

## DMM-1420PM Series Professional IRD and Trans-modulator module

DMM-1420PM is a professional IRD and trans-modulator products, which combine IRD and modulator into one module. It can receive signal from multiple sources such as DVB-S2/S/C/T, de-modulate to TS stream, descramble with CAM card, then modulate to DVB-C QAM RF signal or DVB-T COFDM or DTMB RF signal. With its GbE full duplex IP interface, it also support TS over IP input/output function. With its high performance and stability, DMM-1420PM is your best choice for various broadcast system or SMATV system.

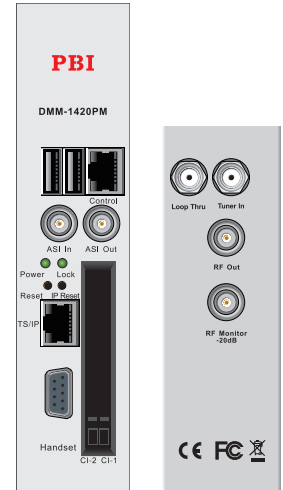
### Main features

- Multiple inputs DVB-S2/S/C/T, TS/IP, and ASI optional
- DVB-C QAM or DVB-T COFDM or DTMB RF modulation output
- Supports 2K/4K/8K FFT Mode for DVB-T COFDM modulation
- GbE UDP/RTP, SPTS/MPTS over IP(full duplex)
- Flexible re-multiplexing among Tuner, ASI and TS/IP inputs
- PSI/SI adapting and re-generation, including NIT, LCN insertion etc.
- Service Drop or PID filtering and Re-mapping
- 2 x DVB-CI slots, Multiple TV program decryption
- Remote Control and supervision by SNMP, HTTP WEB
- RSSI, received Eb/No & BER monitoring
- On Site software update through IP or USB

### Specification

Tuner Input	
DVB-S/S2 Tuner Input	
Connector Type	1×F type female 75Ω for Input, 1×F type female 75Ω for loop through output
Input Frequency Range	950~2150MHz
Input Level	-25~-65dBm
Roll-off Factor	DVB-S: 0.35 DVB-S2: 0.2, 0.25, 0.35
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-C Tuner Input	
Connector Type	1×F type female 75Ω for Input, 1×F type female 75Ω for loop through output
Input Frequency Range	48~862MHz
Input Level	45~75dBμV
Symbol Rate	1~7Mbaud(ITU J.83 Annex A)
Constellation	16/32/64/128/256QAM
Bandwidth	6MHz/7MHz/8MHz
Input Return Loss	7dB(typ.)
DVB-T Tuner Input	
Connector Type	1×F type female 75Ω for Input, 1×F type female 75Ω for loop through output
Input Frequency Range	174~230MHz(VHF); 470~860MHz(UHF)
Input Level	-20~-70dBm
Modulation	QPSK, 16-QAM, 64-QAM
Carrier Bandwidth	6/7/8 MHz
FTT Mode	2K/8K
Guard Interva	1/4, 1/8, 1/16, 1/32
Viterb Error Correction Code Rate	1/2, 2/3, 3/4, 5/6, 7/8

ASI Input	
Connector Type	1×BNC female, 75Ω
Standard	DVB-ASI, EN50083-9
Input Bit Rate	≤ 100Mb/s
Package Length	188 or 204 Bytes
TS over IP	
Connector Type	1 x RJ-45, 1000 Base-T
Effective Bit Rate	800Mb/s
Protocol	UDP/RTP, IGMPv2, ARP
TS Processing	
TS Input Management	Remux and demux among Tuner, ASI and TS/IP inputs
TS Output Management	Remux and demux for mirrored ASI outputs
Service and PID management	Remux, filtering and remapping
PSI/SI	PSI/SI table regeneration, NIT and SDT edition, LCN Edition and Re-generation
Descrambler	DVB Common Scrambling Algorithm (CSA)
Common Interface	Double PCMCIA slots, compatible with major CA CAMs in the market
ASI Output	
Connector Type	1 x BNC Female, 75Ω
Standard	DVB-ASI, EN50083-9
TS Processing	Can output TS Re-multiplexing from Tuner, ASI and TS/IP inputs
DVB-C Modulation (for DMM-1420PM-xC model)	
Constellation	J.83 Annex A: 16QAM, 32QAM, 64QAM, 128QAM, 256QAM J.83 Annex B: 64QAM, 256QAM
Symbol Rate	3~7.2MS/s
I/Q Amplitude Error	< 0.3%
I/Q Phase Error	< 0.3°
Phase jitter	< 0.5°RMS
MER	> 35dB

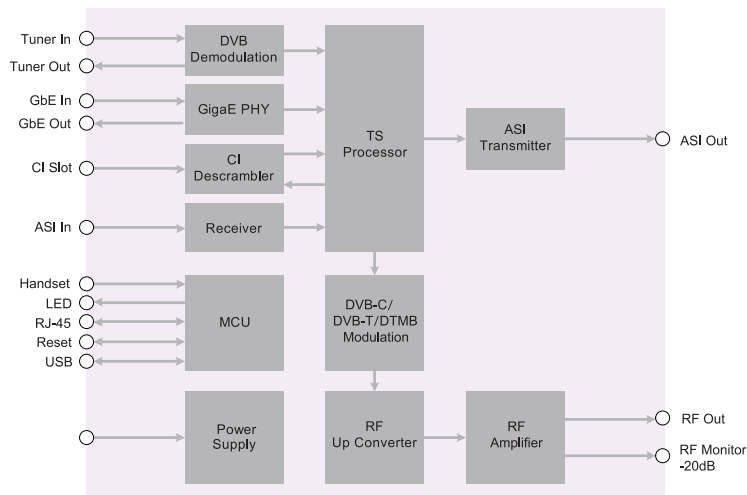


<b>DVB-T Modulation (for DMM-1420PM-xT model)</b>	
Constellation	QPSK, 16QAM, 64QAM
Bandwidth	5/6/7/8MHz
FFT Mode	2K/4K/8K
Guard Interval	1/4, 1/8, 1/16, 1/32
Code Rate	1/2, 2/3, 3/4, 5/6, 7/8
MER	>36dB
<b>DTMB Modulation (for DMM-1420PM-xM model)</b>	
Constellation	QPSK, 16QAM, 64QAM, 4QAM-NR, 32QAM
Bandwidth	8MHz
Sub Carriers	1 or 3780
Guard Interval	1/4, 1/7, 1/9
FEC BCH LDPC	0.4, 0.6, 0.8
Time Inter-leaver Depth	240, 720

MER	>36dB
<b>RF Output</b>	
Connector Type	1x F type female, 75Ω (primary output) 1x F type female 75Ω (-20dB for monitoring)
Output Frequency Range	48~860MHz agile, step by 10 KHz
Output Level	95~110dBμV, step by 1dBμV
Spurious Rejection	55dB (typ.)
Output Return Loss	12dB (typ.)
<b>Control &amp; Monitoring</b>	
Connector Type	1xRJ-45, 10/100M, for equipment IP Control
Remote Control	SNMP, HTTP (Web Interface)
Local Control	Handheld Programmer Unit
Software Upgrade	Embedded FTP loader and Telnet or USB

## Block Diagram

DMM-1420PM Functional Block Diagram



## Order Information

Interface	Model	DMM-1420PM-XX											
		-S2T	-CT	-TT	-DT	S2T2	CT2	TT2	DT2	-S2M	-CM	-TM	-DM
Tuner Input		DVB-S2	DVB-C	DVB-T	DS3-E3	DVB-S2	DVB-C	DVB-C	DS3-E3	DVB-S2	DVB-C	DVB-T	DS3/E3
ASI Input		•	•	•	•	•	•	•	•	•	•	•	•
Built-in Remux		•	•	•	•	•	•	•	•	•	•	•	•
ASI Out		•	•	•	•	•	•	•	•	•	•	•	•
GbE TS/IP		•	•	•	•	•	•	•	•	•	•	•	•
COFDM Modulation		•	•	•	•								
T2 Modulation						•	•	•	•				
DTMB Modulation										•	•	•	•

• Standard Configuration