VISIONETICS

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Au service de votre Numérique

Catalog 2026

DMM Series - Compact and Modular TV Station

Table of contents

List of Tuners

DVB-S/S2/S2X	
Input Frequency Range	950~2150MHz
Input Level	-65~-25dBm
Symbol Rate	1 ~ 60MSps
Modulation Type	QPSK, 8PSK, 16APSK, 32APSK, 64APSK
LNB Polarity Selection Voltage	0, 13V, 18V selectable
LNB Band Selection Tone	0/22KHz selectable, DiSEqC 1.0
PLS	0 ~ 262141 user configurable
ISI ID	1~255 user configurable

DVB-C	
Input Frequency Range	42~1002MHz
Input Level	-60~-20dBm
Symbol Rate	1.8~7.2MS/s
Bandwidth	6/7/8MHz
Modulation Type	16QAM, 32QAM, 64QAM, 128QAM, 256QAM

DVB-T	
Input Frequency Range	42~1002MHz
Input Level	-60~-20dBm
Modulation Type	QPSK, 16QAM, 64QAM
Bandwidth	6/7/8MHz
FFT Mode	2K, 8K
Guarding Interval	1/4, 1/8, 1/16, 1/32
Input Return Loss	7dB (typ.)

DTMB	
Input Frequency Range	44~1002MHz
Input Level	-60~-20dBm
Bandwidth	6/7/8MHz
Modulation Type	4QAM-NR, 4QAM, 16QAM, 32QAM, 64QAM

ISDB-T	
Input Frequency Range	42~1002MHz
Input Level	-60~-20dBm
Standard	ARIB STD-B31 v2.2
Bandwidth	6/7/8MHz
Modulation Type	QPSK, 16QAM, 64QAM
FFT Mode	2K, 4K, 8K

ATSC	
Input Frequency Range	54~864MHz
Input Level	-75~-7dBm(ATSC 8VSB)
Symbol Rate	10.762MBaud
Modulation Type	8VSB
Bandwidth	6MHz
Roll-off Factor	0.115

DS3	
Standard	Compliant with ITU-T G.703
Frame Structure	Compliant with ITU-T G.752 and ITU-T G.804
Bit Rate	44.736Mb/s

Chassis

DMM-1100MF 4U Chassis

- ☑ Standard 4RU chassis with 8 slots for functional modules and 2 slots for redundant power supplies
- ☑ Hot-swappable power supply unit (no need to power off the station during replacement)
- ☑ Intelligent cooling system with temperature sensor
- ☑ Audible alarm in case of failure of one of the two power supplies
- ☑ Wall-mount and rack-mount installation supported
- ☑ Compatible with new modules
- ☑ Power supply: AC 90V–250V, 150 Watts, 50–60 Hz
- ☑ Optional integrated IP switch
- ☑ Dimensions: 387 mm × 483 mm × 176 mm (4U)
- ☑ Operating temperature: 0 ~ 45°C (for all modules)
- ☑ Storage temperature: −10 ~ 60°C (for all modules)

DMM-210MF 1U Chassis

- ☑ Standard 1RU chassis with 2 slots for functional modules and 2 slots for redundant power supplies
- ☑ Hot-swappable power supply unit (no need to power off the station during replacement)
- ☑ Intelligent cooling system with temperature sensor
- ☑ Audible alarm in case of failure of one of the two power supplies
- ☑ Wall-mount and rack-mount installation supported
- ☑ Compatible with new modules
- ☑ Power supply: AC 90V–250V, 150 Watts, 50–60 Hz
- ☑ Dimensions: 387 mm × 483 mm × 44 mm (1U)
- ☑ Operating temperature: 0 ~ 45°C (for all modules)
- ☑ Storage temperature: −10 ~ 60°C (for all modules)

DMM-100MF Chassis

- ☑ Standard 1RU chassis with 1 slot for functional modules and 1 slot for power supply
- ☑ Wall-mount and rack-mount installation supported
- ☑ Compatible with new modules
- ☑ Power supply: AC 90V–250V, 12 Volt, 50–60 Hz
- ☑ Dimensions: 387 mm × 177 mm × 44 mm (1U)
- ☑ Operating temperature: 0 ~ 45°C (for all modules)
- ☑ Storage temperature: −10 ~ 60°C (for all modules)

DMM-1000CU Programming unit

- ☑ 6-button design with 2×20 LCD display
- ☑ No external power supply or battery required
- ☑ Fast and easy on-site system configuration without a PC
- ☑ Compatible with new modules
- ☑ Dimensions: 170 mm × 70 mm × 22 mm

Module IRD

DMM-1510P Serie
Professional HD/SD IRD

The DMM-1510P succeeds all functions from DMM-1500P, and exceeds the previous generation in terms of performance and functionalities. DMM-1510P could support two AC-3 audio pass-throughs over AES-EBU. The integrated decoder complies with MPEG-4, MPEG-2 and HEVC standards. Depending on the hardware configuration, DMM-1510P can support various optional of reception for DVB-T, DVB-S/S2/S2X, DVB-C, DTMB, ASTC, ISDB-T, TS over IP, and ASI input. Equipped with two CI slots, multi-descramble could be achieved by working with professional CAM modules. The descrambled stream could be delivered to the ASI output directly, or to the built-in re-multiplexer, or to the IP Output. Meantime, the decoded video could be output via HDMI and CVBS (down scaled) interfaces. The built-in re-multiplexer could accept transport streams from tuner, ASI input, IP input, and the descrambled stream from CI slot, and output stream could be highly customized through the user-configurable PSISI regenerator. The compact design and the powerful decoding ability make DMM-1510P one of the most competitive modules in DMM-1100 series.

Main Features

- Variety of input optional DVB-S2/S2X/C/T/T2/DTMB/ISDB-T/ATSC, TS/IP and ASI
- Redundant backup among Tuner, ASI input and TS over IP input
- SD/HD/UHD MPEG-2, MPEG 4/H.264/H.265, AVS+, AVS2 video decoding
- Wide choice of I/O interfaces, including ASI, CVBS, HDMI, AES/EBU, XLR Balanced Audio, TS over IP
- PLS (Physical Layer Signaling) and ISI (Input Stream Identifier) function available on DVB-S2 tuner
- Single or Multi PLP (Physical Layer Pipe) function available on DVB-T tuner
- 2 x DVB-CI slots, support multiple programs decryption, BISS-1 or BISS-E decryption
- Dynamic PMT detection and automatic update
- VBI TELETEXT and WSS support over analog output
- UDP/RTP and Unicast/Multicast for TS over IP input and output
- 2 x Gigabit IP port, one full duplex SPTS/MPTS over IP and second backup output
- Control and surveillance over WEB or HDMS software remotely
- Software up-gradable in the field easily through USB or remote Control and Supervision by SNMP, HTTP WEB and Proprietary HDMS software
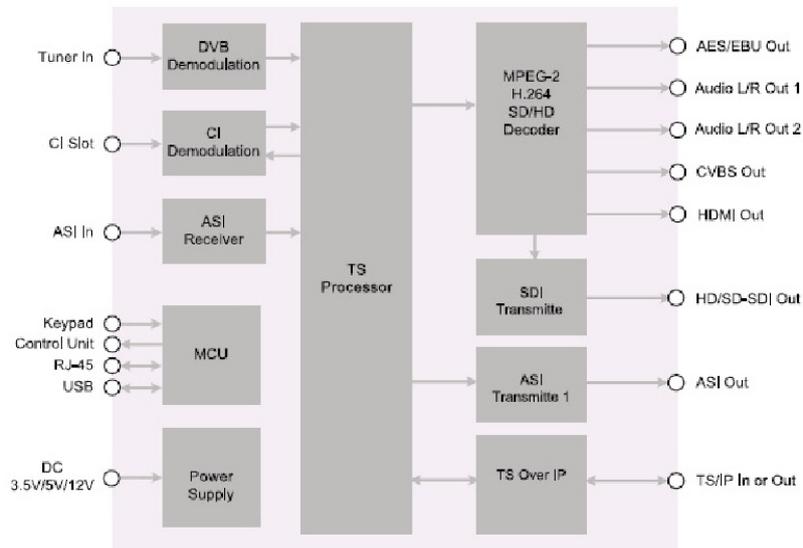- RSSI, received Eb/No & BER available on Web interface

Technical Specifications

TUNER INPUT

Connector Type	1×F type female 75Ω for Input, 1×F type female 75Ω for loop through output

TS Input and Output

ASI

Connector Type	Input: 1×BNC, 75Ω; Output: 1×BNC, 75Ω
Standard	DVB-ASI, EN50083-9
Bit Rate	Input≤ 200Mb/s; Output ≤ 200Mb/s

TS over IP

Connector Type	2×RJ45, 100/1000 Base-T, Independent
Effective Bit Rate	Full duplex, 300Mb/s for 64xIP out
Protocol	UDP/RTP, Multicast/Unicast, IGMPv2, ARP

TS Processing

TS Descrambler	Dual PCMCIA：DVB-CI，BISS-1，BISS-E
Service and PID Management	Remux, filtering and remapping
PSI/SI	PSI/SI table regeneration, NIT, SDT and SDT edition, LCN Edition

Audio and video output

Audio and Video Coding Standard

Video Profile/Level	MPEG-2(MP@ ML for SD, MP@HL for HD) MPEG 4/H.264 AVC Part 10 （MP@L3 for SD，HP@L4.1 for HD），H.265，AVS+,AVS2
Audio Profile/Level	MPEG-1 Layer-I/II, MPEG-2 Layer-II LC-AAC, HE-AAC

HDMI Output

Connector Type	1xHDMI 2.0

Video Resolution	1080P×60, 1080P×59.97, 1080i×60, 1080i×25, 720p×60, 720p×50, 576i×25,

Digital Audio Output

Number of Output	Decoded or passed through 1 channel
Output Format	AES/EBU

Analog Audio and video output

CVBS Connector	1×BNC 75Ω
CVBS Standard	NTSC, PAL and SECAM
Audio Connector	1×DB9 female with 1 pairs of XLR adaptor 600Ω
Audio Output Mode	Left, Right, Dual Mono, Stereo

Ancillary Data Processing

Subtitle	DVB, EBU
VBI	Teletext, WSS

Redundancy

Redundancy Port	among Tuner, ASI input and TS/IP input
Switching Condition	TS Sync Loss
Switching Mode	Main, Spare

Control and Monitoring

|	
Connector Type	1xRJ45, 10/100M Base-T
Remote Control	SNMP v1/v2, HTTP (Web Interface), Proprietary HDMS (Headend Device Management System)
Local Control	Handset display
Upgrade	WEB HTTP or USB or Telnet

Functional Block Diagram

Order information

Interface Function	DMM-1510P-10X	DMM-1510P-12X	DMM-1510P-20X	DMM-1510P-22X
ASI IN	●	●	●	●
ASI OUT	●	●	●	●
AES/EBU	●	●	●	●
TS/IP	-	●	-	●
Re-Multiplexer			●	●
TUNER IN (X)	Standard： S: DVB-S/S2/S2X Option： T: DVB-C/T D: DTMB A: ATSC I: ISDB-T			

IRD Module

DMM-2210P Serie
## Twin Professional HD/SD IRD and Processor Module

DMM-2210P is a high-density, modular professional decoder receiver equipped with two independent tuners, which can be either of DVB-T, DVB-S/S2/S2X, DVB-C, DTMB, ISDB-T and ATSC types. It supports a wide range of applications by combining dual tuner processing capability with MPEG2, H.264, SD/HD, AVS+ and H.265 video decoding and industry standard outputs including ASI, CVBS, HDMI, TS/IP. It has 2 DVB common interface slots capable of working with most of the well-known CAS in the market to de-crypt multiple pay TV services. The compact dual-tuner design and the powerful decoding ability make DMM-2210P one of the most competitive modules in DMM-1100 series.
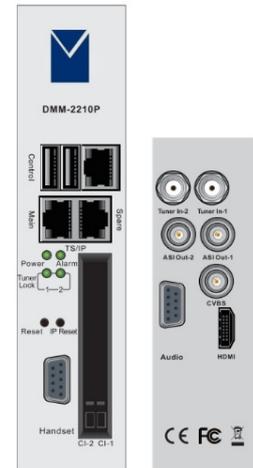
Main Features

- ☑ Twin-tuner supporting DVB-S/S2/S2X/C/T, DTMB and ATSC demodulations
- ☑ Single channel decoder from 2 TS of twin tuners
- ☑ SD/HD MPEG-2, MPEG-4/H.264, AVS+ and H.265 digital Video decoding
- ☑ 2x DVB-CI Slots, Multi Programs, BISS 1 and BISS E decryption
- ☑ Support services re-mux/filtering and 204/188 packet length
- ☑ UDP/RTP and Unicast/Multicast SPTS and MPTS over IP Input/Output
- ☑ Support VBI TELETEXT, EBU/DVB Subtitle
- ☑ Dynamic PMT detection and automatic updating
- ☑ Multiple Analog and Digital Outputs, ASI, CVBS, HDMI, TS/IP
- ☑ Support NTP (Network Time Protocol)
- ☑ Remote Control and Supervision by SNMP and HTTP WEB
- ☑ RSSI, received Eb/No & BER monitoring
- ☑ Easy firmware upgrade via USB port
- ☑ Automatic configuration backup when power-off
- ☑ PIP (Picture in Picture) supported via CVBS or HDMI

Functional Block Diagram
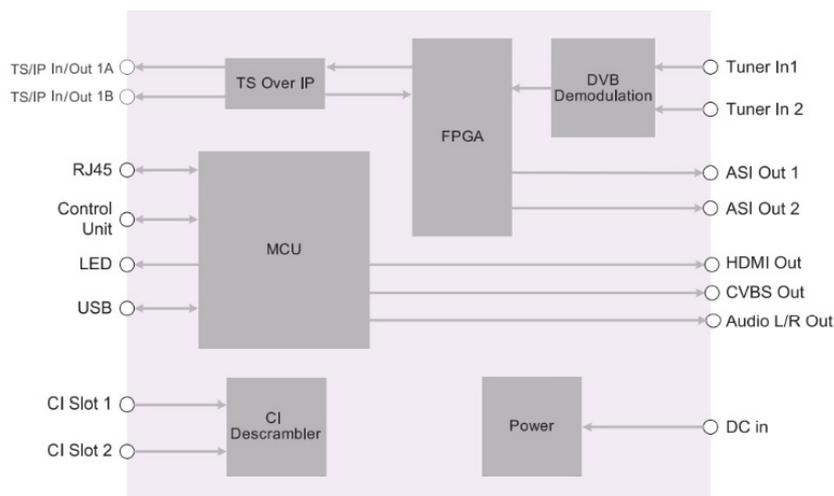
Technical Specifications

TUNER INPUT

Connector Type	2×F type female 75Ω

TS Input and Output

ASI

Connector Type	Output: 2×BNC, 75Ω
Standard	DVB-ASI, EN50083-9
Bit Rate	≤ 160Mb/s

TS over IP

Connector Type	2×RJ45, 100/1000 Base-T, Independent
Effective Bit Rate	80M for full duplex with ProMPEG FEC, 200Mb/s for full duplex without ProMPEG FEC, 600Mb/s for 32xSPTS IP out only
Protocol	UDP/RTP, Multicast/Unicast, IGMPv2, ARP
Uni/Multicast	Support maximum 32 channel Uni/Multicast output

TS Processing

TS Descrambler	Dual PCMCIA: DVB-CI, BISS-1, BISS-E
Service and PID Management	Remux, filtering and remapping
PSI/SI	PSI/SI table regeneration, NIT, SDT and SDT edition, LCN Edition

Audio and video output

Audio and Video Coding Standard

Video Profile/Level	MPEG-2(MP@ ML for SD, MP@HL for HD) MPEG 4/H.264 AVC Part 10 (MP@L3 for SD, HP@L4.1 for HD), H.265, AVS+, AVS2
Audio Profile/Level	MPEG-1 Layer-I/II, MPEG-2 Layer-II; LC-AAC, HE-AAC, AC3, AC3+

HDMI Output

Connector Type	1xHDMI 1.4
Video Resolution	1080Px60, 1080Px59.97,1080Px30,1080ix60,1080ix59.97,1080i x 30, 1080i x 29.97, 1080i x 25, 720p x 60, 720p x 59.94, 720p x 50, 480p x 60, 576p x 50, 576i x 25, 480i x 29.97

Digital Audio Output

Number of Output	Decoded or passed through 1 channel
Output Format	AES/EBU

Analog Audio and video output

CVBS Connector	1×BNC 75Ω
CVBS Standard	NTSC, PAL and SECAM
Audio Connector	1×DB9 female with 1 pairs of XLR adaptor 600Ω
Audio Output Mode	Left, Right, Dual Mono, Stereo

Ancillary Data Processing

Subtitle	DVB, EBU
VBI	Teletext, WSS

Control and Monitoring

Connector Type	1xRJ45, 10/100M Base-T
Remote Control	SNMP v1/v2, HTTP (Web Interface), Proprietary HDMS (Headend Device Management System)
Local Control	Handset display
Upgrade	WEB HTTP or USB or Telnet

Order Information

| Interface Function	DMM-2210P-X
TUNER IN (X)	Standard: S: DVB-S/S2/S2X Option: T: DVB-C/T D: DTMB A: ATSC I: ISDB-T

IRD Module

DMM-1420PM Serie
IRD / Modulator

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
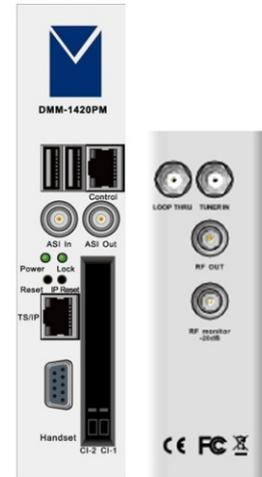
Technical Specifications

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.)

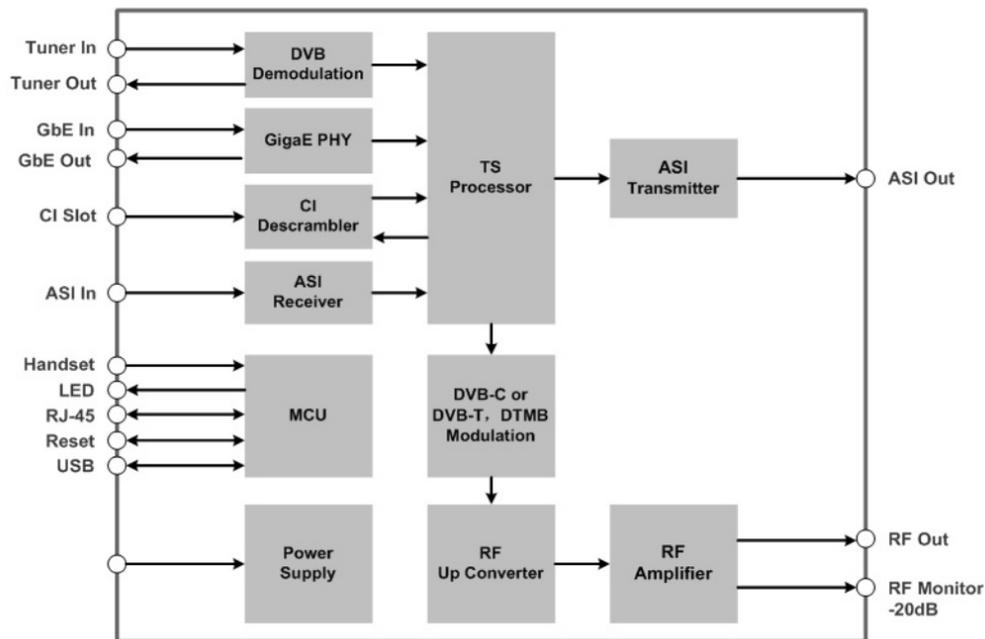| DVB-T Tuner Input	
Connector Type	1×F type female 75Ω for Input, 1×F type female 75Ω for loop through output
Input Frequency Range	174~230MHz(VHF); 470~860MHz(UHF)
Input Level	-20~-70dBm
Modulation	QPSK, 16-QAM, 64-QAM
Carrier Bandwidth	6/7/8 MHz
FTT Mode	2K/8K
Guard Interva	1/4, 1/8, 1/16, 1/32
Viterb 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

DVB-T Modulation (for DMM-1420PM-xT model)	
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

DTMB Modulation (for DMM-1420PM-xM model)	
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
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	95~110dBμV, step by 1dBμV
Spurious Rejection	55dB (typ.)
Output Return Loss	12dB (typ.)
Control & Monitoring	
Connector Type	1×RJ-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

Functional Block Diagram

Order Information

Model Interface	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

IRD Module

DMM-2410D Serie
Professional QUAD Demodulator

The DMM-2410D professional Quad Demodulator provides operators an ideal solution for multiple channels receiving and remultiplexing operations. Equipped with 4 independent tuners and 1 TS over IP input, DMM-2410D ensures compatibility with all transmission media, such as DVB-S2/S/T/C and so on. The DMM-2410D's remultiplexing capabilities enable the creation of new transport streams that are subsets of the original input stream. Customized services may be output as multiple SPTS or MPTS over IP, as well as over ASI. All these architectures make the DMM-2410D an ideal product for DTV signals receiving and demodulation.
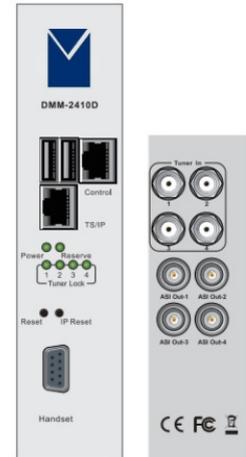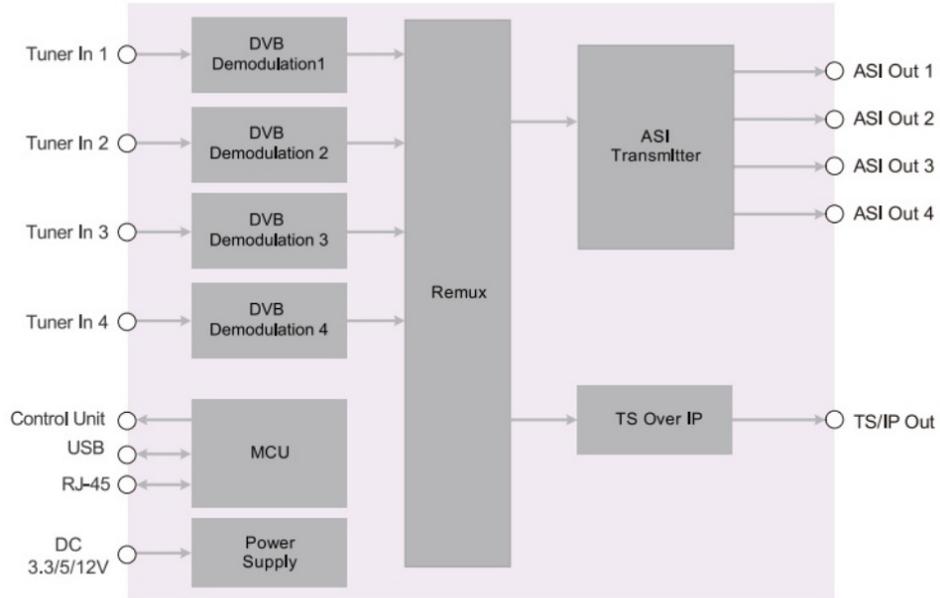
Main Features

- ☑ Variety of tuner factory options DVB-S2/S/C/T and TS/IP
- ☑ Built-in TS re-multiplexer receives 4xTuner and TS/IP input
- ☑ Dynamic PMT detection and automatic updating
- ☑ UDP/RTP, Unicast/Multicast, and SPTS/MPTS over IP
- ☑ Remote Control and Supervision by SNMP, HTTP WEB and Proprietary HDMS software
- ☑ On Site software update through IP
- ☑ Configuration reload after power failure
- ☑ RSSI, received Eb/No & BER monitoring

Technical Specifications

TUNER INPUT	
Connector Type	4×F type female 75Ω

TS Input and Output	
ASI	
Connector Type	Output: 4×BNC, 75Ω
Standard	DVB-ASI, EN50083-9
Bit Rate	≤ 108Mb/s
TS over IP	
Connector Type	1×RJ45, 100/1000 Base-T, Independent
Effective Bit Rate	Multi DVB mode, 5 channels MPTS IP output, 600Mb/s
	IPTV Mode, 128 channels SPTS IP output, for IP applications, no stuffing/null packet, non-DVB standard, 550Mb/s
	DVB Full duplex, 1 MPTS in and out, 80Mb/s
Protocol	UDP/RTP, Multicast/Unicast, IGMPv2, v3
TS Processing	
Service and PID Management	Remux, filtering and remapping
PSI/SI	PSI/SI table regeneration, NIT, SDT and SDT edition, LCN Edition

| Control and Monitoring	
Connector Type	1xRJ45, 10/100M Base-T
Remote Control	SNMP v1/v2, HTTP (Web Interface), Proprietary HDMS (Headend Device Management System)
Local Control	Handset display
Upgrade	WEB HTTP or USB or Telnet

Functional Block Diagram

Order Information

Interface Function	DMM-2410D-X
TUNER IN (X)	Standard: S: DVB-S/S2/S2X Option: T: DVB-C/T D: DTMB A: ATSC I: ISDB-T

Modulator Module

DMM-2410TM Serie
Quad Transmodulator

DMM-2410TM is a high-density Quad Modulator and Trans-modulator module. It can receive up to four independent transport streams (TS) from tuners, ASI, or TS/IP inputs, and modulate them into four adjacent DVB-C RF carriers. Different types of inputs are available as factory options, such as DVB-S/S2, DVB-C/T, and ASI. With its built-in remux function, the DMM-2410TM can accept TS from tuners, ASI, or TS/IP inputs, and then perform filtering and re-multiplexing to build four new transport streams for modulation. The DMM-2410TM can be used either as a four-way IP QAM modulator or a four-way trans-modulator.
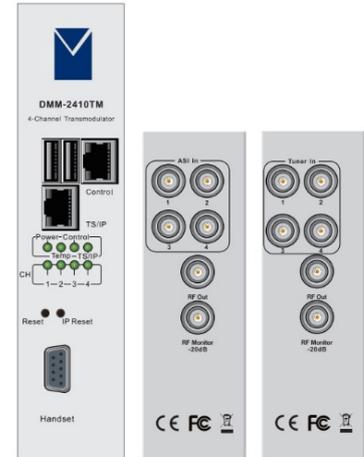
Main Features

- ☑ 4 Independent TS Inputs: DVB-S2/C/T, TS/IP, ASI (optional)
- ☑ TS/IP Gigabit Ethernet Input: Supports UDP/RTP, IGMP v2/v3, and Multicast/Unicast
- ☑ Built-in Remux: Processes TS from ASI, Tuner, and TS/IP inputs
- ☑ Service and PID Filtering and Re-multiplexing
- ☑ Regenerates PSI/SI: Can insert NIT, LCN, etc.
- ☑ 4 Adjacent Carriers: DVB-C QAM or DTMB (factory option) output across 48–996 MHz
- ☑ Remote Control and Monitoring: Web-based control and SNMP supervision
- ☑ Software Update: Via Ethernet or USB port

Order Information

	Model	DMM-2410TM				DMM-2410TM			
Interface		30S2C	30T2C	30AC	30IC	30S2D	30T2D	30AD	30ID
Tuner input	DVB-S/S2	×4				×4			
	DVB-T/C		×4				×4		
ASI-In				×4				×4	
Built-in Remux		●	●	●	●	●	●	●	●
TS/IP In		×4	×4	×4	×4	×4	×4	×4	×4
RF-Out		×4	×4	×4	×4	×4	×4	×4	×4
Modulation		DVB-C	DVB-C	DVB-C	DVB-C	DTMB	DTMB	DTMB	DTMB

Functional Block Diagram
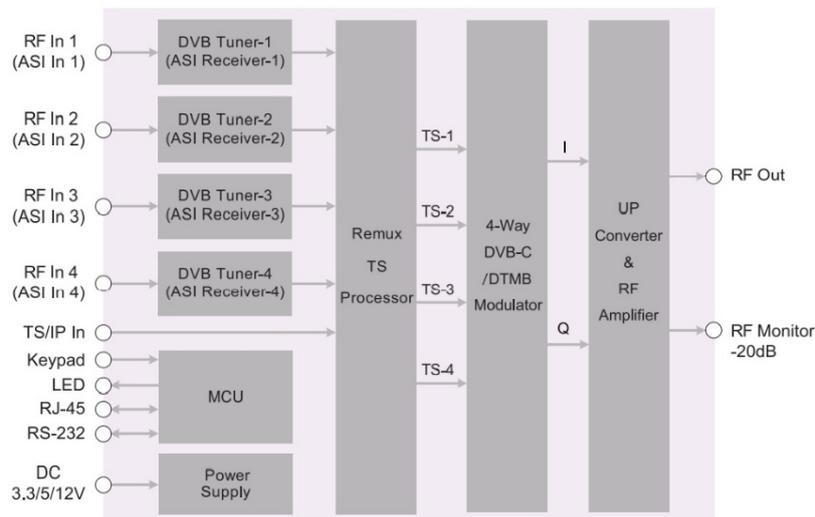
Technical Specifications

TUNER INPUT

Connector Type	4 x F type female 75Ω

TS Input and Output

ASI

Connector Type	4 x BNC female, 75Ω
Standard	DVB-ASI, EN50083-9
Bit Rate	Input: ≤ 216 Mb/s

TS over IP

Connector Type	1×RJ45, 100/1000 Base-T, Independent
Effective Bit Rate	320Mb/s (total bitrate of 4 TS streams)
Protocol	UDP/RTP, Multicast/Unicast, IGMPv2, ARP

TS Processing

TS processing and Remux	PSI auto generation, Service and PID remux, filtering and re-mapping NIT insertion and LCN edition EIT Processing

Modulation

DVB-C Modulation

Standard	J.83 Annex A; J.83 Annex C (Future evolution)
Constellation	16QAM, 32QAM, 64QAM, 128QAM,256QAM
Symbol Rate	2.5~6.99MS/s
BER	≤0E-9
MER	>40dB Typ. (disable equalization)

DTMB Modulation

Constellation	4QAM, 16QAM, 64QAM
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

RF Output

Connector Type	2 x BNC female (1 port for -20dB monitor), 75Ω
Output Frequency Range	48~860MHz adjustable (1KHz step)
Output Level	95~110dBµV adjustable (1dB step)
Spurious Rejection	55dB (typ.)
Output Return Loss	-10dB (typ.)

Control and Monitoring

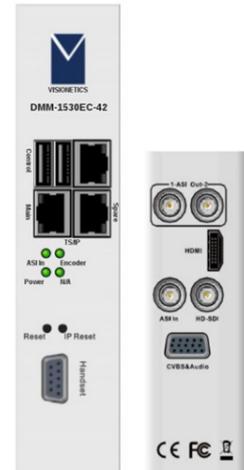|	
Connector Type	1xRJ45, 10/100M Base-T
Remote Control	SNMP, HTTP (Web Interface)
Local Control	Handset display
Upgrade	Embedded FTP loader and Telnet

Encoder Module

DMM-1530EC Serie
Single-Channel Encoder/Transcoder

The DMM-1530EC is a single-channel H.264 (MPEG-4 AVC) HD/SD and MPEG-2 SD encoder that offers users a high-level operational experience to meet the demands of the digital broadcasting market. The DMM-1530EC supports a variety of input interfaces including HD/SD-SDI, HDMI, and CVBS. The compressed stream can be output via Gigabit Ethernet IP and ASI. The DMM-1530EC can encode two pairs of stereo audio. With its built-in remultiplexer, the DMM-1530EC can independently remultiplex the generated SPTS and the incoming ASI or IP MPTS. All these features make the DMM-1530EC the most suitable deployment choice for any broadcasting system.

Main Features

- Fully compliant with H.264 HP@Level 4.0 and MP@Level 3.0
- Fully compliant with MPEG-2 MP@ML
- Supports VBR and CBR encoding modes
- Supports MPEG-2 to H.264 transcoding and vice-versa
- Multiple inputs: HD/SD-SDI, HDMI, and CVBS for encoding
- Supports GbE TS/IP input and output (full duplex)
- Service remultiplexing from ASI and IP inputs with the encoded service
- PSI/SI table editing
- Remote control and supervision via SNMP and HTTP WEB

Technical Specifications

Video	
Interfaces	HD/SD-SDI, HDMI, CVBS
Standard	H.264/AVC HP@L4.0/MPEG-2 MP@ML
Bandwidth	300K~20Mbps
Video Resolution	1080p (1920 × 1080) @ 25Hz, 29.97Hz: SMPTE274M: 1~13Mb/s 1080i (1920 × 1080) @25Hz, 29.97Hz: SMPTE274M: 1~13Mb/s 720p (1280 × 720) @50Hz, 59.94Hz:: SMPTE296M: 1~13Mb/s 480i (720 × 480) @29.97Hz: SMPTE656M: 600K~8Mb/s 576i (720 × 576) @25Hz: SMPTE656M:600K~8Mb/s
Ratio	4:3/16:9

Audio	
Audio1	SDI/HDMI Analog Left/Right AES/EBU
Audio2	SDI/HDMI Analog Left/Right
Standard	MPEG1 Layer II MPEG-2/4 AAC-LC/HE-AAC (V1, V2)
Sample rate	48KHz
Recommend Compression Bit Rate	MPEG1 Layer II: 64~384Kb/s (Stereo), 32~192Kb/s (Mono) MPEG2/4 AAC-LC: 48~512Kb/s (Stereo), 24~256Kb/s (Mono) MPEG2/4HE-AAC (V1, V2): 32~256Kb/s (Stereo), 16~128Kb/s (Mono)

| Transcoding	
Transcoding Mode	H.264 to MPEG-2, H.264 to H.264, MPEG-2 to MPEG-2, MPEG-2 to H.264

Input Standard	MPTS,MPEG2 MP@ML MP@HL, MPTS, H.264/AVC Main/High/Baseline Profile @ L4.0 or less (but not FMO, ASO & RS of Baseline)
Output Standard	MPTS and/or un-stuffed TS, MPEG2 MP@ML MPTS and/or un-stuffed TS, H.264/AVC Main/High/Baseline Profile @ L4.0 or less (but not include FMO, ASO & RS of Baseline)

ASI Input	
Interface	75Ω, BNC Female
Maximum bandwidth	100 Mb/s
Data type	Byte
Packet length	188/204 Bytes
Power level	200 ~ 880mVp-p

ASI Output	
Interface	75Ω, BNC Female
Data type	Byte
Packet length	188/204
Power level	800±80mV

TS/IP Duplex	
Standard	IEEE 802.3, 10/100/1000 Base-T
Bandwidth	80Mb/s (Input 80Mb/s, Output 80Mbps)
Data protocol	UDP/RTP, SPTS or MPTS
IGMP	v2/v3

TS/IP IPTV/Multiple DVB	
TS/IP Duplex	IEEE 802.3, 10/100/1000 Base-T
Bandwidth	200Mb/s
Data protocol	UDP/RTP, SPTS or MPTS
IGMP	v2/v3

Rear Panel			LED	3×LED
ASI In	1×ASI BNC Female75Ω		IP Reset	Management IP reset
SDI In	1×HD/SD SDI BNC Female 75Ω		Reset	Unit reset
HDMI In	1×HDMI		Handset	DB-15 control unit interface
CVBS& Audio L/R In	D-Sub15		Physical	
Audio2 In	D-Sub15		Voltage	DMM-1100/DMM-210MF (AC90~260V 50/60Hz)
ASI Out	2×ASI (Mirror) BNC Female 75Ω			
Front Panel			Operation temperature	0~45℃
Control	RJ-45, 10/100 Base-T		Storage temperature	-10~60℃
TS/IP	2×GbE (Mirror), RJ-45, 10/100/1000 Base-T		Humidity	10~90%, Non-condensed
			Dimension	380mm×111.5mm

Functional Block Diagram
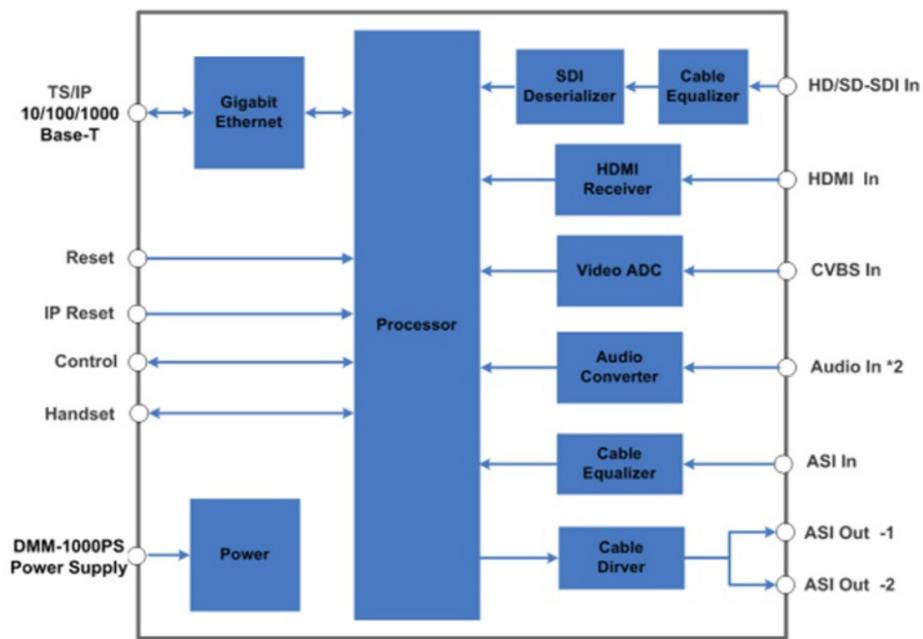
Order Information

Fonction		DMM-1530EC-XX			
		-30	-32	-40	-42
Input	HDMI	●	●	●	●
	CVBS	●	●	●	●
	Audio 1	●	●	●	●
	Audio 2		●		●
	SDI	●	●	●	●
	ASI	●	●	●	●
Output	2xASI (mirror)	●	●	●	●
	2xGbE (mirror)			●	●
Management		●	●	●	●

Encoder Module

DMM-2420EC Serie
4 Way Encoder/Transcoder

The DMM-2420EC is a high-density, real-time H.264 HD/SD & MPEG-2 SD encoder/transcoder. This "blade"-type design integrates 4 independent encoder/transcoders, 1 remultiplexer, 1 ASI input, 1 redundant ASI output, and 1 GbE TS/IP port. A new MPTS can be generated by the built-in remultiplexer from any combination of services from the ASI and TS/IP inputs and the local encoders.

All models provide two TS/IP operational modes. The first, called "Full Duplex," enables incoming MPTS or SPTS to be combined with local encoders to create a new MPTS, which is then output to the IP & ASI outputs. The second mode, "Multiple Output," delivers up to 5 IP streams: four SPTS (with a lower bitrate and less precise PCR than a standard SPTS) from the encoders and one MPTS (from the internal remultiplexer) over IP, each with different unicast or multicast IP addresses. All models incorporate transcoding functionality. They accept an MPTS, transcode up to 4 channels, and output the result as an MPTS and/or 4 SPTS.

Main Features

- Compatible with H.264/AVC Baseline, Main & High Profile @L4.0 or lower & MPEG-2 MP@ML
- 4 independent AV inputs (SDI, HDMI, or CVBS depending on the model)
- Independent Encoding/Transcoding mode control
- Internal remultiplexer; new MPTS composed from ASI inputs, TS/IP inputs & encoders
- Remultiplexed MPTS and 4 SPTS (without stuffing) available over IP
- Supported video input resolutions: 1080i, 720p, 576i, and 480i (Note: CVBS models support SD only – see model list)
- Minimum video bitrate: 500 Kb/s (PAL Standard or NTSC SD video, when total bitrate ~700 Kb/s)
- Independent horizontal and vertical pixel scaling
- Transcoding from MPEG-2 to H.264/AVC and vice-versa
- Supports VBR and CBR encoding/transcoding modes
- Audio encoding: MPEG-1 Layer II, MPEG-2/4 AAC-LC, HE-AAC
- Audio matrix allowing selection of audio from any of the 4 inputs to any encoder
- Low-latency mode: 100 ms
- Remote control and monitoring via SNMP, HTTP WEB

Order Information

Modèle		DMM-2420EC-X		
Fonction		-S	-H	-C
Input	HD-SDI	X4		
	HDMI		X4	
	CVBS			X4
TS input	ASI	•	•	•
	TS/IP (GbE)	•	•	•
TS output	ASI (1+1)	•	•	•
	TS/IP (GbE)	•	•	•

Technical Features

Video Input & compression Coding	
Video Input Interfaces	4 × HDMI, 4 × SDI, or 4 × CVBS
Coding Profile & Level	H.264/AVC BLP, MP, HP @ L4.0 or less, MPEG-2 MP@ML (note: see Model List)
Sampling Format	4:2:0, 10-bit, YCbCr
Compression Bit Rate	300K~20Mbps
Video Resolution & Recommend Compression Bit Rate H.264	1080i（1920×1080）@25Hz,29.97Hz: SMPTE274M: 1~13Mb/s 720p（1280×720）@50Hz,59.94Hz: SMPTE296M: 1~13Mb/s 480i（720×480）@29.97Hz: SMPTE656M: 600K~8Mb/s 576i（720×576）@25Hz: SMPTE656M:600K~8Mb/s
Video Resolution & Recommend Compression Bit Rate MPEG 2	480i（720×480）@29.97Hz: SMPTE656M: 3.5~8Mb/s 576i（720×576）@25Hz: SMPTE656M: 3.5~8Mb/s
Video Resolution Down Scaling	Vertical & Horizontal adjustable respectively (frame rate is not scalable)
Aspect Ratio	4:3, 16:9 Selectable

Audio Input & Compression Coding	
Audio Input Interfaces	HDMI/SDI Embedded or Analog
Coding Standard	MPEG1 Layer II MPEG-2/4 AAC-LC/HE-AAC(V1, V2)
Sampling Rate	48KHz
Recommend Compression Bit Rate	MPEG1 Layer II :32~192Kbps(mono), 64~384Kbps(stereo), MPEG-2/4 AAC-LC:24~256Kbps(mono), 48~512Kbps(stereo) MPEG2/4 HE-AAC(V1):16~128Kbps(mono), 32~256Kbps(stereo) MPEG2/4 HE-AAC(V1):16~128Kbps(mono), 32~128Kbps(stereo)

Transcoding	
Transcoding Mode	H.264 to MPEG-2, H.264 to H.264, MPEG-2 to MPEG-2, MPEG-2 to H.264
Input Standard	MPTS, MPEG2 MP@ML MP@HL, MPTS, H.264/AVC Main/High/Baseline Profile @ L4.0
Output Standard	MPTS and/or un-stuffed TS, MPEG2 MP@ML MPTS and/or un-stuffed TS, H.264/AVC MPTS and/or un-stuffed TS, H.264/AVC Main/High/Baseline Profile @ L4.0

DVB-ASI Input	
Input Interface	BNC Female, 75Ω
Maximum Bit Rate	100 Mb/s
Data Type	Byte
Packet Length	188/204 Bytes
Signal Level	200 ~ 880mVp-p

DVB-ASI Output	
Input Interface	BNC Female, 75Ω
Bit Rate	100Mb/s
Data Type	Byte
Packet Length	188/204 Bytes
Signal Level	800±80mV

TS/IP Gigabit Ethernet (note: see IP Model List)	
Standard	IEEE 802.3, 10/100/1000 Base-T
Maximum Effective Bit Rate	80Mb/s (note: Full Duplex mode) 200Mb/s (note: Multiple Output mode, 4SPTS Output+1MPTS Output) 200Mb/s (note: Multiple Full Duplex mode, 4SPTS Input+4SPTS Output+1MPTS Output)
Encapsulation	SPTS or MPTS
Protocol	UDP, RTP, ICMP, ARP, IGMPv2

Rear Panel options	
ASI In	1 x BNC Female, 75Ω
SDI In	4 x BNC Female, 75Ω (DMM-2410EC-S or DMM-2411EC-S, see Model List)
HDMI In	4 x HDMI Socket, 75Ω (DMM-2410EC-H or DMM-2411EC-H, see Model List)
CVBS In & Analog Audio In	2 x D-Sub15 (with D-Sub 15 to BNC female adapter cablings, total 4 sets of inputs, see Model List)
ASI Out	2 x BNC Female, 75Ω (1 Backup)

Front Panel	
Control	1x RJ-45, 10/100 Base-T
TS/IP	1x RJ-45, 10/100/1000 Base-T
LED	1x Power, 4x Encoder Status, 1x ASI/IP Status
IP Reset	Press for 5 second or more to return the default IP address of control port
Reset	Local reset

Physical	
Power	DC 3.3V/5V/12V, from DMM-1100 (8-slot) or DMM-210 (2-slot)
Operating Temperature	0 ~ 40℃
Storage Temperature	-10 ~ 60℃
Operating Humidity	10 ~ 90% (Non-condensed)

Functional Block Diagram

Mode « Multiple Output »
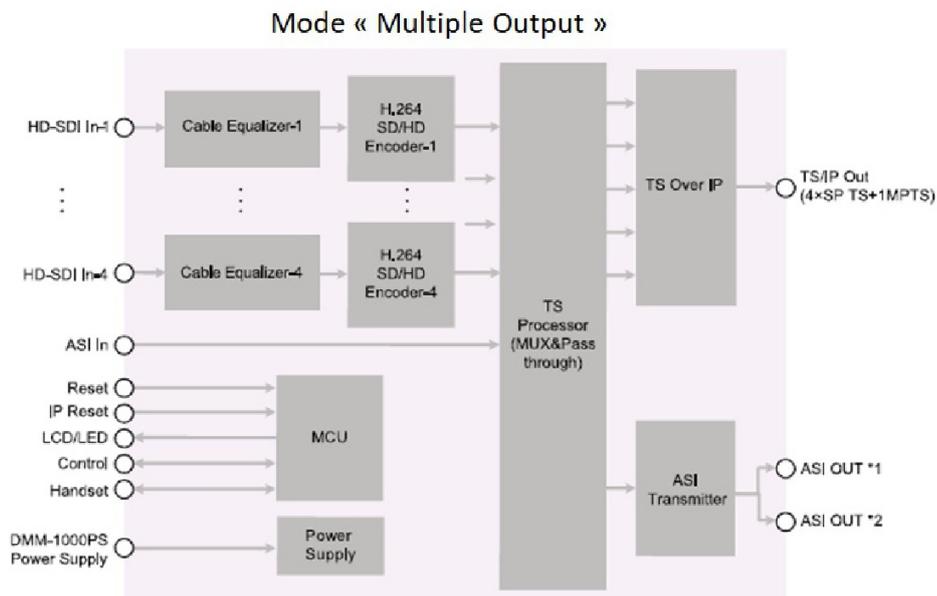
DVB Multiplexer Module

DMM-2200MX Serie
Re-multiplexer and scrambler

The DMM-2000MX-Plus is a series of high-density advanced DVB transport stream re-multiplexer modules. It can receive SPTS and MPTS from both GbE and ASI input ports. By using the user-friendly web control interface, the input TS is demuxed to SPTS, then routed to the ASI and GbE output ports to build new SPTS and MPTS with PSI/SI regeneration or pass through. It can support up to 256 PID or 32 TV services per TS with re-mapping, bypass, filtering functions. PCR jitter is improved by PCR correction and re-stamping features.

As an advanced option, DMM-2200MX can provide DVB scrambling functions. It can support BISS-1, BISS-E and Simulcrypt modes by using the DVB common scrambling algorithm and built-in CW generator.

With its multiple TS over ASI and IP input and output ports, flexible configuration and powerful TS processing ability, DMM-2200MX-Plus is a key routing equipment that links the TV sources from professional IRDs and encoders to DVB modulators in the headend system.

Main Features

- MPEG-2 and MPEG-4/H.264 TS Re-Multiplexing
- BISS-1/E, Simulcrypt mode Scrambling (DMM-2200MX-TP-Plus only)
- Support for local or remote CAS Simulcrypt (DMM-2200MX-TP-Plus only)
- TS Input and Output from ASI and IP
- Full-duplex port – up to 860 Mbps TS in and 860 Mbps TS out
- Supports UDP/TCP/RTP, Multicast and Unicast modes
- Null packet insertion for TS/IP transmission
- Maximum processing of 32 services or 256 PIDs per TS
- Service, component, and data de-multiplexing, filtering and re-multiplexing
- PCR re-generation and correction function
- PID and service remapping, bypass, filtering, conflict detection
- PSI/SI re-generation, insertion, NIT and SDT editing
- EIT bypass or re-generation
- TS Analyzer with TS, service bit rate and alarm supervision
- Web remote control and SNMP supervision

Order Information

| Interface \ Model	DMM-2200MX-Plus	DMM-2200MXTP-Plus
ASI in	×8	×8
ASI out	×4	×4
Remultiplexer	•	•
DVB Scrambing		2 TS
TS/IP (GbE)	×2	×2
Ethernet Management	×1	×1
TS/IP in	32TS per port	32TS per port
TS/IP out	32TS Total, including 4*MUX TS	32TS Total, including 4*MUX TS

Technical Specifications

ASI Ports	
ASI Input	8xBNC, 75Ω
ASI Output	4xBNC, 75Ω
Standard	DVB-ASI, EN50083-9
Data mode	BYTE or BURST auto-detection
Packet Length	188 /204 bytes, auto-detection
Signal Level	200-800mVpp±10%
Reflection loss	15dB
TS over IP	
Transmission mode	Multicast or Unicast, IGMP V2/V3, UDP/ RTP
Number of streams	64, 128 or 256
Input and output Bit Rate	Maximum 860Mb/s
Encapsulation	UDP or UDP/RTP 1-7 TS packets in each IP packet
PCR clock reference	PCR regeneration
Connector type	1000M Ethernet RJ-45
TS Processing	
Maximum TS	64 TS from IP and 8 TS from 8 ASI
Maximum service	64 services from each of 8 ASI port, 32services, during PCR regeneration 64 services from each of 64 TS over IP
Service management	Local service building Live service input pass through, stop, filtering, sharing and redundancy Service proprieties' edition and modification
Component management	Local component building Live component input pass through, stop,filtering, sharing, redundancy
EMM, ECM and private data	Crossing and filtering
PSI/SI and Data	
PSI/SI	Regeneration and edition tables anddescriptors through on line editor Tree structure view in XML format

EIT	Pass through, regrouping, automaticremapping of TS ID, ON_ID and ServiceIDin the EITs from different ASI and IP inputs
DVB Scrambling	
Scrambling mode	Simulcrypt, BISS-1, BISS-E
Simulcrypt number per TS	Maximum 4
Processing capability	<54Mb/s per TS
EMM	Protocol TCP or UDP; Maximum bandwidth 8Mb/s
ECM	Protocol TCP;Maximum bandwidth 3.8Mb/s
Control & Monitoring	
Connector Type	RJ-45, 10/100 Base-T
Local Control	LED*4 and LCDdisplay
Remote Control	HTTP Web, SNMP future extension
Equipment Upgrade	HTTP web page
Racks	
Model and Type	DMM-1100MF for 4RU; DMM-210MF for 1RU
Number of Slot	8 slots for 4RU rack, 2 slots for 1RU rack
Dimension	Width=483mm, Height=177mm, Depth=388mm for 4RU Width=483mm, Height=44mm, Depth=388mm for 1RU
Cooling	By air with automatic temperature detection
Power Supply	AC 100V-260V, 50-60Hz
Physicals	
Dimension	381mm×111mm×32mm
Weight	0.335Kg Net
Power Supply	DC 5V, 5A
Power Consumption	25W
Temperature	Operating 0~45℃; Storage -10~60℃
Operating Humidity	10~90%, non-condensed

Functional Block Diagram
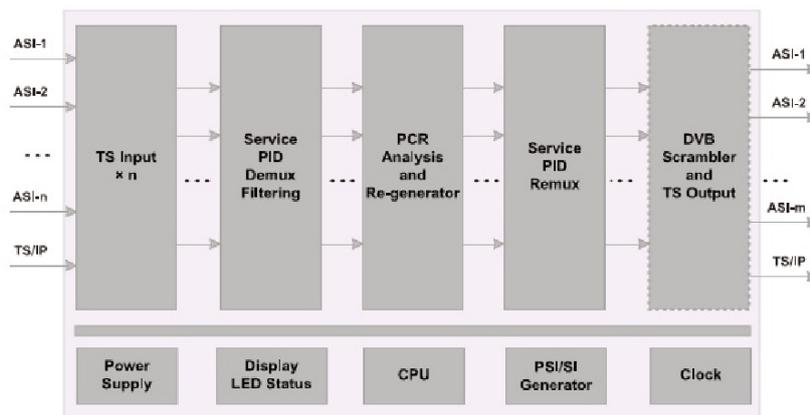
Multiplexer Module

DMM-1400MX Serie
DVB Re-multiplexer
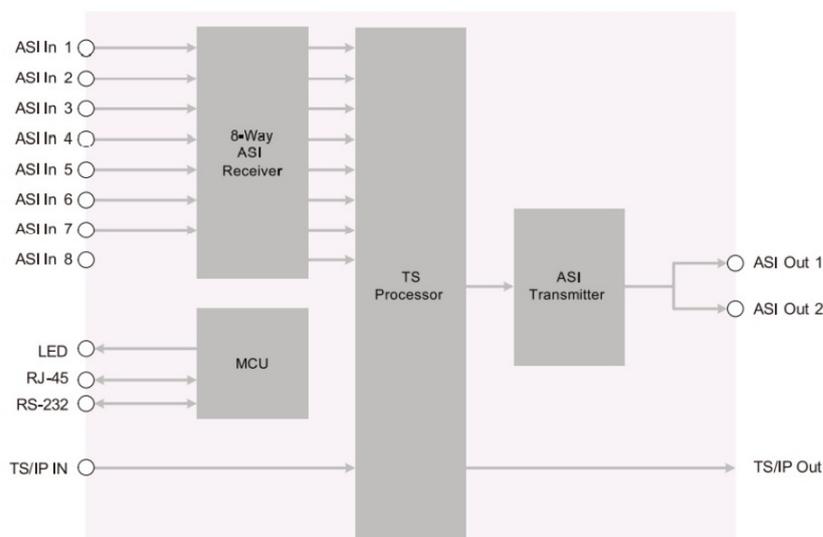
Main Features

- √ 8-way SPTS or MPTS ASI inputs
- √ Redundant ASI outputs
- √ Gigabit Ethernet for TS over IP Output
- √ PSI/SI table regeneration, NIT, EIT and SDT editing, LCN Editing and Re-generation
- √ Remote Control and Supervision via SNMP and proprietary HDMS software
- √ On-site software update via IP

Technical Specifications

ASI Input

Connector Type:	8 × BNC female, 75Ω
Input Bitrate:	≤ 216 Mbps
Data Transmission Mode:	Auto-detection of BYTE or BURST mode
Packet Length:	188/204 bytes, auto-detectione

ASI Output

Connector Type:	2 × BNC female, 75Ω
Output Bitrate:	≤ 216 Mbps
Data Transmission Mode:	Byte
Packet Length:	188 or 204 bytes
Signal Level:	800 mVpp ± 10%
PSI/SI Génération	PAT, PMT, SDT, CAT, NIT, Real-time P/F EIT, Schedule EIT

Control and Monitoring

Connector Type:	1 × RJ45, 10/100M, for IP equipment control
Remote Control:	SNMP, proprietary HDMS network management software
Local Control:	Remote controller
Software Upgrade:	FTP loader

TS over IP

Connector Type:	1 × RJ-45, 100/1000 Base-T for TS/IP
Effective Bitrate:	80 Mbps for 1000 Base-T
Protocol:	UDP/RTP, Multicast/Unicast, IGMPv2, ARP

Functional Block Diagram

Visionetics International - 58 Rue Gambetta, 92240 Malakoff
01 82 15 15 18 - sales@visionetics.fr

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Signal Distribution/Combination Module

DMM-1701CA
Combination Module and High-Power Linear Amplifier

The DMM-1701CA is a combination module and high-power linear amplifier that can combine 7 RF inputs into 1 RF output and amplify the output level up to 110 dBμV per channel. The modular design facilitates installation and maintenance. Users can manually adjust the gain and monitor the output RF signal via the -30 dB monitor port. The DMM-1701CA is suitable for both analog and digital systems
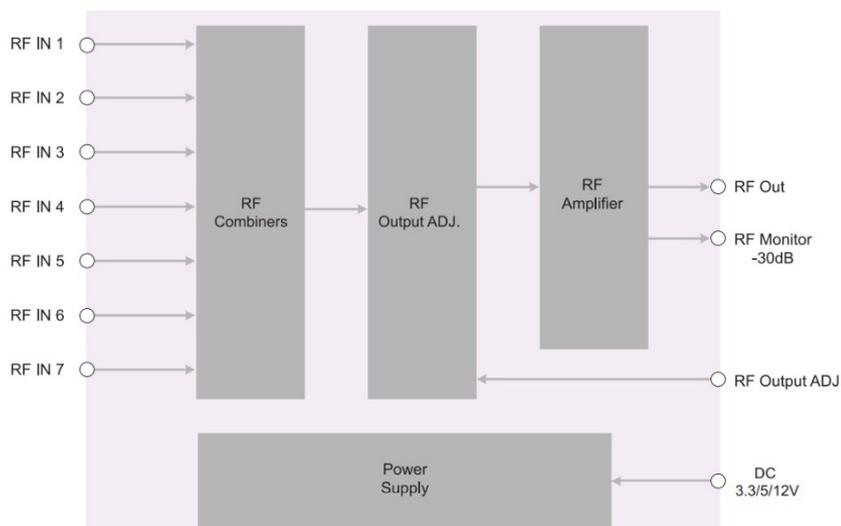
Main Features

- ☑ Gain amplifier with manual adjustment
- ☑ Supports -30 dB monitor port
- ☑ Supports 7 RF inputs into 1 RF output
- ☑ Modular design for easy installation and maintenance
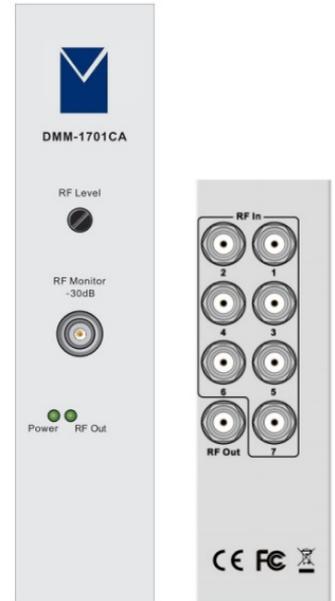
Technical Specifications

Connector Type:	7 × female F-type 75Ω for input, 1 × female F-type 75Ω for output, 1 × female F-type 75Ω for -30 dB monitor
Frequency Range:	48 ~ 860 MHz
Input Level:	100 dBμV (per channel)
Output Level:	110 dBμV (per channel)
Input Return Loss:	≥ 7 dB
Output Return Loss:	≥ 12 dB
CTB:	112 analog channels, flat, Vo = 44 dBmV, Typical: -62 dBc, Max: -60 dBc
XMOD:	112 analog channels, flat, Vo = 44 dBmV, Typical: -58 dBc, Max: -56 dBc
CSO:	112 analog channels, flat, Vo = 44 dBmV, Typical: -62 dBc, Max: -60 dBc
Noise Figure:	Max: 6 dB
Passband Flatness:	Min: 0.5 dB, Max: 2.5 dB
Isolation Between Input Ports:	Typical: 20 dB, Min: 16.5 dB
Isolation Between Input and Output Ports:	Min: 27 dB

Functional Block Diagram

Visionetics International - 58 Rue Gambetta, 92240 Malakoff
01 82 15 15 18 - sales@visionetics.fr

Signal Distribution/Combination Module

DMM-1701LD
Active 8-Way Satellite Signal Splitter

The DMM-1701LD is an 8-way L-band active satellite signal splitter. The RF input port can be supplied with 13/18V and 0/22kHz to power and control the LNB and antenna. Utilizing microstrip line technology, the port-to-port isolation between the 8 RF outputs is greater than 40 dB. It serves as a useful and cost-effective replacement part for the range of professional satellite IRD products.

Main Features

- ☑ Compatible with professional satellite receiver and decoder modules within the DMM product range
- ☑ DC isolation between input and output based on a microstrip directional coupler
- ☑ Active splitter to maintain a high RF output level
- ☑ High isolation between the 8 RF output ports
- ☑ Looped RF input monitoring output on the front panel for supervision
- ☑ Manual LNB 13/18V, 0/22kHz switches with LED status indication

Technical Specifications

RF Input		Return Loss:	≥ 10 dB
Number of Inputs:	1	Flatness:	± 2 dB
Connector Type:	F-type, 75Ω	Isolation:	≥ 40 dB
Frequency Range:	950 MHz – 2150 MHz	**Control and Monitoring**	
Input Level:	-65 dBm to -25 dBm	Switches:	3 switches for LNB power – ON/OFF, 13V/18V, and 0/22kHz
LNB Control			
13/18V:	13 ± 1 V, 18 ± 1.5 V	LEDs:	6 LEDs for power, LNB power, 13V, 18V, 0kHz, 22kHz
0/22 kHz:	0.7 ± 0.1 Vpp, 22 ± 1 kHz		
Load Current:	350 mA	**General**	
RF Output		Dimensions:	379.7 × 111.5 × 39 mm
Number of Outputs:	8 outputs, 1 loop output	Power Consumption:	Max 10 W
Connector Type:	F-type, 75Ω	Operating Temperature:	0 °C to 45 °C
Gain:	0 ± 2 dB	Storage Temperature:	-10 °C to 50 °C

Functional Block Diagram