Contents

1 Configuring Uboot

1.1 Introduction

1.1.1 Overview

The Uboot menu includes all functions supported by the universal boot loader (Uboot), including booting the main program, booting Rboot, and updating Uboot or Rboot.

1.1.2 Accessing the Uboot Menu

1. Connecting to the Client

Connect the COM port of a PC to the serial port of the device through a serial port cable, start the HyperTerminal, and configure the following settings:

- Protocol type for connection: Serial

- Port for connection: COM

- Bits per second: 9600

- Data bit: 8

- Parity check: N/A

- Stop bit: 1

- Data flow control: N/A

2. Starting the Device

After the device is started, the following information is displayed:

```
Press Ctrl+B to enter Boot Menu, Press Ctrl+C to enter Rboot
```
Press **Ctrl+B**.

3. Accessing the Uboot Menu Interface

The interface is displayed as follows:

```
====== BootLoader Menu("Ctrl+Z" to upper level) ======
   TOP menu items.
***********************************************
   0. XModem utilities.
   1. Run main.
   2. Run rboot.
   3. Scattered utilities.
***********************************************
Press a key to run the command:
```
After the device displays the menu interface, select a menu item to select the corresponding function.

Press the first character of the menu item to perform the function of the menu item. If the menu item is a submenu, the submenu is accessed. The device displays the interface of the submenu.

Press **Ctrl+Z** to exit the current submenu and return to the previous-level menu.

1.1.3 Downloading XModem

On the menu interface, select **Upgrade bootloader**.

This is a submenu. After you access the submenu, the following information is displayed:

```
====== BootLoader Menu("Ctrl+Z" to upper level) ======
   XModem utilities.
**************************************************
   0. Upgrade bootloader.
   1. Upgrade rboot.
**************************************************
Press a key to run the command:
```

1. Upgrading bootloader

This function downloads a Uboot file to the flash memory to update the master Uboot of the system.

(1) On the menu interface, select **Upgrade bootloader**.

(2) Click **Send File** under **Transfer** in HyperTerminal and select a Uboot image file to be downloaded (for example, **UBOOT.BIN**).

(3) Click **Send**.

(4) Wait until the system displays a message indicating that the operation is complete.

2. Upgrading rboot

This function downloads an Rboot file to the flash memory to update Rboot of the system.

(1) On the menu interface, select **Upgrade rboot**.

(2) Click **Send File** under **Transfer** in HyperTerminal and select an Rboot image file to be downloaded (for example, **RBOOT.BIN**).

(3) Click **Send**.

(4) Wait until the system displays a message indicating that the operation is complete.

1.1.4 Running the Main Program

On the menu interface, select **Run main**. The program automatically skips to the main program from Uboot.

1.1.5 Running the Rboot Program

On the menu interface, select **Run rboot**. The program automatically skips to Rboot from Uboot.

1.1.6 Querying and Setting Other Functions

On the menu interface, select **Scattered utilities**.

This is a submenu. After you access the submenu, the following information is displayed:

```
====== BootLoader Menu("Ctrl+Z" to upper level) ======
   Scattered utilities.
```

```
**************************************************
    0. Show the bootloader version.
    1. Reload system.
    2. Set baudrate.
    3. Set default environment.
    4. Set debug mode.
5. Run main without enable password.
**************************************************
Press a key to run the command:
```

1. Showing the bootloader Version

This function is used to display the version of the boot program on the current flash memory.

(1) On the menu interface, select **Show the bootloader version**.

(2) The version of Uboot is displayed.

Information similar to the following is displayed:

```
'master_bootloader' program information:
  Version:      1.3.13
'slave_bootloader' program information:
  Version:      1.3.13
```

2. Reloading the System

On the menu interface, select **Reload system**. The system reboots automatically.

3. Setting the Baudrate

This is a submenu. In the submenu, select **Set baudrate**. The following information is displayed:

```
====== BootLoader Menu("Ctrl+Z" to upper level) ======
    Set baudrate.
**************************************************
    0. Change baudrate to 9600
    1. Change baudrate to 57600
    2. Change baudrate to 115200
**************************************************
Press a key to run the command:
```

● On the menu interface, select **Change baudrate to 9600**. The system changes the baud rate to **9600**.

● On the menu interface, select **Change baudrate to 57600**. The system changes the baud rate to **57600**.

● On the menu interface, select **Change baudrate to 115200**. The system changes the baud rate to **115200**.

4. Setting the Default Environmental Variable

This function is used to replace the environmental variable stored on the flash memory with the default environmental variable.

On the menu interface, select **Set default environment**. The following information is displayed:

```
Warning: The environment information maybe lose, Are you sure to continue?
[yes/No]:
```

Enter **yes** or **no**. If you do not enter any character, **no** is used by default. When this menu is used to set the default environmental variable, the baud rate is not restored to the default value. The baud rate currently saved on the flash memory is still used.

5. Setting the Debugging Mode

This is a submenu. After you access the submenu, the following information is displayed:

```
====== BootLoader Menu("Ctrl+Z" to upper level) ======
    Set debug mode.
*************************************************
    0. Debug switch On.
    1. Debug switch Off.
*************************************************
Press a key to run the command:
```

Select **Debug switch On** to enable the debugging mode or select **Debug switch Off** to disable the debugging mode.

The main program and Rboot output more boot logs in debugging mode than those in normal mode.

6. Starting the Main Program without Enabling Password

On the menu interface, select **Run main without enable password**. Click **OK**. The main program is started. In the main program, you can enable the device without a password. This function is used when you forget the password. This function is effective for only the current operation. After reboot, the password is still required.

2 Configuring the SIMPLE CLI

2.1 Introduction

2.1.1 Overview

The SIMPLE command line interface (CLI) includes some functions supported by Uboot, which are implemented through command lines, including booting the main program, booting Rboot, and updating Uboot or Rboot.

2.1.2 Accessing the SIMPLE CLI Operation Interface

On the Uboot menu interface, press **Ctrl+Q** to access the SIMPLE CLI operation interface.

```
====== BootLoader Menu("Ctrl+Z" to upper level) ======
    TOP menu items.
*************************************************
    0. XModem utilities.
    1. Run main.
    2. Run rboot.
    3. Scattered utilities.
*************************************************
```

```
Press a key to run the command:
```

Enter **help**. The functions of commands are displayed as follows:

```
bootloader# help
Total commands:
help            Dump command list OR show a command's details
xmdown          Download programs through XModem.
runrboot        Run rboot program.
runmain         Run main program.
setbaud         Set BOOT/BOOTLOADER baudrate tools.
reload          Reload tools.
version         Show current version information.
quit            Quit from CLI command line.
```

2.1.3 Downloading Xmdown

You can run this command to upgrade the main Uboot program and Rboot program on the flash memory.

Enter **help xmdown**. The usage details of the **xmdown** command are displayed.

```
bootloader# help xmdown
Syntax: xmdown (-boot | -rboot)
Usage Details:
    -boot:      Upgrade BootLoader.
    -rboot:   Upgrade Rboot.
Examples:
    xmdown -boot
    xmdown -rboot
```

1. xmdown -boot

This command is used to upgrade the main Uboot program on the flash memory.

(1) Enter **xmdown –boot** and press **Enter**.

(2) Click **Send File** under **Transfer** in HyperTerminal and select a Uboot image file to be downloaded (for example, **UBOOT.BIN**).

(3) Click **Send**.

(4) Wait until the system displays a message indicating that the operation is complete.

2. xmdown -rboot

This command is used to upgrade the Rboot program on the flash memory.

(1) Enter **xmdown –rboot** and press **Enter**.

(2) Click **Send File** under **Transfer** in HyperTerminal and select an Rboot image file to be downloaded (for example, **RBOOT.BIN**).

(3) Click **Send**.

(4) Wait until the system displays a message indicating that the operation is complete.

2.1.4 Running the Rboot Program

Enter the **runrboot** command. The program automatically skips to Rboot from Uboot.

2.1.5 Running the Main Program

Enter the **runmain** command. The program automatically skips to the main program from Uboot.

2.1.6 Setting the Baud Rate

After the **setbaud** command is run, the baud rate of the current device is changed and the changed baud rate is saved to the environmental variable partition of the flash memory.

Enter the **help setbaud** command. The usage details of the **setbaud** command are displayed:

```
orion_B26Q#help setbaud
Syntax: setbaud (-h | -m | -l)
Usage Details:
    -h:          Set to 115200
    -m:          Set to 57600
    -l:          Set to 9600
Examples:
    setbaud -l
    setbaud -m
setbaud -h
```

- setbaud -l: The baud rate of the current device is changed into **9600** and the changed baud rate is saved to the environmental variable partition of the flash memory.

- setbaud -m: The baud rate of the current device is changed into **57600** and the changed baud rate is saved to the environmental variable partition of the flash memory.

- setbaud -h: The baud rate of the current device is changed into **115200** and the changed baud rate is saved to the environmental variable partition of the flash memory.

2.1.7 Reloading the System

Enter the **reload** command and press **Enter**. The system reboots automatically.

2.1.8 Displaying the Version

Enter the **version** command and press **Enter**. The system displays the versions of the master Uboot and slave Uboot. For example:

```
bootloader# version
'master_bootloader' program information:
  Version:      1.3.13
'slave_bootloader' program information:
  Version:      1.3.13
```

2.1.9 Skipping to the Menu Interface

Enter the **quit** command and press **Enter**. The system returns to the menu interface.