

RLH Industries, Inc.
Fiber Optic Link DS3/T3 Interface Card



| Part Number | Description |
|--------------|----------------|
| 8806-1501-01 | Multimode ST |
| 8805-1501-01 | Multimode SC |
| 8806-1509-01 | Single-mode ST |
| 8805-1509-01 | Single-mode SC |

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1. GENERAL

The RLH Fiber Optic Link DS3 Interface Card converts a coax T3 to an Optical transmission signal of either multimode or single-mode. Multimode and single-mode cards provide transmission of the DS3 data signals over a fiber optic facility to extend the circuit and provide dielectric isolation between the network and distant connection.

1.2 This section of the document is reserved for explanation of future modifications or changes.

2. FEATURES

The RLH Industries DS3 Card provides:

- Provides T3/E3 DS3 coax-to-fiber conversion.
- Extends network span up to 2.5 Km (1.5 mi.) on multimode and 28 Km (16.8 mi.) on single-mode fiber.
- Supports B3ZS for T3 (DS3) and HDB3 for E3 codes.
- Framing independent- supports framed or unframed and channelized or fractional unchannelized data.

- loopback capability for remote end fiber testing and informative LED display for status monitoring

3. APPLICATIONS

3.1 Telecommunication equipment in high voltage areas can be at risk due to Ground Potential Rise (GPR). A copper telephone line referenced to a remote ground can become a path for high voltages during a ground fault. Placement of all-dielectric fiber optic cable (instead of copper) completely eliminates the presence of a remote ground, which dramatically increases safety of personnel and reliability of equipment.

4. INSTALLATION

4.1 Multimode and single-mode DS3 cards are equipped with two ST or SC female optical connectors. Connect fibers to the Transmit (TX) and Receive (RX) optical connectors. The TX optical on the CO Card must be connected to the RX on the SUB Card. See Figure 1.

4.2 The T3 connection is made via the transmit and receive RG-59 coax female connectors located on the front of the card.

5. TESTING

5.1 Four DIP switch option settings are located on the front of the DS3 card. Refer to Figure 1 for correct application settings.

5.2 If signal is not present, replace card and retest. If card is determined to be defective, then contact RLH for replacement or repair. See Section 7

5.3 The RLH DS3 Card provides LED Indicators on the front of the PCB. LED's show availability of power, the modes of operation, and data being received by the fiber and coax ports. See figure 2.

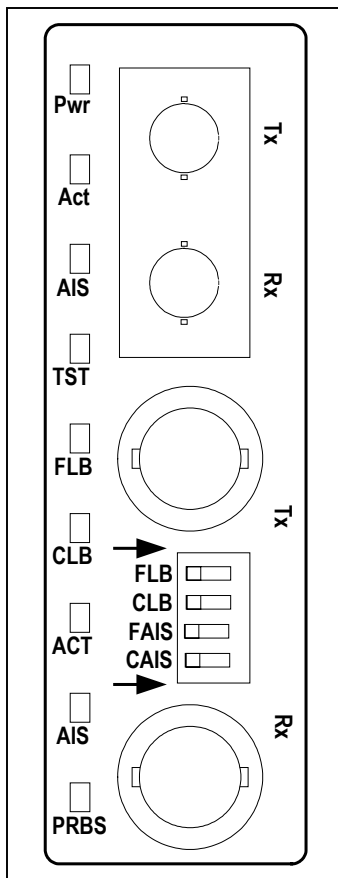


Figure 2. LED Indicators

6. SPECIFICATIONS

Protocols: ANSI: T1.102, T1.107, T1.403, T1.404, T1-404a (T3), T1-408
 ITU: G703 (E3), G704, G706, G751, G921, G926, O.151
 ETSI: EN 300 689, 300 686, 300 687

Data Rates: T3: (44.736Mbps)
 E3: (34.368Mbps)

Copper interface: RG-59 Coax 75 ohm, BNC
 Copper distance: T3: 1245 feet (380 m)
 E3: 1445 feet (440 m)

Fiber connector: ST or SC

Fiber types:
 Multimode: 62.5/125, 50/125
 Single-mode: 9/125 μ m

Fiber Distances:
 Multimode: 5 km / 3 miles
 Single-mode: 30 km / 18 miles

LED Indicators:
 Power: Amber, Power applied
 Act: Green, Fiber activity
 AIS: Amber, Fiber AIS received
 TST: Amber, Fiber test detected
 Fast Blink (10Hz): Test data received
 Slow Blink (1Hz): Unexpected pattern
 Off: No test data received
 FLB: Amber, Fiber Loopback
 ON: Local fiber loopback
 OFF: Normal operation
 CLB: Amber, Coax Loopback
 ON: Local coax loopback
 OFF: Normal operation
 ACT: Green, Coax activity
 AIS: Amber, Coax AIS received
 PRBS: Amber, Coax PRBS detected
 Fast Blink (10Hz): PRBS received
 Slow Blink (1Hz): Sending PRBS

Power Requirements: 24-56VDC @ 100mA

PCB Dimensions: 7.0"x4.0"x1.0"

Temperature: 0 to 65 degrees C

Humidity: 0-90% non-condensing

7. REPAIR AND RETURN

7.1 RLH Industries, Inc. Fiber Optic Link assemblies are warranted to be free of defects in materials and workmanship for the life of the product. This lifetime warranty is effective for RLH products sold from February 2, 1988 to the present.

7.2 This warranty is UNCONDITIONAL and is valid even when the RLH Fiber Optic Link assemblies have been abused or mishandled, where unauthorized repairs have been attempted or performed, or product has been damaged as a result of a natural disaster.

7.3 RLH Industries, Inc. will repair or replace any product, or part thereof, that fails for any reason, provided the defective part is returned to RLH, freight prepaid. In the event that a Card requires repair, contact RLH Industries for a RMA (return material authorization) number and send the Card with a description of the problem to:

RLH Industries, Inc.
Attn: Repair and Return
936 N. Main Street
Orange, CA 92867

8.0 ORDERING INFORMATION

8.1 To place an order for RLH Industries, Inc. equipment, call or Fax inside sales at (800)-877-1672, (714) 532-1885

8.2 To order the DS3 Card, please indicate the appropriate model number listed below and the quantity required:

Multimode Cards

8806-1501-01 DS3 CO/Sub ST

8805-1501-01 DS3 CO/Sub SC

Single-Mode Cards

8806-1509-01 DS3 CO/Sub ST

8805-1509-01 DS3 CO/Sub SC