



Opto Rackmount Modules and RM4 Chassis

Efficient, space saving system for fiber optic transmission

Opto Rackmount Transmit and Receive Modules convert original native copper sources—DVI, dual-link DVI and HDMI—to an optical format for transmission over single mode or multimode fiber (TX units), or from fiber back to copper (RX units).

Up to four transmit or receive modules can be mounted in an RM4 chassis, a compact 1RU enclosure that includes dual redundant power supplies and front panel control. Two channel DVI modules are also available, allowing an RM4 to support 8 channels in a single chassis. This provides the most space efficient DVI endpoint package available.

The RM4 chassis simplifies set-up with an easy to navigate cursor-operated front panel LCD display. The display provides a computer-free method of configuring EDID and checking diagnostic data. A choice of EDID modes includes selection from a factory default table, capture from a display device and real-time passthrough.

Like all Opto signal path components, a 6.22Gps per channel bandwidth ensures a perfectly clean video image without artifacts caused by bandwidth limitations, particularly for timings above 1920x1080/60p . Any compliant DVI or HDMI 1.3 timing is supported and all DVI single-link modules are HDCP compliant.

Contact closure relays with a terminal block connector are provided for power failure or over-temperature alarms. A BNC connector for stereo emitter sync used in 3D applications is also included.

Opto RM4 rackmount modules work with other Opto products in a variety of ways:

- Point-point connection between Opto rack mount transmit and receive modules
- Point-point connection between Opto rack mount modules and Opto standalone transmit or receive endpoints
- RM-4 modules connected to the inputs or outputs of an Opto matrix switcher

Single mode optics options are available in two versions, supporting distances up to 10km or 40km.

Opto Rackmount Modules offer an unsurpassed range of options that expand the flexibility of Opto switcher systems, and add the benefits of fiber optic transmission when used as when used as point-to-point extenders.

Secure Fiber Transmission

High 6.22 GHz Bandwidth

Plug-and-Play Operation

Single Mode and Multimode Fiber

Single and Dual-link DVI

Simplex or Duplex Operation

HDCP Compliant

Audio and Serial Data

Hot-swappable Dual Redundant Power Supplies

Compact 1-RU Chassis



Opto RM T1M



Opto RM R2M



Opto RM T3M



Opto RM T1M AD



Opto RM4



Available Models

| Model Number | Description | Features |
|--------------|-------------------------------------|--|
| RM4 | Rackmount chassis | Dual redundant power supplies |
| RM-T1M | DVI transmitter | Local loop through output |
| RM-T2M | Two-channel DVI transmitter | Two channels in one module |
| RM-T3M | Dual-link DVI transmitter | Local loop through output |
| RM-T1M-AD | DVI with audio + serial transmitter | Local loop through output; bidirectional; dual width |
| RM-R1M | DVI receiver | Local loop through output |
| RM-R2M | Two-channel DVI receiver | Two channels in one module |
| RM-R3M | Dual-link DVI receiver | Local loop through output |
| RM-R1M-AD | DVI with audio + serial receiver | Local loop through output; bidirectional; dual width |

Specifications

| | DVI | Dual-link DVI | Two-channel DVI | DVI with Audio+Serial |
|--------------------------------|--|--------------------|--------------------|-----------------------------|
| Module Format | Single | Single | Single | Single |
| Signal type | DVI | Dual-link DVI | DVI (x2) | DVI + Stereo audio + RS-232 |
| Pixel clock rate | 25 MHz-165 MHz | 165 MHz-330 MHz | 25 MHz-165 MHz | 25MHz-165MHz |
| Resolutions | Up to 1920x1200/60 | Up to 3840x2400/33 | Up to 1920x1200/60 | Up to 1920x1200/60 |
| Connectors TX | DVI-D x 2 | DVI-D x 2 | DVI-D x 2 | DVI-D x 2 3.5 mm x 2, RJ-45 |
| Connectors RX | DVI-D x 2 | DVI-DL x 2 | DVI-D x 2 | DVI-D x 2 3.5 mm x 2, RJ-45 |
| Connectors - Fiber | LC | LC | LC | LC |
| Connectors ALL | BNC for stereoscopic video sync x 1, connector for dry contact alarm x 1 | | | |
| Size: single-width (H x W x D) | 1.592 x 3.693 x 6.366 in. (40.43 x 93.80 x 161.69 mm) | | | |
| Size: dual-width (H x W x D) | 1.592 x 7.406 x 6.366 in. (40.43 x 188.11 x 161.69 mm) | | | |
| Weight | Single width: 1 lbs (0.45 kg) Dual Width 1.5 lbs (0.68 kg) | | | |
| Power Consumption | 10 watts per module | | | |

RM4 Chassis

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|-----------------------|---|
| I/O cards | Up to 4 single-width or 2 double-width modules |
| Power | Dual redundant, hot-swappable |
| Control | Front panel USB for firmware updates; four-key cursor control |
| Rear Panel Connectors | IEC x 2 with power supplies installed |
| Operating Temp. | 0° – 50°C (32° – 122°F) |
| Humidity | 5 – 95% RH, non-condensing |
| Size (H x W x D) | 1.75 x 14.0 x 17.5 in (4.5 x 35.6 x 44.5 cm) EIA 19" |
| Weight | 15 lbs (4.99 kg) |
| Power consumption | 50W 100-240 VAC 47-63 Hz |

System Performance

| | |
|-------------------|---|
| Multimode Fiber | Up to 350 meters using multi-mode fiber type OM2 Up to 750 meters using multi-mode fiber type OM3 Up to 1000 meters using multi-mode fiber type OM4 |
| Single-mode Fiber | Up to 40 kilometers (24 miles) |

Fiber Characteristics

| | Multimode | 10km Single-mode | 40 km Single-mode |
|------------------------|-----------|------------------|-------------------|
| WaveLength (nominal) | 850 nm | 1310 nm | 1550 nm |
| Emitter Type | VCSEL | DFB laser | DFB laser |
| Output Power (nominal) | -4 dBm | -1.5 dBm | -2.5 dBm |