

# MMA10G-TRM4K-12G

## Modular 4K/60 12G-SDI/HDMI Gateway



CONNECT. COLLABORATE. SHARE RESOURCES. MANAGE.

Evertz' MMA-10G is a network-based AV distribution solution constructed using Evertz' award winning SDVN (Software Defined Video Network) architecture. MMA-10G utilizes a highly reliable 10GE infrastructure for routing video and audio and offers unprecedented scalability and reliability.



### Key Features

- Two 12G-SDI (BNC) inputs or outputs (software defined), two HDMI 2.0a inputs and two HDMI 2.0a outputs (software defined)
- Three main modes of operation: dual receive, dual transmit, and single transceive
- Supports 2SI method of transport outlined in SMPTE 425-5
- Resolution up to 4096x2160p @ 60 Hz, 4:2:2 color sampling
- High-quality output scaling and frame sync
- Full integration with MAGNUM-AV management system
- Remote monitoring capabilities using SNMP protocol
- Web-based configuration



### Modular 10GE SDI/HDMI Gateway

The MMA10G-TRM4K-12G is a versatile 10GE SDI/HDMI gateway that has three main modes of operation:

- **Dual transmit mode** allows you to ingest uncompressed broadcast video and audio from the two 12G-SDI inputs and output via the two 10G fiber links at up to 4K60 with visually lossless compression.
- **Dual receive mode** allows you to ingest up to 4K60 compressed video and audio from the two 10G fiber links and output via the two SDI outputs uncompressed.
- **Single transceive mode** allows you to use one 12G-SDI port as an input and one 12G-SDI port as an output.

It also integrates two HDMI 2.0a input and two HDMI 2.0a output ports allowing for ultra low latency HDMI transport. The MMA10G-TRM4K-12G is a modular device and is installed in an Evertz rack mount modular frame. This approach offers flexibility and density as well as a secure and reliable solution for mounting next to servers.

### 12Gbps SDI and HDMI 2.0a Interfaces

For its two SDI inputs/outputs, the MMA10G-TRM4K-12G supports multiple resolutions within the SMPTE 2082-10, 2048-2, 296M, 274M, and 259M standards, as well as the 2SI method of 4K transport detailed in the SMPTE 425-5 standard. The MMA10G-TRM4K-12G's two HDMI 2.0a inputs and two output supports resolutions of up to 4096x2160p @ 60 Hz, 4:4:4 color sampling. The MMA10G-TRM4K-12G features customizable EDID tables and scaling on the output paths that insure the smoothest handoff between sources and sinks.

### High-Quality Scaling and Frame Sync

The MMA10G-TRM4K-12G employs EvertzAV's latest in scaling technology with high-quality algorithms providing the best picture quality possible. The MMA10G-TRM4K-12G also supports frame sync capabilities that can be locked to genlock.

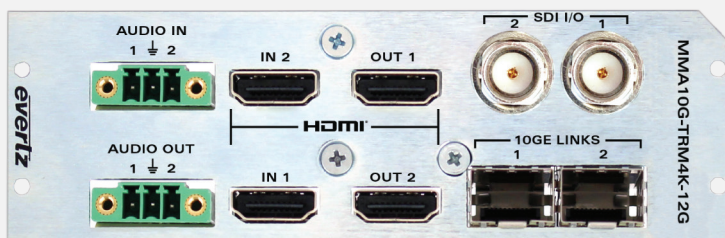
### Fully Integrated with Evertz' MAGNUM-AV Controller

The MMA10G-TRM4K-12G is a managed element of the MMA-10G network which is controlled by MAGNUM-AV. MAGNUM-AV simplifies management and control over the system and allows for simple user control using EvertzAV's virtual control panels and touch friendly graphical user interfaces (VUE) or via third-party control systems.

### Remote Monitoring

The MMA10G-TRM4K-12G can be remotely monitored via the SNMP protocol using Evertz' award winning VistaLINK Pro NMS software suite. VistaLINK allows a single user from a single workstation complete visibility into the operation of the MMA-10G ecosystem. Users can prevent issues from becoming outages quickly and easily using Evertz' VistaLINK Pro.

MMA10G-TRM4K-12G



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# MMA10G-TRM4K-12G

## Modular 4K/60 12G-SDI/HDMI Gateway



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### Specifications

Video Inputs/Outputs	2 SDI (BNC) (software defined), 2 HDMI 2.0a inputs, and 2 HDMI 2.0a output (software defined)
SDI Supported Resolutions	<p>SMPTE 259M:</p> <ul style="list-style-type: none"><li>525i, 625i</li></ul> <p>SMPTE 296M, Y'CbCr 4:2:2, 10-bit:</p> <ul style="list-style-type: none"><li>720p @ 23.98 Hz, 720p @ 24 Hz, 720p @ 25 Hz, 720p @ 29.97 Hz, 720p @ 30 Hz, 720p @ 50 Hz, 720p @ 59.94 Hz, 720p @ 60 Hz</li></ul> <p>SMPTE 274M, Y'CbCr 4:2:2, 10-bit:</p> <ul style="list-style-type: none"><li>1080i @ 50 Hz, 1080i @ 59.94 Hz, 1080i @ 60 Hz</li><li>1080p @ 23.98 Hz, 1080p @ 24 Hz, 1080p @ 25 Hz, 1080p @ 29.97 Hz, 1080p @ 30 Hz</li><li>1080p @ 50 Hz, 1080p @ 59.94 Hz, 1080p @ 60 Hz</li></ul> <p>SMPTE 2048-2, Y'CbCr 4:2:2, 10-bit:</p> <ul style="list-style-type: none"><li>2048x1080p @ 23.98 Hz, 2048x1080p @ 24 Hz, 2048x1080p @ 47.95 Hz, 2048x1080p @ 48 Hz</li></ul> <p>SMPTE 2082-10, Y'CbCr 4:2:2, 10-bit:</p> <ul style="list-style-type: none"><li>3840x2160p @ 50 Hz, 3840x2160p @ 59.94 Hz, 3840x2160p @ 60 Hz</li><li>4096x2160p @ 47.95 Hz, 4096x2160p @ 48 Hz, 4096x2160p @ 50 Hz, 4096x2160p @ 59.94 Hz, 4096x2160p @ 60 Hz</li></ul>
HDMI Supported Resolutions	Up to 4096x2160p @ 60 Hz (4:4:4 color sampling)
Audio Inputs	1 stereo unbalanced analog (terminal header)
Audio Input Impedance	High impedance
Audio Input Level	Line level (+4dBu)
Audio Outputs	1 stereo unbalanced analog (terminal header)
Audio Output Impedance	600 $\Omega$
Audio Output Level	Line level (+4dBu)
10GE Outputs	2 SFP+ (see available accessories)
Output Scaling	Yes
HDMI Audio	LPCM (up to 8 channels) Passthrough support for Dolby Digital <sup>®</sup> /AC-3, Dolby Digital EX, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos, DTS <sup>®</sup> , DTS-ES, DTS-HD High Res, DTS-HD Master Audio, DTS:X
SNMP Support	Yes
In-Band Control	Yes
Control System	MAGNUM-AV
Web-Based Configuration	Yes
Security Compliance	Compliant with applicable DoD Network Devices Security Technical Implementation Guide (STIG) findings
Modular Design	7800/7801 device, installed in 7800/7801FR
Slots	2
DC Input Voltage	12VDC provided by frame
Power Consumption	40W
Operating Temperature	32° to 104° F (0° to 40° C)
Relative Humidity	10% to 90% RH (non-condensing)

### Ordering Information

MMA10G-TRM4K-12G	Modular 4K/60 12G-SDI/HDMI gateway with high-quality scaling and frame sync
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### Available Accessories

7801FR	Modular frame, 1RU, 4 slots
7801FC	Modular frame controller for 1RU
7800FR-QT	Modular quiet frame, 3RU, 15 slots, dual PS
7800FC	Modular frame controller for 3RU
MMA10G-SFP-TR85	SFP+, 10GE, 850nm, MMF, 50/125, LC/LC
MMA10G-SFP2-TR13	SFP+, 10GE, 1310nm, SMF, 9/125, LC/LC, 10Kcm
MMA10G-SFP-SFP-MM3	3m SFP+ to SFP+ fiber patch cable, 10GE, AOC, 850nm

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