

Digital CATV Head End Modular Bank

User Manual

(ver. A)



http://www.pbi-china.com

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1. Summary

DMM-1000 is a digital CATV head end modular bank, which combines modularized professional IRD, MPEG-2 encoder, Re-Multiplexer and QAM/COFDM Modulator into a 4Ux19" chassis. User can use it to build up a mini digital headend system easily. It is controlled by HDMS (a remote software developed by PBI) via LAN. The flexibility and easy-to-use of DMM-1000 present a highly integrated and stable digital CATV system solution.

Model No.	Description
DMM-1000MF	Main Frame
DMM-1300P	Professional IRD module
DMM-1300EC	MPEG-2 encoder module
DMM-1300MX	Re-Multiplexer module
DMM-1300TM	QAM Modulator module
DMM-1300CM	COFDM Modulator module

The DMM-1000 system block is shown as below:



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Features:

- \bigcirc 4U chassis, flexibility and easy-to-use.
- ◎ Up to 9 slots for max. 9 modules
- Support hot backup for power supply and hot-swappable for modules.
- ◎ LAN control by HDMS software which based on SNMP protocol.
- For DMM-1300P module, it complies with MPEG-2 (MP@ ML) and DVB-S2/S/-C/-T standard. It supports Unicast and 7-way Multicast IP output.
- ◎ Support fan temperature control which can prolong its lifecycle.

2. Basic Operation on HDMS

2.1 Minimum requirements for PC

OS: Windows2000 or above CPU: PIII / 800 MHz or above Memory: 256M DDR or above Hard disk space: more than 100M.

2.2 Installation

Login Windows platform. Double click "HDMS***.exe" ("***" means version number of HDMS, for example, "2.14.1Lite") and follow install wizard to install the HDMS software.



After installation, there will be an icon appears on your PC desktop, double-click it to login HDMS. Both default user name and password are "hdms".



2.3 Edit IP addresses of modules

The default IP address of each module is 10.10.70.48, thus you firstly should set IP addresses of modules one by one avoid IP address conflict.

Connect your PC with DMM-1000. Set the IP address of your PC to10.10.70.xx(xx means a number beside 1, 256 and 48). Login HDMS, Click the button, the module will be detected by HDMS.



Double click the device, it will show the submenu as below. Choose "System" menu, change Device IP to another IP address, then click "Apply" button to confirm your operation. The IP address is set successfully.

🙀 Headend Device Managemen	nt System				
<u>F</u> ile <u>V</u> iew <u>T</u> ools <u>W</u> indows <u>H</u> elp					
8 🙆 🔍 🚀 🗙 🔯 வ					
Devices Device Info	♥DMM-1300PS@10.10.70.48 ×				
Q P P P P Devices [1 live/1 sum] P P P	Input Status CI ASI Output Dec	oder Output IP Output Syst			
 Device Uptime :0:07:07. Device Type:Digital TV 	Device Info		Network		
	Uni t.Name D	MM-1300PS	Target Device		
	Serial Number 5	177423	Device IP	10. 10. 7	0. 101
			Subnet Mask	255. 255. 25	5. 0
			Gateway	10. 10. 7	0. 1
	Version		MAC Address	06: 05: 04: 03:	02:01
	FPGA Version 5	0.90.14	Alarm Setting		
	MCV Version 0	3. e5. 3e	Trap IP	0. 0.	0. 0
				Edi	t Mac Reboot
		Apply Refresh	Load Save	Default	
	Alarm Manager ×				
					<u>^</u>
	: (2) Trap Time	IP	Device	Channel	Description
	2009-5-11 17:04:04	10, 10, 70, 156	Multiplexer DMM-1300PS	none	device online
<	2005 3 11 11.02.33	10.10.10.101	Junii 130013	none	acarce outrue

Follow this method above to set IP addresses of other modules one by one.

Note: It is better to use independent LAN to control DMM-1000. That will reduce failures which caused by lack of network resource.

After set IP addresses of all modules, click the button, all devices will be automatically detected. If the device is green color, that means HDMS connect to the device well. If red color, means fail to connect to the device. If yellow color, means HDMS is trying to connect to the device.

There are some introductions about icons in HDMS:



connect the network, click this button, HDMS will detect devices in the LAN automatically.

lock screen, click this button, HDMS will be locked. User cannot do any operations until login as Admin to unlock this status.

Search devices in LAN, click this button to searching devices in LAN manually.

Check device status. Click this button, HDMS will ping each device in LAN to check their working status.



Delete device, click this button to delete the device in list.

Set email configuration, click this button to set email forwarding function when alarm.

Review Alarm history. Click this button to check alarm record.

Network topology, click this button to show network topology diagram.

3. Advanced Operation on HDMS

3.1 DMM-1300P Professional IRD module

DMM-1300P is a professional IRD module, which supports QPSK, QAM, COFDM, DVB-S2 and ASI input (different models). Each DMM-1300P has a CI slot for CAM to decrypt various Conditional Access Systems, such as Irdeto, Viaccess, Conax, PowerCAM and SMiT etc. It also can convert TS to IP format. It supports Unicast and 7-way Multicast.

Double click DMM-1300P module in HDMS, it will show sub-menus as below:

Input Status menu

AST To	Tatal Rituata (Uhra)	Peaket Size (Brite)		Status Pulling
	I fotal bitrate(mops)	racket Size(byte)		Frequency 5
🕙 ASI Out	Total Bitrate(Mbps)	43. 303120		
🍓 Tuner	Total Bitrate(Mbps)	43.303120 Packet Size(Byte)	204	Appl
	Strength(dBm)	-99 C/N(dB)	10	Status Pull
	BER	1.3e-6 Eb/No (dB)	8	Done
	LNB Freq(MHz) 5150	LNB Voltage	OFF 🔽	
	Set Erec (MHz) 4000	LNB 22KHz	OFF 💌	
	Dat Heddinity 1000			
	Symbol Rate(KBaud) 26850			

State option

ASI IN: Status of ASI input. Red color means there is no ASI input. If there is ASI input, it will turn green.

Total Bitrate: shows the bitrate of ASI input

Packet Size: shows packet size of ASI input

ASI OUT: Status of ASI output. Red color means there is no ASI output. If there is ASI output, it will turn green.

Total Bitrate: shows the bitrate of ASI output

Tuner: Status of Tuner input. Red color means there is no tuner input. If there is tuner input, it will turn green.

Total Bitrate: Total bitrate of Tuner input

Packet Size: Packet size of Tuner input

Strength: Strength of Tuner input

C/N: Carrier-to-Noise Ratio of Tuner input

BER: Bit error ratio of Tuner input

Eb/No: Quality of Tuner input

Status Polling option

Frequency: set pulling time within range of 5-30s.

Done: refresh status polling.

QPSK setting option

LNB Freq: sets the LNB Local Oscillator (L.O.) frequency

Sat Freq: sets satellite downlink frequency

Symbol Rate: sets symbol rate

LNB Voltage: selects correct LNB voltage: Off, 13V, 18V (Usually, 13V switches the LNB to

receive Vertical/Left hand polarization while 18V receive Horizontal/Right hand)

LNB 22K: activate the LNB 22kHz control signal to the LNB: On or Off (Usually, 22KHz control signal switches the LNB to receive high band if any)

After set the relative parameters, please click "Apply" button to confirm and then click "Refresh" button to obtain current settings

CI menu. When user wants to decrypt with CAM module, you can enter this sub-menu.

	🧶 No Module	Slot2
Index	Program	Select
1	65534	Free bypass
2	Channel [V] Int'1	Bypass
3	STAR Movies Int'l China/SEA	Bypass
4	Nat. Geo	Bypass
5	STAR World	Bypass
6	Subtitle-Test.	Bypass
7	604 Channel [V] Int'1	Bypass
8	715 Ph'x Movies	Bypass
9	716 STAR Chinese Movies 2 NA	Bypass
10	721 Movies Int'l	Bypass
11	726 Ph'x Info	Free bypass
12	739 Movies Int'l	Bypass
13	743 Phoenix Chinese Channel	Free bypass
14	745 XING KONG	Free bypass
15	747 Channel [V] China	Free bypass
16	748 Star World Asia	Bypass
17	749 Star World	Bypass

Source: Select input signal source which user wants to decrypt with CAM. There are two options: Tuner and ASI.

Slot1/Slot2: There are two CI slots on DMM-1300P, but one slot is for backup, user cannot use two CAM modules at the same time. When user insert CAM module into CI slot of DMM-1300P, there will be CAM info appears in this sub-menu. If there is no CAM module in CI slot, it will show "No Module"

Program table: After select input signal source and press "Apply" button, the program list will appear. In "Select" column, the default setting is "Bypass" which means don't do any decrypt operation. If user want to decrypt program, double click Bypass column and change it to Slot1(or Slot2). Then click "Apply" button to confirm.

Apply: this button is used to confirm your operation. When you make any settings, you need to click this button to confirm your operation.

Refresh: click this button will refresh program list.

Save: user can save this setting into your PC.

ASI Output menu, when user wants to output ASI signal, you can enter this sub-menu.

Input Status CI ASI Output Decoder Output IP Output System	
ASI Output Source Packet Size (Byte	Tuner V) Bypass V
Apply Refr	esh Load Save

Source: signal source of ASI output selection, user can select Tuner, ASI or CI. If select Tuner, DMM-1300P will output programs in ASI output port directly without any decryption.

Packet Size: ASI output packet size setting; user can select 188 or Bypass

Click "Apply" to achieve operations above.

Refresh: Click this button to check whether your operation is achieved.

Save: user can save this setting into your PC.

Load: user can load setting from your PC.

Decoder Output menu. When user wants to output AV signal, you can enter this sub-menu

♥ DMM-1300P-T@10, 10, 70, 112 ×				
Input Status CI ASI Output Deco	der Output IP Output System			
Decoder Play		Biss Info		
			Biss Mode	Off 💙
Source	Tuner			
Program	CCTV-1			
-Video Output	CCTV-10			
	🛎 Lotus 5			
	Lotus 7	Audio Output		
Video Standard	🞽 i-Horizon 9 💽			
Screen	4:3 Full 💙			
DVB Subtitle Lang	eng		Audio Level	49
EBU Subtitle Lang	eng		Addro Beyer	0 99
Subtitle Priority	DVB First		Audio Mode	Stereo 💌
Fail Mode	Black Screen 💌		Audio Language	eng 💌
	Apply Refres	h Load	Save	

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Decoder Play

Source: choose which signal source you want to decode. User can select Tuner, ASI or CI.

Program: After select Source, the program list of this source will appear. Select one program that you want to decode, click "Apply" button to confirm.

Video Output

Video Standard: User can select Auto, PAL, NTSC or SECAM.

Screen: Video screen display option. User can select Auto, 4:3 Full, 16:9 Full or 16:9 Full.

DVB Subtitle Lang: select DVB Subtitle language

EBU Subtitle Lang: select EBU Subtitle language

Subtitle Priority: configure the priority of subtitle. User can select DVB First or EBU First.

Fail Mode: It includes Black Screen, No Sync and Still Picture

Biss Info

Biss Mode: It includes OFF, Biss E and Biss 1

Biss 1 Setup: Set Biss 1, password is required

Biss E Setup: Set Biss E, ID number and password are required

Audio Output

Audio Level: It can be adjusted in the range of 0 to 99.

Audio Mode: User can select Stereo, Left, Right or Mono for soundtracks,

Audio Language

Click "Apply" to achieve operations above.

IP Output menu. When user wants to output IP signal, you can enter this sub-menu

DMM-1300P-T@10.	10.70.112 ×			
nput Status CI	ASI Output Decode	er Output IP Output S	stem	
S	ource	Tuner	▼ Stream IP 10. 10. 70. 10	
т	S Pkts Per UDP	7	Stream Netmask 255, 255, 255, 0	
P	rotocol	UDP	Stream Gateway 10. 10. 70. 1	
Т	ime To Live	5	▼ Stream MAC Address 00 : 0E : 26 : FF : 04 : 31	
т	vpe of Service	Normal	Gateway Mac Address 00 : 01 : 00 : 00 : 01	
M	ode	IPTV	Multicast Setup	
		Apply	iresh Load Save Edit Mac	

Source: choose which signal source you want to output with IP format. User can select Tuner, ASI or CI.

TS Pkts Per UDP: Set how many TS packages will be encapsulated in one UDP package.

The valid range goes from 1 to 7.

Protocol: User can select UDP or RTP.

Time To Live: Set the number of the routers over which the TS over IP can be transmitted. The valid range goes from 1 to 5.

Type of Service: User can select Normal, Min Monetary Cost, Max Reliability, Max Throughput or Min Delay.

Stream IP Addr: Enter the IP address for streaming IP output.

Stream Netmask: Enter the network sub mask for the subnet to which the unit is connected for IP streaming traffic.

Stream Gateway: Set the gateway for the network to which the unit is connected for IP streaming traffic.

Stream Mac Address: Factory-set MAC addresses are guaranteed to unique. Therefore you cannot configure the address.

Gateway Mac Address: Set gateway Mac Address

Mode: Select the mode of IP stream output, user can select DVB or IPTV.

Click "Apply" to achieve operations above.

DVB mode: TS which comes from the 'source' selected in previous step will be packed into IP Stream directly. It requires configuring the following parameters.

DVB Mode Setting				×
Multi-/Unicast IP	225. 1.	1.	1	
Multicast UDP Port	3000			
Target Mac Address	00: 00: 24:	56 : 12 :	67	
	K Close			

Multi/Unicast IP: Set Multi/Unicast IP address.

Multicast UDP Port: Set Multicast UDP port number.

Target Mac Address: Set the Mac address of PC at the receiving end in Unicast mode. Click "Apply" to achieve operations above. IPTV mode: TS which comes from the 'source' selected in previous step will be de-Muxed to several single programs, and each program is packed into one IP stream.

IPTV Mode Setting		
TS Input 曲 Input TS (sum:9) ● ① Tuner ● ① 北广传媒 1 ● ② Lotus 4 ● ② T43 Phoenix Chinese ● ③ 745 XING KONG 7 ● ③ i-Horizon 9 ● ③ 747 Channel [V] Chi	✓ Enables Multicast UDP Port 1234 Multi-/Unicast IP 238. 1. 1. 3 Target Mac Address 00: 00: 24: 56: 12: 67 IP Output Multicast UDP Port 1234 Target Mac Address 00: 00: 24: 56: 12: 67 IP Output IS (sum:1) IP Tuner IP Tuner IP 11/7 传媒 2	Outputs 7 V Channel 0 Channel 1 Channel 2 Channel 3 Channel 4 Channel 5 Channel 6
	Apply	
	OK Close	

Output: Select IP TV outputs 1~7, it supports maximum 7-way Muliticast IP output.

Channel 0~6: Set IP output parameters of each channel.

Enable: Select to active one channel.

Multi/Unicast IP: Set Multi/Unicast IP address.

Multicast UDP Port: Set Multicast UDP port number.

Target Mac Address: Set the Mac address of PC at the receiving end in Unicast mode.

TS Input: show program list of signal source.

IP Output: Select the output program of each channel.

Click "Apply" to achieve operations above.

Note: IP output of DMM-1300P is based on 100M base-T, so we suggest to control the bitrate within 80Mbps for best quality.

System menu. User can edit IP address and check some info about device.

✔ DMM-1300F-T@10.10.70.112 ×	
Input Status CI ASI Output Decoder Output IP Output System	
Device Info	Network
UnitName DMM-1300P-T	Target Device
Surial Number 12245679	Device IP 10. 10. 70. 112
Serial Rumber 12545010	Subnet Mask 255. 255. 0
	Gateway 10. 10. 70. 1
	MAC Address 00: 0E: 26: FF: 04: 30
Version	
FPGA Version 50. do. 14	Alarm Setting
MCV Version 03. e4. 3e	Trap IP 10. 10. 70. 170
	Edit Mac Reboot
Apply Refresh	Load Save Default

Device Info

DMM-1000

Unit Name: User can edit the unit name.

Version

FPGA Version: The version of the FPGA software

MCU Version: The version of the MCU software

Network

Target Device

Please refer to Section 2.3 for setting method of IP address.

Alarm Setting

Trap IP Addr: When there is alarm on DMM-1300P, it can send alarm message to another monitor PC. You can set the Trap IP address to be the IP address of the PC on which the HDMS has been installed.

Click "Apply" to achieve operations above.

Reboot: Reboot device.

Default: Recover device to factory default settings

Refresh: Click this button to check whether your operation is achieved.

Save: user can save this setting into your PC.

3.2 DMM-1300EC MPEG-2 Encoder Module

DMM-1300EC is a real time MPEG-2 encoder which fully complies with ISO/IEC13818. It supports SDI (audio embedded) or CVBS input and ASI output.

Double click DMM-1300EC module in HDMS, it will show sub-menus as below:

Encoder Program menu

✔DMM-1300EC@10. 10. 40. 71 ×			
Encoder Program Encoder System			
Encoder Servic	e Name ENCODE1	Encoder Program Number	1021
Encoder PMT PI	D 2301	Encoder Video PID	2302
Encoder Audio	PID 2303	TS ID	8
Packet Size (By	te) 188 💌]	
	Apply Refresh	a Load Save	

Encoder Service Name: User can edit the encoded program's name.

Encoder PMT PID: Set the PMT PID of encoded program.

Encoder Audio PID: Set the Audio PID of encoded program.

Packet Size: ASI output Packet length format, user can select 188 or 204.

Encoder Program Number: Set the program number of encoded program.

Encoder Video PID: Set the video PID of encoded program.

TS ID: Set the ID number of TS.

Encoder menu

⊘DMM-1300EC@10.	. 10. 40. 71 🗶		
Encoder Program	Encoder System		
	Video Info		
	Video Source	SDI Video 🛛 👻 Resolution	D1 💌
	GOP	IBBPBBPBB Mode	PAL
	Encoding BitRate(Kbit/s)	5000 Saturation Control	142
	Hue Control	0 Brightness Control	155
	Contrast Control	128 GOP Size	24
	Audio Info		
	Audio Input Source	SDI Audio 🛛 🖌 Layer	Layer2
	Bit Rate(Kb/s)	256K Channel	Stereo 💌
	Sample(KHz)	48K 🗙 Audio Level	29 1111 0 63
	170.0		
	AES Group	Groupi	
		Apply Refresh Load Save	

Video Info

Video Source: Video input source, user can select composite Video or SDI Video.

GOP: Used for setting GOP(group of pictures) structures. It supports 4 modes: IIIIIIII, IPPPPPPP, IBIPBPBPB and IBBPBBPBB. The compression rate of the IBBPBBPBB mode is the highest, followed by IBIPBPBPB, IPPPPPPP and IIIIIIII

Resolution: Represents the video resolution. There are 7 formats: D1, HD1, SIF, QSIF, Slice screen, 2/3D1, 3/4D1

Mode: Supports PAL, NTSC and SECAM output.

Encoder BitRate: User can set the encoding BitRate, the default value is 5Mbit/s.

Saturation Control: User can adjust the saturation.

Brightness Control: User can adjust the brightness.

Hue Control: User can adjust the hue.

Contrast Control: User can adjust the contrast.

GOP Size: Used for setting GOP size.

Audio Info

Audio Input Source: Audio Input source, user can select Composite Audio or SDI Audio

Bit Rate: The occupied bandwidth of audio signal in output: 32K, 64K, 128K, 192K, 256K or 384K

Sample: Different sample rate: 32K, 44.1K or 48K.

Layer: The mode of MPEG-2 audio encode: Layer1 or Layer2.

Channel: Stereo, Joint Stereo, Dual Channel or single Channel as track Audio.

System menu

♥DMM-1300EC@10.10.40.71 ×	
Encoder Program Encoder System	
Device Info	Network
Uni+Name DMM-1300FC	Target Device
	Device IP 10. 10. 40. 71
Serial Number 0	Subnet Mask 255. 255. 0
	Gateway 10. 10. 70. 1
Version	MAC Address 00: 00: 26: 66: 00: 06
	Alarm Setting
FPGA Version 080.08.02	Trap IP 10. 10. 70. 25
	EditMac Reboot
Apply Refresh	h Load Save Default

Device Info

Unit Name: User can edit the unit name.

Version

FPGA Version: The version of the FPGA software

MCU Version: The version of the MCU software

Network

Target Device

Please refer to Section 2.3 for setting method of IP address.

Alarm Setting

Trap IP Addr: When there is alarm on DMM-1300EC, it can send alarm message to another monitor PC. You can set the Trap IP address to be the IP address of the PC on which the HDMS has been installed.

Click "Apply" to achieve operations above.

Reboot: Reboot device.

Default: Recover device to factory default settings

Refresh: Click this button to check whether your operation is achieved.

Save: user can save this setting into your PC.

3.3 1300MX Re-Multiplexer Module

DMM-1300MX is a DVB TS re-Multiplexer, which supports 8 ASI Input and 2 ASI output (one output port is for backup). It is based on PID exchange technology and can support MPTS. It can detect Input packet length automatically, and allow user to configure output packet length.

Double click DMM-1300MX module in HDMS, it will show sub-menus as below:

♥DMM-1300MX@10.10.70.117 ×				
Input Status Program Selection Sys	item			
	Input Status	Total Bitrate(Mbps)	Valid Bitrate(Mbps)	
	🔷 ASI1	0.0	0.0	
	🔶 ASI2	0.0	0.0	
	🔷 ASI3	38.014	32. 571	
	🔷 ASI4	38.014	32. 568	
	🔷 ASI5	18.87	16. 113	
	🔷 ASI6	18.87	16.113	
	🔷 ASI7	18.87	16.113	
	🔷 ASI8	18.87	16. 113	
	Status Pull Frequency	ing 5 V s Apply	Status Pull Done	

Input Status menu

Input Status: Indicators for ASI 1-ASI 8 input status respectively.

Green: There is ASI input Red: There is no ASI input Total Bitrate: Input Bitrate of ASI input. Valid Bitrate: Valid Bitrate of ASI input. Click "Apply" to achieve operations above.

Program Selection menu

♥ DMM-1300MX@10.10.	ŧ0.70 ×						
Input Status Progra	m Selection S	ystem					
Romaria Cá	TS TD	8			TID Tilter		
I Remove CA	15 10	<u> </u>			Channel	Pid In	Pid Out
Transport NIT	Packet Size(E	3yte) 188	*		ASI1	2302	2302
					ASI1	2303	2303
Out Bit Rate(Kbps)	42000	Out V	lid BitRate		ASI2	2305	2305
					ASI2	2306	2306
					AS13	2311	2311
TS Input			TS Output		AS13	2312	2312
📥 Input TS (sum:4)			🛗 Output TS (sum:4)		AS14	2308	2308
🗄 🚽 ASI1			🚊 📑 ASI1		AD14	2309	2309
ASIO ASIT ASIB		>	■ ⊕ ASI4 ⊕ Ŏ ENCODE4			Add Delete	Edit
		Apply R	efresh Add Program	PMT Mappin	g Edit Progra	Edit SI am Load Save	
<							>

Remove CA: If select this option, it will remove the CA descriptor in TS stream.

Transport NIT: If select this option, it will keep NIT in TS stream

TS ID: Set the ID of TS stream for distinguishing from other streams in the same system

Packet Size: Set the ASI packet Size, user can select 188 or 204 packet length.

Out Bit Rate: Set the total Bit rate for ASI output. Please ensure Our Bit rate is larger than Out valid bitrate.

Out Valid BitRate: Set the Valid Bitrate for ASI output.

TS Input: Program list from ASI input. User can click "Refresh" button to refresh the list.

TS Output: Select the programs for ASI output.

System me	enu					
♥DMM-1300MX@10	. 10. 40. 70 🗙					
Input Status Pr	rogram Selection Syste	m				
	Device Info		Network			
		DIG. H. 1. (. 1	Target Nevice			
	Device Type	DVD Multiplexer				
	UnitName	DMM-1300MX	Device IP	10. 10.	40. 70	
	Serial Number	305419896	Subnet Mask	255. 255.	255. 0	
			Gateway	10. 10.	70. 1	
	(Venzi ez		MAC Address	00: OE: 26:	FF : 11 : 8A	
	version					J
	FPGA Version	25	Alarm Setting			
	MCV Version	05. 03. 93	Trap IP	10. 10.	70. 36	
	Hardware Version	02.00				
				EditMac	Reboot	
		Apply Refres	h Load Save	Default		

Device Info

Unit Name: User can edit the unit name.

Version

FPGA Version: The version of the FPGA software

MCU Version: The version of the MCU software

Network

Target Device

Please refer to Section 2.3 for setting method of IP address.

Alarm Setting

Trap IP Addr: When there is alarm on DMM-1300MX, it can send alarm message to another monitor PC. You can set the Trap IP address to be the IP address of the PC on which the HDMS has been installed.

Click "Apply" to achieve operations above.

Reboot: Reboot device.

Default: Recover device to factory default settings

Refresh: Click this button to check whether your operation is achieved.

Save: user can save this setting into your PC.

3.4 1300TM Modulator Module

1300TM is a full band adjacent agile DVB modulator for QAM or COFDM (depends on different models). It can convert ASI signal to RF carrier. User can use its PID filtering function to remove unnecessary programs to save bandwidth.

Double click DMM-1300TM module in HDMS, it will show sub-menus as below:

Input menu

♥ DMM-1300P@10.10.70.115 ×	♥ DMM-1300MX@10.10.70.117 × ♥ ♥ DMM-1300CM@10.10.70.118 × ♥ ♥ DMM-1300TM@10.10.70.119 ×
Input Filter Output System	
Input Status	Input Valid BitRate (Mbps) 19.001472 Input Total BitRate (Mbps) 45.044992
	Status Pulling Frequency 5 S Apply Done

Input Valid Bitrate: show valid Bitrate of ASI input.

Input Total Bitrate: show total Bitrate of ASI input.

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Filter menu												
☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑	5 🗙 🛛 🥪 DMM-	-1300MX@10, 10, 70	. 117 🗙	⊘DMM-1300	DCM@10.10	D. 70. 11	8 ×	♥ DMM-130)OTM@10.1	0. 70. 119	×	
Input Filter Output S	ystem											
	🗹 Enable	Source	ASI	~ F	Research							
	Index	Program					Sele	ct				
	1	Lotus 5										
	2	i-Horizon6										
	3	Lotus 7										
	4	i-Horizon 9										
	5	Lotus										
	L											
		Apply	Refre	sh Loa	a s	Save						

Enabled: Active PID filter function. When enable filter function, user can select program which you want to filter out. If you don't make any selection, it will output all programs in the list.

Source: Select signal source which you want to filter programs. User can select Tuner, ASI or CI. Research: When the input source is changed, click "Research" button to regenerate TS data, then click "Refresh" button to get new program list.

Output Menu

♥ DMM-1300P@10, 10, 70, 115 ×	DMM-1300MX@10.10.70.117 ×	♥ DMM-1300CM@10.10.70.118 ×	♥ DMM-1300TM@10.10.70.119 ×
Input Filter Output System			
	QAM Status		
	🕙 Normal		
	Valid Bitrate(Mbps)	18.896256	
	Total Bitrate(Mbps)	50.686116	
	QAM Setting		
	Frequency (KHz)	666000	
	Symbol Rate(KBaud)	6875	
	DAM Constellation	256 QAM	
	RF Lovel (dBury)	107	
	I (O I	T	
	1/Q Inversion	Ies	
	Modulation	On 💌	
	Apply Refres	sh Load Save	

QAM Status

Normal:

Green light: means it modulate ASI signal to QAM signal normally with current settings.

Red light: Means overflow.

Valid Bitrate: show Valid Bitrate of ASI input.

Total Bitrate: show the max. Bitrate allowed under current settings.

Note: It is suggested to keep Valid Bitrate 3M smaller than total Bitrate for better transmission.

QAM Setting

Frequency: Set output RF carrier frequency within range of 48~860MHz.

Symbol Rate: Symbol Rate for QAM modulation, the default value is 6875KBaud

QAM Constellation: User can select 16/32/64/128/256/64B/256B QAM.

RF Level: Adjustable within range of 97~110dB.

I/Q Inversion: Selecting "Yes" for Inverted I/Q, selecting "No" for non-inverted.

Modulation: Selecting QAM modulation. Selecting ON to activate QAM modulation and selecting OFF to output single non-modulated carrier (for example, to measure the channel power).

System menu

☑ 2000000000000000000000000000000000000	♥ DMM-1300MX@10.10.70.117 ×	☑ ☑ DMM-1300CM@10. 10. 70.	118 🗙	♥ DMM-1300TM@1	.0. 10. 70. 119 ×
Input Filter Output System					1
	·				
Device Info	Ne	etwork			
UnitName	DMM-1300TM	Target Device			
Serial Number	305419896	Device IP	10.	10. 70.	119
		Subnet Mask	255.	255. 255.	0
		Gateway	10.	10. 70.	1
Version		MAC Address	12 : 21	: 12: 21: 12	: 35
FPGA Version	MM1300FILTER_AC_5.1.8				
MCU Version	MM1300FILTER_AC_5.1.8	Alarm Setting			
Hardware Version	3000TM-MB-B	Trap IP	10.	10. 70.	170
QAM Version	C-13				
				Edi ti	lac Reboot
	Apply Refresh	Load Save D	efault]	

Device Info

Unit Name: User can edit the unit name.

Version

FPGA Version: The version of the FPGA software

MCU Version: The version of the MCU software

Network

Target Device

Please refer to Section 2.3 for setting method of IP address.

Alarm Setting

Trap IP Addr: When there is alarm on DMM-1300TM, it can send alarm message to another monitor PC. You can set the Trap IP address to be the IP address of the PC on which the HDMS has been installed.

Click "Apply" to achieve operations above.

Reboot: Reboot device.

Default: Recover device to factory default settings

Refresh: Click this button to check whether your operation is achieved.

Save: user can save this setting into your PC.

3.5 Alarms management

When you set the Trap IP address to be the IP address of the PC on which the HDMS has been installed. Click the button, you can check all the alarm information in history record as below.

ey Words	Begin Date 2009/05/05	End Date 2009/05	/12 💌 Device Name	Ip add	hr
186	1	ûn 🗠			
37)	Trap Time	IP	Device	Channel	Description
3	2009-5-5 0:57:21	10, 10, 70, 119	DMM-1300TM	none	device offline
0	2009-5-5 15:29:41	10.10.70.111	DMM-1300P-T	none	device online
0	2009-5-5 15:29:41	10. 10. 70. 114	DMM-1300P	none	device online
0	2009-5-5 15:29:41	10.10.70.112	DMM-1300P-T	none	device online
0	2009-5-5 15:29:41	10. 10. 70. 117	DMM-1300MX	none	device online
0	2009-5-5 15:29:41	10.10.70.113	DMM-1300P-T	none	device online
0	2009-5-5 15:29:41	10.10.70.118	DMM-1300CM	none	device online
0	2009-5-5 0:57:29	10. 10. 70. 119	DMM-1300TM	none	device online
0	2009-5-5 15:29:42	10.10.70.119	DMM-1300TM	none	device online
9	2009-5-5 16:50:03	10, 10, 70, 118	DMM-1300CM	none	device offline
0	2009-5-5 16:50:51	10. 10. 70. 118	DMM-1300CM	none	device online
6	2009-5-5 21:44:43	10, 10, 70, 118	DMM-1300CM	none	device offline
9	2009-5-5 22:31:23	10, 10, 70, 119	DMM-1300TM	none	device offline
0	2009-5-5 22:31:51	10. 10. 70. 119	DMM-1300TM	none	device online
0	2009-5-5 15:29:41	10.10.70.115	DMM-1300P	none	device online
0	2009-5-5 15:29:41	10.10.70.116	DMM-1300P	none	device online
0	2009-5-8 8:48:41	10.10.70.223	DMM-1300P-s	none	device online
0	2009-5-8 8:52:41	10.10.70.223	DMM-1300P-s	none	device online
5	2009-5-8 8:49:33	10 10 70 223	DMM-1300P-s	none	device offline

4. FAQ

 Why cannot detect devices? If device cannot be detected by HDMS, please check whether following items are implemented correctly:
 Can device be accessed through Ping order ? Please make sure your PC can ping other devices successfully.
 2) Is the IP address of device in the same LAN segments as HDMS? Please make sure the IP address of device is in the same LAN segments as HDMS. For example, if the IP address of the device is 10.10.70.48, you must set IP address of the PC with HDMS to 10.10.70.xx (xx means a number beside 1, 256 and 48)
3) Are your PC only connected to one single network with device? Please connect your PC installed HDMS to only one network with device.
4) Is there any other network management software installed in the PC? Please make sure there is no other third party software based on SNMP protocol being installed in the PC. If there is, please close it and ensure there is no other software using SNMP protocol port.
5) Do you click button after you login HDMS software? Please click button first when your login HDMS. Then it will detect device in LAN automatically.
6) Is the software version of DMM-1000 capable with software version of HDMS? Please make sure the software version of DMM-1000 can matches the HDMS version, you can refer to the release notes or contact with PBI engineers.
 Why cannot boot HDMS? Is the HDMS software installed correctly? Please uninstall HDMS and then re-install it to check whether you can boot it.
 Why cannot login HDMS? Please ensure your enter the correct user name and password. The initial user name is: hdms, and password is: hdms.

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