



TIA-500

High Speed Fiber Optic O/E Converter

Benefits:

- 125 MHz bandwidth
- < 3 pA/Hz^{1/2} RMS Noise
- 1 KV/W to 100 KV/W selectable gain settings
- Powered by an internal 9V battery
- Capable of driving a 50 ohm load
- InGaAs or Si Detectors for use at all fiber optic wave-lengths
- AC or DC coupling
- ST or FC Connectors
- Mounts of scope BNC input

The **TIA-500** optical receiver is a convenient, easy to use optical to electrical converter. It is extremely useful in a variety of laboratory and field service situations where a quick check of the operation of a laser source, optical transmitter, or the output of a fiber optic communications link is required.

The use of surface-mount construction techniques permits the unit to be mounted directly on the vertical input BNC connector of your oscilloscope or digitizer. Simply energize the battery powered unit and the optical signal presented to the fiber input port is faithfully reproduced on the oscilloscope screen.

Both **Silicon** and **Indium-**

Gallium-Arsenide detectors are available to cover respectively the 400 to 1000 nm or the 900 to 1700 nm spectral regions.

Gains are switch selectable and provide peak responsivity values of approximately 1000 to 100,000 volts per watt.

AC coupling between stages may be introduced in order to examine weak high frequency optical signals in the presence of a strong DC optical component.

The **TIA-500** electrical bandwidth exceeds 125 MHz in the low and medium gain configurations and exceeds 35 MHz in the highest gain configuration.

The unit's output stage is fully capable of driving a 50

ohm coaxial cable terminated in its characteristic impedance.

Fiber connector options include ST or FC receptacles. An unconnectorized detector is available as an additional option so that the unit may be used with free space beams.

Powered by an internal, readily available, 9V Lithium battery, the **TIA-500** is handy to use and store. Its low noise performance results from the use of a shielded case plus its inherent isolation from power lines and ground loops.

The ease of use and convenience of this instrument are matched only by the high performance-to-price ratio that is typical of products from Terahertz Technologies. It is also backed by our standard two year warranty.

TIA-500 Specifications

TTI reserves the right to change specifications w/o notice

Detector Types.....	InGaAs (900-1700 nm range) Si (400-1000 nm range)
Transimpedance ranges.....	1.4 K, 14 K
Gain Select.....	X1, X10
Maximum Linear Input Power.....	>1.2 mw
Max Input without damage.....	10 mW
Bandwidth.....	125 MHz at 1.4 k transimpedance 35 MHz at 14 K transimpedance
Output Impedance.....	50 ohms
Output Connector.....	Male BNC
Fiber Optic Input Connector.....	ST or FC
Input Numerical Aperture.....	0.29
Interstage Coupling.....	AC or DC
Output Offset Voltage.....	+/- 1 V at Maximum Gain
Maximum Output Voltage.....	4 V pk-pk, no load, 2 V pk-pk with 50 ohm load
Noise Level.....	3 pA / Hz ^{1/2}
Power Required.....	9 V Battery powers the unit for approximately 30 hrs (no load)
Dimensions.....	1.2" W, 2.5" L, 1.5" H 30.5 cm W, 63 cm L, 38 cm H
Weight.....	5 oz, 150 g
Operating Temperature.....	0 - 40 C
Limited Warranty.....	2 Years from date of receipt



Call, write, fax or Email us
concerning your application . . .

169 Clear Road
Oriskany, New York 13424
Tel: (315) 736-3642 Fax: (315) 736-4078
Web Site: www.borg.com/~tti/
E-mail: tti@borg.com