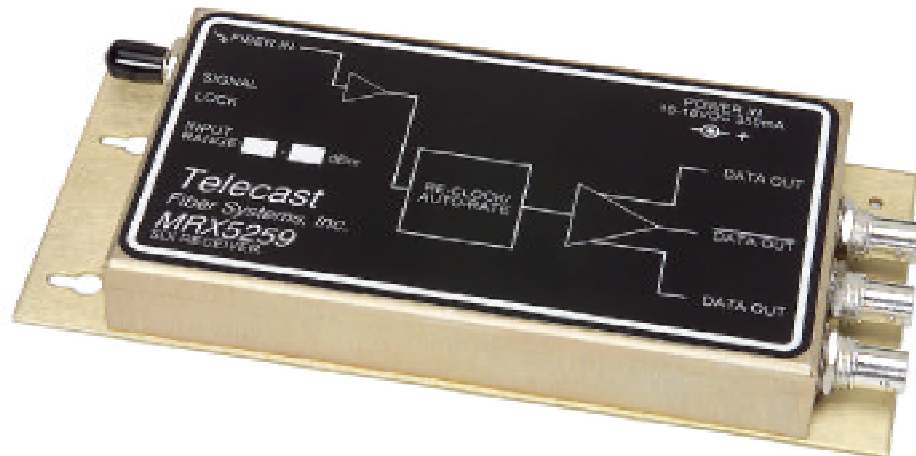


SDI Modules for the Viper II



The Viper II™ video module set for transmitting and receiving 601 serial digital interface (SDI) signals

Telecast's 5259 fiber optic serial digital video module set offers the industry's highest SDI transmission performance in a flexible, easy to use package. The module set supports all ANSI/SMPTE 259M signals, including:

- 143 Mbps NTSC composite
- 177 Mbps PAL composite
- 270 Mbps Serial component
- 360 Mbps Serial component video and compressed HDTV

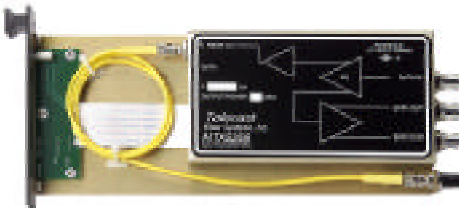
30 dB of Optical Margin

The high power 0 dBm laser transmitter, coupled with the ultra-sensitive 0 to 30 dBm receiver, gives you all the distance you need without fear of saturation. The system also equalizes up to 100 meters of incoming coax, automatically senses the SDI data rate and reclocks the digital video output signal.

These modules meet the ANSI/SMPTE 259M standard and are inter-operable with Telecast's Python™ and Viper™ 259 modules, so you can expand on products you already have and create a wide variety of network topologies.

Durable and Flexible

The module set is available as stand alone "throw down" modules (MTX5259 and MRX5259), or as rack mount (TX5259 and RX5259) modules to fit our Viper II 16-slot frame. Or use our easy, rack mount conversion kit to reconfigure them as you like.



Features

- Rack modules or stand-alone
- Up to 30 dB optical link budget
- 143 to 360 Mbps SDI transport
- Compatible with ANSI/SMPTE 259M
- Single video input
- Loop through normal video TX output
- Loop through inverted video TX output
- Equalizes coax input up to 100 meters
- Input data rate autosense
- Reclocked RX video outputs
 - Dual normal RX video outputs
 - Single inverted RX video output
- No pathological data problems
- Low system jitter (E 200ps)
- Single mode or multimode fiber
- Universal 16-slot card cage
- Easy rack mount module conversion
- Wide temperature range
- Low power consumption
- High reliability design
- WDM multiplexing optional

Applications

- Metropolitan video distribution
- Telco and CATV "last mile"
- Campus and building SDI networks
- Government facilities
- Studio-Transmitter Links
- Remote broadcast production
- CLEC access to IXC POP

Specifications

Video

Transmission Method	Digital
Input Level	800 mV (peak to peak)
Input Impedance	75 Ohms
Output Impedance	75 Ohms
Bit-Error Rate (@ -30 dBm)	10 ⁻¹²
Jitter (pathological data pattern)	<0.2 UI
Rise/Fall Times	<270 ps

Electro-Optical

Operating wavelength	1310 or 1550 nm
Link margin	up to 30 dB
Transmitter output	-8 dBm & 0 dBm
Receiver sensitivity	0 to -30 dBm
Optical source	Laser diode
Optical detector	PIN
Fiber type	single or multimode

Mechanical/Environmental

Dimensions (WxLxD)	3.35" x 7.65" x 0.94"
Weight (per stand alone module)	10 ounces
Video connectors	BNC
Input Voltage Range	10 to 18 VDC
Power Consumption (per module)	3 watts
Temperature Range	-25° to +55°C
Humidity Range	0 to 95% RH, Noncond.

Operating Notes for:

5259 SDI Modules for the Viper II

Power Requirements

All Viper II modules typically consume only 3 watts. The stand-alone module accepts a 10-18VDC, 350mA power cube with a 2.5mm jack, center pin positive. When mounted in the V2 frame, the modules are powered via the 24-pin Future-Bus connector on the top right side of the module.

Connections

Video Input to the TX module is via a standard 75Ω coaxial BNC. For best performance, care should be taken to make coaxial runs as short as possible. The TX unit has a single input and two outputs for use in monitoring. One of these outputs inverts the digital data stream for applications that require an inverted data path. The RX unit has three outputs; two are normal data outputs and the third inverts the data for applications that require an inverted data path.

Fiber Each TX and RX has a bulkhead ST receptacle that accepts a standard singlemode (8/125μ) or multimode (50/125μ) fiber terminated with ST type connectors. The optical wavelength and output power of the TX is indicated on the TX faceplate. The Input range is indicated on the RX faceplate.

The 5259 is cross-compatible with the Python™ and original Viper™ 259 modules.

Faceplate Indicators

The TX5259 (and the MTX5292) have a single **DATA** LED indicator on the faceplate (side panel). It displays three states for the module:

- | | |
|--------------|-----------------|
| 1. No LED | No DC power |
| 2. Red LED | No Data Input |
| 3. Green LED | Good Data Input |

The RX5259 (and the MRX5292) have an **INPUT (SIGNAL)** LED indicator on the faceplate (side panel). It displays four states of the module:

- | | |
|-----------------------|-------------------------------|
| 1. No LED | No DC power |
| 2. Red LED | Bad fiber link |
| 3. Blinking Green/Red | No data in/good fiber link |
| 4. Green LED | Valid data in/good fiber link |

If the LED is bi-color (red-green) but not blinking, this indicates that your optical connection is marginal. Try cleaning connectors to improve the link. Four additional LEDs on the RX5259 faceplate indicate the speed of the received data stream.

DATA

TX5259
SDI TX

INPUT
360
270
177
143

RX5259
SDI RX

Optional Wavelength Division Multiplexers (WDM)

In order to send more than one signal on the same optical fiber, use WDM couplers to combine a 5259 optical signal with a signal of a different wavelength. Note: for long distance transmission, the 1550nm wavelength TX requires a distributed feedback (DFB) laser due to dispersion effects of optical fiber.

Embedded Signals in the SDI Data Stream

Pre-embedded SMPTE compliant SDI signals are transparent to the system, although the 5259 does not perform the embedding or extraction.

Installation, Care and Maintenance

As stand-alone modules, the 5259 can be installed in any orientation but keyholes are furnished to allow the units to easily be hung on any vertical surface. Velcro™ may also be used.

Troubleshooting

The 5259's are truly "plug and play" devices, and contain no user serviceable parts. The faceplate LEDs indicate fiber and/or data problems. If the units seem to malfunction, contact Telecast for a return materials authorization (RMA) number.

Conversion to Rack Mount

Five steps are required to convert from "stand-alone" modules into rack mountable modules. An RMK (rack mount conversion kit) for each particular module is required to make this conversion.

1. Remove the 3 phillips screws that secure rear plate
2. Carefully remove the rear plate and store it for future use
3. Using the same 3 screws, attach module to rack "sled".
4. Connect the ribbon cable from the module to faceplate
5. Secure the fiber optic jumper from the module to the chassis mount ST connector barrel on the rear of the rack "sled"

Perform steps in reverse order to revert to a stand-alone module.



Ordering Information

MTX5259-A	-8 dBm @ 1300nm laser output
MTX5259-B	0 dBm @ 1300nm laser output
MTX5259-E	-8 dBm @ 1550nm laser output
MTX5259-DF	0 dBm @ 1550nm DFB laser output
MRX5259	0 to -30 dBm received optical power range

Values are the same for Stand Alone and Rack Mount modules

