

USER MANUAL

MODEL 552 Series High Speed Telco Surge Protectors



PATTON
Electronics Co.



An ISO-9001
Certified Company

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SALES OFFICE
(301) 975-1000
TECHNICAL SUPPORT
(301) 975-1007
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1.0 WARRANTY INFORMATION

Patton Electronics warrants all Model 552 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 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**; <http://www.patton.com>; or, support@patton.com.

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

Patton Electronics' technical staff is also available to answer any questions about the installation or use of your Model 552. Technical Service hours are: **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 while installing or using this product, please do not hesitate to contact Patton Electronics Technical Support at (301) 975-1007.

2.1 FEATURES

- Uses a multi-stage hybrid circuit for the best possible protection
- Handles surge energy up to 1.5 kW
- Conforms to the UL497A telco specification (except E1 versions)
- Available for ISDN-U (8-wire), ISDN-ST (4-wire), T1, E1, ISDN PRI, DDS, leased line and dial up configurations
- Diverts surges directly to chassis ground through braided metal ground strap
- Equipped with two RJ-45 jacks or four BNC connectors
- Easy to install
- Made in the U.S.A.

2.2 DESCRIPTION

The potential threats to ISDN and Telco hardware are vast: lightning, AC power induction, electrostatic discharge, ground potential differences, EMI/RFI interference and more. The Patton Model 552 has been designed to greatly reduce these risks. Just attach one unit to each of your telco ports and rest easy.

The Model 552 connects directly between twisted pair telco cables and their respective I/O ports. Grounding is accomplished using an external ground strap that provides a separate unit-ground to chassis-ground connection. By shunting threatening voltages directly to chassis ground, the Model 552 insures data integrity and protects connected equipment from damage.

The Model 552 uses a solid state design and sophisticated multistage hybrid circuits to achieve maximum protection without performance loss. Eight versions are available: Model 552-ST, 552-D8, and 552-L8 protect all 8 pins; Model 552-D6 protects six pins; Models 552-DDS, 552-D4, 552-U, 552-L4, 552-E1, 552-E1 CX, and 552-T1 protect four pins; and, Model 552-D2 protects two pins. All versions provide up to 1500 Watts of data line protection.

NOTE: Model 552-L8 may be used to protect Leased Line, DDS, T1, E1, ISDN PRI, and ISDN BRI "U" and "ST" interfaces.

WARNING!: This product will not provide complete protection should your equipment or building be subject to a direct lightning hit.

3.0 INSTALLATION

Patton's Model 552 is easy to install and should give you years of trouble-free service. Here are a few simple instructions to help you get things hooked up right.

1. Unplug (disconnect) the existing connection between the network cable and the equipment's I/O port.
2. Install the Model 552 between the incoming network cable and the protected equipment using the 6 inch (15.2cm.) modular patch cable (supplied). Place the surge protector as close as possible to the device being protected.

NOTE: To ensure proper operation of the Model 552, make sure that your equipment is connected to the protected side of the Model 552. See Figure 1 below.

NOTE: The Model 552-E1 CX has two pairs of BNC jacks that connect one to one through the device. See Figure 2 below.

3. Connect the braided ground strap directly to a chassis ground connection on the protected device. If you are not sure where to locate a chassis ground connection on your equipment, consult the equipment's user manual or contact the manufacturer. Correct ground connection is critical for proper operation of the Model 552.

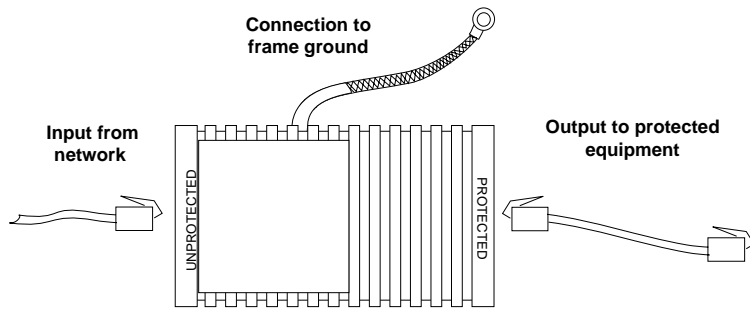


Figure 1. How to Connect the Model 552

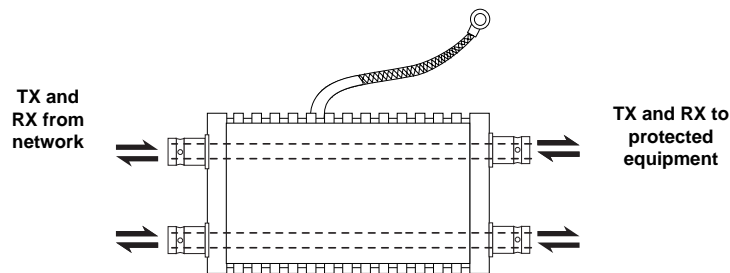


Figure 2. Model 552-E1CX One to One Connection

APPENDIX A

MODEL 552 SPECIFICATIONS

General

Series Resistance:	0.340 Ohms
In Line Fuse Rating:	250V, 3/4A, 2.95 (A ² sec) Nominal Melting Point
Approvals:	UL497A Telco Specification (except E1 versions) CE (EMC Directive/EN 50082-1)
Connectors:	Two female RJ-45 or 4 BNC jacks

Model 552-DDS

Pins Protected:	Pins 1, 2, 7, 8
Clamping Voltage:	62 Volts in 500 nsec
Surge Capacity:	1500 Watts for 1 msec; 400A with an 8/20 μsec pulse
Protection Mode:	Common Mode Pins 1, 2, 7, 8 to shielding braid Differential Mode Pins 1, 2, 7, 8

Model 552-D2

Pins Protected:	Pins 4, 5 on the RJ-45 Interface; Pins 3, 4 on the RJ-11 Interface
Clamping Voltage:	310 Volts in 500 nsec
Surge Capacity:	1500 Watts for 1 msec; 250A with an 8/20 μsec pulse
Protection Mode:	Common Mode Pins 4, 5 to shielding braid Differential Mode Pins 4, 5

Model 552-D4

Pins Protected:	Pins 3, 4, 5, 6 on the RJ-45 Interface Pins 2, 3, 4, 5 on the RJ-11 Interface
Clamping Voltage:	310 Volts in 500 nsec
Surge Capacity:	1500 Watts for 1 msec; 250A with an 8/20 μsec pulse
Protection Mode:	Common Mode Pins 3, 4, 5, 6 to shielding braid Differential Mode Pins 3, 4, 5, 6

Model 552-D6

Pins Protected: Pins 2, 3, 4, 5, 6, 7 on the RJ-45 Interface
Pins 1, 2, 3, 4, 5, 6 on the RJ-11 Interface
Clamping Voltage: 310 Volts in 500 nsec
Surge Capacity: 1500 Watts for 1 msec;
250A with an 8/20 μ sec pulse
Protection Mode: Common Mode Pins 2, 3, 4, 5, 6, 7 to
shielding braid
Differential Mode Pins 2, 3, 4, 5, 6, 7

Model 552-D8

Pins Protected: Pins 1, 2, 3, 4, 5, 6, 7, 8
Clamping Voltage: 310 Volts in 500 nsec
Surge Capacity: 1500 Watts for 1 msec;
250A with an 8/20 μ sec pulse
Protection Mode: Common Mode Pins 1, 2, 3, 4, 5, 6, 7, 8 to
shielding braid
Differential Mode Pins 1, 2, 3, 4, 5, 6, 7, 8

Model 552-T1 and 552-E1

Pins Protected: Pins 1, 2, 4, 5
Clamping Voltage: 62 Volts in 500 nsec
Surge Capacity: 1500 Watts for 1 msec;
400A with an 8/20 μ sec pulse
Protection Mode: Common Mode Pins 1, 2, 4, 5 to shielding
braid
Differential Mode Pins 1, 2, 4, 5

Model 552--E1 CX

Pins Protected: All shields and center pins
Clamping Voltage: 62 Volts in 500 nsec
Surge Capacity: 1500 Watts for 1 msec;
400A with an 8/20 μ sec pulse
Protection Mode: Common Mode Center Pins and Shield to
shielding braids
Differential Mode Center Pins to Shields

Model 552-L4 and 552-U

Pins Protected: Pins 3, 4, 5, 6
Clamping Voltage: 62 Volts in 500 nsec
Surge Capacity: 1500 Watts for 1 msec;
400A with an 8/20 μ sec pulse
Protection Mode: Common Mode pins 3, 4, 5, 6 to shielding
braid
Differential Mode Pins 3, 4, 5, and 6

Model 552-L8* and 552-ST

Pins Protected: Pins 1, 2, 3, 4, 5, 6, 7, 8
Clamping Voltage: 62 Volts in 500 nsec
Surge Capacity: 1500 Watts for 1 msec
400 A with an 8/20 μ sec pulse
Protection Mode: Common Mode pins 1, 2, 3, 4, 5, 6, 7, 8 to
shielding braid
Differential Mode Pins 1, 2, 3, 4, 5, 6, 7, 8

***NOTE:** In addition to protecting leased line modem interfaces, the Model 552-L8 may also be used to protect DDS, T1, E1, ISDN PRI, and ISDN BRI "U" and "ST" interfaces.

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
Support E-mail: support@patton.com
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We are committed to a quality product at a quality price. Patton Electronics is BABT and 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 the service provided from 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.
