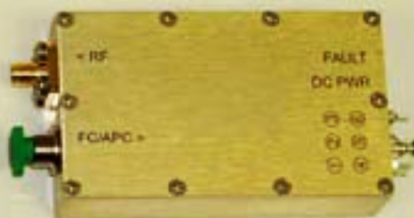


# RF/Fiber Optic Transmitter & Receiver

Model 01393TX/01393RX



**Laser Transmitter  
Model 01393TX**



**Laser Receiver  
Model 01393RX**



## Plug and Play (analog in and out)

Broad bandwidth enables multiplexing of many signals

+/- 12 Volt operation

Rugged design provides low noise and repeatability

RFI feed-thrus eliminate RF leakage which eases system integration

LED's provide visual status

Logic outputs are standard levels for keying and muting functions

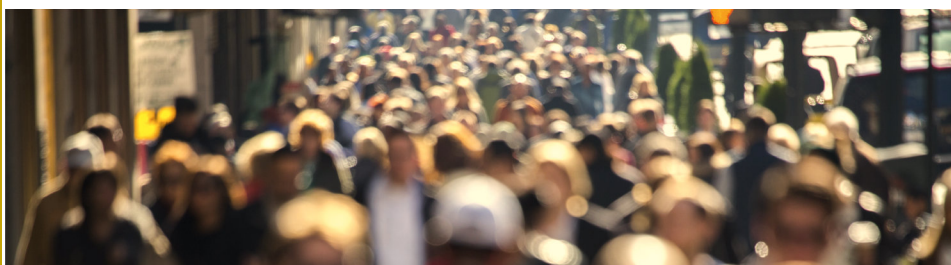
Modules can be easily combined for full-duplex, half-duplex, or simplex operation

Easy to combine for Dense Wave Multiplexing (DWM)

AMD's Model 01393TX provides the system designer a modular tool that will enable the transport of RF signals over long distances, with negligible signal attenuation. These modules are designed by our wireless engineers with detail to the RF integrity in the layout and packaging. Having used these modular Receiver and the Transmitter units in our tunnel and in-building designs, we now make them available as standard products.

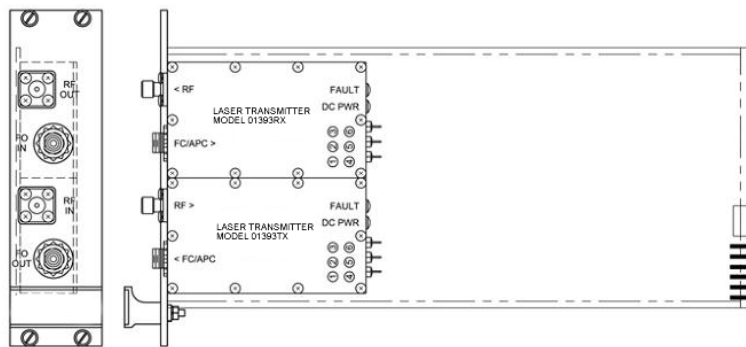
## TYPICAL SYSTEM APPLICATIONS

Large Buildings  
High Rise Complexes  
Airports  
Stadiums  
Factories and Industrial Plants  
Business and Education Campuses  
Under Ground  
Tunnels  
Sub-Level Complexes  
Subways  
Broad-Band and Channelized Configurations  
VHF, UHF, 800MHz, 900MHz, Cellular, SMR, PCS and Wi-Fi



RF signal(s) are injected into the Laser Transmitter (01393TX). The Laser is amplitude modulated and the new carrier is light at 1310nm or 1550nm. This modulated light source is coupled to a single mode fiber that will transport the light signal over long distances with relatively zero or low loss. These distances are miles with <1dB of attenuation.

The 01393T RX is the complement of the TX and using PIN diode detection will provide an RF output, after demodulation of the light, with gain and low noise. The design of the receiver is broad band for both the optical signal (module covers the range of the Laser Txs of 1310 to 1550 nm) as well as the RF (bandwidth is over 3.0 GHz) output.



The 01393TXRX8 is an example of the flexibility of the AMDI fiber optic modules. As shown above, a single-channel card can be configured as a full-duplex transceiver. By using the AMDI card cage, the system can be expanded to an 8-channel full-duplex transceiver system.

#### Transmitter Specifications

Frequency Range: 50 kHz - 3 GHz  
 Operating Mode: Supports both Full-Duplex and simplex communications  
 Channel Capacity: Base Unit (BU) 8 Full-Duplex or 8 Simplex Channels  
 Transmitter Output Power: > 1 mW optical  
 VSWR I/O: 2:1 maximum  
 Output Noise Floor: -129 dBm (with 1 meter fiber, 2.5 GHz)  
 Spur-Free Dynamic Range: > 102 dB  
 Input 3rd Order Intercept: > 24 dBm  
 RF Input to Xmtr: +10 dBm maximum  
 Power Requirement (module): ± 12 V @ <50 mA  
 Connectors: RF: SMA Female  
 Optical: SC/APC  
 Operating Temperature: -20 °C to +60 °C  
 Storage Temperature: -50 °C to +85 °C  
 Humidity: 90% non-condensing  
 Weight: < 1 lb.  
 Enclosure Size: 3/4" W x 3" L x 7/8" H  
 Fiber Optic Cable Type: 9/125 μm Single-Mode  
 Wavelength: 1310 / 1550 nm

#### Receiver Specifications

Frequency Range: 50 kHz - 3 GHz  
 Operating Mode: Supports both Full-Duplex and simplex communications  
 Channel Capacity: Base Unit (BU) 8 Full-Duplex or 8 Simplex Channels  
 Gain: 17 dB typical  
 Receiver Sensitivity: 21 dBm optical  
 VSWR I/O: 2:1 maximum  
 Output Noise Floor: -129 dBm (with 1 meter fiber, 2.5 GHz)  
 Spur-Free Dynamic Range: > 102 dB  
 Input 3rd Order Intercept: > 24 dBm  
 Max. Optical Input to Rcvr: < 4 mW  
 Power Requirement (module): +12 V @ <150 mA  
 Connectors: RF: SMA Female  
 Optical: SC/APC  
 Operating Temperature: -20 °C to +60 °C  
 Storage Temperature: -50 °C to +85 °C  
 Humidity: 90% non-condensing  
 Weight: < 1 lb.  
 Enclosure Size: 3/4" W x 3" L x 7/8" H  
 Fiber Optic Cable Type: 9/125 μm Single-Mode  
 Wavelength: 1310 / 1550 nm

