PBI

User Manual

Brighten Your Digital View!

DMM-2200P

Dual Channels H.264 HD IRD and Processor

P/N. 85E19-H0101 Rev: A

Contents

Notices

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WARRANTY

This warranty does not cover parts which may become defective due to misuse of the information contained in this manual.

Read this manual carefully and make sure you understand the instructions provided. For your safety, be aware of the following precautions.

WARNING! IMPORTATNT SAFETY INSTRUCTIONS
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

WARNING

- To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
- To avoid explosion danger, do not dispose of batteries in an open fire.

CE MARK FOR EUROPEAN HARMONISED STANDARDS

The CE mark which is attached to these products means it conforms to EMC Directive (89/336/EEC) and Low Voltage Directive (73/23/EEC).

IMPORTANT INFORMATION

Please retain the original packaging, should it be necessary at some stage to return the unit.

Disposal of Old Electrical and Electronic Equipment (Applicable in the European Union and other European countries with separate collection systems)

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local Civic Office, your household waste disposal service, or the shop where you purchased the product.

COPYRIGHTS

Television programs, movies, video tapes, discs, and other materials may be copyrighted.

Unauthorized recording of copyrighted material may be against the copyright laws in your region. Also, use of this product with cable television transmissions may require authorization from the cable television operator or transmitter/owner.

VENTILATION

- Do not expose the product to high temperatures, such as placing it on top of other product that produce heat or in places exposed to direct sunlight or spot lights.
- The ventilation slots on top of the product must be left uncovered to allow proper airflow into the unit.
- Do not stand the product on soft furnishings or carpets.
- Do not stack electronic equipment on top of the product.
- Do not place the product in a location subject to extreme changes in temperature. The temperature gradient should be less than 10 degrees C/hour.
- Place the product in a location with adequate ventilation to prevent the build-up of heat inside the product. The minimum ventilation space around the unit should be 7 cm. The ventilation should not be impeded by covering the ventilation openings with items, such as newspapers, table cloth, curtains, etc.

POWER SOURCES

- The product is not disconnected from the AC power source (mains) as long as it is connected to the power outlet or wall socket, even if the product is turned off.
- If the product will not be used for a long period of time, disconnect it from the AC power outlet or wall socket.

Before Using the Device

Thank you for purchasing the DMM-2200P dual channel H.264 HD IRD and professor. This User

Manual is written for operators/users of the DMM-2200P to assist in installation and operation. Please read this user manual carefully before installation and use of the device.

FOR YOUR SAFETY

This equipment is provided with a protective earthing ground incorporated in the power cord. The main plug shall only be inserted in a socket outlet provided with a protective earth contact. Any interruption of the protective conductor, inside or outside the device, is likely to make the device dangerous. Do not remove the covers of this equipment. Hazardous voltages are present within this equipment and may be exposed if the covers are removed. Only Beijing Jaeger trained and approved service engineers are permitted to service this equipment.

The supplied AC power cable must be used to power the device. If the power cord becomes damaged it must be replaced. No operator serviceable parts inside. Refer servicing to Beijing Jaeger trained and approved service engineers. For the correct and safe use of the device, it is essential that both operating and servicing personnel follow generally accepted safety procedures in addition to the safety precautions specified in this manual. Whenever it is likely that safety protection is impaired, the device must be made in-operative and secured against unintended operation. The appropriate servicing authority must be informed. For example, safety is likely to be impaired if the device fails to perform the intended measurements or shows visible damage.

WARNINGS

- The mounting environment should be relatively dust free, free of excessive vibration and the ambient temperature between 0C° to 40C°. Relative humidity of 20% to 80% (non-condensed) is recommended.
- Avoid direct contact with water.
- Never place the equipment in direct sunlight.
- The outside of the equipment may be cleaned using a lightly dampened cloth. Do not use any cleaning liquids containing alcohol, methylated spirit or ammonia etc.
- When in operation, the internal temperature should not exceed the limit of 70C°.

Dual Channels H.264 HD IRD and Processor

1. Overview

The DMM-2200P Professional IRD provides operators an ideal solution for receiving, re-multiplexing, descrambling and decoding operations. The DMM-2200P has 2 tuner and 1 TS over IP inputs that ensures compatibility with transmission media. The DMM-2200P' s re-multiplexing capabilities enable creation of new transport streams that are subsets of the original stream. Customized services may be output as multiple SPTS or MPTS over IP, as well as over ASI. By the dual DVB common interfaces, DMM-2200P could decrypt multiple services in one transport stream or two. DMM-2200P is also a professional IRD that features decoder for MPEG-2 and MPEG-4 AVC/H.264 in both Standard Definition and High Definition formats, and provides digital and analog outputs, including CVBS video, analog Audio, and HDMI. The unit also performs HD down-conversion, VBI Teletext, WSS, Closed Caption and DVB/EBU subtitle function. All these architecture makes the DMM-2200P an ideal product for distribution and contribution networks.

2. Features

- SD/HD MPEG-2(MP@ML&MP@HL) and MPEG-4/H.264(AVC high profile level 4.1) digital Video decoding
- Twin-tuner design, wide tuner options from DVB-S2/S/C/T/T2
- 2x DVB-CI Slots, Multi Programs, BISS 1 and BISS E decryption
- Support services re-mux/filter and 204/188 transfer
- UDP/RTP & Unicast/Multicast SPTS and MPTS over IP I/O
- Support VBI TELETEXT, EBU/ DVB Subtitle, Closed Caption
- Dynamic PMT detection and automatic updating
- Multiple Analog and Digital Outputs, ASI, CVBS, HDMI, TS/IP
- Support NTP(Network Time Protocol)
- Remote Control and Supervision by SNMP and HTTP WEB
- RSSI, received Eb/No & BER monitoring
- Quick upgraded via USB port or Web browser
- Auto save settings when sudden power-off

3. Technical Specifications

Tuner Input	
DVB-S/S2	
Connector Type	2×F type female 75Ω for Input
Input Frequency Range	950 ~ 2150MHz

Input Level	-25 ~ -65dBm
Symbol Rate	2 ~ 45MBaud
Roll-off Factor	DVB-S QPSK: 0.35
	DVB-S2 8PSK: 0.35, 0.25, 0.2
FEC Code Rate	DVB-S QPSK: 1/2, 2/3, 3/4, 5/6, 7/8
	DVB-S2 QPSK: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9,9/10
	DVB-S2 8PSK: 3/5, 2/3, 3/4, 5/6, 8/9, 9/10
LNB Polarity Selection Voltage	0, 13V, 18V selectable
LNB Band Selection Tone	0/22KHz selectable
Satellite Selection Command	DiSEqC 1.0
DVB-T/T2	
Connector Type	2×F type female 75Ω for Input
Input Frequency	104 ~ 862MHz (VHF/UHF)
Input Level	-20 ~ -70dBm
Constellation	DVB-T: QPSK, 16QAM, 64QAM
	DVB-T2: QPSK, 16QAM, 64QAM, 256QAM
Bandwidth	6MHz, 7MHz, 8MHz
FFT Mode	DVB-T: 2K/8K
	DVB-T2: 1K, 2K, 4K, 8K, 16K, 32K
Guard Interval	DVB-T: 1/4, 1/8, 1/16, 1/32
	DVB-T2: 1/4, 5/32, 1/8, 5/64, 1/16, 1/32, 1/64, 1/128
FEC Code Rate	DVB-T: 1/2, 2/3, 3/4, 5/6, 7/8
	DVB-T2: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6
Input Return Loss	7dB (typ.)
DVB-C	
Connector Type	2×F type female 75Ω for Input
Input Frequency Range	51 ~ 862MHz
Input Level	45 ~ 75dBμV
Symbol Rate	1 ~ 7Mbaud ITU J.83 Anne× A
Constellation	16QAM, 32QAM, 64QAM, 128QAM, 256QAM
Bandwidth	6MHz, 7MHz, 8MHz
Input Return Loss	7dB (typ.)
TS over IP	
Connector Type	1×RJ-45, 10/100 Base-T for TS/IP
Effective Bit Rate	70Mb/s for 10/100 Base-T
Protocol	UDP/RTP, Multicast/Unicast, IGMPv2, ARP
Multicast Channel	32 Max.
TS Processing	
TS Input Management	Demu× and Remu× among Tuner1, Tuner2 and TS/IP Inputs
TS Output Management	Demu× and Remu× for 2 independent ASI outputs
Service and PID Management	Remu×, filtering and remapping

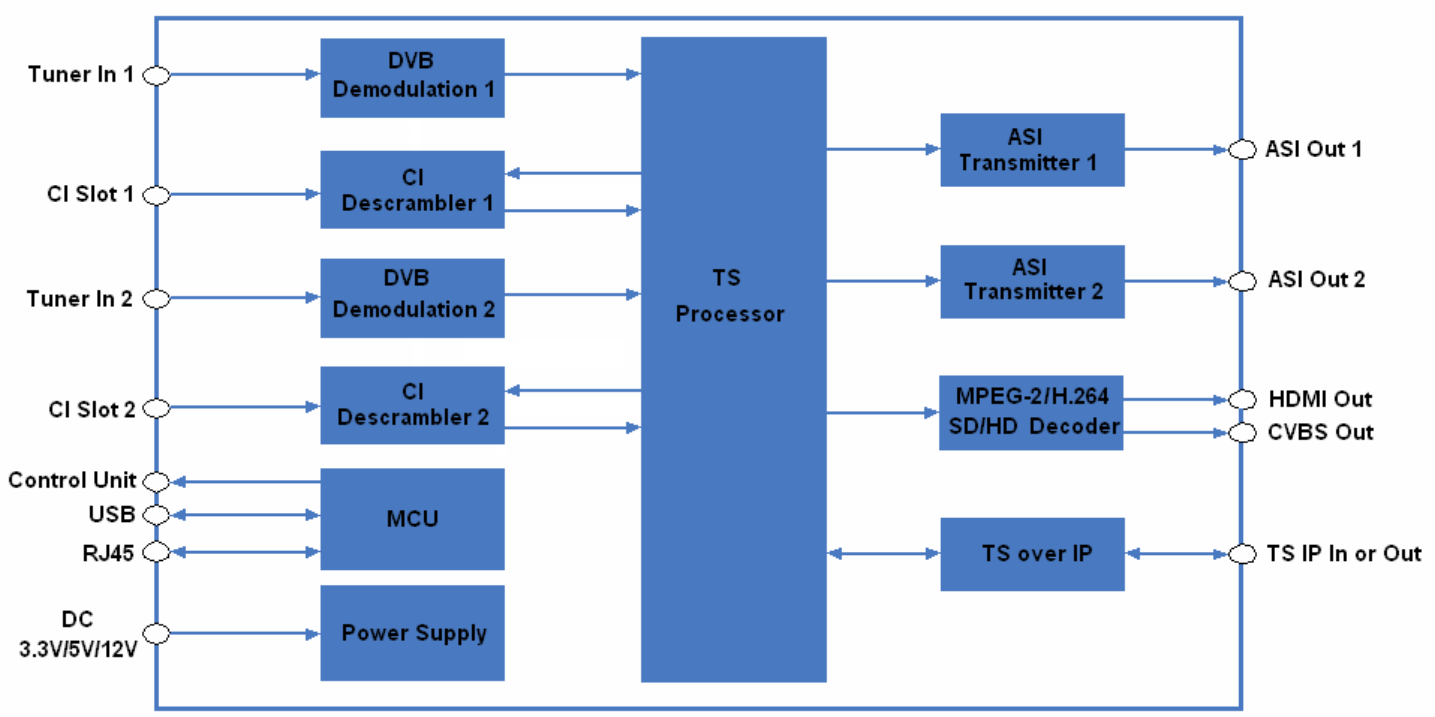
PSI/SI	PSI/SI table regeneration, PMT and SDT edition
Descrambler	DVB Common Scrambling Algorithm (CSA)
BISS Mode	BISS-1, BISS-E
Common Interface	Double PCMCIA slots, compatible with major CA CAMs in the market
ASI Output	
Connector Type	2 independent BNC female, 75Ω
Standard	DVB-ASI, EN50083-9
Output Bit Rate	≤198Mb/s
TS Processing	2 Independent TS Re-multiple×ed from Tuner1, Tuner2 and TS/IP inputs
MPEG-2/MPEG-4 SD/HD Decoding	
Video Decoding	MPEG-2 MP@ML and MP@HL
	MPEG-4 AVC high profile level4.1
Audio Decoding	MPEG-1 Layer-I/II, MPEG-2 Layer-II
	LC-AAC, HE-AAC
	AC3, AC3+
HDMI Output	
Standard	1×HDMI 1.3 interface (up to 1080i)
Video Resolution and Frame Rate	1080i×30, 1080i×29.97, 1080×25,720p×60,720p×59.94, 720p×50, 480p×60, 576p×50, 576i×25, 480i×29.97
Audio Embedded	1×stereos or compressed data pass through
Analog Audio Output	
Connector Type	1×DB9 female(The same port as analog video output)
Output Impedance	600Ω (balanced)
Output Mode	Left, Right, Dual Mono, Stereo
Number of Output	1 x stereo audio outputs
Cross Talk Among Channels	>70dB
THD	<0.3% @ 400Hz, 1KHz test tone
Frequency Response	±0.5dB over 20Hz ~ 18KHz
Analog Video Output	
Connector Type	1×BNC
CVBS Standard	NTSC, PAL, and SECAM
Video PID Bit Rate	≤50Mb/s
Norminal Output Level	1.0 Vp-p±5% (with standard test stream)
Frequency Response	<±1 dB, at 5.5 MHz for PAL/SECAM, 4.2MHz for NTSC and 15MHz for HD YPbPr
Chroma-Luma Delay	<±30 ns
Field Time Distortion	<2%
Line Time Distortion	<1%
Short Time Distortion	<2%
Differential Gain	<3%
Differential Phase	<2°

Ancillary Data Processing	
Subtitle	DVB, EBU
VBI	Telete×t, WSS, Closed Caption
A/V Monitoring	
A/V Monitoring Port	HDMI and Phone Jet(CVBS)
Switching Condition	User Defined(User can set the monitoring program list and monitoring time)
Control & Management	
Connector Type	1×RJ-45, 10/100 Base-T, for equipment IP Control
Remote Control	SNMP, HTTP (Web Interface)
Local Control	Handset display and 6-key keypad with VGA interface
Equipment Upgrade	WEB HTTP or USB or Telnet
Physical	
Power Supply	DC 3.3V/5V/12V
Power Consumption	20W
Operating temperature	0 ~ 45℃
Storage temperature	-10 ~ 60℃
Operating Humidity	10 ~ 90%, non-condensed

4. Order Information

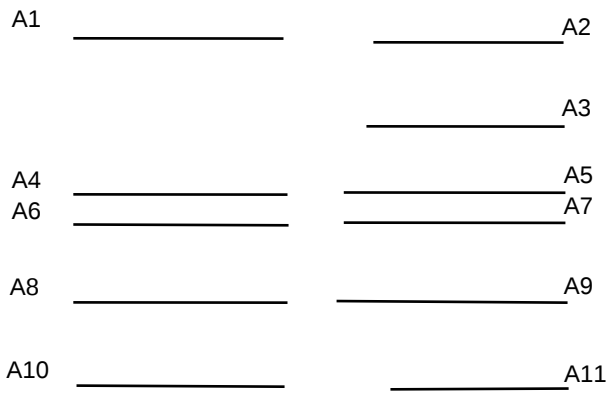
Interface	Model	DMM-2200P-S2/S	DMM-2200P-T2/T/C
Input	DVB-S2/S	x2	□
	DVB-T2/T/C	□	x2
	CI	x2	x2
	TS/IP	●	●
Output	HDMI	●	●
	CVBS&Audio L/R	●	●
	ASI	x2	x2
	TS/IP	●	●
Control		●	●
Handset		●	●

5. Block Diagram



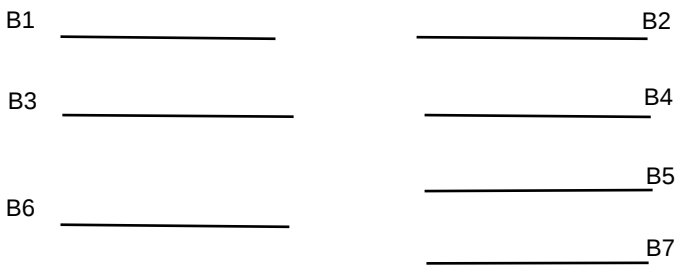
6. Front panel and rear panel instructions

6.1. Front panel



A1 USB	Used to upgrade software for the device.
A2 Control	Network management interface for remote control.
A3 TS/IP	10/100Mbps interface for TS output or input.
A4 Power	Power LED indicator.
A5 ASI/IP	Decoding failed Alarm.
A6 Tuner lock1	Tuner1 lock indicator.
A7 Tuner lock2	Tuner2 lock indicator.
A8 Reset	Used to reset the module.
A9 IP Reset	Used to reset management IP to default.
A10 Handset	Used to connect handset.
A11 CI Slot	Used to insert CAM.

6.2. Rear panel



B1 Tuner In-2	Tuner input interface 2.
B2 Tuner In-1	Tuner input interface 1.
B3 ASI Out-2	ASI output interface 2.
B4 ASI Out-1	ASI output interface 1.
B5 CVBS	CVBS output interface (BNC).
B6 Audio	Analog audio output (DB9 female).
B7 HDMI	HDMI output interface (HDMI 1.3).

A8

7. Operation instructions using DMM-1000CU programmer

NOTE: The DMM-1000CU Programmer is an universal programmer unit for PBI DMM products family. DMM-1000CU is a standalone product and not included in the package of DMM-2200P, please contact local sales agency for more information.

7.1. Overview of the Menu

Users are advised to restore factory setting of the machine before the first time using it. Because of machine's too many functions, users are advised not to change those temporarily useless parameters in order to avoid unnecessary fault.

After power on, the Local IP address will be shown on the LCD of DMM-1000CU. User can press ENTER key to get into the main menu.

Status: Working Status of module.

Config: Configure module woke mode.

System: Configure local settings of module.

7.2. Description of menu

7.2.1. Status

Main Menu	Sub Menu		Details
Status	Input TS	Tuner1	Tuner1 input valid and total bit rate
		Tuenr2	Tuner1 input valid and total bit rate
		IP Input	IP input valid and total bit rate
	Tuner1/2 RSSI	Strength	Tuner input signal strength
		C/N	Tuner input signal C/N
		Eb_No	Tuner input signal Eb_No
		BER	Tuner input signal BER
	Decoder Status	A/V	Current decoding program audio and video status
		Service	Current decoding service information
		Video	Current decoding program Video information
		Audio	Current decoding program Audio information
	CI Status	Slot1	CAM name or No module
		Slot2	CAM name or No module
	Remux Status	Bit rate	Valid bit rate and total bit rate of remux
	USB Status	USB	USB found or not

7.2.2. Configure

Main Menu	Sub Menu		Option
Config	Tuner 1/2	LNB Frequency	Manual config
		Satellite Frequency	Manual config
		Symbol Rate	Manual config
		LNB Voltage	OFF/13V/18V
		LNB 22KHz	ON/OFF
		DiSEqC	Port A/B/C/D
	Decoder	Source	Tuner1/Tuner2/CI-1/CI-2/IP/Remux/BISS
		Program	Manual select
		Video	Video Standard/Aspect Ratio/DVB/EBU/Subtitle Priority/Failure Mode /CC/VBI/CVBS Sub
		Audio	Audio Level/Audio Mode/Audio Priority/HDMI embedded
		Mode	Manual/Auto
	CI1/2	Source	Tuner1/Tuner2/Remux/IP Input
		Setup	Manual config
		CAM Name	No
	BISS	Source	Tuner1/Tuner2/Remux/IP Input
		Program Setup	Manual select
		BISS Mode	Mode 0/Mode 1/Mode E
	TS/IP	IP Board Type	100M IP In/Out
		Uni/Multicast IP	Manual config
		Uni/Multicast Port	Manual config
		Protocol	UDP/RTP
		Stream IP Address	Manual config
		Stream Netmask	Manual config
		Stream Gateway	Manual config
		Stream MAC Address	No
		IGMP Version	IGMPv2/IGMPv3
		TS Buffer Size	128kb/256kb/512kb/1Mb/2Mb/4Mb
		Smoothing	Auto/Fixed/Disable
	Remux	Remux Switch	ON/OFF
		Max Bitrate	Manual config
		Valid Bitrate	No
		TS ID	Manual config
		Program	Manual select

7.2.3. System

Main Menu	Sub Menu		Details
System	Version Info		Software details
	Network	IP Address	Management IP address (Manual config)

		Subnet Mask	Management Subnet Mask (Manual config)
		Default Gateway	Management gateway (Manual config)
		Trap IP	IP address for send trap information (Manual config)
		Http Login	Web login ID and password (Manual config)
	Device Label		Setting device label (Manual config)
	Factory Settings		Yes/No
	Machine Type		No
	Upgrade		Upgrade module through USB key (Yes/No)

8. Web Control

DMM-2200P has an integrated web server. This web server allows configuration and status requests with a standard web browser. First make sure the IP Control port is well connected in the network and can be pinged by the host PC. Then enter IP address of the module into the browser, it will pop up a dialog asking for login user and password. The default user name and password are “root” and “12345”. The user name and password can be changed via either DMM-1000CU programmer or Web browser. If the username and password are forgotten, user have to use a DMM-1000CU to reset it.

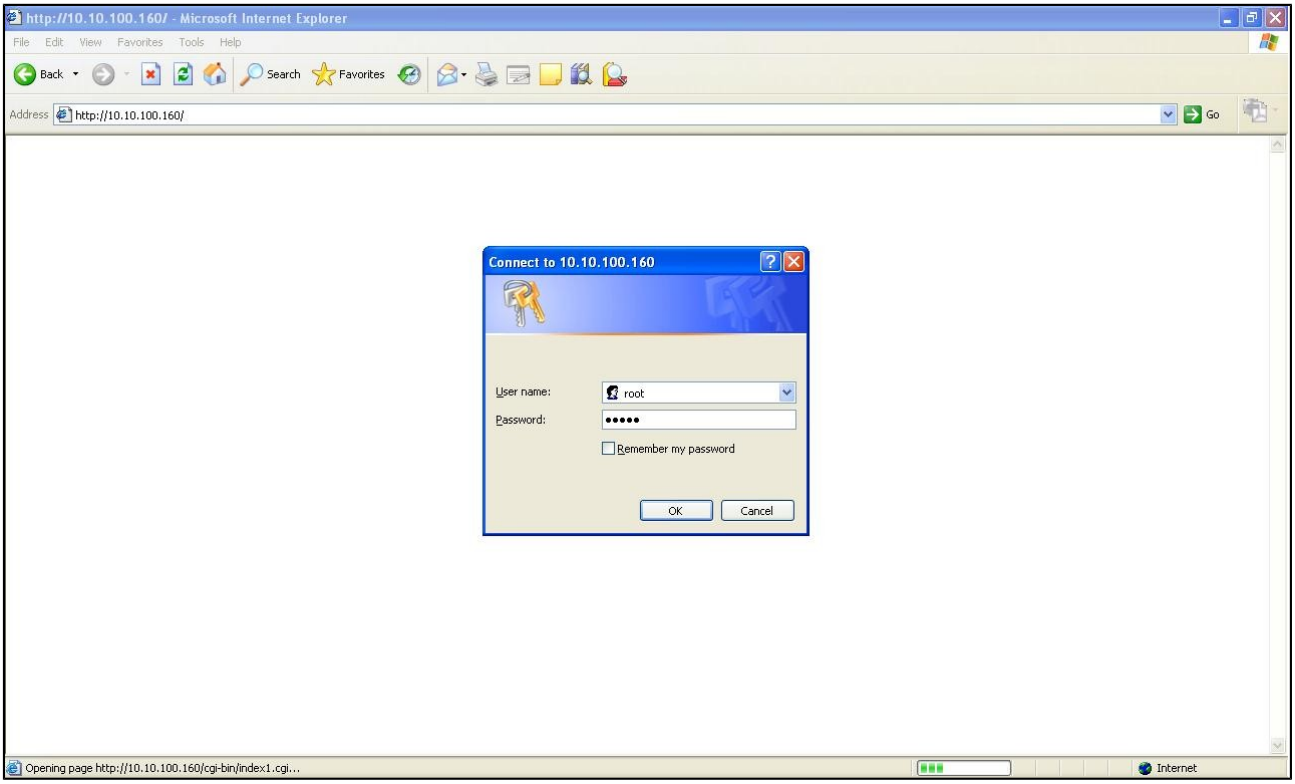


Figure 8-1 Login

8.1. Status

Via the status page, user can have an overview of the current working status of DMM-2200P.

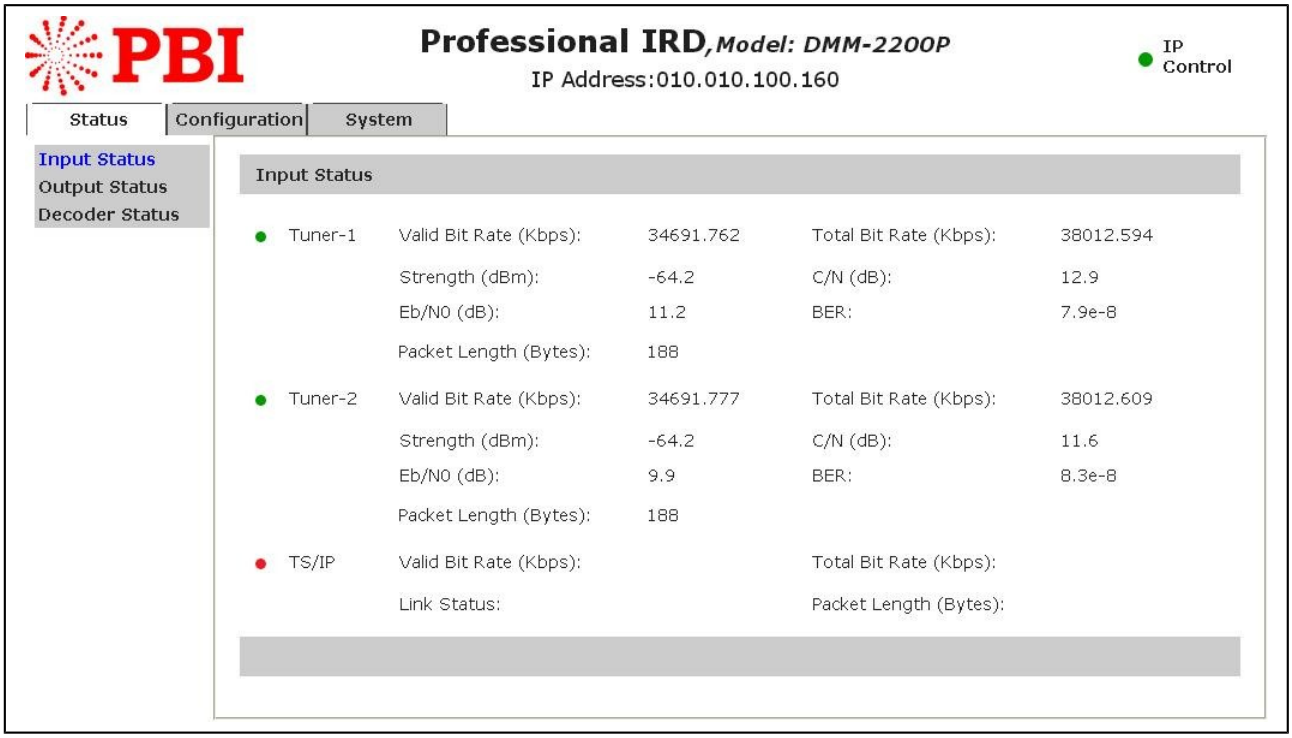


Figure 8-2 Input Status

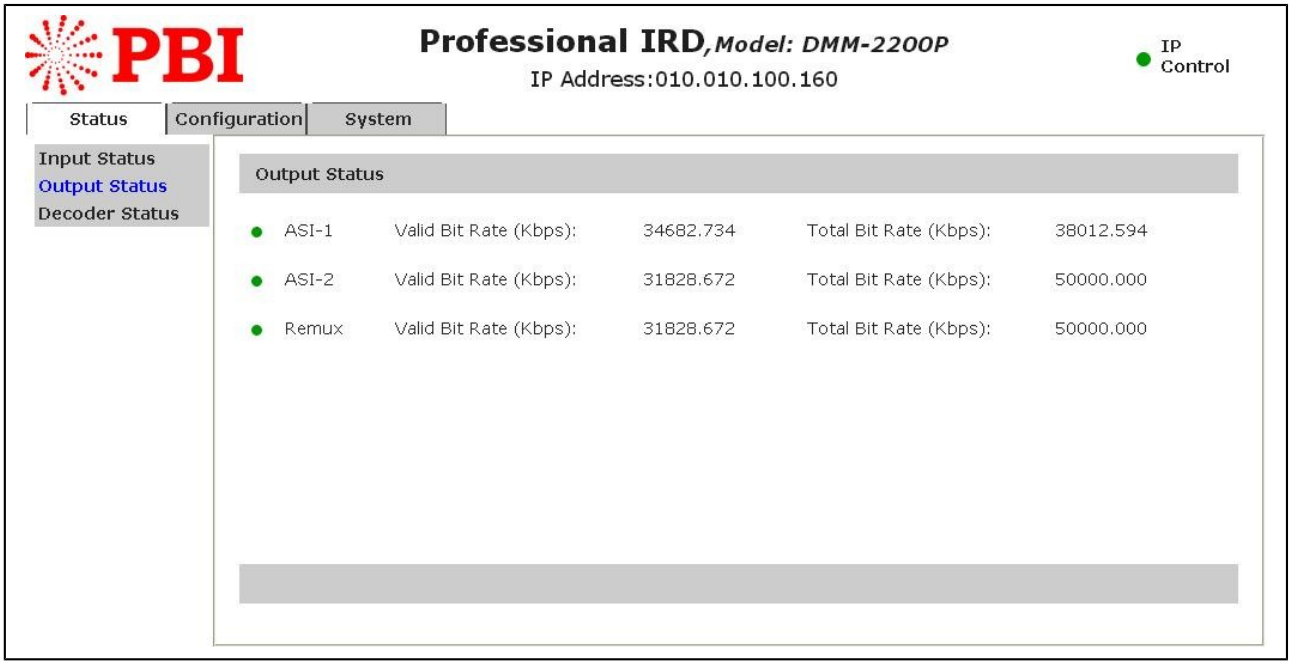


Figure 8-3 Output Status

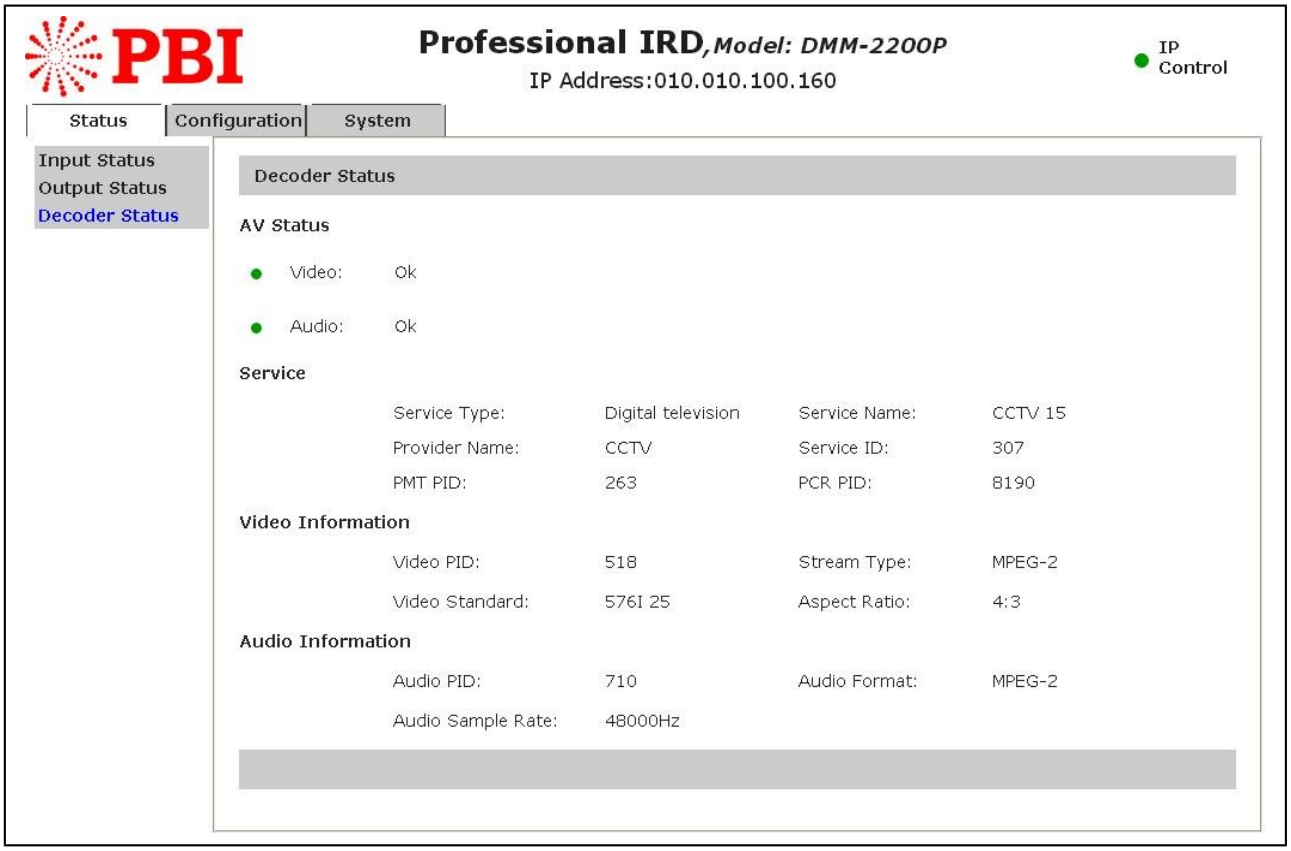


Figure 8-4 Decoder Status

8.2. Configuration

All configuration for Tuner1, Tuner2, CI1, CI2, BISS, built-in Re-mux, TS/IP, ASI output and Decoder can be found under the Configuration tab on the webpage. Click the button "Apply" to submit your configuration or click the button "cancel" to undo your configuration, as it shown in figure below.

8.2.1. Tuner1 & Tuner2

There are two independent tuners on one DMM-2200P module. Click on the “Tuner-1” or “Tuner-2” to configure it. Two tuners have the same options. Because of it supports five different types of tuner, DVB-S2/S/C/T/T2. Here is an example of DVB-S2. For more details, please see your module.

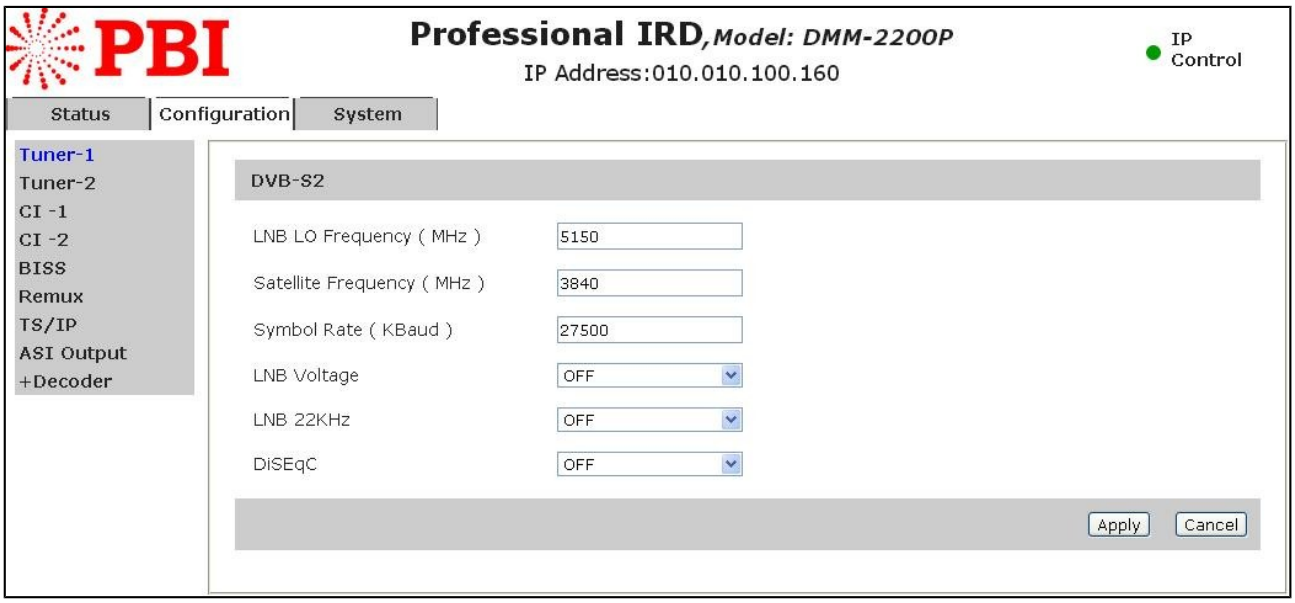


Figure 8-5 Tuner

8.2.2. CI-1 & CI-2

Slot: it will show the CAM name when a CAM inserted.

Source: choose transport stream which you want to decrypt.

Descramble Mode:

All PID: send all of PIDs in PMT to CAM.

A/V Only: send only Audio PIDs and Video PIDs to CAM.

CI Clock/Max Bit Rate: clock for CAM to work with transport stream.

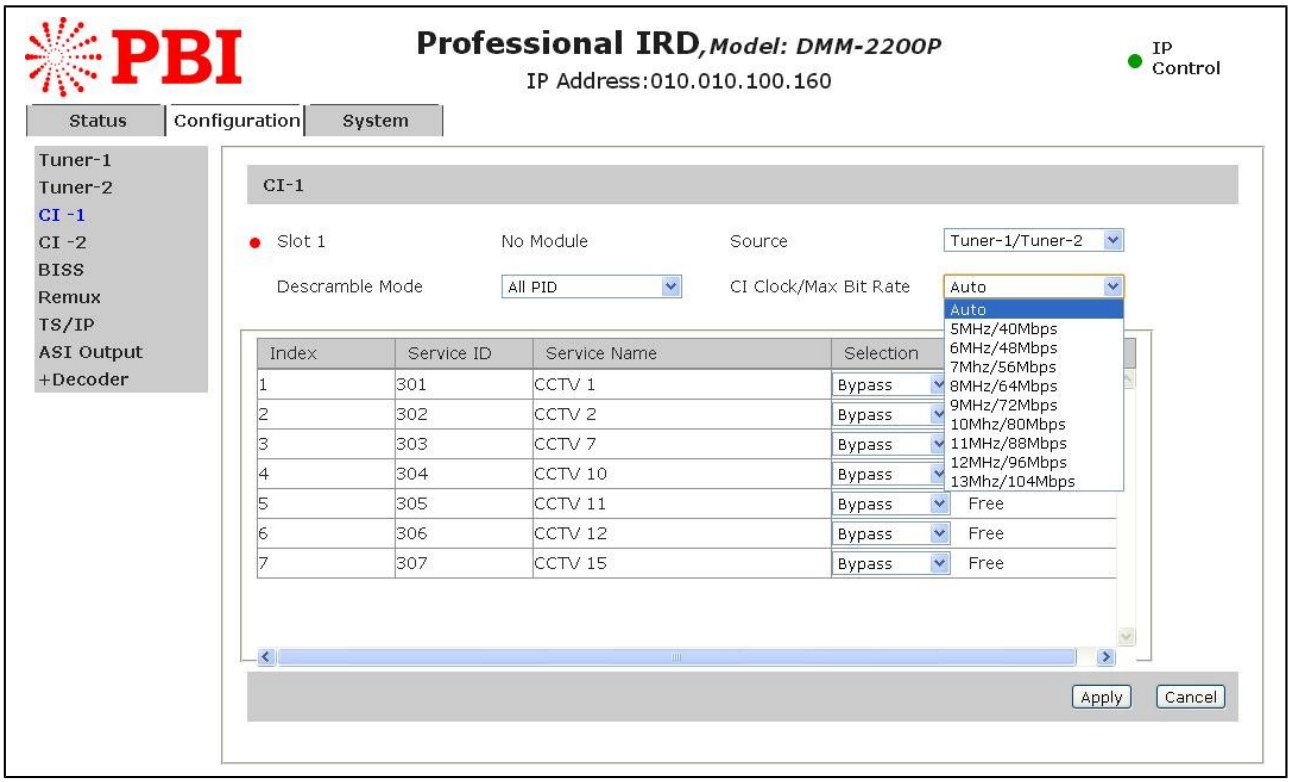


Figure 8-6 CI

8.2.3. BISS

BISS Mode: 3 options, Mode 0(OFF), Mode 1, Mode E.

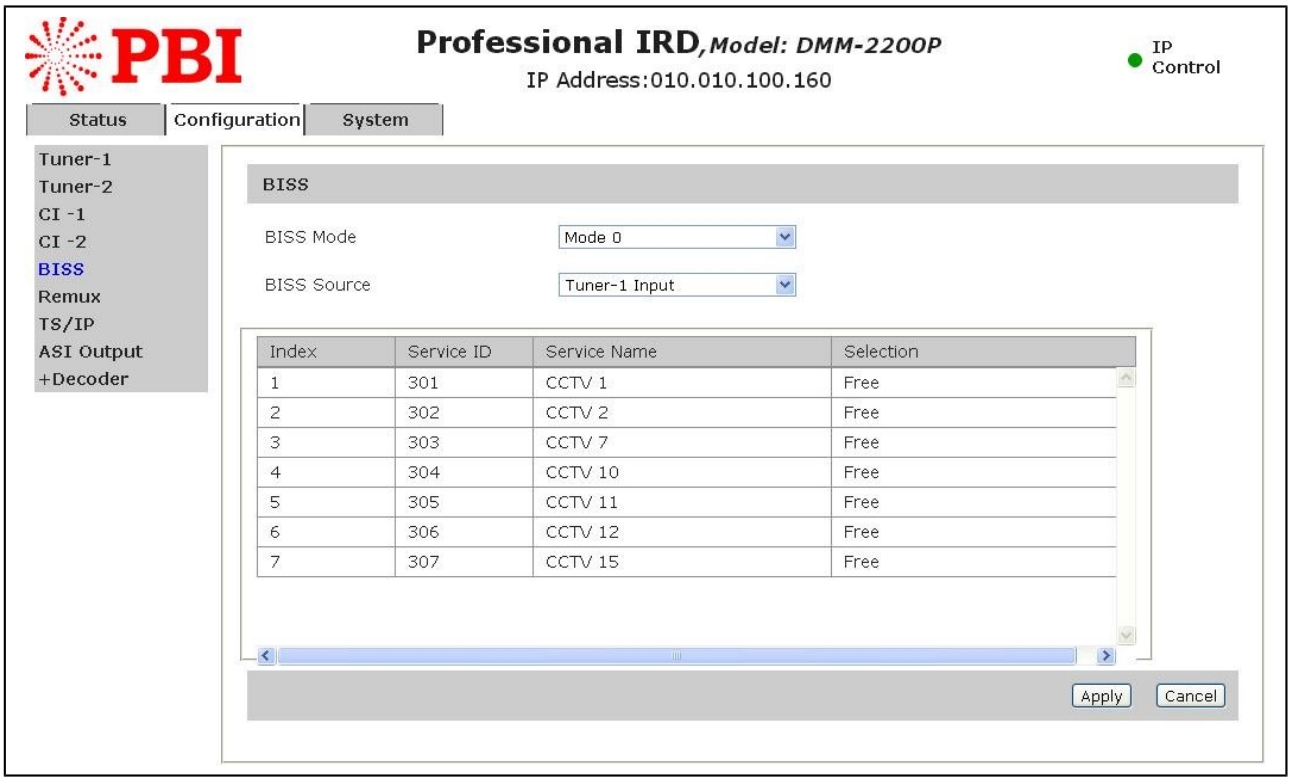


Figure 8-7 BISS

8.2.4. Remux

Remux Switch: enable or disable re-mux function.

Remove CA: remove all of CA descriptor in PMT and ECM/EMM after re-muxing.

TS ID: re-mux transport stream ID.

EIT Switch: pass through EIT of re-muxed services.

Output Max Bit Rate: total output bit rate of re-mux transport stream.

Original Network ID: ONID of re-mux transport stream.

Program Edit: edit selected service PSI/SI comments.

PID Filter: edit selected services PIDs.

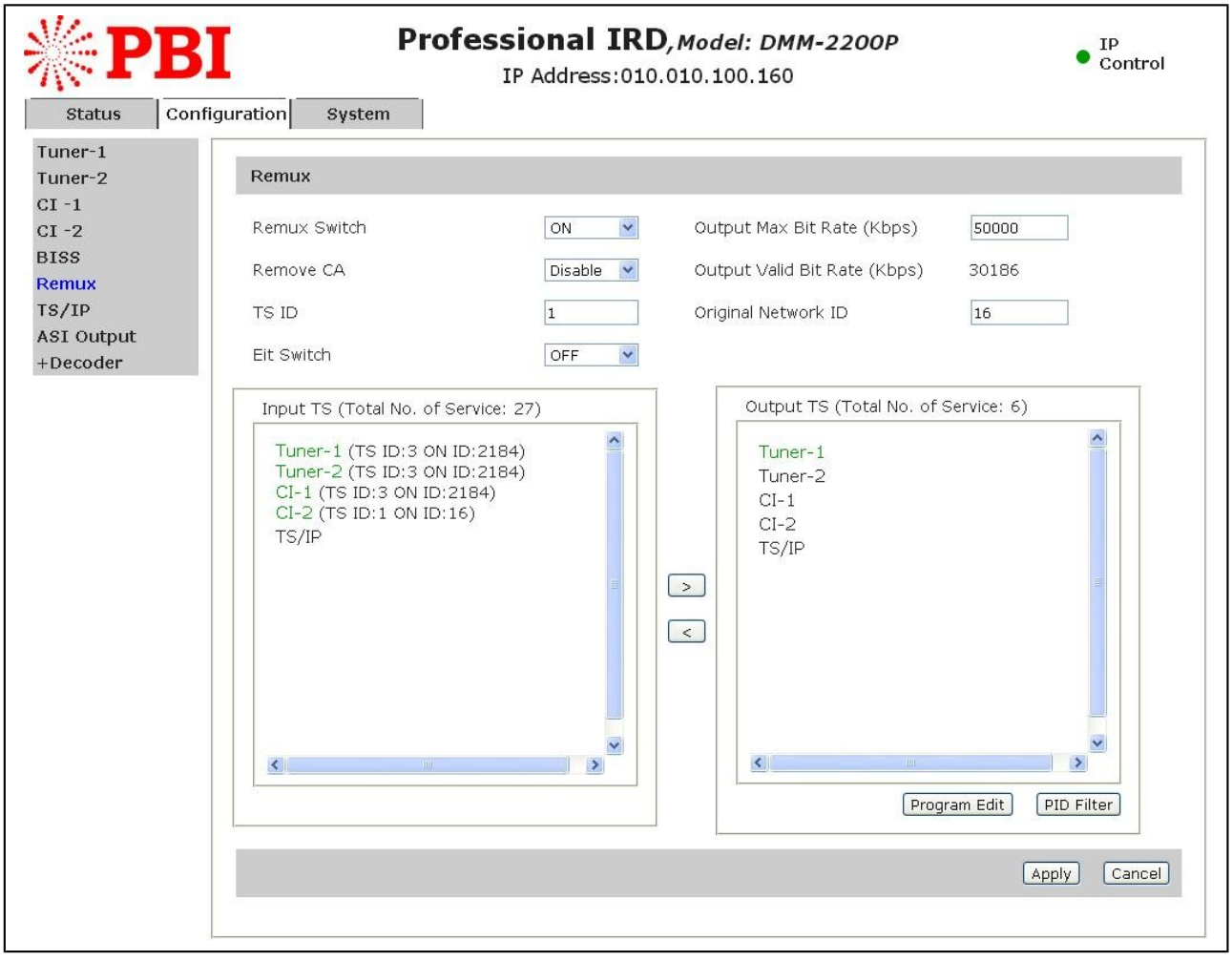


Figure 8-8 Remux

8.2.5. TS/IP

NOTE: This is a half-duplex 100M TS over IP, you should reboot the module after changing TS over IP board type from one mode to another mode.

8.2.5.1. TS/IP Out

Source: choose IP output transport stream.

TS PKts Per UDP: valid PSI/SI package in one UDP package (1 ~ 7).

Protocol: UDP/RTP.

Time to Live: TTL in the internet (1- 255).

Type of service: service for router (Normal, Min Delay, Max Throughput, Max Reliability, Min Monetary Cost).

Stream IP Address: local IP address for TS over IP board.

Stream Netmask: Subnet Mask for TS over IP board.

Stream Gateway: Gateway for TS over IP board.

Gateway MAC Address: Gateway MAC address for TS over IP.

Mode: DVB(Pass through all service in source)/IPTV(Filter useless services in source).

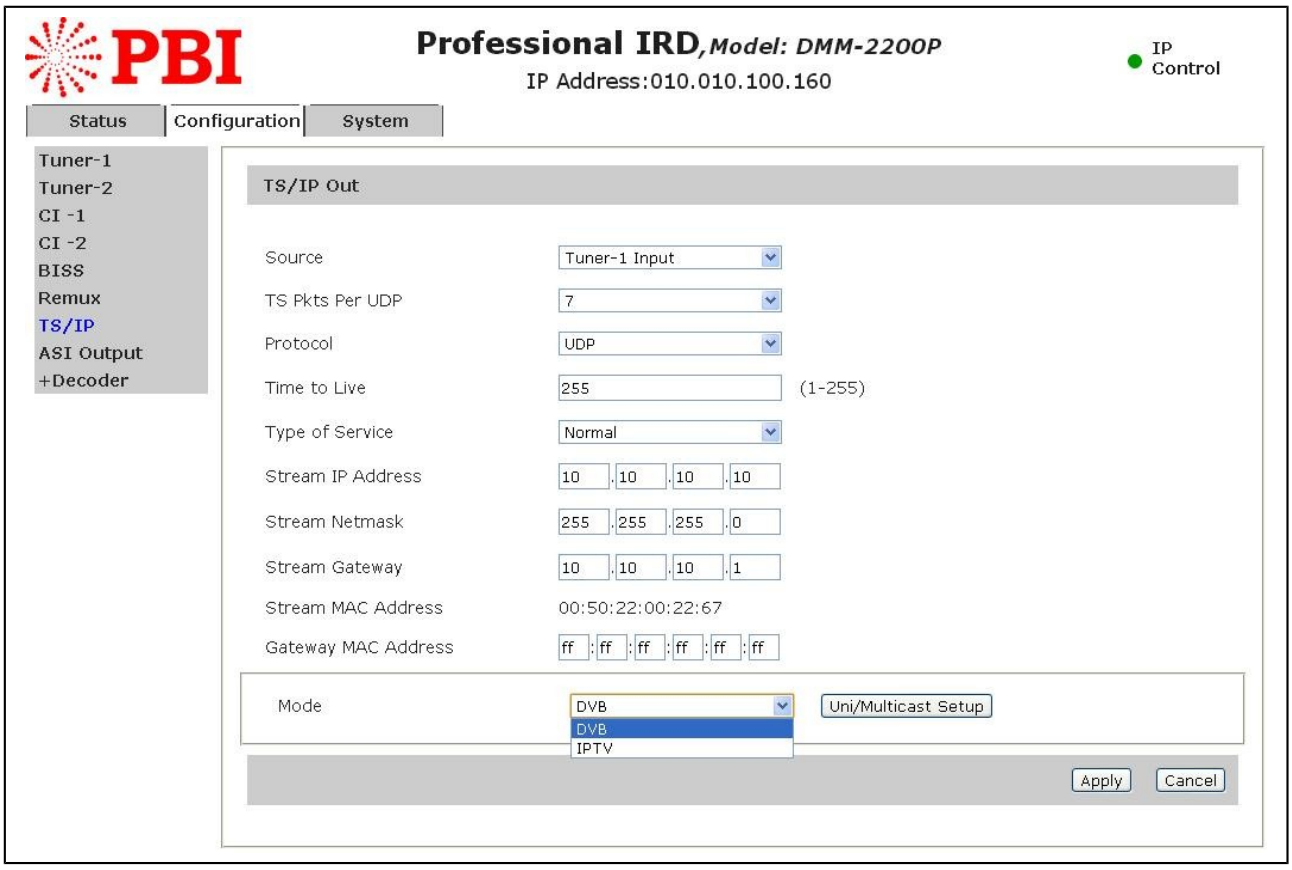


Figure 8-9 TS/IP Out

8.2.5.2. TS/IP In

Uni/Multicast IP Address: transport stream IP address of receiving.

Uni/Multicast UDP Port: transport stream IP port of receiving.

Protocol: UDP/RTP.

Stream IP Address: local IP address for TS over IP board.

Stream Netmask: Subnet Mask for TS over IP board.

Stream Gateway: Gateway for TS over IP board.

IGMP Version: IGMPv2/IGMPv3.

TS Buffer Size: size of buffer IP transport stream (128kb/256kb/512kb/1Mb/2Mb/4Mb).

Output Smoothing: bit rate after internal IP to DVB (Auto/Fixed Rate/Disable).

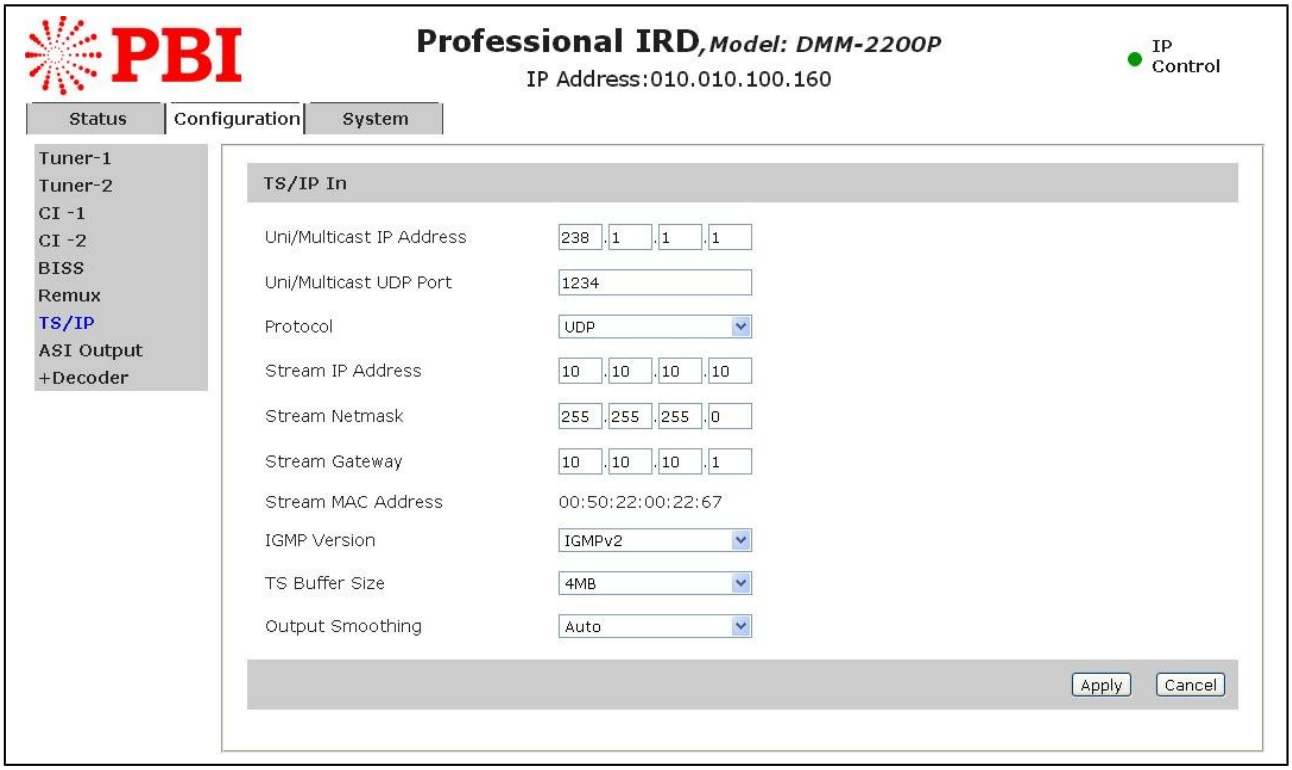


Figure 8-10 TS/IP In

8.2.6. ASI Output

ASI-1 Output Source: choose ASI 1 output transport stream.

ASI-2 Output Source: choose ASI 2 output transport stream.

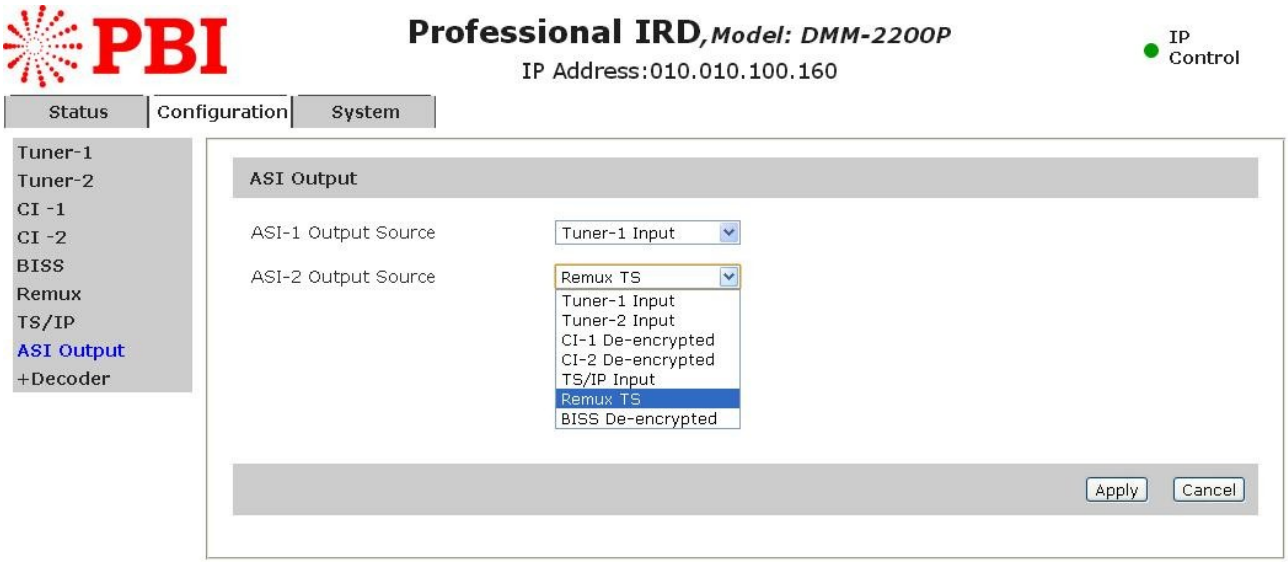


Figure 8-11 ASI Output

8.2.7. Decoder

8.2.7.1. Program

Source: choose transport stream for using.

Current Program: which program are decoded from the transport stream.

Program List: program list of transport stream.

Mode Selection: Auto (Automatically play first service)/Manul Selection (Select service manually).

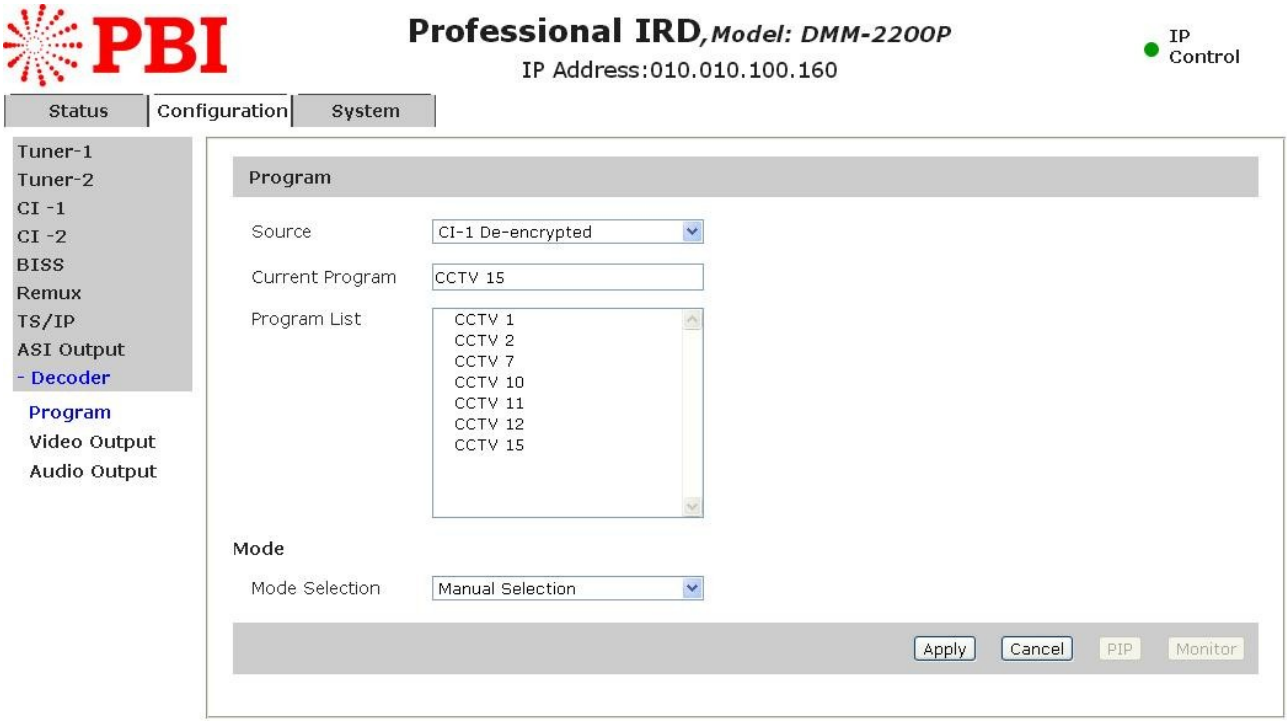


Figure 8-12 Program

8.2.7.2. Video Output

Video Standard: Auto/576I 25/480I 29.97/576P 50/480P 60/720P 50/720P 59.94/720P 60/1080I 25/1080I 29.97/1080I 30.

Aspect Ratio: Auto/4:3 Full/4:3 Letterbox/16:9 Full.

DVB Subtitle Language: it will show all the DVB subtitle language for the current decoding service, it can be set as off if you do not want to display any subtitle.

EBU Subtitle Language: it will show all the EBU subtitle language for the current decoding service, it can be set as off if you do not want to display any subtitle.

Subtitle Priority: choose DVB or EBU to display (DVB First/EBU First).

Failure Mode: Video output status if no service is decoding (Black Screen/Last Screen/No Sync).

Closed Caption: ON/OFF.

VBI Mode: Enable/Disable.

CVBS SUB PAL: it depends on the Video Standard mode.

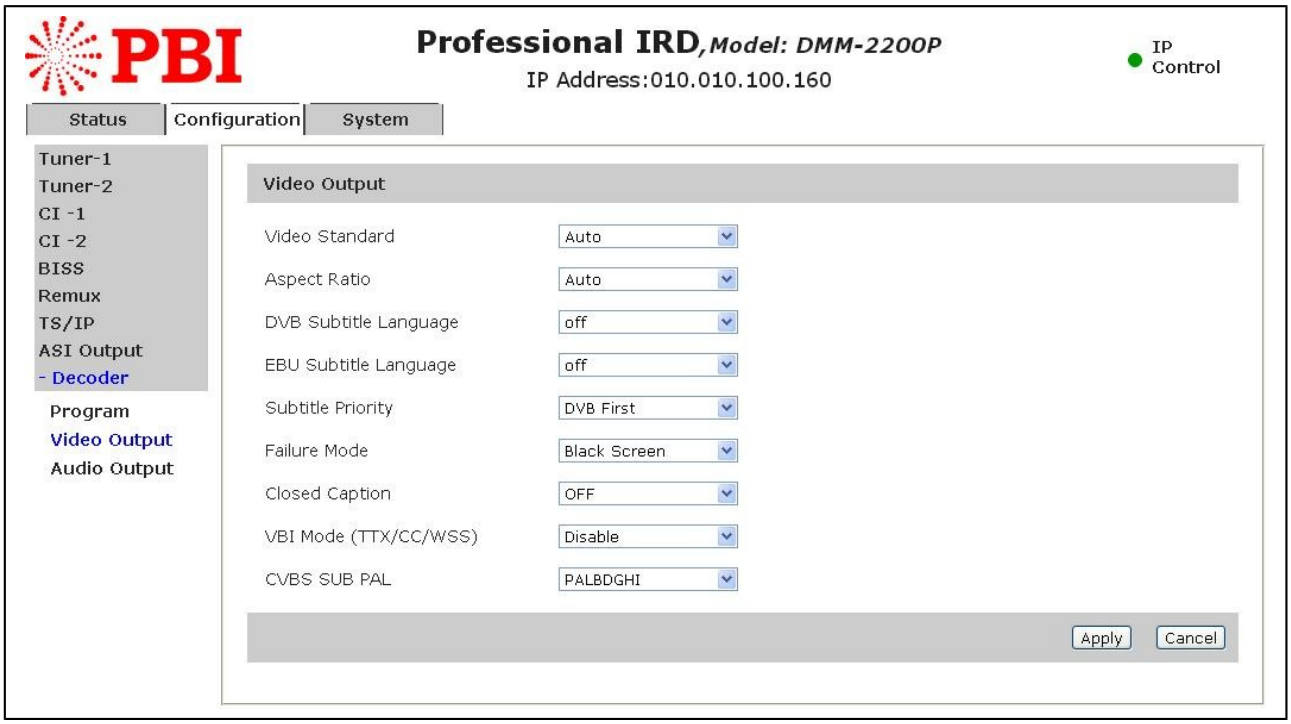


Figure 8-13 Video Output

8.2.7.3. Audio Output

Audio Level: 0 ~ 99.

Audio Mode: Stereo/Mono/Left/Right.

Audio Priority: choose audio pid to decode.

HDMI embeded: PCM/Compressed.

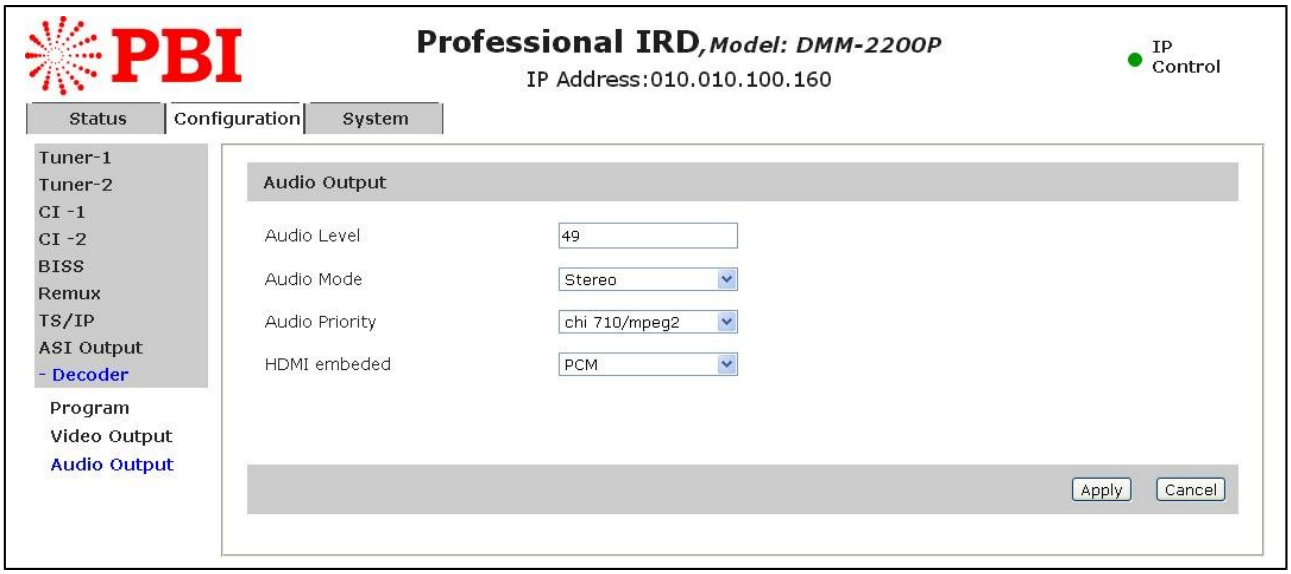


Figure 8-14 Audio Output

8.3. System

The system page gives all information of this device including device name, serial number, software version, and so on. User can implement the alarm switch configuration, network settings, TS/IP operation mode and software upgrade under system page.

8.3.1. Device

Device Label: User can resign this product name at will, the device name should be less than 24 characters.

Serial Number: read only.

IP Extension Board Type: choose TS Over IP board mode (TS/IP In / TS/IP Out).

Dynamic PMT Switch: Enable/Disable.

Backup Mode: OFF/Tuner-1 Priority/Tuner-2 Priority.

Interval: No/5s/10s/20s/30s/40s/50s/60s.

Login ID & Login Password: User can modify the login ID and password for web control.

Factory Default: click the button, the device is reset to the factory parameters.

Note: the IP address of the device is not reset to the factory setting! While press the button IP Reset via the front panel, the IP address is reset to the factory setting (10.10.70.48).

Device Reboot: User can reboot this device by clicking the button “Device Reboot”.

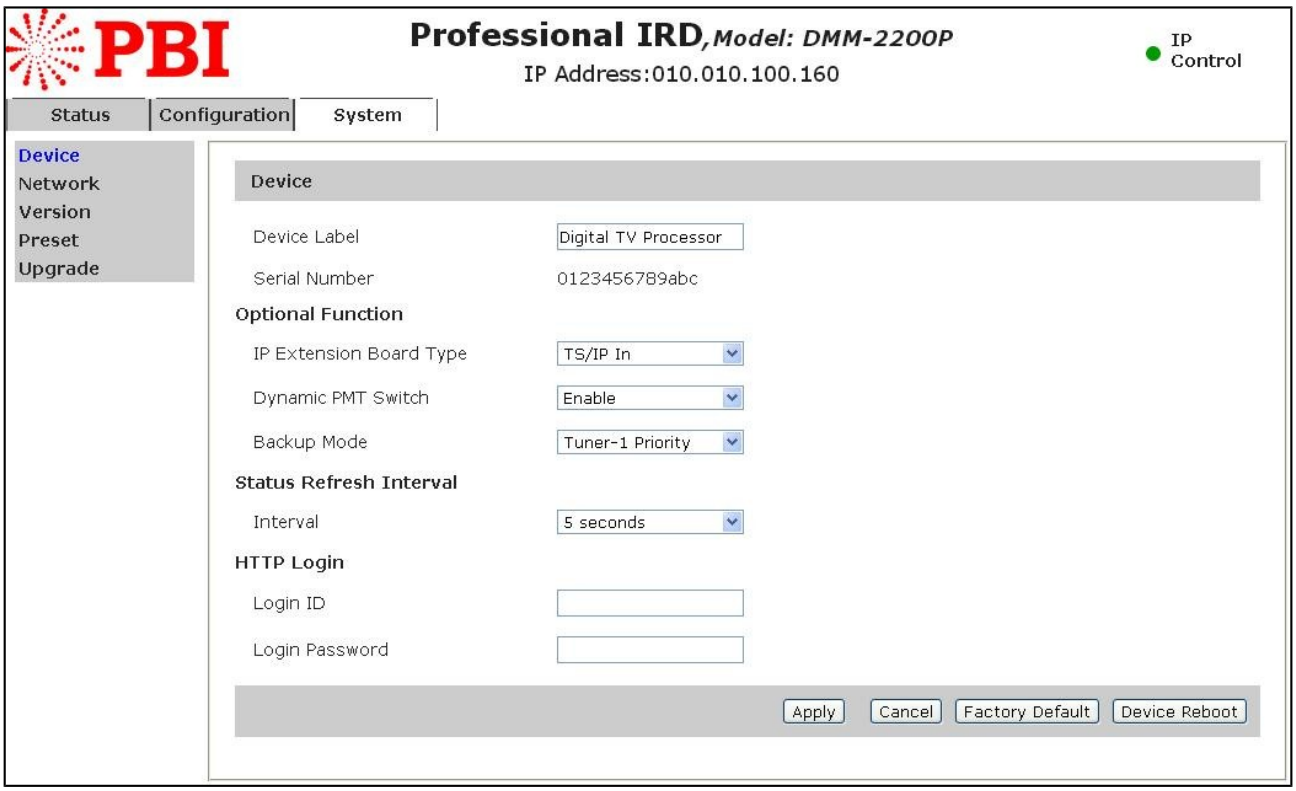


Figure 8-15 Device

8.3.2. Network

IP Address: IP Control address.

Subnet Mask: IP Control subnet mask.

Default Gateway: IP Control gateway.

MAC Address: read only.

Trap IP Address: alarm information receiving server IP address(SNMP).

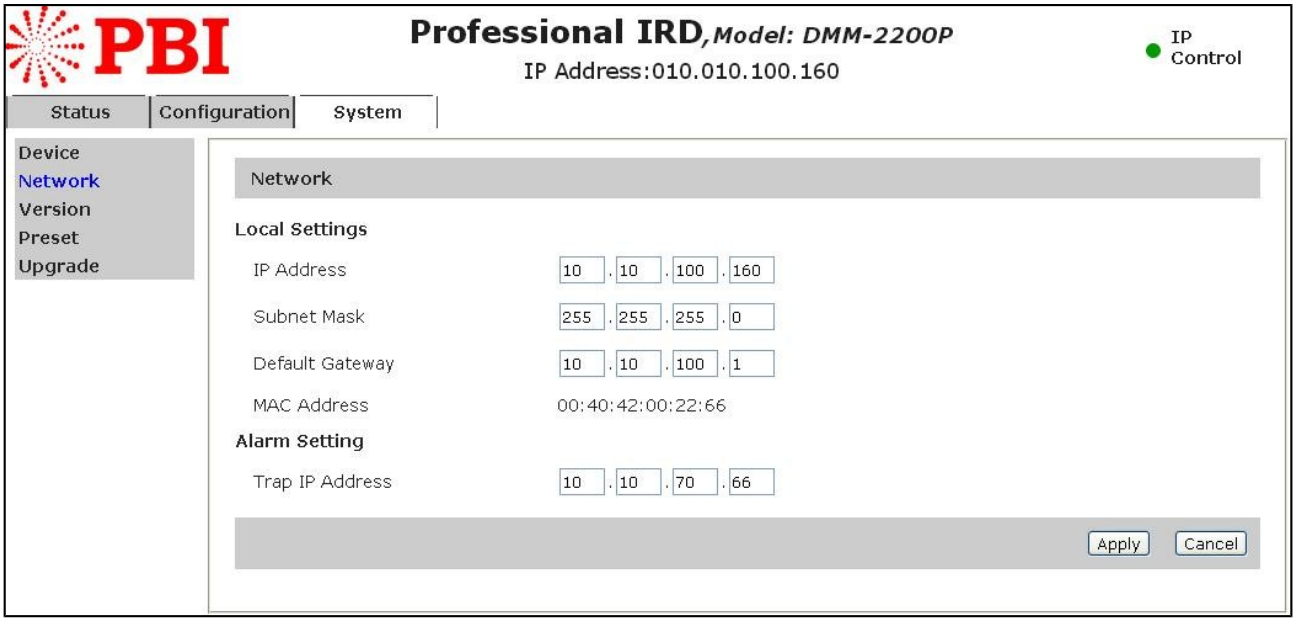


Figure 8-16 Network

8.3.3. Version

Software version of the module.

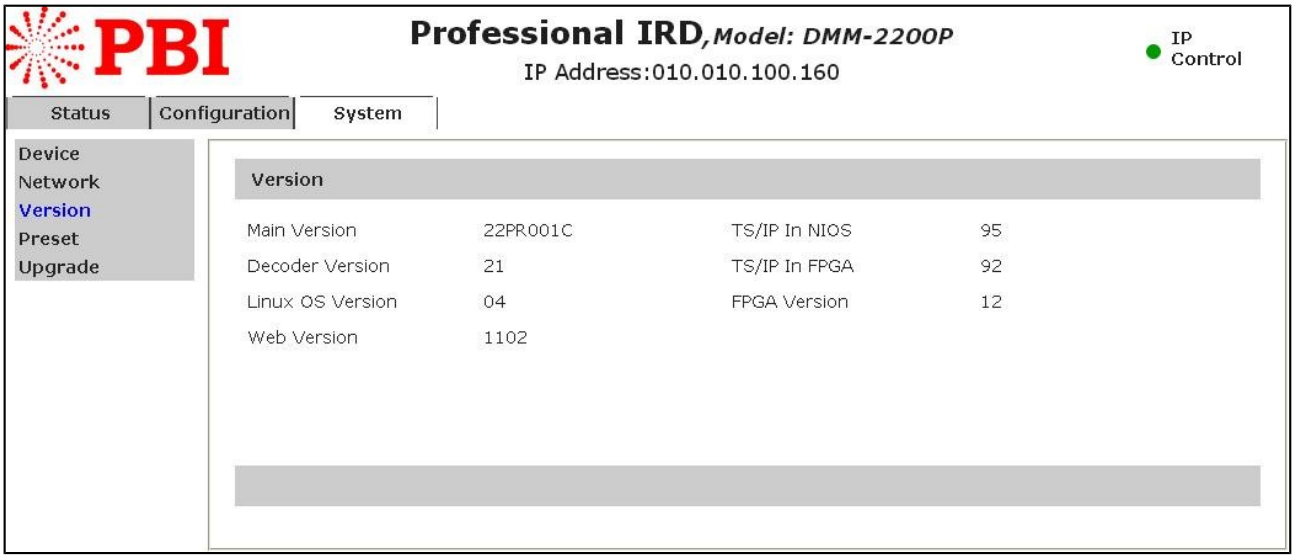


Figure 8-17 Version

8.3.4. Preset

Current: show the preset file name using.

Preset Name: choose where you want to save the settings and name the file.

Save: save all settings of module.

Recall: recall all settings from preset file which selected.

Delete: delete the preset file which selected.

Download: download all preset files to local PC.

Browse: choose local preset file on PC.

Upload: upload selected local preset file from PC to DMM2200P.

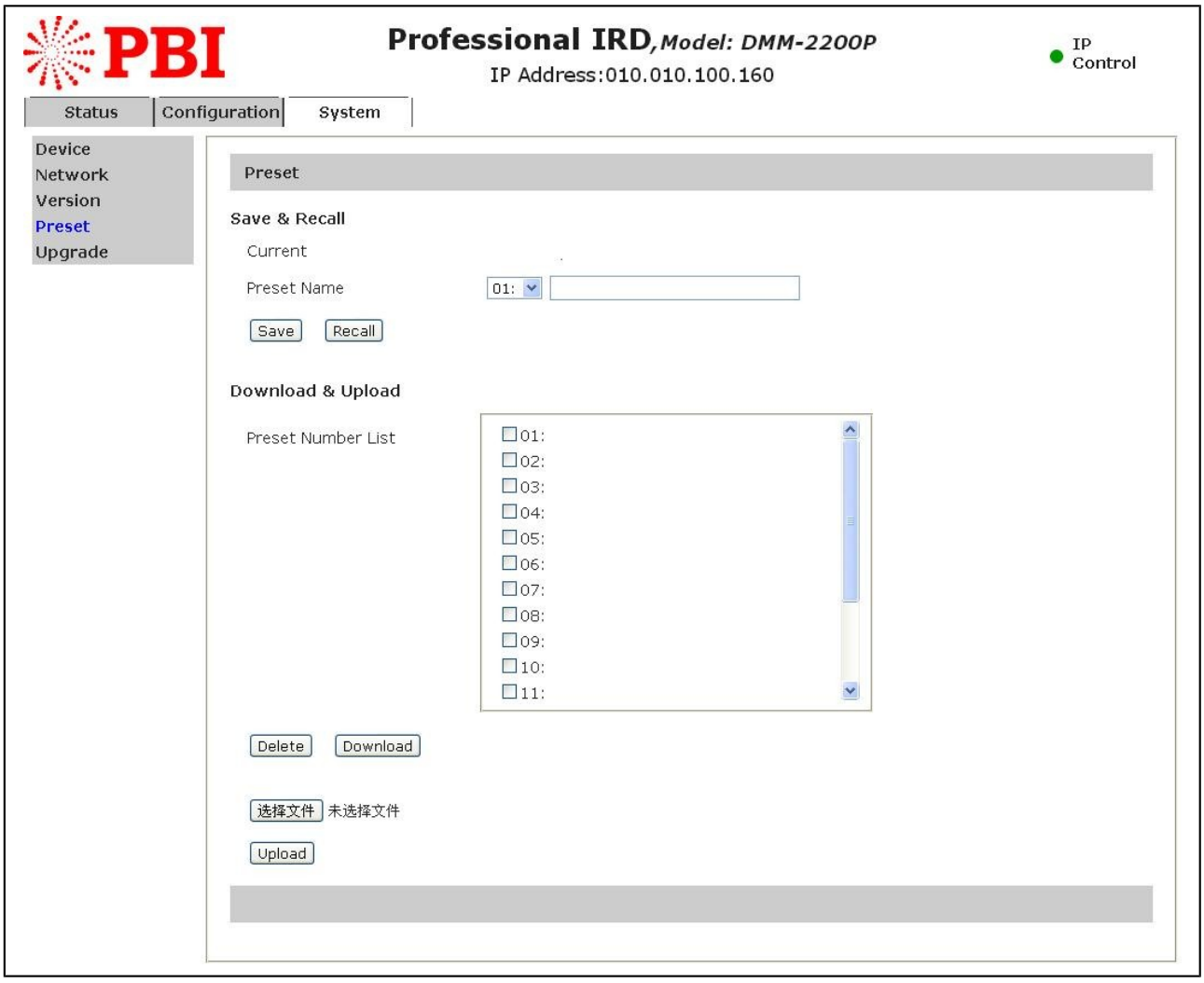


Figure 8-18 Preset

8.3.5. Upgrade

Browse: choose upgrade file target.tgz.

Upgrade: enable upgrade process.

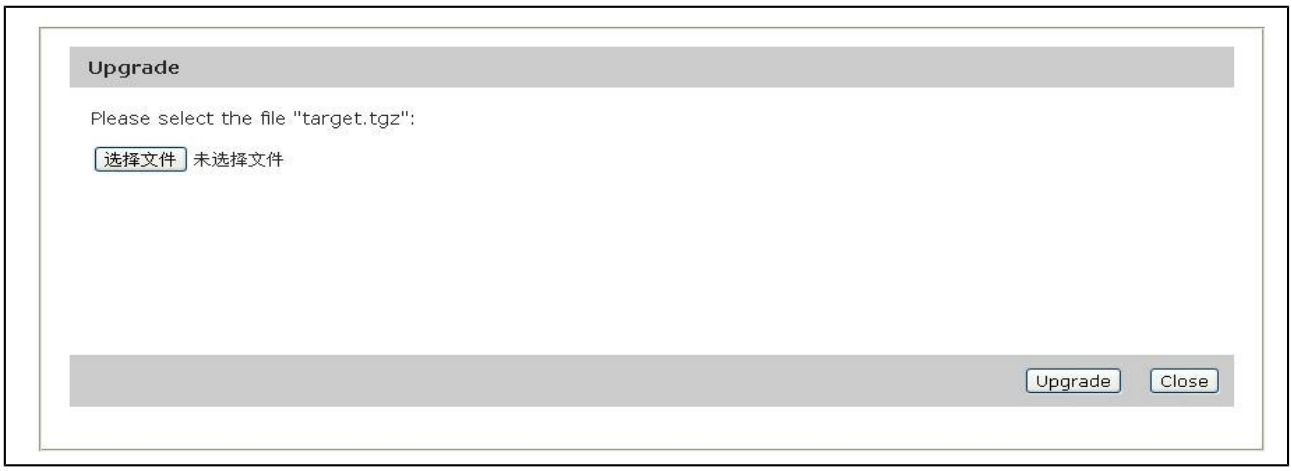
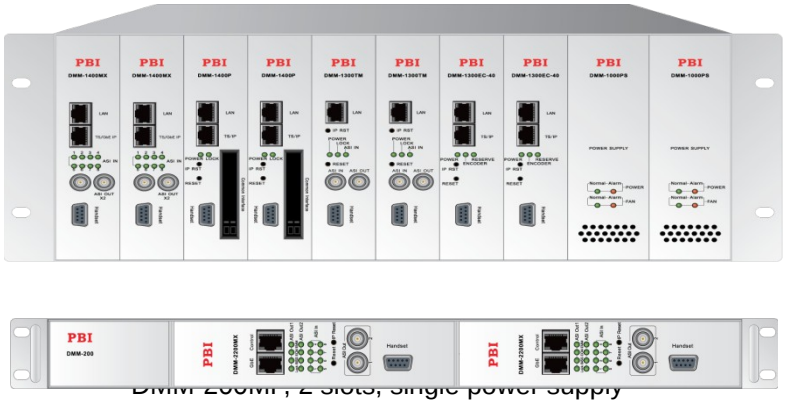


Figure 8-19 Upgrade

9. Installation

- Fix the DMM-1000MF or DMM-200MF chassis into the standard EIA 19” rack.
- Insert the device into the fixed DMM-1000MF or DMM-200MF chassis.

  Caution: the DMM-2200P can be accommodated in the DMM-1000MF or DMM-200MF chassis only. Inserting the device into other chassis or equipment may break the device and cause serious accident.
- Fix the front and rear covers onto the DMM-1000MF or DMM-200MF.
- Connect all input output cables and Ethernet cables.
- Plug the power cable into DMM-1000MF or DMM-200MF. The POWER Indicator LED (A4) should be green and always light on during working. The DMM-2200P needs 1.5-2 minutes to boot up completely.
- Connect DMM-1000CU to configure locally or open a web browser on a connected PC and configure remotely.



DMM-200MF, 2 slots, single power supply

10. Accessories

Front panel	1PC
Rear panel	1PC
CD-ROM	1PC
BNC connector cable	1PC
Certificate of quality /Guarantee card	1PC

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