

# 7890MG-10GE2

## Universal media over IP gateway for 10 x ASI/SD/HD/3G/GE

The 7890MG-10GE2 is part of the Evertz family of IP Gateway products, which utilize GE and 10GE networks for video and data transport.

The proliferation of carrier-grade IP networks and their associated capacity, flexibility and cost make them an attractive solution for modern video and data transport networks. Evertz gateway products facilitate the bridge between video and IP worlds, providing the extensive capability, control & monitoring, resilience and low latency demanded by video content creators and transport service providers.

The 7890MG-10GE2 has a dual trunk interface which allows for a full 1+1 redundant link.

### ► Features & Benefits

#### Video/GE Interface Ports

- Accommodates auto-sensed combinations of up to 10x bi-directional access Interfaces
- Auto-Sensing of ASI/SDI/HD-SDI/3G/GE Input/Output Ports
- Hitless Switching (independent per video port) capability between main and backup network paths provides for un-interrupted signal reception when network fault occur
- Up to 2 access ports can be used to interface with existing Evertz ATP products, allowing transport of a wide variety of other signals including AES Audio, MADI, GPIO, RS232/422
- Video ports use industry standard SMPTE 2022-2 and SMPTE 2022-6 encapsulation for maximum compatibility

7890MG-10GE2 provides up to 10x bi-directional Access Interfaces, 8x auto sensed ASI/SD/HD/3G/GE + 2x GE/10GE data ports. To meet SLA requirements, each video interface port can also provide automatic, hitless switching between the dual links. In the event of failure or errors of one link, continuity of service remains uninterrupted.

The 7890MG-10GE2 is available in a compact easy to deploy 1RU chassis and a 3RU modular card that can be installed in a 7800 frame to provide high density Video/Audio/Data transport in addition to up/down stream signal processing.

#### Trunk Ports

- Dual trunk interface, which allow for full 1+1 redundant link
- Supports 10GE fiber, 1GE Fiber, and 1GE copper for each interface
- Available with optional 1310nm, 1550nm, and CWDM SFP/SFP+ modules

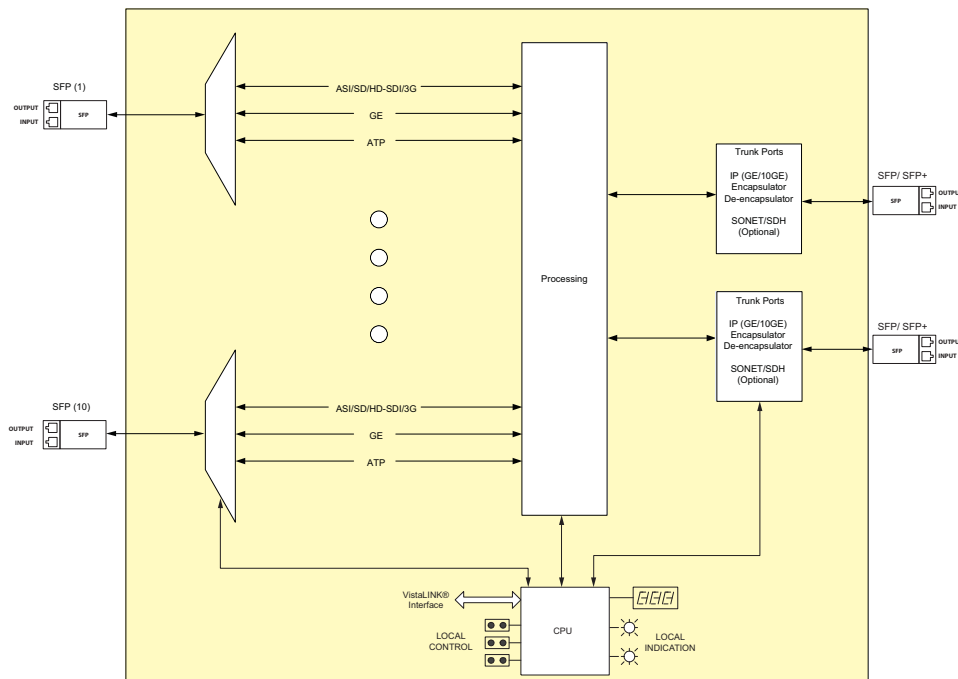
#### Product

- Fully hot-swappable from front of frame for low MTTR
- Comprehensive signal and card status monitoring via optional front panel display or remotely through SNMP and VistaLINK
- Fully integratable with ATP Platform using MAGNUM
- Standalone web page for configuration is also available

1RU Chassis



3RU Modular Card



## ► SFP+ Modules

SFP Model	Wavelength	Optical Output Power		Receiver Sensitivity	Nominal Received Wavelength	Max Distance	Fiber Type
		MAX	MIN				
SFP10G-TR85-A	850nm	-1dBm	-6.5dBm	-11dBm	850nm	300m*	Multimode
SFP10G-TR13-A	1310nm	+0.5dBm	-8.5dBm	-14dBm	1310nm	10km	Singlemode
SFP10G-TR15S	1550nm	+4dBm	-5dBm	-15dBm	1550nm	40km	Singlemode
SFP10G-TR15H	1550nm	+3dBm	0dBm	-24dBm	1550nm	70km	Singlemode
SFP10G-TRCxxH	CWDM	+3dBm	0dBm	-24dBm	1270-1610nm	70km	Singlemode
SFP10G-TRDxxxH	DWDM	-1dBm	-1dBm	-24dBm	1535-1565nm	80km	Singlemode

\* On 2000MHz/km MMF, consult Evertz for max distance on other multimode fiber types

## ► Specifications

<b>Serial Video Interface:</b>		<b>Ethernet Optical Interface:</b>		<b>Electrical:</b>	
Per SFP:		Connector:	Female LC Duplex (on SFP module)	Voltage:	+12 VDC
Connectors:	DIN 1.0/2.3	Wavelengths:		<b>Physical (number of slots):</b>	
Standards:	SMPTE 424M, SMPTE ST 259-C, SMPTE ST 292-1, DVB-ASI	Standard:	1310nm, 1550nm	350FR:	2
		CWDM:	1270nm-1610nm	3700FR:	2
<b>Input:</b>		<b>Ethernet Electrical Interface:</b>		7800FR:	2
Equalization:	Automatic to 50m @ 2.97Gb/s, 50m @ 1.485 Gb/s and 50m @ 270 Mb/s on Belden 1694A or equivalent	Connector:	RJ-45 (on SFP Module)	7801FR:	2
		Standard:	IEEE 802.3ab (1000BaseTX)	<b>Compliance:</b>	
		Cable Requirements:	UTP category 5 cable up to 328ft/100m (4 pairs)	Laser Safety	Class 1 laser product, complies with 24CFR 1040.10 and 1040.11, 60825-1
<b>Output:</b>		<b>Trunk Interface:</b>		with IEC	Complies with FCC regulations for class A devices
Signal Level:	800mV nominal	Number:	2 SFP cages	EMI/RFI	Complies with EU EMC directive
DC Offset:	0V +/- 0.5V	Connector Type:	LC/UPC, two simplex or one duplex per SFP/SFP+		
Rise and Fall Time:		Rates:	10 Gig Ethernet		
3G/HD:	< 135 ps				
SD:	< 900 ps				
Overshoot:	< 10% of amplitude				
Alignment Jitter:	< 0.2 UI (Reclocked) to 1.485 Gb/s < 0.3 UI (Reclocked) to 2.97 Gb/s				

## ► Ordering Information

**7890MG-10GE2** Universal Media over IP Gateway for 10 x ASI/SD/HD/3G/GE

For CWDM applications please refer to the end of the fiber section for ordering information. 1470, 1490, 1510, 1530, 1570, 1590 and 1610nm wavelengths available.

**SFP Interface Options**

<b>SFPTR-R-M-DIN</b>	SFP coaxial re-clocking transceiver for signals up to 3Gbps, MSA pin-out, mini DIN connectors
<b>SFP3TR-M-DIN</b>	SFP coaxial transceiver for signals up to 3Gbps, MSA pin-out, mini DIN connectors
<b>SFPTR-RJ45-SGM-AV</b>	SFP Module for 10/100/1000 Interface ports
<b>SFPTR-RJ45-SER-AV</b>	SFP Module for GbE copper Trunk ports (used for ports 9 and 10 as well as the trunk ports)
<b>SFP1G-TR13</b>	SFP module for GbE, 1310nm
<b>SFP1G-TR85</b>	SFP module for GbE, 850nm
<b>SFPTR-13</b>	SFP Transceiver, 1310nm, standard sensitivity receiver, supports rates up to 3Gb/s
<b>SFPTR-Cxx</b>	SFP Transceiver, CWDM, standard sensitivity receiver, supports rates up to 3Gb/s

**SFP+ Link Options**

<b>SFP10G-TR85-A</b>	SFP+ Optical Transceiver, 10Gbs, 850nm, MMF
<b>SFP10G-TR13-A</b>	SFP+ Optical Transceiver, 10Gbs, 1310nm, SMF, 10Km
<b>SFP10G-TR15S</b>	SFP+ Optical Transceiver, 10Gbs, 1550nm, SMF, 40Km
<b>SFP10G-TR15H</b>	SFP+ Optical Transceiver, 10Gbs, 1550nm, SMF, 80Km

**SFP10G-TRCxxH** SFP+ Optical Transceiver, 10Gbs, CWDM, SMF, 70/80Km

For DWDM applications please refer to the end of the fiber section for ordering information.

**SFP10G-TRDxxxH** SFP+ Optical Transceiver, 10Gbs, DWDM, SMF, 80Km

**Rear Plate Suffix**

<b>+3RU</b>	3RU Rear Plate for use with 7801FR, 350FR, 7700FR-C or 7800FR Multiframe
<b>+1RU</b>	1RU rear plate for use with 7801FR

**1RU Enclosure and Front Control Panel**

Note: 7801FC is required for 1RU 7890MG configuration

<b>7801FR+MGCP</b>	1RU Multiframe with front control panel installed for use with 7890MG
<b>+7801PS</b>	Redundant power supply (optional)
<b>7801FC-MG</b>	Frame controller module for use with 7801FR+MGCP

**Enclosures**

<b>350FR</b>	3RU Portable Multiframe which holds up to 7 single slot modules
<b>3700FR</b>	6RU frame, includes one 3000PS power supply
<b>7800FR</b>	3RU Multiframe which holds up to 15 single slot modules
<b>7801FR</b>	1RU Multiframe which holds up to 4 single or 2 dual slot module