

# Optical to Electrical Converter

## TIA-525

### Features:

- Capability to drive 50 Ohm output loads
- Operates from Battery or Line Power
- DC to 125 MHz Analog Bandwidth
- Low Noise - 3.0 pW/root-Hz
- Silicon or InGaAs detectors
- Selectable Gain Settings

### Applications:

- Laser alignment and tuning
- Plasma physics measurements
- Field Service Testing and Troubleshooting
- General laboratory testing of optical components



The TIA-525 optical receiver is a convenient, easy to use O/E 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 unit conveniently mounts directly on the vertical input BNC connector of your oscilloscope, digitizer, or other readout device.

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 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-525 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 either ST or FC receptacles. An unconnectorized detector is optionally available so that the unit may be used with free space beams. Powered by an internal 9V Lithium battery, or its universal power supply, the TIA-525 is handy to use and store.

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

## TIA-525 Specifications

Detector Type	Silicon or InGaAs (TIA-525S, TIA-525I respectively)
Analog Signal Bandwidth (-3 dB)	DC to 125 MHz (Tr = 1.4 K), DC to 35 MHz (Tr = 14 K)
Selectable Transimpedance settings	1.4 K Ohms, 14 K Ohms
Second Stage Gain Selections	X 1 or X 10
Maximum Linear Input Power	1.2 mW
Maximum Input power without damage	10 mW
Spectral Response	Silicon: 400 to 1000 nm, InGaAs: 850 - 1700 nm
Output Impedance	50 Ohms
Output Connector	Male BNC
Fiber Optic Connector	Specify FC or ST or Free-Space
Input Numerical Aperture	0.29
Inter-stage Coupling	DC or AC (100 Hz Low Frequency Cutoff)
Output Offset Voltage	+/- 0.1 Volt
Noise Level	3.0 pW/ root-Hz at peak responsivity
Maximum Output Voltage	4 V pk-pk, no load, 2 V pk-pk with 50 Ohm Load
Power Requirements	Power Requirements 9 V Battery or supplied universal wall-mount power supply
Battery Life	Approximately 30 hours, (no load)
Wall-mount Supply Power Requirements	95-260VAC, 50 - 60 Hz, 16 VA Max.
Mains Connectors Supplied	North America, British, Continental Europe, Australian
Dimensions ( mm )	63 L x 30.5 W x 32 H
Weight	5.6 oz (0.16 Kg)
LED Annunciators Provided	Power On
Operating Temperature Range	0 - 40 C
Standard Warranty	Two Years, Component and Workmanship, 30 Day Satisfaction Guarantee
Accessories Supplied	Transit Case, Universal Power Supply, 9 V ULTRALIFE Lithium Battery, Manual

### To Order:

