

RLH Fiber Optic Link Ethernet 10/100BaseT Interface Card

Part Number	Description
8806-1510-01	CO/Sub Multimode ST
8806-1520-02	CO/Sub Single-mode ST
8805-1510-01	CO/Sub Multimode SC
8805-1520-02	CO/Sub Single-mode SC



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- Interoperable with other 10/100BaseT and 10/100BaseFL devices.
- Provides Power, Link, UTP and Fiber Duplex Status LEDs
- Features Crossover switch for easy connection to hubs or workstation

1. GENERAL

The RLH Fiber Optic Link Ethernet Interface Card converts a 10/100BaseT RJ45 port to an optical transmission via multimode or single-mode fiber optic cable. The RLH ethernet cards extend the circuit and provide fiber optic isolation between the network and distant connection. See Block Diagram Figure 3.

1.2 Whenever this document is updated the reason will be stated here.

2. FEATURES

The RLH Industries Ethernet Cards provide:

- Complies with IEEE 802.3 10Base-T 100Base-Tx and 100Base-Fx
- Provides UTP-to-Fiber 10/100 media conversion and Half/Full Duplex
- Extends network span up to 2 Km (1.2 mi.) on multimode, and 28 Km (16.8 mi.) on single-mode fiber.

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) from the 300V point of GPR completely eliminates the presence of a telephone remote ground, which dramatically increases safety of personnel and equipment.

4. INSTALLATION

4.1 Multimode or Single-Mode Ethernet 10/100BaseT Cards are equipped with two 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 10/100BaseT connection is made via the RJ45 Jack located on the front of the 10/100BaseT Card.

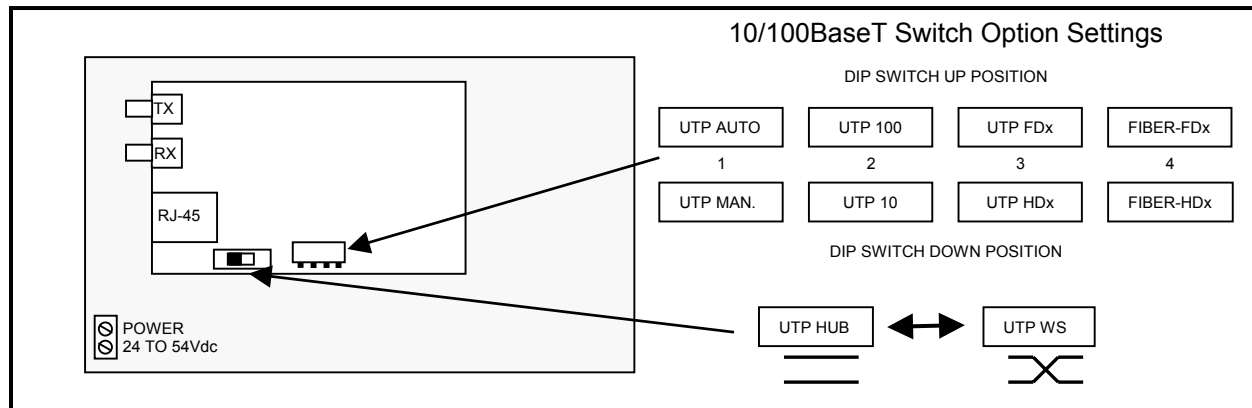


Figure 1 Layout and Option Switches

5. TESTING

5.1 Five switch option settings are located on the bottom of the sub-assembly on the Ethernet 10/100BaseT 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 Ethernet Card provides LED Indicators on the front of the PCB. The LED's show availability of power, the modes of operation (10/100 and half or full duplex), the detection of devices and data being received by the fiber and UTP ports. See figure 2.

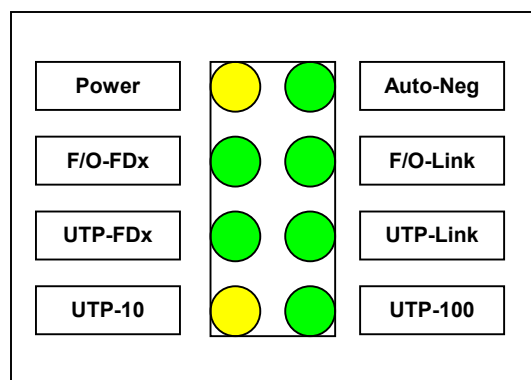


Figure 2 LED Layout

6. SPECIFICATIONS

Connectors and Cables:

UTP Port: RJ45, cat5 (EIA/TIA 568)
 Multimode (MM): ST or SC, 62.5/125µm
 Single-mode (SM): ST or SC, 9/125µm

Supported Distances:

	Half-Duplex	Full-Duplex
10/100 UTP:	100m/328 ft.	100m/328 ft.
MM Fiber:	412m/1,350ft.	2km/1.2 mi.
SM Fiber:	412m/1,350ft.	28km/16.8 mi.

LED Indicators:

Power: Yellow, power applied
 UTP Auto Neg.: Green, enabled
 UTP Duplex Mode: Green,
 On: Set to Full Duplex
 Off: Set to Half Duplex
 UTP Link: Green, data received
 UTP 10Mbps: Yellow, link detected
 UTP 100Mbps: Green, link detected
 Fiber Duplex Mode: Green,
 On: Set to Full Duplex
 Off: Set to Half Duplex
 Fiber Link: Green, data received

Switches:

UTP Crossover: Straight/Crossed
 UTP Negotiation: Auto /Manual
 UTP 10/100: 10Mbps / 100Mbps
 UTP Duplex Mode: Full / Half
 Fiber Duplex Mode: Full / Half

Operating Temp: 0° C to 70° C
 Humidity: 0% to 90% non-condensing
 Power: 22 to 54Vdc, 300mA max.

7. REPAIR AND RETURN

7.1 RLH Industries, Inc. Fiber Optic Link lifetime warranty is effective for RLH products sold from February 2, 1988 to the present. 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.

7.2 RLH Industries, Inc. will repair or replace any product, or part thereof, provided the defective part is returned to RLH, freight pre-paid. 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 Fax in Orange, CA office or (800) 420-8691, (770) 420-3369 Fax in Marietta, GA.

8.2 To order the 10/100BaseT Card, please indicate the appropriate model number listed below and the quantity required:

Multimode Cards

8806-1510-01 Ethernet CO/SUB ST
8805-1510-01 Ethernet CO/SUB SC

Single-Mode Cards

8806-1520-02 Ethernet CO/SUB ST
8805-1520-02 Ethernet CO/SUB SC

9.0 BLOCK DIAGRAM

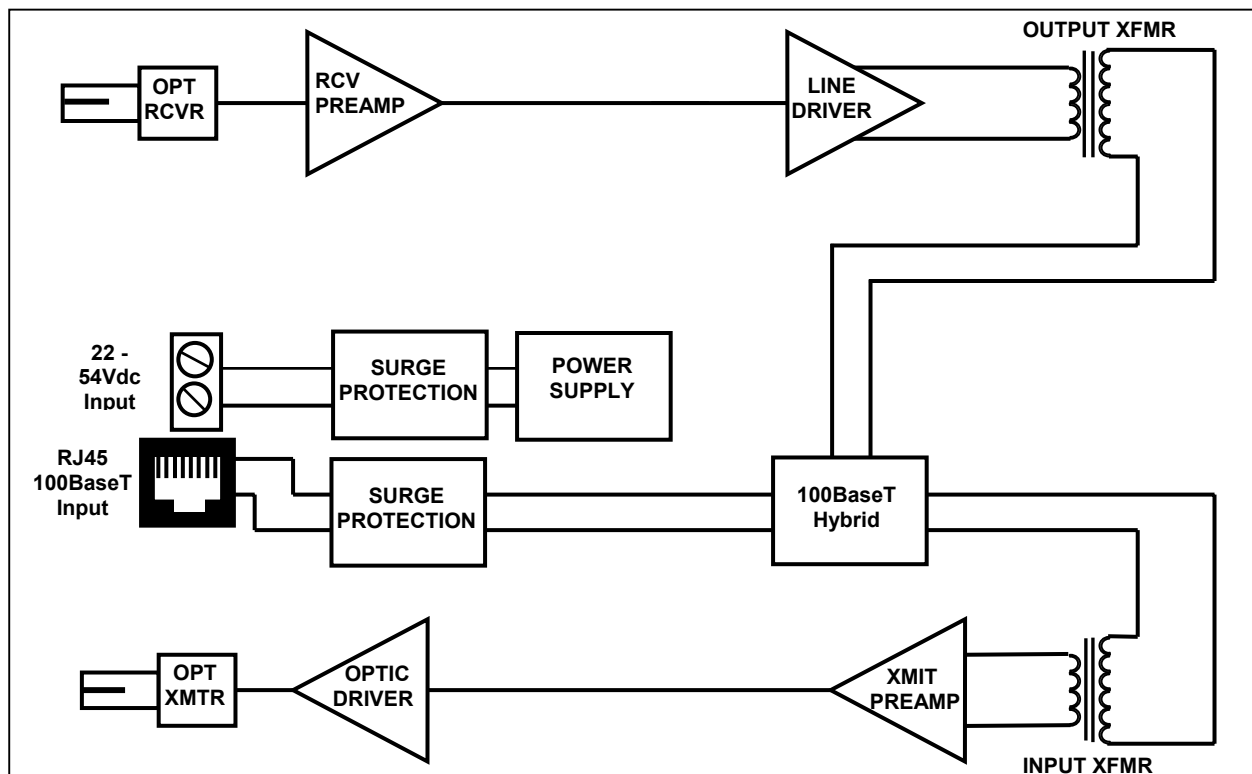


Figure 3 10/100BaseT Block Diagram