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DMM-1000

Digital Modular MDU Headend

Headend System

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Overview

DMM-1000 is a Digital Modular Headend for MDU (Multiple Dwelling Unit) , which can accommodate up to 8 modularized professional IRD, Encoder, Re-Multiplexer and QAM/COFDM Modulator in a space saving 4Ux19 ” chassis. Users can build their mini digital headend system with DMM-1000 easily. With a 10/100 Base-T Ethernet interface on IRD module, DMM-1000 has the capiblity to receive TSoverIP signal or encapsulate TS packages into IP in Multicast or Unicast. Every accommodated module is remote-controlled independently by HDMS (Headend Device Management System developed by **PBI**) via LAN. The flexibility and easy-to-use of DMM-1000 present a highly integrated and stable digital headend system solution.

Features

* Fully comply with DVB-S2/-S/-C/-T standards
* Support MPEG-2(MP@ML) decoding
* Support MPEG-4 AVC/H.264 HD/SD reception and modulation to QAM or COFDM
* Support UDP, RTP Multicast protocol suite
* 10/100M Base-T TSoIP reception and Unicast/Multicast on IRD module
* CI is compatible with most of CAM modules on the market
* LAN control by HDMS which is SNMP protocol based
* Up to 8 slots for max. 8 hot-swappable modules accommodation
* Temperature control cooling system
* Easily software upgrade via LAN
* Backward compatible with new modules
* Dual power supply with Redundancy unit

Models List and Configuration

DMM-1000 Series		Reception & Process								Output				
Function	Model	DVB-S2	DVB-T	DVB-C	ASI	IP	CI	Analog AV	Built-in Re-mux	QAM	COFDM	ASI	IP	Analog AV
IRD	1400P-S2	•			•	•	•		•			•	•	•
	1400P-T		•		•	•	•		•			•	•	•
	1400P-C			•	•	•	•		•			•	•	•
	1200P-S2	•			•		•		•			•		•
	1200P-T		•		•		•		•			•		•
	1200P-C			•	•		•		•			•		•
Modulator	1300TM-S2C	•			•				•	•				
	1300TM-S2T	•			•				•		•			
	1300TM-TC		•		•				•	•				
	1300TM-TT		•		•				•		•			
	1300TM-CC			•	•				•	•				
	1300TM-CT			•	•				•		•			
	1300TM-AC				•					•				
	1300TM-AT				•						•			
Multiplexer	1300MX				•				•			•		
Encoder	1300EC							•				•		

New modules are available upon customers' requirements

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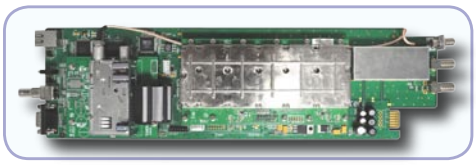
DMM-1400P/1200P Professional IRD Series

DMM-1400P/-1200P series is a professional IRD (Integrated Receiver Decoder) module, which supports DVB-S2/-S, DVB-C, DVB-T, ASI and TS over IP reception. The input signals can be descrambled/decoded and converted to ASI or IP output or Analog AV via a BNC connector and 2.5mm phone-jack. Each DMM-1400P/-1200P module has two CI slots for descrambling. Its IP interface supports Unicast and Multicast. With a built-in 3-way re-multiplexer, the final output TS could be highly customized. User can monitor and configure all parameters on a PC by HDMS via LAN easily.

Note1: the IP port can be configured as IN or OUT by user. IP is not available on DMM-1200P series.

DMM-1300TM Trans-modulator Series

DMM-1300TM series are full-band adjacent agile DVB QAM or COFDM trans-modulators, providing a wide-range of signal reception including DVB-S2/S/T/C, which may carry MPEG-2 SD or H.264 HD/SD streams by different modules. With a built-in two way re-multiplexer, the DMM-1300TM series is capable of multiplexing or filtering the transport streams come from tuner and ASI, the final output TS can be highly customized and be modulated to a new QAM or COFDM. User can monitor and configure all parameters on a PC by HDMS via LAN easily.



Note2: there is no tuner on 1300TM-AC and 1300TM-AT by options

DMM-1300MX Re-Multiplexer Module

DMM-1300MX is a re-Multiplexer module, which supports 8 ASI inputs and 2 redundancy ASI output. With the powerful DVB table regenerator supported by HDMS, DMM-1300MX provides users a very flexible and user-friendly interface to customize the input TS and regenerate a new output TS .

DMM-1300EC MPEG-2 Encoder Module

DMM-1300EC is a real time A/V MPEG-2 encoder supports CVBS or SDI (optional) video and stereo audio inputs. User can monitor and access all parameters on a PC through LAN connection easily.

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Reception			
Tuner	**DVB-S2**	Input freq. range	950~2150MHz
		Input level	-65~-25dBm
		Input impedance	75Ω
		Input interface	F female
		Symbol rate	5~ 45Msps for QPSK;10~31Msps for 8PSK
		Roll off factor	0.35 for QPSK; 0.2 for DSS; 0.35, 0.25, 0.2 for DVB-S2
		FEC puncture rate	DVB-S2 QPSK:1/2,3/5,2/3,3/4,4/5,5/6,8/9,8/10
			DVB-S2 8PSK:3/5,2/3,3/4,5/6,8/9,9/10
			DVB-S: 1/2,2/3,3/4,5/6,6/7,7/8
		LNB power supply	0,13V,18V switchable
		LNB selection tone	0/22KHz switchable
	DVB-C	Input freq. range	48~860MHz
		Symbol rate	2~7Mbps
		Constellation	64/128/256 QAM, J.83 Annex A or B
		FEC puncture rate	1/2, 2/3, 3/4, 5/6, 7/8
		Input level	-15~+15dBmV
		Input interface	IEC Female
		Input impedance	75Ω
	DVB-T	Input freq. range	174~230MHz (VHF)
			470~862MHz (UHF)
		Input level	-20~-70dBmV
		Constellation	QPSK, 16-QAM, 64-QAM
		Carrier bandwidth	6/7/8 MHz
		FTT mode	2K/8K
		Guard interval	1/4, 1/8, 1/16, 1/32, off
		FEC puncture rate	1/2, 2/3, 3/4, 5/6, 7/8
		Input interface	IEC Female
		Input impedance	75Ω
ASI IN		ASI input interface	75Ω, BNC female
		ASI Input Effective Data Rate	100Mbps
		Data Format	Byte or Burst, auto-detect
		Packet length	188/204 byte, auto-detect
AV	**Analog A/V input**	Audio interface	RCA female, Left and Right, 10KΩ, unbalance
		CVBS video interface	RCA female, 75Ω unbalance
	SDI	SDI Video interface	BNC female, 75Ω
		SDI embedded audio	Stereo or Dual sound, group 1 to 4, selectable
Output			

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Modulation	**QAM**	Constellation	J.83 Annex A: 16/32/64/128/256QAM;
			Annex B: 64/256QAM
		Output Symbol rate	3~7.2M Bauds
		I/Q amplitude error	< 0.3%
		I/Q phase error	< 0.3°
		Phase jitter	< 0.5°RMS
		MER	> 35dB
		Output freq. range	48~860MHz continuously adjustable; 10KHz/step
		Output level	95 to 110dBμV step by 1dB
		Spurious	> 55dBc
		Output interface	75Ω, F female
		Output return loss	> 12dB
	COFDM	Constellation	QPSK/16QAM/64QAM
		FFT mode	2K
		Guard interval	1/4, 1/8, 1/16, 1/32, off
		Output freq. range	48~860MHz continuously adjustable, 10 KHz/step
		Output level	97~110dBμV, 1dB/step
		Spurious	> 55dBc
		Output interface	75Ω, F female
		Output return loss	> 12dB
ASI output		Output interface	75Ω, BNC Female
		Effective data rate	99Mbps (Max.)
		Data transfer clocking	Byte
		Packet length	188 or 204
		Signal level	800mVpp±10%
		Return loss	> 15dB
TSoIP output		Output interface	RJ45 100Base-T
		Maximum effective data rate	70Mbps
		Protocol	UDP/RTP, IGMPv2, ARP
		Encapsulation	Unicast/Multicast
AV Decoding	**Video Decoding**	Video input format	NTSC, PAL and SECAM
		Video compression	MPEG-2 MP@ML
	Audio Decoding	Audio compression	MPEG1 Layer1, Layer2
	A/V output	Interface type	2.5mm phone jack, CVBS + stereo
AV Encoding	**Encoding**	Video input format	NTSC, PAL and SECAM
		Video compression	MPEG-2 MP@ML
		Audio compression	MPEG1 Layer1, Layer2
		Video output bit rate	1.5M ~10 Mbps
		Audio sampling rate	32, 44.1, 48 KSym/s
		Audio output bit rate	32, 64, 128, 256, 384 Kbps

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