

# USER MANUAL

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## MODEL 51X Series 513, 514, 516, 518 RS-232 and RS-422 Multi-Port Surge Protectors



**PATTON**  
Electronics Co.



An ISO-9001  
Certified Company

Part# 07M51XA  
Doc# 074271U,  
Rev. B  
Revised 1/21/08

SALES OFFICE  
(301) 975-1000  
TECHNICAL SUPPORT  
(301) 975-1007  
<http://www.patton.com>

## 1.0 WARRANTY INFORMATION

**Patton Electronics** warrants all Model 51X 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. 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 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 Service at **(301) 975-1007**; <http://www.patton.com>; [support@patton.com](mailto:support@patton.com).

**Notice:** 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 51X. Technical Service hours: **8AM to 5PM EST, Monday through Friday.**

### 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 Union European (EU). A Certificate of Compliance is available by contacting Technical Support.

## 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 you have any questions about this product, please call Patton Electronics Technical Support at: **(301) 975-1007; support@patton.com; or, <http://www.patton.com>.**

### 2.1 FEATURES

- Guards 4, 6, 8 or 12 RS-232 (Model 51X/25) or RS-422/RS-485 (Model 51X/6) ports simultaneously
- Each protector has an RJ-45 input port and an RJ-45 output port
- Surge handling capability of up to 1.5KW
- Data Rates to 230 kbps
- Surge energy is diverted to ground through a braided metal strap
- Compact design perfect for hosts, servers or multiport devices
- Made in the U.S.A.

### 2.2 DESCRIPTION

The Patton Model 51X Series is built to answer the question of how to provide transient protection for multiple RS-232 or RS-422/RS-485 ports spaced closely together on a twisted pair terminal server. It is a very compact box that houses 4, 6, 8, or 12 surge protectors in a high-density array. Matching input and output ports on the front and rear panels allow the Model 51X Series to conveniently connect in-line with each port on your terminal server.

All versions of the Model 51X support data rates of up to 230 kbps. Harmful data line transients on the hub ports are diverted directly to chassis ground through the use of a solid state hybrid circuit. The Model 51X is able to handle repeated surges up to 1.5KW without a degradation in performance. Most importantly, the Model 51X protects transparently and will not slow down your network applications.

**Warning**—Should your equipment or building be subject to a direct lightning strike, this product will not provide complete protection.

### 3.0 INSTALLATION

Take these 4 steps to install your Patton Model 51X.

**Note:** Make sure you follow the installation instructions exactly. If the suppressor is improperly installed, the current-limiting feature could be rendered inoperable.

1. Disconnect the RJ-45 terminated network cables from your terminal server.
2. Connect your network cables to an input port on your Model 51X. Since the Model 51X provides bidirectional protection, the front or rear ports can be used as the input from your network.
3. Using the RJ-45 cables provided, connect each of the output ports to an input port of your terminal server. Note that the 51X features a **straight through** design. Data entering the terminal server protector at an RJ-45 input will leave the protector at the RJ-45 output that is located directly behind it.
4. Connect the braided metal strap on the Model 51X to a nearby chassis ground. In industrial applications, the ground strap can be removed from the terminal post to allow alternative ground connections to be added. If you are not sure of the proper grounding for your Model 51X, please contact Patton Electronics Technical Service at: **(301) 975-1007**; <http://www.patton.com>; or [support@patton.com](mailto:support@patton.com).

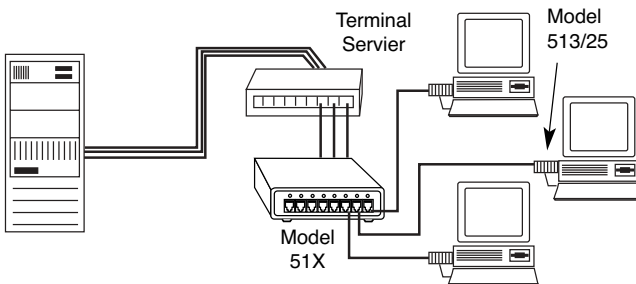


Figure 1. How to Connect the Model 51X

**NOTE:** We highly recommend that you use a surge protection device at both ends of your RS-232 or RS-422/RS-485 ports.

## **APPENDIX A**

### **PATTON MODEL 51X SPECIFICATIONS**

#### **General**

##### **Models 514/6 and 514/25**

**Protection:** Four port  
**Connectors:** Eight female RJ-45

##### **Models 516/6 and 516/25**

**Protection:** Six port  
**Connectors:** Twelve female RJ-45

##### **Model 518/6 and 518/25**

**Protection:** Eight port  
**Connectors:** Sixteen female RJ-45

##### **Model 513/6 and 513/25**

**Protection:** Twelve port  
**Connectors:** Twenty Four female RJ-45

#### **General Specifications**

**Note:** The following specifications apply to each port on the Model 514, 516, 518 and 513.

##### **RS-232**

**Clamping Voltage:** 20 Volts in 0.6  $\mu$ sec (**Model 51X/6**)

##### **RS-422/RS-485**

**Clamping Voltage:** 11 Volts in 0.6  $\mu$ sec (**Model 51X/25**)

##### **Surge Capacity:**

1500 Watts for 1msec  
400A with a 8/20usec pulse

##### **Compliance:**

CE marked for EMC directive 89\336\EEC (ESD/EFT). Compliant with IEC 801-5 (surge)

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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:	<a href="http://www.patton.com">http://www.patton.com</a>
Sales E-mail:	<a href="mailto:sales@patton.com">sales@patton.com</a>
Support E-mail:	<a href="mailto:support@patton.com">support@patton.com</a>
Phone - Sales	(301) 975-1000
Phone - Support	(301) 975-1007
Fax:	(301) 869-9293
Mail:	Patton Electronics Company 7622 Rickenbacker Drive Gaithersburg, MD 20879 USA

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.).

Please contact us and let us know how we may provide you with the answers to your needs.

Thank you.

Burton A.Patton  
Vice President

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

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