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# Driving Your Digital Success

# Catalog 2026

DMM Series - Compact and Modular TV Station

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# 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)

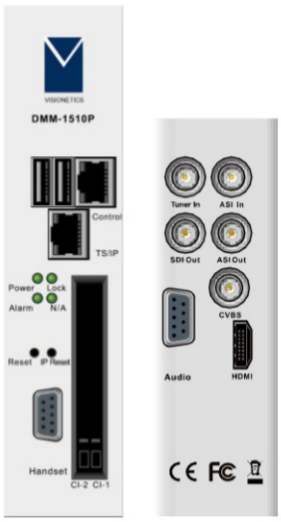
## DMM-1000CU Programming unit

- 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.



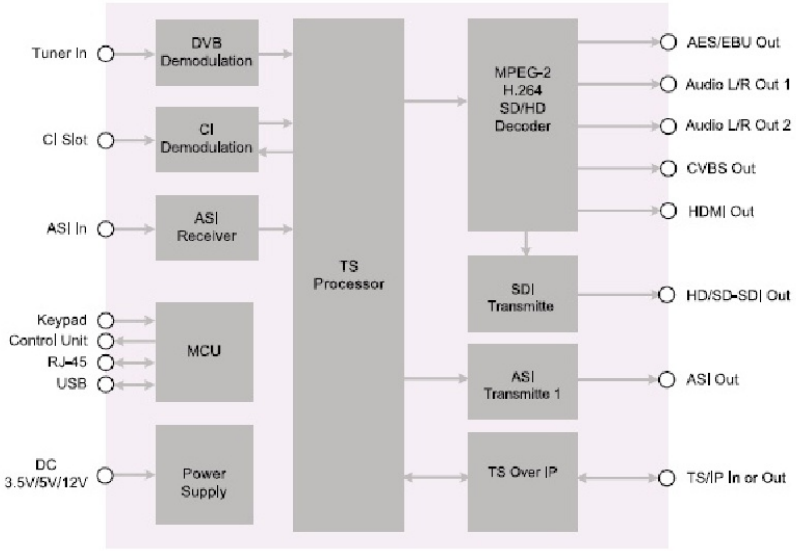

## Main Features

- 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



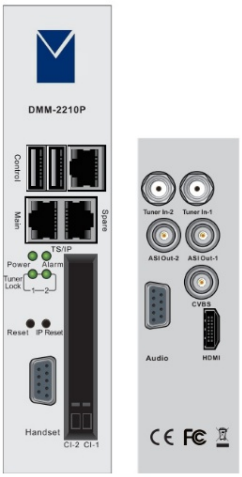

## Order information

| 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<br>**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

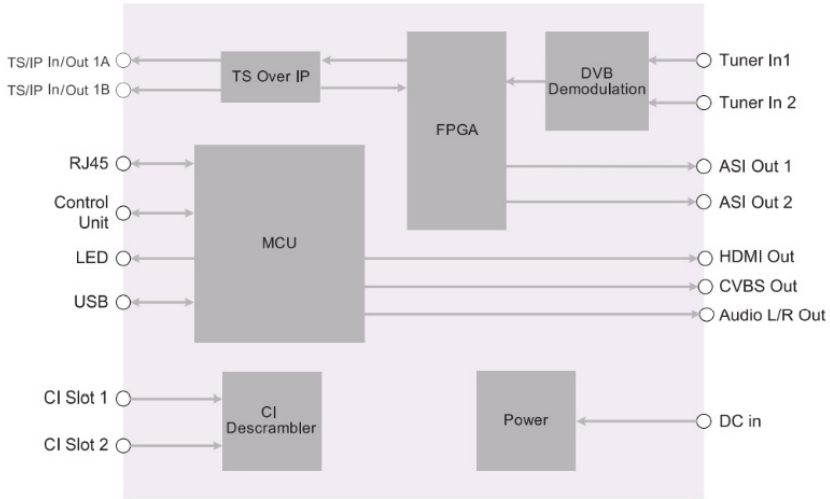
DMM-2210P is a high-density, modular professional decoder receiver equipped with two independent tuners, which can be either of DVB-T, DVB-S/S2/S2X, DVB-C, DTMB, ISDB-T and ATSC types. It supports a wide range of applications by combining dual tuner processing capability with MPEG2, H.264, SD/HD, AVS+ 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,<br>200Mb/s for full duplex without ProMPEG FEC,<br>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)<br>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，<br>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 |

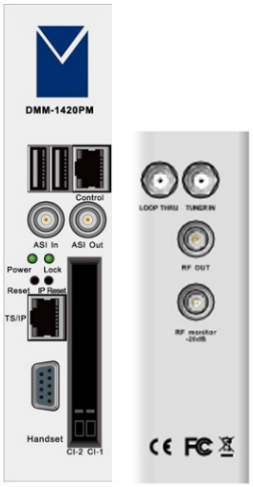
# Order Information

| Interface Function | DMM-2210P-X |
|---|---|
| TUNER IN (X) | **Standard:** S: DVB-S/S2/S2X<br>**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

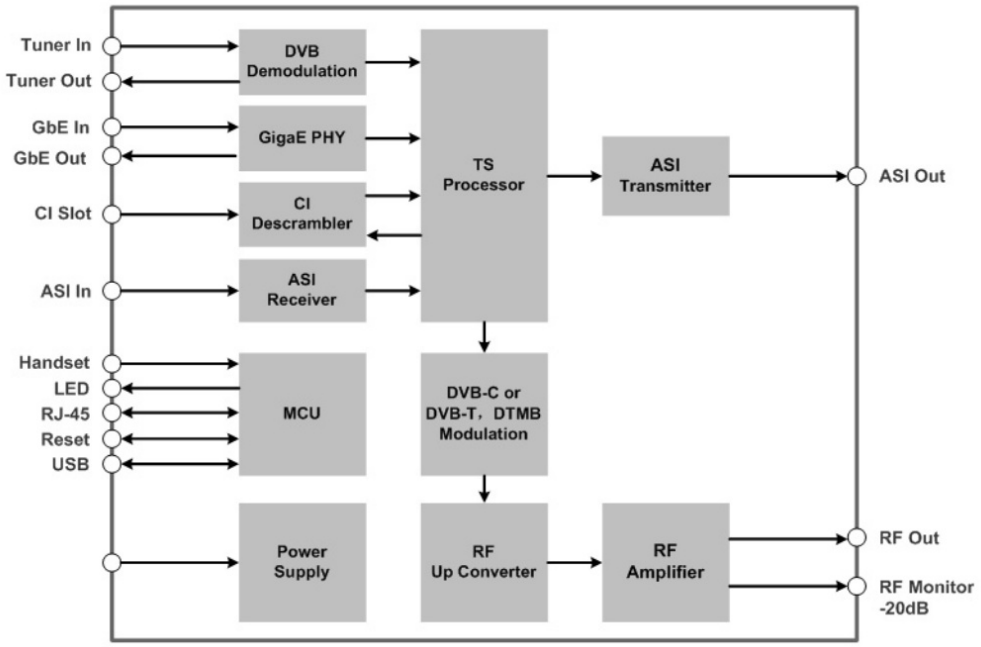
| Tuner Input | |
|---|---|
| DVB-S/S2 Tuner Input | |
| Connector Type | 1×F type female 75Ω for Input, 1×F type female 75Ω for loop through output |
| Input Frequency Range | 950~2150MHz |
| Input Level | -25~-65dBm |
| Roll-off Factor | DVB-S: 0.35<br>DVB-S2: 0.2, 0.25, 0.35 |
| FEC Code Rate | DVB-S QPSK: 1/2, 2/3, 3/4, 5/6, 7/8<br>DVB-S2 QPSK: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10<br>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,<br>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,<br>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,<br>NIT and SDT edition,<br>LCN Edition and Re-generation |
| Descrambler | DVB Common Scrambling Algorithm (CSA) |
| Common Interface | Double PCMCIA slots,<br>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<br>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)<br>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

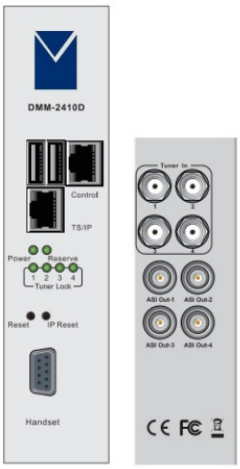
| Model / Interface | DMM-1420PM-XX | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | -S2T | -CT | -TT | -DT | S2T2 | CT2 | TT2 | DT2 | -S2M | -CM | -TM | -DM |
| Tuner Input | DVB-S2 | DVB-C | DVB-T | DS3-E3 | DVB-S2 | DVB-C | DVB-C | DS3-E3 | DVB-S2 | DVB-C | DVB-T | 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

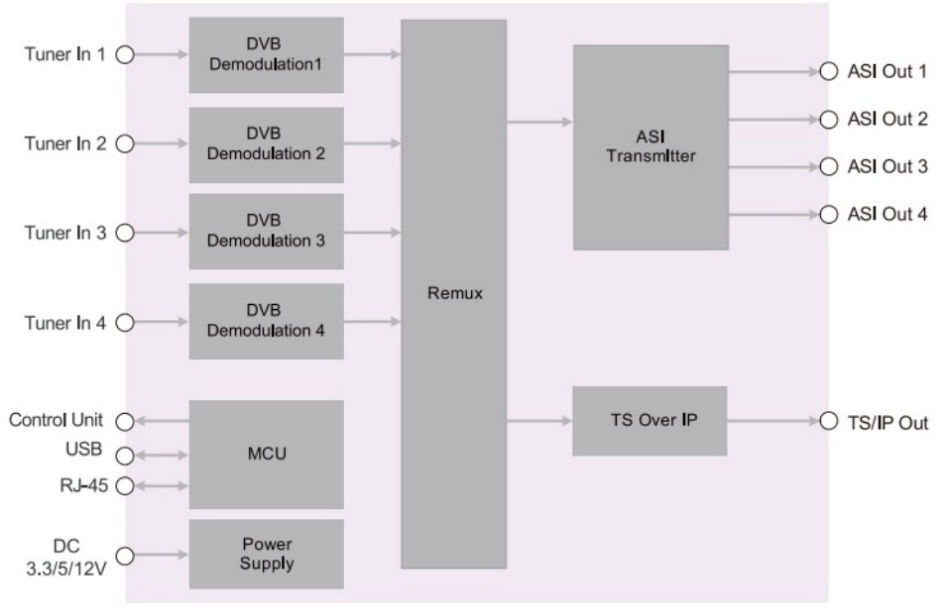
- Variety of tuner factory options DVB-S2/S/C/T and TS/IP
- Built-in TS re-multiplexer receives 4xTuner and TS/IP input
- Dynamic PMT detection and automatic updating
- UDP/RTP, Unicast/Multicast, and SPTS/MPTS over IP
- Remote Control and Supervision by SNMP, HTTP WEB and Proprietary HDMS software
- 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<br>IPTV Mode, 128 channels SPTS IP output, for IP applications, no stuffing/null packet, non-DVB standard, 550Mb/s<br>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



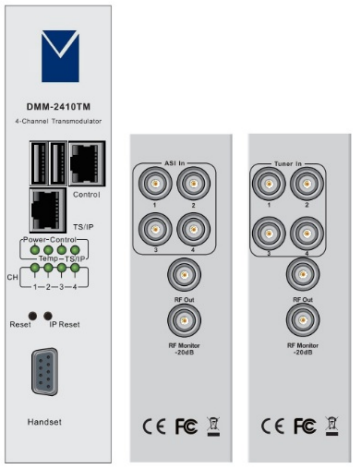

## Order Information

| Interface Function | DMM-2410D-X |
|---|---|
| TUNER IN (X) | **Standard**: **S**: DVB-S/S2/S2X<br>**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.



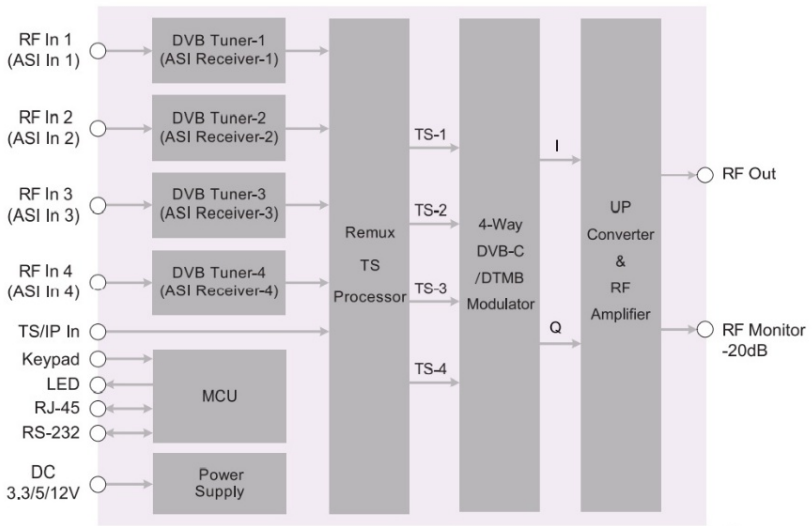

## Main Features

- 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

| Interface \ Model | | DMM-2410TM | | | | DMM-2410TM | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 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

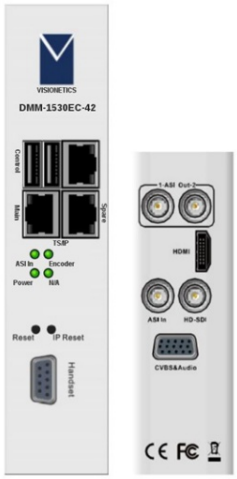
| TUNER INPUT | |
|---|---|
| Connector Type | 4 x F type female 75Ω |
| **TS Input and Output** | |
| **ASI** | |
| Connector Type | 4 x BNC female, 75Ω |
| Standard | DVB-ASI, EN50083-9 |
| Bit Rate | Input: ≤ 216 Mb/s |
| **TS over IP** | |
| Connector Type | 1×RJ45, 100/1000 Base-T, Independent |
| 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

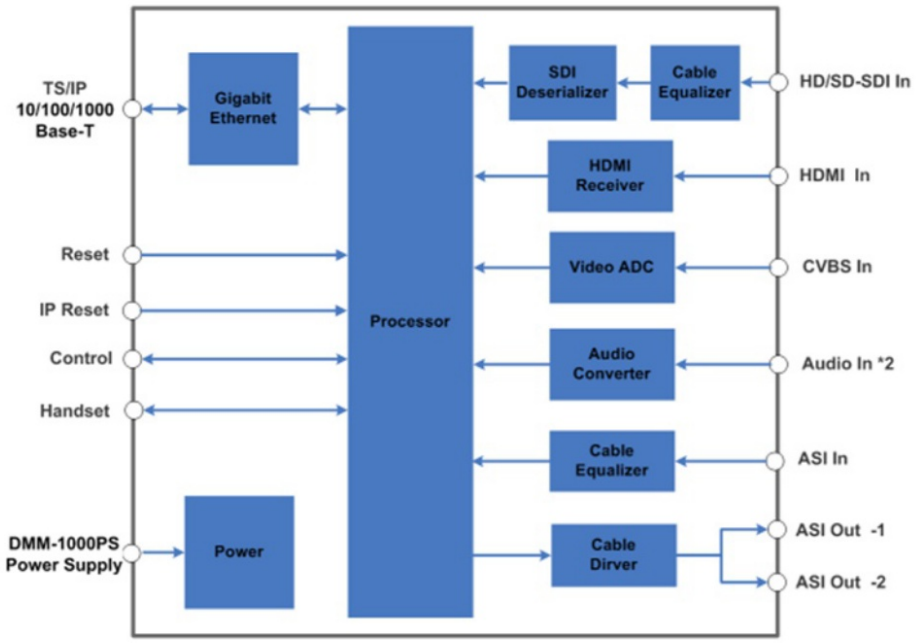
| | |
|---|---|
| **Video** | |
| Interfaces | HD/SD-SDI, HDMI, CVBS |
| Standard | H.264/AVC HP@L4.0/MPEG-2 MP@ML |
| Bandwidth | 300K~20Mbps |
| Video Resolution | 1080p (1920 × 1080) @ 25Hz, 29.97Hz: SMPTE274M: 1~13Mb/s<br>1080i (1920 × 1080) @25Hz, 29.97Hz: SMPTE274M: 1~13Mb/s<br>720p (1280 × 720) @50Hz, 59.94Hz:: SMPTE296M: 1~13Mb/s<br>480i (720 × 480) @29.97Hz: SMPTE656M: 600K~8Mb/s<br>576i (720 × 576) @25Hz: SMPTE656M:600K~8Mb/s |
| Ratio | 4:3/16:9 |
| **Audio** | |
| Audio1 | SDI/HDMI<br>Analog Left/Right<br>AES/EBU |
| Audio2 | SDI/HDMI<br>Analog Left/Right |
| Standard | MPEG1 Layer II<br>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)<br>MPEG2/4 AAC-LC: 48~512Kb/s (Stereo), 24~256Kb/s (Mono)<br>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 | |
| ASI In | 1×ASI BNC Female75Ω |
| SDI In | 1×HD/SD SDI BNC Female 75Ω |
| HDMI In | 1×HDMI |
| CVBS& Audio L/R In | D-Sub15 |
| Audio2 In | D-Sub15 |
| ASI Out | 2×ASI (Mirror) BNC Female 75Ω |
| Front Panel | |
| Control | RJ-45, 10/100 Base-T |
| TS/IP | 2×GbE (Mirror), RJ-45, 10/100/1000 Base-T |

| | |
|---|---|
| LED | 3×LED |
| IP Reset | Management IP reset |
| Reset | Unit reset |
| Handset | DB-15 control unit interface |
| Physical | |
| Voltage | DMM-1100/DMM-210MF (AC90~260V 50/60Hz) |
| Operation temperature | 0~45℃ |
| Storage temperature | -10~60℃ |
| 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

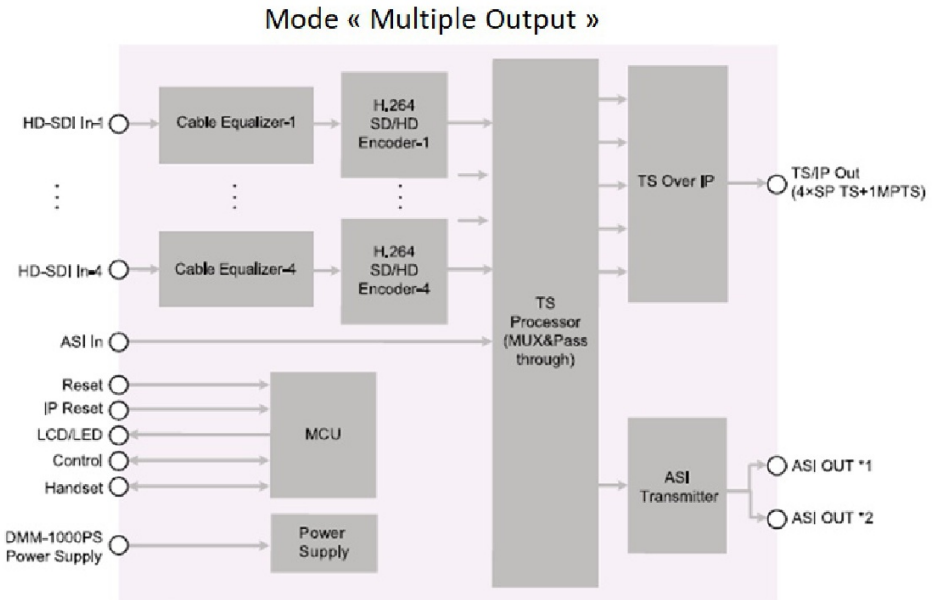
| Modèle | | DMM-2420EC-X | | |
|---|---|---|---|---|
| Fonction | | -S | -H | -C |
| Input | HD-SDI | X4 | | |
| | HDMI | | X4 | |
| | CVBS | | | X4 |
| TS input | ASI | • | • | • |
| | TS/IP (GbE) | • | • | • |
| TS output | ASI (1+1) | • | • | • |
| | TS/IP (GbE) | • | • | • |

# 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<br>720p（1280 × 720）@50Hz,59.94Hz: SMPTE296M: 1~13Mb/s<br>480i（720 × 480）@29.97Hz: SMPTE656M: 600K~8Mb/s<br>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<br>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<br>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),<br>MPEG-2/4 AAC-LC:24~256Kbps(mono), 48~512Kbps(stereo)<br>MPEG2/4 HE-AAC(V1):16~128Kbps(mono), 32~256Kbps(stereo)<br>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<br>MPTS and/or un-stuffed TS, H.264/AVC<br>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)<br>200Mb/s (note: Multiple Output mode, 4SPTS Output+1MPTS Output)<br>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°C |
| Storage Temperature | -10 ~ 60°C |
| Operating Humidity | 10 ~ 90% (Non-condensed) |

# Functional Block Diagram



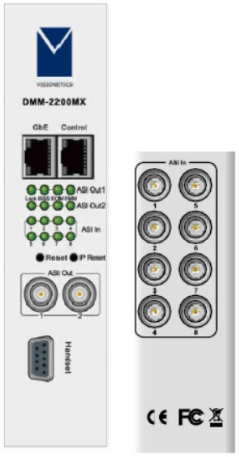
# DVB Multiplexer Module

## 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

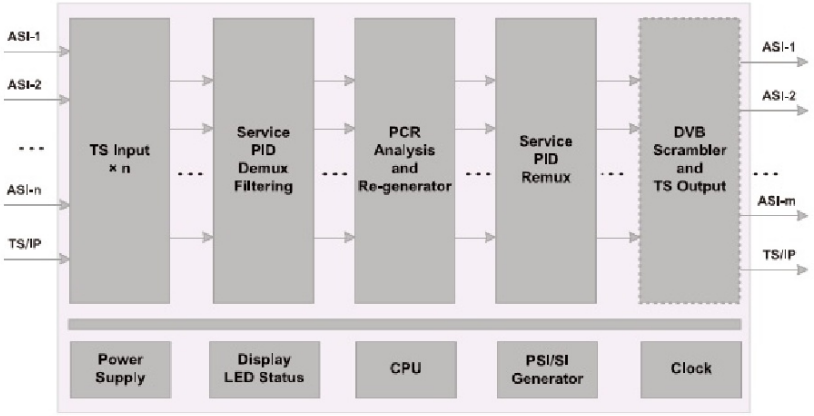
## Order Information

| Model / Interface | 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

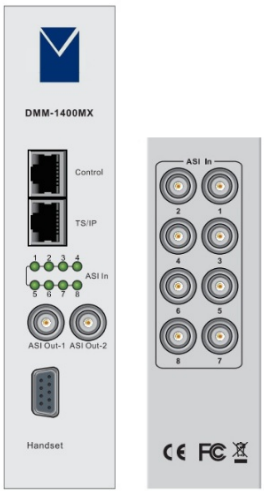
| | |
|---|---|
| ASI Ports | |
| ASI Input | 8xBNC, 75Ω |
| ASI Output | 4xBNC, 75Ω |
| Standard | DVB-ASI, EN50083-9 |
| Data mode | BYTE or BURST auto-detection |
| Packet Length | 188 /204 bytes, auto-detection |
| Signal Level | 200-800mVpp±10% |
| Reflection loss | 15dB |
| TS over IP | |
| Transmission 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<br>64 services from each of 64 TS over IP |
| Service management | Local service building<br>Live service input pass through, stop, filtering, sharing and redundancy<br>Service proprieties' edition and modification |
| Component management | Local component building<br>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<br>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<br>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



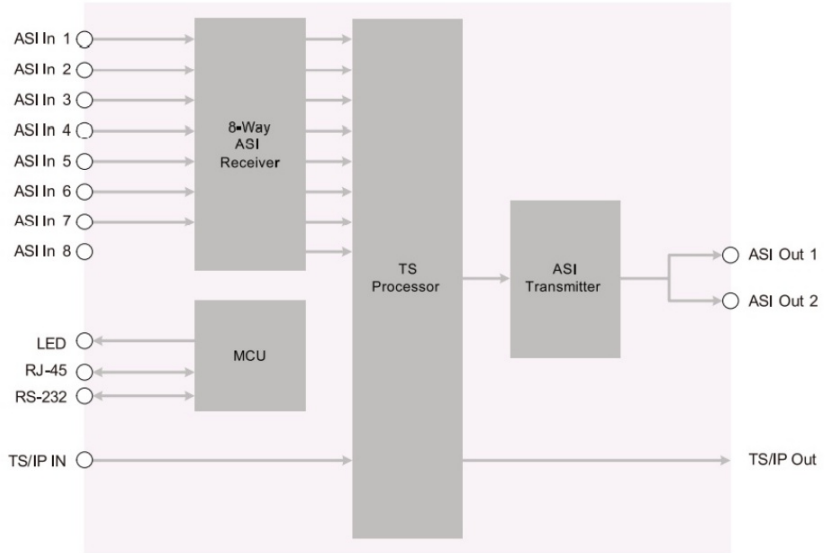

## Main Features

- 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 |

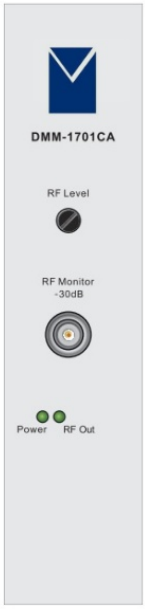
## Functional Block Diagram



# 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





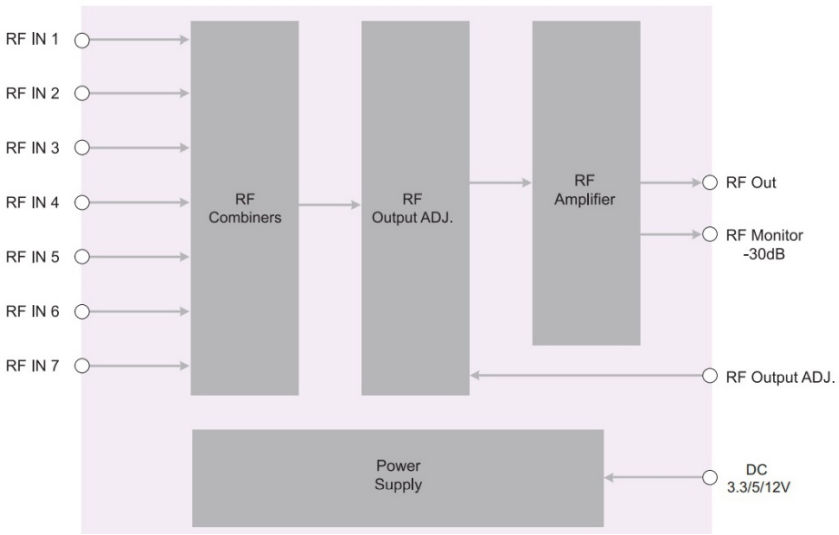
## Main Features

- 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 |

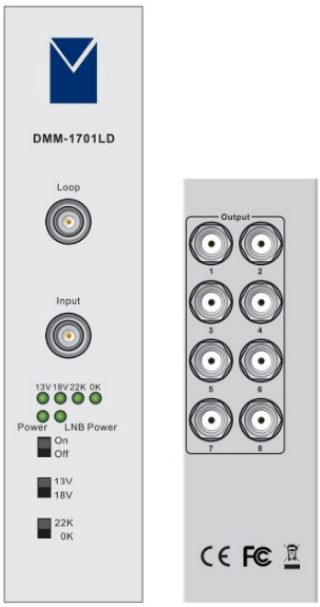
## Functional Block Diagram



# 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