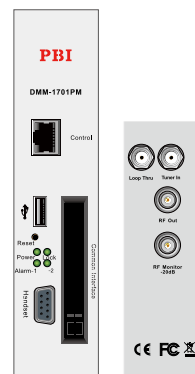


■ Signals Processing Modules

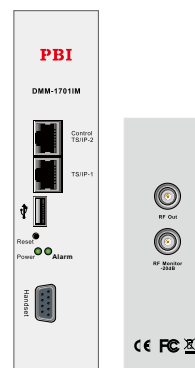
DMM-1701PM series DVB Tuner to Analog Trans-modulator

- Multiple RF input front end option DVB-S2/S/C/T/T2, ATSC, ISDB-T, DMBT
- Two adjacent analog channels output in range of 48-860MHz
- Output level 100dBμV per channel
- Support MPEG-2, H.264 SD/HD decoding
- Remote Control and Supervision by SNMP and HTTP WEB
- Support BISS-1, BISS-E descrambling
- Dual DVB-CI for multi-decryption
- Dynamic PMT detection and automatic updating



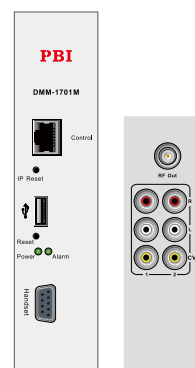
DMM-1701IM series Twin TS/IP to Analog Trans-modulator

- Two IP multicast/unicast input ports
- Two adjacent analog channels output in range of 48-860MHz
- Supports MPEG-2, H.264 SD/HD decoding
- Output level 100dBμV per channel
- Remote Control and Supervision by SNMP and HTTP WEB



DMM-1701M series Twin Analog Modulator

- Two analog AV input
- Two adjacent analog channels output in range of 48-860MHz
- Modular design for easy installation and maintenance
- Output level 100dBμV per channel
- Remote Control and Supervision by SNMP and HTTP WEB



Specification

Tuner Input (for DMM-1701PM Series)	
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: 1~45MBauds/s for QPSK DVB-S2: 1~45MBauds/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	51~858MHz
Input Level	40~85dBμV
Symbol Rate	1~7MBaud
Constellation	16/32/64/128/256QAM (ITU J.83 Annex A)
Bandwidth	6MHz/7MHz/8MHz
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	49~861MHz
Input Level	-25~-65dBm
Carrier Bandwidth	6/7/8 MHz
FTT Model	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
IP Input (for DMM-1701IM series)	
Connector Type	2×RJ-45, 10/100M
Standard	UDP, RTP, Multicast, Unicast, MPTS, SPTS
A/V Input (for DMM-1701M series)	
Video Input	2 sets of RCA, 75Ω
Audio Input	2 sets of RCA mono or A2(optional), 10Ω(unbalance)
Descramble (for DMM-1701PM series)	
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
Analog channels Modulation (for DMM-1701PM/1701IM/1701M)	
Video	

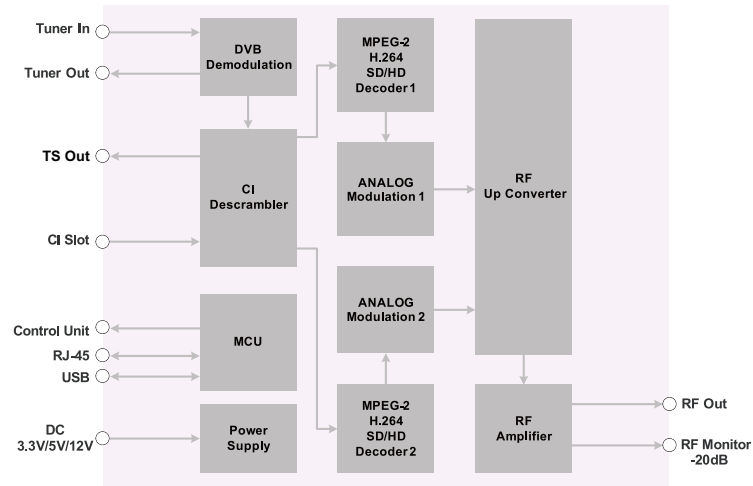
Video carrier frequency accuracy	VHF: $\Delta f \leq 5\text{KHz}$ UHF: $\Delta f \leq 10\text{KHz}$
Video modulation depth	DMM-1701M 77.5~97.5% DMM-1701PM/1701IM 87.5%
Video in-band flatness	$\leq 2\text{dB}$
Differential Gain	$\leq 7\%$
Differential Phase	$\leq 5^\circ$
Video S/N ratio	$\geq 45\text{dB}$
Chrominance/Luminance delay	$\Delta T \leq 45\text{nS}$
K factor of 2T pulse	$\leq 4\%$
Audio	
FM modulation deviation	DMM-1701M 40~160KHz (D/K, B/G, I) 20~80KHz (M/N) DMM-1701PM/1701IM 40~100KHz (D/K, B/G, I) 50KHz (M/N)
Audio frequency response	$\pm 1.5\text{dB}$ (40Hz~15KHz)
Total harmonic distortion (THD)	$\leq 1.2\%$ (1KHz tone with $\pm 60\text{KHz}$ (D/K, B/G, I) or $\pm 30\text{KHz}$ (M/N) FM deviation)
1st audio carrier frequency	6.5MHz $\pm 5\text{KHz}$ /6.0MHz $\pm 5\text{KHz}$ /5.5MHz $\pm 5\text{KHz}$ /4.5MHz $\pm 5\text{KHz}$ (basing on different standards)
2nd audio carrier frequency	6.742MHz $\pm 5\text{KHz}$ /6.258MHz $\pm 5\text{KHz}$ /5.742MHz $\pm 5\text{KHz}$ /4.742MHz $\pm 5\text{KHz}$ (basing on different standards)
Audio S/N ratio	$\geq 55\text{dB}$
Audio Pre-emphasis	50μS (B/G,D/K,I), 75μS (M/N)
RF Output (for DMM-1701PM/1701IM/1701M)	
Connector Type	1×F type female, 75Ω (primary output) 1×F type female 75Ω (-20dB for monitoring)
Output Frequency Range	48~860MHz adjacent, step by 10 KHz
Output Level	100 $\pm 3\text{dB}$ μV
Output Level Attenuation	0~18dB adjustable, step by 1 dB
Output Return Loss	$\geq 10\text{dB}$
Control & Monitoring	
Connector Type	1×RJ-45, 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 USB
Physical	
Dimension	379.7×111.5×39mm
Power Consumption	30W Max.
Operating Temperature	0~ +45°C
Storage Temperature	-10~ +50°C
Operating Humidity	20~90%, non-condensed

Order Information

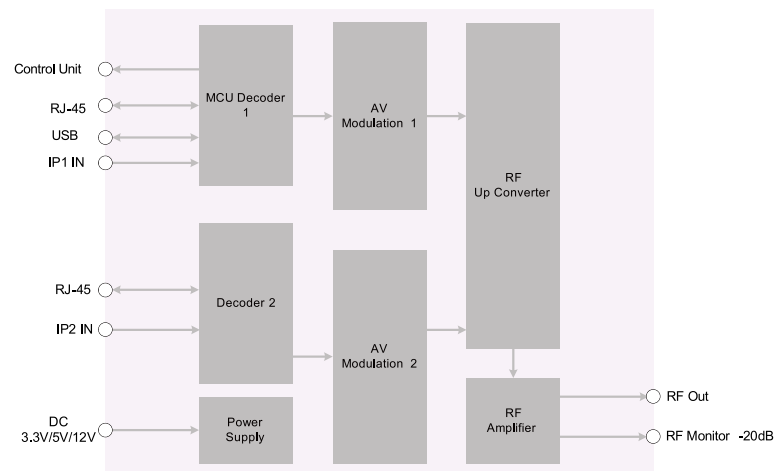
Interface	Model	1701PM-XX						1701IM-XX		1701M-XX	
		DVB-S2		DVB-T		DVB-C					
Video Audio		MONO	A2	MONO	A2	MONO	A2	MONO	A2	MONO	A2
PAL D/K		02S2	04S2	02T	04T	02C	04C	02	04	02	04
PAL D/K(Poland)		02S2	08S2	02T	08T	02C	08C	02	08	02	08
PAL B/G		12S2	14S2	12T	14T	12C	14C	12	14	12	14
NTSC		22S2	-	22T	-	22C	-	22	-	22	-
SECAM D/K		32S2	34S2	32T	34T	32C	34C	32	34	32	34
SECAM L		42S2	-	42T	-	42C	-	42	-	42	-
PAL-I		52S2	-	52T	-	52C	-	52	-	52	-

Block Diagram

DMM-1701PM Functional Block Diagram



DMM1701IM Functional Block Diagram



DMM1701M Functional Block Diagram

