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## **Model 271**

# **AF-AM-F/ST-M/ST**

## **Auto Powered Fiber Optic Line Driver**



**Reference Manual**

**0315-0087 Rev. C**

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# Warranty

TELEBYTE warrants the equipment to be free from defects in material and workmanship, under normal and proper use and in its unmodified condition, for 12 months, starting on the date it is delivered for use. TELEBYTE's sole obligation under this warranty shall be to furnish parts and labor for the repair or replacement of products found by TELEBYTE to be defective in material or workmanship during the warranty period. Warranty repairs will be performed at the point of manufacture. Equipment approved for return for warranty service shall be returned F.O.B. TELEBYTE factory and will be redelivered by TELEBYTE freight prepaid, except for non-continental U.S.A. locations. Non-continental deliveries will be sent COD freight plus import/export charges.

*The above warranty is in lieu of all other warranties, expressed or implied, statutory or otherwise, including any implied warranty of merchantability or fitness for a particular purpose. TELEBYTE shall not be liable for any damages sustained by reseller or any other party arising from or relating to any equipment failure, including, but not limited to consequential damages nor shall TELEBYTE have any liability for delays in replacement or repair of equipment.*

Out of warranty equipment may be returned to the Greenlawn, NY customer service facility prepaid as described above. Return shipping charges will be billed to the customer. The repaired unit will have a 90-day warranty. In those cases where "NO TROUBLE" is found, a reduced charge will be billed to cover handling, testing and packaging.

Whether in or out of warranty, a Return Material Authorization (RMA) number is necessary and can be obtained by calling (631) 423-3232 or 1-(800) 835-3298, by faxing (631) 385-8184/7060 or by e-mailing us at [support@telebyteusa.com](mailto:support@telebyteusa.com). You can also visit us on the web at [www.telebyteusa.com/rma.htm](http://www.telebyteusa.com/rma.htm). Reference the RMA number on the outside container.

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## 1.0 General Description

The Model 271 Auto Powered Fiber Optic Line Driver provides full-duplex, asynchronous communication over two fibers. The Model 271 allows for communication in harsh/ hostile environments, has the benefit of immunity from EMI/ RFI interference, and provides secure data transmissions.

## 2.0 Specification

### Interface

The unit conforms to EIA RS-232C and CCITT, V.24 specifications. Pins 2 and 3 (Transmit and Receive Data) are switch selectable. Pin 4 is internally connected to Pin 5. Pins 6, 8, and 20 are internally connected. Pin 7 is Signal Ground.

### Connections

*RS-232*

271AM and 271M/ST: Male DB-25  
271AF and 271F/ST: Female DB-25

*Fiber Optic*

All Model 271s have ST Connectors

### Data Rate

300 Baud to 56 kbps

### Operating Distance

<b>Fiber Diameter (Microns)</b> (Core/Cladding)	<b>Distance</b> (Meters/Feet)
50/125	1,400/4,600
62.5/125	2,000/6,500
100/140	2,600/8,500

### Wave Length

850 nm

### Power Budget

With 62/125 m fiber 12 db

### Power

Models 271F and M/ST power derived from RS-232 interface.  
Models 271AF and AM are supplied with a small transformer that connects to a 15 VAC or optional 220 VAC.

### Size

2.5" L x 2" W x .875" H

### Environment

0° to 50° C, 5 to 95% RH

## 3.0 Installation

### Digital Interface

The digital interface for the Model 271M is a male DB-25 while 271F is a female DB-25.

### Fiber Interface

The fiber interface is an ST connector.

## 4.0 Operation

The Model 271 comes equipped with a switch that allows the reversing of Pins 2 and 3 of the RS-232 connector. When the switch is in the DTE position, Pin 2 of the RS-232 connector is an output (transmit-to-host device) and Pin 3 is an input. When the switch is reversed, Pin 2 becomes an input and Pin 3 becomes an output. When interfacing to a terminal or PC the switch should be in the DCE position.

## 5.0 Troubleshooting

Operation can be verified if one of the devices to which the modems are attached is capable of operating in a full-duplex mode, such as terminal. Connect the Model 271 to the terminal and, using a short piece of fiber with two ST connectors, connect the transmitter back to the receiver. If the modem is functioning, data entered on the keyboard will appear on the screen.

## 6.0 Connector Pins

Pin	EIA	CCITT	NAME	271
2	BA	102	Transmit Data	*
3	BB	104	Receive Data	*
4	CA	105	RTS Send	**
5	CB	106	CTS	**
6	CC	107	Data Set Ready	***
7	AB	102	Signal Ground	
8	CF	109	Carrier Detect	***
20	CD	108.2	DTR	***

\* These signals can be reversed using the selector switch.

\*\* Connected together.

\*\*\* Connected together.

## 7.0 Power

The Models 271F and M/ST can be powered in one of two ways:

1. It derives positive power from Pins 4, 5, 6, 8, or 20 (if available) and negative power from the data input pin (must be at least  $\_5.0$  V in its quiescent state with the Model 271 attached).
2. All power is derived from the data input signal when the device that the Model 271 is connected to does not support any control signals (must be at least  $\_5.0$  V in the quiescent state with the Model 271 attached).

The Models 271AF and AM are supplied with a small AC transformer.

## 8.0 Help

If you require assistance, please call Telebyte Customer Service at (631) 423-3232, fax us at (631) 385-8184 or e-mail us at [support@telebyteusa.com](mailto:support@telebyteusa.com).

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