

# USER MANUAL

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## MODEL 1200/1201 Synchronous Modem Eliminator



**PATTON**  
**Electronics Co.**



An ISO-9001  
Certified  
Company

P/N: 07M1200-C  
Doc# 049011U,  
Rev. D  
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SALES OFFICE  
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TECHNICAL SUPPORT  
(301) 975-1007

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## 1.0 WARRANTY INFORMATION

**Patton Electronics** warrants all Model 1200/1201 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.

### 1.1 WARRANTY STATEMENT

**Patton Electronics** warrants all Model 2701RC Series 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. This product contains no serviceable parts; therefore the user shall not attempt to modify the unit in any way. 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. In the event the user detects intermittent or continuous product malfunction due to nearby high power transmitting radio frequency equipment, the user is strongly advised to use only data cables with an external outer shield bonded to a metal or metalized connector.

### 1.2 RADIO AND TV INTERFERENCE

The Model 1200/1201 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 1200/1201 has been tested and found to comply with the limits for a Class A computing device in accordance with specifications in Subpart B 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 1200/1201 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).

### 1.3 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.



**Caution**

**This device is not intended to be connected to the public telephone network.**

### 1.4 SERVICE

All warranty and nonwarranty 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 Services at:

- Tel: **+1 (301) 975-1007**
- Email: **support@patton.com**
- URL: **http://www.patton.com**

**Note** Packages received without an RMA number will not be accepted.

## 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 contact Patton Electronics Customer Service at (301) 975-1007.

### 2.1 FEATURES

- Smallest synchronous modem eliminator available
- Data rates to 38.4 Kbps
- Synchronous cable runs to 300 feet on each side of device
- Constant or RTS controlled carrier selections
- RTS-CTS delay options of 0mS, 6.6mS or 53mS
- DB-25 connector on each end
- Half or full duplex
- Internal or external clocking
- No external power required
- LEDs monitor data and control signals (Model 1201 only)

### 2.2 DESCRIPTION

Measuring only 5.3 x 2 x 1.2 inches, **the Patton Model 1200** is the smallest self-powered synchronous modem eliminator on the market. All power is derived from the RS-232 data signals, so no AC power or batteries are required. Constructed with a DB-25 connector on each end, the Model 1200 can extend synchronous cable runs to 300 feet on each side of the device. Optimum distance is achieved at 9600 bps, and strap selectable data rates may extend up to 38,400 bps.

The Model 1200 provides internal or external clock options and operates half or full duplex. To emulate dial-up or dedicated service, the delay between RTS and CTS can be set to either 0mS, 6.6mS or 53mS. The carrier can be configured either as "constantly on" or "controlled by RTS".

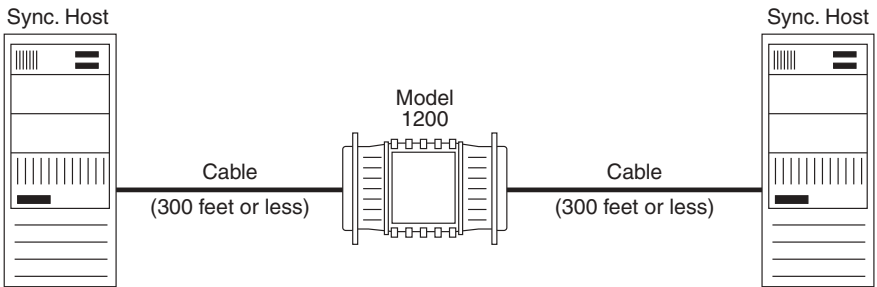
The Model 1201 has all the features of the Model 1200, plus LED indicators that monitor receive data, request to send and data carrier detect on each side of the device.

### 3.0 INSTALLATION

Do the following to install the Patton Model 1200:

1. Configure according to the instructions listed in section 4.0, "Configuration" on page 7.
2. Turn off the computer or device to which the Model 1200 is to be connected.
3. Plug the DB-25 connectors directly into the serial ports of your RS-232 devices. If you wish to extend the distance, you can add cables on both sides (see Figure 1).

**Note** Cables must not be longer than 300 feet (see Figure 1).



**Figure 1.** Configuration

## 4.0 CONFIGURATION

The Model 1200 is equipped with four strapping options that allow configuration to a wide range of applications. To gain access to the internal straps, loosen the hex nuts on the DB-25 connectors and pry open the case between the plastic shell ears. Figure 2 shows the location of each strapping option.

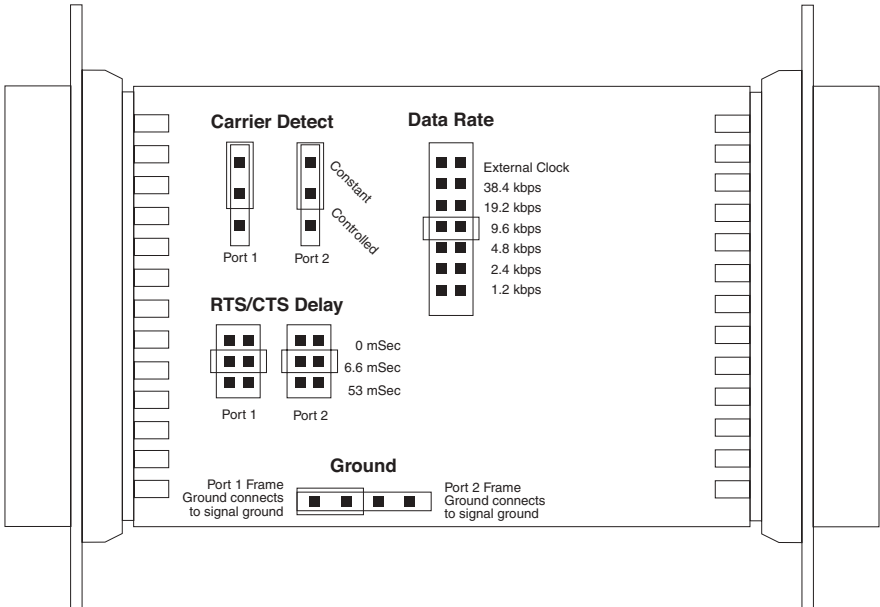


Figure 2. Strap settings for the Model 1200/1201

### 4.1 DATA RATE

The data rate strap controls the rate at which data is transmitted. Adjust the strap to select one of the following options: 1.2, 2.4, 4.8, 9.6, 19.2, 38.4 or external clocking. If "external clocking" is selected, the Model 1200 will automatically match the clocking between your two synchronous devices. The default setting is 9.6 Kbps.

### 4.2 CARRIER DETECT

The carrier detect straps allow you to determine whether the carrier is "constantly on" or "controlled by RTS". By adjusting the strap, you may operate in switched carrier, multi-point and/or hardware handshaking applications. Port 1 and port 2 may be configured separately. The default setting is "on" for both ports.

### **4.3 RTS/CTS DELAY**

The RTS/CTS delay straps determine the amount of delay between the time the Model 1200 “sees” RTS and when it sends CTS. In order to emulate either dial-up or leased line modems, you can set this strap at either no delay, 6.6mS or 53mS. Port 1 and port 2 may be configured separately. The default setting is 6.6mS for both ports.

### **4.4 GROUND**

The ground strap setting connects the protective ground from port 1 or 2 to the Model 1200’s signal ground. The default setting is port 1.

## 5.0 OPERATION

Once you have configured the Model 1200 properly (see section 4.0, “Configuration” on page 7) and plugged it into your equipment, you are ready to operate the unit. After the Model 1200 is properly installed, it should operate transparently—as if it were a standard cable connection. Operating power is derived from the RS-232 data and control signals; there is no “ON/OFF” switch.

### 5.1 LED STATUS INDICATORS (MODEL 1201 ONLY)

The Model 1201 features six front panel status LEDs that indicate the condition of the modem eliminator and the communication link. The diagram below shows the location of each of these LEDs. Following the diagram is a description of each LED's function.

- “**TD**” and “**RTS**” indicators blink with data activity.
- “**CD**” lights for an incoming signal on the line side and the resulting output signal on the RS-232.

## **APPENDIX A**

### **SPECIFICATIONS**

#### **A.1 DATA RATES**

Selectable: 1200, 2400, 4800, 9600, 19200, 38400

#### **A.2 CLOCKING**

Internal or external

#### **A.3 GROUNDING**

Protective ground (pin 1) may be strapped to signal ground (pin 7)

#### **A.4 RANGE**

300 feet on either side (for a total of 600 feet) at 9600 bps, range extends linearly for lower bit rates and decreases for higher bit rates

#### **A.5 FUNCTIONAL**

Emulates half or full duplex, dial-up or dedicated line

#### **A.6 RTS/CTS DELAY**

Selectable per port: 0mS, 6.6mS, 53mS

#### **A.7 DCD**

Selectable per port: continuous or RTS controlled

#### **A.8 RING INDICATOR**

Constantly on

#### **A.9 INTERFACE**

EIA RS-232C/CCITT V.24

#### **A.10 CONNECTORS**

Choice of two male or two female DB-25 RS-232 connectors

#### **A.11 POWER SUPPLY**

None required

#### **A.12 ALTITUDE**

0 to 10,000 feet

#### **A.13 HUMIDITY**

Up to 95% non-condensing

#### **A.14 DIMENSIONS**

Approximately 5.3 x 2 x 1.2 in.



Dear Valued Customer,

Thank you for purchasing Patton Electronics products! We do appreciate your business. I trust that you find this user manual helpful.

We manufacture one of the widest selections of data communications products in the world including CSU/DSU's, network termination units, powered and self-powered short range modems, fiber optic modems, interface converters, baluns, electronic data switches, data-line surge protectors, multiplexers, transceivers, hubs, print servers and much more. We produce these products at our Gaithersburg, MD, USA, facility, and can custom manufacture products for your unique needs.

We would like to hear from you. Please contact us in any of the following ways to tell us how you like this product and how we can meet your product needs today and in the future.

Web: <http://www.patton.com>  
Sales E-mail: [sales@patton.com](mailto:sales@patton.com)  
Support E-mail: [support@patton.com](mailto:support@patton.com)  
Phone - Sales (301) 975-1000  
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We are committed to a quality product at a quality price. Patton Electronics is ISO 9001 certified. We meet and exceed the highest standards in the industry (CE, UL, etc.).

It is our business to serve you. If you are not satisfied with any aspect of this product or service provided by Patton Electronics or its distributors, please let us know.

Thank you.

Burton A. Patton

Vice President

P.S. Please tell us where you purchased this product.

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