

# USER MANUAL

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## MODEL 2100LC ValueMAU 10BaseT Transceiver/MAU



Part# 07M2100LC-A  
Doc# 063012UA  
Revised 5/24/94

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## 1.0 WARRANTY INFORMATION

**Patton Electronics** warrants all Model 2100LC 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 2100LC 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. If the Model 2100LC does cause interference to radio or television reception, which can be determined by disconnecting the power supply, 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 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 Service at **(301) 975-1007**. *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 2100LC. Technical Service hours: **8AM to 5PM EST, Monday through Friday.**

## 2.0 GENERAL INFORMATION

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 Customer Service at (301) 975-1007.

### 2.1 FEATURES

- Adapts an Ethernet AUI port to a 10BaseT UTP interface
- Compatible with IEEE 802.3 specifications
- Supports distances to 300 feet
- No AC power or batteries required
- Plugs directly into the AUI port
- Easy to install and operate
- Made in USA

### 2.2 DESCRIPTION

**The Patton Model 2100LC** is a low-cost 10BaseT transceiver/MAU that allows Ethernet AUI ports to communicate over twisted pair cable at distances up to 300 feet. Deriving power from the AUI interface, the Model 2100LC requires no AC power or batteries. It can be connected directly to a PC AUI port via a male DB-15 and to two twisted pair wire via an RJ-45 jack. The Model 2100LC is housed in a sturdy ABS plastic case measuring only 2" long x 1.68" wide 0.79" high.

Connecting directly to a DB-15 Ethernet AUI port, the Model 2100LC converts the 802.5 Ethernet electrical signals into signals that are compatible with the 802.3 twisted pair interface. The Model 2100LC then transmits this data back to the workstation. To ensure accuracy, an easily accessible SQE (Signal Quality Error) switch automatically detects and corrects any misread signals. In addition, the Model 2100LC will automatically correct a reversed polarity condition, and cease transmission if it detects a jabber condition.

### 3.0 INSTALLATION

The Model 2100LC can be connected to either the AUI port or the 10BaseT hub. Section 3.1 describes how to connect the Model 2100LC to an AUI port; Section 3.2 describes how to connect the Model 2100LC to the 10Base10 hub.

#### 3.1 CONNECTION TO THE AUI PORT

1. Turn off the computer or device to which the Model 2100LC is to be connected.
2. If the Model 2100LC is to be connected to the AUI port of an Ethernet interface card, turn the SQE switch ON. If the Model 2100LC is to be connected to the AUI port of an Ethernet hub or repeater, turn the SQE switch OFF.
3. Open the slide latch of the AUI port and insert the Model 2100LC into the DB-15. Lock the slide latch to secure the Model 2100LC in place. If the AUI port is mounted to a card, make sure the card is configured correctly so the AUI port will be enabled.

Note: If your AUI port connection is through a DB-15 cable, make sure the cable is wired STRAIGHT THROUGH, with at least the following signals being passed:

<u>AUI PORT</u>		<u>MODEL 2100LC</u>	
<u>Signal</u>	<u>Pin #</u>	<u>Pin #</u>	<u>Signal</u>
Data Out(+)	3 -----3		Data Out+
Data Out(-)	10-----10		Data Out-
Data In(+)	5 -----5		Data In+
Data In(-)	12-----12		Data In-
Collision In(+)	2 -----2		Collision In+
Collision In(-)	9 -----9		Collision In-

#### 3.2 CONNECTION TO THE 10BASET HUB

To connect the Model 2100LC to a 10BaseT hub, use an unshielded twisted pair cable—terminated with RJ-45 plugs—wired STRAIGHT THROUGH in the following manner:

<u>MODEL 2100LC</u>		<u>10BASETHUB</u>	
<u>Signal</u>	<u>Pin #</u>	<u>Pin #</u>	<u>Signal</u>
Transmit(+)	1 -----1		Transmit(+)
Transmit(-)	2 -----2		Transmit(-)
Receive(+)	3 -----3		Receive(+)
Receive(-)	6 -----6		Receive(-)

## 4.0 OPERATION

The Model 2100LC does not require any configuration or AC power, and its operation is completely transparent.

During operation, the Model 2100LC receives electrical signals from the 802.5 Ethernet. This transmission is then "double checked": the SQE feature sends a pulse back to the Ethernet to verify that all signals were received correctly. After verification, the Model 2100LC converts the original signals into new signals that are compatible with the 802.3 twisted pair interface. The new signals are then transmitted back to the workstation.

If the Model 2100LC is connected to an interface card, the SQE feature should be enabled (switch ON). If the Model 2100LC is connected to a hub or repeater, the SQE switch should be OFF.

## APPENDIX A SPECIFICATIONS

**Standard:** IEEE 802.3 compliant

**Connectors:** DB-15 male on AUI port, RJ-45 jack on 10BaseT twisted pair port

**Link Parameters:**

Duration between transmit link pulses: 8ms(min)/24ms(max)

Duration between receive link pulses: 3ms(min)/105ms(max)

**Collision Parameters:**

Collision signal ON/OFF delay (CI+/-): 900ns(max)

Collision to end of AUI loopback ON (DI+/-): 800ns (max)

Start of AUI loopback to end of collision: 100ns(max)

**Collision Parameters:**

Jabbering node isolated from network if jabber surpasses a 26ms transmit time. The jabber function will inhibit transmission (except for link pulses), discontinue AUI loopback, and send a collision signal on the AUI CI+/- circuit.

**Power Supply:** None required, uses power from AUI data signals

**Temperature Range:** 0-60°C (32-140°F)

**Altitude:** 0-15,000 feet

**Humidity:** Up to 95% noncondensing

**Dimensions:** 2.25"L x 1.69"H x 0.75"W

**Weight:** 1.5 oz.