

# **FacilityLINK**

**Fiber Optic Transport Platform**



**evertz**



# Evertz FacilityLINK

Many signals, different fiber infrastructures, one comprehensive platform

Fiber optics enable the transport of incredibly high bandwidths over long distances, while at the same time simplifying infrastructures. The Evertz FacilityLINK platform utilizes this technology to its maximum potential in order to provide the industry's most flexible platform for the transport of professional video, audio, data and RF signals over fiber. Evertz understands that no two fiber infrastructures are alike and provides solutions to accommodate one or many fibers, over distances of few meters to hundreds of kilometers. FacilityLINK also adds the industry's most powerful and complete system monitoring and control capabilities, making it the premier choice for broadcast, government, military, telecommunications and other professional media transport applications.

## Multi-Service Transport Platform

The industry's most flexible platform and comprehensive signal handling capabilities

For years, the Evertz FacilityLINK platform has led the industry in complete signal handling capabilities, and has continued to evolve with needs of modern facilities. Multiple types of video, audio, data and RF signals are supported in the same platform. Based on the proven 7800 series modular architecture, FacilityLINK provides flexibility in terms of initial configuration as well as future expansion by allowing multiple module and signal types all in the same chassis.

### Signal Types Supported:

**Video:** 3G, 3D, DUAL-LINK, HD-SDI, SD-SDI, SDTi, DVB-ASI, SMPTE 310M, RGBHV/DVI

**Audio:** Analog, AES, Dolby, Intercom

**Data:** 10 Gig Ethernet, Gig Ethernet, 10/100 Ethernet, KVM, RS232/422/485, GPS, Fiber Channel, DS3, E1, T1, SONET

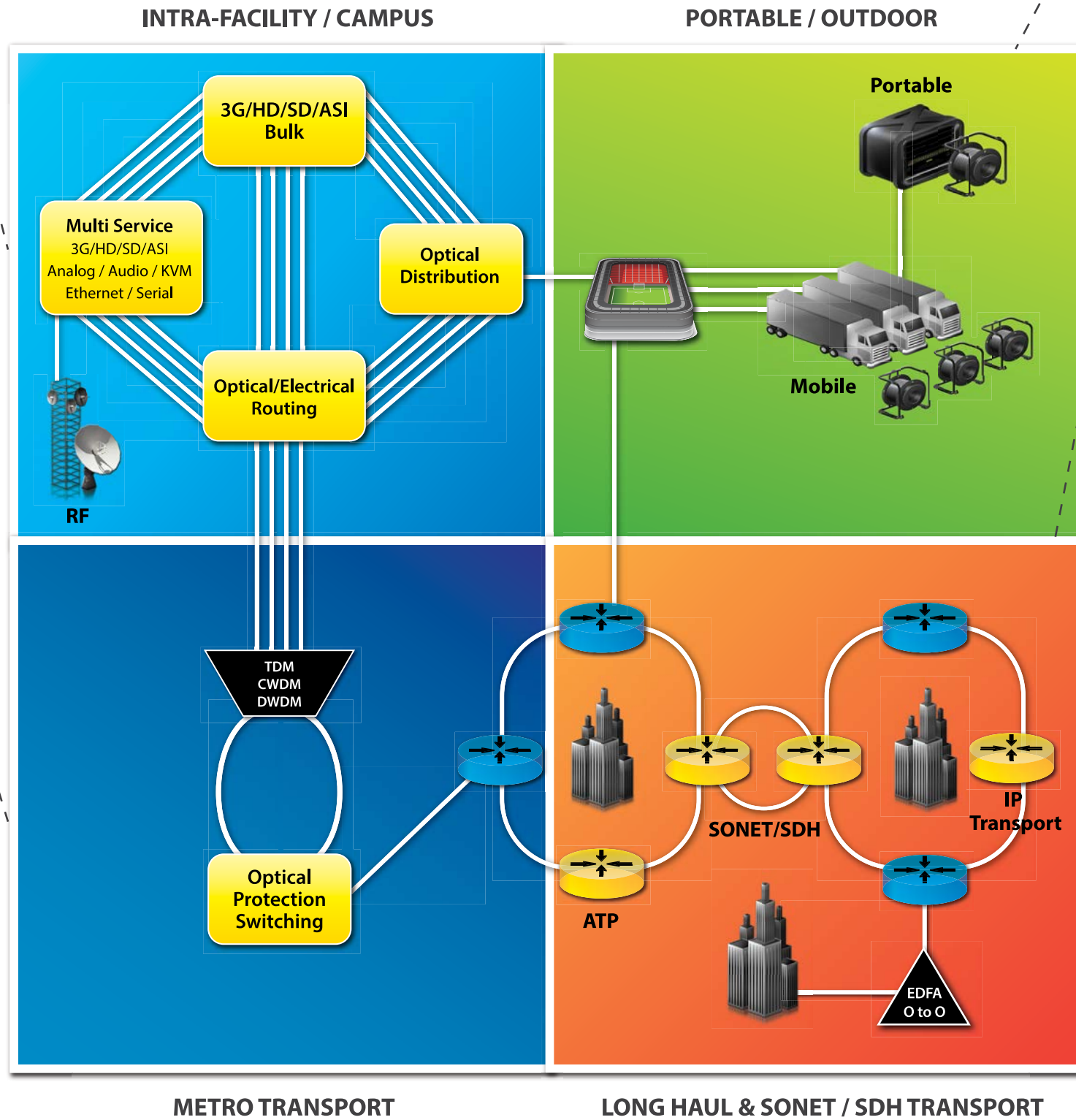
**RF:** L-Band, 70/140MHz I/F, OTA DTV

## Metro and Long Haul

DWDM, CWDM and TDM for optimizing fiber use

Evertz has long been recognized as the industry leader in applying TDM, or Time Division Multiplexing technology to video, audio and data signals. This technology combines multiple signals electrically into a single higher data rate signal which can then be transmitted over a single fiber or wavelength, greatly conserving fiber usage. WDM, or Wavelength Division Multiplexing offers another means of transporting multiple signals on a single fiber using different optical wavelengths. Evertz' CWDM\* options allow from 4 to 16 wavelengths to be multiplexed on a single fiber, while DWDM\* offers 8 to 40 wavelengths on a single fiber. Combined, TDM and WDM technologies from Evertz allow for over 400Gb/s over a single fiber, enabling the transport of high signal counts over limited fiber infrastructures, and cost savings when leased fibers are used.

\*Evertz\* conforms to ITU G.694.1 and G.694.2



## Portable/Field Deployable Applications

Solutions for OB/trucks, flight cases, and other compact/standalone or portable applications

Evertz 7800 series products and frames can be outfitted for use in the field, equipped with I/O connector types and housings that allow for convenient portable deployment. Accessories such as tactical fiber breakouts, spools and cases are also available to complete the package. For low channel-count "throwdown" applications, Evertz also provides convenient standalone packages both monolithic and SFP-based.

## SONET/SDH Transport

Enabling Metro and Long-Haul Transport over Telecom Infrastructure

Offered by telecom and datacom providers, SONET/SDH presents a highly reliable, protected network for transporting data to the next city or around the world. Evertz SONET/SDH products for the FacilityLINK platform facilitate the transport of video, audio and data over these networks. All products feature FBM, or Flexible Bandwidth Management which combines Ethernet transport along with video and audio, efficiently maximizing the use and optimizing the value of bandwidth-limited SONET/SDH links. Evertz SONET/SDH products also offer especially comprehensive monitoring of network and signal conditions, while the Ethernet transport ability provides a simple means of conveying this information from remote sites.

For multiple-node, point to multi-point systems over SONET/SDH, IP and/or dark fiber networks, please contact Evertz for more information on the ATP and IPX platforms.

### Signal Types Supported:

**Video:** 3G, HD-SDI, SD-SDI, SDTi, DVB-ASI, Analog

**Audio:** Analog, AES, Dolby

**Data:** 10/100/1000 Ethernet

### SONET/SDH Interface Support:

DS3/E3, OC3/STM-1, OC12/STM-4, OC48/STM-16, OC192/STM-64

## The End-to-End Solution

All of the pieces needed for complete fiber transport systems

The simplest of fiber optic transport systems comprise a fiber transmitter, fiber receiver and a single piece of fiber joining these two devices. Practical networks are often more complex and require other pieces to achieve desired results, such as distribution, diverse path protection and amplification or regeneration for long-haul (>80km) links. Evertz offers a complete line of system accessories including optical splitters, multiplexers, protection switches, EDFAs, regenerators and other items. This provides the convenience of complete system designs from a single source, with all items under common form-factors and one powerful control system.

# System Monitoring and Control

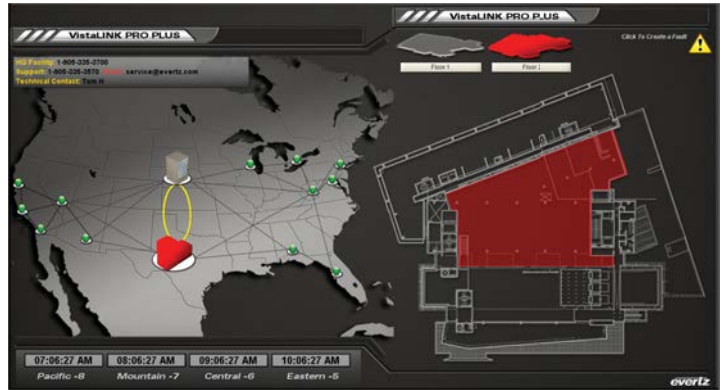
## *Extensive control and visibility of your mission-critical fiber networks*

The FacilityLINK platform offers unmatched capabilities in the areas of monitoring and control. FacilityLINK products are SNMP enabled for monitoring and control via third-party SNMP packages or Evertz' own VistaLINK® PRO. The VistaLINK® PRO product suite unites all Evertz SNMP-based products as well as third-party systems under a single control, configuration and monitoring platform.

VistaLINK® PRO-C software is provided free to users for unlimited configuration and status viewing of all Evertz VistaLINK®-capable products.

Alarm & event monitoring and notification are available with VistaLINK PRO®. Event logging allows time stamping of system events as well as acknowledgements and correction times. Comprehensive alarm management allows alarm definition and notification in the form of audible alerts, "smart" email notification, and GPI contact closures.

VistaLINK® PRO PLUS provides user configurable graphical or pictorial renditions of the facility. Global views with "drill down" capability facilitate intuitive and straightforward access to all SNMP equipment in the facility.



## 7800 Series Modular Platform

### *Unmatched flexibility and scalability*

All FacilityLINK 7700 and 7800 series modules are housed in the Evertz Multiframe system. Reliability of this platform is ensured by front access and hot-swappability of all modules, and backed by the security of redundant power supplies. A unique system of blind-mating, detachable rear I/O modules allows infinite configuration possibilities, including the use of any Evertz 77xx or 78xx processing or conversion product, alongside FacilityLINK fiber optic modules.

7801FR



7800FR





# 3405 Series

## 3405 Series Bulk Optical Conversion

### *Simplifying the transition from coax to fiber*

The Evertz 3405/3505 series is the industry's most compact, reliable and flexible SFP-based platform, enabling low cost and high density optical conversion of DVB-ASI, SDI, HD-SDI and 3G signals. The 3405FR is a 1RU frame that can house up to 16 dual channel Evertz SFP modules, each of which can be a dual transmitter or dual receiver. This allows any mix of up to 32 optical conversions. The 3505FR can house up to 32 or 64 dual channel Evertz SFP modules for up to 128 optical conversions in 2RU. Unique, patent pending Evertz technology places all active components in the SFP modules, while the mounting frame is completely passive. This allows any slot to be configured as a transmitter or receiver position depending on the type of SFP installed, and ensures reliability by making all active components hot-swappable. In addition, the 3405FR and 3505FR feature redundant power supplies and hot-swappable modules for power and cooling.

In a compact 1RU package, the 3405 series is the ideal solution for space-limited applications such as OB/trucks, flight cases or smaller facilities. By consuming minimal rack space and power, the 3405 series and 2RU 3505 series also perform low overhead, bulk optical conversion in larger HD-SDI and 3G facilities with modern, all-fiber infrastructures. This realizes the benefits of intra-facility fiber optic transport including longer attainable distances, smaller/lighter cabling, reduced cable tray loads, electrical isolation and cost-effective implementation.

3405 series SFP's are available with 1310nm and well as CWDM lasers. The 3405FR frame can be equipped with up to two built-in 16 channel CWDM multiplexers modules, reducing the fiber count to two for 32 EO and/or OE conversions. The 3400 CWDM series provides a cost and space-efficient CWDM solution for the 3505FR series. An available controller module can also be fitted to provide complete SNMP/VistaLINK monitoring and control. In addition to the 1RU and 2RU frames, highly compact, single and quad SFP chassis are available for hub and spoke or low channel-count applications.



3405 Product Family



3405FR-BNC Rear Panel



3405FR-DIN Rear Panel



3405FR-XLINK Rear Panel



3505FR-DIN Rear Panel



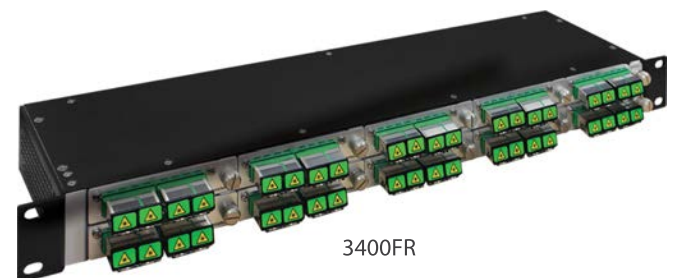
3505FR Front Panel

## 3400 Series Bulk Optical Distribution

### *Optical domain signal distribution*

The 3400 series presents a high density, cost-effective means of signal distribution in the optical domain. The 3400FR is a 1RU, ten-position passive frame that houses a series of passive optical distribution modules. Each module can be a quad 1x2, dual 1x4 or single 1x8 passive optical splitter. Also available are monitoring splitters in quad 1x2 and dual 1x4 versions that provide a low-power tap for local optical monitoring points.

Benefits of splitting and distributing signals in the optical domain include effective use of available optical link budgets, high reliability passive splitting devices, zero electrical power consumption and maximum use of fiber instead of coaxial cable. In addition to optical distribution modules, CWDM modules are also available for 4, 8 or 16 channel multiplexing applications.



3400FR



3400DS+SA



3400DS+SA

# FacilityLINK Product Lineup

## Bulk Optical Transport Solutions

3405FR-BNC	32 Channel Fiber Optic SFP BNC Frame
3405FR-DIN	32 Channel Fiber Optic SFP DIN Frame
3405FR-XLINK	Fiber Optic SFP XLINK Frame
3405FRS-BNC	8 Channel Fiber Optic SFP BNC Frame
3405FRS-DIN	8 Channel Fiber Optic SFP DIN Frame
3405FRM-BNC	2 Channel Fiber Optic SFP BNC Mini Frame
3405FRM-DIN	2 Channel Fiber Optic SFP DIN Mini Frame
3405PS-6	6 Channel Power Supply for 3405FR Series Frames
3505FR-BNC	128 Channel Fiber Optic SFP BNC Frame
3505FR-DIN	128 Channel Fiber Optic SFP DIN Frame
3505FR-XLINK	Quad Channel Fiber Optic SFP XLINK Frame

### SFP modules:

3405T13-2	3G/HD/SD/ASI Dual 1310nm SFP Transmitter
3405TXX-2	3G/HD/SD/ASI Dual CWDM SFP Transmitter
3405T13-R	3G/HD/SD/ASI Single 1310nm Relocked SFP Transmitter
3405TXX-R	3G/HD/SD/ASI Single CWDM Relocked SFP Transmitter
3405R-2	3G/HD/SD/ASI Dual SFP Receiver
3405R-2R	3G/HD/SD/ASI Dual Relocked SFP Receiver
3405R-DA4R	3G/HD/SD/ASI Single Relocked SFP Receiver, Quad Output
3405OO13-DA4	3G/HD/SD/ASI Optical to Optical SFP, Quad Electrical Output
3405DA5	3G/HD/SD/ASI 1x5 Relocked SFP Distribution Amplifier

## Bulk Optical Distribution Solutions

3400FR	1RU Passive Optical Frame
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### Passive Optical Modules:

3400DS2-4	Quad 1x2 optical splitter
3400DS4-2	Dual 1x4 optical splitter
3400DS8	Single 1x8 optical splitter
3400MS2-4	Quad 1x2 Optical Monitoring Splitter, 95%/5%
3400MS4-2	Dual 1x4 Optical Monitoring Splitter, 30%/30%/30%/10%
3400CWDM-M4/D4	4 Ch (1510nm - 1570nm) CWDM Mux/Demux
3400CWDM-M8/D8	8 Ch (1470nm - 1610nm) CWDM Mux/Demux
3400CWDM-M8LB/D8LB	8 Ch (1270nm - 1450nm) CWDM Mux/Demux with expansion port

## 3G-SDI

7707EO-3G/OE-3G-1	3G/HD/SD/ASI Elect. to Opt./Opt. to Elect.
7707VAT-3G/VAR-3G	3G/HD/SD/ASI with 4 AES Audio Fiber TX/RX
7707VT-8-HS/VR-8-HS	8 Channel SD/ASI, 6 channel HD or Triple 3G Video Fiber TX/RX

## HD-SDI

7707EO-3-HD/OE-3-HD	Triple HD/SD/ASI/310M Elect. to Opt./Opt. to Elect.
7707VT-4-HS/VR-4-HS	Quad SD/ASI or Dual HD Fiber TX/RX
7707VT-8-HS/VR-8-HS	8 Channel SD/ASI, 6 channel HD or Triple 3G Video Fiber TX/RX
7707VB-8-HSE	Bi-di 8 Channel SD/ASI or 6 channel HD + Ethernet Fiber transceiver
7707VB-4-HSE	Bi-di 4 Channel SD/ASI or 2 channel HD + Ethernet Fiber transceiver
7707VB-4-1H-SE	Bi-di 4 Channel SD/ASI or 1 channel HD + Ethernet Fiber transceiver over 1.485 Gb/s coax/fiber

## HD-SDI + Audio

7707VAT-HD/VAR-HD	HD/SD + 4 AES Embedder/De-embedder Fiber TX/RX
7707ADVT-HD/ADVR-HD	Analog, SDI or HD-SDI Video & Analog/AES Audio Fiber TX/RX
7707ADVT-HD-CD/ADVR-HD-CE	Analog, SDI or HD-SDI Video & Analog/AES Audio Fiber TX/RX

## HD-SDI + Audio + Data

7707MTA-HD/MRA-HD	HD/SD, 4 AES, RS-232/422 and GPI/GPO Fiber TX/RX
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## SD-SDI

7705EO/OE	SD/ASI/310M Elect. to Opt./Opt. to Elect., 19.4Mb/s to 540Mb/s
7705EO-3/OE-3	Triple SD/ASI/310M Elect. to Opt./Opt. to Elect., 19.4Mb/s to 540Mb/s
7707EO/OE	SD/ASI/310M Elect. to Opt./Opt. to Elect., 19.4Mb/s to 540Mb/s
7707EO-3/OE-3	Triple SD/ASI/310M Elect. to Opt./Opt. to Elect., 19.4Mb/s to 540Mb/s
7708VT-8/VR-4	Quad SD/ASI Mux/Demux over 1.485Gb/s coax/fiber TX/RX
7707VT-8/VR-8	Eight SD/ASI Mux/Demux Fiber TX/RX
2405EO/OE	SD/ASI/310M Miniature Elect. to Opt./Opt. to Elect., 19.4Mb/s to 540Mb/s

## SD-SDI + Audio

7707VAT/VAR	SDI + 2 AES Audio Fiber TX/RX
7707VAT-A4/VAR-A4	SDI + 4 Analog Audio Fiber TX/RX
7707ADVT/ADVR	Analog or SDI Video + Analog or AES Audio Fiber TX/RX

## SD-SDI + Audio + Data

7707MT/MR	SDI + 2 AES + Bi-di RS-232/422 and GPI/GPO Fiber TX/RX
7707MB	Bi-Directional SDI + 2 AES + RS-232/422 + GPI/GPO Fiber TX/RX

## Analog Video + Audio

7707ADVT/ADVR	PAL/NTSC Analog or SDI Video with 4-Channel Analog or AES Audio Fiber TX/RX
7707ADVT-HD/ADVR-HD	PAL/NTSC Analog, SDI or HD-SDI Video & Analog/AES Audio Fiber TX/RX
7707ADVT-HD-CD/ADVR-HD-CE	PAL/NTSC Analog, SDI or HD-SDI Video & Analog/AES Audio Fiber TX/RX
7707CVTA/CVRA	PAL/NTSC Analog Video with 4-channel Analog Audio Fiber TX/RX
7707CVTA-2/CVRA-2	Dual PAL/NTSC Analog Video with 4-channel Analog Audio Fiber TX/RX
7707CVT-4/CVR-4(A16)	Quad PAL/NTSC Analog Video Fiber TX/RX, Optional 16 ch. Analog Audio
7707CVT-8/CVR-8	Eight Channel PAL/NTSC Analog Video Fiber TX/RX
7707SVT-2/SVR-2	Dual S-Video Fiber TX/RX

## Analog Video + Audio + Data

7707CVDTA-A4/CVDR-A4	PAL/NTSC Analog Video, 4-channel Analog Audio and RS-232/422 Fiber TX/RX
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## RGB/DVI KVM Solutions

7708RGBT/RGBR	RGBHV/DVI Fiber TX/RX (Optional PS2/USB 2.0/Audio)
7708DVI/DVIR	DVI KVM Fiber TX/RX (Optional PS2/USB 2.0/Audio)
2408RGBT/RGBR	RGBHV/DVI Standalone Fiber TX/RX (Optional PS2/USB 2.0/Audio)
2408DVI/DVIR	DVI KVM Standalone Fiber TX/RX (Optional PS2/USB 2.0/Audio)

## Audio

7707AT-8/AR-8	Eight-Channel AES Audio Fiber TX/RX
7707AT-16/AR-16	Sixteen-Channel AES Audio Fiber TX/RX
7707AT-A8/AR-A8	Eight-Channel Analog Audio Fiber TX/RX
7707AT-A12/AR-A12	Twelve-Channel Analog Audio Fiber TX/RX

## Intercom

7707IT-3	Three-Channel Matrix/Partyline Intercom Fiber Transceiver
7707IT-8	Eight-Channel Matrix/Partyline Intercom Fiber Transceiver

## Datacom/Machine Control

7707DT	Multi Channel RS232/422/485 and LTC Fiber Data Transceiver
7707DT-GPIO	Multi Channel RS232/422/485, LTC and GPIO Fiber Data Transceiver
7707ET	Ethernet Fiber Transceiver
7707ET-TE1	Ethernet and T1/E1/J1 Fiber Transceiver
7707ET-4	Quad Ethernet Fiber Transceiver
7708GT	Gigabit Ethernet Fiber Transceiver
7708GT-4	Quad Gigabit Ethernet Fiber Transceiver
7708OO-2-10G	Dual Optical Regen/Wavelength Shifter for 10 Gig Ethernet
7707GPS-DT/GPS-DR	Dual GPS Fiber Data TX/RX

## Telecom

7707ET-TE1	Ethernet and T1/E1/J1 Fiber Transceiver
7707EO-E3/OE-E3	E3 Elect. to Opt./Opt. to Elect
7707EO-DS3/OE-DS3	DS3 Elect. to Opt./Opt. to Elect
7707OO-2/2L-OC	Dual optical Regen/Wavelength Shifter for Datacom/Telecom rates

## SONET/SDH Fiber Transport

7780ASIB-2-DS3/E3	Dual Channel DVB-ASI and Ethernet DS3/E3 Transceiver
7707VB-8-ASI-OC3	Eight Channel DVB-ASI and Ethernet OC3/STM-1 Fiber Transceiver
7707VB-2-OC12-A	Dual Channel SD/ASI and Ethernet OC12/STM-4 Fiber Transceiver
7707VB-8-OC48	Eight Channel SD/ASI and Ethernet OC48/STM-16 Fiber Transceiver
7707VB-3-HS-OC48	Triple Channel HD/SD/ASI and Ethernet OC48/STM-16 Fiber Transceiver
7707VB-8-HS-OC192	Eight Channel HD/SD/ASI and Ethernet OC192/STM-64 Fiber Transceiver
7707OO-2/2L-OC	Dual Optical Regen/Wavelength Shifter for Datacom/Telecom rates

## Wavelength Converters

7707OO	Opt. Regenerator/Wavelength Converter, 19.4Mb/s to 540Mb/s
7707OO-2L-3G	Dual optical regen/wavelength shifter for 3G/HD/SD/ASI and Evertz data rates
7707OO-2/2L-OC	Dual optical regen/wavelength shifter for datacom/telecom data rates
7708OO-2-10G	Dual Optical Regen/Wavelength Shifter for 10 Gig Ethernet

## Optical Protection Switching

7707BPX	Auto-Switching 2x1 Optical Bypass Protection Switch
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## WDM, CWDM, DWDM

7705WDM13/15	1310/1550nm WDM
7705WDM	1310/ Wideband 1550nm WDM
7705CWDM-M4/D4	4 Ch (1510nm - 1570nm) CWDM Mux/Demux
7705CWDM-M8/D8	8 Ch (1470nm - 1610nm) CWDM Mux/Demux
7705CWDM-M8LB/D8LB	8 Ch (1270nm - 1450nm) CWDM Mux/Demux with expansion port
7705DWDM-M8-33/D8-33	8 Ch (ITU Ch 33-40) DWDM Mux/Demux
7705DWDM-M8-25/D8-25	8 Ch (ITU Ch 25-32) DWDM Mux/Demux with expansion port
9000DWDM	32/40 Ch (ITU 20/28-59) DWDM Mux/Demux

## Optical Splitters/Combiners

7705DS	50/50 Wideband Splitter
7705MS	80/20 Wideband Monitoring Splitter
7705DS-4	1:4 Wideband Optical Splitter
7705DS-8	1:8 Wideband Optical Splitter

## Optical Routers

EQT	3G/HD/SD/ASI Multi-Format 32x32 Router
Xenon	3G/HD/SD/ASI Multi-Format 32x32 to 128x128 Router
EQX	3G/HD/SD/ASI Multi-Format up to 288x288, 576x576 or 1152x1152 Router

## L-Band, 70/140MHz IF and OTA DTV

7706LT/LR	L-Band Fiber TX/RX
7708LT/LRA	L-Band/Wideband Fiber TX/RX with SmartMON™
7807LT-2/LR-2	Dual Channel L-Band/Wideband Fiber TX/RX with SmartMONTM
2408LT	L-Band/Wideband Standalone/Outdoor Fiber TX with SmartMONTM
2406LR	L-Band/Wideband Standalone/Outdoor Fiber RX
2400ODU	Integrated Outdoor L-Band/Wideband Fiber TX/RX system
7707IFTA/IFRA	70/140 MHz IF Fiber TX/RX