



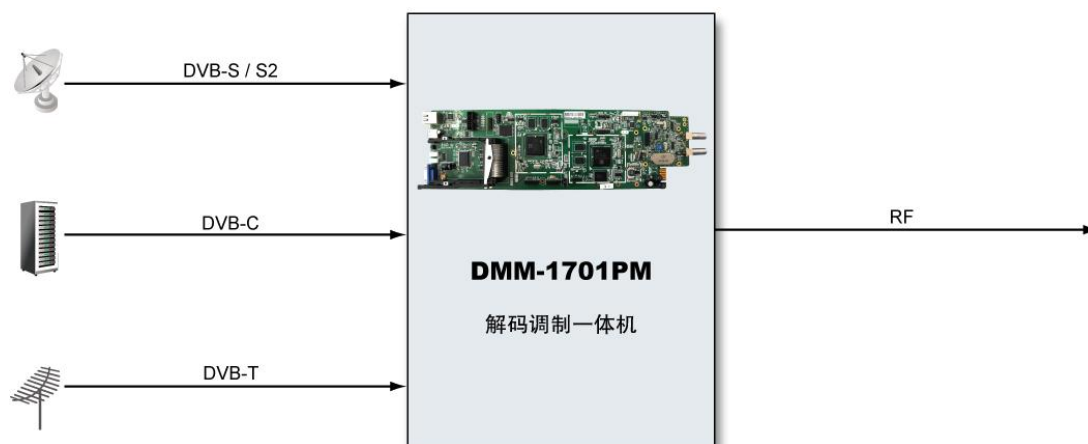
DMM-1701PM Series Professional IRD and Analog Modulator Module

The DMM-1701PM is an integrated professional IRD and analog modulator that provide to broadcaster and operator with multiple functions of digital TV signal reception, descrambling, filtering, decoding and modulation. It has a wide range of tuner input DVB-S/S2, DVB-T, DVB-C and is used in digital satellite, cable and terrestrial TV networks. By using the DVB common interface, DMM-1701PM can decrypt multiple pay TV services. The PID filtering function enables creation of 2 separate programs from tuner. These two programs will be decoded and modulated to two adjacent analog RF carriers in the range of 48~860MHz. It can support various analog modulation standards such as PAL B/G, PAL D/K, NTSC, SECAM D/K, SECAM B/G, etc. The equipment can be controlled and supervised by SNMP, HTTP WEB and proprietary HDMS software.

Main features

- Multiple inputs DVB-S2/S/C/T optional
- 2 analog channels adjacent agile modulation in range of 48-860MHz, and supports A2 stereo
- Supports standard VSB modulation technique
- RF output level of each channel can reach 100dB μ V, and spurious is better than -56dBc
- Supports MPEG-2, H.264/MPEG-4 AVC SD/HD decoding
- Supports DVB/EBU Subtitle and Teletext
- Supports Network Time Protocol (NTP)
- Remote Control and Supervision by SNMP, HTTP WEB and Proprietary HDMS software
- Supports BISS 1, BISS E de-scramble
- 2 x DVB-CI slots, Multiple TV program decryption
- Dynamic PMT automatic update
- RSSI, received Eb/No & BER monitoring
- On Site software update through IP or USB

Application





Specification

Tuner Input

DVB-S/S2 Tuner Input

Connector Type	1 x F type female 75Ω for Input, 1 x 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 Selection Tone	0/22KHz selectable
Satellite Selection Command	DiSEqC 1.0

DVB-C Tuner Input

Connector Type	1 x F type female 75Ω for Input, 1 x 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 x F type female 75Ω for Input, 1 x F type female 75Ω for loop through output
Input Frequency Range	49~861MHz
Input Level	-25~-65dBm
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

Descramble

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

Video

Video carrier frequency accuracy	VHF: $\Delta f \leq 5\text{KHz}$ UHF: $\Delta f \leq 10\text{KHz}$
Video modulation depth	77.5 ~ 97.5% (D/K,B/G,I,M/N)
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	$\Delta \tau \leq 45\text{nS}$
K factor of 2T pulse	$\leq 4\%$

Audio

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FM modulation deviation	40 ~ 160KHz (D/K, B/G, I) 20 ~ 80KHz (M/N)
Audio frequency response	±1.5dB (40Hz~15KHz)
Total harmonic distortion (THD)	≤1.2% (1KHz tone with ±60KHz FM deviation)
1 st audio carrier frequency	6.5MHz±5KHz/6.0MHz±5KHz/5.5MHz±5KHz/4.5MHz±5KHz(basing on different standards)
2 nd audio carrier frequency	6.742MHz±5KHz/6.258MHz±5KHz/5.742MHz±5KHz/4.742MHz±5KHz(basing on different standards)
Audio S/N ratio	≥55dB
Audio Pre-emphasis	50µS (B/G,D/K,I), 75µS (M/N)

RF Output

Connector Type	1x F type female, 75Ω (primary output) 1x F type female 75Ω (-20dB for monitoring)
Output Frequency Range	48~860MHz adjacent, step by 10 KHz
Output Level	100±2dBµV
Output Level Attenuation	0~18dB adjustable, step by 1 dB
Spurious Rejection	≥56dB (typ.)
Output Return Loss	VHF ≥12dB UHF ≥ 10dB

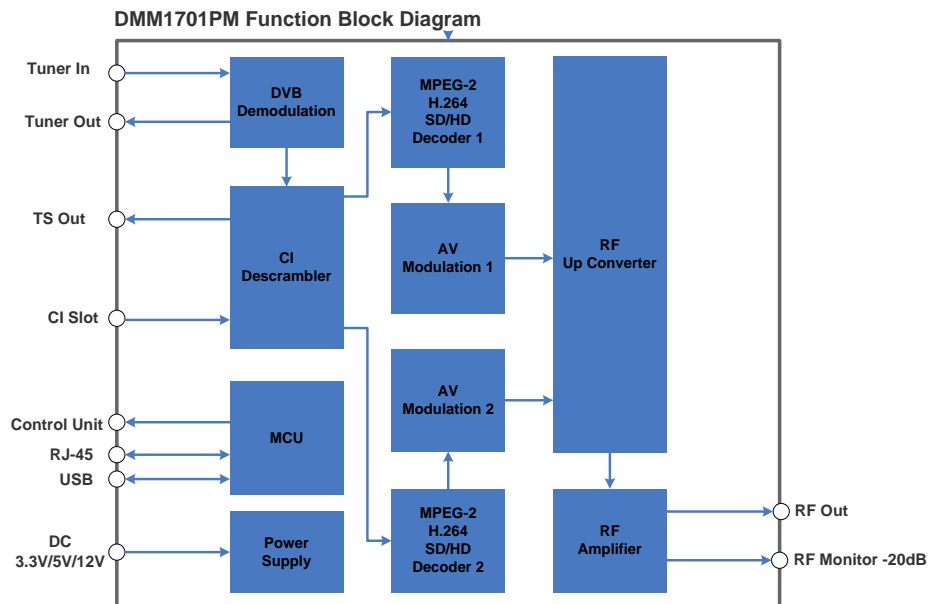
Control & Monitoring

Connector Type	1xRJ-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
Weight	0.61Kg
Power Consumption	30W Max.
Operating Temperature	0- +45℃
Storage Temperature	-10~ +50℃
Operating Humidity	20~90%, non-condensed

Block Diagram



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Order Information

DMM-1701PM-xx series							
Input type		DVB-S2		DVB-T		DVB-C	
Video	Audio	MONO	A2	MONO	A2	MONO	A2
PAL D/K			04S2		04T		04C
PAL D/K(Poland)		02S2	08S2	02T	08T	02C	08C
PAL B/G		12S2	14S2	12T	14T	12C	14C
NTSC		22S2	-	22T	-	22C	-
SECAM D/K		32S2	34S2	32T	34T	32C	34C
SECAM L		42S2	-	42T	-	42C	-
PAL-I		52S2	-	52T	-	52C	-

Front & Back Panels Interface

