dtmf.dtmf_payload[1]	<MAC>.cfg

Description	It configures the value of DTMF payload. **Note**: It works only if "account.X.dtmf.type" is set to 1 (RFC2833) or 3 (RFC2833 + SIP INFO).
Permitted Values	Integer from 96 to 127
Default	101
Web UI	Account->Advanced->DTMF Payload Type(96~127)

Parameter	account.X.dtmf.info_type[1]
	<MAC>.cfg

Description	It configures the DTMF info type. **Note**: It works only if "account.X.dtmf.type" is set to 2 (SIP INFO) or 3 (RFC2833 + SIP INFO).
Permitted Values	**1**-DTMF-Relay **2**-DTMF **3**-Telephone-Event
Default	1
Web UI	Account->Advanced->DTMF Info Type

Parameter	features.dtmf.repetition
	<y0000000000xx>.cfg

Description	It configures the repetition times for the IP phone to send the end RTP Event packet during an active call.
Permitted Values	1, 2 or 3
Default	3
Web UI	Features->General Information->DTMF Repetition

Parameter	features.dtmf.duration[2]
	<y0000000000xx>.cfg

Description	It configures the duration time (in milliseconds) for each digit when a sequence of DTMF tones is played out automatically. **Note**: If the time interval between two DTMF digits is less than this value, two or more same DTMF digits could be identified as one DTMF digit. This may cause the loss of one or more DTMF digits. For example, 2662 may be identified as 262. If so, you can modify the value of this parameter to a little lower than the default value.
Permitted Values	Integer from 0 to 700
Default	100

Parameter	features.dtmf.volume
	<y0000000000xx>.cfg

Description	It configures the volume of the DTMF tone (in db).	
Permitted Values	Integer from -33 to 0	
Default	-10	
Parameter	features.dtmf.min_interval	<y0000000000xx>.cfg
Description	It configures the minimum inter-digit time (in milliseconds) between digits when a sequence of DTMF tones is played out automatically.	
Permitted Values	Integer from 0 to 300	
Default	50	

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

[2]If you change this parameter, the IP phone will reboot to make the change take effect.

Suppress DTMF Display

Suppress DTMF display allows IP phones to suppress the display of DTMF digits during an active call. DTMF digits are displayed as "*" on the LCD screen. Suppress DTMF display delay defines whether to display the DTMF digits for a short period of time before displaying as "*".

Topic

Suppress DTMF Display Configuration

Suppress DTMF Display Configuration

The following table lists the parameters you can use to configure the suppress DTMF display.

Parameter	features.dtmf.hide	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to suppress the display of DTMF digits during an active call.	
Permitted Values	**0**-Disabled **1**-Enabled, the DTMF digits are displayed as asterisks.	
Default	0	
Web UI	Features->General Information->Suppress DTMF Display	
Parameter	features.dtmf.hide_delay	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to display the DTMF digits for a short period before displaying asterisks during an active call.	

	Note: It works only if "features.dtmf.hide" is set to 1 (Enabled).
Permitted Values	**0**-Disabled **1**-Enabled
Default	0
Web UI	Features->General Information->Suppress DTMF Display Delay

Transfer via DTMF

Call transfer is implemented via DTMF on some servers. The IP phone sends specified DTMF digits to the server for transferring calls to third parties.

Topic

Transfer via DTMF Configuration

Transfer via DTMF Configuration

The following table lists the parameters you can use to configure the transfer via DTMF.

Parameter	features.dtmf.replace_tran	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to send DTMF sequences for transfer function when pressing the **Tran**/**Transfer** soft key or TRAN/TRANSFER key.	
Permitted Values	**0**-Disabled, the IP phone will perform the transfer as normal when pressing the **Tran**/**Transfer** soft key or TRAN/TRANSFER key during a call. **1**-Enabled, the IP phone will transmit the designated DTMF digits to the server for performing call transfer when pressing the **Tran**/**Transfer** soft key or TRAN/TRANSFER key during a call.	
Default	0	
Web UI	Features->General Information->DTMF Replace Tran	
Parameter	features.dtmf.transfer	<y0000000000xx>.cfg
Description	It configures the DTMF digits to be transmitted to perform call transfer. Valid values are: 0-9, *, # and A-D. **Example**: features.dtmf.transfer = 123 **Note**: It works only if "features.dtmf.replace_tran" is set to 1 (Enabled).	
Permitted Values	String within 32 characters	
Default	Blank	

| **Web UI** | Features->General Information->Tran Send DTMF |

Local DTMF Tone

Local DTMF tone allows IP phones to play a local DTMF tone during an active call. If this feature is enabled, you can hear the DTMF tone when pressing the IP phone's keypad during a call.

Topic

Local DTMF Tone Configuration

Local DTMF Tone Configuration

The following table lists the parameters you can use to configure the local DTMF tone.

Parameter	features.play_local_dtmf_tone_enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to play a local DTMF tone.	
Permitted Values	**0**-Disabled **1**-Enabled, you can hear the DTMF tone when pressing the IP phone's keypad during a call.	
Default	1	
Web UI	Features->General Information->Play Local DTMF Tone	

Voice Quality Monitoring (VQM)

Voice quality monitoring feature allows the IP phones to generate various quality metrics for listening quality and conversational quality. These metrics can be sent between the phones in RTCP-XR packets. These metrics can also be sent in SIP PUBLISH messages to a central voice quality report collector. Yealink IP phones support two mechanisms for voice quality monitoring: RTCP-XR and VQ-RTCPXR.

Topics

RTCP-XR

VQ-RTCPXR

RTCP-XR

The RTCP-XR mechanism, compliant with RFC 3611-RTP Control Extended Reports (RTCP XR), provides the metrics contained in RTCP-XR packets for monitoring the quality of calls. These metrics include network packet loss, delay metrics, analog metrics and voice quality metrics.

Topic

RTCP-XR Configuration

The following table lists the parameters you can use to configure the RTCP-XR.

Parameter	voice.rtcp_xr.enable[1]	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to send RTCP-XR packets.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Settings->Voice Monitoring->Voice RTCP-XR Report	
Parameter	voice.rtcp.enable[1]	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to send RTCP packets.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Parameter	voice.rtcp_cname[1]	<y0000000000xx>.cfg
Description	It configures the cname of the RTCP packets.	
Permitted Values	String	
Default	Blank	

[1]If you change this parameter, the IP phone will reboot to make the change take effect.

VQ-RTCPXR

The VQ-RTCPXR mechanism, compliant with RFC 6035, sends the service quality metric reports contained in SIP PUBLISH messages to the central report collector.

A wide range of performance metrics are generated in the following three ways:

- Based on current values, such as jitter, jitter buffer max and round trip delay.

- Covers the time period from the beginning of the call until the report is sent, such as network packet loss.

- Computed using other metrics as input, such as listening Mean Opinion Score (MOS-LQ) and conversational Mean Opinion Score (MOS-CQ).

Topics

Service Quality Reports

Three types of quality reports can be enabled:

- **Session**: Generated at the end of a call.

- **Interval**: Generated during a call at a configurable period.

- **Alert**: Generated when the call quality degrades below a configurable threshold.

Topic

Service Quality Reports Configuration

Service Quality Reports Configuration

The following table lists the parameters you can use to configure the service quality reports.

Parameter	phone_setting.vq_rtcpxr.session_report.enable	y0000000000xx>.cfg
Description	It enables or disables the IP phone to send a session quality report to the central report collector at the end of each call.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Settings->Voice Monitoring->VQ RTCP-XR Session Report	
Parameter	phone_setting.vq_rtcpxr.interval_report.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to send an interval quality report to the central report collector periodically throughout a call.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Settings->Voice Monitoring->VQ RTCP-XR Interval Report	
Parameter	phone_setting.vq_rtcpxr_interval_period	<y0000000000xx>.cfg
Description	It configures the interval (in seconds) for the IP phone to send an interval quality report to the central report collector periodically throughout a call. **Note**: It works only if "phone_setting.vq_rtcpxr.interval_report.enable" is set to 1 (Enabled).	

Permitted Values	Integer from 5 to 20
Default	20
Web UI	Settings->Voice Monitoring->Period for Interval Report
Parameter	phone_setting.vq_rtcpxr_moslq_threshold_warning <y0000000000xx>.cfg
Description	It configures the threshold value of listening MOS score (MOS-LQ) multiplied by 10. The threshold value of MOS-LQ causes the phone to send a warning alert quality report to the central report collector. For example, a configured value of 35 corresponds to the MOS score 3.5. When the MOS-LQ value computed by the phone is less than or equal to 3.5, the phone will send a warning alert quality report to the central report collector. When the MOS-LQ value computed by the phone is greater than 3.5, the phone will not send a warning alert quality report to the central report collector. If it is set to blank, warning alerts are not generated due to MOS-LQ.
Permitted Values	15 to 40
Default	Blank
Web UI	Settings->Voice Monitoring->Warning threshold for Moslq
Parameter	phone_setting.vq_rtcpxr_moslq_threshold_critical <y0000000000xx>.cfg
Description	It configures the threshold value of listening MOS score (MOS-LQ) multiplied by 10. The threshold value of MOS-LQ causes the phone to send a critical alert quality report to the central report collector. For example, a configured value of 28 corresponds to the MOS score 2.8. When the MOS-LQ value computed by the phone is less than or equal to 2.8, the phone will send a critical alert quality report to the central report collector. When the MOS-LQ value computed by the phone is greater than 2.8, the phone will not send a critical alert quality report to the central report collector. If it is set to blank, critical alerts are not generated due to MOS-LQ.
Permitted Values	15 to 40
Default	Blank
Web UI	Settings->Voice Monitoring->Critical threshold for Moslq
Parameter	phone_setting.vq_rtcpxr_delay_threshold_warning <y0000000000xx>.cfg
Description	It configures the threshold value of one way delay (in milliseconds) that causes the phone to send a warning alert quality report to the central report collector. For example, if it is set to 500, when the value of one way delay computed by the phone is greater than or equal to 500, the phone will send a warning alert quality

	report to the central report collector; when the value of one way delay computed by the phone is less than 500, the phone will not send a warning alert quality report to the central report collector.
	If it is set to blank, warning alerts are not generated due to one way delay. One-way delay includes both network delay and end system delay.
Permitted Values	10 to 2000
Default	Blank
Web UI	Settings->Voice Monitoring->Warning threshold for Delay
Parameter	phone_setting.vq_rtcpxr_delay_threshold_critical <y0000000000xx>.cfg
Description	It configures the threshold value of one way delay (in milliseconds) that causes phone to send a critical alert quality report to the central report collector.
	For example, if it is set to 500, when the value of one way delay computed by the phone is greater than or equal to 500, the phone will send a critical alert quality report to the central report collector; when the value of one way delay computed by the phone is less than 500, the phone will not send a critical alert quality report to the central report collector.
	If it is set to blank, critical alerts are not generated due to one way delay. One-way delay includes both network delay and end system delay.
Permitted Values	10 to 2000
Default	Blank
Web UI	Settings->Voice Monitoring->Critical threshold for Delay

VQ-RTCPXR Display

You can check the voice quality data of the last call via web user interface or phone user interface. You can also specify the options of the RTP status to be displayed on the phone user interface. Options of the RTP status displayed on the web user interface cannot be specified.

Note
You can configure the softkey layout feature to display the **RTP Status** soft key during the conference. Then you can press the **RTP Status** soft key to check the voice quality data with different parties. For more information, refer to Softkey Layout.

Topic

VQ-RTCPXR Display Configuration

VQ-RTCPXR Display Configuration

The following table lists the parameters you can use to configure VQ-RTCPXR display.

Parameter	phone_setting.vq_rtcpxr.states_show_on_web.enable	<y0000000000xx>.cfg
Description	It enables or disables the voice quality data of the last call to be displayed on web interface at path **Status**->**RTP Status**.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Settings->Voice Monitoring->Display Report options on Web	
Parameter	phone_setting.vq_rtcpxr.states_show_on_gui.enable	<y0000000000xx>.cfg
Description	It enables or disables the voice quality data of the last call or current call to be displayed on the LCD screen. You can view the voice quality data of the last call on the phone at the path **Menu**->**Status**->**More**->**RTP** (**RTP Status**). You can view the voice quality data of the current call by pressing **RTP**/**RTP Status** soft key during a call.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Settings->Voice Monitoring->Display Report options on phone	
Parameter	phone_setting.vq_rtcpxr_display_start_time.enable	<y0000000000xx>.cfg
Description	It enables or disables the phone to display Start Time on the LCD screen. **Note**: It works only if "phone_setting.vq_rtcpxr.states_show_on_gui.enable" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Web UI	Settings->Voice Monitoring->Report options on phone->Start Time	
Parameter	phone_setting.vq_rtcpxr_display_stop_time.enable	<y0000000000xx>.cfg
Description	It enables or disables the phone to display Current Time or Stop Time on the LCD screen. **Note**: It works only if "phone_setting.vq_rtcpxr.states_show_on_gui.enable" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled	

Default	1
Web UI	Settings->Voice Monitoring->Report options on phone->Current Time
Parameter	phone_setting.vq_rtcpxr_display_local_call_id.enable <y0000000000xx>.cfg
Description	It enables or disables the phone to display Local User on the LCD screen. **Note**: It works only if "phone_setting.vq_rtcpxr.states_show_on_gui.enable" is set to 1 (Enabled).
Permitted Values	**0**-Disabled **1**-Enabled
Default	1
Web UI	Settings->Voice Monitoring->Report options on phone->Local User
Parameter	phone_setting.vq_rtcpxr_display_remote_call_id.enable <y0000000000xx>.cfg
Description	It enables or disables the phone to display Remote User on the LCD screen. **Note**: It works only if "phone_setting.vq_rtcpxr.states_show_on_gui.enable" is set to 1 (Enabled).
Permitted Values	**0**-Disabled **1**-Enabled
Default	1
Web UI	Settings->Voice Monitoring->Report options on phone->Remote User
Parameter	phone_setting.vq_rtcpxr_display_local_codec.enable <y0000000000xx>.cfg
Description	It enables or disables the phone to display Local Codec on the LCD screen. **Note**: It works only if "phone_setting.vq_rtcpxr.states_show_on_gui.enable" is set to 1 (Enabled).
Permitted Values	**0**-Disabled **1**-Enabled
Default	1
Web UI	Settings->Voice Monitoring->Report options on phone->Local Codec
Parameter	phone_setting.vq_rtcpxr_display_remote_codec.enable <y0000000000xx>.cfg
Description	It enables or disables the phone to display Remote Codec on the LCD screen. **Note**: It works only if "phone_setting.vq_rtcpxr.states_show_on_gui.enable" is set to 1 (Enabled).
Permitted Values	**0**-Disabled **1**-Enabled
Default	1

Web UI	Settings->Voice Monitoring->Report options on phone->Remote Codec	
Parameter	phone_setting.vq_rtcpxr_display_jitter.enable	<y0000000000xx>.cfg
Description	It enables or disables the phone to display Jitter on the LCD screen. **Note**: It works only if "phone_setting.vq_rtcpxr.states_show_on_gui.enable" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Web UI	Settings->Voice Monitoring->Report options on phone->Jitter	
Parameter	phone_setting.vq_rtcpxr_display_jitter_buffer_max.enable	<y0000000000xx>.cfg
Description	It enables or disables the phone to display Jitter Buffer Max on the LCD screen. **Note**: It works only if "phone_setting.vq_rtcpxr.states_show_on_gui.enable" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Web UI	Settings->Voice Monitoring->Report options on phone->Jitter Buffer Max	
Parameter	phone_setting.vq_rtcpxr_display_packets_lost.enable	<y0000000000xx>.cfg
Description	It enables or disables the phone to display Packets lost on the LCD screen. **Note**: It works only if "phone_setting.vq_rtcpxr.states_show_on_gui.enable" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Web UI	Settings->Voice Monitoring->Report options on phone->Packets lost	
Parameter	phone_setting.vq_rtcpxr_display_symm_oneway_delay.enable	<y0000000000xx>.cfg
Description	It enables or disables the phone to display SymmOneWayDelay on the LCD screen. **Note**: It works only if "phone_setting.vq_rtcpxr.states_show_on_gui.enable" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Settings->Voice Monitoring->Report options on phone->SymmOneWayDelay	

Parameter	phone_setting.vq_rtcpxr_display_round_trip_delay.enable	<y0000000000xx>.cfg
Description	It enables or disables the phone to display RoundTripDelay on the LCD screen. **Note**: It works only if "phone_setting.vq_rtcpxr.states_show_on_gui.enable" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Settings->Voice Monitoring->Report options on phone->RoundTripDelay	
Parameter	phone_setting.vq_rtcpxr_display_moslq.enable	<y0000000000xx>.cfg
Description	It enables or disables the phone to display MOS-LQ on the LCD screen. **Note**: It works only if "phone_setting.vq_rtcpxr.states_show_on_gui.enable" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Web UI	Settings->Voice Monitoring->Report options on phone->MOS-LQ	
Parameter	phone_setting.vq_rtcpxr_display_moscq.enable	<y0000000000xx>.cfg
Description	It enables or disables the phone to display MOS-CQ on the LCD screen. **Note**: It works only if "phone_setting.vq_rtcpxr.states_show_on_gui.enable" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Web UI	Settings->Voice Monitoring->Report options on phone->MOS-CQ	

Central Report Collector

To operate with central report collector, IP phones must be configured to forward their voice quality reports to the specified report collector. You can specify the report collector on a per-line basis.

Topic

Central Report Collector Configuration

Central Report Collector Configuration

The following table lists the parameters you can use to configure central report collector.

Parameter	account.X.vq_rtcpxr.collector_name[1]	<MAC>.cfg
Description	It configures the host name of the central report collector that accepts voice quality reports contained in SIP PUBLISH messages.	
Permitted Values	String within 32 characters	
Default	Blank	
Web UI	Account->Advanced->VQ RTCP-XR Collector Name	
Parameter	account.X.vq_rtcpxr.collector_server_host[1]	<MAC>.cfg
Description	It configures the IP address of the central report collector that accepts voice quality reports contained in SIP PUBLISH messages.	
Permitted Values	IPv4 Address	
Default	Blank	
Web UI	Account->Advanced->VQ RTCP-XR Collector Address	
Parameter	account.X.vq_rtcpxr.collector_server_port[1]	<MAC>.cfg
Description	It configures the port of the central report collector that accepts voice quality reports contained in SIP PUBLISH messages.	
Permitted Values	Integer from 1 to 65535	
Default	5060	
Web UI	Account->Advanced->VQ RTCP-XR Collector Port	

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

Security Features

This chapter provides information for configuring security features of the phone.

Topics

User and Administrator Identification

By default, some menu options are protected by privilege levels: user and administrator, each with its own password. You can also customize the access permission for configurations on the web user interface and phone/handset user interface. Yealink IP phones support access levels of admin, var and user.

When logging into the web user interface or access advanced settings on the phone, as an administrator, you need administrator password to access various menu options. The default username and password for administrator is "admin". Both you and the user can log into the web user interface, and you will see all of the user options. The default username and password for user is "user".

For security reasons, you should change the default user or administrator password as soon as possible. Since advanced menu options are strictly used by administrator, users can configure them only if they have administrator privileges.

Topics

User and Administrator Identification Configuration

The following table lists the parameters you can use to configure the user and administrator identification.

Parameter	static.security.user_name.user	<y0000000000xx>.cfg

Description	It configures the user name of the user for phone's web user interface access.	
Permitted Values	String within 32 characters	
Default	user	
Parameter	static.security.user_name.admin	<y0000000000xx>.cfg
Description	It configures the user name of the administrator for phone's web user interface access.	
Permitted Values	String within 32 characters	
Default	admin	
Parameter	static.security.user_name.var	<y0000000000xx>.cfg
Description	It configures the user name of the var for phone's web user interface access. **Note**: It works only if "static.security.var_enable" is set to 1 (Enabled).	
Permitted Values	String within 32 characters	
Default	var	
Parameter	static.security.user_password	<y0000000000xx>.cfg
Description	It configures the password of the user or administrator. The IP phone uses "user" as the default user password and "admin" as the default administrator password. The valid value format is <username> : <new password>. **Example**: static.security.user_password = user:123 means setting the password of user to 123. static.security.user_password = admin:456 means setting the password of administrator to 456. **Note**: IP phones support ASCII characters 32-126(0x20-0x7E) in passwords. You can set the password to be empty via web user interface only.	
Permitted Values	String within 32 characters	
Default	Blank	
Web UI	Security->Password	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Advanced (default password: admin) ->Change Password T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Settings->Advanced Settings (default password: admin) ->Change Password	

Note: You cannot change the user password via phone user interface.

User Access Level Configuration

For more information, refer to Yealink SIP IP Phones Configuration Guide for User Access Level.

The following table lists the parameters you can use to configure the user access level.

Parameter	static.security.var_enable[1]	<y0000000000xx>.cfg
Description	It enables or disables the 3-level access permissions (admin, user, var).	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Parameter	static.web_item_level.url[1]	<y0000000000xx>.cfg
Description	It configures the access URL of the file, which defines 3-level access permissions.	
Permitted Values	URL within 511 characters	
Default	Blank	
Parameter	static.security.default_access_level[1]	<y0000000000xx>.cfg
Description	It configures the default access level to access the phone user interface. **Note**: It works only if "static.security.var_enable" is set to 1 (Enabled).	
Permitted Values	**0**-user **1**-var **2**-admin	
Default	0	

[1]If you change this parameter, the IP phone will reboot to make the change take effect.

Auto Logout Time

Auto logout time defines how long to log out the web user interface automatically when you do not perform any actions on web user interface. Once logging out, you must re-enter username and password for web access authentication.

Topic

Auto Logout Time Configuration

Auto Logout Time Configuration

The following table lists the parameter you can use to configure the auto logout time.

Parameter	features.relog_offtime	<y0000000000xx>.cfg
Description	It configures the timeout interval (in minutes) for web access authentication. **Example**: features.relog_offtime = 5 If you log into the web user interface and leave it idle for 5 minutes, it will automatically log out.	
Permitted Values	Integer from 1 to 1000	
Default	5	
Web UI	Features->General Information->Auto Logout Time(1~1000min)	

Phone Lock

You can lock the IP phone to prevent it from unauthorized use. Once the IP phone is locked, anyone must enter the password to unlock it.

Yealink IP phones offer three types for phone lock:

- **Lock the Menu soft key:** it prevents unauthorized users from accessing the menu, changing the personal settings for your phone.

- **Lock the Function keys:** it only allows unauthorized users to use the keypad for placing a call, answering or rejecting an incoming call and ending a call.

- **Lock all keys:** it only allows unauthorized users to use the keypad for dialing emergency number or authorized numbers that set up by your administrator, answer or reject an incoming call and ending a call. T48G/S IP phones only support All Keys type of phone lock.

You can set a waiting time to lock the phone automatically. If the waiting time is set to 0, the phone will not be automatically locked. You need to lock the phone manually.

Note
The Volume key, HEADSET key and Speakerphone key are always available when you lock the phone.

Topics

Operation Behaviors on Lock Phone

Phone Lock Configuration

Operation Behaviors on Lock Phone

The following table lists the operation behavior when configuring the type of phone lock:

	All Keys	Function Keys	Menu key
Idle screen	**Allowable Behavior**: You are allowed to press the desired Line Key (key type is Line) or the Speakerphone key to enter the dialing screen. **Keys not Locked**: Line keys (key type is Line), digit keys, HEADSET key, Volume key and Speakerphone key. **Note**: Line key is not applicable to T19(P) E2.	The same as All Keys.	The Menu key (key type is Menu) is locked.
Incoming call	**Allowable Behavior**: You are allowed to answer or reject incoming calls. **Keys not Locked**: Answer and Reject soft key; OK/ √ , X, HEADSET key and Speakerphone key. **Note**: Pressing X key to reject the call is not applicable to T23P/T23G/T21(P) E2/T19(P) E2 IP phones.	The same as All Keys.	The Menu key (key type is Menu) is locked.
Pre-dialing/Dialing screen	**Allowable Behavior**: You are allowed to press the Line Key (key type is Line), input or modify numbers, dial emergency numbers and return to idle screen. **Keys not Locked**: IME, More, Cancel, Send, Delete and Line soft key; line key (key type is Line), X, OK/ √ , Volume key, Speakerphone key, digit keys, HEADSET key and "*"/"#" (key as send). **Note**: Line key is not applicable to T19(P) E2.	The same as All Keys, but you can dial any number.	The Menu key (key type is Menu) is locked.
Talking	**Allowable Behavior**: You are allowed to end the call, initiate a new call to the emergency number and resume a call. **Keys not Locked**: End Call, Cancel, Resume, NewCall soft key; line key (key type is Line), digit keys, X, Volume key, HEADSET key and Speakerphone key.	The same as All Keys, but you can dial any number.	The Menu key (key type is Menu) is locked.

	All Keys	Function Keys	Menu key
	Note: Pressing X key to end the call are not applicable to T23P/T23G/T21(P) E2/T19(P) E2.		

Phone Lock Configuration

The following table lists the parameters you can use to configure the phone lock.

Parameter	phone_setting.phone_lock.enable	<y0000000000xx>.cfg
Description	It enables or disables the phone lock feature.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Features->Phone Lock->Phone Lock Enable	
Phone UI	<u>T54S/T52S/T48S/T48G/T46S/T46G/T29G</u>: Menu->Basic->Phone Lock->Lock Enable <u>T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2</u>: Menu->Settings->Basic Settings->Phone Lock->Lock Enable	
Parameter	phone_setting.phone_lock.lock_key_type	<y0000000000xx>.cfg
Description	It configures the type of phone lock. **Note**: It works only if "phone_setting.phone_lock.enable" is set to 1 (Enabled). It is not applicable to T48S/G IP phones.	
Permitted Values	**0**-All Keys **1**-Function Keys **2**-Menu Key	
Default	0	
Web UI	Features->Phone Lock->Phone Lock Type	
Phone UI	<u>T54S/T52S/T48S/T48G/T46S/T46G/T29G</u>: Menu->Basic->Phone Lock->Lock Type <u>T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2</u>: Menu->Settings->Basic Settings->Phone Lock->Lock Type	
Parameter	phone_setting.phone_lock.unlock_pin	<y0000000000xx>.cfg
Description	It configures the password for unlocking the phone.	
Permitted	Characters within 15 digits	

Values	
Default	123
Web UI	Features->Phone Lock->Phone Unlock PIN (0~15 Digit)
Phone UI	Menu->Settings->Basic Settings->Change PIN
Parameter	phone_setting.phone_lock.lock_time_out <y0000000000xx>.cfg
Description	It configure the idle time (in seconds) before the IP phone is automatically locked. The default value is 0 (the phone is locked only by long pressing the pound key or pressing the phone lock DSS key). **Note**: It works only if "phone_setting.phone_lock.enable" is set to 1(Enabled).
Permitted Values	Integer from 0 to 3600
Default	0
Web UI	Features->Phone Lock->Phone Lock Time Out (0~3600s)
Phone UI	<u>T54S/T52S/T48S/T48G/T46S/T46G/T29G</u>: Menu->Basic->Phone Lock->Auto Lock <u>T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2</u>: Menu->Settings->Basic Settings->Phone Lock->Auto Lock
Parameter	phone_setting.emergency.number <y0000000000xx>.cfg
Description	It configures emergency numbers. Multiple emergency numbers are separated by commas. **For T54S/T52S/T46G/T46S/T42G/T42S/T41P/T41S/T40P/T40G/T29G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2:** If "phone_setting.phone_lock.enable" is set to 1 (Enabled) and "phone_setting.phone_lock.lock_key_type" is set to 0 (All Keys), you are only allowed to dial emergency numbers configured by "phone_setting.emergency.number". **For T48G/S:** If "phone_setting.phone_lock.enable" is set to 1 (Enabled), you are only allowed to dial emergency numbers configured by "phone_setting.emergency.number".
Permitted Values	String within 99 characters
Default	112,911,110
Web UI	Features->Phone Lock->Emergency

Transport Layer Security (TLS)

TLS is a commonly-used protocol for providing communications privacy and managing the security of message transmission, allowing IP phones to communicate with other remote parties and connect to the HTTPS URL for provisioning in a way that is designed to prevent eavesdropping and tampering.

Yealink IP phones support TLS version 1.0, 1.1 and 1.2. When TLS is enabled for an account, the SIP message of this account will be encrypted, and a lock icon appears on the LCD screen after the successful TLS negotiation.

Topics

Supported Cipher Suites

Supported Trusted and Server Certificates

TLS Configuration

Supported Cipher Suites

A cipher suite is a named combination of authentication, encryption, and message authentication code (MAC) algorithms used to negotiate the security settings for a network connection using the TLS/SSL network protocol.

Yealink IP phones support the following cipher suites:

- DHE-RSA-AES256-SHA

- DHE-DSS-AES256-SHA

- AES256-SHA

- EDH-RSA-DES-CBC3-SHA

- EDH-DSS-DES-CBC3-SHA

- DES-CBC3-SHA

- DES-CBC3-MD5

- DHE-RSA-AES128-SHA

- DHE-DSS-AES128-SHA

- AES128-SHA

- RC2-CBC-MD5

- IDEA-CBC-SHA

- DHE-DSS-RC4-SHA

- RC4-SHA

- RC4-MD5

- RC4-64-MD5

- EXP1024-DHE-DSS-DES-CBC-SHA

- EXP1024-DES-CBC-SHA

- EDH-RSA-DES-CBC-SHA

- EDH-DSS-DES-CBC-SHA

- DES-CBC-SHA

- DES-CBC-MD5

- EXP1024-DHE-DSS-RC4-SHA

- EXP1024-RC4-SHA

- EXP1024-RC4-MD5

- EXP-EDH-RSA-DES-CBC-SHA

- EXP-EDH-DSS-DES-CBC-SHA

- EXP-DES-CBC-SHA

- EXP-RC2-CBC-MD5

- EXP-RC4-MD5

Supported Trusted and Server Certificates

The IP phone can serve as a TLS client or a TLS server. In TLS feature, we use the terms trusted and server certificate. These are also known as CA and device certificates.

The TLS requires the following security certificates to perform the TLS handshake:

- **Trusted Certificate**: When the IP phone requests a TLS connection with a server, the IP phone should verify the certificate sent by the server to decide whether it is trusted based on the trusted certificates list. The IP phone has 77 built-in trusted certificates. You can upload 10 custom certificates at most. The format of the trusted certificate files must be *.pem,*.cer,*.crt and *.der and the maximum file size is 5MB.

- **Server Certificate**: When clients request a TLS connection with the IP phone, the IP phone sends the server certificate to the clients for authentication. The IP phone has two types of built-in server certificates: a unique server certificate and a generic server certificate. You can only upload one server certificate to the IP phone. The old server certificate will be overridden by the new one. The format of the server certificate files must be *.pem and *.cer and the maximum file size is 5MB.

  - **A unique server certificate**: It is unique to an IP phone (based on the MAC address) and issued by the Yealink Certificate Authority (CA).

  - **A generic server certificate**: It is issued by the Yealink Certificate Authority (CA). Only if no unique certificate exists, the IP phone may send a generic certificate for authentication.

The IP phone can authenticate the server certificate based on the trusted certificates list. The trusted certificates list and the server certificates list contain the default and custom certificates. You can specify the type of certificates the IP phone accepts: default certificates, custom certificates or all certificates.

Common Name Validation feature enables the IP phone to mandatorily validate the common name of the certificate sent by the connecting server. The Security verification rules are compliant with RFC 2818.

Note
Resetting the IP phone to factory defaults will delete custom certificates by default. However, this feature is configurable by the parameter "static.phone_setting.reserve_certs_enable" using the configuration file.
Resetting the IP phone to factory defaults will delete trusted and server certificates settings by default. However, this feature is configurable by the parameter "phone_setting.reserve_certs_config.enable" using the configuration file.

Topic

Supported Trusted Certificates

Yealink IP phones trust the following CAs by default:

- DigiCert High Assurance EV Root CA

- Deutsche Telekom Root CA 2

- Equifax Secure Certificate Authority

- Equifax Secure eBusiness CA-1

- Equifax Secure Global eBusiness CA-1

- GeoTrust Global CA

- GeoTrust Global CA2

- GeoTrust Primary Certification Authority

- GeoTrust Primary Certification Authority G2

- GeoTrust Universal CA

- GeoTrust Universal CA2

- Thawte Personal Freemail CA

- Thawte Premium Server CA

- Thawte Primary Root CA

- Thawte Primary Root CA - G2

- Thawte Primary Root CA - G3

- Thawte Server CA

- VeriSign Class 1 Public Primary Certification Authority

- VeriSign Class 1 Public Primary Certification Authority - G2

- VeriSign Class 1 Public Primary Certification Authority - G3

- VeriSign Class 2 Public Primary Certification Authority - G2

- VeriSign Class 2 Public Primary Certification Authority - G3

- VeriSign Class 3 Public Primary Certification Authority

- VeriSign Class 3 Public Primary Certification Authority - G2

- VeriSign Class 3 Public Primary Certification Authority - G3

- VeriSign Class 3 Public Primary Certification Authority - G4

- VeriSign Class 3 Public Primary Certification Authority - G5

- VeriSign Class 4 Public Primary Certification Authority - G2

- VeriSign Class 4 Public Primary Certification Authority - G3

- VeriSign Universal Root Certification Authority

- ISRG Root X1 (Let's Encrypt Authority X1 and Let's Encrypt Authority X2 certificates are signed by the root certificate ISRG Root X1.)

- Baltimore CyberTrust Root

- DST Root CA X3

- Verizon Public SureServer CA G14-SHA2

- AddTrust External CA Root

- Go Daddy Class 2 Certification Authority

- Class 2 Primary CA

- Cybertrust Public SureServer SV CA

- DigiCert Assured ID Root G2

- DigiCert Assured ID Root G3

- DigiCert Assured ID Root CA

- DigiCert Global Root G2

- DigiCert Global Root G3

- DigiCert Global Root CA

- DigiCert Trusted Root G4

- Entrust Root Certification Authority

- Entrust Root Certification Authority - G2

- Entrust.net Certification Authority (2048)

- GeoTrust Primary Certification Authority - G3

- GlobalSign Root CA

- GlobalSign Root CA - R2

- Starfield Root Certificate Authority - G2

- TC TrustCenter Class 2 CA II

- TC TrustCenter Class 3 CA II

- TC TrustCenter Class 4 CA II

- TC TrustCenter Universal CA I

- TC TrustCenter Universal CA III

- Thawte Universal CA Root

- VeriSign Class 3 Secure Server CA - G2

- VeriSign Class 3 Secure Server CA – G3

- Thawte SSL CA

- StartCom Certification Authority

- StartCom Certification Authority G2

- Starfield Services Root Certificate Authority - G2

- RapidSSL CA

- Go Daddy Root Certificate Authority - G2

- Cybertrust Global Root

- COMODOSSLCA

- COMODO RSA Domain Validation Secure Server CA

- COMODO RSA Certification Authority

- AmazonRootCA4

- AmazonRootCA3

- AmazonRootCA2

- AmazonRootCA1

- Yealink Root CA

- Yealink Equipment Issuing CA

- SIP Core

Note

Yealink endeavors to maintain a built-in list of most common used CA Certificates. Due to memory constraints, we cannot ensure a complete set of certificates. If you are using a certificate from a commercial Certificate Authority not in the list above, you can send a request to your local distributor. At this point, you can upload your particular CA certificate into your phone.

TLS Configuration

The following table lists the parameters you can use to configure TLS.

Parameter	account.X.sip_server.Y.transport_type[1]	<MAC>.cfg
Description	It configures the type of transport protocol.	
Permitted Values	**0**-UDP **1**-TCP **2**-TLS **3**-DNS-NAPTR, if no server port is given, the IP phone performs the DNS NAPTR and SRV queries for the service type and port.	

Default	0
Web UI	Account->Register->SIP Server Y->Transport

Parameter	static.security.default_ssl_method	<y0000000000xx>.cfg
Description	It configures the TLS version the IP phone uses to authenticate with the server.	

Permitted Values	**0**-TLS 1.0 only **3**-SSL V23 (automatic negotiation with server. The phone starts with TLS1.2 for negotiation.) **4**-TLS 1.1 only **5**-TLS 1.2 only
Default	3

Parameter	static.security.trust_certificates[2]	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to only trust the server certificates in the Trusted Certificates list.	

Permitted Values	**0**-Disabled, the IP phone will trust the server no matter whether the certificate sent by the server is valid or not. **1**-Enabled, the IP phone will authenticate the server certificate based on the trusted certificates list. Only when the authentication succeeds, will the IP phone trust the server.
Default	1
Web UI	Security->Trusted Certificates->Only Accept Trusted Certificates

Parameter	static.security.ca_cert[2]	<y0000000000xx>.cfg
Description	It configures the type of certificates in the Trusted Certificates list for the IP phone to authenticate for TLS connection.	

Permitted Values	**0**-Default Certificates **1**-Custom Certificates **2**-All Certificates
Default	2
Web UI	Security->Trusted Certificates->CA Certificates

Parameter	static.security.cn_validation[2]	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to mandatorily validate the CommonName or SubjectAltName of the certificate sent by the server.	

Permitted Values	**0**-Disabled **1**-Enabled
Default	0

Web UI	Security->Trusted Certificates->Common Name Validation	
Parameter	static.security.dev_cert[2]	<y0000000000xx>.cfg
Description	It configures the type of the device certificates for the IP phone to send for TLS authentication.	
Permitted Values	**0**-Default Certificates **1**-Custom Certificates	
Default	0	
Web UI	Security->Server Certificates->Device Certificates	
Parameter	static.trusted_certificates.url	<y0000000000xx>.cfg
Description	It configures the access URL of the custom trusted certificate used to authenticate the connecting server. **Example**: static.trusted_certificates.url = http://192.168.1.20/tc.crt **Note**: The certificate you want to upload must be in *.pem, *.crt, *.cer or *.der format.	
Permitted Values	URL within 511 characters	
Default	Blank	
Web UI	Security->Trusted Certificates->Load Trusted Certificates File	
Parameter	static.trusted_certificates.delete	<y0000000000xx>.cfg
Description	It deletes all uploaded trusted certificates. **Example**: static.trusted_certificates.delete = http://localhost/all	
Permitted Values	http://localhost/all	
Default	Blank	
Parameter	static.server_certificates.url	<y0000000000xx>.cfg
Description	It configures the access URL of the certificate the IP phone sends for authentication. **Example**: static.server_certificates.url = http://192.168.1.20/ca.pem **Note**: The certificate you want to upload must be in *.pem or *.cer format.	
Permitted Values	URL within 511 characters	
Default	Blank	

Web UI	Security->Server Certificates->Load Server Certificates File	
Parameter	static.server_certificates.delete	<y0000000000xx>.cfg
Description	It deletes all uploaded server certificates. **Example**: static.server_certificates.delete = http://localhost/all	
Permitted Values	http://localhost/all	
Default	Blank	
Parameter	static.phone_setting.reserve_certs_enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to reserve custom certificates after it is reset to factory defaults.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Parameter	phone_setting.reserve_certs_config.enable[2]	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to reserve the trusted and server certificates settings after the phone reset to factory defaults.	
Permitted Values	**0**-Disabled, the values of the parameters "static.security.trust_certificates", "static.security.ca_cert", "static.security.cn_validation" and "static.security.dev_cert" will be reset. **1**-Enabled, the values of the parameters "static.security.trust_certificates", "static.security.ca_cert", "static.security.cn_validation", "static.security.dev_cert" and "phone_setting.reserve_certs_config.enable" will not be reset.	
Default	0	

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

[2]If you change this parameter, the IP phone will reboot to make the change take effect.

Secure Real-Time Transport Protocol (SRTP)

Secure Real-Time Transport Protocol (SRTP) encrypts the audio streams during VoIP phone calls to avoid interception and eavesdropping. The parties participating in the call must enable SRTP feature simultaneously. When this feature is enabled on both phones, the type of encryption to use for the session is negotiated between the IP phones. This negotiation process is compliant with RFC 4568.

When you places a call on the enabled SRTP phone, the IP phone sends an INVITE message with the RTP/RTCP encryption algorithm to the destination phone. As described in RFC 3711, RTP/RTCP streams may be encrypted using an AES (Advanced Encryption Standard) algorithm.

Example of the RTP encryption algorithm carried in the SDP of the INVITE message:

m=audio 11780 RTP/SAVP 0 8 18 9 101

a=crypto:1 AES_CM_128_HMAC_SHA1_80 inline:NzFlNTUwZDk2OGVlOTc3YzNkYTkwZWVkMTM1YWFj

a=crypto:2 AES_CM_128_HMAC_SHA1_32 inline:NzkyM2FjNzQ2ZDgxYjg0MzQwMGVmMGUxMzdmNWFm

a=crypto:3 F8_128_HMAC_SHA1_80 inline:NDliMWIzZGE1ZTAwZjA5ZGFhNjQ5YmEANTMzYzA0

a=rtpmap:0 PCMU/8000

a=rtpmap:8 PCMA/8000

a=rtpmap:18 G729/8000

a=fmtp:18 annexb=no

a=rtpmap:9 G722/8000

a=fmtp:101 0-15

a=rtpmap:101 telephone-event/8000

a=ptime:20

a=sendrecv

The callee receives the INVITE message with the RTP encryption algorithm, and then answers the call by responding with a 200 OK message which carries the negotiated RTP encryption algorithm.

Example of the RTP encryption algorithm carried in the SDP of the 200 OK message:

m=audio 11780 RTP/SAVP 0 101

a=rtpmap:0 PCMU/8000

a=rtpmap:101 telephone-event/8000

a=crypto:1 AES_CM_128_HMAC_SHA1_80 inline:NGY4OGViMDYzZjQzYTNiOTNkOWRiYzRlMjM0Yzcz

a=sendrecv

a=ptime:20

a=fmtp:101 0-15

When SRTP is enabled on both IP phones, RTP streams will be encrypted, and a lock icon appears on the LCD screen of each IP phone after successful negotiation.

Note
If you enable SRTP, then you should also enable TLS. This ensures the security of SRTP encryption. For more information on TLS, refer to Transport Layer Security (TLS). You can configure the IP phone to include unencrypted RTP/RTCP streams in SDP offers by "account.X.srtp.unencrypted_rtp.enable"/"account.X.srtp.unencrypted_rtcp.enable".

Topic

SRTP Configuration

SRTP Configuration

The following table lists the parameters you can use to configure the SRTP.

Parameter	account.X.srtp_encryption[1]	<MAC>.cfg
Description	It configures whether to use voice encryption service.	
Permitted Values	**0**-Disabled **1**-Optional, the IP phone will negotiate with the other IP phone what type of encryption to use for the session. **2**-Compulsory, the IP phone must use SRTP during a call.	
Default	0	
Web UI	Account->Advanced->RTP Encryption(SRTP)	
Parameter	account.X.srtp_lifetime[1]	<MAC>.cfg
Description	It configures the lifetime of the master key used for the cryptographic parameter in SDP. The value specified is the number of SRTP packets. When the lifetime is set, a re-invite with a new key is sent when the number or SRTP packets sent for an outgoing call exceeds half the value of the master key lifetime. **Note:** Setting this parameter to a non-zero value may affect the performance of the phone. It works only if "account.X.srtp_encryption" is set to 1 (Optional) or 2 (Compulsory).	
Permitted Values	Integer greater than or equal to 0 **0**-the master key lifetime is not set. **1 to 1024**-the master key lifetime is 1024. **1025 to 2^48**-the master key lifetime is the configured value. **A value greater than 2048**-the master key lifetime is 2048.	
Default	0	
Parameter	account.X.srtp.unencrypted_rtp.enable[1]	<MAC>.cfg
Description	It enables or disables the phone's capability to include unencrypted RTP streams in SDP offers when using SRTP. **Note:** It works only if "account.X.srtp_encryption" is set to 1 (Optional) or 2 (Compulsory). After successful negotiation, whether the RTP stream is encrypted or not depends on SDP answer.	
Permitted Values	**0**-Disabled **1**-Enabled, the phone offers both encrypted and unencrypted RTP streams (Unencrypted RTP streams carry UNENCRYPTED_SRTP session parameters) in SDP offers	

Default	0	
Parameter	account.X.srtp.unencrypted_rtcp.enable[1]	<MAC>.cfg
Description	It enables or disables the phone's capability to include unencrypted RTCP streams in SDP offers when using SRTP. **Note:** It works only if "account.X.srtp_encryption" is set to 1 (Optional) or 2 (Compulsory). After successful negotiation, whether the RTCP stream is encrypted or not depends on SDP answer.	
Permitted Values	**0**-Disabled **1**-Enabled, the phone offers both encrypted and unencrypted RTCP streams (Unencrypted RTCP streams carry UNENCRYPTED_SRTCP session parameters) in SDP offers	
Default	0	

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; forT52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

Encrypting and Decrypting Files

Yealink IP phones support downloading encrypted files from the server and encrypting files before/when uploading them to the server.

You can encrypt the following files:

- **Configuration files**: MAC-Oriented CFG file (<MAC>.cfg), Common CFG file (y0000000000xx.cfg), MAC-local CFG file (<MAC>-local.cfg) or other custom CFG files (for example, sip.cfg, account.cfg)

- **Contact Files**: <MAC>-contact.xml

To encrypt/decrypt files, you may have to configure an AES key.

Note
AES keys must be 16 characters. The supported characters contain: 0 ~ 9, A ~ Z, a ~ z and special characters: # $ % * + , - . : = ? @ [ ] ^ _ { } ~.

Topics

Configuration Files Encryption Tools

Configuration Files Encryption and Decryption

Contact Files Encryption and Decryption

Encryption and Decryption Configuration

Example: Encrypting Configuration Files

Configuration Files Encryption Tools

Yealink provides three configuration files encryption tools:

- Config_Encrypt_Tool.exe (via graphical tool for Windows platform)

- Config_Encrypt.exe (via DOS command line for Windows platform)

- yealinkencrypt (for Linux platform)

The encryption tools encrypt plaintext configuration files (for example, account.cfg, <y0000000000xx>.cfg, <MAC>.cfg) (one by one or in batch) using 16-character symmetric keys (the same or different keys for configuration files) and generate encrypted configuration files with the same file name as before.

These tools also encrypt the plaintext 16-character symmetric keys using a fixed key, which is the same as the one built in the IP phone, and generate new files named as <xx_Security>.enc (xx is the name of the configuration file, for example, y000000000028_Security.enc for y000000000028.cfg file, account_Security.enc for account.cfg). These tools generate another new file named as Aeskey.txt to store the plaintext 16-character symmetric keys for each configuration file.

Configuration Files Encryption and Decryption

Encrypted configuration files can be downloaded from the provisioning server to protect against unauthorized access and tampering of sensitive information (for example, login passwords, registration information).

You can encrypt the configuration files using the encryption tools. You can also configure the <MAC>-local.cfg files to be automatically encrypted using 16-character symmetric keys when uploading to the server (by setting "*static.auto_provision.encryption.config*" to 1).

For security reasons, you should upload encrypted configuration files, <xx_Security>.enc files to the root directory of the provisioning server. During auto provisioning, the IP phone requests to download the boot file first and then download the referenced configuration files. For example, the IP phone downloads an encrypted account.cfg file. The IP phone will request to download <account_Security>.enc file (if enabled) and decrypt it into the plaintext key (for example, key2) using the built-in key (for example, key1). Then the IP phone decrypts account.cfg file using key2. After decryption, the IP phone resolves configuration files and updates configuration settings onto the IP phone system.

Contact Files Encryption and Decryption

Encrypted contact files can be used to protect against unauthorized access and tampering of private information (for example, contact number). It is helpful for protecting trade secrets.

You can configure the contact files to be automatically encrypted using 16-character symmetric keys (configured by "static.auto_provision.aes_key_16.mac") when uploading to the server (by setting "static.auto_provision.encryption.directory=1"). The encrypted contact files have the same file names as before. The encrypted contact files can be downloaded from the server and decrypted using 16-character

symmetric keys during auto provisioning. If the parameter "*static.auto_provision.aes_key_16.mac*" is left blank, the value of the parameter "*static.auto_provision.aes_key_16.com*" will be used.

If the downloaded contact files is encrypted, the IP phone will try to decrypt <MAC>-contact.xml file using the plaintext AES key. After decryption, the IP phone resolves contact files and updates contact information onto the IP phone system.

Encryption and Decryption Configuration

The following table lists the parameters you can use to configure the encryption and decryption.

Parameter	static.auto_provision.update_file_mode	<y0000000000xx>.cfg
Description	It enables or disables the IP phone only to download the encrypted files.	
Permitted Values	**0**-Disabled, the IP phone will download the configuration files (for example, sip.cfg, account.cfg, <MAC>-local.cfg) and <MAC>-contact.xml file from the server during auto provisioning no matter whether the files are encrypted or not. And then resolve these files and update settings onto the IP phone system. **1**-Enabled, the IP phone will only download the encrypted configuration files (for example, sip.cfg, account.cfg, <MAC>-local.cfg) or <MAC>-contact.xml file from the server during auto provisioning, and then resolve these files and update settings onto the IP phone system.	
Default	0	
Parameter	static.auto_provision.aes_key_in_file	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to decrypt configuration files using the encrypted AES keys.	
Permitted Values	**0**-Disabled, the IP phone will decrypt the encrypted configuration files using plaintext AES keys configured on the IP phone. **1**-Enabled, the IP phone will download <xx_Security>.enc files (for example, <sip_Security>.enc, <account_Security>.enc) during auto provisioning, and then decrypts these files into the plaintext keys (for example, key2, key3) respectively using the phone built-in key (for example, key1). The IP phone then decrypts the encrypted configuration files using corresponding key (for example, key2, key3).	
Default	0	
Parameter	static.auto_provision.aes_key_16.com	<y0000000000xx>.cfg
Description	It configures the plaintext AES key for encrypting/decrypting the Common CFG/Custom CFG file. The valid characters contain: 0 ~ 9, A ~ Z, a ~ z and the following special characters are also supported: # $ % * + , - . : = ? @ [ ] ^ _ { } ~. **Example**:	

	static.auto_provision.aes_key_16.com = 0123456789abcdef **Note**: For decrypting, it works only if "static.auto_provision.aes_key_in_file" is set to 0 (Disabled). If the downloaded MAC-Oriented file is encrypted and the parameter "static.auto_provision.aes_key_16.mac" is left blank, the IP phone will try to encrypt/decrypt the MAC-Oriented file using the AES key configured by the parameter "static.auto_provision.aes_key_16.com".
Permitted Values	16 characters
Default	Blank
Web UI	Settings->Auto Provision->Common AES Key
Phone UI	<u>T54S/T52S/T48S/T48G/T46S/T46G/T29G</u>: Menu->Advanced (default password: admin) ->Auto Provision->Common AES Key <u>T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2</u>: Menu->Settings->Advanced Settings (default password: admin) ->Auto Provision->Common AES Key

Parameter	static.auto_provision.aes_key_16.mac	<y0000000000xx>.cfg

Description	It configures the plaintext AES key for encrypting/decrypting the MAC-Oriented files (<MAC>.cfg, <MAC>-local.cfg and <MAC>-contact.xml). The valid characters contain: 0 ~ 9, A ~ Z, a ~ z and the following special characters are also supported: # $ % * + , - . : = ? @ [ ] ^ _ { } ~. **Example**: static.auto_provision.aes_key_16.mac = 0123456789abmins **Note**: For decrypting, it works only if "static.auto_provision.aes_key_in_file" is set to 0 (Disabled). If the downloaded MAC-Oriented file is encrypted and the parameter "static.auto_provision.aes_key_16.mac" is left blank, the IP phone will try to encrypt/decrypt the MAC-Oriented file using the AES key configured by the parameter "static.auto_provision.aes_key_16.com".
Permitted Values	16 characters
Default	Blank
Web UI	Settings->Auto Provision->MAC-Oriented AES Key
Phone UI	<u>T54S/T52S/T48S/T48G/T46S/T46G/T29G</u>: Menu->Advanced (default password: admin) ->Auto Provision->MAC-Oriented AES Key <u>T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2</u>: Menu->Settings->Advanced Settings (default password: admin) ->Auto Provision->MAC-Oriented AES Key

Parameter	static.autoprovision.X.com_aes[1][2]	<y0000000000xx>.cfg
Description	It configures the plaintext AES key for decrypting the Common CFG file. If it is configured, it has a higher priority than the value configured by the parameter "static.auto_provision.aes_key_16.com".	
Permitted Values	16 characters	
Default	Blank	
Parameter	static.autoprovision.X.mac_aes[1][2]	<y0000000000xx>.cfg
Description	It configures the plaintext AES key for decrypting the MAC-Oriented CFG file. If it is configured, it has a higher priority than the value configured by the parameter "static.auto_provision.aes_key_16.mac".	
Permitted Values	16 characters	
Default	Blank	
Parameter	static.auto_provision.encryption.directory	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to encrypt <MAC>-contact.xml file using the plaintext AES key.	
Permitted Values	**0**-Disabled, the contact file will be uploaded unencrypted and will replace the one (encrypted or unencrypted) stored on the server if you have configured to back up the contacts to the server by the parameter "static.auto_provision.local_contact.backup.enable". **1**-Enabled, the contact file will be uploaded encrypted and will replace the one (encrypted or unencrypted) stored on the server if you have configured to back up the contacts to the server by the parameter "static.auto_provision.local_contact.backup.enable". The plaintext AES key is configured by the parameter "static.auto_provision.aes_key_16.mac".	
Default	0	
Parameter	static.auto_provision.encryption.call_log	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to encrypt <MAC>-calllog.xml file using the plaintext AES key.	
Permitted Values	**0**-Disabled, the call log file will be uploaded unencrypted and will replace the one (encrypted or unencrypted) stored on the server if you have configured to back up the call log to the server by the parameter "static.auto_provision.local_calllog.backup.enable". **1**-Enabled, the call log file will be encrypted uploaded and will replace the one (encrypted or unencrypted) stored on the server if you have configured to back up the call log to the server by the parameter	

	"static.auto_provision.local_calllog.backup.enable". The plaintext AES key is configured by the parameter "static.auto_provision.aes_key_16.mac".
Default	0
Parameter	static.auto_provision.encryption.config \<y0000000000xx\>.cfg
Description	It enables or disables the IP phone to encrypt \<MAC\>-local.cfg file using the plaintext AES key.
Permitted Values	0-Disabled, the MAC-local CFG file will be uploaded unencrypted and will replace the one (encrypted or unencrypted) stored on the server if you have configured to back up the MAC-local CFG file to the server by the parameter "static.auto_provision.custom.sync". 1-Enabled, the MAC-local CFG file will be uploaded encrypted and will replace the one (encrypted or unencrypted) stored on the server if you have configured to back up the MAC-local CFG file to the server by the parameter "static.auto_provision.custom.sync". The plaintext AES key is configured by the parameter "static.auto_provision.aes_key_16.mac".
Default	0

[1]X is activation code ID. For all IP phones, X=1-50.

[2]If you change this parameter, the IP phone will reboot to make the change take effect.

Example: Encrypting Configuration Files

The following example describes how to use "Config_Encrypt_Tool.exe" to encrypt the account.cfg file. For more information on the other two encryption tools, refer to Yealink Configuration Encryption Tool User Guide.

The way the IP phone processes other configuration files is the same to that of the account.cfg file.

Procedure:

1. Double click "Config_Encrypt_Tool.exe" to start the application tool.

The screenshot of the main page is shown as below:

2. When you start the application tool, a file folder named "Encrypted" is created automatically in the directory where the application tool is located.

3. Click **Browse** to locate configuration file(s) (for example, account.cfg) from your local system in the **Select File(s)** field.

   To select multiple configuration files, you can select the first file and then press and hold the **Ctrl** key and select other files.

4. (Optional.) Click **Browse** to locate the target directory from your local system in the **Target Directory** field.

   The tool uses the file folder "Encrypted" as the target directory by default.

5. (Optional.) Mark the desired radio box in the **AES Model** field.

   If you mark the **Manual** radio box, you can enter an AES key in the **AES KEY** field or click **Re-Generate** to generate an AES key in the **AES KEY** field. The configuration file(s) will be encrypted using the AES key in the **AES KEY** field.

   If you mark the **Auto Generate** radio box, the configuration file(s) will be encrypted using random AES key. The AES keys of configuration files are different.

6. Click **Encrypt** to encrypt the configuration file(s).

7. Click **OK**.

   The target directory will be automatically opened. You can find the encrypted CFG file(s), encrypted

key file(s) and an Aeskey.txt file storing plaintext AES key(s).
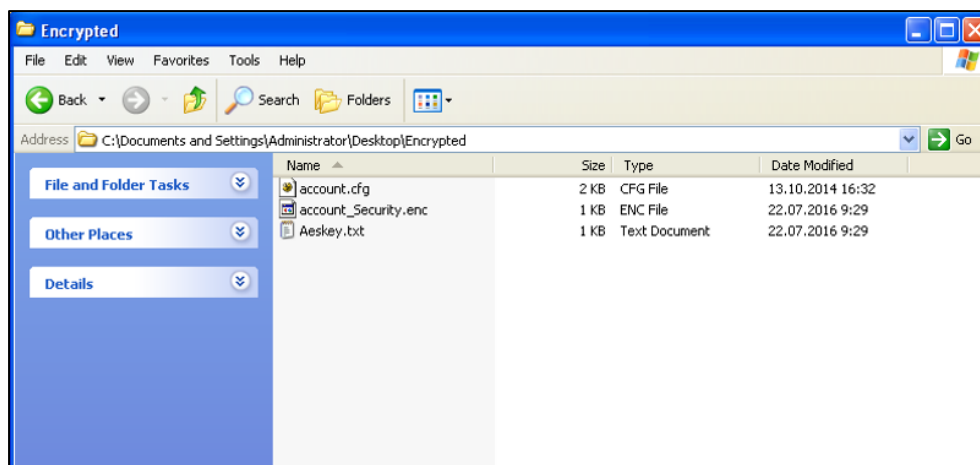
Incoming Signaling Validation

Yealink IP phones support the following three optional levels of security for validating incoming network signaling:

- **Source IP address validation**: ensure the request is received from an IP address of a server belonging to the set of target SIP servers.

- **Digest authentication**: challenge requests with digest authentication using the local credentials for the associated registered account.

- **Source IP address validation and digest authentication**: apply both of the above methods.

Topic

Incoming Signaling Validation Configuration

Incoming Signaling Validation Configuration

The following table lists the parameters you can use to configure the incoming signaling validation.

Parameter	sip.request_validation.source.list	<y0000000000xx>.cfg
Description	It configures the name of the request method for which source IP address validation will be applied. It is used to ensure the request that is received from the IP address of a SIP server. **Example**: sip.request_validation.source.list = INVITE, NOTIYF	
Permitted Values	A valid string	

Default	Blank	
Parameter	sip.request_validation.digest.list	<y0000000000xx>.cfg
Description	It configures the name of the request method for which digest authentication will be applied. It is used to challenge requests with digest authentication that use the local credentials for the associated registered account. **Example**: sip.request_validation.digest.list = INVITE, SUBSCRIBE	
Permitted Values	A valid string	
Default	Blank	
Parameter	sip.request_validation.digest.realm	<y0000000000xx>.cfg
Description	It configures the string used for authentication parameter Realm when performing the digest authentication.	
Permitted Values	A valid string	
Default	YealinkSPIP	
Parameter	sip.request_validation.event	<y0000000000xx>.cfg
Description	It configures which events specified within the Event header of SUBSCRIBE or NOTIFY request should be validated when performing the digest authentication. If it is left blank, all events will be validated.	
Permitted Values	A valid string	
Default	Blank	

Advanced Features

The advanced features require server support. Consult your server partner to find out if these features are supported.

Topics

Call Pickup

Call Completion

Call Park and Retrieve

Automatic Call Distribution (ACD)

Busy Lamp Field

Shared Line

Intercom

CSTA Control

Action URL

Action URI

Voice Mail

Short Message Service (SMS)

XML Browser

Hot Desking

Call Pickup

You can use call pickup to answer someone else's incoming call on your phone.

The Yealink IP phones support Directed Call Pickup and Group Call Pickup:

- **Directed Call Pickup:** allows you to pick up incoming calls to a specific phone.

- **Group Call Pickup:** allows you to pick up incoming calls to any phone within a predefined group of phones.

Directed Call Pickup

Directed call pickup is used for picking up an incoming call on a specific extension. You can answer a call that rings on a specific phone. If there are multiple incoming calls on the phone at the same time, you can only pick up the first incoming call.

You can choose to implement directed call pickup using a directed call pick code or using SIP signaling.

Topics

Directed Call Pickup Configuration

You can enable directed call pickup, the LCD screen will display a **DPickup** soft key when picking up the handset, pressing the Speakerphone key or pressing the line key (You may need to press the **More** soft key to see the **DPickup** soft key). As shown below:

You can configure a directed call pickup code and pick up the incoming call using the **DPickup** soft key.

Tip
You can set a DSS key as a Directed Pickup key, and specify a contact you want to pick up a call from for this key. For more information, refer to DSS Keys.

The following table lists the parameters you can use to configure directed call pickup.

Parameter	features.pickup.direct_pickup_enable	<y0000000000xx>.cfg
Description	It enables or disables the user to use **DPickup** soft key when performing directed call pickup feature.	
Permitted Values	**0**-Disabled **1**-Enabled, the phone will display the **DPickup** soft key on the Dialing screen.	
Default	0	
Web UI	Features->Pick up & Park->Directed Call Pickup	
Parameter	features.pickup.direct_pickup_code	<y0000000000xx>.cfg
Description	It configures the directed call pickup code on a phone basis. **Note**: The directed call pickup code configured on a per-line basis ("account.X.direct_pickup_code") takes precedence over that configured on a phone basis ("features.pickup.direct_pickup_code").	
Permitted Values	String within 32 characters	

Default	Blank	
Web UI	Features->Pick up & Park->Directed Call Pickup Code	
Parameter	account.X.direct_pickup_code[1]	<MAC>.cfg
Description	It configures the directed call pickup code. **Note**: The directed call pickup code configured on a per-line basis (configured by the parameter "account.X.direct_pickup_code") takes precedence over that configured on a phone basis (configured by the parameter "features.pickup.direct_pickup_code").	
Permitted Values	String within 32 characters	
Default	Blank	
Web UI	Account->Advanced->Directed Call Pickup Code	

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

Dialog Info Call Pickup

While some SIP servers implement directed call pickup using a directed call pickup code, others also support implement this feature through SIP signals.

Note
In this way, you do not need to configure the directed call pickup code.

If you enable the phone to implement directed call pickup through SIP signals, the IP phone picks up an incoming call via a SIP INVITE message with a Replaces header. The value of Replaces is derived from a NOTIFY message with dialog-info event. This feature applies only to directed call pick-up attempts initiated against monitored BLF resources. It means you can pick up an incoming call by pressing a BLF/BLF List key. It is not applicable to T19(P) E2 IP phones.

Example of the dialog-info carried in NOTIFY message:

```
<?xml version="1.0"?>

<dialog-info xmlns="urn:ietf:params:xml:ns:dialog-info" version="6" state="partial" entity="sip:1011@10.2.1.48:5060">

<dialog id="65603" call-id="0_1756536024@10.10.20.34" local-tag="3408640225" remote-tag="3779921438" direction="recipient">

<state>early</state>

<local>

<identity>sip:1011@10.2.1.48:5060</identity>

<target uri="sip:1011@10.2.1.48:5060"/>

</local>

<remote>

<identity>sip:1058@10.2.1.48:5060</identity>
```

<target uri="sip:1058@10.2.1.48:5060"/>

</remote>

</dialog>

</dialog-info>

Example of the Replaces carried in INVITE message:

Via: SIP/2.0/UDP 10.10.20.18:5060;branch=z9hG4bK2026058891

From: "1010" <sip:1010@10.2.1.48:5060>;tag=826048502

To: <sip:1058@10.2.1.48:5060>

Call-ID: 0_572446084@10.10.20.18

CSeq: 1 INVITE

Contact: <sip:1010@10.10.20.18:5060>

Content-Type: application/sdp

Allow: INVITE, INFO, PRACK, ACK, BYE, CANCEL, OPTIONS, NOTIFY, REGISTER, SUBSCRIBE, REFER, PUBLISH, UPDATE,

MESSAGE

Max-Forwards: 70

User-Agent: Yealink SIP-T46G 28.82.0.20

Replaces: 0_1756536024@10.10.20.34;to-tag=3779921438;from-tag=3408640225

Allow-Events: talk,hold,conference,refer,check-sync

Supported: replaces

Content-Length: 304

Related Topic

Dialog Info Call Pickup Configuration

Busy Lamp Field

Dialog Info Call Pickup Configuration

The following table lists the parameter you can use to configure dialog Info call pickup.

Parameter	account.X.dialoginfo_callpickup[1]	<MAC>.cfg
Description	It enables or disables the IP phone implements directed call pickup through SIP signals for a specific account. **Note**: It is not applicable to T19(P) E2 IP phones. In this way, you do not need to configure the directed call pickup code.	
Permitted Values	**0**-Disabled **1**-Enabled, the IP phone picks up a call according to the Replaces header in INVITE message.	

Default	0
Web UI	Account->Advanced->Dialog Info Call Pickup

Group Call Pickup

Group call pickup is used for picking up incoming calls within a pre-defined group. When any phone within a predefined group of phones receives an incoming call, you can pick up that call easily on the phone.

If you enable group call pickup, the LCD screen will display a **GPickup** soft key when picking up the handset, pressing the Speakerphone key or pressing the line key. As shown below:

You can pick up the group incoming call using the **GPickup** soft key.

Tip
You can set a DSS key as a Group Pickup key to pick up a group call. For more information, refer to DSS Keys.

Topic

Group Call Pickup Configuration

Group Call Pickup Configuration

The following table lists the parameters you can use to configure group call pickup.

Parameter	features.pickup.group_pickup_enable	<y0000000000xx>.cfg
Description	It enables or disables the user to use **GPickup** soft key when performing group call pickup feature.	
Permitted Values	**0**-Disabled **1**-Enabled, the phone will display the **GPickup** soft key on the Dialing screen.	
Default	0	
Web UI	Features->Pick up & Park->Group Call Pickup	

Parameter	features.pickup.group_pickup_code	<y0000000000xx>.cfg
Description	It configures the group call pickup code on a phone basis. **Note**: The group call pickup code configured on a per-line basis (configured by the parameter "account.X.group_pickup_code") takes precedence over that configured on a phone basis (configured by the parameter "features.pickup.group_pickup_code").	
Permitted Values	String within 32 characters	
Default	Blank	
Web UI	Features->Pick up & Park->Group Call Pickup Code	
Parameter	account.X.group_pickup_code[1]	<MAC>.cfg
Description	It configures the group pickup code. **Note**: The group call pickup code configured on a per-line basis (configured by the parameter "account.X.group_pickup_code") takes precedence over that configured on a phone basis (configured by the parameter "features.pickup.group_pickup_code").	
Permitted Values	String within 32 characters	
Default	Blank	
Web UI	Account->Advanced->Group Call Pickup Code	

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

Call Completion

When you place a call and the callee is temporarily unavailable to answer the call, call completion allows your phone to monitor the busy party and establish a call after the busy party becomes available to receive a call.

Two factors commonly prevent a call from connecting successfully:

- Callee does not answer

- Callee actively rejects the incoming call before answering

Yealink IP phones support call completion using the SUBSCRIBE/NOTIFY method, which is specified in draft-poetzl-sipping-call-completion-00, to subscribe to the busy party and receive notifications of their status changes.

The caller subscribes for update notifications of the dialog event from the busy party. Example of a SUBSCRIBE message:

```
SUBSCRIBE sip:1000@10.10.20.34:5060 SIP/2.0

Via: SIP/2.0/UDP 10.10.20.32:5060;branch=z9hG4bK2880274891
```

From: "10111" <sip:10111@10.2.1.48:5060>;tag=8643512

To: <sip:1000@10.2.1.48:5060>;tag=4025601441

Call-ID: 4_2103527761@10.10.20.32

CSeq: 2 SUBSCRIBE

Contact: <sip:10111@10.10.20.32:5060>

Accept: application/dialog-info+xml

Max-Forwards: 70

User-Agent: Yealink SIP-T46G 28.82.0.20

Expires: 60

Event: dialog

Content-Length: 0

Example of a NOTIFY message (The subscription (SUBSCRIBE message) of the dialog event "Call Completion" is confirmed by the busy party):

NOTIFY sip:10111@10.10.20.32:5060 SIP/2.0

Via: SIP/2.0/UDP 10.10.20.31:5060;branch=z9hG4bK1830418099

From: <sip:1000@10.2.1.48:5060>;tag=1032948194

To: "10111" <sip:10111@10.2.1.48:5060>;tag=722495580

Call-ID: 0_160090766@10.10.20.32

CSeq: 2 NOTIFY

Contact: <sip:1000@10.10.20.31:5060>

Content-Type: application/dialog-info+xml

Max-Forwards: 70

User-Agent: Yealink SIP-T46G 28.82.0.20

Subscription-State: active;expires=60

Event: dialog

Content-Length: 584

<?xml version="1.0"?>

<dialog-info xmlns="urn:ietf:params:xml:ns:dialog-info" version="1" state="full" entity="sip:1000@10.2.1.48:5060">

<dialog id="65626" call-id="0_3138198645@10.10.20.31" local-tag="2331766736" remote-tag="1786911541"

direction="initiator">

<state>confirmed</state>

<local>

<identity>sip:1000@10.2.1.48:5060</identity>

<target uri="sip:1000@10.2.1.48:5060"/>

</local>

```
<remote>

<identity>sip:1@10.2.1.48:5060</identity>

<target uri="sip:1@10.2.1.48:5060"/>

</remote>

</dialog>

<dialog id="65622">

<state>terminated</state>

</dialog>

</dialog-info>
```

Example of a NOTIFY message (The busy party has finished the call and is available again. A new notification update from the busy party is received by the caller):

```
NOTIFY sip:10111@10.10.20.32:5060 SIP/2.0

Via: SIP/2.0/UDP 10.10.20.31:5060;branch=z9hG4bK3431394016

From: <sip:1000@10.2.1.48:5060>;tag=1558968605

To: "10111" <sip:10111@10.2.1.48:5060>;tag=140677866

Call-ID: 0_2584152566@10.10.20.32

CSeq: 5 NOTIFY

Contact: <sip:1000@10.10.20.31:5060>

Content-Type: application/dialog-info+xml

Max-Forwards: 70

User-Agent: Yealink SIP-T46G 28.82.0.20

Subscription-State: active;expires=48

Event: dialog

Content-Length:    217


<?xml version="1.0"?>

<dialog-info xmlns="urn:ietf:params:xml:ns:dialog-info" version="4" state="partial" entity="sip:1000@10.2.1.48:5060">

<dialog id="65644">

<state>terminated</state>

</dialog>

</dialog-info>
```

Topics

Call Completion Configuration

The following table lists the parameters you can use to configure call completion feature.

Parameter	features.call_completion_enable	<y0000000000xx>.cfg
Description	It enables or disables the call completion feature. If a user places a call and the callee is temporarily unavailable to answer the call, call completion feature allows notifying the user when the callee becomes available to receive a call.	
Permitted Values	**0**-Disabled **1**-Enabled, the caller is notified when the callee becomes available to receive a call.	
Default	0	
Web UI	Features->General Information->Call Completion	
Phone UI	T54S/T52S/T48S/T48G/T46S/T46G/T29G: Menu->Features->Others->Call Completion->Call Completion T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2/T19(P) E2: Menu->Features->Call Completion->Call Completion	

Example: Using Call Completion

The following example shows configuration for call completion.

Example

features.call_completion_enable = 1

After provisioning, when you place a call and the callee is temporarily unavailable to answer the call, the phone screen will prompt whether to wait for the callee party. You can activate the call completion feature. After the called party becomes idle, the phone screen will prompt whether to dial the number.

Call Park and Retrieve

Call park allows users to park a call on a special extension and then retrieve it from another phone (for example, a phone in another office or conference room).

The IP phones support call park feature under the following modes:

- **FAC mode**: parks the call to the local extension or a desired extension through dialing the park code.

- **Transfer mode**: parks the call to shared parking lot through performing a blind transfer. For some servers, the system will return a specific call park retrieve number (park retrieve code) from which the call can be retrieved after parking successfully.

Topics

Call Park and Retrieve Configuration

The following table lists the parameters you can use to configure call park and retrieve.

Parameter	features.call_park.park_mode	<y0000000000xx>.cfg
Description	It configures the call park mode.	
Permitted Values	**1-**FAC, park a call through dialing the call park code. **2**-Transfer, blind transfer the call to a shared parking lot.	
Default	2	
Web UI	Features->Pick up & Park->Call Park Mode	
Parameter	features.call_park.enable	<y0000000000xx>.cfg
Description	It enables or disables the user to use **Park** and **Retrieve** soft keys when performing call park feature.	
Permitted Values	**0**-Disabled **1**-Enabled, the phone will display the **Park** soft key during a call, and display the **Retrieve** soft key on the Dialing screen.	
Default	0	
Web UI	Features->Pick up & Park->Call Park	
Parameter	features.call_park.park_code	<y0000000000xx>.cfg
Description	It configures the call park code for FAC call park mode, or configures shared parking lot for Transfer call park mode.	
Permitted Values	String within 32 characters	
Default	Blank	
Web UI	Features->Pick up & Park->Call Park Code	
Parameter	features.call_park.park_retrieve_code	<y0000000000xx>.cfg
Description	It configures the park retrieve code for FAC call park mode, or configures retrieve parking lot for Transfer call park mode.	
Permitted Values	String within 32 characters	

Default	Blank
Web UI	Features->Pick up & Park->Park Retrieve Code
Parameter	features.call_park.direct_send.enable <y0000000000xx>.cfg
Description	It enables or disables the IP phone to dial out the call park code/park retrieve code directly when pressing the **Park**/**Retrieve** soft key. It is only applicable to FAC call park mode. **Note:** It works only if "features.call_park.park_mode" is set to 1 (FAC) and you have configured the call park code/park retrieve code.
Permitted Values	**0**-Disabled, the IP phone will enter the pre-dialing screen when pressing the **Park**/**Retrieve** soft key. The user can dial the specific extension manually or press the BLF/BLF List or Speed Dial key to park the call to the specific extension or retrieve the call parked from the specific extension. **1**-Enabled
Default	1
Parameter	features.call_park.line_restriction.enable <y0000000000xx>.cfg
Description	It enables or disables the IP phone to park a call using the line specified by the parameter "**linekey.X.line/expansion_module.X.key.Y.line**". It is only applicable to the scenario that the user uses the Park key to park a call. **Note:** It works only if "features.call_park.park_mode" is set to 2 (Transfer). It is not applicable to T19(P) E2 IP phones.
Permitted Values	**0**-Disabled, call is parked or retrieved by the current line. The current line is in call state. **1**-Enabled, call is parked or retrieved by the specific line.
Default	0

Example: Setting Call Park and Retrieve in FAC Mode

The following example shows configuration for FAC call park mode.

Example

> *features.call_park.park_mode = 1*
>
> *features.call_park.enable = 1*
>
> *features.call_park.park_code = *68*
>
> *features.call_park.park_retrieve_code = *88*

After provisioning, the call park mode is set to FAC. A **Park** soft key will display on the phone during an active call, and a **Retrieve** soft key will display on the Dialing screen. You can press the **Park** soft key to park a call, or press the **Retrieve** soft key to retrieve a parked call.

> **Tip**
>
> You can set a line key as a Park key or a Retrieve key, specify an extension you want to park a call to for Park key and specify a parked extension you want to retrieve a parked call from for Retrieve key. For more information, refer to **Line Keys**.

Example: Setting Call Park and Retrieve in Transfer Mode

The following example shows configuration for Transfer call park mode.

Example

features.call_park.park_mode = 2

features.call_park.enable = 1

*features.call_park.park_code = *01*

*features.call_park.park_retrieve_code = *11*

After provisioning, the call park mode is set to Transfer. A **Park** soft key will display on the phone during an active call and a **Retrieve** soft key will display on the Dialing screen. You can press the **Park** soft key to park a call to the shared parking lot "*01", or press the **Retrieve** soft key to retrieve the parked call from the shared parking lot "*01" using the retrieve code "*11".

> **Tip**
>
> You can set a line key as a Park key or a Retrieve key, specify a shared parking lot you want to park a call to for Park key and specify a retrieve lot you want to retrieve a parked call from for Retrieve key. For more information, refer to **Line Keys**.

Automatic Call Distribution (ACD)

ACD enables the use of IP phones in a call-center role by automatically distributing incoming calls to available users or agents. You can enable users to use their phone in a call center agent/a supervisor role on a supported call server.

The users can sign in and sign out of the ACD state as call center agent using soft keys. The server distributes calls to the agent when the agent state is available, and stops distributing calls when the agent changes state to unavailable. The IP phone remains in the unavailable status until the agent manually changes the IP phone status. You can configure how long the IP phone remains unavailable state and changes to available automatically on a supported call server.

Topics

ACD Key Configuration

ACD Configuration

Example: Setting ACD

ACD Key Configuration

You can configure a line key as ACD key to log into the ACD system. The ACD key on the IP phone indicates the ACD state. ACD key is not available on T19(P) E2 IP phones.

The following shows configuration for an ACD key.

linekey.X.type = 42

linekey.X.label = ACD

After provisioining, an ACD key is available on the phone, and you can press the ACD key to log into the ACD system.

Related Topic

Line Keys Configuration

ACD Configuration

The following table lists the parameters you can use to configure ACD.

Parameter	account.X.acd.enable[1]	<MAC>.cfg
Description	It enables or disables the ACD (Automatic Call Distribution) feature.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Parameter	account.X.acd.available[1]	<MAC>.cfg
Description	It enables or disables the IP phone to display the **Available**/**Avail** or **Unavailable**/**Unavail** soft key after the IP phone logs into the ACD system. **Note**: It works only if "account.X.acd.enable" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Parameter	account.X.subscribe_acd_expires[1]	<MAC>.cfg
Description	It configures the period (in seconds) of ACD subscription. **Note**: It works only if "account.X.acd.enable" is set to 1 (Enabled).	
Permitted Values	Integer from 120 to 3600	
Default	3600	

Web UI	Account->Advanced->ACD Subscribe Period(120~3600s)	
Parameter	acd.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to automatically change the status of the ACD agent to available after the designated time. **Note**: It works only if "account.X.acd.enable" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Features->ACD->ACD->ACD Auto Available	
Parameter	features.homescreen_softkey.acd.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to display the ACD softkeys such as **Login** or **Logout** on the idle screen. **Note:** It works only if "account.X.acd.enable" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Parameter	account.X.acd.unavailable_reason_enable[1]	<MAC>.cfg
Description	It enables or disables the unavailable/away reason code feature. **Note**: It works only if "account.X.acd.available" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled, the unavailable/away reason of agent state will be displayed on the IP phone LCD screen (for example, on lunch, in the bathroom, taking a coffee break or a personal break).	
Default	0	
Parameter	acd.auto_available_timer	<y0000000000xx>.cfg
Description	It configures the interval (in seconds) for the status of the ACD agent to be automatically changed to available. **Note**: It works only if "account.X.acd.enable" and "acd.auto_available" are set to 1 (Enabled).	
Permitted Values	Integer from 0 to 120	
Default	60	
Web UI	Features->ACD->ACD->ACD Auto Available Timer (0~120s)	

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for

T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

Example: Setting ACD

The following example shows configuration for ACD.

Example

######Set an ACD for account 1#######

   account.1.acd.enable = 1

   account.1.acd.available = 1

   account.1.subscribe_acd_expires = 3000

   acd.enable = 1

   acd.auto_available_timer = 60

   features.homescreen_softkey.acd.enable = 1

######Set an ACD key#############

   linekey.1.type=42

   linekey.1.label=ACD

After provisioning, you can press the **Login** soft key or ACD key to log into the ACD system. After logging into the ACD system, **Available** (**Avail**)/**Unavailable** (**Unavail**) soft key appears on the phone screen. You can press **Available** (**Avail**)/**Unavailable** (**Unavail**) soft key to change ACD state. The ACD key on the IP phone indicates the ACD state.

Busy Lamp Field

The Busy Lamp Field (BLF) feature enables the IP phone to monitor specific remote lines for state changes on the phone. It is not available on the T19(P) E2 IP phone.

Yealink IP phones support two methods of BLF configuration:

- Configure a line key as BLF key to monitor a specific remote line

- Configure BLF List to monitor a list of specific remote lines

The BLF feature enables the following functions to the users

- Monitor the status of line on their phone.

- Answer incoming calls to the monitored line (called directed call pickup)

- Park and retrieve calls to the monitored line

- Initiate an outgoing intercom call to the monitored line

- Barging In an Active Call by BLF List Key

Topics

BLF Key Configuration

You can configure a BLF key for a specific line.

The following shows configuration of a BLF key for Bill.

linekey.X.type=16

linekey.X.line=1

linekey.X.value=1001

linekey.X.label=Bill

Related Topic

Line Keys Configuration

BLF List Configuration

You can configure a BLF List for monitor phone. It enables the monitoring phone to subscribe to a list of lines, and receive status notifications of the monitored lines.

Note
The IP phone subscribe to a BLF list that is set up on server. You must access the server and set up a list of monitored lines.

The following table lists the parameters you can use to configure BLF List.

Parameter	account.X.blf.blf_list_uri[1]	<MAC>.cfg
Description	It configures the BLF List URI to monitor a list of users. **Example**: account.1.blf.blf_list_uri = 4609@pbx.test.com **Note**: It is not applicable to T19(P) E2 IP phones.	
Permitted	SIP URI within 256 characters	

Values	
Default	Blank
Web UI	Account->Advanced->BLF List URI

Parameter	account.X.blf_list_code[1]	<MAC>.cfg
Description	It configures the feature access code for directed call pickup. **Example**: account.1.blf_list_code = *97 **Note**: It is not applicable to T19(P) E2 IP phones.	

Permitted Values	String within 32 characters
Default	Blank
Web UI	Account->Advanced->BLF List Pickup Code

Parameter	account.X.blf_list_barge_in_code[1]	<MAC>.cfg
Description	It configures the feature access code for directed call pickup with barge-in. **Example**: account.1.blf_list_barge_in_code = *33 **Note**: It is not applicable to T19(P) E2 IP phones.	

Permitted Values	String within 32 characters
Default	Blank
Web UI	Account->Advanced->BLF List Barge In Code

Parameter	account.X.blf_list_retrieve_call_parked_code[1]	<MAC>.cfg
Description	It configures the feature access code for the call park retrieve. **Example**: account.1.blf_list_retrieve_call_parked_code = *88 **Note**: It is not applicable to T19(P) E2 IP phones.	

Permitted Values	String within 32 characters
Default	Blank
Web UI	Account->Advanced->BLF List Retrieve Call Parked Code

Parameter	phone_setting.auto_blf_list_enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to automatically configure the BLF list DSS keys in order.	

	Note: It is not applicable to T19(P) E2 IP phones.
Permitted Values	**0**-Disabled **1**-Enabled
Default	1
Parameter	phone_setting.blf_list_sequence_type <y0000000000xx>.cfg
Description	It configures the order of BLF list DSS keys assigned automatically. **Note**: It works only if "phone_setting.auto_blf_list_enable" is set to 1 (Enabled). It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G/T27P/T27G IP phones,
Permitted Values	**0**-linekey->exp1 key->expN key **1**-exp1 key ->expN key ->linekey **2**-linekey page1->page1 from exp1 key to expN key ->page2 from exp1 key to expN key ->...->linekey from page2 to page3 **3**- page1 from exp1 key to expN key ->page2 from exp1 key to expN key ->...->linekey **Note:** N is the number of your connected expansion modules.
Default	0
Parameter	features.blf_list_version[2] <y0000000000xx>.cfg
Description	It enables or disables the IP phone to include the Version header in the BLF list NOTIFY message sent by the server. **Note:** It is not applicable to T19(P) E2 IP phones.
Permitted Values	**0**-Disabled **1**-Enabled
Default	0

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

[2]If you change this parameter, the IP phone will reboot to make the change take effect.

State Indicator of Remote Line

The state indicator of the monitored line on BLF/BLF List key varies by phone models.

The following table shows the LED/icons indicator associated with the line you are monitoring.

LED Status	Icons			Description
	T48S/T48G	**T46S/T46G/T29G**	**T54S/T52S**	
Solid green	(icon)	(icon)	(icon)	Monitored line is idle.
Fast-flashing red	(icon) (Flashing)	(icon)	(icon)	Monitored line is ringing.
	(icon) (Flashing)	(icon)	(icon)	Monitored line is dialing.
Solid red	(icon)	(icon)	(icon)	Monitored line is busy or in a call.
Slow-flashing red	(icon)	(icon)	(icon)	Monitored line places a call on hold.
	(icon)	(icon)	(icon)	A call is parked to the monitored line.
Off	(icon)	(icon)	(icon)	Monitored line registers failed or does not exist.

BLF/BLF List Subscription

Yealink IP phones support BLF using a SUBSCRIBE/NOTIFY mechanism as specified in RFC 3265.

BLF Subscription

When you configure the IP phone to monitor a specific line, the IP phone sends a SUBSCRIBE request with Request-URI containing the monitor line URI to the server, and then receives a NOTIFY request. The NOTIFY message contains XML body with status of the specific monitored line.

The following example shows a NOTIFY message for a BLF line "012":

```
<?xml version="1.0"?>
<dialog-info xmlns="urn:ietf:params:xml:ns:dialog-info" version="1" state="full"
entity="sip:012@10.20.10.42:5060">
```

```
<dialog id="0000"><state>terminated</state></dialog>
</dialog-info>
```

BLF List Subscription

When you configure the IP phone to monitor a list of specific remote lines, the IP phone sends a SUBSCRIBE request with Request-URI containing the BLF List URI, and then receives a NOTIFY request. The NOTIFY message contains XML body with status of each monitor line.

The following example shows a NOTIFY message for a BLF List, the BLF List contains 4605 and 4607:

```
<?xml version="1.0"  <?xml version="1.0"?>
<list xmlns="urn:ietf:params:xml:ns:rlmi" xmlns="urn:ietf:params:xml:ns:rlmi" version="0"
fullState="true">
   <resource uri="sip:4605@pbx.yealink.com">
      <name>4605 Yealink</name>
      <instance id="JQZxud2qeo" state="active" cid="8y35ri@broadworks"/>
   </resource>
   <resource uri="sip:4605@pbx.yealink.com">
      <name>4605 Yealink</name>
      <instance id="pXHQ97tPyQ" state="active" cid="tYzwJM@broadworks"/>
   </resource>
</list>
```

Topic

BLF/BLF List Subscription Configuration

The following table lists the parameters you can use to configure BLF/BLF List subscription.

Parameter	account.X.blf.subscribe_period[1]	<MAC>.cfg
Description	It configures the period (in seconds) of the BLF subscription. The IP phone is able to successfully refresh the SUBSCRIBE before the SUBSCRIBE dialog expired. **Note**: It is not applicable to T19(P) E2 IP phones.	
Permitted Values	Integer from 30 to 2147483647	
Default	1800	
Web UI	Account->Advanced->Subscribe Period(Seconds)	
Parameter	account.X.blf.subscribe_event[1]	<MAC>.cfg
Description	It configures the event of the BLF subscription. **Note**: It is not applicable to T19(P) E2 IP phones.	

Permitted Values	**0**-dialog
	1-presence

Default	0

Parameter	account.X.out_dialog_blf_enable[1]	<MAC>.cfg

Description	It enables or disables the IP phone to handle NOTIFY messages out of the BLF dialog.
	Note: It is not applicable to T19(P) E2 IP phones.

Permitted Values	**0**-dialog
	1-presence

Default	0

Web UI	Account->Advanced->Out Dialog BLF

Parameter	account.X.blf.match_host.enable[1]	<MAC>.cfg

Description	It enables or disables host match feature for BLF/BLF list feature.
	Note: It is not applicable to T19(P) E2 IP phones.

Permitted Values	**0**-Disabled
	1-Enabled, the IP phone can only recognize the NOTIFY message whose host field is the same as the one in the SUBSCRIBE message.

Default	0

Parameter	sip.terminate_notify_sub_delay_time	<y0000000000xx>.cfg

Description	It configures the interval (in seconds) for the IP phone to re-subscribe when it receives the NOTIFY message with the subscription state of Terminated.
	If it is set to 0, the phone will re-subscribe immediately when it receives the NOTIFY message with the subscription state of Terminated.
	Note: It is not applicable to T19(P) E2 IP phones.

Permitted Values	Integer greater than 0

Default	0

Parameter	sip.sub_refresh_random	<y0000000000xx>.cfg

Description	It enables or disables the IP phone to use the random renewal mechanism.
	Note: It works only if "account.X.subscribe_expires_overlap" is set to 0 (Disabled).

Permitted Values	**0**-Disabled
	1-Enabled, the IP phone will generate a random value. The final renewal time is equal to the original renewal time plus the random value.

Default	0

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for

T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2.

Visual and Audio Alert for Monitor Lines

Visual and Audio Alert feature allows the phone to display the caller ID and play an audio alert when a BLF line receives an incoming call.

You can configure how the phone displays the caller ID and set a distinctive alert tone for multiple BLF lines.

Topics

Visual and Audio Alert BLF Lines Configuration

Example: Configuring Visual and Audio Alert for Monitor Lines

Visual and Audio Alert BLF Lines Configuration

The following table lists the parameters you can use to configure visual and audio alert for BLF lines.

Parameter	features.pickup.blf_visual_enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to display a visual alert when the monitored user receives an incoming call. **Note**: It is not applicable to T19(P) E2 IP phones.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Features->Pickup & Park->Visual Alert for BLF Pickup	
Parameter	features.pickup.blf_audio_enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to play an audio alert when the monitored user receives an incoming call. **Note**: It is not applicable to T19(P) E2 IP phones.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Features->Pickup & Park->Audio Alert for BLF Pickup	
Parameter	features.blf.ring_type	<y0000000000xx>.cfg
Description	It configures a ring tone for BLF pickup. **Example**: features.blf.ring_type = Ring5.wav	

	Note: It works only if "features.pickup.blf_audio_enable" is set to 1 (Enabled). It is not applicable to T19(P) E2 IP phones.
Permitted Values	Ring1.wav, Ring2.wav, Ring3.wav, Ring4.wav, Ring5.wav, Ring6.wav, Ring7.wav, Ring8.wav, Silent.wav, Splash.wav or custom ring tone name (for example, Config:Customring.wav).
Default	Splash.wav
Web UI	Features->Pickup & Park->Ring Type for BLF Pickup
Phone UI	<u>T54S/T52S/T48S/T48G/T46S/T46G/T29G</u>: Menu->Basic->Sound->BLF Ring Type <u>T42G/T42S/T41P/T41S/T40P/T40G/T27P/T27G/T23P/T23G/T21(P) E2</u>: Menu->Settings->Basic Settings->Sound->BLF Ring Type

Parameter	features.pickup_display.method	<y0000000000xx>.cfg
Description	It configures the display method of the call party information on the visual prompt. **Note**: It works only is "features.pickup.blf_visual_enable" is set to 1 (Enabled). It is not applicable to T19(P) E2 IP phones.	
Permitted Values	**0**-Name **1**-Number **2**-Name Number **3**-Number Name	
Default	2	

Parameter	features.blf_pickup_only_send_code	<y0000000000xx>.cfg
Description	It enables or disables the phone to only dial out feature access code of directed pick up when preforming BLF/BLF list pickup. **Note:** It is not applicable to T19(P) E2 IP phones.	
Permitted Values	**0**-Disabled, the phone will dial out feature access code of directed pick up plus monitored number when performing BLF/BLF list pickup. **1**-Enabled, the phone will only dial out feature access code of directed pick up when preforming BLF pickup.	
Default	0	

Example: Configuring Visual and Audio Alert for Monitor Lines

The following example shows configuration for visual and audio for a monitor line.

Scenario Conditions	Related Topic
*linekey.1.pickup_value = *97*	Line Keys Configuration

or *account.1.direct_pickup_code = *97* or *features.pickup.direct_pickup_code = *97*	Directed Call Pickup
linekey.1.type = 16 *linekey.1.line = 1* *linekey.1.value = 1001* *linekey.1.label = Bill*	BLF Key Configuration

Example

> *features.pickup.blf_visual_enable = 1*
>
> *features.pickup.blf_audio_enable = 1*

When the monitored line receives an incoming call, the LCD screen shows an incoming call to the monitored line (from 1008 to 1001), the following occurs on the phone:

- The phone plays a specific alert tone.
- The BLF key LED flashes red. On the T48S/T48G IP phone, the icon flashes.
- The caller ID appears on the LCD screen.

The following shows visual alert for monitor line on T46S/T46G IP phones:

You can pick up the call to monitored line, place a call to monitored line, place a new call or back to the idle screen.

LED Mode for BLF/BLF List Key

BLF LED Mode provides five kinds of definition for the BLF/BLF List key LED status. As there is no hard line key on T48G/S IP phones, BLF LED mode configuration is applicable to any IP phones and expansion module, except T48G/S and T19(P) E2 IP phones.

Topics

Supported BLF LED Modes

Supported BLF LED Modes

The following table lists the LED statuses of the BLF/BLF list key when BLF LED Mode is set to 0, 1, 2, 3 or 4 respectively. The default value of BLF LED mode is 0.

Line key/Expansion Module Key LED (configured as a BLF key or a BLF List key and BLF LED Mode is set to 0)

LED Status	Description
Solid green	The monitored user is idle.
Fast-flashing red (200ms)	The monitored user receives an incoming call.
Solid red	The monitored user is dialing. The monitored user is talking. The monitored user's conversation is placed on hold (This LED status requires server support).
Slow-flashing red (1s)	The call is parked against the monitored user's phone number.
Off	The monitored user does not exist.

Line Key/Expansion Module Key LED (configured as a BLF key or a BLF List key and BLF LED Mode is set to 1)

LED Status	Description
Fast-flashing red (200ms)	The monitored user receives an incoming call.
Solid red	The monitored user is dialing. The monitored user is talking. The monitored user's conversation is placed on hold (This LED status requires server support).
Slow-flashing red (1s)	The call is parked against the monitored user's phone number.
Off	The monitored user is idle. The monitored user does not exist.

Line Key/Expansion Module Key LED (configured as a BLF key or a BLF List key and BLF LED Mode is set to 2)

LED Status	Description
Fast-flashing red (200ms)	The monitored user receives an incoming call.

LED Status	Description
Solid red	The monitored user is dialing. The monitored user is talking. The monitored user's conversation is placed on hold (This LED status requires server support).
Slow-flashing red (1s)	The call is parked against the monitored user's phone number.
Off	The monitored user is idle. The monitored user does not exist.

Line Key/Expansion Module Key LED (configured as a BLF key or a BLF List key and BLF LED Mode is set to 3)

LED Status	Description
Fast-flashing green (200ms)	The monitored user receives an incoming call.
Solid red	The monitored user is dialing. The monitored user is talking. The monitored user's conversation is placed on hold (This LED status requires server support).
Slow-flashing red (1s)	The call is parked against the monitored user's phone number.
Off	The monitored user is idle. The monitored user does not exist.

Line Key/Expansion Module Key LED (configured as a BLF key or a BLF List key and BLF LED Mode is set to 4. This mode is specifically designed for the Genband server.)

LED Status	Description
Solid green	The monitored user is talking.
Slow-flashing green (1s)	The monitored user does not exist.
Off	The monitored user is idle.

BLF LED Mode Configuration

The following table lists the parameters you can use to configure BLF LED Mode.

Parameter	features.blf_led_mode	<y0000000000xx>.cfg
Description	It configures BLF LED mode and provides five kinds of definition for the BLF/BLF List	

	DSS key LED status.
	Note: It is not applicable to T19(P) E2 IP phones. For the Genband server, you can set the value of this parameter to 4.
Permitted Values	0,1,2,3,4
Default	0
Web UI	Features->General Information->BLF LED Mode

BLF/BLF List Key LED Status and Behavior Configuration

You can customize the BLF LED status (or the color of BLF icon for T48S/T48G IP phones) and BLF/BLF List key behavior using the EDK macros if required.

Note
For more information on EDK macros, refer to Macro Action Strings.

Topics

Supported BLF/BLF List Key Behaviors

BLF Key LED/Icon and Behavior for Idle State

BLF Key LED/Icon and Behavior for Call-in State

BLF Key LED/Icon and Behavior for Call-out State

BLF Key LED/Icon and Behavior for Talking State

BLF Key LED/Icon and Behavior for Parked-Against State

Supported BLF/BLF List Key Behaviors

The following behaviors are supported when pressing the BLF/BLF List keys:

- **newcall** - dial out the phone number

- **btransfer** - transfer the active call to the monitored user without consulting

- **ctransfer** - transfer the active call to the monitored user with prior consulting

- **pickup** - pick up the call directly

- **bargein** - barge in and set up a conference call

- **custom EDK macros** (for example, 1234$Tinvite$) - execute a series of macro action strings

Related Topic

Macro Action Strings

BLF Key LED/Icon and Behavior for Idle State Configuration

The following table lists the parameters you can use to configure BLF key LED/icon and Behavior for idle state (the monitored user is idle).

Parameter	blf.enhanced.idle.enable	<y0000000000xx>.cfg
Description	It enables or disables the custom configuration when the monitored user is idle. **Note**: It is not applicable to T19(P) E2 IP phones.	
Permitted Values	**0**-Disabled **1**-Enabled, the IP phone will display the custom BLF/BLF List DSS key LED status/icon colors and perform the custom behavior when pressing the BLF/BLF List DSS key.	
Default	0	
Parameter	blf.enhanced.idle.led	<y0000000000xx>.cfg
Description	It configures the custom BLF/BLF List DSS key LED status/icon colors when the monitored user is idle. This value uses the same macro action string syntax as an Enhanced DSS key. **Example**: blf.enhanced.idle.led = $LEDg1000o$ For T54S/T52S/T46G/T46S/T42G/T42S/T41P/T41S/T40P/T40G/T29G/T27P/T27G/T23P/T23G/T21(P) E2 IP phones, the BLF/BLF list DSS key LED glows green for 1000ms and then goes out. For T48G/T48S IP phones, the BLF/BLF List DSS key field displays a green icon for 1000ms and then turns to white. **Note**: It works only if "blf.enhanced.idle.enable" is set to 1 (Enabled). It is not applicable to T19(P) E2 IP phones.	
Permitted Values	String	
Default	Blank	
Parameter	blf.enhanced.idle.callin.action	<y0000000000xx>.cfg
Description	It configures the behavior when pressing the BLF/BLF list DSS key if the monitor is ringing and monitored user is idle. This value uses the same macro action string syntax as an Enhanced DSS key. **Example**: blf.enhanced.idle.callin.action = newcall **Note**: It works only if "blf.enhanced.idle.enable" is set to 1 (Enabled). It is not applicable to T19(P) E2 IP phones.	
Permitted	String	

Values	
Default	Blank
Parameter	blf.enhanced.idle.talking.action <y0000000000xx>.cfg
Description	It configures the behavior when pressing the BLF/BLF list DSS key if the monitor is talking and monitored user is idle. This value uses the same macro action string syntax as an Enhanced DSS key. **Example**: blf.enhanced.idle.talking.action = newcall **Note**: It works only if "blf.enhanced.idle.enable" is set to 1 (Enabled). It is not applicable to T19(P) E2 IP phones.
Permitted Values	String
Default	Blank
Parameter	blf.enhanced.idle.idle.action <y0000000000xx>.cfg
Description	It configures the behavior when pressing the BLF/BLF list DSS key if the monitor and monitored user are idle. This value uses the same macro action string syntax as an Enhanced DSS key. **Example**: blf.enhanced.idle.idle.action = 1234$Tinvite$ **Note**: It works only if "blf.enhanced.idle.enable" is set to 1 (Enabled). It is not applicable to T19(P) E2 IP phones.
Permitted Values	String
Default	Blank

BLF Key LED/Icon and Behavior for Call-in State Configuration

The following table lists the parameters you can use to configure BLF key LED/icon and Behavior for call-in state (the monitored user is ringing).

Parameter	blf.enhanced.callin.enable <y0000000000xx>.cfg
Description	It enables or disables the custom configuration when the monitored user is ringing. **Note**: It is not applicable to T19(P) E2 IP phones.
Permitted Values	**0**-Disabled **1**-Enabled, the IP phone will display the custom BLF/BLF List DSS key LED status/icon colors and perform the custom behavior when pressing the BLF/BLF List DSS key.
Default	0

Parameter	blf.enhanced.callin.led	<y0000000000xx>.cfg
Description	It configures the custom BLF/BLF List DSS key LED status/icon colors when the monitored user is ringing. This value uses the same macro action string syntax as an Enhanced DSS key. **Example**: blf.enhanced.callin.led = $LEDg1000o$ For T54S/T52S/T46G/T46S/T42G/T42S/T41P/T41S/T40P/T40G/T29G/T27P/T27G/T23P/T23G/T21(P) E2 IP phones, the BLF/BLF List DSS key LED glows green for 1000ms and then goes out. For T48G/T48S IP phones, the BLF/BLF List DSS key field displays a green icon for 1000ms and then turns to white. **Note**: It works only if "blf.enhanced.callin.enable" is set to 1 (Enabled). It is not applicable to T19(P) E2 IP phones.	
Permitted Values	String	
Default	Blank	
Parameter	blf.enhanced.callin.callin.action	<y0000000000xx>.cfg
Description	It configures the behavior when pressing the BLF/BLF list DSS key if the monitor and monitored user are ringing. This value uses the same macro action string syntax as an Enhanced DSS key. **Example**: blf.enhanced.callin.callin.action = newcall **Note**: It works only if "blf.enhanced.callin.enable" is set to 1 (Enabled). It is not applicable to T19(P) E2 IP phones.	
Permitted Values	String	
Default	Blank	
Parameter	blf.enhanced.callin.talking.action	<y0000000000xx>.cfg
Description	It configures the behavior when pressing the BLF/BLF list DSS key if the monitor is talking and monitored user is ringing. This value uses the same macro action string syntax as an Enhanced DSS key. **Example**: blf.enhanced.callin.talking.action = newcall **Note**: It works only if "blf.enhanced.callin.enable" is set to 1 (Enabled). It is not applicable to T19(P) E2 IP phones.	

Permitted Values	String
Default	Blank
Parameter	blf.enhanced.callin.idle.action <y0000000000xx>.cfg
Description	It configures the behavior when pressing the BLF/BLF list DSS key if the monitor is idle and monitored user is ringing. This value uses the same macro action string syntax as an Enhanced DSS key. **Example**: blf.enhanced.callin.idle.action = newcall **Note**: It works only if "blf.enhanced.callin.enable" is set to 1 (Enabled). It is not applicable to T19(P) E2 IP phones.
Permitted Values	String
Default	Blank

BLF Key LED/Icon and Behavior for Call-out State Configuration

The following table lists the parameters you can use to configure BLF key LED/icon and Behavior for call-out state (the monitored user is calling out).

Parameter	blf.enhanced.callout.enable <y0000000000xx>.cfg
Description	It enables or disables the custom configuration when the monitored user is calling out. **Note**: It is not applicable to T19(P) E2 IP phones.
Permitted Values	**0**-Disabled **1**-Enabled, the IP phone will display the custom BLF/BLF List DSS key LED status/icon colors and perform the custom behavior when pressing the BLF/BLF List DSS key.
Default	0
Parameter	blf.enhanced.callout.led <y0000000000xx>.cfg
Description	It configures the custom BLF/BLF List DSS key LED status/icon colors when the monitored user is calling out. This value uses the same macro action string syntax as an Enhanced DSS key. **Example**: blf.enhanced.callout.led = $LEDg1000o$ For T54S/T52S/T46G/T46S/T42G/T42S/T41P/T41S/T40P/T40G/T29G/T27P/T27G/T23P/T23G/T21(P) E2 IP phones, the BLF/BLF list DSS key LED glows green for 1000ms and then goes out. For T48G/T48S IP phones, the BLF/BLF List DSS key field displays a green icon for

	1000ms and then turns to white. **Note**: It works only if "blf.enhanced.callout.enable" is set to 1 (Enabled). It is not applicable to T19(P) E2 IP phones.
Permitted Values	String
Default	Blank

Parameter	blf.enhanced.callout.callin.action	<y0000000000xx>.cfg

Description	It configures the behavior when pressing the BLF/BLF list DSS key if the monitor is ringing and monitored user is calling out. This value uses the same macro action string syntax as an Enhanced DSS key. **Example**: blf.enhanced.callout.callin.action = newcall **Note**: It works only if "blf.enhanced.callout.enable" is set to 1 (Enabled). It is not applicable to T19(P) E2 IP phones.
Permitted Values	String
Default	Blank

Parameter	blf.enhanced.callout.talking.action	<y0000000000xx>.cfg

Description	It configures the behavior when pressing the BLF/BLF list DSS key if the monitor is talking and monitored user is calling out. This value uses the same macro action string syntax as an Enhanced DSS key. **Example**: blf.enhanced.callout.talking.action = newcall **Note**: It works only if "blf.enhanced.callout.enable" is set to 1 (Enabled). It is not applicable to T19(P) E2 IP phones.
Permitted Values	String
Default	Blank

Parameter	blf.enhanced.callout.idle.action	<y0000000000xx>.cfg

Description	It configures the behavior when pressing the BLF/BLF list DSS key if the monitor is idle and monitored user is calling out. This value uses the same macro action string syntax as an Enhanced DSS key. **Example**: blf.enhanced.callout.idle.action = newcall **Note**: It works only if "blf.enhanced.callout.enable" is set to 1 (Enabled). It is not applicable to T19(P) E2 IP phones.

Permitted Values	String
Default	Blank

BLF Key LED/Icon and Behavior for Talking State Configuration

The following table lists the parameters you can use to configure BLF key LED/icon and Behavior for talking state (the monitored user is talking).

Parameter	blf.enhanced.talking.enable	<y0000000000xx>.cfg
Description	It enables or disables the custom configuration when the monitored user is talking. **Note**: It is not applicable to T19(P) E2 IP phones.	
Permitted Values	**0**-Disabled **1**-Enabled, the IP phone will display the custom BLF/BLF List DSS key LED status/icon colors and perform the custom behavior when pressing the BLF/BLF List DSS key.	
Default	0	
Parameter	blf.enhanced.talking.led	<y0000000000xx>.cfg
Description	It configures the custom BLF/BLF List DSS key LED status/icon colors when the monitored user is talking. This value uses the same macro action string syntax as an Enhanced DSS key. **Example**: blf.enhanced.talking.led = $LEDg1000o$ For T54S/T52S/T46G/T46S/T42G/T42S/T41P/T41S/T40P/T40G/T29G/T27P/T27G/T23P/T23G/T21(P) E2 IP phones, the BLF/BLF list DSS key LED glows green for 1000ms and then goes out. For T48G/T48S IP phones, the BLF/BLF List DSS key field displays a green icon for 1000ms and then turns to white. **Note**: It works only if "blf.enhanced.talking.enable" is set to 1 (Enabled). It is not applicable to T19(P) E2 IP phones.	
Permitted Values	String	
Default	Blank	
Parameter	blf.enhanced.talking.callin.action	<y0000000000xx>.cfg
Description	It configures the behavior when pressing the BLF/BLF list DSS key if the monitor is ringing and monitored user is talking. This value uses the same macro action string syntax as an Enhanced DSS key. **Example**:	

	blf.enhanced.talking.callin.action = newcall
	Note: It works only if "blf.enhanced.talking.enable" is set to 1 (Enabled). It is not applicable to T19(P) E2 IP phones.
Permitted Values	String
Default	Blank
Parameter	blf.enhanced.talking.talking.action <y0000000000xx>.cfg
Description	It configures the behavior when pressing the BLF/BLF list DSS key if the monitor and monitored user are talking. This value uses the same macro action string syntax as an Enhanced DSS key. **Example**: blf.enhanced.talking.talking.action = newcall **Note**: It works only if "blf.enhanced.talking.enable" is set to 1 (Enabled). It is not applicable to T19(P) E2 IP phones.
Permitted Values	String
Default	Blank
Parameter	blf.enhanced.talking.idle.action <y0000000000xx>.cfg
Description	It configures the behavior when pressing the BLF/BLF list DSS key if the monitor is idle and monitored user is talking. This value uses the same macro action string syntax as an Enhanced DSS key. **Example**: blf.enhanced.talking.idle.action = newcall **Note**: It works only if "blf.enhanced.talking.enable" is set to 1 (Enabled). It is not applicable to T19(P) E2 IP phones.
Permitted Values	String
Default	Blank

BLF Key LED/Icon and Behavior for Parked-Against State Configuration

The following table lists the parameters you can use to configure BLF key LED/icon and Behavior for parked-against state (a call is being parked against the monitored phone).

Parameter	blf.enhanced.parked.enable <y0000000000xx>.cfg
Description	It enables or disables the custom configuration when a call is parked against the monitored phone.

	Note: It is not applicable to T19(P) E2 IP phones.
Permitted Values	**0**-Disabled **1**-Enabled, the IP phone will display the custom BLF/BLF List DSS key LED status/icon colors and perform the custom behavior when pressing the BLF/BLF List DSS key.
Default	0

Parameter	blf.enhanced.parked.led	<y0000000000xx>.cfg

Description	It configures the custom BLF/BLF List DSS key LED status/icon colors when a call is parked against the monitored phone. This value uses the same macro action string syntax as an Enhanced DSS key. **Example**: blf.enhanced.parked.led = $LEDg1000o$ For T54S/T52S/T46G/T46S/T42G/T42S/T41P/T41S/T40P/T40G/T29G/T27P/T27G/T23P/T23G/T21(P) E2 IP phones, the BLF/BLF list DSS key LED glows green for 1000ms and then goes out. For T48G/T48S IP phones, the BLF/BLF List DSS key field displays a green icon for 1000ms and then turns to white. **Note**: It works only if "blf.enhanced.parked.enable" is set to 1 (Enabled). It is not applicable to T19(P) E2 IP phones.
Permitted Values	String
Default	Blank

Parameter	blf.enhanced.parked.callin.action	<y0000000000xx>.cfg

Description	It configures the behavior when pressing the BLF/BLF list DSS key if the monitor is ringing and a call is parked against the monitored phone. This value uses the same macro action string syntax as an Enhanced DSS key. **Example**: blf.enhanced.parked.callin.action = newcall **Note**: It works only if "blf.enhanced.parked.enable" is set to 1 (Enabled). It is not applicable to T19(P) E2 IP phones.
Permitted Values	String
Default	Blank

Parameter	blf.enhanced.parked.talking.action	<y0000000000xx>.cfg

Description	It configures the behavior when pressing the BLF/BLF list DSS key if the monitor is talking and a call is parked against the monitored phone.

	This value uses the same macro action string syntax as an Enhanced DSS key.
	Example:
	blf.enhanced.parked.talking.action = newcall
	Note: It works only if "blf.enhanced.parked.enable" is set to 1 (Enabled). It is not applicable to T19(P) E2 IP phones.
Permitted Values	String
Default	Blank

Parameter	blf.enhanced.parked.idle.action	<y0000000000xx>.cfg
Description	It configures the behavior when pressing the BLF/BLF list DSS key if the monitor is idle and a call is parked against the monitored phone. This value uses the same macro action string syntax as an Enhanced DSS key. **Example**: blf.enhanced.parked.idle.action = newcall **Note**: It works only if "blf.enhanced.parked.enable" is set to 1 (Enabled). It is not applicable to T19(P) E2 IP phones.	

Permitted Values	String
Default	Blank

BLF Key for Intercom Configuration

The BLF key (not include BLF List key) can also be used to initiate an intercom call.

The following table lists the parameters you can use to configure BLF key for Intercom.

Parameter	features.blf.intercom_mode.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to initiate an outgoing intercom call with a monitored user when pressing the BLF key. **Note**: To use this feature, you also need to configure the intercom mode (configured by the parameter "features.intercom.mode"). It is not applicable to T19(P) E2 IP phones.	

Permitted Values	**0**-Disabled **1**-Enabled
Default	0

Shared Line

Yealink IP phones support Shared Call Appearance (SCA) and Bridged Line Appearance (BLA) to share a line. Shared call appearances and bridged line appearances are similar signaling methods that enable more than one phone to share the same line or registration. The methods you use vary with the SIP server you are using.

The shared line users have the ability to do the following:

- Place and answer calls

- Place a call on hold

- Retrieve a held call remotely

- Barge in an active call (only SCA)

- Pull a shared call (only SCA)

Topics

State Indicator of Shared Line

Shared Call Appearance (SCA) Configuration

Bridge Lines Appearance (BLA)

State Indicator of Shared Line

The shared line is indicated by different line key icon. Line key icon is not available on the T19(P) E2 IP phone.

The following table shows the LED/icons indicator associated with the shared line:

Line Key LED	Icon			Description
except T48S/T48G /T19(P) E2	T48S/T48G	T46S/T46G /T29G	T54S/T52S	
Off	📞	👤	👤	The shared line is idle.
Solid green	📞	👤	📞 (Monitoring SCA Phone)	The shared line is seized.
Fast-flashing green	📞 (Flashing)	👤	📞	The shared line receives an incoming call.

Solid green	(Flashing)			The shared line is dialing.
Solid green				The shared line is busy or is in a call.
Slow-flashing green (Local Phone) Slow-flashing red (other Phones)				The call on shared line is placed on public hold.
Slow-flashing green (local Phone) Solid red (other Phone)	(Local SCA Phone) (other Phone)	(Local SCA Phone) (other Phone)	(Local SCA Phone) (Monitoring SCA Phone)	The call on shared line is placed on private hold.
Solid green				The call on shared line is barged in by the other shared line user.
Slow-flashing green				In a multi-party call, place the call on hold at local.

Shared Call Appearance (SCA) Configuration

In SCA scenario, an incoming call can be presented to multiple phones simultaneously. Any IP phone can be used to originate or receive calls on the shared line.

Yealink IP phones support SCA using a SUBSCRIBE/NOTIFY mechanism as specified in RFC 3265. The events used are:

- "call-info" for call appearance state notification.
- "line-seize" for the IP phone to ask to seize the line.

You have the option to provide users the ability to do the following:

- Configure a private hold soft key or Private Hold key and provide users the ability to hold a call privately.
- Configur a call pull code, which allows users to retrieve an existing call from another shared phone that is in active or public hold status.

Topic

SCA Configuration

The following table lists the parameters you can use to configure SCA.

Parameter	account.X.shared_line[1]	<MAC>.cfg
Description	It configures the registration line type.	
Permitted Values	**0**-Disabled **1**-Shared Call Appearance **3**-Draft BLA	
Default	0	
Web UI	Account->Advanced->Shared Line	
Parameter	account.X.line_seize.expires[1]	<MAC>.cfg
Description	It configures the line-seize subscription expiration time (in seconds). **Note:** It works only if "account.X.shared_line" is set to 1 (Shared Call Appearance).	
Permitted Values	Integer from 0 to 65535	
Default	15	
Parameter	account.X.shared_line_callpull_code[1]	<MAC>.cfg
Description	It configures the call pull feature access code to retrieve an existing call from another shared phone that is in active or public hold status. **Note**: It works only if "account.X.shared_line" is set to 1 (Shared Call Appearance). It is not applicable to T19(P) E2 IP phones.	
Permitted Values	String within 99 characters	
Default	Blank	
Web UI	Account->Advanced->Call Pull Feature Access Code	
Parameter	features.barge_in_via_username.enable	<y0000000000xx>.cfg
Description	It enables or disables the INVITE request with the user name of the account when this account barges in an active call. **Note**: It is not applicable to T19(P) E2 IP phones.	
Permitted Values	**0**-Disabled **1**-Enabled	

Default	0

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

Bridge Lines Appearance (BLA)

BLA allows users to share a SIP line on two or more IP phones. Users can monitor the specific extension (BLA number) for status changes on each IP phone. To use this feature, a BLA group should be pre-configured on the server and one of them is specified as a BLA number.

Yealink IP phones support BLA using a SUBSCRIBE/NOTIFY mechanism as specified in RFC 3265. The event used is: "dialog" for bridged line appearance subscribe and notify.

Topic

BLA Configuration

BLA Configuration

The following table lists the parameters you can use to configure BLA.

Parameter	account.X.shared_line[1]	<MAC>.cfg
Description	It configures the registration line type.	
Permitted Values	**0**-Disabled **1**-Shared Call Appearance **3**-Draft BLA	
Default	0	
Web UI	Account->Advanced->Shared Line	
Parameter	account.X.bla_number[1]	<MAC>.cfg
Description	It configures the BLA number. **Example**: account.1.bla_number = 14084588327 **Note**: It works only if "account.X.shared_line" is set to 3 (Draft BLA).	
Permitted Values	String within 99 characters	
Default	Blank	
Web UI	Account->Advanced->BLA Number	
Parameter	account.X.bla.notify_with_expire.enable[1]	<MAC>.cfg
Description	It enables or disables the IP phone to add the Expires attribute to the	

	Subscription-State header of the BLA NOTIFY message.	
	Note: It works only if "account.X.shared_line" is set to 3 (Draft BLA). For teltronnic BLA, you need to set the value of this parameter to 0 (Disabled). It is not applicable to T19(P) E2 IP phones.	
Permitted Values	**0**-Disabled **1**-Enabled, the IP phone can only recognize the NOTIFY message whose host field is the same as the one in the SUBSCRIBE message.	
Default	1	
Parameter	account.X.bla.subscribe_uri_build_type[1]	<MAC>.cfg
Description	It configures the constitution of the URI for BLA subscription. **Note:** It works only if "account.X.shared_line" is set to 3 (Draft BLA). For teltronnic BLA, you need to set the value of this parameter to 1 (Enabled). It is not applicable to T19(P) E2 IP phones.	
Permitted Values	**0**-From Contact header in the SUBSCRIBE message sent by the server **1**-According to the BLA number (configured by the parameter "account.X.bla_number")	
Default	0	
Parameter	account.X.bla_subscribe_period[1]	<MAC>.cfg
Description	It configures the period (in seconds) of the BLA subscription. **Note**: It works only if "account.X.shared_line" is set to 3 (Draft BLA). It is not applicable to T19(P) E2 IP phones.	
Permitted Values	Integer from 60 to 7200	
Default	300	
Web UI	Account->Advanced->BLA Subscription Period	

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

Intercom

Intercom is a useful feature in an office environment to quickly connect with the operator or the secretary. You can press the intercom key to place a call to a contact that is answered automatically on the contact's phone as long as the contact is not in an active call. In addition, the intercom key can be used for monitoring the status changes of a specific line on the phone.

Topics

Intercom Key Configuration

Intercom Key Configuration

You can configure an Intercom key to provide users the ability to initiate intercom calls directly to the specified contact.

The following shows configuration for an Intercom key.

Line Key Configuration	Programmable Key Configuration
linekey.X.type = 14 *linekey.X.line = 1* *linekey.X.value = 4603* *linekey.X.label = Bill*	*programablekey.X.type = 14* *programablekey.X.line = 1* *programablekey.X.value = 4603*

After provisioning, an Intercom key for Bill (4603) is available on the phone. You can press the Intercom key to place an intercom call to Bill (4603).

If you want to use the Intercom key to pick up a call, you need to enable the Intercom key to monitor state changes, and configure the pickup code for the Intercom key, for example, set *"linekey.X.extension = *97"* or *"programablekey.X.extension = *97"*. When the monitored user Bill (4603) receives an incoming call, you can press the Intercom key to pick up the call to Bill (4603) directly.

> **Note**
>
> You cannot use a programmable key to monitor an intercom contact for state changes, but press it to pick up a call.

Related Topics

State Monitor for Intercom Contact

You can make the phone to monitor a specific intercom user for state changes (busy or idle). When the monitored user receives an incoming call, the supervisor can press the intercom key to pick up the call directly. IP phones support this feature using a SUBSCRIBE/NOTIFY mechanism as specified in RFC 3265. It is not available on the T19(P) E2 IP phone.

> **Note**
>
> If you want to use the Intercom key to pick up a call, you need to configure the pickup code for the Intercom key, for example "*linekey.X.extension = *97*".

Topics

State Indicator of Intercom Contact

The following table shows the LED indicator associated with the Intercom key:

LED Status	Description
Solid green	The monitored user is idle.
Fast-flashing red (200ms)	The monitored user receives an incoming call.
Solid red	The monitored user is dialing. The monitored user is talking.
Off	The monitored user does not exist.

State Monitor for Intercom Contact Configuration

The following table lists the parameters you can use to configure state monitor for intercom contact.

Parameter	features.intercom.led.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to display different intercom DSS key LED status/icons when the status of monitored user changes. **Note**: It works only if "features.intercom.subscribe.enable" is set to 1 (Enabled). It is not applicable to T19(P) E2 IP phones.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Parameter	features.intercom.subscribe.enable	<y0000000000xx>.cfg
Description	It enables or disables intercom subscription for the IP phone. **Note**: It is not applicable to T19(P) E2 IP phones.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	

Outgoing Intercom Configuration

Yealink IP phones support two methods for initialing intercom calls.

The following table lists the parameters you can use to configure outgoing intercom.

Parameter	features.intercom.mode	<y0000000000xx>.cfg
Description	It configures the intercom mode.	
Permitted Values	**0**-SIP **1**-FAC, the feature access code is configured by the parameter "features.intercom.feature_access_code".	
Default	0	
Parameter	features.intercom.feature_access_code	<y0000000000xx>.cfg
Description	It configures the intercom feature access code. **Note**: It works only if "features.intercom.mode" is set to 1 (FAC).	
Permitted Values	String	
Default	Blank	
Parameter	account.X.call_info[1]	<MAC>.cfg
Description	It configures the Call-Info header for intercom feature. The value format likes: <sip:notused>; answer-after=0 **Note:** If both Call-Info header and Alert-Info header (defined by the parameter "account.X.alert_info") are configured, the Call-Info header has a higher priority than the Alert-Info header.	
Permitted Values	String within 256 characters	
Default	Blank	

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

Incoming Intercom Configuration

The IP phone can process incoming calls differently depending on settings.

The following table lists the parameters you can use to configure incoming intercom.

Parameter	features.intercom.allow	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to answer an incoming intercom call.	
Permitted Values	**0**-Disabled, the IP phone will handle an incoming intercom call like a normal incoming call. **1**-Enabled, the IP phone will automatically answer an incoming intercom call.	

Default	1
Web UI	Features->Intercom->Intercom Allow
Phone UI	Menu->Features->Intercom->Intercom Allow
Parameter	features.intercom.mute `<y0000000000xx>.cfg`
Description	It enables or disables the IP phone to mute the microphone when answering an intercom call. **Note**: It works only if "features.intercom.allow" and "features.allow_mute" are set to 1 (Enabled).
Permitted Values	**0**-Disabled **1**-Enabled, the microphone is muted for intercom calls, and then the other party cannot hear you.
Default	0
Web UI	Features->Intercom->Intercom Mute
Phone UI	Menu->Features->Intercom->Intercom Mute
Parameter	features.intercom.tone `<y0000000000xx>.cfg`
Description	It enables or disables the IP phone to play a warning tone when answering an intercom call. **Note**: It works only if "features.intercom.allow" is set to 1 (Enabled).
Permitted Values	**0**-Disabled **1**-Enabled
Default	1
Web UI	Features->Intercom->Intercom Tone
Phone UI	Menu->Features->Intercom->Intercom Tone
Parameter	features.intercom.barge `<y0000000000xx>.cfg`
Description	It enables or disables the IP phone to answer an incoming intercom call while there is already an active call on the IP phone. **Note**: It works only if "features.intercom.allow" and "call_waiting.enable" are set to 1 (Enabled) and "phone_setting.call_appearance.calls_per_linekey" is greater than 1.
Permitted Values	**0**-Disabled, the IP phone will handle an incoming intercom call like a normal incoming call while there is already an active call on the IP phone. **1**-Enabled, the IP phone will automatically answer the intercom call while there is already an active call on the IP phone and place the active call on hold.
Default	0
Web UI	Features->Intercom->Intercom Barge

Phone UI	Menu->Features->Intercom->Intercom Barge	
Parameter	features.intercom.barge_in_dialing.enable	<y0000000000xx>.cfg
Description	It enables or disables the intercom call to answer an incoming intercom call while dialing. **Note**: It works only if "features.intercom.barge" is set to 0 (Disabled).	
Permitted Values	**0**-Disabled, the IP phone handles the intercom call like a normal incoming call. **1**-Enabled, the IP phone stops dialing, and automatically answers the intercom call.	
Default	0	
Parameter	features.intercom.headset_prior.enable	<y0000000000xx>.cfg
Description	It configures the channel mode to use when receiving an incoming intercom call.	
Permitted Values	**0**-Speaker Mode **1**-Headset Mode, it works only if you connect the headset to the IP phone and the headset mode is activated for use.	
Default	1	
Parameter	account.X.alert_info[1]	<MAC>.cfg
Description	It configures the Alert-Info header for intercom feature. The value format likes: <sip:notused>; answer-after=0. **Note:** If both Call-Info header (defined by the parameter "account.X.call_info") and Alert-Info header are configured, the Call-Info header has a higher priority than the Alert-Info header.	
Permitted Values	String within 256 characters	
Default	Blank	

CSTA Control

User Agent Computer Supported Telecommunications Applications (uaCSTA) is explained in detail in Using CSTA for SIP Phone User Agents (uaCSTA) and Services for Computer Supported Telecommunications Applications Phase III.

The uaCSTA feature on the phone may be used for remote control of the phone from computer applications such as PC softphone. You can use the application to control the phone to perform basic call operations. For example, place a call, answer a call, end a call and transfer a call to another party.

It is not applicable to T19(P) E2 IP phones.

Topic

CSTA Control Configuration

CSTA Control Configuration

The following table lists the parameter you can use to configure CSTA control.

Parameter	features.csta_control.enable[1]	<y0000000000xx>.cfg
Description	It enables or disables the uaCSTA (User Agent Computer Supported Telecommunications Applications) feature on the IP phone. **Note**: It is not applicable to T19(P) E2 IP phones.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Features->Remote Control->CSTA Control	

Action URL

Action URL allows IP phones to interact with web server applications by sending an HTTP or HTTPS GET request.

You can specify a URL that triggers a GET request when a specified event occurs. Action URL can only be triggered by the pre-defined events (for example, Open DND). The valid URL format is: *http(s)://IP address of the server/help.xml?*.

An HTTP or HTTPS GET request may contain variable name and variable value, separated by "=". Each variable value starts with $ in the query part of the URL. The valid URL format is: http(s)://IP address of server/help.xml?variable name=$variable value. Variable name can be customized by users, while the variable value is pre-defined. For example, a URL "*http://192.168.1.10/help.xml?mac=$mac*" is specified for the event Mute, $mac will be dynamically replaced with the MAC address of the IP phone when the IP phone mutes a call.

Topics

Pre-defined Events List

Variable Values List

Action URL Configuration

Pre-defined Events List

The following table lists the pre-defined events for action URL.

Event	Description
Setup Completed	When the IP phone completes startup.

Event	Description
Registered	When the IP phone successfully registers an account.
Unregistered	When the IP phone logs off the registered account.
Register Failed	When the IP phone fails to register an account.
Off Hook	When the IP phone is off hook.
On Hook	When the IP phone is on hook.
Incoming Call	When the IP phone receives an incoming call.
Outgoing Call	When the IP phone places a call.
Established	When the IP phone establishes a call.
Terminated	When the IP phone terminates a call.
Open DND	When the IP phone enables the DND mode.
Close DND	When the IP phone disables the DND mode.
Open Always Forward	When the IP phone enables the always forward.
Close Always Forward	When the IP phone disables the always forward.
Open Busy Forward	When the IP phone enables the busy forward.
Close Busy Forward	When the IP phone disables the busy forward.
Open NoAnswer Forward	When the IP phone enables the no answer forward.
Close NoAnswer Forward	When the IP phone disables the no answer forward.
Transfer Call	When the IP phone transfers a call.
Blind Transfer	When the IP phone performs the blind transfer.
Attended Transfer	When the IP phone performs the semi-attended/attended transfer.
Hold	When the IP phone places a call on hold.
UnHold	When the IP phone resumes a held call.
Held	When a call of the IP phone is held.
UnHeld	When a held call is resumed.
Mute	When the IP phone mutes a call.
UnMute	When the IP phone un-mutes a call.
Missed Call	When the IP phone misses a call.
IP Changed	When the IP address of the IP phone changes.
Idle To Busy	When the state of the IP phone changes from idle to busy.

Event	Description
Busy To Idle	When the state of phone changes from busy to idle.
Reject Incoming Call	When the IP phone rejects an incoming call.
Answer New-In Call	When the IP phone answers a new call.
Transfer Failed	When the IP phone fails to transfer a call.
Transfer Finished	When the IP phone completes to transfer a call.
Forward Incoming Call	When the IP phone forwards an incoming call.
Autop Finish	When the IP phone completes auto provisioning via power on.
Open Call Waiting	When the IP phone enables the call waiting.
Close Call Waiting	When the IP phone disables the call waiting.
Headset	When the IP phone presses the HEADSET key.
Handfree	When the IP phone presses the Speakerphone key.
Cancel Call Out	When the IP phone cancels an outgoing call in the ring-back state.
Remote Busy	When an outgoing call is rejected.
Call Remote Canceled	When the remote party cancels the outgoing call in the ringing state.
Peripheral Information	When the accessory is unplugged or plugged.

Variable Values List

The following table lists pre-defined variable values.

Variable Value	Description
$mac	The MAC address of the IP phone.
$ip	The IP address of the IP phone.
$model	The IP phone model.
$firmware	The firmware version of the IP phone.
$active_url	The SIP URI of the current account when the IP phone places a call, receives an incoming call or establishes a call.
$active_user	The user part of the SIP URI for the current account when the IP phone places a call, receives an incoming call or establishes a call.

Variable Value	Description
$active_host	The host part of the SIP URI for the current account when the IP phone places a call, receives an incoming call or establishes a call.
$local	The SIP URI of the caller when the IP phone places a call. The SIP URI of the callee when the IP phone receives an incoming call.
$remote	The SIP URI of the callee when the IP phone places a call. The SIP URI of the caller when the IP phone receives an incoming call.
$display_local	The display name of the caller when the IP phone places a call. The display name of the callee when the IP phone receives an incoming call.
$display_remote	The display name of the callee when the IP phone places a call. The display name of the caller when the IP phone receives an incoming call.
$call_id	The call-id of the active call.
$callerID	The display name of the caller when the IP phone receives an incoming call.
$calledNumber	The phone number of the callee when the IP phone places a call.
$exp	The number of the connected expansion modules.
$ehs	The number of the connected EHS.
$usb	The number of the connected USB devices.
$wifi	The number of the connected Wi-Fi dongles.
$bluetooth	The number of the connected Bluetooth dongles.

Action URL Configuration

The following table lists the parameters you can use to configure action URL.

Parameter	action_url.setup_completed	<y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends after startup. The value format is: http(s)://IP address of server/help.xml?variable name=variable	

value.

Valid variable values are:

$mac

$ip

$model

$firmware

$active_url

$active_user

$active_host

$local

$remote

$display_local

$display_remote

$call_id

Example:

action_url.setup_completed = http://192.168.0.20/help.xml?IP=$ip

Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.
Default	Blank
Web UI	Features->Action URL->Setup Completed

Parameter	action_url.registered	<y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends after an account is registered. **Example**: action_url.registered = http://192.168.0.20/help.xml?IP=$ip	

Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.
Default	Blank
Web UI	Features->Action URL->Registered

Parameter	action_url.unregistered	<y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends after an account is unregistered. **Example**:	

	action_url.unregistered = http://192.168.0.20/help.xml?IP=$ip	
Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.	
Default	Blank	
Web UI	Features->Action URL->Unregistered	
Parameter	action_url.register_failed	<y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends after a register failed. **Example**: action_url.register_failed = http://192.168.0.20/help.xml?IP=$ip	
Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.	
Default	Blank	
Web UI	Features->Action URL->Register Failed	
Parameter	action_url.off_hook	<y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends when off hook. **Example**: action_url.off_hook = http://192.168.0.20/help.xml?IP=$ip	
Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.	
Default	Blank	
Web UI	Features->Action URL->Off Hook	
Parameter	action_url.on_hook	<y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends when on hook. **Example**: action_url.on_hook = http://192.168.0.20/help.xml?IP=$ip	
Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.	

Default	Blank	
Web UI	Features->Action URL->On Hook	
Parameter	action_url.incoming_call	<y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends when receiving an incoming call. **Example**: action_url.incoming_call = http://192.168.0.20/help.xml?IP=$ip	
Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.	
Default	Blank	
Web UI	Features->Action URL->Incoming Call	
Parameter	action_url.outgoing_call	<y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends when placing a call. **Example**: action_url.outgoing_call = http://192.168.0.20/help.xml?IP=$ip	
Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.	
Default	Blank	
Web UI	Features->Action URL->Outgoing Call	
Parameter	action_url.call_established	<y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends when establishing a call. **Example**: action_url.call_established = http://192.168.0.20/help.xml?IP=$ip	
Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.	
Default	Blank	
Web UI	Features->Action URL->Established	
Parameter	action_url.dnd_on	<y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends when DND feature is activated.	

	Example:
	action_url.dnd_on = http://192.168.0.20/help.xml?IP=$ip
Permitted **Values**	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.
Default	Blank
Web UI	Features->Action URL->Open DND
Parameter	action_url.dnd_off <y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends when DND feature is deactivated. **Example**: action_url.dnd_off = http://192.168.0.20/help.xml?IP=$ip
Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.
Default	Blank
Web UI	Features->Action URL->Close DND
Parameter	action_url.always_fwd_on <y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends when always forward feature is activated. **Example**: action_url.always_fwd_on = http://192.168.0.20/help.xml?IP=$ip
Permitted **Values**	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.
Default	Blank
Web UI	Features->Action URL->Open Always Forward
Parameter	action_url.always_fwd_off <y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends when always forward feature is deactivated. **Example**: action_url.always_fwd_off = http://192.168.0.20/help.xml?IP=$ip
Permitted	URL within 511 characters

Values	The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.	
Default	Blank	
Web UI	Features->Action URL->Close Always Forward	
Parameter	action_url.busy_fwd_on	<y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends when busy forward feature is activated. **Example**: action_url.busy_fwd_on = http://192.168.0.20/help.xml?IP=$ip	
Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.	
Default	Blank	
Web UI	Features->Action URL->Open Busy Forward	
Parameter	action_url.busy_fwd_off	<y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends when busy forward feature is deactivated. **Example**: action_url.busy_fwd_off = http://192.168.0.20/help.xml?IP=$ip	
Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.	
Default	Blank	
Web UI	Features->Action URL->Close Busy Forward	
Parameter	action_url.no_answer_fwd_on	<y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends when no answer forward feature is activated. **Example**: action_url.no_answer_fwd_on = http://192.168.0.20/help.xml?IP=$ip	
Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer	

	to Variable Values List.	
Default	Blank	
Web UI	Features->Action URL->Open NoAnswer Forward	
Parameter	action_url.no_answer_fwd_off	<y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends when no answer forward feature is deactivated. **Example**: action_url.no_answer_fwd_off = http://192.168.0.20/help.xml?IP=$ip	
Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.	
Default	Blank	
Web UI	Features->Action URL->Close NoAnswer Forward	
Parameter	action_url.transfer_call	<y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends when performing a transfer. **Example**: action_url.transfer_call = http://192.168.0.20/help.xml?IP=$ip	
Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.	
Default	Blank	
Web UI	Features->Action URL->Transfer Call	
Parameter	action_url.blind_transfer_call	<y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends when performing a blind transfer. **Example**: action_url.blind_transfer_call = http://192.168.0.20/help.xml?IP=$ip	
Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.	
Default	Blank	
Web UI	Features->Action URL->Blind Transfer	

Parameter	action_url.attended_transfer_call	<y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends when performing an attended/semi-attended transfer. **Example**: action_url.attended_transfer_call = http://192.168.0.20/help.xml?IP=$ip	
Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.	
Default	Blank	
Web UI	Features->Action URL->Attended Transfer	
Parameter	action_url.hold	<y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends when placing a call on hold. **Example**: action_url.hold = http://192.168.0.20/help.xml?IP=$ip	
Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.	
Default	Blank	
Web UI	Features->Action URL->Hold	
Parameter	action_url.unhold	<y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends when resuming a hold call. **Example**: action_url.unhold = http://192.168.0.20/help.xml?IP=$ip	
Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.	
Default	Blank	
Web UI	Features->Action URL->UnHold	
Parameter	action_url.held	<y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends when a call is held. **Example**:	

	action_url.held = http://192.168.0.20/help.xml?IP=$ip

Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.

Default	Blank

Parameter	action_url.unheld	<y0000000000xx>.cfg

Description	It configures the action URL the IP phone sends when a held call is resumed. **Example**: action_url.unheld = http://192.168.0.20/help.xml?IP=$ip

Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.

Default	Blank

Parameter	action_url.mute	<y0000000000xx>.cfg

Description	It configures the action URL the IP phone sends when muting a call. **Example**: action_url.mute = http://192.168.0.20/help.xml?IP=$ip

Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.

Default	Blank

Web UI	Features->Action URL->Mute

Parameter	action_url.unmute	<y0000000000xx>.cfg

Description	It configures the action URL the IP phone sends when un-muting a call. **Example**: action_url.unmute = http://192.168.0.20/help.xml?IP=$ip

Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.

Default	Blank

Web UI	Features->Action URL->UnMute

Parameter	action_url.missed_call	<y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends when missing a call. **Example**: action_url.missed_call = http://192.168.0.20/help.xml?IP=$ip	
Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.	
Default	Blank	
Web UI	Features->Action URL->Missed Call	
Parameter	action_url.call_terminated	<y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends when terminating a call. **Example**: action_url.call_terminated = http://192.168.0.20/help.xml?IP=$ip	
Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.	
Default	Blank	
Web UI	Features->Action URL->Terminated	
Parameter	action_url.busy_to_idle	<y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends when changing the state of the IP phone from busy to idle. **Example**: action_url.busy_to_idle = http://192.168.0.20/help.xml?IP=$ip	
Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.	
Default	Blank	
Web UI	Features->Action URL->Busy To Idle	
Parameter	action_url.idle_to_busy	<y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends when changing the state of the IP phone from idle to busy.	

	Example:
	action_url.idle_to_busy = http://192.168.0.20/help.xml?IP=$ip
Permitted Values	URL within 511 characters
	The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.
Default	Blank
Web UI	Features->Action URL->Idle To Busy

Parameter	action_url.ip_change	<y0000000000xx>.cfg

Description	It configures the action URL the IP phone sends when changing the IP address of the IP phone.
	Example:
	action_url.ip_change = http://192.168.0.20/help.xml?IP=$ip
Permitted Values	URL within 511 characters
	The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.
Default	Blank
Web UI	Features->Action URL->IP Changed

Parameter	action_url.forward_incoming_call	<y0000000000xx>.cfg

Description	It configures the action URL the IP phone sends when forwarding an incoming call.
	Example:
	action_url.forward_incoming_call = http://192.168.0.20/help.xml?IP=$ip
Permitted Values	URL within 511 characters
	The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.
Default	Blank
Web UI	Features->Action URL->Forward Incoming Call

Parameter	action_url.reject_incoming_call	<y0000000000xx>.cfg

Description	It configures the action URL the IP phone sends when rejecting an incoming call.
	Example:
	action_url.reject_incoming_call = http://192.168.0.20/help.xml?IP=$ip
Permitted Values	URL within 511 characters
	The value format is: http(s)://IP address of server/help.xml?variable name=variable

	value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.
Default	Blank
Web UI	Features->Action URL->Reject Incoming Call
Parameter	action_url.answer_new_incoming_call <y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends when answering a new incoming call. **Example**: action_url.answer_new_incoming_call = http://192.168.0.20/help.xml?IP=$ip
Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.
Default	Blank
Web UI	Features->Action URL->Answer New-In Call
Parameter	action_url.transfer_finished <y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends when completing a call transfer. **Example**: action_url.transfer_finished = http://192.168.0.20/help.xml?IP=$ip
Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.
Default	Blank
Web UI	Features->Action URL->Transfer Finished
Parameter	action_url.transfer_failed <y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends when failing to transfer a call. **Example**: action_url.transfer_failed = http://192.168.0.20/help.xml?IP=$ip
Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.
Default	Blank
Web UI	Features->Action URL->Transfer Failed

Parameter	action_url.setup_autop_finish	<y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends when completing auto provisioning via power on. **Example**: action_url.setup_autop_finish = http://192.168.0.20/help.xml?IP=$ip	
Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.	
Default	Blank	
Web UI	Features->Action URL->Autop Finish	
Parameter	action_url.call_waiting_on	<y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends when call waiting feature is enabled. **Example**: action_url.call_waiting_on = http://192.168.0.20/help.xml?IP=$ip	
Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.	
Default	Blank	
Web UI	Features->Action URL->Open Call Waiting	
Parameter	action_url.call_waiting_off	<y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends when call waiting feature is disabled. **Example**: action_url.call_waiting_off = http://192.168.0.20/help.xml?IP=$ip	
Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.	
Default	Blank	
Web UI	Features->Action URL->Close Call Waiting	
Parameter	action_url.headset	<y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends when pressing the HEADSET key. **Example**:	

	action_url.headset = http://192.168.0.20/help.xml?IP=$ip
Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.
Default	Blank
Web UI	Features->Action URL->Headset

Parameter	action_url.handfree	<y0000000000xx>.cfg

Description	It configures the action URL the IP phone sends when pressing the Speakerphone key. **Example**: action_url.handfree = http://192.168.0.20/help.xml?IP=$ip
Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.
Default	Blank
Web UI	Features->Action URL->Handfree

Parameter	action_url.cancel_callout	<y0000000000xx>.cfg

Description	It configures the action URL the IP phone sends when canceling the outgoing call in the ring-back state. **Example**: action_url.cancel_callout= http://192.168.0.20/help.xml?IP=$ip
Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.
Default	Blank
Web UI	Features->Action URL->Cancel Call Out

Parameter	action_url.remote_busy	<y0000000000xx>.cfg

Description	It configures the action URL the IP phone sends when the outgoing call is rejected. **Example**: action_url.remote_busy = http://192.168.0.20/help.xml?IP=$ip
Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer

	to Variable Values List.
Default	Blank
Web UI	Features->Action URL->Remote Busy

Parameter	action_url.call_remote_canceled	<y0000000000xx>.cfg
Description	It configures the action URL the IP phone sends when the remote party cancels the outgoing call in the ringing state. **Example**: action_url.call_remote_canceled= http://192.168.0.20/help.xml?IP=$ip	
Permitted Values	URL within 511 characters The value format is: http(s)://IP address of server/help.xml?variable name=variable value. For Pre-defined events, refer to Pre-defined Events List. For variable value, refer to Variable Values List.	
Default	Blank	
Web UI	Features->Action URL->Call Remote Canceled	

Action URI

Yealink IP phones can perform the specified action by receiving and handling an HTTP or HTTPS GET request or accept a SIP NOTIFY message with the "Event: ACTION-URI" header from a SIP proxy server.

Topics

Supported HTTP/HTTPS GET Request

Supported SIP Notify Message

Variable Values List

Action URI Configuration

Example: Capturing the Current Screen of the Phone

Example: Placing a Call via Web User Interface

Supported HTTP/HTTPS GET Request

Opposite to action URL, action URI allows IP phones to interact with web server application by receiving and handling an HTTP or HTTPS GET request. When receiving a GET request, the IP phone will perform the specified action and respond with a 200 OK message.

A GET request may contain variable named as "key" and variable value, which are separated by "=". The valid URI format is: *http(s)://<phoneIPAddress>/servlet?key=variable value*. For example: http://10.3.20.10/servlet?key=OK.

Note
Yealink IP phones are compatible with other two old valid URI formats: *http(s)://\<phoneIPAddress\>/cgi-bin/ConfigManApp.com?key=variable value* and *http(s)://\<phoneIPAddress\>/cgi-bin/cgiServer.exx?key=variable value*.

For security reasons, IP phones do not handle HTTP/HTTPS GET requests by default. You need to specify the trusted IP address for action URI. When the IP phone receives a GET request from the trusted IP address for the first time, the LCD screen prompts the message "Allow remote control?". Press the **OK** soft key on the phone to allow remote control. You can specify one or more trusted IP addresses on the IP phone, or configure the IP phone to receive and handle the URI from any IP address.

Supported SIP Notify Message

In addition, Yealink IP phones can perform the specified action immediately by accepting a SIP NOTIFY message with the "Event: ACTION-URI" header from a SIP proxy server. The message body of the SIP NOTIFY message may contain variable named as "key" and variable value, which are separated by "=".

This method is especially useful for users who always work in the small office/home office where a secure firewall may prevent the HTTP or HTTPS GET request from the external network.

Note
If you want to only accept the SIP NOTIFY message from your SIP server and outbound proxy server, you have to enable the Accept SIP Trust Server Only feature. For more information, refer to Accept SIP Trust Server Only.

If you use SIP NOTIFY message method, you do not need to specify the trusted IP address for action URI. However, you should enable the IP phone to receive the action URI requests. When the IP phone receives a SIP NOTIFY message with the "Event: ACTION-URI" header from a SIP proxy server for the first time, the LCD screen also prompts the message "Allow remote control?". Press the **OK** soft key on the phone to allow remote control.

Example of a SIP Notify with the variable value (OK):

Message Header

NOTIFY sip:3583@10.2.40.10:5062 SIP/2.0

Via: SIP/2.0/UDP 10.2.40.27:5063;branch=z9hG4bK4163876675

From: <sip:3586@10.2.1.48>;tag=2900480538

To: "3583" <sip:3583@10.2.1.48>;tag=490600926

Call-ID: 2923387519@10.2.40.10

CSeq: 4 NOTIFY

Contact: <sip:3586@10.2.40.27:5063>

Max-Forwards: 70

User-Agent: Yealink SIP-T46G

Event: ACTION-URI

Content-Type: message/sipfrag

Content-Length: 6

Message Body

key=OK

Variable Values List

Yealink IP phones also support a combination of the variable values in the URI, but the order of the variable value is determined by the operation of the phone. The valid URI format is:

http(s)://<phoneIPAddress>/servlet?key=variable value[;variable value]. Variable values are separated by a semicolon from each other. This method is not applicable to T48G/S IP phones.

The following shows an example for deleting all entries from the call history list when the phone is idle:

http://*10.3.20.10/s*ervlet?key=F1;F3;DOWN;DOWN;DOWN;OK;OK.

Note

The variable value is not applicable to all events. For example, the variable value "MUTE" is only applicable when the IP phone is during a call.

When authentication is required, you can use the following URI format:

http(s)://username:password@<phoneIPAddress>/servlet?key=variable value or

http(s)://<phoneIPAddress>/servlet?key=variable value&@username:password.

The following table lists pre-defined variable values:

Variable Value	Phone Action
OK	Press the OK/√ key.
ENTER	Press the Enter soft key. (not applicable to T48S/T48G IP phones)
SPEAKER	Press the Speakerphone key.
F_TRANSFER	Transfer a call to another party.
VOLUME_UP	Increase the volume.
VOLUME_DOWN	Decrease the volume.
MUTE	Mute a call.
F_HOLD/HOLD	Place an active call on hold.
F_CONFERENCE	Press the Conf/Conference soft key.
Cancel/CANCEL	Cancel actions, reject incoming calls or end a call.
X	Cancel actions, reject incoming calls or mute or un-mute calls.
0-9/*/POUND	Press the keypad (0-9, * or #).

Variable Value	Phone Action
L1-LX	Press the line keys (for T48G/S, X=29; for T54S/T46G/T46S/T29G, X=27; for T42G/T42S/T41P/T41S, X=15; for T52S/T27P/T27G, X=21; for T40P/T40G/T23P/T23G, X=3; for T21(P) E2, X=2).
F1-F4	Press the soft keys.
MSG	Press the MESSAGE key.
HEADSET	Press the HEADSET key.
RD	Press the RD/Redial key.
UP/DOWN/LEFT/RIGHT	Press the navigation keys.
Reboot	Reboot the phone.
AutoP	Perform auto provisioning.
DNDOn	Activate the DND feature. **Note**: For Yealink IP phones, it works only if "features.dnd.allow" is set to 1 (Enabled).
DNDOff	Deactivate the DND feature. **Note**: For Yealink IP phones, it works only if "features.dnd.allow" is set to 1 (Enabled).
number=xxx&outgoing_uri=y	Place a call to xxx from SIP URI y. **Example**: http://10.3.20.10/servlet?key=number=1234&outgoing_uri=1006@10.2.1.48 (1234 means the number you dial out; 1006@10.2.1.48 means the SIP URL you dial from.)
OFFHOOK	Pick up the handset.
ONHOOK	Hang up the handset.
ANSWER/ASW/Asw	Answer a call.
Reset	Reset a phone.
ATrans=xxx	Perform a semi-attended/attended transfer to xxx.

Variable Value	Phone Action
BTrans=xxx	Perform a blind transfer to xxx.
phonecfg=get[&accounts=x][&dnd=x][&fw=x]	Get firmware version, registration, DND or forward configuration information. The valid value of "x" is 0 or 1, 0 means you do not need to get configuration information. 1 means you want to get configuration information. **Note**: The valid URI is: http(s)://<phoneIPAddress>/servlet?phonecfg =get[&accounts=x][&dnd=x][&fw=x] **Example**: http://10.3.20.10/servlet?phonecfg=get[&accounts=1][&dnd=0][&fw=1]
CallWaitingOn	Activate the call waiting feature.
CallWaitingOff	Deactivate the call waiting feature.
AlwaysFwdOn/BusyFwdOn/NoAnswFwdOn=xxx=n	Activate an always/busy/no answer forward feature to xxx for the IP phone ("xxx" means the destination number) The valid value of "n" means the duration time (seconds) before forwarding incoming calls (n is the times of 6, for example, 24). It is only applicable to no answer forward feature. **Note**: For Yealink IP phones, it works only if "*features.fwd.allow*" is set to 1 (Enabled) and call forward mode is Phone, the always/busy/no answer forward feature will apply to all the accounts on the phone. **Example**: http://10.10.20.10/servlet?key=NoAnswFwdOn =1001=24

Variable Value	Phone Action
AlwaysFwdOff/BusyFwdOff/NoAnswFwdOff	Deactivate the always/busy/no answer forward feature for the IP phone. **Note**: For Yealink IP phones, it works only if "*features.fwd.allow*" is set to 1 (Enabled) and call forward mode is Phone, the always/busy/no answer forward feature will apply to all the accounts on the phone. **Example**: http://10.10.20.10/servlet?key=NoAnswFwdOff
CALLEND/CallEnd	End a call.
ASW/CANCEL/HOLD/UNHOLD:xxx	Answer/end/hold/unhold a call (xxx refers to the call-id of the active call). **Example**: http://10.10.20.10/servlet?key=ASW:33093 **Note**: To get the call-id of the active call, configure the action URL: *http(s)://<phoneIPAddress>/help.xml?CallId=$call_id*. For more information, refer to Action URL.

Action URI Configuration

The following table lists the parameters you can use to configure action URL.

Parameter	features.action_uri.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to receive the action URI requests.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Parameter	features.show_action_uri_option	<y0000000000xx>.cfg
Description	It enables or disables the phone to pop up the Allow Remote Control prompt. **Note**: It works only if "features.action_uri.enable" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled, the phone will not pop up the Allow Remote Control prompt when receiving an HTTP or HTTPS GET request, or receiving a SIP NOTIFY message with the "Event: ACTION-URI" header. The phone will directly perform the specified action.	

	1-Enabled
Default	1
Parameter	features.action_uri_limit_ip `<y0000000000xx>.cfg`
Description	It configures the IP address of the server from which the IP phone receives the action URI requests. Multiple IP addresses are separated by commas. For discontinuous IP addresses, multiple IP addresses are separated by commas. For continuous IP addresses, the format likes *.*.*.* and the "*" stands for the values 0~255. **For example**: 10.10.*.* stands for the IP addresses that range from 10.10.0.0 to 10.10.255.255. **Example**: features.action_uri_limit_ip = any **Note**: It works only if "features.action_uri.enable" is set to 1 (Enabled).
Permitted Values	IP address or any If it is left blank, the IP phone will reject any HTTP GET request. If it is set to "any", the IP phone will accept and handle HTTP GET requests from any IP address.
Default	Blank
Web UI	Features->Remote Control->Action URI allow IP List

Example: Capturing the Current Screen of the Phone

You can capture the screen display of the IP phone using the action URI. IP phones can handle an HTTP or HTTPS GET request. The URI format is http(s)://<phoneIPAddress>/screencapture. The captured picture is saved as a BMP or JPEG file.

You can also use the URI "http(s)://<phoneIPAddress>/screencapture/download" to capture the screen display first, and then download the image (which is saved as a JPG file and named with the phone model and the capture time) to the local system.

Note
Yealink IP phones also support capturing the screen display using the old URI "http://<phoneIPAddress>/servlet?command=screenshot".

Before capturing the phone's current screen, ensure that the IP address of the computer is included in the trusted IP address for Action URI on the phone. When you capture the screen display, the IP phone may prompt you to enter the user name and password of the administrator if web browser does not remember the user name and password for web user interface login.

Procedure

1. Enter request URI (for example, http://10.2.20.252/screencapture) in the browser's address bar and press the Enter key on the keyboard.

2. Do one of the following:

   - If it is the first time you capture the phone's current screen using the computer, the browser will display "Remote control forbidden", and the LCD screen will prompt the message "Allow remote control?".

     Press the **OK** soft key on the phone to allow remote control. The phone will return to the previous screen.

     Refresh the web page.

     The browser will display an image of the phone's current screen. You can save the image to your local system.
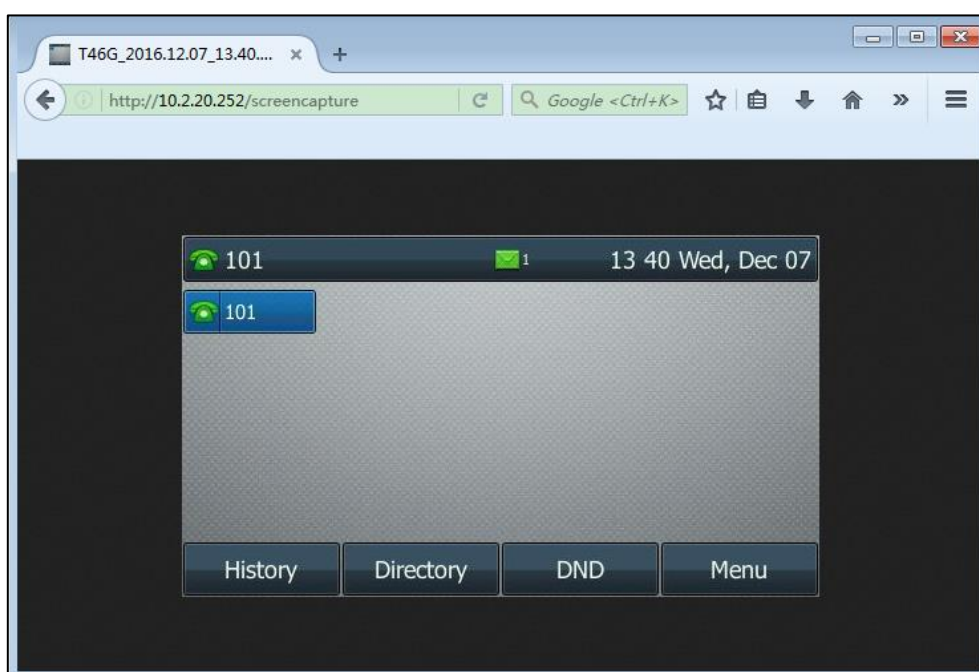
   - Else, the browser will display an image of the phone's current screen directly. You can save the image to your local system.

<table>
<tr><td>Note</td></tr>
</table>

Frequent capture may affect the phone performance. Yealink recommend you to capture the phone screen display within a minimum interval of 4 seconds.

Example: Placing a Call via Web User Interface

Procedure

1. Navigate to **Directory**->**Phone Call Info**.

2.   Select the desired account from the pull-down list of **Outgoing Identity**.

3.   Enter the callee's number in the **Dial Number** field.
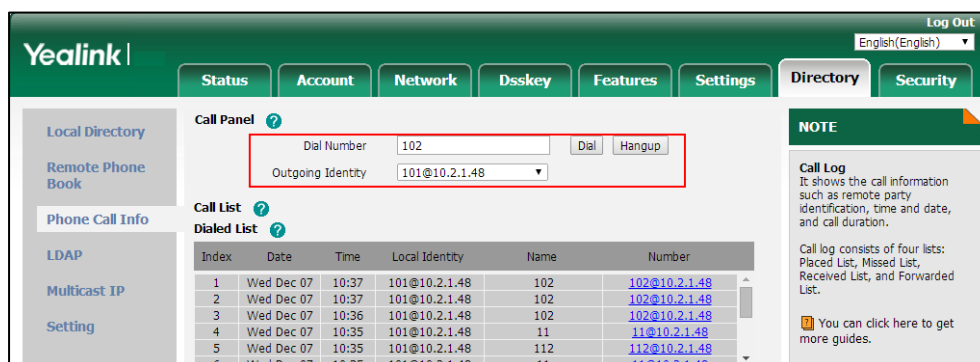
4.   Click **Dial** to dial out the number.

The web user interface prompts "Call Success" and the phone will automatically dial out the number.

You can click **Hang Up** to end the call.

If it is the first time you place a call via web user interface, the LCD screen will prompt the message "Allow remote control?". Press **OK** on the phone to allow remote control and then the phone will automatically dial out the number.

Note
You can also place an IP direct call via web user interface. The IP phone supports either IPv4 or IPv6 address..

Voice Mail

Yealink IP phones support voice mail.

You can configure a message waiting indicator (MWI) to inform users that how many messages are waiting in their mailbox without calling the mailbox. Yealink IP phones support both audio and visual MWI alert when receiving new voice messages.

Topic

MWI for Voice Mail Configuration

MWI for Voice Mail Configuration

Yealink IP phones support both solicited and unsolicited MWI.

Unsolicited MWI: The IP phone sends a SUBSCRIBE message to the server for message-summary updates. The server sends a message-summary NOTIFY within the subscription dialog each time the MWI status changes. Unsolicited MWI is a server related feature.

Solicited MWI: The IP phone can subscribe the MWI messages to the account or the voice mail number. For solicited MWI, you must enable MWI subscription feature on IP phones.

The following table lists the parameters you can use to configure MWI for voice mail.

Parameter	account.X.subscribe_mwi[1]	<MAC>.cfg
Description	It enables or disables the IP phone to subscribe the message waiting indicator.	
Permitted Values	**0**-Disabled, the server automatically sends a message-summary NOTIFY in a new dialog each time the MWI status changes. (This requires server support). **1**-Enabled, the IP phone will send a SUBSCRIBE message to the server for message-summary updates.	
Default	0	
Web UI	Account->Advanced->Subscribe for MWI	
Parameter	account.X.subscribe_mwi_expires[1]	<MAC>.cfg
Description	It configures MWI subscribe expiry time (in seconds). **Note**: It works only if "account.X.subscribe_mwi" is set to 1 (Enabled).	
Permitted Values	Integer from 0 to 84600	
Default	3600	
Web UI	Account->Advanced->MWI Subscription Period (Seconds)	
Parameter	account.X.mwi_parse_terminated[1]	<MAC>.cfg
Description	It enables or disables the IP phone to parse the Terminated attribute in the received MWI NOTIFY message.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Parameter	account.X.sub_fail_retry_interval[1]	<MAC>.cfg
Description	It configures the interval (in seconds) for the IP phone to retry to re-subscribe when subscription fails.	
Permitted Values	Integer from 0 to 3600	
Default	30	
Parameter	account.X.subscribe_mwi_to_vm[1]	<MAC>.cfg
Description	It enables or disables the IP phone to subscribe the message waiting indicator to the voice mail number. **Note**: It works only if "account.X.subscribe_mwi" is set to 1 (Enabled) and "voice_mail.number.X" is configured.	

Permitted Values	**0**-Disabled, the IP phone will subscribe the message waiting indicator to a specific account. **1**-Enabled
Default	0
Web UI	Account->Advanced->Subscribe MWI To Voice Mail
Parameter	voice_mail.number.X[1] <MAC>.cfg
Description	It configures the voice mail number. Example: voice_mail.number.1 = 1234
Permitted Values	String within 99 characters
Default	Blank
Web UI	Account->Advanced->Voice Mail
Phone UI	Menu->Message->Voice Mail->Set Voice Mail->AccountX Code
Parameter	account.X.display_mwi.enable[1] <MAC>.cfg
Description	It enables or disables the MWI alert to indicate that you have unread voicemail message. **Note**: It always works at the time of Unsolicited MWI; at the time of solicited MWI, MWI subscription feature should be configured in advance.
Permitted Values	**0**-Disabled, **1**-Enabled, the View Voice Mail menu displays a message summary with counts. If "features.voice_mail_tone_enable", "features.voice_mail_popup.enable" and "phone_setting.mail_power_led_flash_enable" are set to 1 (Enabled), users receive a visual and audio alert when they have new voicemail messages available on their phone.
Default	1
Web UI	Account->Advanced->Voice Mail Display

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

Short Message Service (SMS)

Yealink IP phones support short message service (SMS). It allows users to send and receive text message on support server.

By default, SMS is enabled. You can use SMS at the path: **Menu**->**Message**->**Text Message**. You can also disable SMS.

Topic

SMS Configuration

SMS Configuration

The following table lists the parameter you can use to configure SMS.

Parameter	features.text_message.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to send and receive text message(s).	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	

XML Browser

XML browser simply means that the SIP phones' LCD screen display can be managed by external applications. The XML browser feature allows users to develop and deploy custom services which meet user's functional requirements on the server. Users can customize practical applications, such as weather report, stock information, Google search, news service, and so on.

To use the XML browser feature, you must configure an XML key in advance.

For more information on XML browser, refer to *Yealink IP Phones XML Browser Developer's Guide*.

Topic

XML Browser Configuration

XML Browser Configuration

The following table lists the parameters you can use to configure XML browser.

Parameter	push_xml.server	<y0000000000xx>.cfg
Description	It configures the address of the push XML server.	
Permitted Values	**Blank**-The phone will reject HTTP POST messages from any server. **any**-The phone will accept HTTP POST messages from any server. **IP address** or **domain name**-Multiple addresses are separated by commas. (for example, 10.1.4.3,10.1.4.23); Support asterisk wildcard, each asterisk represents a field of the IP address (10.10.*.* represents 10.10.0.0 to 10.10.255.255).	
Default	Blank	

Web UI	Features->Remote Control->Push XML Server IP Address	
Parameter	push_xml.block_in_calling	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to block XML applications during a call.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Features->Remote Control->Block XML in Calling	
Parameter	push_xml.sip_notify	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to process the push XML via SIP NOTIFY message.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Features->Remote Control->SIP Notify	
Parameter	push_xml.phonebook.search.delay	<y0000000000xx>.cfg
Description	It configures the time (in milliseconds) to wait for the phone to send the entered key words to XML phonebook server if user does not press OK to confirm.	
Permitted Values	Integer from 0 to 10000 If it is set to 0, the IP phone immediately sends the entered key words to server.	
Default	1000	
Parameter	features.xml_browser.loading_tip.delay	<y0000000000xx>.cfg
Description	It configures the time (in milliseconds) to wait for the IP phone to display the loading tip. If the phone doesn't finish loading an XML page within the specified time, The tip, "Loading, please wait" appears on the LCD screen. **Note**: It is not applicable to ImageScreen Object and ImageMenu Object.	
Permitted Values	Integer from 0 to 50000 If it is set to 0, the loading tip feature is disabled.	
Default	100	
Parameter	features.xml_browser.user_name	<y0000000000xx>.cfg
Description	It configures the authentication user name for XML request.	
Permitted Values	String within 15 characters	
Default	Blank	

Parameter	features.xml_browser.pwd	<y0000000000xx>.cfg
Description	It configures the authentication password for XML request.	
Permitted Values	String within 15 characters	
Default	Blank	
Parameter	push_xml.username	<y0000000000xx>.cfg
Description	It configures the user name for the IP phone to authenticate with the push XML server.	
Permitted Values	String Leave it blank if no authentication is required.	
Default	Blank	
Web UI	Features->Remote Control->User Name	
Parameter	push_xml.password	<y0000000000xx>.cfg
Description	It configures the password for the IP phone to authenticate with the push XML server. Leave it blank if no authentication is required.	
Permitted Values	String within 15 characters	
Default	Blank	
Web UI	Features->Remote Control->Password	
Parameter	features.upload_server	<y0000000000xx>.cfg
Description	It configures the server address which the DssKey.cfg file is uploaded to when the phone receives an XML command (Command:UploadSystemInfo).	
Permitted Values	URL within 1024 characters	
Default	Blank	

Hot Desking

A primary motivation for hot desking is cost reduction. Hot desking is regularly used in places where not all employees are in the office at the same time, or not in the office for a long time, which means actual personal offices would often be vacant, consuming valuable space and resources.

Hot desking allows user to clear pre-registration configurations of all accounts on the IP phone.

To use this feature, you need to assign a Hot Desking key. You can also specify which registration configurations are available for the users.

Topics

Hot Desking Key Configuration

The following shows configuration for a Hot Desking key.

Line Key Configuration	Programmable Key Configuration
linekey.X.type = 34 *linekey.X.label = Hot Desking*	*programablekey.X.type = 34*

After provisioning, a Hot Desking key is available on the phone. You can press the Hot Desking key to clear pre-registration configurations of all accounts and register their own account on line 1.

Related Topic

Hot Desking Configuration

You can specify available configurations for registration when using hot desking.

The following table lists the parameters you can use to configure hot desking.

Parameter	hotdesking.dsskey_register_name_enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to provide input field of register name on the hot desking login wizard when pressing the Hot Desking DSS key.	
Permitted Values	**0**-Disabled **1**-Enabled, the original register name information will be cleared.	
Default	0	
Parameter	hotdesking.dsskey_username_enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to provide input field of user name on the hot desking login wizard when pressing the Hot Desking DSS key.	
Permitted Values	**0**-Disabled **1**-Enabled, the original user name information will be cleared.	
Default	1	
Parameter	hotdesking.dsskey_password_enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to provide input field of password on the hot	

	desking login wizard when pressing the Hot Desking DSS key.
Permitted Values	**0**-Disabled **1**-Enabled, the original password information will be cleared.
Default	1
Parameter	hotdesking.dsskey_sip_server_enable <y0000000000xx>.cfg
Description	It enables or disables the IP phone to provide input field of SIP server on the hot desking login wizard when pressing the Hot Desking DSS key.
Permitted Values	**0**-Disabled **1**-Enabled, the original SIP server information will be cleared.
Default	0
Parameter	hotdesking.dsskey_outbound_enable <y0000000000xx>.cfg
Description	It enables or disables the IP phone to provide input field of outbound server on the hot desking login wizard when pressing the Hot Desking DSS key.
Permitted Values	**0**-Disabled **1**-Enabled, the original outbound server information will be cleared.
Default	0

General Features

This section shows you how to configure general features on Yealink IP phones.

Topics

Line Identification Presentation

Yealink IP phones can derive calling and connected line identification from SIP headers and display the name associated with the telephone number on the LCD screen.

Calling Line Identification Presentation (CLIP): It allows IP phones to display the caller identity, derived from a SIP header contained in the INVITE message when receiving an incoming call. Yealink IP phones can derive caller identity from three types of SIP header: From, P-Asserted-Identity (PAI) and Remote-Party-ID (RPID). Identity presentation is based on the identity in the relevant SIP header.

Connected Line Identification Presentation (COLP): It allows IP phones to display the identity of the connected party specified for outgoing calls. The IP phones can display the Dialed Digits, or the identity in a SIP header (Remote-Party-ID, P-Asserted-Identity or contact) received, or the identity in the From header carried in the UPDATE message sent by the callee as described in RFC 4916. Connected line identification presentation is also known as Called line identification presentation. In some cases, the remote party will be different from the called line identification presentation due to call diversion.

Note
If the caller/callee already exists in the local directory, the local contact name assigned to the caller will be preferentially displayed and stored in the call log.

For more information on calling line identification presentation, refer to Calling and Connected Line

Identification Presentation on Yealink IP Phones.

Topic

CLIP and COLP Configuration

CLIP and COLP Configuration

The following table lists the parameters you can use to configure the CLIP and COLP.

Parameter	account.X.cid_source[1]	<MAC>.cfg
Description	It configures the identity of the caller.	
Permitted Values	**0**-FROM **1**-PAI **2**-PAI-FROM **3**-PRID-PAI-FROM **4**-PAI-RPID-FROM **5**-RPID-FROM **6**-PREFERENCE, the IP phone uses the custom priority order for the sources of caller identity (configured by the parameter "sip.cid_source.preference").	
Default	0	
Web UI	Account->Advanced->Caller ID Source	
Parameter	account.X.cid_source_privacy[1]	<MAC>.cfg
Description	It enables or disables the IP phone to process Privacy header field in the SIP message. **Note**: The priority order: PPI>Privacy>PRID/PAI/From	
Permitted Values	**0**-Disabled, the IP phone does not process Privacy header. **1**-Enabled, the phone LCD screen presents anonymity instead if there is a Privacy: id in the INVITE request.	
Default	1	
Parameter	account.X.cid_source_ppi[1]	<MAC>.cfg
Description	It enables or disables the IP phone to process the P-Preferred-Identity (PPI) header in the request message for caller identity presentation.	
Permitted Values	**0**-Disabled, the IP phone does not process P-Preferred-Identity (PPI) header. **1**-Enabled, the IP phone presents the caller identity from the P-Preferred-Identity (PPI) header.	
Default	0	

Parameter	sip.cid_source.preference	<y0000000000xx>.cfg
Description	It configures the priority order for the sources of caller identity information. The headers can be in any order. **Note**: Yealink IP phones can derive caller identity from the following SIP headers: From, P-Asserted-Identity (PAI), P-Preferred-Identity and Remote-Party-ID (RPID). It works only if "account.X.cid_source" is set to 6 (PREFERENCE).	
Permitted Values	String	
Default	P-Preferred-Identity, P-Asserted-Identity, Remote-Party-ID, From	
Parameter	account.X.cp_source[1]	<MAC>.cfg
Description	It configures the identity of the callee according to the response message.	
Permitted Values	**0**-PAI-RPID **1**-Dialed Digits **2**-RFC4916, update identity according to the From header in the UPDATE message. **3**-PAI-RPID-Contact	
Default	0	

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

Return Code for Refused Call

You can define the return code and reason of the SIP response message for the refused call. The caller's phone LCD screen displays the reason according to the received return code. Available return codes and reasons are:

- 404 (Not Found)
- 480 (Temporarily Unavailable)
- 486 (Busy Here)
- 603 (Decline)

Topic

Return Code for Refused Call Configuration

Return Code for Refused Call Configuration

The following table lists the parameters you can use to configure the return code for refused call.

Parameter	features.normal_refuse_code	<y0000000000xx>.cfg

Description	It configures the maximum number of concurrent calls per line key for all registered lines.
Permitted Values	**404**-Not Found **480**-Temporarily Unavailable **486**-Busy Here, the caller's phone LCD screen will display the message "Busy Here" when the callee rejects the incoming call. **603**-Decline
Default	486
Web UI	Features->General Information->Return Code When Refuse

Hide Feature Access Codes

Hide Feature Access Codes feature enables the IP phone to display the feature name instead of the dialed feature access code automatically. For example, the dialed call park code will be replaced by the identifier "Call Park" when you park an active call.

The hide feature access codes feature is applicable to the following features:

- Voice Mail

- Pick up

- Group Pick up

- Barge In (not applicable to T19(P) E2 IP phones)

- Retrieve

- Call Park

- Call Pull (not applicable to T19(P) E2 IP phones)

Topic

Hide Feature Access Codes Configuration

Hide Feature Access Codes Configuration

The following table lists the parameters you can use to configure the hide feature access codes.

Parameter	features.hide_feature_access_codes.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to display the feature name instead of the feature access code when dialing and in talk. The following feature access codes will be replaced when this feature is enabled: Voice Mail Pick up	

	Group Pick up
	Barge In
	Retrieve
	Call Park
	Group Park
	Call Pull
Permitted Values	**0**-Disabled **1**-Enabled
Default	0
Web UI	Features->General Information->Hide Feature Access Codes

Accept SIP Trust Server Only

Accept SIP trust server only enables the IP phones to only accept the SIP message from your SIP server and outbound proxy server. It can prevent the phone receiving ghost calls from random numbers like 100, 1000, and so on. It you enable this feature, the IP phone cannot accept an IP address call.

Topic

Accept SIP Trust Server Only Configuration

Accept SIP Trust Server Only Configuration

The following table lists the parameters you can use to configure accept SIP trust server only.

Parameter	sip.trust_ctrl	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to only accept the SIP message from the SIP and outbound proxy server. **Note**: If you want to reject the call from IP address, make sure "features.direct_ip_call_enable" is set to 0 (Disabled).	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Features->General Information->Accept SIP Trust Server Only	

100 Reliable Retransmission

As described in RFC 3262, 100rel tag is for reliability of provisional responses. When presenting in a

Supported header, it indicates that the IP phone can send or receive reliable provisional responses. When presenting in a Require header in a reliable provisional response, it indicates that the response is to be sent reliably.

Example of a SIP INVITE message:

```
INVITE sip:1024@pbx.test.com:5060 SIP/2.0

Via: SIP/2.0/UDP 10.3.6.197:5060;branch=z9hG4bK1708689023

From: "1025" <sip:1025@pbx.test.com:5060>;tag=1622206783

To: <sip:1024@pbx.test.com:5060>

Call-ID: 0_537569052@10.3.6.197

CSeq: 2 INVITE

Contact: <sip:1025@10.3.6.197:5060>

Authorization: Digest username="1025", realm="pbx.test.com", nonce="BroadWorksXi5stub71Ts2nb05BW",

uri="sip:1024@pbx.test.com:5060", response="f7e9d35c55af45b3f89beae95e913171", algorithm=MD5,

cnonce="0a4f113b", qop=auth, nc=00000001

Content-Type: application/sdp

Allow: INVITE, INFO, PRACK, ACK, BYE, CANCEL, OPTIONS, NOTIFY, REGISTER, SUBSCRIBE, REFER, PUBLISH,

UPDATE, MESSAGE

Max-Forwards: 70

User-Agent: Yealink SIP-T46G 28.82.0.20

Supported: 100rel

Allow-Events: talk,hold,conference,refer,check-sync

Content-Length:    302
```

Topic

100 Reliable Retransmission Configuration

The following table lists the parameter you can use to configure the 100 reliable retransmission.

Parameter	account.X.100rel_enable[1]	<MAC>.cfg
Description	It enables or disables the 100 reliable retransmission feature.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Account->Advanced->Retransmission	

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for

T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

SIP Session Timer

SIP session timers T1, T2 and T4 are SIP transaction layer timers defined in RFC 3261. These session timers are configurable on IP phones.

Timer T1

Timer T1 is an estimate of the Round Trip Time (RTT) of transactions between a SIP client and SIP server.

Timer T2

Timer T2 represents the maximum retransmitting time of any SIP request message. The re-transmitting and doubling of T1 will continue until the retransmitting time reaches the T2 value.

Example:

The user registers a SIP account for the IP phone and then set the value of Timer T1, Timer T2 respectively (Timer T1: 0.5, Timer T2: 4). The SIP registration request message will be re-transmitted between the IP phone and SIP server. The re-transmitting and doubling of Timer T1 (0.5) will continue until the retransmitting time reaches the Timer T2 (4). The total registration request retry time will be less than 64 times of T1 (64 * 0.5 = 32). The re-transmitting interval in sequence is: 0.5s, 1s, 2s, 4s, 4s, 4s, 4s, 4s, 4s and 4s.

Timer T4

Timer T4 represents that the network will take to clear messages between the SIP client and server.

Topic

SIP Session Timer Configuration

SIP Session Timer Configuration

The following table lists the parameters you can use to configure the SIP session timer.

Parameter	sip.timer_t1	<y0000000000xx>.cfg
Description	It configures the SIP session timer T1 (in seconds). T1 is an estimate of the Round Trip Time (RTT) of transactions between a SIP client and SIP server.	
Permitted Values	Float from 0.5 to 10	
Default	0.5	
Web UI	Settings->SIP->SIP Session Timer T1 (0.5~10s)	

Parameter	sip.timer_t2	<y0000000000xx>.cfg
Description	It configures the SIP session timer T2 (in seconds). Timer T2 represents the maximum retransmitting time of any SIP request message.	
Permitted Values	Float from 2 to 40	
Default	4	
Web UI	Settings->SIP->SIP Session Timer T2 (2~40s)	
Parameter	sip.timer_t4	<y0000000000xx>.cfg
Description	It configures the SIP session timer T4 (in seconds). T4 represents the maximum duration a message will remain in the network.	
Permitted Values	Float from 2.5 to 60	
Default	5	
Web UI	Settings->SIP->SIP Session Timer T4 (2.5~60s)	

Session Timer

Session timer allows a periodic refresh of SIP sessions through an UPDATE request, to determine whether a SIP session is still active. Session timer is specified in RFC 4028. IP phones support two refresher modes: UAC and UAS. Whether the endpoint functions as a UAC or a UAS depends on the UA that initiates the SIP request. If the initiator is configured as UAC, the other client or the SIP server will function as a UAS. If the initiator is configured as UAS, the other client or the SIP server will function as a UAC. The session expiration is negotiated via the Session-Expires header in the INVITE message. The negotiated refresher is always the UAC and it will send an UPDATE request at the negotiated session expiration. The value "refresher=uac" included in the UPDATE message means that the UAC performs the refresh.

Example of UPDATE message (UAC mode):

```
UPDATE sip:1058@10.10.20.34:5060 SIP/2.0

Via: SIP/2.0/UDP 10.10.20.32:5060;branch=z9hG4bK2104991394

From: "10111" <sip:10111@10.2.1.48:5060>;tag=2170397024

To: <sip:1058@10.2.1.48:5060>;tag=200382096

Call-ID: 4_1556494084@10.10.20.32

CSeq: 2 UPDATE

Contact: <sip:10111@10.10.20.32:5060>

Max-Forwards: 70

User-Agent: Yealink SIP-T46G 28.82.0.20
```

Session-Expires: 90;refresher=uac

Supported: timer

Content-Length: 0

Topic

Session Timer Configuration

Session Timer Configuration

The following table lists the parameters you can use to configure session timer.

Parameter	account.X.session_timer.enable[1]	<MAC>.cfg
Description	It enables or disables the session timer.	
Permitted Values	**0**-Disabled **1**-Enabled, the IP phone will send periodic UPDATE requests to refresh the session during a call.	
Default	0	
Web UI	Account->Advanced->Session Timer	
Parameter	account.X.session_timer.expires[1]	<MAC>.cfg
Description	It configures the interval (in seconds) for refreshing the SIP session during a call. For example, an UPDATE will be sent after 50% of its value has elapsed. If it is set to 1800 (1800s), the IP phone will refresh the session during a call before 900 seconds. **Example**: account.1.session_timer.expires = 1800 **Note**: It works only if "account.X.session_timer.enable" is set to 1 (Enabled).	
Permitted Values	Integer from 90 to 7200	
Default	1800	
Web UI	Account->Advanced->Session Expires(90~7200s)	
Parameter	account.X.session_timer.refresher[1]	<MAC>.cfg
Description	It configures the function of the endpoint who initiates the SIP request. **Note**: It works only if "account.X.session_timer.enable" is set to 1 (Enabled).	
Permitted Values	**0**-UAC **1**-UAS	

Default	0
Web UI	Account->Advanced->Session Refresher

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

Reboot in Talking

Reboot in talking feature allows IP phones to reboot during an active call when it receives a reboot request by action URI.

IP phones do not receive and handle HTTP/HTTPS GET requests by default. To use this feature, you need to specify the trusted IP address(es) for action URI in advance.

Topic

Reboot in Talking Configuration

Reboot in Talking Configuration

The following table lists the parameters you can use to configure reboot in talking.

Parameter	features.reboot_in_talk_enable	<y0000000000xx>.cfg
Description	It enables or disables the phone to reboot during a call when it receives a reboot request by action URI. **Note**: It works only if "features.action_uri_limit_ip" is set to "any" or trusted IP address(es) and it is not the first time for the IP phone to receive HTTP/HTTPS GET request from the trusted IP address(es).	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Features->General Information->Reboot in Talking	

Reserve # in User Name

Reserve # in User Name feature allows IP phones to reserve "#" in user name. When Reserve # in User Name feature is disabled, "#" will be converted into "%23". For example, the user registers an account (user name: 1010#) on the phone, the phone will send 1010%23 instead of 1010# in the REGISTER message or INVITE message to SIP server.

Example of a SIP REGISTER message:

```
INVITE sip:2@10.2.1.48:5060 SIP/2.0

Via: SIP/2.0/UDP 10.3.20.6:5060;branch=z9hG4bK1867789050

From: "1010" <sip:1010%23@10.2.1.48:5060>;tag=1945988802

To: <sip:2@10.2.1.48:5060>

Call-ID: 0_2336101648@10.3.20.6

CSeq: 1 INVITE

Contact: <sip:1010%23@10.3.20.6:5060>

Content-Type: application/sdp

Allow: INVITE, INFO, PRACK, ACK, BYE, CANCEL, OPTIONS, NOTIFY, REGISTER, SUBSCRIBE, REFER, PUBLISH,

UPDATE, MESSAGE

Max-Forwards: 70

User-Agent: Yealink SIP-T46G 28.82.0.20

Allow-Events: talk,hold,conference,refer,check-sync

Content-Length:    300
```

Topic

Reserve # in User Name Configuration

Reserve # in User Name Configuration

The following table lists the parameter you can use to configure reserve # in user name.

Parameter	sip.use_23_as_pound	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to reserve the pound sign (#) in the user name.	
Permitted Values	**0**-Disabled (convert the pound sign into "%23") **1**-Enabled	
Default	1	
Web UI	Features->General Information->Reserve # in User Name	

Busy Tone Delay

Busy tone is audible to indicate that the call is released by the other party. You can define the amount of time to play the busy tone.

Topic

Busy Tone Delay Configuration

Busy Tone Delay Configuration

The following table lists the parameter you can use to configure busy tone delay.

Parameter	features.busy_tone_delay	<y0000000000xx>.cfg
Description	It configures the duration time (in seconds) to play the busy tone when the call is released by other party.	
Permitted Values	**0**-0s, the IP phone will not play a busy tone. **3**-3s, a busy tone is audible for 3 seconds on the IP phone. **5**-5s, a busy tone is audible for 5 seconds on the IP phone	
Default	0	
Web UI	Features->General Information->Busy Tone Delay (Seconds)	

CFG File Version Information

You can customize the version information for the CFG configuration file and then check the version information via phone/web user interface. With this feature, you can easily know which version of the CFG configuration file the IP phone is configured.

Topic

CFG File Version Information

CFG File Version Information Configuration

The following table lists the parameter you can use to configure CFG file version information.

Parameter	features.custom_version_info	<y0000000000xx>.cfg
Description	It configures the version information of the CFG configuration file. After configuration, you can check the configuration file version information at the path: **Menu**->**Status**->**CFG Version** (phone user interface) or **Status**->**Status**->**Version**->**Configuration Version** (web user interface).	
Permitted Values	String	
Default	Blank	

Media Loopback

The SIP RTP media loopback can be used to make test calls to verify the media path between the phone

and server.

RTP packets are looped back toward the source device. In a voice loopback call, an echo is heard at the device originating the call.

For more information on media loopback, refer to RFC 6849.

Topic

Media Loopback Configuration

Media Loopback Configuration

The following table lists the parameters you can use to configure media loopback.

Parameter	sip.loopback.enable	<y0000000000xx>.cfg
Description	It configures the loopback role for the phone. Note: After the phone accepts the loopback call, the mute feature will be automatically activated on the phone.	
Permitted Values	0-Loopback-Mirror, the server initiates a loopback call, and the phone accepts the call and mirrors (echoes) all received media back to the server. 1-Loopback-Source, the phone can initiate a loopback call as a media source or receive a loopback call as a loopback mirror.	
Default	0	
Parameter	sip.loopback_type	<y0000000000xx>.cfg
Description	It configures the media loopback type.	
Permitted Values	**1**-rtp-media-loopback, the packet received by loopback mirror is re-encoded based on the SDP negotiation. The re-encoded content is returned to the loopback source as an RTP packet with payload type corresponding to the re-encoding format. **2**-rtp-pkt-loopback, the RTP payload is re-encapsulated and the RTP packets are looped back with a new payload type and format. This type of loopback applies to the encapsulated and direct packet loopback. Any type of encoding-related functions must not be part of this type of loopback path. **3**-rtp-media-loopback & rtp-pkt-loopback, the answer must include only one of these two loopback types and should give preference to the first loopback-type in the SDP offer.	
Default	3	
Parameter	sip.pkt_loopback_mode	<y0000000000xx>.cfg
Description	It configures the encapsulation mode of incoming RTP packet. **Note**: It works only if the value of the parameter "sip.loopback_type" is set to 2	

	(rtp-pkt-loopback).
Permitted Values	**1**-encapsulated packet loopback, the entire incoming RTP packet is encapsulated as payload within an outer RTP packet. The loopback source can generate statistics for one-way path performance up to the RTP level for each direction of travel. **2**-directed packet loopback, the loopback mirror copies the payload of the incoming RTP packet into a new RTP packet. The packet source can compute only two-way path statistics from the direct loopback packet header. **3**-encapsulated & directed, the loopback mirror loops back the incoming RTP packets using either the encapsulated RTP payload format or the direct loopback RTP payload format.
Default	3
Parameter	sip.pkt_loopback_encapsulated_payload \<y0000000000xx\>.cfg
Description	It configures the value of dynamic payload for encapsulated RTP. **Note**: It works only if the value of the parameter "sip.pkt_loopback_mode" is set to 1 (encapsulated packet loopback).
Permitted Values	Integer greater than 98
Default	112
Parameter	sip.pkt_loopback_directed_payload \<y0000000000xx\>.cfg
Description	It configures the value of dynamic payload for the direct loopback RTP. **Note**: It works only if the value of the parameter "sip.pkt_loopback_mode" is set to 2 (directed packet loopback).
Permitted Values	Integer greater than 98
Default	113
Parameter	sip.loopback.auto_answer.mode \<y0000000000xx\>.cfg
Description	It enables or disables the IP phone to automatically answer the incoming loopback call.
Permitted Values	**0**-Disabled **1**-Enabled
Default	1

Configuration Parameters

This section provides a description and permitted values of some settings.

Topics

BroadSoft Parameters

This section shows the parameters you can use to configure the phone with BroadSoft server.

For more information on BSFT, refer to

Yealink_IP_Phone_Features_Integrated_with_BroadSoft_UC-One_User_Guide or
Yealink_IP_Phones_Deployment_Guide_for_BroadSoft_UC-One_Environment.

BroadSoft Settings

Parameter	bw.enable[1]	<y0000000000xx>.cfg
Description	It enables or disables the BroadSoft features for IP phones.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	

[1]If you change this parameter, the IP phone will reboot to make the change take effect.

Broadsoft UC

Parameter	bw.xmpp.enable[1]	<y0000000000xx>.cfg
Description	It enables or disables the UC feature. **Note**: It works only if "bw.enable" is set to 1 (Enabled). It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.	
Permitted Values	**0**-Disabled	

	1-Enabled	
Default	0	
Parameter	features.uc_username	<y0000000000xx>.cfg
Description	It configures the user name for UC authentication. **Note**: It works only if "bw.xmpp.enable" is set to 1 (Enabled). It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.	
Permitted Values	String within 99 characters	
Default	Blank	
Web UI	Applications->Broadsoft XMPPI->XMPP Account->XMPP UserName (if bw.xmpp.enable =1)	
Parameter	features.uc_password	<y0000000000xx>.cfg
Description	It configures the password for UC authentication. **Note**: It works only if "bw.xmpp.enable" is set to 1 (Enabled). It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.	
Permitted Values	String within 32 characters	
Default	Blank	
Web UI	Applications->Broadsoft XMPPI->XMPP Account->XMPP Password (if bw.xmpp.enable =1)	
Parameter	bw.xmpp.presence_icon.mode	<y0000000000xx>.cfg
Description	It enables or disables to display presence icon in new style. **Note**: It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Parameter	bw.xmpp.change_presence.force_manual.enable	<y0000000000xx>.cfg
Description	It enables or disables to synchronize the presence status to BroadWorks server when you change your presence status manually on the IP phone. **Note**: It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Parameter	bw.xmpp.change_presence.enable	<y0000000000xx>.cfg

Description	It enables or disables the IP phone to change the user's current presence state locally. **Note**: It works only if "bw.xmpp.enable" is set to 1 (Enabled). It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.
Permitted Values	**0**-Disabled, My Status key will disappear from the DSS key list. **1**-Enabled
Default	0
Parameter	phone_setting.dsskey_directory_auto.enable `<y0000000000xx>.cfg`
Description	It enables or disables the Auto Favorite feature. **Note**: It works only if "bw.xmpp.enable" is set to 1 (Enabled). It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.
Permitted Values	**0**-Disabled **1**-Enabled, the IP phone will download information of favorites from the cloud server and automatically configure UC Favorite keys from the first unused line key (the line key type is configured as N/A or Line). If a line key is used, the IP phone will skip to the next unused line key.
Default	1
Web UI	Features->General Information->Enable Auto Favorite
Parameter	phone_setting.uc_favorite_sequence_type `<y0000000000xx>.cfg`
Description	It configures the order of UC Favorite keys to be assigned automatically. **Note:** It works only if "phone_setting.dsskey_directory_auto.enable" is set to 1 (Enabled). To assign Ext Key, make sure the expansion module has been connected to the phone in advance. It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.
Permitted Values	**0**-linekey->exp1 key->expN key **1**-exp1 key ->expN key ->linekey **2**-linekey page1->page1 from exp1 key to expN key ->page2 from exp1 key to expN key ->...->linekey from page2 to page3 **3**- page1 from exp1 key to expN key ->page2 from exp1 key to expN key ->...->linekey **Note:** N is the number of your connected expansion modules.
Default	0
Parameter	phone_setting.keytype_sequence `<y0000000000xx>.cfg`
Description	It configures the display order of BLF List, UC Favorite, Favorite keys when two or three types appear simultaneously. The IP phone displays the keys with left-to-right order. For example, "favorite,uc_favorite,blf_list" means the display order is: Favorite keys->UC Favorite

keys->BLF List keys.

If only one type is configured, the configured type will have the highest priority. For example, "blf_list" means the IP phone preferentially display the BLF List keys, and remaining keys' display order is : UC Favorite keys->Favorite keys (the default order).

Note: If Auto Linekeys feature is enabled (features.auto_linekeys.enable = 1), the Line keys (the line key type is configured as Line) will be shown first.

Permitted Values	Blank (the display order: BLF List keys->UC Favorite keys->Favorite keys) blf_list, uc_favorite, favorite or a combination of them
Default	Blank

Parameter	features.uc_dir.match_tail_number	<y0000000000xx>.cfg

Description	It configures the minimum matched digits of the tail numbers of BroadCloud Buddy. When entered number matches the tail numbers of a buddy in the buddy directory, the IP phone will automatically display the matched results on the LCD screen when placing a call. If it is set to 0, the entered number must exactly match the number of BroadCloud Buddy. If it is set to other values (for example, 4), the entered number less than 4 digits would not match with the BroadCloud contact. **Example**: If there is a BroadCloud Buddy name "Sunmy" with phone number "785656" and the parameter "features.uc_dir.match_tail_number" is set to "4", "5656", "85656" or "785656" would match "Sunmy (785656)". "656", "56" or "6" would not match "Sunmy (785656)". **Note**: It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.
Permitted Values	Integer greater than or equal to 0
Default	4

Parameter	search_in_dialing.bw_uc_buddies.enable	<y0000000000xx>.cfg

Description	It enables or disables the IP phone to automatically search entries from the BroadSoft Buddies directory, and display results on the pre-dialing/dialing screen. **Note**: It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.
Permitted Values	**0**-Disabled **1**-Enabled
Default	0

Parameter	search_in_dialing.bw_uc_buddies.priority	<y0000000000xx>.cfg

Description	It configures the search priority of the BroadSoft Buddies directory.

	Note: It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.
Permitted Values	Integer greater than or equal to 0
Default	6

Parameter	directory_setting.bw_uc_buddies.enable	<y0000000000xx>.cfg
Description	It enables or disables the users to access the BroadSoft Buddies directory by pressing the **Directory**/**Dir** soft key. **Note**: It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.	

Permitted Values	**0**-Disabled **1**-Enabled
Default	0

Parameter	directory_setting.bw_uc_buddies.priority	<y0000000000xx>.cfg
Description	It configures the display priority of the BroadSoft Buddies directory. **Note**: It is only applicable to T54S/T52S/T48S/T48G/T46S/T46G/T29G IP phones.	

Permitted Values	Integer greater than or equal to 0
Default	12

[1]If you change this parameter, the IP phone will reboot to make the change take effect.

Broadsoft XSI

Parameter	account.X.xsi.user[1]	<MAC>.cfg
Description	It configures the user name for XSI authentication. **Example:** account.1.xsi.user = 3502@as.iop1.broadworks.net **Note**: It works only if "bw.xsi.enable" is set to 1 (Enabled).	

Permitted Values	String within 99 characters
Default	Blank
Web UI	Applications->Broadsoft XSI->XSI Account->User ID (if bw.enable =1)

Parameter	account.X.xsi.password[1]	<MAC>.cfg
Description	It configures the password for XSI authentication. **Example**: account.1.xsi.password = 123456	

	Note: It works only if "sip.authentication_for_xsi" is set to 0 (User Login Credentials for XSI Authentication) and "bw.xsi.enable" is set to 1 (Enabled).
Permitted Values	String within 99 characters
Default	Blank
Web UI	Applications->Broadsoft XSI->XSI Account->Password (if bw.enable =1)

Parameter	account.X.xsi.host[1]	<MAC>.cfg

Description	It configures the IP address or domain name of the Xtended Services Platform server. **Example**: account.1.xsi.host = xsp1.iop1.broadworks.net **Note**: It works only if "bw.xsi.enable" is set to 1 (Enabled).
Permitted Values	IP address or domain name
Default	Blank
Web UI	Applications->Broadsoft XSI->XSI Account->Host Server (if bw.enable =1)

Parameter	account.X.xsi.server_type[1]	<MAC>.cfg

Description	It configures the access protocol of the Xtended Services Platform server. **Example**: account.1.xsi.server_type = HTTP **Note**: It works only if "bw.xsi.enable" is set to 1 (Enabled).
Permitted Values	HTTP or HTTPS
Default	HTTP
Web UI	Applications->Broadsoft XSI->XSI Account->XSI Server Type (if bw.enable =1)

Parameter	account.X.xsi.port[1]	<MAC>.cfg

Description	It configures the port of the Xtended Services Platform server. **Example**: account.1.xsi.port = 80 **Note**: It works only if "bw.xsi.enable" is set to 1 (Enabled).
Permitted Values	Integer from 1 to 65535
Default	80
Web UI	Applications->Broadsoft XSI->XSI Account->Port (if bw.enable =1)

Parameter	bw.xsi.enable[2]	<y0000000000xx>.cfg

Description	It enables or disables the XSI authentication feature for the IP phone.	
Permitted Values	**0**-Disabled **1**-Enabled If it is set to 0 (Disabled), the following features are unavailable on the phone: BroadWorks Anywhere Remote Office Line ID Blocking Anonymous Call Rejection Simultaneous Ring Personal BroadSoft Directory BroadSoft Call Log Call Park Feature via XSI Mode Voice Messaging/Video Voice Messaging Centralized Call Recording Executive and Assistant	
Default	0	
Parameter	sip.authentication_for_xsi	<y0000000000xx>.cfg
Description	It configures the authentication mechanism for the XSI access. **Note**: It works only if "bw.xsi.enable" is set to 1 (Enabled).	
Permitted Values	**0**-User Login Credentials for XSI Authentication), the IP phone uses the XSI user ID and password for XSI authentication. **1**-SIP Credentials for XSI Authentication, the IP phone uses the XSI user ID, the register name and password of the SIP account for XSI authentication.	
Default	0	
Web UI	Applications->Broadsoft XSI->XSI Account->Allow SIP Authentication for XSI (if bw.enable=1)	
Parameter	default_input_method.xsi_password	<y0000000000xx>.cfg
Description	It configures the default input method when the XSI authentication is failed and the user re-enters the password.	
Permitted Values	123, abc, ABC or 2aB	
Default	2aB	

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

[2]If you change this parameter, the IP phone will reboot to make the change take effect.

Broadsoft ACD

Parameter	account.X.acd.initial_state[1]	<MAC>.cfg
Description	It configures the initial agent state.	
Permitted Values	**1**-Available **2**-Unavailable	
Default	1	
Parameter	account.X.reason_code.Y[1][2]	<MAC>.cfg
Description	It configures the unavailable/away code which must match one of the codes configured on BroadWorks/Star2Star platform.	
Permitted Values	Integer from 1 to 2147483647	
Default	Blank	
Parameter	account.X.reason_code_name.Y[1][2]	<MAC>.cfg
Description	It configures the unavailable/away reason which must match one of the reasons configured on BroadWorks/Star2Star platform.	
Permitted Values	String within 99 characters	
Default	Blank	
Parameter	account.X.bw_disp_code.Y[1][2]	<MAC>.cfg
Description	It configures the disposition code which must match one of the codes configured on BroadWorks.	
Permitted Values	Integer from 1 to 2147483647	
Default	Blank	
Parameter	account.X.bw_disp_code_name.Y[1][2]	<MAC>.cfg
Description	It configures the disposition code name which must match one of the names configured on BroadWorks.	
Permitted Values	String within 99 characters	
Default	Blank	
Parameter	account.X.supervisor_info_code.Y[1][2]	<MAC>.cfg
Description	It configures the supervisor number.	

Permitted Values	Integer from 1 to 2147483647	
Default	Blank	
Parameter	account.X.supervisor_info_code_name.Y[1][2]	<MAC>.cfg
Description	It configures the supervisor name.	
Permitted Values	String within 99 characters	
Default	Blank	
Parameter	account.X.call_center.call_info_enable[1]	<MAC>.cfg
Description	It enables or disables the call center call information feature.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Parameter	account.X.call_center.show_call_info_time[1]	<MAC>.cfg
Description	It configures the interval (in seconds) to specify how long the call center call information displays.	
Permitted Values	Integer from 1 to 86400	
Default	30	
Parameter	account.X.call_center.disp_code_enable[1]	<MAC>.cfg
Description	It enables or disables the disposition code feature.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Parameter	account.X.call_center.trace_enable[1]	<MAC>.cfg
Description	It enables or disables the customer originated trace feature.	
Permitted Values	**0**-Disabled **1**-Enabled, it is used to trace the origin of an obscene, harassing, or threatening call.	
Default	0	
Parameter	account.X.call_center.emergency_enable[1]	<MAC>.cfg
Description	It enables or disables the emergency escalation feature.	
Permitted	**0**-Disabled	

Values	**1**-Enabled, it provides the capability for the call center agent to immediately escalate a call to a supervisor by pressing a key on the phone. The supervisor is immediately joined into the call.
Default	0
Parameter	account.X.call_center.queue_status_enable[1]	<MAC>.cfg
Description	It enables or disables the queue status notification feature.
Permitted Values	**0**-Disabled **1**-Enabled, it enables the agent to view the status of the call center queue on the IP phone. The queue can be in one of three states: empty, Q'ing and ALERT.
Default	0
Parameter	account.X.call_center.queue_status_light_enable[1]	<MAC>.cfg
Description	It enables or disables the power LED indicator to flash when the ACD calls in queue have reached the maximum number of calls or have waited too long.
Permitted Values	**0**-Disabled (power LED indicator does not flash) **1**-Enabled (power LED indicator fast flashes (300ms) red)
Default	0
Parameter	features.homescreen_softkey.acd.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to display the ACD soft keys such as **Login** or **Logout** on the idle screen. **Note**: It works only if "account.X.acd.enable" is set to 1 (Enabled).
Permitted Values	**0**-Disabled **1**-Enabled
Default	1

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

[2]Y is the code ID. For all IP phones, Y=1-100. The value Y must be continuous.

Broadsoft Centralized Call Recording

Parameter	account.X.call_recording.enable[1]	<MAC>.cfg
Description	It enables or disables the centralized call recording feature.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	

Parameter	bw.call_recording.mode	<y0000000000xx>.cfg
Description	It configures the centralized call recording mode.	
Permitted Values	**0**-XSI **1**-SIP	
Default	1	

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

Broadsoft Security Classification

Parameter	account.X.security_classification.enable[1]	<MAC>.cfg
Description	It enables or disables security classification feature.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

Broadsoft Hoteling

Parameter	account.X.hoteling.enable[1]	<MAC>.cfg
Description	It enables or disables the hoteling feature.	
Permitted Values	**0**-Disabled **1**-Enabled, users can use any available host (shared) phone by logging in with user credentials. After logging in, users have access to their own guest profile on the host phone.	
Default	0	
Parameter	account.X.hoteling.user_id[1]	<MAC>.cfg
Description	It configures the user ID used to log into the guest profile.	
Permitted Values	String within 99 characters	
Default	Blank	
Parameter	account.X.hoteling.password[1]	<MAC>.cfg
Description	It configures the password used to log into the guest profile.	

Permitted Values	String within 99 characters
Default	Blank

Parameter	features.homescreen_softkey.hoteling.enable[2]	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to display the Hoteling soft keys such as **GuestIn** or **GuestOut** on the idle screen. **Note**: It works only if "account.X.hoteling.enable" is set to 1 (Enabled).	

Permitted Values	**0**-Disabled **1**-Enabled
Default	1

Parameter	hoteling.authentication_mode	<y0000000000xx>.cfg
Description	It configures the hoteling authentication mode. **Note**: It works only if "account.X.hoteling.enable" is set to 1 (Enabled).	

Permitted Values	**0**-The phone uses the hoteling user ID and password as authentication credentials. **1**-The phone uses the provisioning user name and password as authentication credentials, and at the same time provides the hoteling user ID and password in the payload of the message for authentication credentials.
Default	0

Parameter	account.X.hoteling.expires[1]	<MAC>.cfg
Description	It configures the hoteling subscription expiration time (in seconds).	

Permitted Values	Integer from 30 to 2147483647
Default	3600

Parameter	account.X.hoteling.auto_login_enable[1]	<MAC>.cfg
Description	It enables or disables the IP phone to save login credentials automatically when logging into the guest profile.	

Permitted Values	**0**-Disabled **1**-Enabled
Default	0

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

[2]Flexible seating feature may also need to configure this parameter, refer to Broadsoft Flexible Seating for more information.

Broadsoft Flexible Seating

Parameter	account.X.flexible_seating.enable[1]	<MAC>.cfg
Description	It enable or disable the flexible seating feature. **Note**: For host, It works only if the values of the parameters "account.X.hoteling.enable" and "account.X.acd.enable" are set to 0 (Disabled).	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Parameter	account.X.hoteling.mode[1]	<MAC>.cfg
Description	It configures the hoteling mode.	
Permitted Values	**0**-Disabled **1**-Hoteling **2**-Flexible Seating Host **3**-Flexible Seating Guest	
Default	0	
Parameter	account.X.hoteling.pin[1]	<MAC>.cfg
Description	It configures the flexible seating PIN.	
Permitted Values	String	
Default	Blank	
Parameter	features.homescreen_softkey.hoteling.enable[2]	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to display the Flexible Seating soft keys such as **GuestIn** or **GuestOut** on the idle screen. **Note**: It works only if "account.X.flexible_seating.enable" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

[2]Hoteling feature may also need to configure this parameter, refer to Broadsoft Hoteling for more information.

Broadsoft Call Decline

Parameter	account.X.features.call_decline.enable[1]	<MAC>.cfg
Description	It enables or disables call decline feature.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	Blank	
Parameter	features.call_decline.enable	<y0000000000xx>.cfg
Description	It enables or disables call decline feature for the IP phone.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

Broadsoft Network Directory

Parameter	bw.xsi.directory.enable	<y0000000000xx>.cfg
Description	It enables or disables the network directory feature for the IP phone. **Note**: It works only if "bw.xsi.enable" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Parameter	bw_phonebook.group_enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to display the group directory. **0**-Disabled **1**-Enabled **Note**: It works only if the values of the parameters "bw.xsi.enable" and "bw.xsi.directory.enable" are set to 1 (Enabled) and XSI is configured for account 1.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Web UI	Applications->Broadsoft XSI->Network Directory->Group (if bw.enable =1)	

Parameter	bw_phonebook.personal_enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to display the personal directory. **Note**: It works only if the values of the parameters "bw.xsi.enable" and "bw.xsi.directory.enable" are set to 1 (Enabled) and XSI is configured for account 1.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Web UI	Applications->Broadsoft XSI->Network Directory->Personal (if bw.enable =1)	
Parameter	bw_phonebook.group_common_enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to display the group common directory. **Note**: It works only if the values of the parameters "bw.xsi.enable" and "bw.xsi.directory.enable" are set to 1 (Enabled) and XSI is configured for account 1.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Web UI	Applications->Broadsoft XSI->Network Directory->Group Common (if bw.enable =1)	
Parameter	bw_phonebook.enterprise_enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to display the enterprise directory. **Note**: It works only if the values of the parameters "bw.xsi.enable" and "bw.xsi.directory.enable" are set to 1 (Enabled) and XSI is configured for account 1.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Web UI	Applications->Broadsoft XSI->Network Directory->Enterprise (if bw.enable =1)	
Parameter	bw_phonebook.enterprise_common_enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to display the enterprise common directory. **Note**: It works only if the values of the parameters "bw.xsi.enable" and "bw.xsi.directory.enable" are set to 1 (Enabled) and XSI is configured for account 1.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Web UI	Applications->Broadsoft XSI->Network Directory->Enterprise Common (if bw.enable =1)	

Parameter	bw_phonebook.enterprise_common_displayname	<y0000000000xx>.cfg
Description	It configures the display name on the LCD screen for the enterprise common directory. **Note**: It works only if the values of the parameters "bw.xsi.enable", "bw.xsi.directory.enable" and "bw_phonebook.enterprise_common_enable" are set to 1 (Enabled) and XSI is configured for account 1.	
Permitted Values	String within 99 characters	
Default	EnterpriseCommon	
Web UI	Applications->Broadsoft XSI->Network Directory->Enterprise Common (if bw.enable =1)	
Parameter	bw.xsi.call_log.enable	<y0000000000xx>.cfg
Description	It enables or disables the BroadSoft call log feature. **Note**: It works only if s "bw.xsi.enable" is set to 1 (Enabled) and XSI is configured for account 1.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Applications->Broadsoft XSI->Network Directory->Call Log->Network Call Log (if bw.enable =1)	
Parameter	bw.xsi.call_log.delete.enable	<y0000000000xx>.cfg
Description	It enables or disables the user to delete the call log entry from BroadSoft Call Log list on the phone. **Note:** It works only if "bw.xsi.call_log.enable" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled, if you delete the BroadSoft call log entry on the phone, the call log entry will be also deleted on the BroadWorks server	
Default	0	
Parameter	bw.xsi.call_log.multiple_accounts.enable	<y0000000000xx>.cfg
Description	It enables or disables the user to view BroadSoft Call Log for multiple accounts. **Note**: It works only if "bw.xsi.call_log.enable" is set to 1 (Enabled). It is not applicable to T19(P) E2 IP phones.	
Permitted Values	**0**-Disabled, you will directly access the BroadSoft Call Log for the first account by default, and you can only view the BroadSoft call log entry for the first account **1**-Enabled, you are allowed to select a specific account to access the BroadSoft Call Log and view the call log entry	

Default	0
Parameter	bw_phonebook.custom `<y0000000000xx>.cfg`
Description	It enables or disables the custom directory feature. **Note**: It works only if the values of the parameters "bw.xsi.enable" and "bw.xsi.directory.enable" are set to 1 (Enabled) and XSI is configured for account 1.
Permitted Values	**0**-Disabled **1**-Enabled
Default	0
Web UI	Applications->Broadsoft XSI->Network Directory->Enable Custom Directory (if bw.enable =1)
Parameter	bw_phonebook.group_displayname `<y0000000000xx>.cfg`
Description	It configures the display name on the LCD screen for the group directory. **Note**: It works only if the values of the parameters "bw.xsi.enable", "bw.xsi.directory.enable" and "bw_phonebook.group_enable" are set to 1 (Enabled) and XSI is configured for account 1.
Permitted Values	String within 99 characters
Default	Group
Web UI	Applications->Broadsoft XSI->Network Directory->Group (if bw.enable =1)
Parameter	bw_phonebook.enterprise_displayname `<y0000000000xx>.cfg`
Description	It configures the display name on the LCD screen for the enterprise directory. **Note**: It works only if the values of the parameters "bw.xsi.enable", "bw.xsi.directory.enable" and "bw_phonebook.enterprise_enable" are set to 1 (Enabled) and XSI is configured for account 1.
Permitted Values	String within 99 characters
Default	Enterprise
Web UI	Applications->Broadsoft XSI->Network Directory->Enterprise (if bw.enable =1)
Parameter	bw_phonebook.personal_displayname `<y0000000000xx>.cfg`
Description	It configures the display name on the LCD screen for the personal directory. **Note**: It works only if the values of the parameters "bw.xsi.enable", "bw.xsi.directory.enable" and "bw_phonebook.personal_enable" are set to 1 (Enabled) and XSI is configured for account 1.
Permitted Values	String within 99 characters

Default	Personal
Web UI	Applications->Broadsoft XSI->Network Directory->Personal (if bw.enable =1)
Parameter	directory.update_time_interval <y0000000000xx>.cfg
Description	It configures the interval (in minutes) for the IP phone to update the data of the BroadSoft directory from the BroadSoft server. **Note**: It works only if "bw.xsi.directory.enable" and "bw.xsi.directory.update.enable" are set to 1 (Enabled).
Permitted Values	Integer from 60 to 34560
Default	60
Parameter	bw.xsi.directory.update.enable <y0000000000xx>.cfg
Description	It enables or disables the IP phone to automatically download all contacts in the BroadSoft Directory from server. **Note**: It works only if "bw.xsi.directory.enable" is set to 1 (Enabled).
Permitted Values	**0**-Disabled, the IP phone downloads partial contacts from server (the maximum of contacts available for viewing at one time is determined by server), and you can manually download the remaining contacts as needed **1**-Enabled
Default	1
Parameter	bw_phonebook.group_common_displayname <y0000000000xx>.cfg
Description	It configures the display name on the LCD screen for the group common directory. **Note**: It works only if the values of the parameters "bw.xsi.enable", "bw.xsi.directory.enable" and "bw_phonebook.group_common_enable" are set to 1 (Enabled) and XSI is configured for account 1.
Permitted Values	String within 99 characters
Default	GroupCommon
Web UI	Applications->Broadsoft XSI->Network Directory->Group Common (if bw.enable =1)
Parameter	bw.xsi.directory.alphabetized_by_lastname.enable <y0000000000xx>.cfg
Description	It configures the call ID (first name and last name) display method when the phone receives an incoming call, places an outgoing call or is during an active call.
Permitted Values	**0**-First name Last name **1**-Last name, First name
Default	0

Parameter	bw.calllog_and_dir	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to directly enter the Network Calls screen when pressing the **History** soft key. **Note**: It works only if the values of the parameters "bw.xsi.enable" and "bw.xsi.call_log.enable" are set to 1 (Enabled) and XSI is configured for account 1.	
Permitted Values	**0**-Disabled, the IP phone will enter Local Calls screen when pressing the **History** soft key. **1**-Enabled	
Default	0	
Parameter	search_in_dialing.bw_directory.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to automatically search entries from the BroadSoft directory, and display the results on the pre-dialing/dialing screen.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Parameter	search_in_dialing.bw_directory.priority	<y0000000000xx>.cfg
Description	It configures the search priority of the BroadSoft directory.	
Permitted Values	Integer greater than or equal to 0	
Default	5	
Parameter	directory_setting.bw_directory.enable	<y0000000000xx>.cfg
Description	It enables or disables the users to access the BroadSoft directory by pressing the **Directory**/**Dir** soft key.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Parameter	directory_setting.bw_directory.priority	<y0000000000xx>.cfg
Description	It configures the display priority of the BroadSoft directory.	
Permitted Values	Integer greater than or equal to 0	
Default	6	

Broadsoft Visual Voice Mail

Parameter	bw.voice_mail.visual.enable	<y0000000000xx>.cfg
Description	It enables or disables the visual voice mail feature for the IP phone. **Note**: It works only if "bw.xsi.enable" is set to 1 (Enabled) and XSI is configured for account 1.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Parameter	bw.voice_mail.visual.display_videomail.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to display the video mails in the voice mail list. **Note**: It works only if the values of the parameters "bw.xsi.enable" and "bw.voice_mail.visual.enable" are set to 1 (Enabled) and XSI is configured for account 1.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Parameter	voice_mail.message_key.mode	<y0000000000xx>.cfg
Description	It configures the phone behavior when pressing the MESSAGE key when the IP phone is idle.	
Permitted Values	**0**-enter the Set Voice Mail Code screen if the voice mail access code has not been configured; dial out the voice mail access code if the voice mail access code has been configured. **1**-enter the View Voice Mail screen	
Default	0	

Broadsoft SCA

Parameter	account.X.share_line.barge_in.enable[1]	<MAC>.cfg
Description	It enables or disables the users to interrupt/barge into an active call on shared line. **Note:** It is not applicable to T19(P) E2 IP phones.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	

Parameter	account.X.shared_line_one_touch_bargein.enable[1]	<MAC>.cfg
Description	It enables or disables the IP phone to barge in the call between remote shared line party and the third party by pressing the line key. **Note**: It is not applicable to T19(P) E2 IP phones	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Parameter	account.X.shared_line_one_touch_retrieve.enable[1]	<MAC>.cfg
Description	It enables or disables the IP phone to retrieve the public held call on remote shared line party phone by pressing the line key. **Note**: It is not applicable to T19(P) E2 IP phones.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Parameter	features.auto_release_bla_line	<y0000000000xx>.cfg
Description	It enables or disables the server to release the connection by sending a notify message to IP phone when the call is end.	
Permitted Values	**0**-Disabled, the IP phone will send a notify message to server to release the connection. **1**-Enabled	
Default	0	
Parameter	account.X.sca_manage_interface_display_time[1]	<MAC>.cfg
Description	It configures how long (in seconds) will the IP phone exit the Shared Calls screen. **Example**: account.1.sca_manage_interface_display_time=10 If the user does not perform any operation for 10 seconds on Shared Calls screen, the IP phone will exit the screen. **Note**: You can enter the Shared Calls screen by long pressing the shared line key when there is a call on the remote shared line party. It is not applicable to T19(P) E2 IP phones.	
Permitted Values	Integer from 0 to 2147483647	
Default	10	

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

Broadsoft Call Park

Parameter	features.call_park.group_enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to display the **GPark** soft key during a call. **Note**: If it is set to 1 (Enabled), the **Retrieve** soft key will also be displayed on the dialing screen.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Features->Pickup & Park->Group Call Park (if bw.enable =1)	
Parameter	features.call_park.park_ring	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to play a warning tone when a call is parked against its line. **Note**: It works only if "features.call_park.park_visual_notify_enable" is set to 1 (Enabled).	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Features->Pickup & Park->Audio Alert for Parked Call (if bw.enable =1)	
Parameter	features.call_park.park_visual_notify_enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to display a parked indicator when a call is parked against its line.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Features->Pickup & Park->Visual Alert for Parked Call (if bw.enable =1)	
Parameter	features.call_park.group_park_code	<y0000000000xx>.cfg
Description	It configures the group call park code for the **GPark** soft key. This group call park code will also apply to the call park DSS key. **Note**: It works only if "features.call_park.park_mode" is set to 1 (FAC).	
Permitted Values	String within 32 characters	
Default	Blank	

Web UI	Features->Pickup & Park->Group Call Park Code (if bw.enable =1)	
Parameter	sip.call_park_without_blf[1]	<y0000000000xx>.cfg
Description	It enables or disables the phone to close the BLF monitoring feature for call park DSS key. **Note**: It is not applicable to T19(P) E2 IP phones.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Parameter	account.X.callpark_enable[2]	<MAC>.cfg
Description	It enables or disables call park subscription.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	

[1]If you change this parameter, the IP phone will reboot to make the change take effect.

[2]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

Broadsoft Emergency Call

Parameter	bw.emergency_calling.enable	<y0000000000xx>.cfg
Description	It enables or disables BroadWorks Emergency Calling feature.	
Permitted Values	**0**-Disabled **1**-Enabled, the IP phone supports network hold and operator ring-back for emergency calls.	
Default	0	

Call Waiting Sync

Parameter	call_waiting.mode	<y0000000000xx>.cfg
Description	It configures the call waiting mode. **Note**: If it is set to 1 (XSI), it works only if "bw.xsi.enable" is set to 1 (Enabled).	
Permitted Values	**0**-Local **1**-XSI, the status of the call waiting feature between the IP phone and the BroadWorks server can be synchronized.	

| Default | 0 |

Start2Start ACD Parameters

For more information on ACD, refer to *Using_Star2Star_ACD_on_Yealink_IP_Phones*.

Parameter	account.X.acd.call_information[1]	<MAC>.cfg
Description	It configures the string the phone dials out when the ACD agent logs into/logs out of the ACD system (you press the **In/Out** (**LogIn**/**Out**) soft key on the phone). The value format: Call Center Number<time interval>User ID<time interval>Password. Time interval ranges from 1 to 20 (in seconds). **For example :** account.1.acd.call_information = 806<1>1005<2>1234 The IP phone will dial out the call center number 806, wait for 1s, automatically enter the user ID 1005, wait for 2s, automatically enter the password 1234 when you press the In/Out (LogIn/Out) soft key on the phone. **Note:** It works only if "account.X.sip_server_type" is set to 12 (Star2Star).	
Permitted Values	String	
Default	Blank	
Parameter	account.X.acd.refresh_url[1]	<MAC>.cfg
Description	It configures the URL the phone sends when the ACD agent logs into/logs out of the ACD system, or refreshes the status (you press the **In/Out** (**LogIn**/**Out**) or **Refresh** soft key on the phone). **Note**: It works only if "account.X.sip_server_type" is set to 12 (Star2Star).	
Permitted Values	String	
Default	Blank	
Parameter	account.X.acd.away_url[1]	<MAC>.cfg
Description	It configures the URL the phone sends when the ACD agent changes the status to away (you press the **Away** soft key on the phone). **For example :** account.1.acd.away_url= http://portal-dev.star2star.com:8181/yealink/reason_code_response?reason_code=#REASONCODE&agent_extension=ext_843 85&agent_location= starbox_628&agent_phone=94&customer_id=435s #REASONCODE will be automatically replaced with the away code you entered when	

the URL is sent to the server.

Note: It works only if "account.X.sip_server_type" is set to 12 (Star2Star) and "account.X.acd.unavailable_reason_enable" is set to 1 (Enabled).

Permitted Values	String
Default	Blank

Parameter	account.X.acd.available_url[1]	<MAC>.cfg

Description	It configures the URL the phone sends when the ACD agent changes the status to available (you press the **Avail** soft key on the phone). **Note**: It works only if "account.X.sip_server_type" is set to 12 (Star2Star).
Permitted Values	String
Default	Blank

[1]X is the account ID. For T54S/T48S/T48G/T46S/T46G/T29G, X=1-16; for T52S/T42G/T42S, X=1-12; for T41P/T41S/T27P/T27G, X=1-6; for T40P/T40G/T23P/T23G, X=1-3; for T21(P) E2, X=1-2; for T19(P) E2, X=1.

Ethernet Interface MTU Parameter

Parameter	static.network.mtu_value[1]	<y0000000000xx>.cfg

Description	It configures the MTU (Maximum Transmission Unit) of network interface card.
Permitted Values	Integer from 128 to 1500
Default	1500

[1]If you change this parameter, the IP phone will reboot to make the change take effect.

SIP Settings Parameters

Parameter	account.X.compact_header_enable[1]	<MAC>.cfg

Description	It enables or disables the IP phone to support compact SIP header.
Permitted Values	**0**-Disabled **1**-Enabled
Default	0

Parameter	account.X.custom_ua[1]	<MAC>.cfg

Description	It configures the suffix of User-Agent in SIP request messages from the IP phone. The following takes the T27G IP phone running firmware version 69.83.0.30 as an

example.

Default value of User-Agent: Yealink SIP-T27G 69.83.0.30

If it is set to Myphone, the User-Agent appears as below:

Yealink SIP-T27G 69.83.0.30 Myphone

Permitted Values	String within 128 characters	
Default	Blank	
Parameter	account.X.call_id_mode[1]	<MAC>.cfg
Description	It configures the constitution of call ID.	
Permitted Values	**0**-Use random digits **1**-Use the combination of the digits and letters **2**-Use random digits plus MAC address	
Default	0	
Parameter	account.X.path.enable[1]	<MAC>.cfg
Description	It enables or disables the IP phone to carry the Supported:path header in the REGISTER request message.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Parameter	account.X.insert_outbound_in_route.enable[1]	<MAC>.cfg
Description	It enables or disables the IP phone to add outbound server address as the topmost Route header in the request message. **Note:** It works only if the received 200 OK response for the REGISTER request contains the Service route header.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Parameter	account.X.third_part_request_with_route.enable[1]	<MAC>.cfg
Description	It enables or disables the IP phone to carry the Route header in the request message which is sent to the third-party server (for example, a Music On Hold server). **Note:** It works only if the received 200 OK response for the REGISTER request contains the Service route header.	
Permitted Values	**0**-Disabled **1**-Enabled	

Default	0
Parameter	sip.unreg_with_socket_close \<y0000000000xx\>.cfg
Description	It enables or disables the IP phone to close the socket immediately when the user deregisters the corresponding account(s).
Permitted Values	**0**-Disabled **1**-Enabled
Default	0
Parameter	account.X.check_cseq.enable[1] \<MAC\>.cfg
Description	It enables or disables the IP phone to check if the CSeq sequence number in the request is lower than that in previous request on the same dialog.
Permitted Values	**0**-Disabled **1**-Enabled. If the CSeq sequence number in the request is lower than that in previous request, the IP phone will reject the request.
Default	1
Parameter	account.X.check_to_tag.enable[1] \<MAC\>.cfg
Description	It enables or disables the IP phone to check if the To-tag is carried in the To header in renewal request.
Permitted Values	**0**-Disabled **1**-Enabled. If the To-tag does not exist, the IP phone will reject the request.
Default	0
Parameter	features.call_invite_format \<y0000000000xx\>.cfg
Description	It configures the format of callee field in the INVITE message.
Permitted Values	**0**-sip:XXX **1**-tel:Number, you need to set "account.X.outbound_proxy_enable" to 1.
Default	0
Parameter	sip.escape_characters.enable \<y0000000000xx\>.cfg
Description	It enables or disables the IP phone to convert ASCII characters.
Permitted Values	**0**-Disabled **1**-Enabled
Default	0
Parameter	sip.tcp_port_random_mode[1] \<y0000000000xx\>.cfg
Description	It configures the listening port mode.

Permitted Values	**0**-random source port (non 506x), fixed ports (506x) carried in the Contact, Via header.
	1-random source port (non 506x) and other ports (non 506x) carried in the Contact, Via header
Default	0
Parameter	sip.listen_mode *\<y0000000000xx\>*.cfg
Description	It configures the listening mode.
Permitted Values	**0**-according to the transport protocol
	1-listening TCP and UDP
	2-listening TCP and UDP, and subscribe for BLF List containing transport=TCP in the Contact header.
Default	0
Parameter	sip.send_response_by_request *\<y0000000000xx\>*.cfg
Description	It configures where the IP phone retrieves the destination address for response. The IP phone will then send all SIP response messages to the destination address.
Permitted Values	**0**-from VIA header in the request message
	1-from source address of the request message
Default	1
Parameter	sip.requesturi.e164.addglobalprefix *\<y0000000000xx\>*.cfg
Description	It enables or disables the IP phone to add a global prefix "+" to the E.164 user parts in SIP: URI.
Permitted Values	**0**-Disabled
	1-Enabled, the IP phone will automatically add a prefix "+" to the number in the E.164 format when you dial using the SIP URI (for example, 862512345000@sip.com).
Default	0
Parameter	sip.send_keepalive_by_socket *\<y0000000000xx\>*.cfg
Description	It enables or disables the IP phone to send the keep-alive packets based on the TCP socket.
Permitted Values	**0**-Disabled
	1-Enabled
Default	1
Parameter	sip.sdp_early_answer_or_offer *\<y0000000000xx\>*.cfg
Description	It enables or disables the IP phone to generate an SDP Offer or Answer message when receiving a reliable provisional response or PRACK request and response.
Permitted	**0**-Disabled

Values	**1**-Enabled
Default	0

Parameter	sip.reliable_protocol.timerae.enable	<y0000000000xx>.cfg
Description	It enables or disables the timer for ict and nict when TCP protocol is used. **Note:** This parameter can be used for fast failover purpose when TCP connection fails.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	

Parameter	sip.mac_in_ua	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to carry the MAC address information in the User-Agent header.	
Permitted Values	**0**-Disabled **1**-Enabled, the IP phone will carry the MAC address with colon (for example: 00:15:65:7f:fb:7e) in the User-Agent header. **2**-Enabled, the IP phone will carry the MAC address without colon (for example: 0015657ffb7e) in the User-Agent header.	
Default	0	

[1]If you change this parameter, the IP phone will reboot to make the change take effect.

Call Settings Parameters

Parameter	phone_setting.show_code403	<y0000000000xx>.cfg
Description	It configures the display message on the LCD screen when receiving a 403 message. If it is left blank, the IP phone will display the value sent from the server when receiving the 403 message.	
Permitted Values	String within 99 characters	
Default	Blank	

Parameter	phone_setting.incoming_call_when_dialing.priority	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to interrupt the user operation when there is an incoming call.	
Permitted Values	**0**-Disabled, the IP phone will not prompt the incoming call information when the user is dialing or selecting a contact from directory/call log lists to transfer a call/to set up a conference/to place a new call. **1**-Enabled, the IP phone will return to the dialing screen if there is an incoming call	

	arrives when the user selects a contact from directory/call log lists to transfer a call/to set up a conference with/to place a new call.
Default	1

Parameter	phone_setting.end_call_net_disconnect.enable	<y0000000000xx>.cfg

Description	It enables or disables the IP phone to end the call if network is unavailable during the call.
Permitted Values	**0**-Disabled **1**-Enabled, the IP phone will end the call and go to the Idle screen after 5 seconds.
Default	0

Parameter	features.station_name.value	<y0000000000xx>.cfg

Description	It configures station name to be displayed on the top-left corner of the LCD screen. **Note**: The text displayed might be truncated if the value of the parameter "features.station_name.scrolling_display" is set to 0 (Disabled). For T42G/T42S/T41P/T41S/T27P/T27G IP phones, the station name is displayed in the middle bottom of the idle screen.
Permitted Values	Blank (the label of the default account will be displayed) String
Default	Blank

Parameter	features.station_name.scrolling_display	<y0000000000xx>.cfg

Description	It enables or disables the IP phone to scroll the string display on the top-left corner of the LCD screen.
Permitted Values	**0**-Disabled **1**-Enabled
Default	1

Parameter	phone_setting.incoming_call.reject.enable	<y0000000000xx>.cfg

Description	It enables or disables the user to manully reject an incoming call on the phone.
Permitted Values	**0**-Disabled, **Reject** soft key disappears from the incoming call screen; pressing X/Mute key or using action URI to reject the call is not permitted. **1**-Enabled
Default	1

Troubleshooting

This chapter provides you with general information for troubleshooting some common problems that he (or she) may encounter while using IP phones.

Topics

Troubleshooting Methods

Yealink IP phones provide feedback in a variety of forms such as log files, packets, status indicators and so on, which can help you more easily find the system problem and fix it.

Topics

Log Files

Yealink IP phone can log events into two different log files: boot log and system log. You can choose to generate the log files locally or sent to syslog server in real time, and use these log files to generate informational, analytic and troubleshoot phones.

The following table lists the log files generated by the phone:

Local		Syslog Server	Description
<MAC>-all.tgz	boot.log	<MAC>-boot.log	It can only log the last reboot events. It is required to report the logs with all severity levels.

Local	Syslog Server	Description
sys.log	<MAC>-sys.log	It reports the logs with a configured severity level and the higher. For example, if you have configured the severity level of the log to be reported to the this file to 4, then the log with a severity level of 0 to 4 will all be reported.

Topics

Local Logging

Syslog Logging

Local Logging

You can enable local logging, specify the severity level, and choose to keep the log locally or upload the local log files to the provisioning server. The local log files can be exported via web user interface simultaneously.

Topics

Local Logging Configuration

Exporting the Log Files to a Local PC

Viewing the Log Files

Local Logging Configuration

The following table lists the parameters you can use to configure local logging.

Parameter	static.local_log.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to record log locally. **Note**: We recommend you not to disable this feature.	
Permitted Values	**0**-Disabled, the IP phone will stop recording log to the log files (<MAC>-boot.log and <MAC>-sys.log) locally. The log files recorded before are still kept on the phone. **1**-Enabled, the IP phone will continue to record log to the log files (<MAC>-boot.log and <MAC>-sys.log) locally. You can upload the local log files to the provisioning server or a specific server or export them to the local system.	
Default	1	
Web UI	Settings->Configuration->Enable Local Logging	
Parameter	static.local_log.level	<y0000000000xx>.cfg
Description	It configures the lowest level of local log information to be rendered to the <MAC>-sys.log file.	

	When you choose a log level, it includes all events of an equal or higher severity level and excludes events of a lower severity level. The logging level you choose determines the lowest severity of events to log.	
Permitted Values	**0**-system is unusable **1**-action must be taken immediately **2**-critical condition **3**-error conditions **4**-warning conditions **5**-normal but significant condition **6**-informational	
Default	3	
Web UI	Settings->Configuration->Local Log Level	
Parameter	static.local_log.max_file_size	<y0000000000xx>.cfg
Description	It configures the maximum size (in KB) of the log files (<MAC>-boot.log and <MAC>-sys.log) can be stored on the IP phone. When this size is about to be exceeded, (1) If the local log files are configured to be uploaded to the server by the parameter "static.auto_provision.local_log.backup.enable", the IP phone will clear all the local log files on the phone once successfully backing up. (2) If "static.auto_provision.local_log.backup.enable" is set to 0 (Disabled), the IP phone will erase half of the logs from the oldest log information on the phone. Example: static.local_log.max_file_size = 1024	
Permitted Values	**For T54S/T52S/T48S/T48G/T46S/T46G/T42G/T42S/T41P/T41S/T29G/T27P/T27G IP phones**: Integer from 1024 to 2048 **For T40P/T40G/T23P/T23G/T21(P) E2/T19(P) E2 IP phones**: Integer from 256 to 1024	
Default	**For T54S/T52S/T48S/T48G/T46S/T46G/T42G/T42S/T41P/T41S/T29G/T27P/T27G IP phones**: The default value is 1024 **For T40P/T40G/T23P/T23G/T21(P) E2/T19(P) E2 IP phones**: The default value is 256	
Web UI	<u>T54S/T52S/T48S/T48G/T46S/T46G/T42G/T42S/T41P/T41S/T29G/T27P/T27G:</u> Settings->Configuration->Max Log File Size (1024-2048KB) <u>T40P/T40G/T23P/T23G/T21(P) E2/T19(P) E2:</u>	

	Settings->Configuration->Max Log File Size (256-1024KB)	
Parameter	static.auto_provision.local_log.backup.enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to upload the local log files (<MAC>-boot.log and <MAC>-sys.log) to the provisioning server or a specific server. **Note**: The upload path is configured by the parameter "static.auto_provision.local_log.backup.path".	
Permitted Values	**0**-Disabled **1**-Enabled, the IP phone will upload the local log files to the provisioning server or the specific server to back up these files when one of the following happens: - Auto provisioning is triggered; - The size of the local log files reaches the maximum configured by the parameter "static.local_log.max_file_size"; - It's time to upload local log files according to the upload period configured by the parameter "static.auto_provision.local_log.backup.upload_period".	
Default	0	
Parameter	static.auto_provision.local_log.backup.upload_period	<y0000000000xx>.cfg
Description	It configures the period (in seconds) of the local log files (<MAC>-boot.log and <MAC>-sys.log) uploads to the provisioning server or a specific server. **Example**: static.auto_provision.local_log.backup.upload_period = 60 **Note**: It works only if "static.auto_provision.local_log.backup.enable" is set to 1 (Enabled).	
Permitted Values	Integer from 30 to 86400	
Default	30	
Parameter	static.auto_provision.local_log.backup.path	<y0000000000xx>.cfg
Description	It configures the upload path of the local log files (<MAC>-boot.log and <MAC>-sys.log). If you leave it blank, the IP phone will upload the local log files to the provisioning server. If you configure a relative URL (for example, /upload), the IP phone will upload the local log files by extracting the root directory from the access URL of the provisioning server. If you configure an absolute URL with protocol (for example, tftp), the IP phone will upload the local log files using the desired protocol. If no protocol, the IP phone will use the same protocol with auto provisioning for uploading files. **Example**:	

	static.auto_provision.local_log.backup.path = tftp://10.3.6.133/upload/ **Note**: It works only if "static.auto_provision.local_log.backup.enable" is set to 1 (Enabled).	
Permitted Values	URL within 1024 characters	
Default	Blank	
Parameter	static.auto_provision.local_log.backup.append	\<y0000000000xx\>.cfg
Description	It configures whether the uploaded local log files (\<MAC\>-boot.log and \<MAC\>-sys.log) overwrite the existing files or are appended to the existing files.	
Permitted Values	**0**-Overwrite **1**-Append (not applicable to TFTP Server)	
Default	0	
Parameter	static.auto_provision.local_log.backup.append.limit_mode	\<y0000000000xx\>.cfg
Description	It configures the behavior when local log files (\<MAC\>-boot.log and \<MAC\>-sys.log) on the provisioning server or a specific server reach the maximum file size.	
Permitted Values	**0**-Append Delete, the server will delete the old log and the IP phone will continue uploading log. **1**-Append Stop, the IP phone will stop uploading log.	
Default	0	
Parameter	static.auto_provision.local_log.backup.append.max_file_size	\<y0000000000xx\>.cfg
Description	It configures the maximum size (in KB) of the local log files (\<MAC\>-boot.log and \<MAC\>-sys.log) can be stored on the provisioning server or a specific server. **Example**: static.auto_provision.local_log.backup.append.max_file_size = 1025	
Permitted Values	Integer from 200 to 65535	
Default	1024	
Parameter	static.auto_provision.local_log.backup.bootlog.upload_wait_time	\<y0000000000xx\>.cfg
Description	It configures the waiting time (in seconds) before the phone uploads the local log file (\<MAC\>-boot.log) to the provisioning server or a specific server after startup. **Example**: static.auto_provision.local_log.backup.bootlog.upload_wait_time = 121	
Permitted Values	Integer from 1 to 86400	

| Default	120

Exporting the Log Files to a Local PC

1. From the web user interface, navigate to **Settings**->**Configuration**.

2. Select **Enabled** from the pull-down list of **Enable Local Log**.

3. Select **6** from the pull-down list of **Local Log Level**.

    The default local log level is "3".

4. Enter the limit size of the log files in the **Max Log File Size** field.

5. Click **Confirm** to accept the change.

6. Reproduce the issue.

7. Click **Export** to open the file download window, and then save the file to your local system.

Viewing the Log Files

You can verify whether you got the correct log through the following key fields:

- <0+emerg>
- <1+alert>
- <2+crit>
- <3+error>
- <4+warning>
- <5+notice>
- <6+info>

The default local log level is 3.

The following figure shows a portion of a boot log file (for example, 00156574b150-boot.log):

```
 1 Jan  1 00:00:24 syslogd started: BusyBox v1.10.3
 2 Jan  1 00:00:25 sys [655]: ANY <0+emerg > sys log :type=1,time=0,E=3,W=4,N=5,I=6,D=7
 3 Jan  1 00:00:25 sys [655]: ANY <0+emerg > ANY =3
 4 Jan  1 00:00:25 sys [655]: ANY <0+emerg > Version  :7.2.0.10 for release
 5 Jan  1 00:00:25 sys [655]: ANY <0+emerg > Built-at :Apr 20 2016,11:32:02
 6 May 26 00:00:02 Log [706]: ANY <0+emerg > Log  log :sys=1,cons=1,time=0,E=3,W=4,N=5,I=6,D=7
 7 May 26 00:00:02 Log [706]: ANY <0+emerg > ETLL=3
 8 May 26 00:00:02 auto[706]: ANY <0+emerg > autoServer log :type=1,time=0,E=3,W=4,N=5,I=6,D=7
 9 May 26 00:00:02 auto[706]: ANY <0+emerg > ANY =3
 0 May 26 00:00:02 auto[706]: ANY <0+emerg > Version  :6.1.0.8 for release
 1 May 26 00:00:02 auto[706]: ANY <0+emerg > Built-at :May 25 2016,10:26:42
 2 May 26 00:00:02 sys [706]: ANY <0+emerg > sys log :type=1,time=0,E=3,W=4,N=5,I=6,D=7
 3 May 26 00:00:02 sys [706]: ANY <0+emerg > LSYS=3
 4 May 26 00:00:02 ATP [706]: ANY <0+emerg > ATP log :type=1,time=0,E=3,W=4,N=5,I=6,D=7
 5 May 26 00:00:02 ATP [706]: ANY <0+emerg > ANY =3
 6 May 26 00:00:05 sys [835]: ANY <0+emerg > sys log :type=1,time=0,E=3,W=4,N=5,I=6,D=7
 7 May 26 00:00:05 sys [835]: ANY <0+emerg > LSYS=3
 8 May 26 00:00:05 sua [835]: ANY <0+emerg > sua  log :type=1,time=0,E=3,W=4,N=5,I=6,D=7
 9 May 26 00:00:05 sua [835]: ANY <0+emerg > ANY =5
 0 May 26 00:00:05 sua [835]: ANY <0+emerg > ANY =3
 1 May 26 00:00:06 Log [884]: ANY <0+emerg > Log  log :sys=1,cons=0,time=0,E=3,W=4,N=5,I=6,D=7
 2 May 26 00:00:06 Log [884]: ANY <0+emerg > ANY =5
 3 May 26 00:00:07 ipvp[887]: ANY <0+emerg > 807.194.980:ipvp log :type=1,time=1,E=3,W=4,N=5,I=6,D=7
 4 May 26 00:00:07 ipvp[887]: ANY <0+emerg > 807.196.179:Version  :1.0.0.8 for release
 5 May 26 00:00:07 ipvp[887]: ANY <0+emerg > 807.197.104:Built-at :Feb 29 2016,14:11:35
 6 May 26 00:00:07 ipvp[887]: ANY <0+emerg > 807.198.138:ANY =4
 7 May 26 00:00:07 sys [887]: ANY <0+emerg > sys log :type=1,time=0,E=3,W=4,N=5,I=6,D=7
 8 May 26 00:00:07 sys [887]: ANY <0+emerg > LSYS=3
 9 May 26 00:00:08 TR9 [897]: ANY <0+emerg > TR9  log :sys=1,cons=0,time=0,E=3,W=4,N=5,I=6,D=7
```

The boot.log file reports the logs with all severity levels.

The following figure shows a portion of a sys log file (for example, 00156574b150-sys.log):

```
 1 May 31 09:02:05 Log [884]: DSSK<3+error > get page:ExpIndex error![255]
 2 May 31 09:02:37 Log [884]: DSSK<3+error > get page:ExpIndex error![255]
 3 May 31 09:03:16 Log [884]: DSSK<3+error > get page:ExpIndex error![255]
 4 May 31 09:03:27 Log [884]: DSSK<3+error > get page:ExpIndex error![255]
 5 May 31 09:03:41 Log [884]: DSSK<3+error > get page:ExpIndex error![255]
 6 May 31 09:03:47 Log [884]: DSSK<3+error > get page:ExpIndex error![255]
 7 May 31 19:28:18 sys [1076]: ANY <0+emerg > sys log :type=1,time=0,E=3,W=4,N=5,I=6,D=7
 8 May 31 19:28:18 sys [1076]: ANY <0+emerg > LSYS=3
 9 Jun  1 02:33:52 Log [884]: DSSK<3+error > get page:ExpIndex error![255]
10 Jun  1 07:28:17 sys [1111]: ANY <0+emerg > sys log :type=1,time=0,E=3,W=4,N=5,I=6,D=7
11 Jun  1 07:28:17 sys [1111]: ANY <0+emerg > LSYS=3
12 Jun  1 11:34:57 sua [835]: SUB <3+error > [000] BLF Can't find js by sid(0)
13 Jun  1 11:34:57 sua [835]: SUB <3+error > [000] BLF Can't find js by sid(0)
14 [ web ]
15 step = 2
```

Syslog Logging

You can also configure the IP phone to send syslog messages to a syslog server in real time.

You can specify syslog details such as IP address or host name, server type, facility, and the severity level of events you want to log. You can also choose to prepend the phone's MAC address to log messages.

Topics

Syslog Logging Configuration

Viewing the Syslog Messages on Your Syslog Server

Syslog Logging Configuration

The following table lists the parameters you can use to configure syslog logging.

Parameter	static.syslog.enable	<y0000000000xx>.cfg

Description	It enables or disables the IP phone to upload log messages to the syslog server in real time.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	0	
Web UI	Settings->Configuration->Enable Syslog Feature	
Parameter	static.syslog.server	<y0000000000xx>.cfg
Description	It configures the IP address or domain name of the syslog server when exporting log to the syslog server. **Example**: static.syslog.server = 192.168.1.100	
Permitted Values	IP address or domain name	
Default	Blank	
Web UI	Settings->Configuration->Syslog->Syslog Server	
Parameter	static.syslog.server_port	<y0000000000xx>.cfg
Description	It configures the port of the syslog server. **Example**: static.syslog.port = 515	
Permitted Values	Integer from 1 to 65535	
Default	514	
Web UI	Settings->Configuration->Syslog->Syslog Server->Port	
Parameter	static.syslog.transport_type	<y0000000000xx>.cfg
Description	It configures the transport protocol that the IP phone uses when uploading log messages to the syslog server.	
Permitted Values	**0**-UDP **1**-TCP **2**-TLS	
Default	0	
Web UI	Settings->Configuration->Transport Type	
Parameter	static.syslog.level	<y0000000000xx>.cfg
Description	It configures the lowest level of syslog information that displays in the syslog.	

	When you choose a log level, it includes all events of an equal or higher severity level and excludes events of a lower severity level. The logging level you choose determines the lowest severity of events to log.	
Permitted Values	**0**-Emergency: system is unusable **1**-Alert: action must be taken immediately **2**-Critical: critical conditions **3**-Critical: error conditions **4**-Warning: warning conditions **5**-Warning: normal but significant condition **6**-Informational: informational messages	
Default	3	
Web UI	Settings->Configuration->Syslog Level	
Parameter	static.syslog.facility	<y0000000000xx>.cfg
Description	It configures the facility that generates the log messages. **Note**: For more information, refer to RFC 3164.	
Permitted Values	**0**-kernel messages **1**-user-level messages **2**-mail system **3**-system daemons **4**-security/authorization messages (note 1) **5**-messages generated internally by syslogd **6**-line printer subsystem **7**-network news subsystem **8**-UUCP subsystem **9**-clock daemon (note 2) **10**-security/authorization messages (note 1) **11**-FTP daemon **12**-NTP subsystem **13**-log audit (note 1) **14**-log alert (note 1) **15**-clock daemon (note 2) **16**-local use 0 (local0) **17**-local use 1 (local1) **18**-local use 2 (local2) **19**-local use 3 (local3) **20**-local use 4 (local4)	

	21-local use 5 (local5)
	22-local use 6 (local6)
	23-local use 7 (local7)
Default	16
Web UI	Settings->Configuration->Syslog Facility
Parameter	static.syslog.prepend_mac_address.enable <y0000000000xx>.cfg
Description	It enables or disables the IP phone to prepend the MAC address to the log messages exported to the syslog server.
Permitted Values	**0**-Disabled **1**-Enabled
Default	0
Web UI	Settings->Configuration->Syslog Prepend MAC

Viewing the Syslog Messages on Your Syslog Server

You can view the syslog file in the desired folder on the syslog server. The location of the folder may differ from the syslog server. For more information, refer to the network resources.

The following figure shows a portion of the syslog:

```
Jun 02 08:42:17  10.2.20.160  local0.notice    Jun  2 00:42:48 [00:15:65:74:b1:50] sua [845]: APP <5+notice> [SIP]    dtmf_payload    :101
Jun 02 08:42:17  10.2.20.160  local0.notice    Jun  2 00:42:48 [00:15:65:74:b1:50] sua [845]: APP <5+notice> [SIP]    version    :0
Jun 02 08:42:17  10.2.20.160  local0.notice    Jun  2 00:42:48 [00:15:65:74:b1:50] sua [845]: APP <5+notice> [SIP] call channels info
Jun 02 08:42:17  10.2.20.160  local0.info      Jun  2 00:42:48 [00:15:65:74:b1:50] sua [845]: DLG <6+info  > [000] cb_nict_kill_transaction (id=88)
Jun 02 08:42:17  10.2.20.160  local0.info      Jun  2 00:42:48 [00:15:65:74:b1:50] sua [845]: DLG <6+info  > [000] m=audio 7150 RTP/AVP 9 0 8 18 101
Jun 02 08:42:17  10.2.20.160  local0.info      Jun  2 00:42:48 [00:15:65:74:b1:50] sua [845]: DLG <6+info  > [000] Allow: INVITE, ACK, CANCEL, OPTIONS, BYE, REGISTER, SUBSCRIBE, NOTIFY,
Jun 02 08:42:17  10.2.20.160  local0.info      Jun  2 00:42:48 [00:15:65:74:b1:50] sua [845]: DLG <6+info  > [000] CSeq: 4 INVITE
Jun 02 08:42:17  10.2.20.160  local0.info      Jun  2 00:42:48 [00:15:65:74:b1:50] sua [845]: DLG <6+info  > [000] Call-ID: ZWQ3MWM5ZDgwZDMyMmZjY2JkN2YyMzQ1NTJiNWI5Nzg.
Jun 02 08:42:17  10.2.20.160  local0.info      Jun  2 00:42:48 [00:15:65:74:b1:50] sua [845]: DLG <6+info  > [000] From: <sip:101@10.2.1.43:5060>;tag=4086693836
Jun 02 08:42:17  10.2.20.160  local0.info      Jun  2 00:42:48 [00:15:65:74:b1:50] sua [845]: DLG <6+info  > [000] To: "102"<sip:102@10.2.1.43:5060>;tag=8d378436
Jun 02 08:42:17  10.2.20.160  local0.info      Jun  2 00:42:48 [00:15:65:74:b1:50] sua [845]: DLG <6+info  > [000] Contact: <sip:102@10.2.1.43:5060>
Jun 02 08:42:17  10.2.20.160  local0.info      Jun  2 00:42:48 [00:15:65:74:b1:50] sua [845]: DLG <6+info  > [000] Via: SIP/2.0/UDP 10.2.20.160:5060;branch=z9hG4bK2209216298
Jun 02 08:42:17  10.2.20.160  local0.info      Jun  2 00:42:48 [00:15:65:74:b1:50] sua [845]: DLG <6+info  > [000] SIP/2.0 200 OK
Jun 02 08:42:17  10.2.20.160  local0.info      Jun  2 00:42:48 [00:15:65:74:b1:50] sua [845]: DLG <6+info  > [000]
Jun 02 08:42:17  10.2.20.160  local0.notice    Jun  2 00:42:48 [00:15:65:74:b1:50] sua [845]: DLG <5+notice> [000] Message recv: (from src=10.2.1.43:5060 len=808)
Jun 02 08:42:17  10.2.20.160  local0.info      Jun  2 00:42:48 [00:15:65:74:b1:50] sua [845]: SIP <6+info  > [SIP] match line:name:101 host:10.2.1.43
Jun 02 08:42:17  10.2.20.160  local0.notice    Jun  2 00:42:48 [00:15:65:74:b1:50] sua [845]: NET <5+notice> [255] <<<<=== UDP socket 10.2.1.43:5060: read 808 bytes
Jun 02 08:42:17  10.2.20.160  local0.info      Jun  2 00:42:48 [00:15:65:74:b1:50] sua [845]: SUA <6+info  > [000] ****eCore event:(0x0010)ECORE_CALL_PROCEEDING        ****
Jun 02 08:42:17  10.2.20.160  local0.info      Jun  2 00:42:48 [00:15:65:74:b1:50] sua [845]: DLG <6+info  > [000]
Jun 02 08:42:17  10.2.20.160  local0.info      Jun  2 00:42:48 [00:15:65:74:b1:50] sua [845]: DLG <6+info  > [000]
```

Resetting Phone and Configuration

Generally, some common issues may occur while using the IP phone. You can reset your phone to factory configurations after you have tried all troubleshooting suggestions, but still do not solve the problem. Resetting the phone to factory configurations clears the flash parameters, removes log files, user data, and cached data, and resets the administrator password to admin. All custom settings will be overwritten after resetting.

Five ways to reset the phone:

- **Reset local settings**: All configurations saved in the <MAC>-local.cfg file on the IP phone will be

reset. Changes associated with non-static settings made via web user interface and phone user interface are saved in the <MAC>-local.cfg file.

- **Reset non-static settings**: All non-static parameters will be reset. After resetting the non-static settings, the IP phone will perform auto provisioning immediately.

- **Reset static settings**: All static parameters will be reset.

- **Reset userdata & local config**: All the local cache data (for example, user data, history or directory) will be cleared. And all configurations saved in the <MAC>-local.cfg configuration file on the IP phone will be reset.

- **Reset to Factory**: All configurations on the phone will be reset.

  You can reset the IP phone to default factory configurations. The default factory configurations are the settings that reside on the IP phone after it has left the factory. You can also reset the IP phone to custom factory configurations if required. The custom factory configurations are the settings that defined by the user to keep some custom settings after resetting. You have to import the custom factory configuration files in advance.

Note
The **Reset local settings**/**Reset non-static settings**/**Reset static settings**/**Reset userdata & local config** option on the web user interface appears only if "static.auto_provision.custom.protect" is set to 1.

Topics

Reset to Factory Configuration

The following table lists the parameters you can use to configure reset to factory.

Parameter	features.reset_by_long_press_enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to reset to factory by long pressing OK/ √ key.	
Permitted Values	**0**-Disabled **1**-Enabled	
Default	1	
Parameter	features.factory_pwd_enable	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to prompt for the administrator password when you long press the OK/ √ key to perform factory reset on the idle screen.	
Permitted Values	**0**-Disabled **1**-Enabled	

Default	0

Resetting the IP phone to Default Factory Settings

Procedure

1. Click **Settings**->**Upgrade**.

2. Click **Reset to Factory** in the **Reset to Factory** field.

   The web user interface prompts the message "Do you want to reset to factory?".

3. Click **OK** to confirm the resetting.

   The IP phone will be reset to factory sucessfully after startup.

Note
Reset of your phone may take a few minutes. Do not power off until the phone starts up successfully.

Resetting the IP phone to Custom Factory Settings

After you enable the custom factory feature, you can import the custom factory configuration file, and then reset the IP phone to custom factory settings.

Procedure

1. From the web user interface, click **Settings**->**Configuration**.

2. Click **Browse** from the **Import Factory Config** field, and then locate the custom factory configuration file from your local system.

3. Click **Import**.

4. After custom factory configuration file is imported successfully, you can reset the IP phone to custom factory settings.

Topic

Custom Factory Configuration

Custom Factory Configuration

The following table lists the parameters you can use to configure custom factory.

Parameter	static.features.custom_factory_config.enable	<y0000000000xx>.cfg
Description	It enables or disables the Custom Factory Configuration feature.	
Permitted Values	**0**-Disabled **1**-Enabled, Import Factory Configuration item will be displayed on the IP phone's web user interface at the path **Settings**->**Configuration**. You can import a custom factory configuration file or delete the user-defined factory configuration via web user interface.	

Default	0	
Parameter	static.custom_factory_configuration.url	<y0000000000xx>.cfg
Description	It configures the access URL of the custom factory configuration files. **Note**: It works only if "static.features.custom_factory_config.enable" is set to 1 (Enabled) and the file format of custom factory configuration file must be *.bin.	
Permitted Values	URL within 511 characters	
Default	Blank	
Web UI	Settings->Configuration->Import Factory Config	

Deleting the Custom Factory Settings Files

You can delete the user-defined factory configurations via web user interface.

Procedure

1. From the web user interface, click **Settings**->**Configuration**.

2. Click Del in the Import Factory Config field.

    The web user interface prompts the message "Are you sure delete user-defined factory configuration?".

3. Click **OK** to delete the custom factory configuration files.

    The imported custom factory file will be deleted. The IP phone will be reset to default factory settings after resetting.

Packets Capture

You can capture packet in two ways: capturing the packets via web user interface or using the Ethernet software. You can analyze the packet captured for troubleshooting purpose.

Topics

Capturing the Packets via Web User Interface
Ethernet Software Capturing Configuration

Capturing the Packets via Web User Interface

For Yealink IP phones, you can export the packets file to the local system and analyze it.

Yealink IP phones support the following two modes for capturing the packets:

- **Normal**: Export the packets file after stopping capturing.

- **Enhanced**: Export the packets file while capturing.

Topics

Capturing the Packets in Normal Way

Procedure

1. From the web user interface, navigate to **Settings**->**Configuration**.

2. Select **Normal** from the pull-down list of **Pcap Type**.

3. Click **Start** in the **Pcap Feature** field to start capturing signal traffic.

4. Reproduce the issue to get stack traces.

5. Click **Stop** in the **Pcap Feature** field to stop capturing.

6. Click **Export** to open the file download window, and then save the file to your local system.
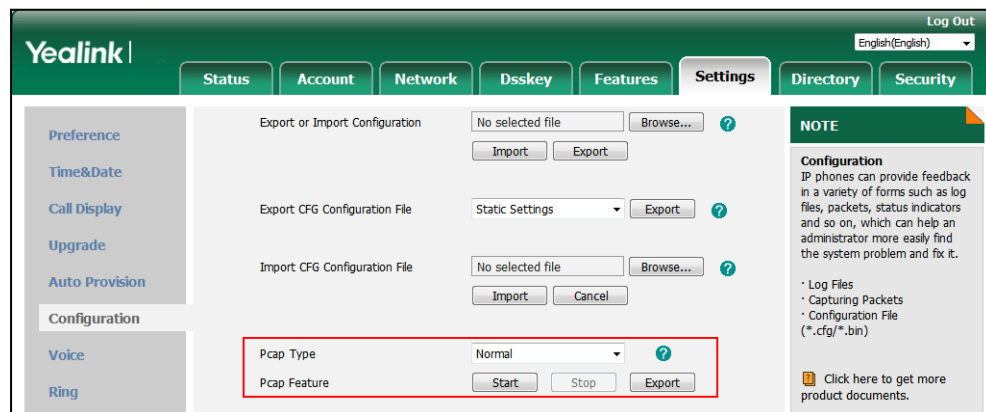
Capturing the Packets in Enhanced Way

Procedure

1. From the web user interface, navigate to **Settings**->**Configuration**.

2. Select **Enhanced** from the pull-down list of **Pcap Type**.

3. Click **Start** in the **Pcap Feature** field to start capturing signal traffic.

4. Select a location for saving the packets file on your local system while capturing.

5. Reproduce the issue to get stack traces.

6. Click **Stop** in the **Pcap Feature** field to stop capturing.
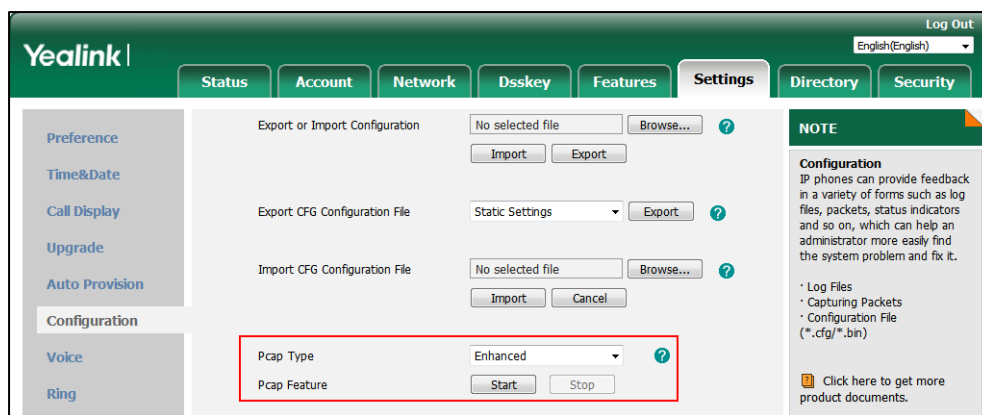
Ethernet Software Capturing Configuration

You can choose to capture the packets using the Ethernet software in two ways:

- Receiving data packets from the HUB: Connect the Internet port of the IP phone and the PC to the same HUB, and then use Sniffer, Ethereal or Wireshark software to capture the signal traffic.

- Receiving data packets from PC port: Connect the Internet port of the IP phone to the Internet and the PC port of the IP phone to a PC. Before capturing the signal traffic, make sure the IP phone can span data packets received from the Internet port to the PC port.

Topic

Span to PC Port Configuration

Span to PC Port Configuration

The following table lists the parameter you can use to configure span to PC port.

Parameter	static.network.span_to_pc_port[1]	<y0000000000xx>.cfg
Description	It enables or disables the IP phone to span data packets received from the WAN port to the PC port. **Note**: It works only if "static.network.pc_port.enable" is set to 1 (Auto Negotiation).	
Permitted Values	**0**-Disabled **1**-Enabled, all data packets from Internet port can be received by PC port.	
Default	0	
Web UI	Network->Advanced->Span to PC->Span to PC Port	

[1]If you change this parameter, the IP phone will reboot to make the change take effect.

Watch Dog

The IP phone provides a troubleshooting feature called "Watch Dog", which helps you monitor the IP

phone status and provides the ability to get stack traces from the last time the IP phone failed. If Watch Dog feature is enabled, the IP phone will automatically reboot when it detects a fatal failure. This feature can be configured using the configuration files or via web user interface.

Topic

Watch Dog Configuration

Watch Dog Configuration

The following table lists the parameter you can use to configure watch dog.

Parameter	static.watch_dog.enable	<y0000000000xx>.cfg
Description	It enables or disables the Watch Dog feature.	
Permitted Values	**0**-Disabled **1**-Enabled, the IP phone will reboot automatically when the system crashed.	
Default	1	
Web UI	Settings->Preference->Watch Dog	

Network Diagnostics

You can use ping and traceroute diagnostics for troubleshooting network connectivity via web user interface or phone user interface.

Procedure

1. From the web user interface, click **Network**->**Diagnostics**.

2. Select **Ping** or **Traceroute** from the pull-down list of **Command**.

3. Enter an IP address or a URL (for example, 10.200.108.48) in the **IP Address** field.

4. Click **Start** to start a ping.
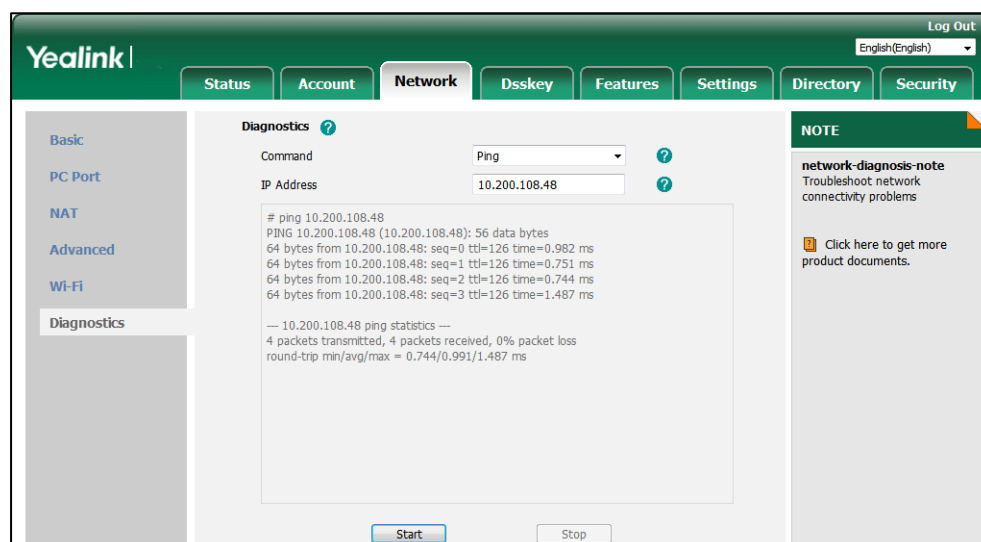
You can also diagnose network via phone user interface at the path:

Menu->**Features**->**Diagnostics**->**Network**->**Ping** or

Menu->**Features**->**Diagnostics**->**Network**->**Trace Route**.

Analyzing Configuration Files

Wrong configurations may have an impact on phone use. You can export configuration file(s) to check the current configuration of the IP phone and troubleshoot if necessary. You can also import configuration files for a quick and easy configuration.

We recommend you to edit the exported CFG file instead of the BIN file to change the phone's current settings. The config.bin file is an encrypted file. For more information on config.bin file, contact your Yealink reseller.

Topics

Exporting BIN Files from the Phone

Importing BIN Files from the Phone

Exporting BIN Files from the Phone

Procedure

1. From the web user interface, click **Settings**->**Configuration**.

2. In the **Export or Import Configuration** block, click **Export** to open the file download window, and then save the file to your local system.

Importing BIN Files from the Phone

Procedure

1. From the web user interface, click **Settings**->**Configuration**.

2. In the **Export or Import Configuration** block, click **Browse** to locate a BIN configuration file from your local system.

3. Click **Import** to import the configuration file.

Topic

BIN Files Import URL Configuration

BIN Files Import URL Configuration

The following table lists the parameter you can use to configure the BIN files import URL.

Parameter	static.configuration.url[1]	<y0000000000xx>.cfg
Description	It configures the access URL for the custom configuration files. **Note**: The file format of custom configuration file must be *.bin.	
Permitted Values	URL within 511 characters	
Default	Blank	
Web UI	Settings->Configuration->Export Import Config	

[1]If you change this parameter, the IP phone will reboot to make the change take effect.

Exporting All the Diagnostic Files

Yealink IP phones support three types of diagnostic files (including Pcap trace, log files (boot.log and sys.log) and BIN configuration files) to help analyze your problem. You can export these files at a time and troubleshoot if necessary. The file format of exported diagnostic file is *.tar.

Procedure:

1. From the web user interface, navigate to **Settings**->**Configuration**.

2. Click **Start** in the **Export All Diagnostic Files** field to begin capturing signal traffic.

   The system log level will be automatically set to 6.

3. Reproduce the issue.

4. Click **Stop** in the **Export All Diagnostic Files** field to stop the capture.

   The system log level will be reset to 3.

5. Click **Export** to open file download window, and then save the diagnostic file to your local system.

   A diagnostic file named **allconfig.tgz** is successfully exported to your local system.

Phone Status

Available information on phone status includes:

- General information (IPv4 address or IPv6 address, phone MAC address, Wi-Fi dongle MAC address and firmware version).

- Network status (IPv4 status or IPv6 status, IP mode, phone MAC address and Wi-Fi dongle MAC address).

- Phone status (product name, hardware version, firmware version, product ID, phone MAC address, Wi-Fi dongle MAC address, Bluetooth dongle MAC address and device certificate status).

- Account status (registration status of SIP accounts).

Note

Wi-Fi dongle MAC address and Bluetooth dongle MAC address are not available on the T42G/T41P/T40G/T40P IP phone.

Topic

Viewing the Phone Status

Viewing the Phone Status

You can view phone status via phone user interface by pressing the OK key or navigating to **Menu**->**Status**.

You can also view the phone status via web user interface.

Procedure

1. Open a web browser on your computer.

2. Enter the IP address in the browser's address bar, and then press the **Enter** key.

    For example, "http://192.168.0.10" for IPv4 or "http://[2005:1:1:1:215:65ff:fe64:6e0a]" for IPv6.

3. Enter the user name (admin) and password (admin) in the login page.

4. Click **Login** to login.

    The phone status is displayed on the first page of the web user interface.

Phone Reboot

You can reboot the IP phone remotely or locally.

Topics

Rebooting the IP Phone Remotely

Rebooting the IP Phone via Phone User Interface

Rebooting the IP Phone Remotely

You can reboot the IP phones remotely using a SIP NOTIFY message with "Event: check-sync" header. Whether the IP phone reboots or not depends on the value of the parameter "sip.notify_reboot_enable". If the value is set to 1, or the value is set to 0 and the header of the SIP NOTIFY message contains an additional string "reboot=true", the IP phone will reboot immediately.

The NOTIFY message is formed as shown:

NOTIFY sip:<user>@<dsthost> SIP/2.0

To: sip:<user>@<dsthost>

From: sip:sipsak@<srchost>

CSeq: 10 NOTIFY

Call-ID: 1234@<srchost>

Event: check-sync;reboot=true

Topic

Notify Reboot Configuration

The following table lists the parameters you can use to configure notify reboot.

Parameter	sip.notify_reboot_enable	<y0000000000xx>.cfg
Description	It configures the IP phone behavior when receiving a SIP NOTIFY message which contains the header "Event: check-sync".	
Permitted Values	**0**-The IP phone will reboot only if the SIP NOTIFY message contains an additional string "reboot=true". **1**-The IP phone will reboot. **2**-The IP phone will ignore the SIP NOTIFY message.	
Default	1	

Rebooting the IP Phone via Phone User Interface

You can reboot your IP phone via phone user interface.

Procedure

1. Press **Menu**->**Basic**->**Reboot**.

2. Press the **OK** soft key to reboot the phone.

   The phone begins rebooting. Any reboot of the phone may take a few minutes.

Rebooting the IP Phone via Web User Interface

You can reboot your IP phone via web user interface.

Procedure

1. Click **Settings**->**Upgrade**.

2. Click **Reboot** to reboot the IP phone.

   The phone begins rebooting. Any reboot of the phone may take a few minutes.

Troubleshooting Solutions

This section describes solutions to common issues that may occur while using the IP phone. Upon encountering a case not listed in this section, contact your Yealink reseller for further support.

Topics

IP Address Issues

Time and Date Issues

Display Issues

Phone Book Issues

Audio Issues

Wi-Fi and Bluetooth Issues

Firmware and Upgrading Issues

System Log Issues

Password Issues

Logo Issues

Power and Startup Issues

Other Issues

IP Address Issues

The IP phone does not get an IP address

Do one of the following:

If your phone connects to the wired network:

- Ensure that the Ethernet cable is plugged into the Internet port on the IP phone and the Ethernet cable is not loose.

- Ensure that the Ethernet cable is not damaged.

- Ensure that the IP address and related network parameters are set correctly.

- Ensure that your network switch or hub is operational.

● Ensure that the Wi-Fi feature is disabled.

If your phone connects to the wireless network:

● If the network is secure, ensure the entered password is correct.

● Ensure your gateway/router enables the wireless network feature.

Solving the IP conflict problem

Do one of the following:

● Reset another available IP address for the IP phone.

● Check network configuration via phone user interface at the path **Menu**->**Advanced** (default password: admin) ->**Network**->**WAN Port**->**IPv4** (or **IPv6**). If the Static IP is selected, select DHCP instead.

Specific format in configuring IPv6 on Yealink IP phones

Scenario 1:

If the IP phone obtains the IPv6 address, the format of the URL to access the web user interface is "*[IPv6 address]*" or "*http(s)://[IPv6 address]*". For example, if the IPv6 address of your phone is "fe80::204:13ff:fe30:10e", you can enter the URL (for example, "[fe80::204:13ff:fe30:10e]" or "http(s)://[fe80::204:13ff:fe30:10e])" in the address bar of a web browser on your PC to access the web user interface.

Scenario 2:

Yealink IP phones support using FTP, TFTP, HTTP and HTTPS protocols to download configuration files or resource files. You can use one of these protocols for provisioning.

When provisioning your IP phone obtaining an IPv6 address, the provisioning server should support IPv6 and the format of the access URL of the provisioning server can be "*tftp://[IPv6 address or domain name]*". For example, if the provisioning server address is "2001:250:1801::1", the access URL of the provisioning server can be "tftp://[2001:250:1801::1]/". For more information on provisioning, refer to Yealink_SIP_IP_Phones_Auto_Provisioning_Guide.

Time and Date Issues

Display time and date incorrectly

Check if the IP phone is configured to obtain the time and date from the NTP server automatically. If your phone is unable to access the NTP server, configure the time and date manually.

Display Issues

The phone LCD screen blank

Do one of the following:

- Ensure that the IP phone is properly plugged into a functional AC outlet.

- Ensure that the IP phone is plugged into a socket controlled by a switch that is on.

- If the IP phone is plugged into a power strip, try plugging it directly into a wall outlet.

- If your phone is PoE powered, ensure that you are using a PoE-compliant switch or hub.

The phone displays "No Service"

The LCD screen prompts "No Service" message when there is no available SIP account on the IP phone.

Do one of the following:

- Ensure that an account is actively registered on the IP phone at the path
  Menu->**Status**->**More**->**Accounts**.

- Ensure that the SIP account parameters have been configured correctly.

Phone Book Issues

Difference between a remote phone book and a local phone book

A remote phone book is placed on a server, while a local phone book is placed on the IP phone flash. A remote phone book can be used by everyone that can access the server, while a local phone book can only be used on a specific phone. A remote phone book is always used as a central phone book for a company; each employee can load it to obtain the real-time data from the same server.

Audio Issues

Increasing or decreasing the volume

Press the volume key to increase or decrease the ringer volume when the IP phone is idle or ringing, or to adjust the volume of engaged audio device (handset, speakerphone or headset) when there is an active call in progress.

Get poor sound quality during a call

If you have poor sound quality/acoustics like intermittent voice, low volume, echo or other noises, the possible reasons could be:

- Users are seated too far out of recommended microphone range and sound faint, or are seated too close to sensitive microphones and cause echo.

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- Intermittent voice is mainly caused by packet loss, due to network congestion, and jitter, due to message recombination of transmission or receiving equipment (for example, timeout handling, retransmission mechanism, buffer under run).

- Noisy equipment, such as a computer or a fan, may cause voice interference. Turn off any noisy equipment.

- Line issues can also cause this problem; disconnect the old line and redial the call to ensure another line may provide better connection.

There is no sound when the other party picks up the call

If the caller and receiver cannot hear anything - there is no sound at all when the other party picks up the call, the possible reason could be: the phone cannot send the real-time transport protocol (RTP) streams, in which audio data is transmitted, to the connected call.

Try to disable the 180 ring workaround feature.

Related Topic

Early Media

Play the local ringback tone instead of media when placing a long distance number without plus 0

Ensure that the 180 ring workaround feature is disabled.

Related Topic

Early Media

Wi-Fi and Bluetooth Issues

The wireless signal strength is low

Ensure the IP phone and your gateway/ router are within the working range and there is no obvious interference (walls, doors, and so on.) between them.

The phone cannot connect to Bluetooth devices all the time

Try to delete the registration information of the Bluetooth device on both IP phone and Bluetooth device, and then pair and connect it again. Contact Yealink field application engineer and your Bluetooth device manufacturer for more information.

The Bluetooth headset affects IP phone's voice quality

You may not experience the best voice quality if you use a Bluetooth headset while the 2.4 GHz band is enabled or while you are in an environment with many other Bluetooth devices. This possible loss in voice quality is due to inherent limitations with Bluetooth technology.

Firmware and Upgrading Issues

Fail to upgrade the phone firmware

Do one of the following:

- Ensure that the target firmware is not the same as the current firmware.

- Ensure that the target firmware is applicable to the IP phone model.

- Ensure that the current or the target firmware is not protected.

- Ensure that the power is on and the network is available in the process of upgrading.

- Ensure that the web browser is not closed or refreshed when upgrading firmware via web user interface.

Verifying the firmware generation and phone version

Press the **OK**/√ key when the IP phone is idle to check the firmware version. For example: 28.82.0.20.

	Item	Description
1	28	Firmware ID. The firmware ID for each IP phone model is: • 70: T54S/T52S • 35: T48G • 28: T46G • 66: T48S/T46S/T42S/T41S • 29: T42G • 36: T41P • 54: T40P • 76: T40G • 46: T29G • 45: T27P • 69: T27G • 44: T23P/G

	Item	Description
		● 52: T21(P) E2
		● 53: T19(P) E2
2	82	Firmware generation. **Note**: The larger it is, the newer the firmware generation is.
3	0	A fixed number.
4	20	Firmware version. **Note**: With the same firmware generation, the larger it is, the newer the firmware version is.

The IP phone does not update the configurations

Do one of the following:

● Ensure that the configuration is set correctly.

● Reboot the phone. Some configurations require a reboot to take effect.

● Ensure that the configuration is applicable to the IP phone model.

● The configuration may depend on support from a server.

System Log Issues

Fail to export the system log to a provisioning server (FTP/TFTP server)

Do one of the following:

● Ensure that the FTP/TFTP server is downloaded and installed on your local system.

● Ensure that you have configured the FTP/TFTP server address correctly via web user interface on your IP phone.

● Reboot the phone. The configurations require a reboot to take effect.

Fail to export the system log to a syslog server

Do one of the following:

● Ensure that the syslog server can save the syslog files exported from IP phone.

● Ensure that you have configured the syslog server address correctly via web user interface on your IP phone.

● Reboot the phone. The configurations require a reboot to take effect.

Password Issues

Restore the administrator password

Factory reset can restore the original password. All custom settings will be overwritten after reset.

Related Topic

Resetting the IP phone to Default Factory Settings

Logo Issues

Why does the IP phone use DOB format logo file instead of popular BMP, JPG and so on?

The IP phone only uses logo file in DOB format, as the DOB format file has a high compression ratio (the size of the uncompressed file compared to that of the compressed file) and can be stored in smaller space. Tools for converting BMP format to DOB format are available.

Power and Startup Issues

Both PoE cable and power adapter is connected to the phone

IP phones use the PoE preferentially.

The IP phone has no power

If no lights appear on the IP phone when it is powered up, do one of the following:

- Reboot your IP phone.

- Replace the power adapter.

Phone LCD screen is black

If the power LED indicator is on, the keypad is usable but the LCD screen is black, please reboot your IP phone.

The IP phone always display the Yealink logo

If your IP phone does not boot, check if the provisioning server is accessible on the network and a valid software firmware and valid configuration files are available. Try to use recovery mode to get your phone ready. For more information on recovery mode, refer to *Recovery Mode on Yealink IP phones*.

Other Issues

The difference among user name, register name and display name

Both user name and register name are defined by the server. User name identifies the account, while register name matched with a password is for authentication purposes. Display name is the caller ID that will be displayed on the callee's phone LCD screen. Server configurations may override the local ones.

On code and off code

They are codes that the IP phone sends to the server when a certain action takes place. On code is used to activate a feature on the server side, while off code is used to deactivate a feature on the server side.

For example, if you set the Always Forward on code to be *78 (may vary on different servers), and the target number to be 201. When you enable Always Forward on the IP phone, the IP phone sends *78201 to the server, and then the server will enable Always Forward feature on the server side, hence being able to get the right status of the extension.

For anonymous call/anonymous call rejection feature, the phone will send either the on code or off code to the server according to the value of Send Anonymous Code/Send Rejection Code.

The difference between RFC 2543 Hold enabled and disabled

Capturing packets after you enable the RFC 2543 Hold feature. SDP media direction attributes (such as a=sendonly) per RFC 2543 is used in the INVITE message when placing a call on hold.

Capturing packets after you disable the RFC 2543 Hold feature. SDP media connection address c=0.0.0.0 per RFC 3264 is used in the INVITE message when placing a call on hold.
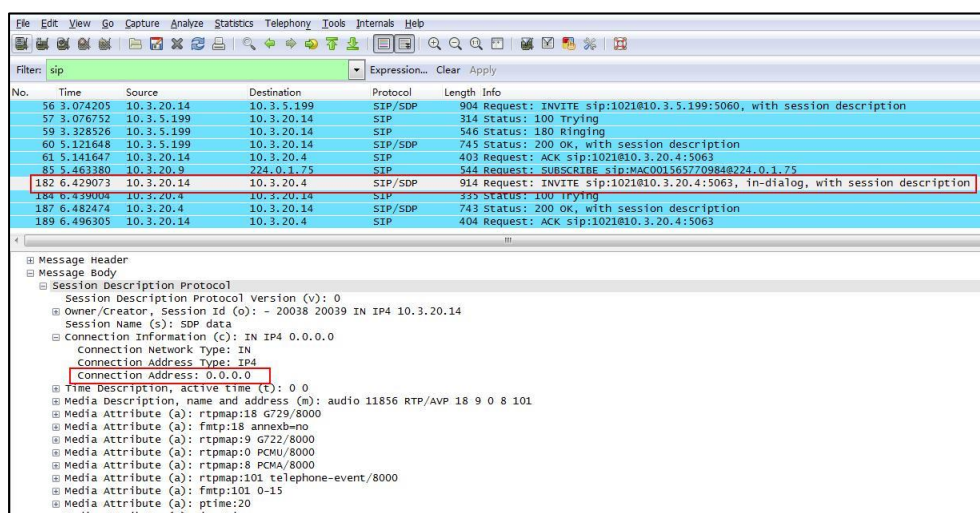
The difference between Shared Call Appearance (SCA) and Bridge Lines Appearance (BLA)

SCA and BLA are similar signaling methods that enable more than one phone to share a SIP line. The method you use varies with the SIP server you are using. In the configuration files, the relevant configuration parameters of SCA and BLA are different. The barge-in and call pull feature are not available with BLA; but they are available with SCA.

Appendix

RFC and Internet Draft Support

The following RFC's and Internet drafts are supported:

- RFC 1321−The MD5 Message-Digest Algorithm

- RFC 1889−RTP Media control

- RFC 2112−Multipart MIME

- RFC 2327−SDP: Session Description Protocol

- RFC 2387−The MIME Multipart/Related Content-type

- RFC 2543−SIP: Session Initiation Protocol

- RFC 2617−Http Authentication: Basic and Digest access authentication

- RFC 2782−A DNS RR for specifying the location of services (DNS SRV)

- RFC 2806−URLs for Telephone Calls

- RFC 2833−RTP Payload for DTMF Digits, Telephony Tones and Telephony Signals

- RFC 2915−The Naming Authority Pointer (NAPTR) DNS Resource Record

- RFC 2976−The SIP INFO Method

- RFC 3087−Control of Service Context using SIP Request-URI

- RFC 3261−SIP: Session Initiation Protocol (replacement for RFC 2543)

- RFC 3262−Reliability of Provisional Responses in the Session Initiation Protocol (SIP)

- RFC 3263−Session Initiation Protocol (SIP): Locating SIP Servers

- RFC 3264−An Offer/Answer Model with the Session Description Protocol (SDP)

- RFC 3265−Session Initiation Protocol (SIP) - Specific Event Notification

- RFC 3266−Support for IPv6 in Session Description Protocol (SDP)

- RFC 3310−HTTP Digest Authentication Using Authentication and Key Agreement (AKA)

- RFC 3311−The Session Initiation Protocol (SIP) UPDATE Method

- RFC 3312−Integration of Resource Management and SIP

- RFC 3313−Private SIP Extensions for Media Authorization

- RFC 3323−A Privacy Mechanism for the Session Initiation Protocol (SIP)

- RFC 3324−Requirements for Network Asserted Identity

- RFC 3325−SIP Asserted Identity

- RFC 3326−The Reason Header Field for the Session Initiation Protocol (SIP)

- RFC 3361−DHCP-for-IPv4 Option for SIP Servers

- RFC 3372−SIP for Telephones (SIP-T): Context and Architectures

- RFC 3398−ISUP to SIP Mapping

- RFC 3420−Internet Media Type message/sipfrag

- RFC 3428−Session Initiation Protocol (SIP) Extension for Instant Messaging

- RFC 3455−Private Header (P-Header) Extensions to the SIP for the 3GPP

- RFC 3486−Compressing the Session Initiation Protocol (SIP)

- RFC 3489−STUN - Simple Traversal of User Datagram Protocol (UDP) Through Network Address Translators (NATs)

- RFC 3515−The Session Initiation Protocol (SIP) Refer Method

- RFC 3550−RTP: Transport Protocol for Real-Time Applications

- RFC 3555−MIME Type Registration of RTP Payload Formats

- RFC 3581−An Extension to the SIP for Symmetric Response Routing

- RFC 3608−SIP Extension Header Field for Service Route Discovery During Registration

- RFC 3611−RTP Control Protocol Extended Reports (RTCP XR)

- RFC 3665−Session Initiation Protocol (SIP) Basic Call Flow Examples

- RFC 3666−SIP Public Switched Telephone Network (PSTN) Call Flows.

- RFC 3680−SIP Event Package for Registrations

- RFC 3702−Authentication, Authorization, and Accounting Requirements for the SIP

- RFC 3711−The Secure Real-time Transport Protocol (SRTP)

- RFC 3725−Best Current Practices for Third Party Call Control (3pcc) in the Session Initiation Protocol (SIP)

- RFC 3842−A Message Summary and Message Waiting Indication Event Package for the Session Initiation Protocol (SIP)

- RFC 3856−A Presence Event Package for Session Initiation Protocol (SIP)

- RFC 3863−Presence Information Data Format

- RFC 3890−A Transport Independent Bandwidth Modifier for the SDP

- RFC 3891−The Session Initiation Protocol (SIP) "Replaces" Header

- RFC 3892−The Session Initiation Protocol (SIP) Referred-By Mechanism

- RFC 3959−The Early Session Disposition Type for SIP

- RFC 3960−Early Media and Ringing Tone Generation in SIP

- RFC 3966−The tel URI for telephone number

- RFC 3968−IANA Registry for SIP Header Field

- RFC 3969−IANA Registry for SIP URI

- RFC 4028−Session Timers in the Session Initiation Protocol (SIP)

- RFC 4083−3GPP Release 5 Requirements on SIP

- RFC 4235−An INVITE-Initiated Dialog Event Package for the Session Initiation Protocol (SIP)

- RFC 4244−An Extension to the SIP for Request History Information

- RFC 4317−Session Description Protocol (SDP) Offer/Answer Examples

- RFC 4353−A Framework for Conferencing with the SIP

- RFC 4458−SIP URIs for Applications such as Voicemail and Interactive Voice Response (IVR)

- RFC 4475−Session Initiation Protocol (SIP) Torture

- RFC 4485−Guidelines for Authors of Extensions to the SIP

- RFC 4504−SIP Telephony Device Requirements and Configuration

- RFC 4566−SDP: Session Description Protocol.

- RFC 4568−Session Description Protocol (SDP) Security Descriptions for Media Streams

- RFC 4575−A SIP Event Package for Conference State

- RFC 4579−SIP Call Control - Conferencing for User Agents

- RFC 4583−Session Description Protocol (SDP) Format for Binary Floor Control Protocol (BFCP) Streams

- RFC 4662−A SIP Event Notification Extension for Resource Lists

- RFC 4730−Event Package for KPML

- RFC 5009−P-Early-Media Header

- RFC 5079−Rejecting Anonymous Requests in SIP

- RFC 5359−Session Initiation Protocol Service Examples

- RFC 5589−Session Initiation Protocol (SIP) Call Control – Transfer

- RFC 5630−The Use of the SIPS URI Scheme in SIP

- RFC 5806−Diversion Indication in SIP

- RFC 5954−Essential Correction for IPv6 ABNF and URI Comparison in RFC 3261

- RFC 6026−Correct Transaction Handling for 2xx Responses to SIP INVITE Requests

- RFC 6141−Re-INVITE and Target-Refresh Request Handling in SIP

- draft-ietf-sip-cc-transfer-05.txt−SIP Call Control - Transfer

- draft-anil-sipping-bla-02.txt−Implementing Bridged Line Appearances (BLA) Using Session Initiation Protocol (SIP)

- draft-anil-sipping-bla-03.txt−Implementing Bridged Line Appearances (BLA) Using Session Initiation Protocol (SIP)

- draft-ietf-sip-privacy-00.txt−SIP Extensions for Caller Identity and Privacy, November

- draft-ietf-sip-privacy-04.txt−SIP Extensions for Network-Asserted Caller Identity and Privacy within Trusted Networks

- draft-levy -sip-diversion-08.txt−Diversion Indication in SIP

- draft-ietf-sipping-cc-conferencing-03.txt−SIP Call Control - Conferencing for User Agents

- draft-ietf-sipping-cc-conferencing-05.txt−Connection Reuse in the Session Initiation Protocol (SIP)

- draft-ietf-sipping-rtcp-summary-02.txt−Session Initiation Protocol Package for Voice Quality Reporting Event

- draft-ietf-sip-connect-reuse-06.txt−Connection Reuse in the Session Initiation Protocol (SIP)

- draft-ietf-bliss-shared-appearances-15.txt—Shared Appearances of a Session Initiation Protocol (SIP) Address of Record (AOR)

To find the applicable Request for Comments (RFC) document, go to http://www.ietf.org/rfc.html and enter the RFC number.

Reading Icons

T54S/ T52S	T48S	T48G	T46S	T46G	T42S/ T41S	T42G/ T41P	T40P /G	T29G	T27G	T27P	T23P/T23 G/T21(P) E2	T19(P) E2	Description
													Network is unavailable
													Private line registers successfully
													Registration failed
	(Flashing)	(Flashing)											Registering
													Hands-free (speakerphone) mode
													Handset mode

T54S/ T52S	T48S	T48G	T46S	T46G	T42S/ T41S	T42G/ T41P	T40P /G	T29G	T27G	T27P	T23P/T23 G/T21(P) E2	T19(P) E2	Description
													Headset mode
													Voice Mail
					/	/							Text Message
													Auto Answer
													Do Not Disturb
													Call Forward
													Call Hold
													Call Mute
					/	/							Keep Mute

T54S/ T52S	T48S	T48G	T46S	T46G	T42S/ T41S	T42G/ T41P	T40P /G	T29G	T27G	T27P	T23P/T23 G/T21(P) E2	T19(P) E2	Description
													Ringer volume is 0
													Phone Lock
													Received Calls
													Placed Calls
													Missed Calls
													Forwarded Calls
						/	/			/	/	/	Recording starts successfully (USB recording)
						/	/			/	/	/	Recording is paused (USB recording)

T54S/ T52S	T48S	T48G	T46S	T46G	T42S/ T41S	T42G/ T41P	T40P /G	T29G	T27G	T27P	T23P/T23 G/T21(P) E2	T19(P) E2	Description
🗑	🗑	🗑	🗑	🗑	⛀	⛀	⛀	🗑	⛀	⛀	⛀	/	Recording box is full (DSSKey recording)
🚫	🚫	🚫	R	R	✖	✖	✖	R	✖	✖	✖	/	A call cannot be recorded (DSSKey recording)
●	●	●	●	●	◉	◉	●	●	●	●	●	/	Recording starts successfully (DSSKey recording)
🚫	🚫	🚫	▶	▶	⊗	⊗	⊗	▶	⊗	⊗	⊗	/	Recording cannot be started (DSSKey recording)
🚫	🚫	🚫	P	P	⊘	⊘	⊘	P	⊘	⊘	⊘	/	Recording cannot be stopped (DSSKey recording)
V	V	V	V	V	VPN	VPN	VPN	V	VPN	VPN	VPN	VPN	VPN is enabled
ᛒ	ᛒ	ᛒ	ᛒ	ᛒ	/	/	/	ᛒ	ᛒ	/	/	/	Bluetooth mode is on

T54S/ T52S	T48S	T48G	T46S	T46G	T42S/ T41S	T42G/ T41P	T40P /G	T29G	T27G	T27P	T23P/T23 G/T21(P) E2	T19(P) E2	Description
					/	/	/			/	/	/	Bluetooth headset is both paired and connected
/		/		/	/	/	/	/	/	/	/	/	Bluetooth-Enabled mobile phone is both paired and connected
					/	/	/			/	/	/	Wi-Fi connection is successful
					/	/	/			/	/	/	Wi-Fi connection failed
	/	/			/	/	/		/	/	/	/	Conference
													The default contact icon
					/	/	/		/	/	/	/	The default caller photo
					/	/	/		/	/	/	/	Line key type is Line (line is seized)

T54S/ T52S	T48S	T48G	T46S	T46G	T42S/ T41S	T42G/ T41P	T40P /G	T29G	T27G	T27P	T23P/T23 G/T21(P) E2	T19(P) E2	Description
					/	/	/		/	/	/	/	Line key type is Speed Dial
					/	/	/		/	/	/	/	Line key type is BLF/BLF List (BLF/BLF list idle state)
					/	/	/		/	/	/	/	Line key type is BLF/BLF List (BLF/BLF list ringing state)
					/	/	/		/	/	/	/	Line key type is BLF/BLF List (BLF/BLF list talking state)
					/	/	/		/	/	/	/	Line key type is BLF (BLF hold state)
					/	/	/		/	/	/	/	Line key type is BLF/BLF List (BLF/BLF list callout state)
					/	/	/		/	/	/	/	Line key type is BLF/BLF List (BLF/BLF list failed state)

T54S/ T52S	T48S	T48G	T46S	T46G	T42S/ T41S	T42G/ T41P	T40P /G	T29G	T27G	T27P	T23P/T23 G/T21(P) E2	T19(P) E2	Description
					/	/	/		/	/	/	/	Line key type is BLF List (BLF list call park state)
					/	/	/		/	/	/	/	Line key type is Voice Mail
					/	/	/		/	/	/	/	Line key type is Direct Pickup
					/	/	/		/	/	/	/	Line key type is Group Pickup
					/	/	/		/	/	/	/	Line key type is Call Park (park successfully/call park idle state)
					/		/		/	/	/	/	Line key type is Call Park (call park ringing state)
					/	/	/		/	/	/	/	Park failed

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T54S/ T52S	T48S	T48G	T46S	T46G	T42S/ T41S	T42G/ T41P	T40P /G	T29G	T27G	T27P	T23P/T23 G/T21(P) E2	T19(P) E2	Description
					/	/	/		/	/	/	/	Line key type is Retrieve Park
					/	/	/		/	/	/	/	Line key type is Intercom (intercom idle state)
					/	/	/		/	/	/	/	Line key type is Intercom (intercom ringing state)
	Talking	Talking			/	/	/		/	/	/	/	Line key type is Intercom (intercom talking state)
	Callout	Callout			/	/	/		/	/	/	/	Line key type is Intercom (intercom callout state)
					/	/	/		/	/	/	/	Line key type is Intercom (intercom failed state)
					/	/	/		/	/	/	/	Line key type is DTMF/Prefix

T54S/ T52S	T48S	T48G	T46S	T46G	T42S/ T41S	T42G/ T41P	T40P /G	T29G	T27G	T27P	T23P/T23 G/T21(P) E2	T19(P) E2	Description
					/	/	/		/	/	/	/	Line key type is Local Group/XML Group/LDAP
					/	/	/		/	/	/	/	Line key type is XML Browser
					/	/	/		/	/	/	/	Line key type is Conference
					/	/	/		/	/	/	/	Line key type is Forward
					/	/	/		/	/	/	/	Line key type is Transfer
					/	/	/		/	/	/	/	Line key type is Hold/Private Hold
					/	/	/		/	/	/	/	Line key type is DND
					/	/	/		/	/	/	/	Line key type is Recall
					/	/	/		/	/	/	/	Line key type is SMS

T54S/ T52S	T48S	T48G	T46S	T46G	T42S/ T41S	T42G/ T41P	T40P /G	T29G	T27G	T27P	T23P/T23 G/T21(P) E2	T19(P) E2	Description
					/	/	/		/	/	/	/	Line key type is Record/URL Record
					/	/	/		/	/	/	/	Line key type is Record/URL Record (recording starts successfully)
					/	/	/		/	/	/	/	Line key type is Multicast Paging/Group Listening/Paging List
					/	/	/		/	/	/	/	Line key type is Hot Desking
					/	/	/		/	/	/	/	Line key type is ACD
					/	/	/		/	/	/	/	Line key type is Zero Touch
					/	/	/		/	/	/	/	Line key type is URL

T54S/ T52S	T48S	T48G	T46S	T46G	T42S/ T41S	T42G/ T41P	T40P /G	T29G	T27G	T27P	T23P/T23 G/T21(P) E2	T19(P) E2	Description
					/	/	/		/	/	/	/	Line key type is Phone Lock
					/	/	/		/	/	/	/	Line key type is Directory
					/	/	/		/	/	/	/	Line key type is Custom Key
													The ACD state is available
					and x	and x	and x		and x	and x	and x	and x	The ACD state is unavailable
													The ACD state is Wrap up
													Log out of the ACD system
													The shared line/bridged line is idle
					/	/	/		/	/	/	/	The shared line receives ring-back

T54S/ T52S	T48S	T48G	T46S	T46G	T42S/ T41S	T42G/ T41P	T40P /G	T29G	T27G	T27P	T23P/T23 G/T21(P) E2	T19(P) E2	Description
	(Flashing)	(Flashing)											tone
(Flashing)	(Flashing)	(Flashing)			/	/	/		/	/	/	/	The shared line receives an incoming call
					/	/	/		/	/	/	/	The shared line is in conversation
					/	/	/		/	/	/	/	The shared line conversation is placed on public hold
(Flashing)	(Flashing)	(Flashing)	(Flashing)	(Flashing)	/	/	/	(Flashing)		/	/	/	USB flash drive is detecting
					/	/	/			/	/	/	USB flash drive is detected
													High Definition Voice