

## Mini HD/SDI Transmitter and Receiver

*Ultra-miniature for fixed and temporary digital video links*



### The HD/SDI problem solver—in your pocket

Telecast's Rattlers are miniature fiber optic serial digital video transmission modules that offer the industry's broadest range of digital rates while maintaining the signal quality that broadcasters demand. No matter what your format, the Rattlers allow you to transmit:

- 19.4 Mbps SMPTE 310M
- 143 to 540 Mbps SMPTE 259M/344M
- 1.5 Gbps SMPTE 292M HDTV
- DVB/ASI 270Mbps

These modules are interoperable with Telecast's Python™ series, Viper™ I and II series frames and modules, so you can expand the systems that you already have and create a wide variety of network topologies. The Rattler TX accepts a 75ohm coaxial input and converts it into an optical stream via a standard ST connector. The RX unit reconverts the uncompressed signal back to BNC output.

At just three inches in length, these tiny modules can be deployed almost anywhere. The (red) transmitter modules include equalization for long lengths of coaxial cable, so you can use them at nearly any point in your HD/SDI chain. Both the transmitter and receiver (blue) modules include LED indicators to display Power On, HD/SDI signal presence and Received Optical Power levels. These provide critical system diagnostic information at a glance without a need for additional test equipment, such as an optical power meter. The Rattlers use their own power supply or accept any DC voltage from 5 to 16 volts. A mini-USB jack is provided so you can even operate four Rattlers from a 4-port powered USB hub. No vulnerable power dongles to break off. This jack also includes provisions for SNMP monitoring.

### Features

- Portable, lightweight units
- Cool, efficient, reliable
- Quick, easy installation
- LED indicators show you:
  - Power on
  - HD/SDI data presence
  - RX Optical power levels
- 19.4 Mbps to 1.5 Gbps
- Compatible with SMPTE 310M, 292M, 259M & 297M
- Supports embedded audio
- Up to 30 km distance
- Low system jitter
- Power from 5-16 VDC
- USB power capable
- High durability design

### Applications

- Sports teleproduction  
*Golf, skiing, racing, etc.*
- Remote camera links
- Cross-town fiber links
- Cross-campus production
- Pre-fibered venues
- Courtesy feeds

**Awarded "Best of NAB 2005"**  
by Broadcast Engineering Magazine (Pick Hit) and TV Technology Magazine ("STAR" Award)

### Video

Transmission method	Digital
Input level	800 mV (peak to peak)
Input Impedance	75 ohms
Coax Equalization	@ 270 Mbps 350m @ 1.485 Gbps 140m
Output Impedance	75 ohms
Bit-Error Rate (@ -20 dBm)	10 <sup>-11</sup>
Jitter (pathological data pattern)	< 0.2 UI
Rise/Fall Times	< 270 ps

### Transmission

Operating wavelength	1300nm
Video connector in/out	BNC
Optical connector	ST single mode (standard)
Optical Source	Laser Diode
Optical detector	PIN-TIA Diode
Transmitter output	-7 dBm (0 dBm optional)
Receiver sensitivity	-20 dBm
Link Margin/Distance (standard)	13 dB/20 km
using single mode fiber (optional)	20 db/30 km
Fiber type	single mode or multimode

### Mechanical/Environmental

Dimensions (LxWxH)	3.2" x 0.65" x 0.75"
Weight, each end	1.8 oz
Input Voltage	5-16 V
DC Power connector	mini USB, female
Power Consumption, each end (typ.)	600mW
Indicators	Power, signal, link, optical power
Temperature Range, operating	-25° C to +55° C
Humidity Range	0 to 95%RH, non-condensing