

## RLH Fiber Optic Link RS-232 CO/Sub Interface Card

Part Number	Description
8806-1530-04	Multimode ST
8806-1540-04	Single-mode ST
8805-1530-04	Multimode SC
8805-1540-04	Single-mode SC



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### 1. GENERAL

The RLH Fiber Optic Link RS-232 Interface Card converts a RS-232 DB9 port to an Optical transmission signal of either multimode or single-mode. Multimode and Single-mode cards provide transmission of the RS-232 data signals over a fiber optic facility to extend the circuit and provide dielectric isolation between the network and distant connection.

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

### 2. FEATURES

The RLH Industries RS-232 Card provides:

- Provides RS-232 (DB9) DCE or DTE to-Fiber media 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 half and full duplex operation

- Remote loop capability for remote fiber testing and informative LED display for status monitoring

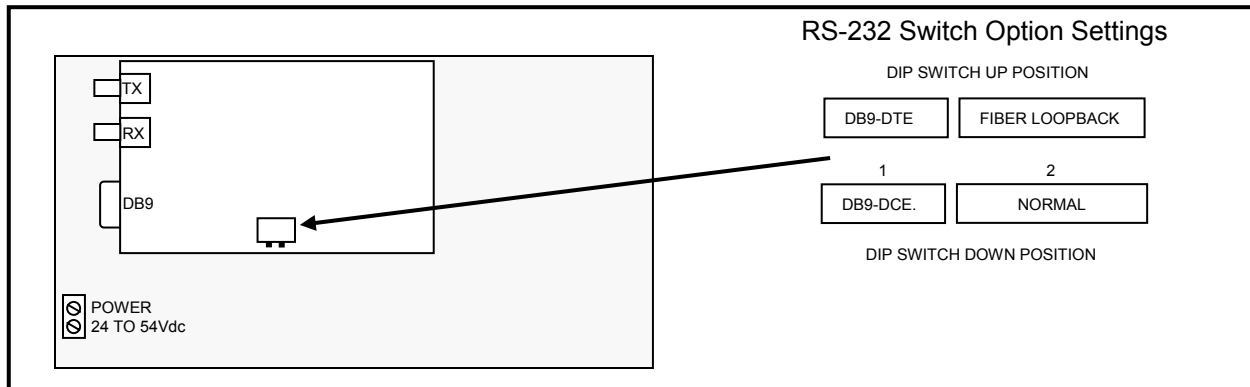
### 3. APPLICATIONS

**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) 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 RS-232 Cards are equipped with two ST 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 RS-232 connection is made via the DB-9 Female connector located on the front of the RS-232 Card.



**Figure 1 Card Layout and Options**

**5. TESTING**

**5.1** Two DIP switch option settings are located on the bottom of the RS-232 Sub-assembly. 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

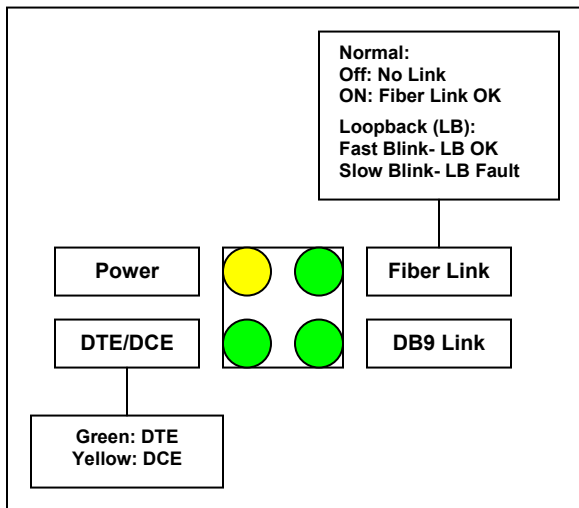
**5.3** The RLH RS-232 Card provides LED Indicators on the front of the PCB. LED's show availability of power, the modes of operation, and data being received by the fiber and DB9 ports. See figure 2.

**6. SPECIFICATIONS**

- Data Rates: Up to 115,200 baud
- Copper interface: DB9 (female)
- Copper distance: 50 feet
- Fiber connector: ST or SC (female)
- Fiber types:
  - Multimode: 62.5/125
  - Single-mode: 9/125  $\mu$ m
- Fiber Distances:
  - Multimode: 2.5 km / 1.5 miles
  - Single-mode: 28 km / 16.8 miles
- LED Indicators:
  - Power: Yellow
  - DTE/DCE Select: Green (DTE)  
Yellow (DCE)
  - DB9 Receive: Green
  - Fiber Receive: Green
  - Blinking: Fiber Loop-Back
- PCB Dimensions: 7.0"x4.0"x1.0"
- Temperature: 0 to 70 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.



**Figure 2 LED Layout**

**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 Fax in Orange, CA office or (800) 420-8691, (770) 420-3369 Fax in Marietta, GA.

**8.2** To order the RS-232 Card, please indicate the appropriate model number listed below and the quantity required:

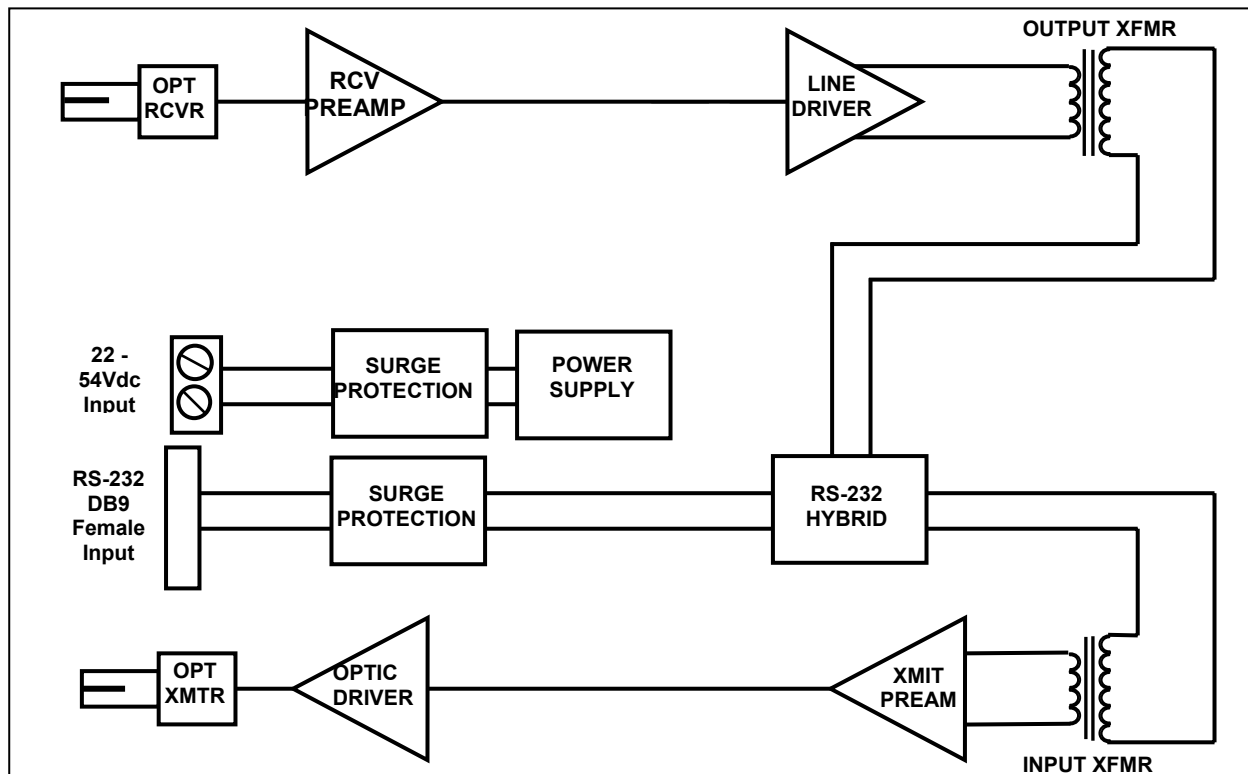
**Multimode Cards**

8806-1530-04 RS-232 CO/Sub ST  
 8805-1530-04 RS-232 CO/Sub SC

**Single-Mode Cards**

8806-1540-04 RS-232 CO/Sub ST  
 8805-1540-04 RS-232 CO/Sub SC

**9.0 BLOCK DIAGRAM**



**Figure 3 RS-232 Block Diagram**