

7707MRA-HD-F2, 7707MRA-HD-W

HD-SDI 4 AES Audio Bi-directional RS-232/RS-422, 2 GPI/GPO Fiber Receiver



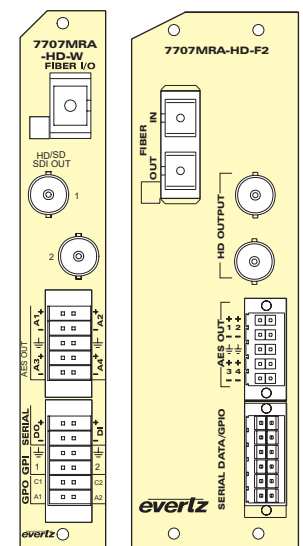
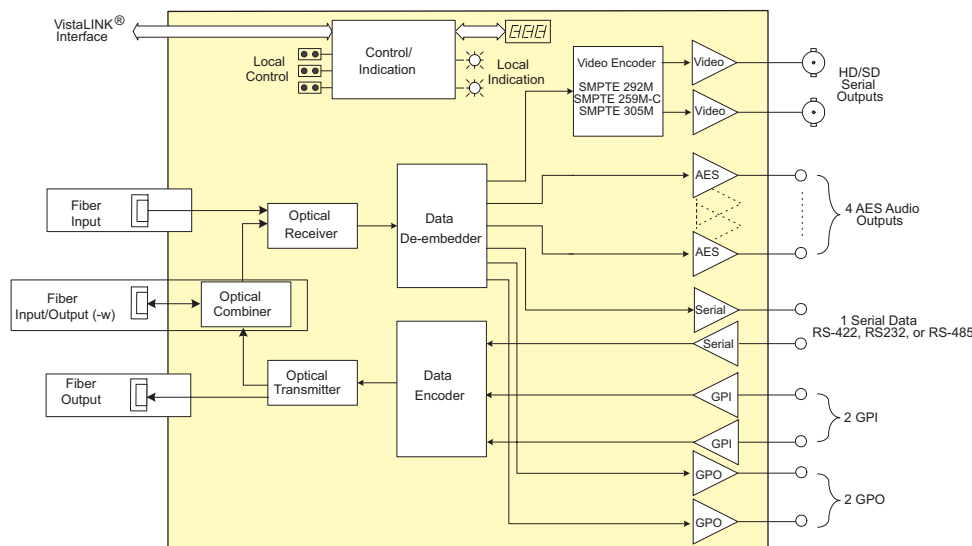
► Features & Benefits

- Supports HD-SDI and SDI video
- Demultiplexes up to 4 AES audio, bi-directional RS-232/RS-422 and 2 GPIO with HD-SDI or SDI
- Supports all SMPTE 292M (1.485Gb/s) rates/standards
- Supports 525/625 line component 4:2:2 SDI @ 270Mb/s
- Supports 32, 44.1, 48kHz AES audio
- Dolby-E® compatible
- Built-in jitter attenuation
- Comprehensive signal and card status monitoring via four digit card edge display or remotely through SNMP and VistaLINK®
- VistaLINK® capability is available when modules are used with the 3RU 7800FR or 350FR portable frame and a 7700FC VistaLINK® Frame Controller module in slot 1 of the frame
- Local display of optical signal strength, video, audio and data presence, video and AES formats, GPI and GPO status
- Accepts any wavelength in the 1270nm to 1610nm range
- Optical output wavelengths of 1310nm, 1550nm, and up to sixteen CWDM wavelengths (ITU-T G.694.2 compliant)
- DWDM wavelengths (ITU-T G.694.1 compliant) also available
- Supports single-mode and multi mode fiber optic cable (contact factory for multi-mode applications)
- Fully hot-swappable from front of frame
- Occupies a single or dual card slot and can be housed in a 1RU frame that will hold up to 3 modules, a 3RU frame that will hold up to 7 modules, a 350FR that will hold up to 7 modules or a standalone enclosure that will hold 1 module

FIBER TYPE	FIBERS	OPTICAL/LINK BUDGET	TRANSMIT SIDE		RECEIVE SIDE		DESCRIPTION
			ORDERING PRODUCT INFO	TX POWER	ORDERING PRODUCT INFO	RX SENSITIVITY	
Multi-Mode	2	< 1km	7707MTA13-HD-F2	-7dBm	7707MRA13-HD-F2	-23dBm	1310nm on Tx & Rx fibers
Single-Mode	2	16dB/45km	7707MTA13-HD-F2	-7dBm	7707MRA13-HD-F2	-23dBm	1310nm on Tx & Rx fibers
Single-Mode	1 (WDM)	20dB/57km	7707MTA15-HD-W	-1dBm	7707MRA13-HD-W	-21dBm	1310nm/1550nm, WDM, bi-directional on one fiber
Single-Mode	1 (CWDM)	19dB/76km**	7707MTAxx-HD-F2	0dBm	7707MRAxx-HD-F2	-23dBm	Different CWDM wavelengths for Tx & Rx, with 8 channel CWDM Mux/Demux**
Single-Mode	1 (CWDM)	24dB/96km**	7707MTAxx-HD-F2-H	0dBm	7707MRAxx-HD-F2-H	-28dBm	Different CWDM wavelengths for Tx & Rx, with 8 channel CWDM Mux/Demux**
Single-Mode	1 (DWDM)	30dB/120km***	7707MTADxxx-HD-F2-H	+7dBm	7707MRADxxx-HD-F2-H	-28dBm	Different DWDM wavelengths for Tx & Rx, with 8 channel DWDM Mux/Demux**

**Assumes 8 Ch CWDM Mux/Demux loss of 3.5dB
 ***Assumes 8 Ch DWDM Mux/Demux loss of 5dB

Fiber loss= 0.35/0.25dB per km @ 1310nm/1550nm



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► Specifications

Optical Input/Output:

Number of Outputs: 1 (Single fiber version), 2 (Dual fiber version)

Connector: Female SC/PC, ST/PC or FC/PC

Return Loss: > 14dB

Rise and Fall Time: 200ps nominal

Wide Band Jitter: < 0.2 UI

Fiber Size: 9mm core/125mm overall

Input Optical Sensitivity: See Application Configuration Chart

Wavelengths:

Standard: 1310nm, 1550nm (nominal)

CWDM: 1270nm to 1610nm (See ordering information)

DWDM: C-Band/L-Band (ITU-T G.694.1 compliant)

Output Power:

1310nm FP: -7dBm ±1dBm

CWDM: 0dBm ±1dBm

DWDM: +7dBm ±1dBm

Serial Digital Video Outputs:

Number of Outputs: 2 regenerated

Standard: SMPTE 292M (HD-SDI), SMPTE 259M-C (SD-SDI), SMPTE 305.2M (SDTi)

Connector: 1 BNC per IEC 61169-8 Annex A

Signal Level: 800mV nominal

DC Offset: 0V ±0.5V

Rise and Fall Time: 150ps nominal @ 1.485Gb/s, 600ps nominal @ 270Mb/s

Overshoot: < 10% of amplitude

Return Loss: > 15dB up to 1.5Gb/s

Wide Band Jitter: < 0.2 UI

AES Audio Outputs:

Number of Signals: 4 (user-selectable for balanced or unbalanced)

Standards: AES3-2003 (Balanced AES), SMPTE 276M (Unbalanced AES)

Connector: Multi-pin Removable Terminal Block

Signal Level:

Unbalanced: 1V p-p ±0.1V Differential

Balanced: 3.5V p-p ±0.1V

Resolution: Up to 24-bits

Sampling Rate: 48kHz

Rise/Fall Times:

Balanced: 20ns ±5ns

Unbalanced: 35ns ±5ns

Return Loss: > 15dB to 6MHz

Wideband Jitter: < 10ns p-p, with conditions of minimum to maximum cable length

Latency:

SRC enabled: < 6ms @ 48jHz, < 9ms @ 32KHz

SRC disabled: < 4ms @ 48kHz, < 6ms @ 32KHz

Impedance:

Unbalanced: 75Ω

Balanced: 110Ω

Serial Data:

Number of Signals: 2 input/output

Connector at Breakout:

Multi-pin Removable Terminal Block
RS-422, RS-232, or RS-485 (selectable)

Input Termination: High impedance

Input Failsafe Bias: 5KΩ to 5V on DI+ (selectable)

Baud Rate: Up to 153Kb/s (selectable)

General Purpose Inputs:

Number of Signals: 2 input

Connector at Breakout:

Multi-pin Removable Terminal Block
Opto-isolated, active low

Type:

Input Voltage:

Safe Voltage Range: -20V to +10V

Off Condition (min): +3.5V

On condition (max): +2.5V (active low)

Input Current (min): 1mA

Input Current (max): 10mA (internally limited)

General Purpose Outputs:

Number of Outputs: 2

Type: "Dry Contact" relay closure

Connector: 1 pin on 16-pin removable terminal block

Signal Level: Normally open

Electrical:

Voltage: +12V DC

Power:

Non-DWDM: 9W

DWDM: 12W

Physical (number of slots):

350FR, 7700FR-C, 7800FR:

1 (7707MRA13-HD-W)

2 (-F2 versions)

Compliance:

Laser Safety: Class 1 laser product
Complies with 24 CFR 1040.10 and 1040.11

EMI/RFI: IEC 60825-1
Complies with FCC Part 15, Class A
EU EMC directive

► Ordering Information

7707MRA13-HD-F2 HD-SDI, 4 AES, Bi-directional RS-232/RS-422, GPI/O Fiber Receiver, dual fiber, 1310nm FP Tx & Rx, VistaLINK®

7707MRA13-HD-W HD-SDI, 4 AES, Bi-directional RS-232/RS-422, GPI/O Fiber Receiver, single fiber, WDM, 1310nm FP Tx, Rx on 1550nm, VistaLINK® (Use with 7707MTA15-HD-W)

For CWDM, please refer to the end of the fiber section for ordering information

7707MRAxx-HD-F2 HD-SDI, 4 AES, Bi-directional RS-232/RS-422, GPI/O Fiber Receiver, dual fiber, CWDM TX, VistaLINK®

7707MRAxx-HD-F2-H High Sensitivity Receiver

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

7707MRADxx-HD-F2 HD-SDI, 4 AES, Bi-directional RS-232/RS-422, GPI/O Fiber Receiver, dual fiber, DWDM TX, VistaLINK®

7707MRADxx-HD-F2-H High Sensitivity Receiver

Ordering Options Rear Plate and Fiber Connector must be specified at time of order
Eg: Model +SC +3RU

Rear Plate Suffix

+3RU 3RU Rear Plate for use with 350FR, 7700FR-C or 7800FR Multiframe

+1RU 1RU Rear Plate for use with 7701FR Multiframe

+SA Standalone Enclosure Rear Plate

Connector Suffix

+SC SC/PC

+SCF SC/PC connector with flap cover (-W version only)

+ST ST/PC

+FC FC/PC

Enclosures

350FR 3RU Portable Multiframe which holds up to 7 single slot modules

7700FR-C 3RU Multiframe which holds up to 15 single slot modules

7800FR 3RU Multiframe which holds up to 15 single slot modules

7801FR 1RU Multiframe which holds up to 4 single or 2 dual slot modules

7701FR 1RU Multiframe which holds up to 3 single or dual slot modules

S7701FR Standalone Enclosure