



**Telecast**  
Fiber Systems, Inc.

# Python II™

## Multichannel Fiber Optic SD/HD SDI System



*Squeezes the cost out of digital transmission.  
8 or 16 channels, all formats, SDTV/HDTV*

Telecast's new Python II is your answer to keeping down the costs of digital video distribution, while eliminating the distance limitations and noise problems inherent in coaxial cabling.

The Python II combines groups of eight or sixteen channels of pristine fiber optic SDI transport into a compact 1RU frame. Select a transmitter and a receiver frame for eight or sixteen channels in one direction. Select two transceiver frames for eight channels in each direction. Or use our miniature Rattlers™ in conjunction with the Python II frames to distribute signals to and from several locations simultaneously. Since most Telecast SD/HD products can interface with the Python II, many signal topographies are possible and easy to implement.

In addition to carrying virtually any SDI signal, the Python II has CWDM optical multiplexing options to carry up to 16 HD signals on as few as one optical fiber.

The Python II offers the industry's broadest range of digital transmission rates while maintaining the quality that broadcasters demand. It supports numerous interface standards, including applicable SMPTE, ATSC, and DVB recommendations. No matter what your format, the Python II allows you to implement:

- 19.4 Mbps ATSC
- 143 Mbps NTSC composite
- 177 Mbps PAL composite
- 270 Mbps Serial component
- DVB/ASI
- 360 Mbps Serial component and compressed HDTV
- 540 Mbps Proprietary
- 1.5 Gbps HD Uncompressed

### Future Proof

This is your opportunity to cable once and future-proof your installation. Coaxial cable is severely limited in distance. It is also prone to problems of noise, crosstalk and ground faults. Also, coax equalizing distribution amplifiers are very expensive. The Python II eliminates all these problems, and goes hundreds of times farther with a cable that is only one tenth the size of equivalent coax. Fiber now, or fiber later. It's your choice.

### Trust Telecast

The Python II features the same high reliability as our other broadcast production systems. Our systems work every day in every broadcast environment around the globe. You count on Telecast, and you can count on the Python II for your digital and HDTV transport needs.

### Features

- Economical, low profile packaging
- 8 or 16 Channels per 1 RU chassis
- Wide range of digital formats
- 19.4 Mbps to 1.5 Gbps transport
- Compatible with digital TV standards SMPTE 292M & 259M
- Handles DVB/ASI signals
- Immune to pathological data errors
- Equalizes coax up to 1.5 Gbps
- BNC input/output
- Wide optical budget
- Low system jitter
- Low power consumption
- High reliability, durable design
- CWDM multiplexing options
- Compatible with other Telecast SD/HD SDI Transport Systems

### Applications

- Studio Infrastructure
- Sports & Field Production
- HD Tie Lines
- Campus/Metro HDTV distribution
- ATSC or HDTV STL
- Telco last mile and local loop
- CLEC access to IXC POP

## Improved User Features

Along with LEDs to indicate the presence of an SDI signal at each BNC in/out and output, the Python II features an integrated optical power meter and internal ambient temperature sensor. The ability to monitor the available optical power is absolutely critical in maintaining and troubleshooting your system and provides an additional layer of confidence.

The Python II also features dual 12 VDC power inputs for electrical redundancy. There is an option for optical redundancy using an integrated optical switch. When the system detects a loss of light on one fiber, it will automatically switch to the backup fiber providing a key level of redundancy to insure the integrity of your system.

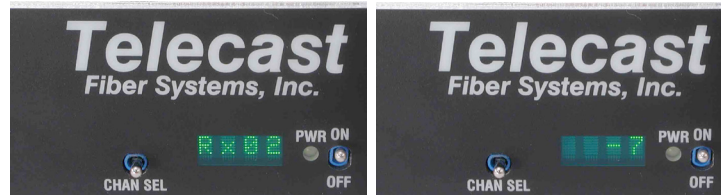
Python II is interoperable with Telecast Rattler, TelePort and Viper II digital modules such as the 6292.

The Python II platform represents the culmination of years of in-the-field use and incorporates all of the features that you need to build and maintain your HD transport infrastructure.

## Integrated Optical Power Metering

Using the integrated meter on the Python II RX is extremely easy and intuitive. And having the ability to quickly look at the optical output of each channel from the faceplate is the first step in ensuring that your signal path is as it should be. A single toggle switch is all that is required to see an optical power reading for each channel. The last reading will be the internal ambient temperature inside your unit.

Unlike similar systems, the fan in the Python II only comes on when needed, lowering power consumption and fan-related noise.



Channel 2 is receiving at -7dBm...Looking good!

## Specifications

### Video

Transmission Method	Digital
Input Level	800 mV (peak to peak)
Input/Output Impedance	75 Ohms
Return Loss	15 db
Coaxial Input Equalization	
Maximum Rate	1.5 Gbps
Equalization at 1.5 Gbps	300 meters of Belden 8281
Bit-Error Rate (@ -22 dBm rx optical power)	10 <sup>-12</sup>
Jitter (using pathological data pattern)	< 0.2 UI

### Electro-Optical

Operating wavelength	1310 nm or 1550nm Optical Window
Link margin	up to 22 dB
Transmitter output power options	-7 dBm or 0 dBm
Receiver sensitivity	-22 dBm
Optical source	Laser diode
Optical detector	PIN
Fiber type	single mode or multimode

### Mechanical/Environmental

Dimensions (LxWxH)	16.7" x 10.5" x 1.75"
Weight, each end	5 lbs
Connectors: Electrical	BNC
Optical	ST
Input Voltage	12-24 VDC
Power Consumption	< 15 Watts
Indicators	Power On, SDI Data Presence, Optical Power
Temperature Range	-20° C to +55° C
Humidity Range	0 to 95% non-condensing

### Compliance

Laser Safety	Class 1 Laser
EMI/RFI	Complies with IEC/EN 60825-1
RoHS	

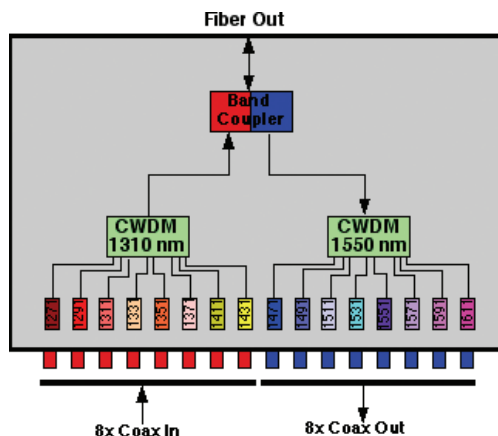
## Ordering Information

### Standard Models

PY-AA-ST8	8 Channel Transmitter, 8 Fibers
PY-RR-ST8	8 Channel Receiver, 8 Fibers
PY-AR-ST8	4 Channels each way, 8 Fibers
PY-AAAA-ST16	16 Channel Transmitter, 16 Fibers
PY-RRRR-ST16	16 Channel Receiver, 16 Fibers
PY-AARR-ST16	8 Channels each way, 16 Fibers

### Integrated CWDM Models

PY-GH-W8	8 Channel Transmitter, 1 Fiber
PY-RR-W8	8 Channel Receiver, 1 Fiber
PY-GHJK-W16	16 Channel Transmitter, 1 Fiber
PY-RRRR-W16	16 Channel Receiver, 1 Fiber
PY-GHRR-W8W8	8 Channels each way, 2 Fibers
PY-GHRR-W16 (used together with)	8 Channels each way, 1 Fiber
PY-JKRR-W16	8 Channels each way, 1 Fiber



The Python II with the Band Splitter option provides for sixteen HD/SD Channels in one direction or eight each way on just one single mode fiber.

Represented by:



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