

1.0 Warranty Information

<u>Section</u>	<u>Page</u>
1.0 Warranty Information	2
1.1 Radio and TV Interference	
1.2. CE Notice	
1.3 Service	
2.0 General Information.....	4
2.1 Features	
2.2 Description	
3.0 Installation	5
3.1 Power Connection	
3.2 Installing the Model 1104F-ST/1104M-ST	
3.3 Installing the Model 1104TB-ST	
Appendix A - Specifications.....	7
Appendix B - Pin Out Configuration	8

Patton Electronics warrants all Model 1104 components to be free from defects, and will—at our option—repair or replace the product should it fail within one year from the first date of shipment.

This warranty is limited to defects in workmanship or materials, and does not cover customer damage, abuse or unauthorized modification. If this product fails or does not perform as warranted, your sole recourse shall be repair or replacement as described above. Under no condition shall **Patton Electronics** be liable for any damages incurred by the use of this product. These damages include, but are not limited to, the following: lost profits, lost savings and incidental or consequential damages arising from the use of or inability to use this product. **Patton Electronics** specifically disclaims all other warranties, expressed or implied, and the installation or use of this product shall be deemed an acceptance of these terms by the user.

1.1 Radio and TV Interference

The Model 1104 generates and uses radio frequency energy, and if not installed and used properly—that is, in strict accordance with the manufacturer's instructions—may cause interference to radio and television reception. The Model 1104 has been tested and found to comply with the limits for a Class A computing device in accordance with the specifications in Subpart J of Part 15 of FCC rules, which are designed to provide reasonable protection from such interference in a commercial installation. However, there is no guarantee that interference will not occur in a particular installation. If the Model 1104 does cause interference to radio or television reception, which can be determined by disconnecting the unit, the user is encouraged to try to correct the interference by one or more of the following measures: moving the computing equipment away from the receiver, re-orienting the receiving antenna and/or plugging the receiving equipment into a different AC outlet (such that the computing equipment and receiver are on different branches).

1.2 CE Notice

The CE symbol on your Patton Electronics equipment indicates that it is in compliance with the Electromagnetic Compatibility (EMC) directive and the Low Voltage Directive (LVD) of the European Union (EU). A Certificate of Compliance is available by contacting Technical Support.

2.0 General Information

1.3 Service

All warranty and non-warranty repairs must be returned freight prepaid and insured to Patton Electronics. All returns must have a Return Materials Authorization number on the outside of the shipping container. This number may be obtained from Patton Electronics Technical Support at:

tel: **301-975-1007**
email: **support@patton.com**
www: **http://www.patton.com**

NOTE: Packages received without an RMA number will not be accepted.

Patton Electronics' technical staff is also available to answer any questions that might arise concerning the installation or use of your Model 1104. Technical Support hours: **8AM to 5PM EST, Monday through Friday.**

Thank you for your purchase of this Patton Electronics product. This product has been thoroughly inspected and tested and is warranted for One Year parts and labor. If any questions or problems arise during installation or use of this product, please do not hesitate to contact Patton Electronics Technical Support at (301) 975-1007.

2.1 Features

- Asynchronous, RS-485 Operation
- Half Duplex over 2 wire lines
- Supports Data rates to 115Kbps
- Range up to 1.25 Miles (2km) over Dual Multimode Fiber
- ST Fiber Connectors

2.2 Description

The Model 1104 is a miniature, fiber optic converter that supports the connection of RS-485 devices over multi-mode fibers. The unit provides the capability of transmitting an RS-485 signals via a fiber optic link. The 1104 will be primarily used for data transmission in industrial and utility applications. The asynchronous data rate can be up to 115.2 Mbps in half-duplex mode. The miniature size of the Model 1104 allows it to fit in tight installation spaces. On the fiber side, the Model 1104 features ST connectors. The following versions of the 1104 are available:

1104M-ST/1104F-ST

- Dual multimode fiber with ST connections
- Male or Female DB25 connectors for RS-485 side



1104TB-ST

- Dual multimode fiber with ST connections
- Two position terminal block for RS-485 side



3.0 Installation

The Model 1104 is designed for 2-wire, asynchronous, half duplex communication. This section tells you how to connect and install the following:

- Model 1104F-ST/1104M-ST
- Model 1104TB-ST

Refer to the appropriate section on the following page to install your unit.

3.1 Power Connection

The Model 1104 comes with an AC power supply. The Model 1104 uses 9VDC, 500mA output, universal input power supply. The unit powers up as soon as it is plugged into an AC outlet. On Models 1104F-ST/1104M-ST, power can be supplied via the DB25 connector as indicated below. Using the Patton Model 3P-MF power supply adapter.

3.2 Installing the Model 1104F-ST/1104M-ST

1) Refer to the pin configuration below when assembling the cable that will connect to the DB25 connector.

<u>DB25 Pin Out</u>	<u>Function</u>
2	Data I/O -
14	Data I/O +
9	+9VDC
7	GND

2) Plug in the DB25 connector.

3) Connect the fiber optic cables to the TX Out and RX in connectors.

3.3 Installing the Model 1104TB-ST

- 1) Strip the outer jacket insulation from the twisted pair cable about 1 inch.
- 2) Strip back the insulation on each of the wires about .25 inches.
- 3) Connect the pair of wires to the + and - positions of the terminal block.
- 4) Connect the fiber optic cables to the TX Out and RX in connectors.



Appendix A Specifications

Transmission Line:	Dual multi-mode optical cable, optimized to work with 62.5/125 micron fiber-wavelength 850nm
RS-485 Interface:	DB-25F, DB-25M or Terminal Block DB-25: Pin 2, data I/O - ;Pin 14, Data I/O +
Transmission Mode:	Asynchronous, half duplex
Fiber Interface:	Dual ST connectors
Speed:	0-115Kbps
Range:	Up to 1.25 miles (2km)
Power Budget:	12dB with 62.5/125 fiber
Power:	External Universal Power Supply(100-250 VAC)
Compliance:	FCC Part 15, CE
Temperature:	0-50 C
Humidity:	5-95 percent, non-condensing
Dimensions:	3.55" x 2.1" x .8"

Appendix B Pin Out Configurations

<u>DB-25 Pin #</u>	<u>RS-485 Data</u>
2.....	data I/O -
14.....	data I/O +

<u>Terminal Block</u>	<u>RS-485 Data</u>
+.....	data I/O -
-.....	data I/O +

Fiber end is equipped with ST type fiber optic connectors

