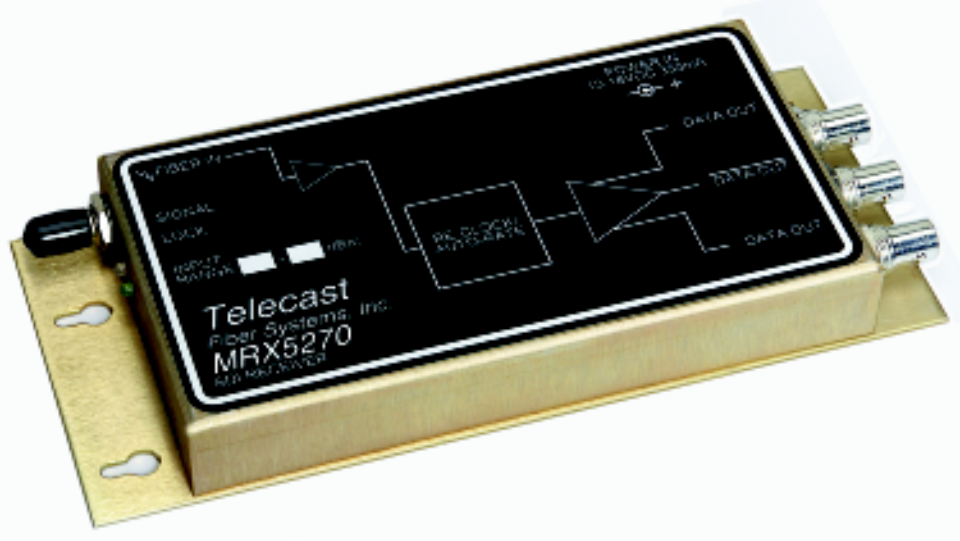
Telecast
Fiber Systems, Inc.

5270

Short-Haul SDI Modules for the Viper II



Features

- *Low cost, short range SDI links*
- *Rack modules or stand-alone*
- *Up to 14 dB optical link budget*
- *143 Mbps to 270 Mbps SDI transport*
- *Compatible with TV standards*
  SMPTE 259M & 244M
- *Single video input w/ monitor loops out*
  One normal data
  One inverted data
- *Three re-clocked video TX outputs*
  Two normal data
  One inverted data
- *Equalizes coax input up to 100m*
- *No pathological data problems*
- *Low system jitter (≤ 200ps)*
- *Multimode fiber*
- *Universal 16-slot card cage available*
- *Durable construction*
- *Easy rack mount module conversion*
- *Battery back-up option in Viper II frame*
- *Wide temperature range*
- *Low power consumption*
- *High reliability design*

Applications

- *Campus and building SDI networks*
- *Government facilities*
- *Remote broadcast production*
- *Post production*

The economical Viper II™ module set for distributing 601 serial digital interface (SDI) signals

Telecast's 5270 fiber optic serial digital video module set offers a flexible range of digital transmission rates at an economical cost while maintaining the quality of transmission that broadcasters demand. Digital transmission rates of up to 270 Mbps are supported allowing you to economically implement:

- 143 Mbps NTSC composite
- 177 Mbps PAL composite
- 270 Mbps Serial component

Low Cost

Why pay for expensive, long-range capabilities when you just need to get down the hall? The 5270 is your answer to digital video distribution on a budget. Up to two kilometer range on your facility's existing fiber cable, plus all the features and reliability that you have come to expect from Telecast.

Durable and Flexible

The module set is available as stand alone "throw down" modules (MTX5270 and MRX5270), or as rack mount (TX5270 and RX5270) modules to fit our Viper II 16-slot frame. Or use our easy, rack mount conversion kit to reconfigure them as you like.

Specifications

Video

Transmission Method	Digital
Input Level	800 mV (peak to peak)
Input Impedance	75 Ohms
Output Impedance	75 Ohms
Bit-Error Rate (@ -22 dBm)	10^{-12}
Jitter (pathological data pattern)	<0.2 UI
Rise/Fall Times	<270 ps

Electro-Optical

Operating wavelength	1300 nm
Link margin	up to 14 dB
Transmitter output	-10 dBm
Receiver sensitivity	-7 to -24 dBm
*receiver will overload at -6.5dBm	
Optical source	Laser diode
Optical detector	PIN
Fiber type	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.

Specifications subject to change without notice. Made in USA

102 Grove Street; Worcester, MA 01605 USA Phone: (508)754-4858 FAX: (508)752-1520
e-mail: sales@telecast-fiber.com http://www.telecast-fiber.com

Operating Notes for: 5270 Short-haul SDI Modules for the Viper II

Power Requirements

All Viper II modules require 10-18VDC at 350mA and consume only 3 watts. The stand-alone module provides a 2.5mm power input, center pin positive. In a rack mount configuration, power is provided via the 24-pin Future-Bus connector on the top right side of the module and draws 14 VDC @ 300mA max from the V2-Frame power supply bus.

Connections

Video — Input to the TX module is standard 75Ω coaxial BNC. For best performance, care should be taken to make coaxial runs as short as possible. The transmitter input will equalize up to 100m of coax, Belden 8281 or equivalent. The TX unit has a single input and two outputs for use in monitoring. One of the outputs inverts the digital data stream for applications and/or equipment that require an inverted data path. The RX unit has three re-clocked outputs; two normal and one inverted.

Fiber — Each TX and RX has a bulkhead ST receptacle that accepts a standard multimode (50/125) fiber terminated with ST type connectors. The optical wavelength is 1300nm with an optical output power of -10dBm. Sensitivity of the RX is -7 to 24dBm.

Faceplate Indicators

The TX5270 (and the MTX 5270) has a single LED indicator on the left side panel. It displays three states of the module:

1. No LED — No power
2. Red LED — Bad Fiber connection
3. Green LED — Good Data Link

The RX5270 (and the MRX5270) 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 Red/Green — No data but good link
3. Green LED — Valid data and good link

If the LED is bi-colored (red/green) but not blinking, this is an indication that the optical connection is marginal. Try cleaning connectors to improve the link. Four additional LEDs on the MRX5270 faceplate indicate the data rate of the received data stream. The 360 Mbps SDI signal is unsupported. If 360 Mbps is required, the 5259 or 5292 module sets should be used.

Using Wavelength Division Multiplexers (WDM)

WDM couplers may be used to combine a 5270 optical output with another optical output at a different (e.g. 1550nm) wavelength on the same fiber. While Medium isolation WDMs are acceptable for bi-directional transmission, we recommend High isolation WDMs for transmitting both signals in the same direction to avoid potential crosstalk between the 1300nm and 1550nm wavelengths.

Embedded Signals in the SDI Data Stream

Pre-embedded SMPTE compliant SDI signals are transparent to the system, but the 5270 does not perform the embedding or extraction.

Installation, Maintenance and Troubleshooting

The 5270 modules are truly "plug and play" devices, and contain no user serviceable parts. As stand-alone modules, the 5270 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. 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. A RMK (rack mount conversion kit) for each particular module is required to make this conversion.

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

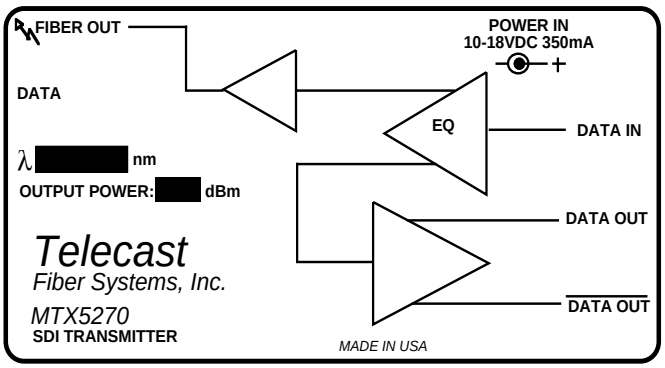
Perform steps in reverse order to revert to a stand-alone module.

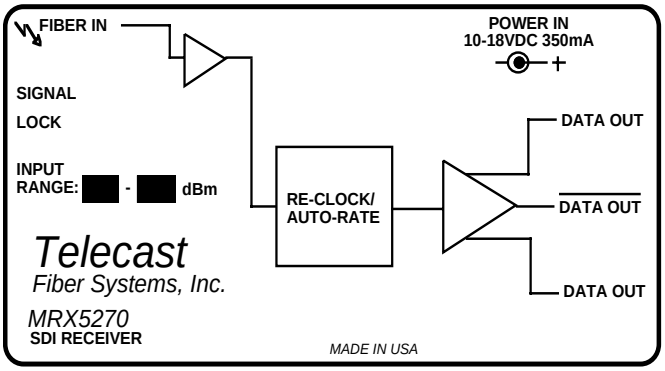
Ordering Information

MTX5270-M	Stand alone, or "throw down", Transmitter
TX5270-M	Viper II rack mountable Transmitter
MRX5270-M	Stand alone, or "throw down", Receiver
RX5270-M	Viper II rack mountable Receiver

Specifications are the same for Stand Alone and Rack Mount modules
RMK-R5270 and RMK-T5270 are the Rack Mount Conversion kits

The 5270 is cross compatible with the Python™ and the original Viper™ 259 and 270 modules for short-haul applications only. If better sensitivity is required, consider the TX5259 and RX5259 module set which features link budgets of up to 30dBm and a choice of optical TX wavelengths.





Telecast
Fiber Systems, Inc.
102 Grove Street; Worcester, MA 01605 USA Phone: (508)754-4858 FAX: (508)752-1520
e-mail: sales@telecast-fiber.com http://www.telecast-fiber.com