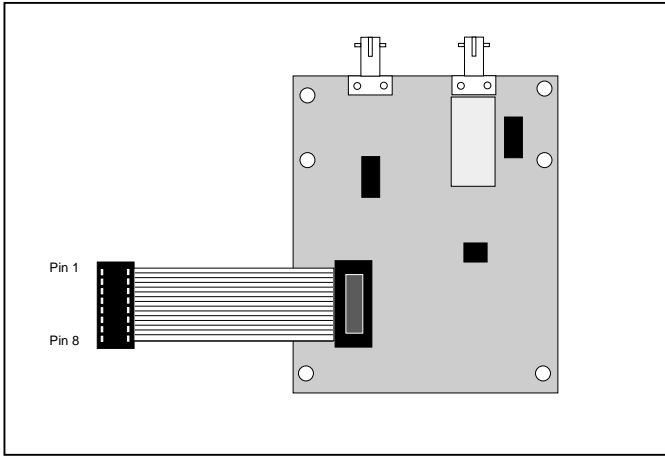


# Fiber Optic Transmitter/Receiver Pair



## TRANSMISSION LINE INTERFACE

Operating distance is dependent upon optical fiber core diameter and the cable's optical attenuation. The table below indicates three cables that may be used at any data rate. These cables are available in connectorized assemblies to meet the exact configuration of your application.

S.I.Tech offers complete links including fiber optic cable, connectors cable assemblies and Bit-Drivers®.

## OPERATING DISTANCE FOR FIBER OPTIC CABLE

Fiber Size (Microns)	Attenuation dB/km	Distance Meters	Distance Feet
100	5.0	2000	6600
62.5	4.0	2000	6600
50	3.0	2000	6600
10*	1.0	7000	23000

\* Single mode, 1300 nm option

Optical unit connection: Connect the optical transmission line to the T and R receptacles. Note which cable channel goes to T or R by noting cable imprint. On the other end, reverse the connection.

## SYSTEM

**Transmission:** Up to 6500 ft. (2 Km) with suitable graded index fiber optic cable

**Typical Bit Error Rate:** Better than  $10^{-9}$

## ELECTRICAL SIGNAL INOUT/OUTOUT FOR TRANSMITTER AND RECEIVER

**Format:** TTL

**Connector:** Solder pads or DIP socket

**Duty Cycle:** 0 to 100%

**Minimum Pulse Width:** 50 nanoseconds

**Data Rate:** DC to 20 Mbps NRZ

**Input impedance:** TTL, optional 75 ohm TTL levels

**Output Impedance:** Standard TTL logic output (sink 16 milliamps source 400 microamps)

## OPTICAL TRANSMITTER

**Output Power at 100 mA**

**LED Current:** 10 microwatts (-20 dBm) into 50 micron fiber

**Wavelength:** 820 nanometers (1300 nm option)

**Emitter Type:** LED

**Optical Connector:** ST or SMA compatible metal receptacle

## OPTICAL RECEIVER

**Wavelength:** 670 to 950 nanometers, 820 to 900 nanometers is optimum (1300 nm option)

**Minimum Sensitivity:** ( $BER \leq 10^{-9}$ ) 1 microwatt (-30 dBm) @ 820 nanometers

**Maximum Sensitivity:** 10 microwatts

**Minimum Optical Risetime**

**required:** 0.25 microseconds

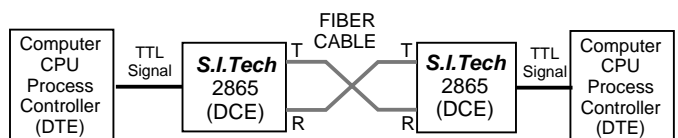
**Optical Connector:** ST or SMA compatible metal receptacle

**Operating Temperature:** 0 °C to 50 °C

**Size:** 2.70 X 2.85 in. (6.86 X 7.24 cm)

**Mini Version:** 2817-T/R

## TYPICAL APPLICATION



DTE: Data Terminal Equipment  
DCE: Data Communication Equipment

## Pin Assignment - Transmitter/Receiver Board

Pin No. (Dip Conn.)	Description
1 - 8	Ground
9	+ 11 VDC to Receiver
10	- 5 VDC to Receiver
11	Receive Data from Receiver
12,13	+ 5 VDC to Receiver
14,15	+ 5 VDC to Transmitter
16	Transmit Data to Transmitter

*Meets FCC requirements of Class A, Part 15 Computing Devices Standard.*

*Specifications subject to change without notice.*