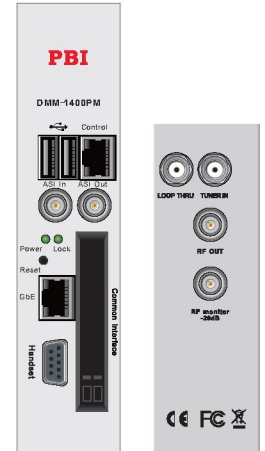


Digital TV Modulator and Trans-Modulator

DMM-1400PM Series Professional IRD and Trans-modulator Module

- Multiple inputs DVB-S2/S/C/T/T2, TS/IP, and ASI optional
- DVB-C QAM or DVB-T COFDM RF modulation output
- Supports 2K/4K/8K FFT Mode for DVB-T COFDM modulation
- Giga UDP/RTP, Unicast/Multicast, and SPTS/MPTS over IP(full duplex)
- Flexible re-multiplexing among Tuner, ASI and TS/IP inputs
- ASI input and output
- Service Drop or PID filtering and Re-mapping
- PSI/SI adapting and re-generation, including NIT, LCN insertion etc.
- 2 x DVB-CI slots, Multiple TV program decryption
- Remote Control and supervision by SNMP, HTTP WEB and proprietary HDMS software
- RSSI, received Eb/No & BER monitoring
- On Site software update through IP or USB



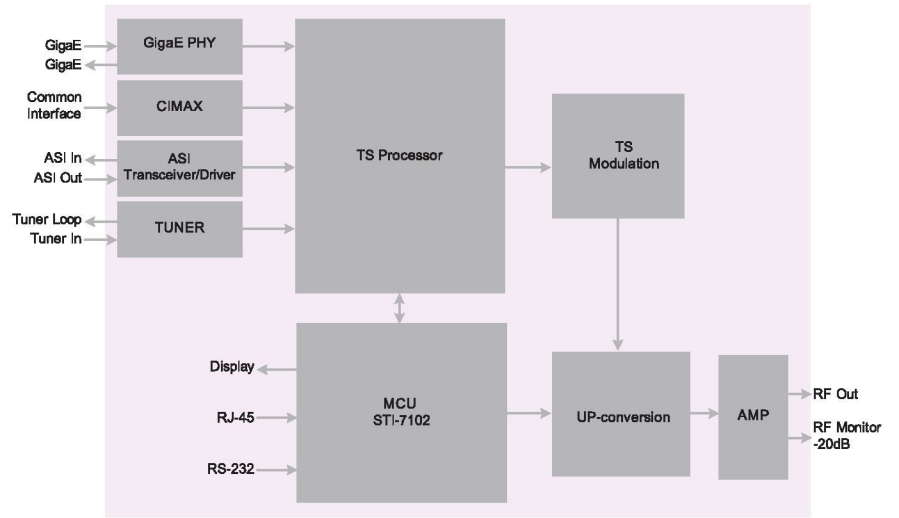
Specification

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
Symbol Rate	DVB-S: 2~45MBauds/s for QPSK DVB-S2: 2~45MBauds/s for QPSK, 8PSK
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, 6/7, 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 Switching 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~ 75dB μV
Symbol Rate	1 ~ 7MS/s (ITU J.83 Annex A)
Constellation	16/32/64/128/256QAM (ITU J.83 Annex A)
Bandwidth	6/7/8 MHz
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 Interval	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	Unicast/Multicast, 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)
BISS Mode	BISS-1, BISS-E
Common Interface	Double PCMCIA slots, compatible with major CA CAMs in the market
ASI Output	
Connector Type	1 × BNC Female, 75Ω
Standard	DVB-ASI, EN50083-9
TS Processing	Can output TS Re-multiplexing from Tuner, ASI and TS/IP inputs
DVB-C Re-Modulation	
Constellation	J.83 Annex A: 16/32/64/128/256QAM; J.83 Annex B: 64/256QAM
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
DVB-T Re-Modulation	
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
RF Output	
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	95~110dB μV, step by 1dB μV
Spurious Rejection	55dB (typ.)
Output Return Loss	12dB (typ.)
Control & Monitoring	
Connector Type	1 × RJ45, 10/100M, for equipment IP Control
Remote Control	SNMP, HTTP (Web Interface), Proprietary HDMS (Headend Device Management System)
Local Control	Handheld Programmer Unit
Software Upgrade	Embedded FTP loader and Telnet

SpecificationBlock Diagram

DMM-1400PM Function Block Diagram



Order Information

Interface	Model	DMM-1400PM-xx					
		-S2C	-CC	-TC	-S2T	-CT	-TT
Tuner type		DVB-S2	DVB-C	DVB-T	DVB-S2	DVB-C	DVB-T
ASI input		•	•	•	•	•	•
Built-in Re-mux		•	•	•	•	•	•
ASI Output		•	•	•	•	•	•
Giga IP port		•	•	•	•	•	•
QAM Modulation		•	•	•			
COFDM Modulation					•	•	•