DPoE™ Compact 8 Midspan

User Manual

For DPOE8S2XG

Part # PN424E
Published October 2008

SAFETY WARNING

Always observe standard safety precautions during installation, operation and maintenance of this product. Read the installation instructions before connecting the unit to its power source. There are no user serviceable parts inside the unit. To avoid the possibility of electric shock, the user should not perform any adjustment, maintenance or repairs to an opened unit. Do not work on the product or connect or disconnect cables during periods of lightning activity. Ultimate disposal of this product should be handled according to all national laws and regulations.

WARRANTY

Unless otherwise specified, all products presented in this user's guide are warranted against defects in material and workmanship for a period of one year from the date of sale to the initial purchaser. *PANDUIT* Corp. warrants that its firmware designed by *PANDUIT* Corp. for use with the product will execute its functions when properly installed in the product for one year from the date of sale to the initial purchaser. *PANDUIT* Corp. does not warrant that the operation of the product or the firmware will be uninterrupted or error-free. During the warranty period *PANDUIT* Corp. will, at its discretion, either repair or replace products that prove to be defective. For warranty service or repair, the product claimed to be defective must be returned to a service facility designated by *PANDUIT* Corp. Buyer shall prepay all the shipping charges to *PANDUIT* Corp. and if, in the opinion of *PANDUIT* Corp., the product is defective, *PANDUIT* Corp. shall pay shipping charges to return the product to Buyer. However, Buyer shall pay all shipping charges, duties and taxes for products returned to *PANDUIT* Corp. from another country.

The products presented in this user's guide are not designed, intended, authorized or warranted to be suitable for use as components in systems used in any life support or critical applications, including but not limited to, any applications intended to support or sustain life, any medical applications, any systems used for commercial transportation or nuclear facilities or any other applications where product failure could lead to personal injury, death or catastrophic property damage. Accordingly, *PANDUIT* Corp. disclaims any and all liability arising out of the use of the products in any life support or critical application. If buyer uses the product in any life support or critical application, buyer, and not *PANDUIT* Corp, assumes full responsibility for such use. Further, *PANDUIT* Corp. reserves the right to refuse to service any product used in any life support or critical application, and disclaims any and all liability arising out of the *PANDUIT'S* service or refusal to service such product.

The foregoing warranty shall not apply to defects resulting from, buyer-supplied firmware or unauthorized interfacing, modification or misuse of the product, operation outside of the environmental specifications for the product, or improper or inadequate site preparation or maintenance by Buyer.

NO OTHER WARRANTY IS EXPRESSED OR IMPLIED. *PANDUIT* CORP. SPECIFICALLY DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

THE REMEDIES PROVIDED HEREIN ARE BUYER'S SOLE AND EXCLUSIVE REMEDIES. *PANDUIT* CORP. SHALL NOT BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, WHETHER BASED ON CONTRACT, TORT OR OTHER LEGAL THEORY.

Unless otherwise specified by *PANDUIT* Corp., opening of this product by unauthorized personnel will void this warranty.

TRADEMARKS

DPoE™ and *Ultimate ID*® are trademarks of *PANDUIT* Corp. All other trademarks are the property of their respective owners.

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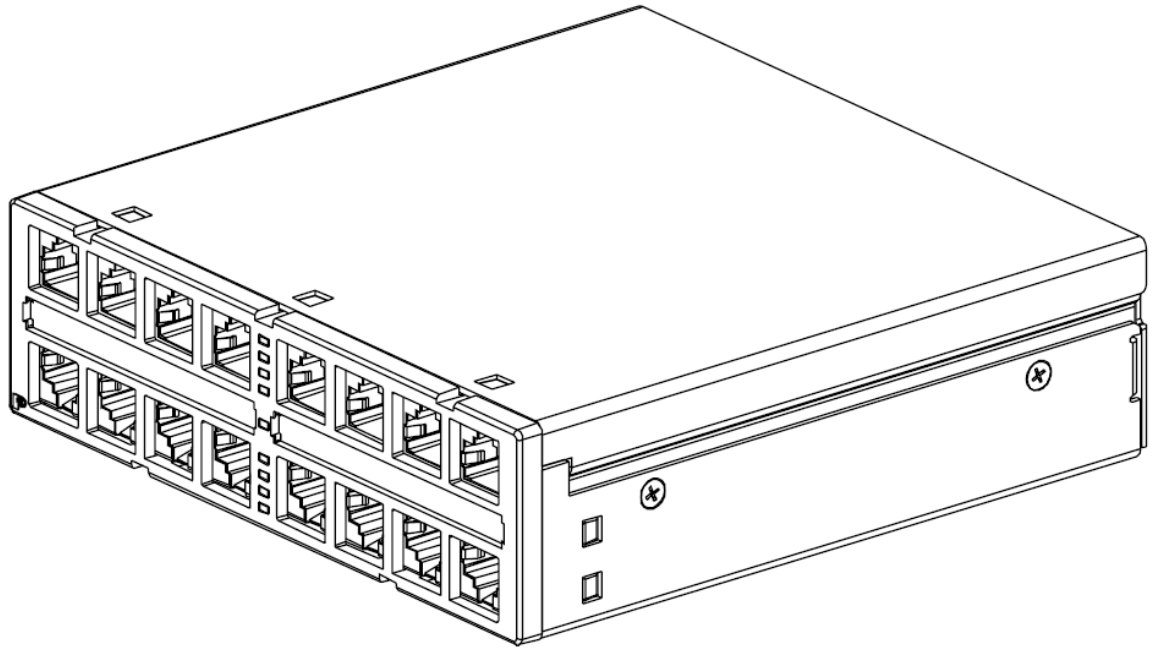
OVERVIEW

The *DPoE™* Compact 8 Midspan provides a reliable and cost-effective solution for Power over Ethernet (PoE) applications, complaint with the IEEE 802.3af-2003 specification and beyond. Each *DPoE™* Compact 8 Midspan allows centralized powering of up to 8 devices, such as Internet Protocol-based (IP) telephones, Network Security Cameras, or Wireless Access Points, over the same cabling used to provide the Ethernet connectivity. By eliminating separate power connections to each of the devices, the *DPoE™* Compact 8 Midspan provides a more scalable, cost-effective solution, particularly in cases where local powering is impractical.

The *DPoE™* Compact 8 Midspan may be used as a standalone device. It can also be configured and monitored from a centralized *PANDUIT® DPoE™* Element Manager software tool. This management system allows network operators to remotely perform routine maintenance and monitoring of any *DPoE™* Compact 8 Midspans in their network. The *DPoE™* Element Manager allows operators to graphically view and monitor *DPoE™* device status, fault conditions and per-port power consumption. In addition, the *DPoE™* Element Manager allows the operator to designate power priority to individual ports within each *DPoE™* device. This vertical capability allows the *DPoE™* Element Manager pre-configured information to guarantee that mission-critical devices remain operational in the event of low-power conditions. The *DPoE™* Compact 8 Midspan can also be easily integrated into higher-level Network Management System (NMS) through the available management information base (MIB).

NOTE:	*DPoE™* Compact 8 Midspan cannot be used for analog or non-Ethernet devices.

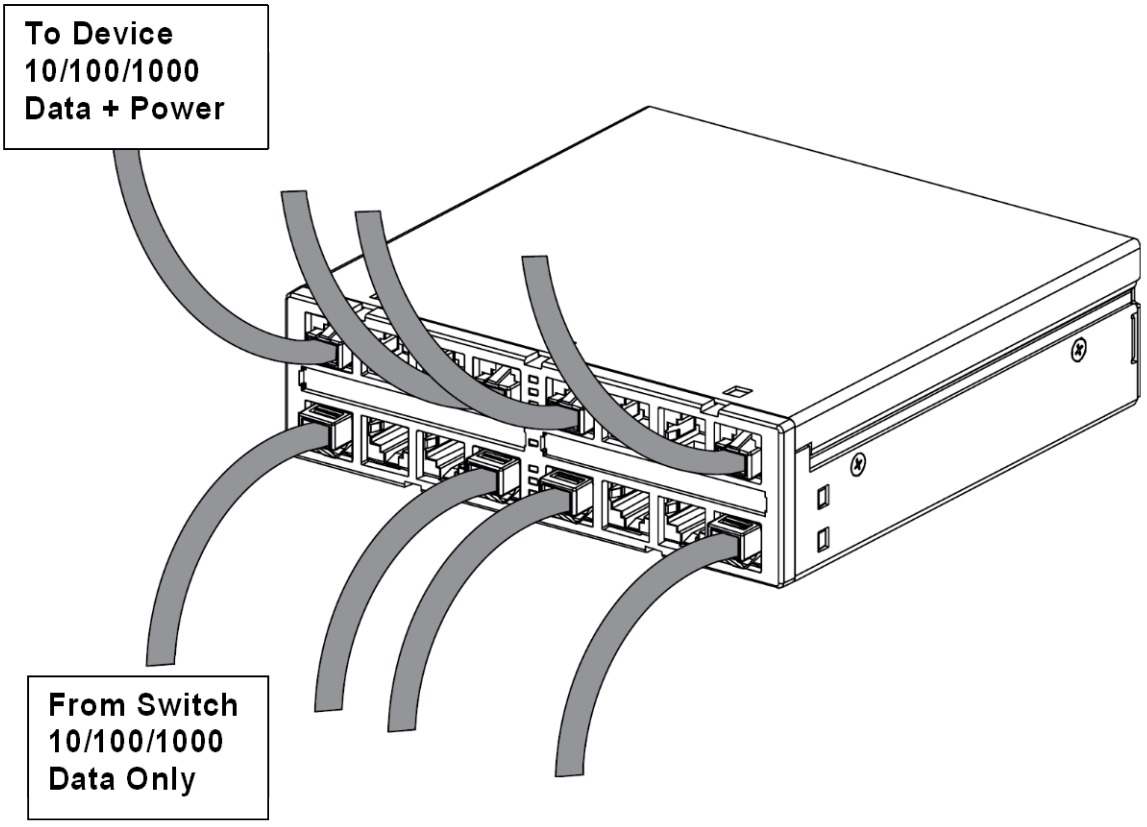


Features and Benefits

The following table highlights some of the capabilities of the *DPoE™* Compact 8 Midspan along with the tangible benefit to the network operator.

***DPoE™* Compact 8 Midspan Feature**	**Benefit**
Provides PoE power for up to 8 devices from a convenient centralized location.	By using PoE, a network operator can cost-effectively deliver power to PoE powered devices (PD) up to 100 m (328 ft.) from the *DPoE™* Compact 8 Midspan. Powering from a centralized location removes the need to power each device separately, eliminates the need for separate Uninterruptible Power Supply (UPS) for critical devices, and enables centralized power management by the network operator.
IEEE 802.3af-2003 Compliant	Many currently available PoE powering options are not standards-based, thus requiring coordination between each device's power needs and the technical capabilities of the in-line powering unit.
Support for 802.3af-2003 standard	Any port on the *DPoE™* Compact 8 Midspan can support the 802.3af-2003 standard powering scheme. Ethernet devices that do not require PoE powering may also be mixed in the same power midspan.
1 GbE data transmission rate. (10/100/1000)	Beyond the current IEEE 802.3af-2003 standard the *DPoE™* Compact 8 Midspan supports a 1 GbE data transmission rate. (10/100/1000)
Full IEEE 802.3af-2003 power to all ports plus DOUBLE the power headroom as required	All ports on the power midspan are capable of delivering the full PoE power specified by the IEEE 802.3af-2003 standard (15.4 Watts at the PSE). The *DPoE™* Compact 8 Midspan has plenty of power headroom enabling it to supply DOUBLE the power at every port (up to 32 Watts), which is well beyond what the standard specifies.
Increased System Reliability through efficient thermal design	The *DPoE™* Compact 8 Midspan does not require the use of an internal fan. Fans can reduce the system reliability.
Power Prioritization using the *DPoE™* Element Manager	In the event of a power lag or interruption a Network Management System (NMS) monitoring the power midspan can execute pre-established port priorities to ensure mission-critical ports on the network continue to receive PoE power as long as possible when backed-up through a UPS (Uninterruptible Power Supply).

Easier Local Management using visual prompts	Multi-colored LEDs on the *DPoE™* Compact 8 Midspan allow technicians to instantly know the status of each port. Additional LEDs indicate management and power midspan status. *Ultimate Identification®* labels on the front the system allow the technician to note the device number, the port number and wiring scheme information for both the Switch and Powered Device sides of the power midspan.
Easier Remote Management using the bundled *DPoE™* Element Manager	The *DPoE™* Element Manager allows network operators to easily view and manage a network of *DPoE™* Compact 8 Midspans using the industry standard Simple Network Management Protocol (SNMP) to exchange management information between network devices.
Easier Installation	The *DPoE™* Compact 8 Midspan is fast and easy to install permitting entry-level deployments to scale up as the user's needs grow.



The *DPoE™* Compact 8 Midspan supports standard IEEE 802.3af-2003 devices.

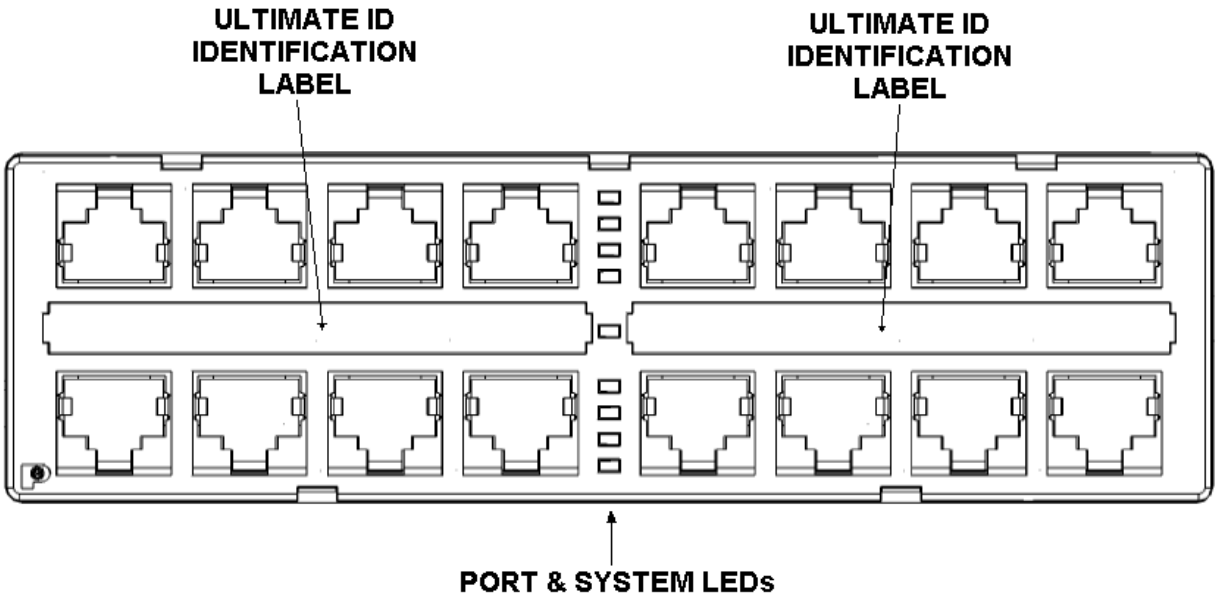


Figure 1a: *DPoE*™ Compact 8 Midspan (Front View)

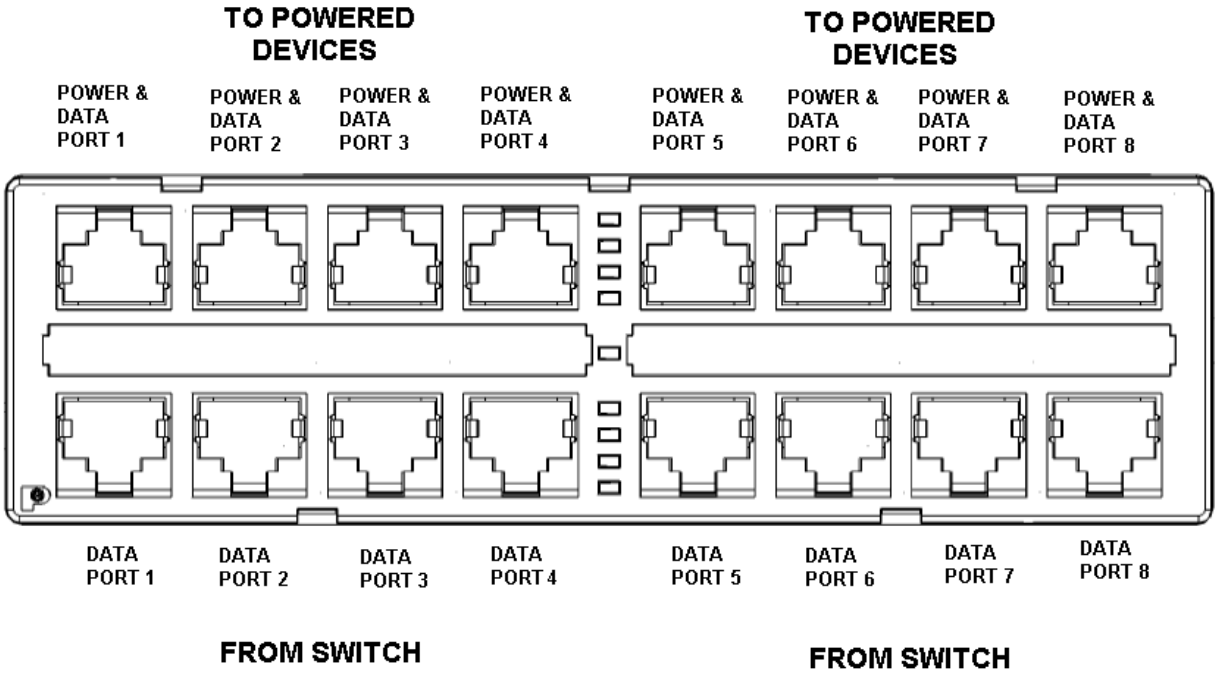


Figure 1b: *DPoE*™ Compact 8 Midspan (Front View)

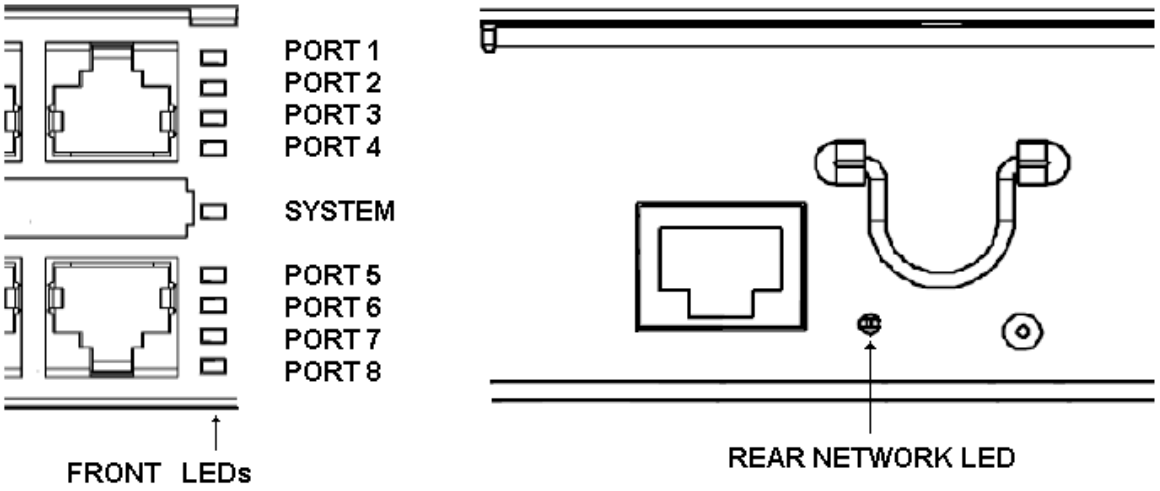


Figure 1c: *DPoE*™ Compact 8 Midspan (Front and Rear LED Detail)

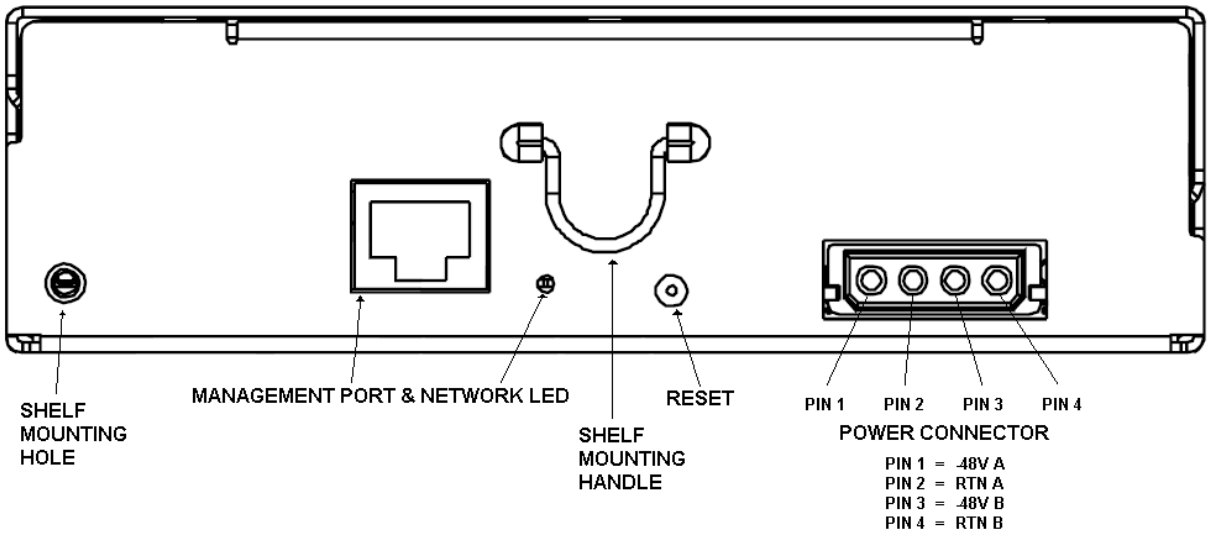


Figure 2: *DPoE*™ Compact 8 Midspan (Rear View)

INSTALLATION

The *PANDUIT® DPoE™* Compact 8 Midspan requires a direct connection to a nominal 48VDC supply. An individual power supply is available separately from *PANDUIT* (Part # DPOEPWRB120Y). Installation instructions for the available power supply are included with that product. *PANDUIT* Corp. provides the user with the flexibility to select multiple power supply product options tailored to their specific needs. Please refer to the section in this User Guide describing Powering Requirements for a complete selection of available Power Supplies.

WARNING:	Only trained and qualified service personnel should install or service *DPoE™* Compact 8 Midspans

WARNING:	Before installing or servicing *DPoE™* Compact 8 Midspans or communication wiring, be aware of the hazards with the associated electrical circuitry.

DPoE™ Compact 8 Midspan Shipping Package Contents

Each *DPoE™* Compact 8 Midspan is shipped in a box, which includes the following:

Table 1: *DPoE™* Compact 8 Midspan Package Contents

Item	Quantity	Notes
DPoE™ Compact 8 Midspan	1	
DPoE™ Compact 8 Midspan Installation Instructions	1	Part # PN420
DPoE™ Compact 8 Midspan Installation Worksheet	1	Part # PN377
DPoE™ Compact 8 Midspan Support Tools CD-ROM	1	Includes *DPoE™* Element Manager software. *DPoE™* Compact 8 Midspan Users Guide (PN424)
Ultimate ID labels 4 position blank	2	Four position, blank, write-on labels for easy port identification. Replacement labels P/N UIWOL4
Ultimate ID covers 4 position clear	2	Four position, clear, label covers to protect the port labels. Replacement covers P/N UILC4C
Power Connector with 10’ conductor leads for connection to a 48 volt DC power supply	1	For optional use terminating the power connection of the power midspan to a DPOE Power System Chassis.
Butt Splice, 16-14 AWG, vinyl insulated	2	Part # BSV14X for connecting the optional power connector leads.
Self Adhesive Feet	4	For tabletop installation use the included four self-adhesive feet.

Verify the above contents arrived in good condition. If not, contact *PANDUIT* Customer Service by phone at 800-777-3300.

Physical Mounting Options

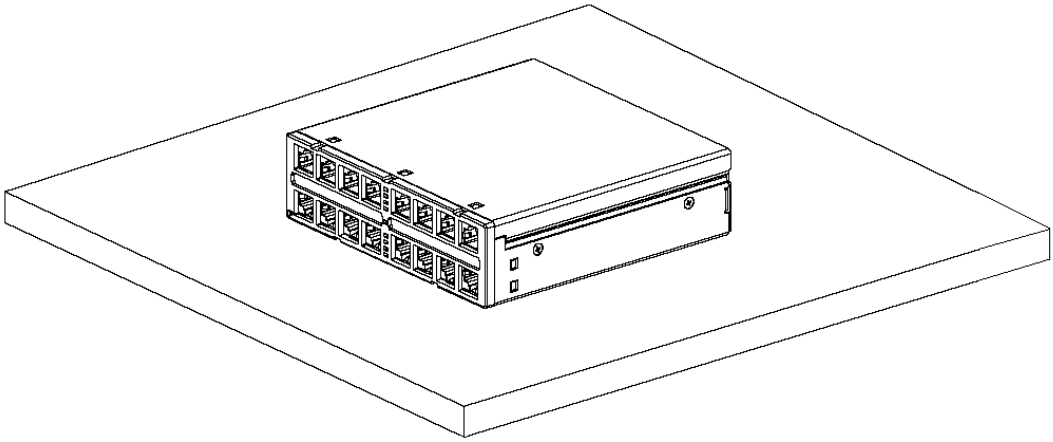


Figure 3: *DPoE™* Compact 8 Midspan (Table Top View)

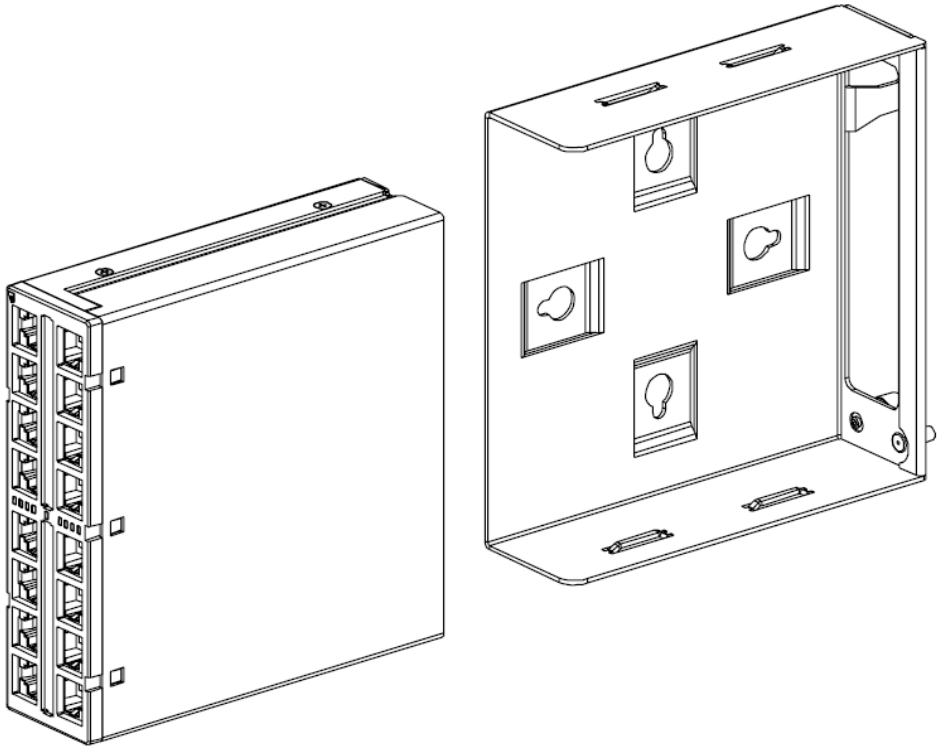


Figure 4: *DPoE™* Compact 8 Midspan shown with optional Wall Mount Bracket

The *DPoE™* Compact 8 Midspan Wall Mount Bracket is available separately from *PANDUIT* (Part # DPOEWM8B).

ATTENTION:	Observe precautions for handling electrostatic sensitive electronic devices when installing this product. Ensure that you are properly grounded with a wrist strap or equivalent while making connections to this product. Never make any connections to product when power is being applied.

DPoE™ Compact 8 Midspan Wall Mount Shipping Package Contents

Each *DPoE*™ Compact 8 Midspan Wall mount (Part # DPOEWM8B) is shipped in a box, which includes the following:

Table 2: *DPoE*™ Compact 8 Midspan Wall Mount Package Contents

Item	Quantity	Notes
DPoE™ Compact 8 Midspan Wall Mount Bracket	1	Part # DPOEWM8B
DPoE™ Compact 8 Midspan Wall Mount Installation Kit	Includes items below	Part # DPOEWM8B-KIT
Wall Mount Installation Instructions	1	PN423
Pan-TY Cable tie	1	Part # PLT1.5I
#6 X 2 inch Drywall Screw	2	
#8 X 1.25 Sheet Metal Screw	2	
Wall Anchor	2	

Verify the above contents arrived in good condition. If not, contact *PANDUIT*® Customer Service by phone at 800-777-3300.

Wall Mounting Instructions

1. Record the MAC address, printed on a sticker on the back of the *DPoE*™ Compact 8 Midspan, by writing it in the space provided on the included Installation Worksheet (Part # PN377).
2. Follow the Wall Mount Installation Instructions (Part # PN423) included in the *DPoE*™ Compact 8 Midspan Wall Mount package.

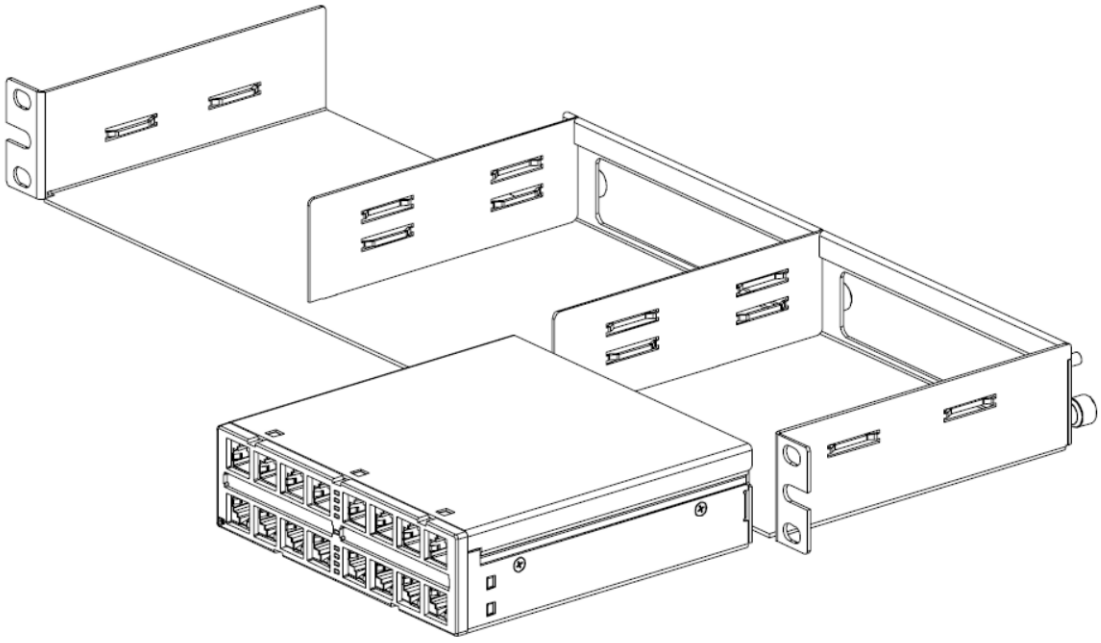


Figure 5: *DPoE*™ Compact 8 Midspan (shown with optional *DPoE*™ Compact 8 Midspan 1RU Shelf)

The *DPoE*™ Compact 8 Midspan 1RU Shelf is available separately from *PANDUIT* (Part# DPOESHELF).

DPoE™ Compact 8 Midspan 1RU Shelf Shipping Package Contents

Each *DPoE™* Compact 8 Midspan 1RU Shelf is shipped in a box, which includes the following:

Table 3: *DPoE™* Compact 8 Midspan 1RU Shelf Package Contents

Item	Quantity	Notes
DPoE™ Compact 8 Midspan 1RU Shelf	1	Part # DPOESHELF
DPoE™ Compact 8 Midspan 1RU Shelf Installation Kit	Includes items below	Part # DPOESHELF-KIT
Shelf Installation Instructions	1	PN421
Ground Strap Kit	1	AGPJ148
Green / Yellow grounding strap	1	
Bonding Nut 10/32	1	PBGN1032
Screws, 12-24 x 0.50 Phillips Indented Hex	Pack of 6	
Screws, M6x1.0x16 Phillips Indented Hex	Pack of 6	

Verify the above contents arrived in good condition. If not, contact *PANDUIT* Customer Service by phone at 800-777-3300.

Shelf Mounting Instructions

1. Record the MAC address, printed on a sticker on the back of the *DPoE™* Compact 8 Midspan, by writing it in the space provided on the included Installation Worksheet (Part # PN377).
2. Using four of the enclosed metric or English screws, as appropriate, install the *DPoE™* Compact 8 Midspan Shelf into the 19” rack at the planned rack position.
3. Using a screw and bonding nut from the Grounding Kit attach the green and yellow striped grounding strap to the shelf via the unthreaded hole at the right rear of the shelf.
4. Attach the loose end of the grounding strap to the rack within the same position as the shelf.
5. Next, install a *DPoE™* Compact 8 Midspan into one of the three mounting positions. Align the power midspan using the slotted rail guides. Pull the power midspan all the way to the back of the shelf using the shelf mounting handle on the rear of the power midspan. Using the shelf captive thumbscrew firmly secure the power midspan into the rear mounting of the shelf.

Grounding Requirements

It is recommended that the *DPoE™* Compact 8 Midspan 1RU Shelf be connected to an earth ground. Bypassing a grounding system will impede the rack mounting system’s overall performance.

NOTE:	The supplied screws are part of a grounding system to ensure that the *DPoE™* Compact 8 Midspan 1 RU Shelf is properly grounded to the rack. **USE ONLY THE SUPPLIED SCREWS TO ATTACH THE SHELF TO THE RACK.**

DPoE™ Modular 8 Port Passive Module

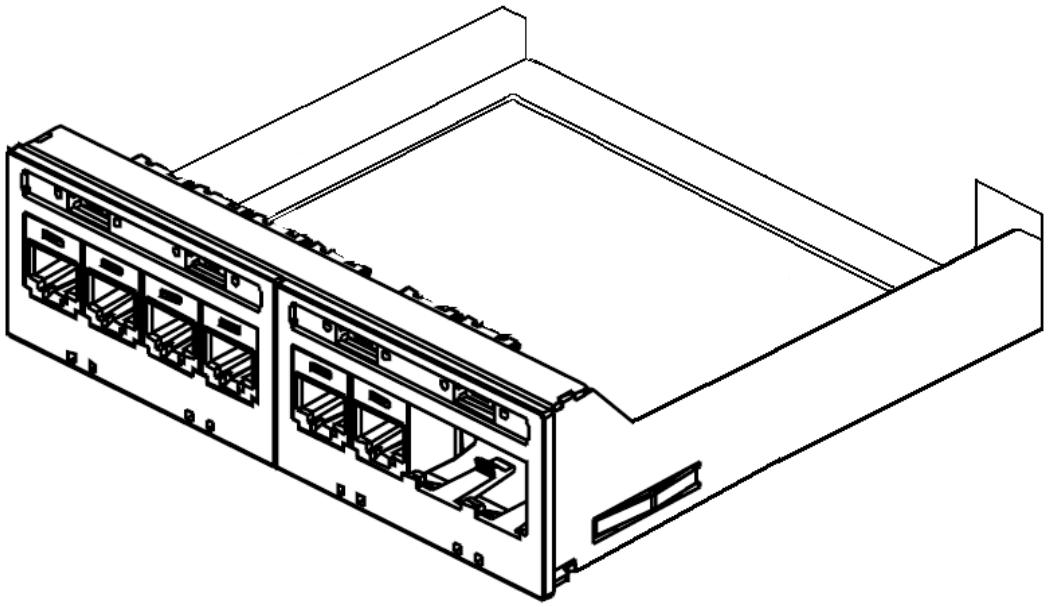


Figure 6: *DPoE™* Modular 8 Port Passive Module

The *DPoE™* Modular 8 Port Passive Module is available separately from *PANDUIT* (Part # DPOEPL8BU). It provides convenient 8-position passive patch panel integration into the *DPoE™* Compact 8 Midspan 1RU Shelf. The *DPoE™* Modular 8 Port Passive Module can be installed into either the *DPoE™* Wall Mount Bracket (Part # DPOEWM8B) or into any slot of the *DPoE™* Compact 8 Midspan 1RU Shelf (Part # DPOESHELF).

DPoE™ Modular 8 Port Passive Module Shipping Package Contents

Each *DPoE™* Modular 8 Port Passive Module (Part # DPOEPL8BU) is shipped in a box, which includes the following:

Table 4: *DPoE™* Modular 8 Port Passive Module Package Contents

Item	Quantity	Notes
DPoE™ Modular 8 Port Passive Module	Includes items below	Part # DPOEPL8BU
DPoE™ 8 Port Passive Module Tray	1	
DPoE™ Modular 8 Port Passive Module Installation Kit	Includes items below	Part # DPOEPL8BU -KIT
DPoE™ Modular 8 Port Passive Module Installation Instructions	1	PN422
4 position Mini-Com Patch Panel faceplate	2	P/N UICPPL4IBU-B
Ultimate ID labels 4 position blank	2	P/N UIWOL4
Ultimate ID cover 4 position clear	2	P/N UILC4CL

Verify the above contents arrived in good condition. If not, contact *PANDUIT* Customer Service by phone at 800-777-3300.

NOTE:	It is necessary to initially dress the terminated cables through the back of the mounting hardware (DPOESHELF shown below). Then, snap the *MINI-COM* modular jacks into the faceplate of the *DPoE™* Modular 8 Port Passive Module. Finally, slide the Passive Module into the mounting hardware.

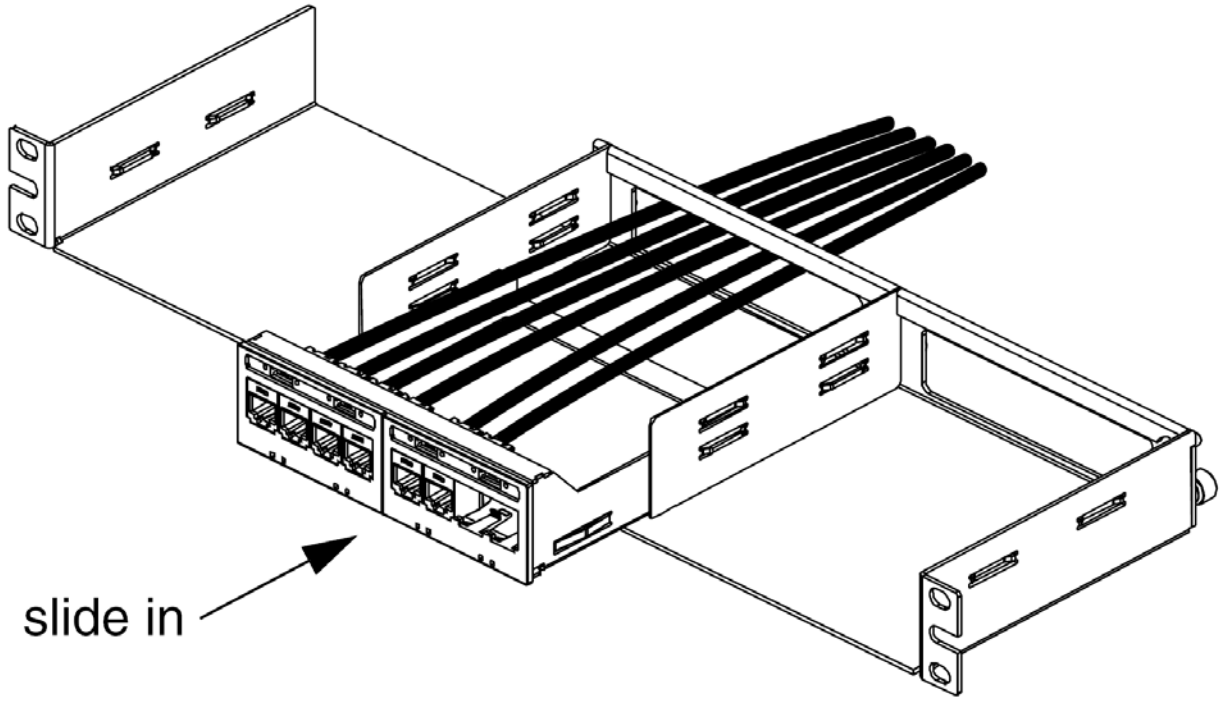


Figure 7: *DPoE™* Modular 8 Port Passive Module with *DPoE™* 1RU Shelf

Data Connection and Data + Power Connections

NOTE:	The *DPoE™* Compact 8 Midspan should only be used with high quality patch cords like the *PANDUIT* line of TX6™ *PLUS* Category 6 Patch Cords. Some low-grade, non-standard patch cords may exhibit difficulty with insertion or in some instances may not seat at all into the RJ45 jack port. It is highly recommended to always use high quality, mechanically sound patch cords. All *TX6™ PLUS* Category 6 Patch Cords exceed the TIA/EIA-568-B.2-1 Category 6 standards.

INSTALLATION ADVISORY:	Ensure that cabling to powered devices is protected from inductive coupling from nearby power cables and other sources. Ensure that powered devices are properly installed and grounded (according to manufacturer's recommendations), and all the cabling and connections are isolated from external surges.

NOTE:	**When installing cabling and making connections to the DPOE8S2XG, follow all local standards as well as the applicable TIA-942 standards and IEEE 802.3 (Ethernet) standards.**

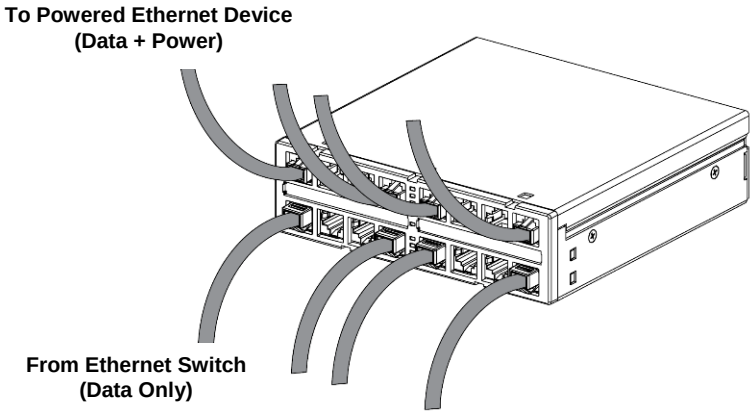


Figure 8: Data Connection and Data + Power Connections

Powering Requirements

The *DPoE*™ Compact 8 Midspan is powered by a separate DC power supply. *PANDUIT* provides the user with the flexibility to select multiple power supply product options tailored to their specific needs. A country specific main power cord needs to be ordered along with the selected power supply. The power product options are listed in the table below.

Table 5: Individual Power Supplies Available from *PANDUIT*

Part Numbers	Description
DPOEPWRB120Y	120 watt power supply - 48 volt output
DPOEPWRCU	Power chassis - supports 3 rectifiers
DPOEPWRR500	500 watt rectifier for use in the DPOEPWRCU chassis
DPOEPWRR1250	1250 watt rectifier for use in the DPOEPWRCU chassis
DPOEPWRF7.5	7.5 amp fuse (package of 8)
DPOEPWRF5	5 amp fuse (package of 4)
CORD-S15	Power cord for North America
CORD-J15	Power cord for Japan
CORD-A	Power cord for Australia
CORD-E	Power cord for Europe
CORD-U	Power cord for the U.K.

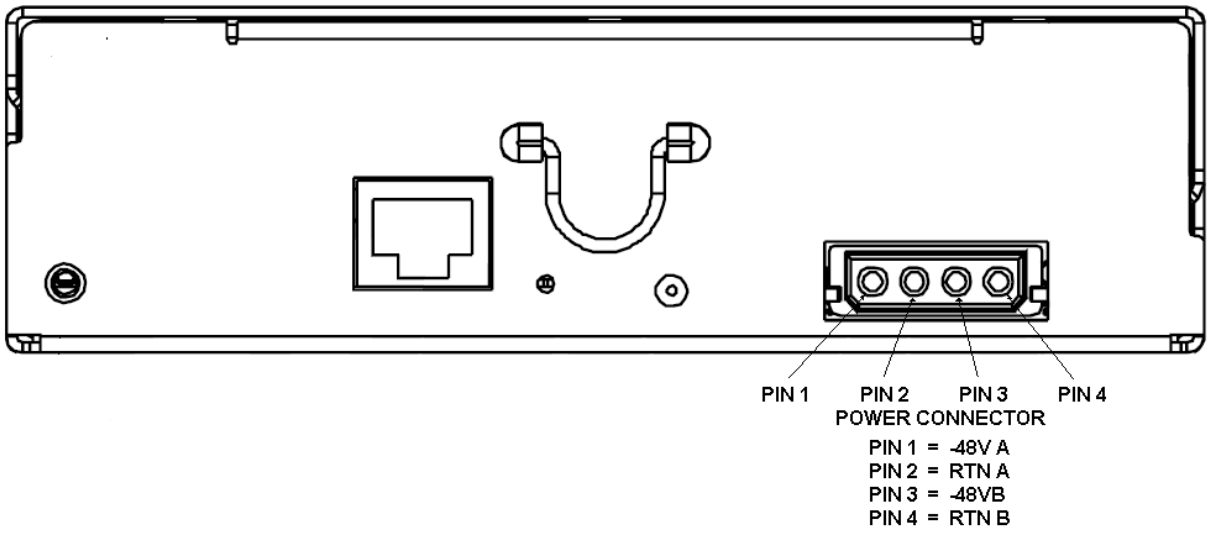


Figure 9: *DPoE*™ Compact 8 Midspan Rear Power Connection

WARNING:	The DC power supply pins are polarized therefore the power connector is keyed to prevent incorrect attachment of the DC power feed. The *DPoE*™ Compact 8 Midspan will not function if power polarity is improperly wired.

Applying a power Source to the *DPoE*™ Compact 8 Midspan

The *DPoE*™ 120 Watt Power Supply (Part # DPOEPWRB120Y) is equipped with a 10 foot output power lead that terminates in a keyed DC power plug that will mate with the power connector receptacle on the back of the panel. Plug the keyed DC power connector into the back of the *DPoE*™ Compact 8 Midspan. Plug the power supply into an AC receptacle.

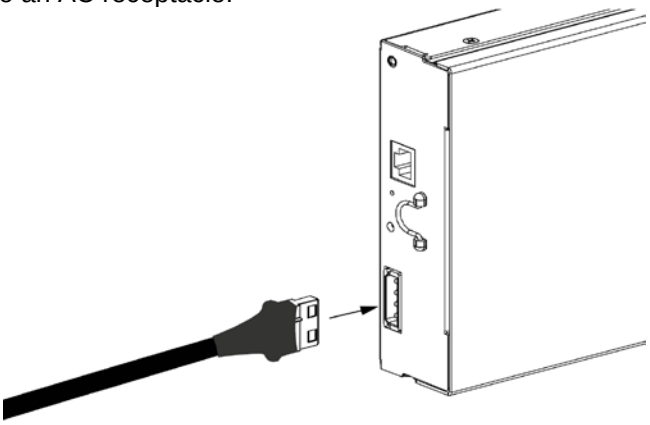


Figure 10: *DPoE*™ Compact 8 Midspan Rear Power Plug Connection

DPoE™ EUROPEAN (EMC) WARNING:	Product is not intended for use in a residential environment. Use of this product in residential areas may cause electromagnetic interference.

LED Indications During Power Up Sequence

Once power is applied to the unit, the *DPoE™* Compact 8 Midspan will go through its power up sequence. The following table describes the behavior of the unit as viewed from the front and the back.

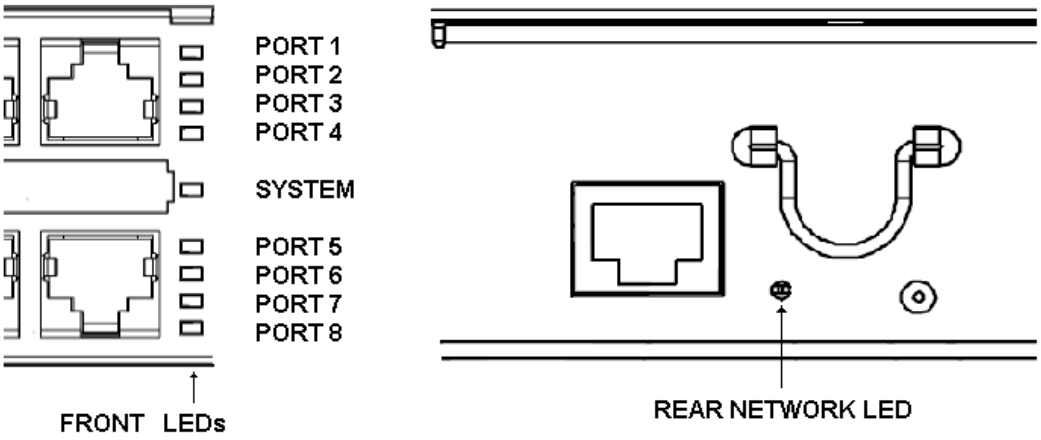


Figure 11: *DPoE™* Compact 8 Midspan (Front and Rear LED Detail)

The *DPoE™* Compact 8 Midspan displays system, network and port status through the use of nine LEDs on the front and one on the rear of each power midspan. There is one SYSTEM status LED in the middle of the center of the front of the power midspan. Eight individual port status LEDs are grouped vertically in two sets of four down the center of the front of the power midspan. One network status LED on the rear of the unit is located next to the management port. These LEDs enable the technician to see at a glance if either the ports or the power midspan itself is functioning normally or in an alarm condition.

Table 6: *DPoE™* Compact 8 Midspan Power Up Sequence

<table>
<tr><th colspan="2">LED Behavior During Power Up Sequence as viewed from the FRONT</th><th>LED Behavior During Power Up Sequence as viewed from the REAR</th></tr>
<tr><th>SYSTEM LED</th><th>PORT LEDs</th><th>NETWORK LED</th></tr>
<tr><td>Two seconds after power is applied to the unit the System LED will illuminate RED and continue to be on for five seconds then pulse (50mS) and remain on for another three seconds.</td><td>Port LEDs are OFF</td><td rowspan="4">When power is applied to the unit the Network LED will immediately illuminate RED and continue to be on during the entire power up sequence.

After the power up sequence the Network LED will turn off and remain off until there is activity at the network jack.</td></tr>
<tr><td rowspan="3">The System LED will flash on and off AMBER and continue flashing while the Port LEDs cycle through the power up sequence.</td><td>The Port LEDs will consecutively illuminate RED from Port 1 through Port 8 and remain on until all are illuminated.</td></tr>
<tr><td>The Port LEDs all turn off.</td></tr>
<tr><td>The Port LEDs consecutively illuminate GREEN from Port 8 through Port 1 and remain on until all are illuminated.</td></tr>
<tr><td>The System LED illuminates AMBER and remains on for five seconds.</td><td>The Port LEDs all illuminate AMBER and remain on for 5 seconds.</td></tr>
</table>

<table>
<tr><th colspan="2">LED Behavior During Power Up Sequence as viewed from the FRONT</th><th>LED Behavior During Power Up Sequence as viewed from the REAR</th></tr>
<tr><th>SYSTEM LED</th><th>PORT LEDs</th><th>NETWORK LED</th></tr>
<tr><td rowspan="8">The System LED will flash on and off GREEN and continue flashing while the Port LEDs cycle through the port classification sequence.</td><td>The Port LEDs cycle through the port classification sequence. Port 1 illuminates AMBER and remains on. Port 2 illuminates AMBER.</td><td rowspan="9"></td></tr>
<tr><td>Ports 1 and 2 LEDs turn off.</td></tr>
<tr><td>Port 3 illuminates AMBER and remains on. Port 4 illuminates AMBER.</td></tr>
<tr><td>Ports 3 and 4 LEDs turn off.</td></tr>
<tr><td>Port 5 illuminates AMBER and remains on. Port 6 illuminates AMBER.</td></tr>
<tr><td>Ports 5 and 6 LEDs turn off.</td></tr>
<tr><td>Port 7 illuminates AMBER and remains on. Port 8 illuminates AMBER.</td></tr>
<tr><td>Ports 7 and 8 LEDs turn off.</td></tr>
<tr><td colspan="2">The power up sequence is completed. The System LED will continue to flash on and off GREEN during normal operating conditions.</td></tr>
</table>

LED Visual Indicators of Operation

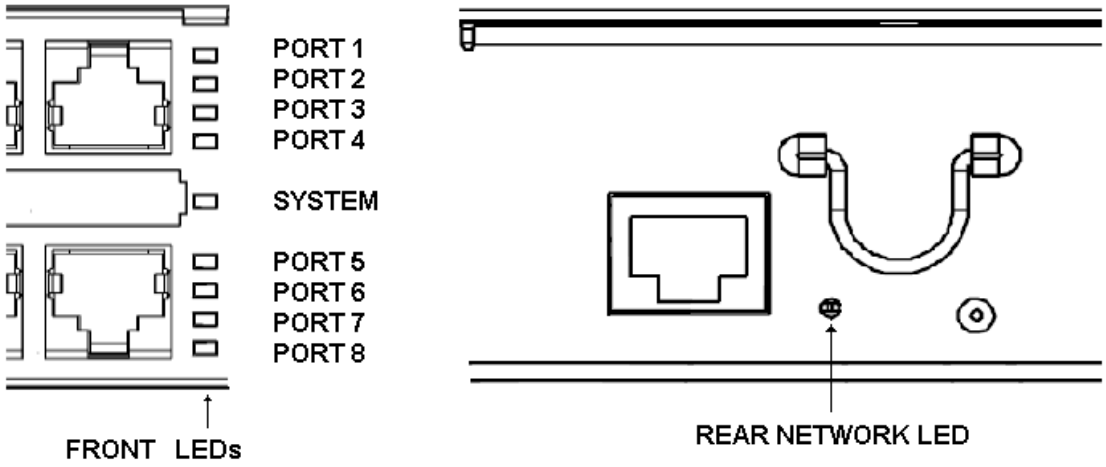


Figure 12: *DPoE*™ Compact 8 Midspan (Front and Rear LED Detail)

Table 7: Power Midspan System LED Indications

LED Color	System LED Status	Description	Status of Power Ports
Off	Off	No Power is being supplied to the power midspan.	Power is NOT being delivered to the ports on the power midspan.
Green	Flashing	System operating normally.	Power is being delivered to the ports on the power midspan, as configured.
Amber	Flashing	Out of voltage range condition. Less than 36VDC or more than 57VDC is being supplied to the power midspan.	Power may not be delivered to any ports on the power midspan because the voltage is out of specification.
Red	ON continuous	The *DPoE*™ Compact 8 Midspan management processor is operating properly but the PSE capability has failed.	Power may not be delivered to any ports on the power midspan. An SNMP trap will be issued with information about this condition.
Red	Rapid Flashing Slow Flashing Solid	The *DPoE*™ Compact 8 Midspan management processor firmware is being updated.	Power continues to be delivered to any IEEE 802.3af configured ports while a firmware installation is occurring.
Amber	Flashing	DHCP acquisition in progress.	Power is being delivered to the ports on the power midspan, as configured.

Table 8: Port LED Indications

LED Color	Port LED Status	Description	Status of Power Ports
Off	Off	No Powered Device (PD) is attached to this particular port on the power midspan. Or the attached PD was not identified as a compatible PD for PoE.	Power is NOT being delivered to this port on the power midspan.
Amber	Solid	The power midspan is determining the PD's power requirements. This occurs for 5 seconds after the PD is connected.	Power is NOT being delivered to this port on the power midspan.
Green	Solid	Port operating normally.	Power is being delivered to this port on the power midspan.
Red	Solid	The system has failed to determine the PD power requirements for this port. Perhaps this PD is not an 802.3af-2003 compliant or Cisco legacy power device. This may also be an indication of a short in the wiring. The connections at both ends of the horizontal cabling should be checked to ensure proper wiring has been followed. A connected non-powered device such as a PC may be terminated in such a way that the *DPoE™* Compact 8 Midspan attempts to detect it as a PD. The Element Manager may be used to turn detection off to this port so no further checks occur. (***see PoE power mode***) The LED will turn off.	Power is NOT being delivered to this port on the power midspan.

Table 9: Network Status LED Indications

LED Color	Network LED Status	Description	Notes
Off	Off	No connection to the management system.	If the system is otherwise operating normally and an Ethernet cable is connected, this could be an issue with the panel's management interface.
Green	Flashing	The management link on the *DPoE™* Compact 8 Midspan is configured correctly and communication messages are currently being processed.	Normal operation.
Green	Solid	The management link on the *DPoE™* Compact 8 Midspan is configured correctly, but no communication messages are currently being processed (i.e., link idle).	Normal operation.
Amber	Solid	The panel is currently trying to acquire DHCP address information from the network.	If this persists for more than a minute or two, there is a problem with the network communication.

PANDUIT® DPoE™ ELEMENT MANAGER

The *DPoE™* Element Manager software is used to remotely control, configure and monitor a *DPoE™* Compact 8 Midspan within a network. Once installed on a shared or dedicated Windows-based Personal Computer (PC), the *DPoE™* Element Manager can be used to manage an entire network of *DPoE™* devices. The *DPoE™* Element Manager is on a CD-ROM included with the *DPoE™* Compact 8 Midspan.

NOTE:	The *DPoE™* Compact 8 Midspan does not require the *DPoE™* Element Manager for the power midspan to operate. An installed *DPoE™* Compact 8 Midspan will source PoE power without the *DPoE™* Element Manager. The *DPoE™* Element Manager provides an optional enhanced level of remote management, monitoring and maintenance for a single device or an entire network of PoE devices.

Hardware and Software Requirements

Table 10: PC Minimum Requirements for *DPoE™* Element Manager

Hardware	Processor	PC with 300 megahertz (MHz) Pentium®-class processor or equivalent
	RAM	128 MB of RAM, 256 MB recommended
	Hard Disk Space	45 MB of hard disk space
	Network Access	10/100 Ethernet card
	CD-ROM Drive	
Software	Operating System	Any of the following: Windows® Vista™ Windows® XP Professional (Service Pack 1 or later), Windows XP Home Edition (Service Pack 1 or later), Windows 2000 (Service Pack 4 for Windows 2000).
	Support Applications	1. Microsoft .NET Framework 1.1 Redistributable or later (See notes below) 2. Microsoft Data Access Component version 2.7 or later (See notes below)
	Display Settings	For XP Professional or Home Edition: Settings: 1024x768 or larger Color Quality: Medium (16-bit) or higher Advanced: Normal Size Fonts (96dpi) REQUIRED Appearance: Font Size Normal REQUIRED For Windows 2000: 1024x768x32K colors Small Fonts REQUIRED (Normal 96dpi)

NOTE:	If Microsoft .NET Framework version 1.1 or Microsoft Data Access Components is not currently installed on the PC, the user will be prompted to install these software packages first before installing the *DPoE™* Element Manager. The *DPoE™* Element Manager will not operate correctly without these two support applications being installed on the same PC.

NOTE:	As of this publication, Microsoft .NET Framework cannot be installed on 64-bit computers.

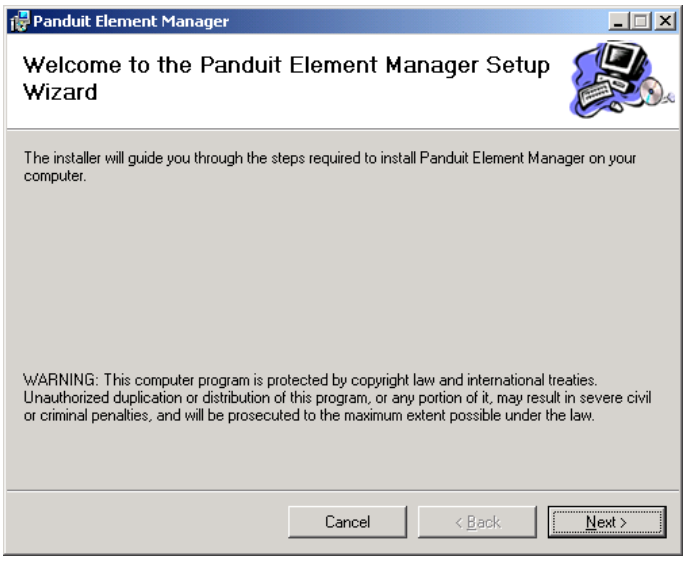
NOTE:	Critical updates to the support programs may occasionally come from Microsoft Corporation. The *Windows Update* option from the PC's START Menu can be used to periodically check for such updates.

Installing the *PANDUIT® DPoE™* Element Manager Software

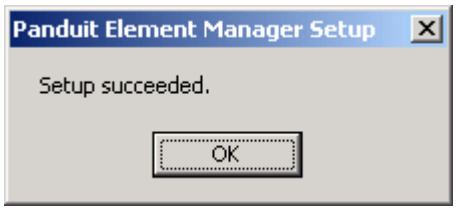
The *DPoE™* Element Manager is installed by running the setup program on the *DPoE™* Compact 8 Midspan Support Tools CD-ROM, included with the *DPoE™* Compact 8 Midspan. Once the CD-ROM is placed in the personal computer's CD-ROM drive, the setup program will automatically run and will give the user the choice to install the *DPoE™* Element Manager software or choose from other selections. When selected, the installation software will first verify the necessary support software is available on the computer or will prompt the user to determine whether these packages should be installed along with the *DPoE™* Element Manager. (See ***Table 10: PC Minimum*** **Requirements**, for more information.)

NOTE:	If the CD does not autorun, browse the root directory of the CD and double-click on the file “Launch.exe”.

Once all required support software is installed, the *DPoE™* Element Manager installation screen will be displayed (see below).



For security purposes, the network operator will then be given the opportunity to restrict the *DPoE™* Element Manager to the ***administrator*** UserName only (default) or whether other users of this PC can access it. Once this selection is made, the installation process completes in only a few minutes.



After the *DPoE™* Element Manager installation completes, exit the *DPoE™* Power Patch Panel Support Tools CD, remove the CD-ROM from the CD-ROM drive, and store it in a safe place. Next, launch the *DPoE™* Element Manager application via the icon on the desktop.

The splash screen will appear. When prompted, UserName: administrator, Password: Panduit (password is case sensitive and should be changed from this default)

NOTE:	The *DPoE™* Support Tools CD-ROM also includes the option to uninstall the *DPoE™* Element Manager.

Connecting the *DPoE™* Element Manager Host Computer to the *DPoE™* Compact 8 Midspan

The computer that hosts the *DPoE™* Element Manager can either be directly connected to the *DPoE™* Compact 8 Midspan or connected through the Ethernet network. Logically connect the *DPoE™* Compact 8 Midspan, to the PC.

Network Connection

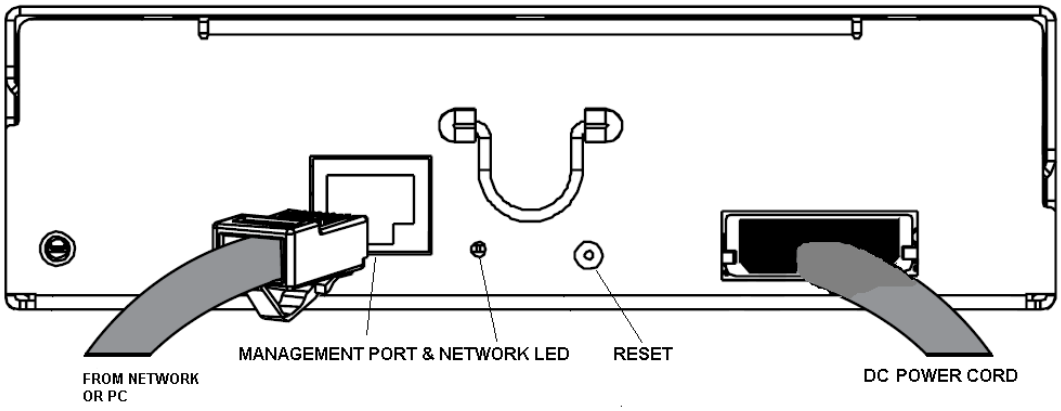


Figure 13: *DPoE™* Compact 8 Midspan (Rear View)

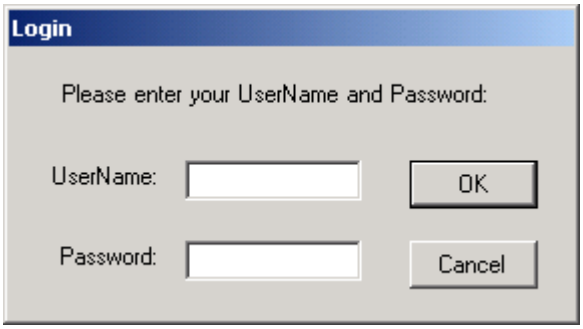
The *DPoE™* Compact 8 Midspan can be remotely managed using the included *DPoE™* Element Manager. Using a standard patch cord (for example, part number UTPSP3 or UTPCH3), connect the management port on the back of the device to an Ethernet switch or directly to a computer that supports network communication to the *DPoE™* Element Manager.

IMPORTANT:	Directly connecting to a PC will likely require first changing the *DPoE™* Compact 8 Midspan from the factory setting of DHCP addressing.

DPoE™ Element Manager Operation

Once the *DPoE™* Element Manager is successfully installed, access the program using the shortcut installed on the desktop by the *DPoE™* Element Manager installation. (The program is stored in the *PANDUIT* directory under the programs directory and can also be accessed through the START menu.)

After displaying the version number of the *DPoE™* Element Manager, the user is prompted for a UserName and Password.



NOTE:	When the management system is first installed, the default UserName is **administrator** The default Password is **Panduit** (notice the capital "P". *Passwords are case-sensitive.)* This default UserName and Password should be changed once the user is familiar with the *DPoE™* Element Manager software. (See ***Additions or Changes to UserName/Password***, for more information.)

Graphical User Interface

The *DPoE™* Element Manager has an easy-to-use graphical user interface with pull-down menus and tool bars, which make configuring and provisioning the network easy. When the *DPoE™* Element Manager is opened, the following system-level opening screen appears.

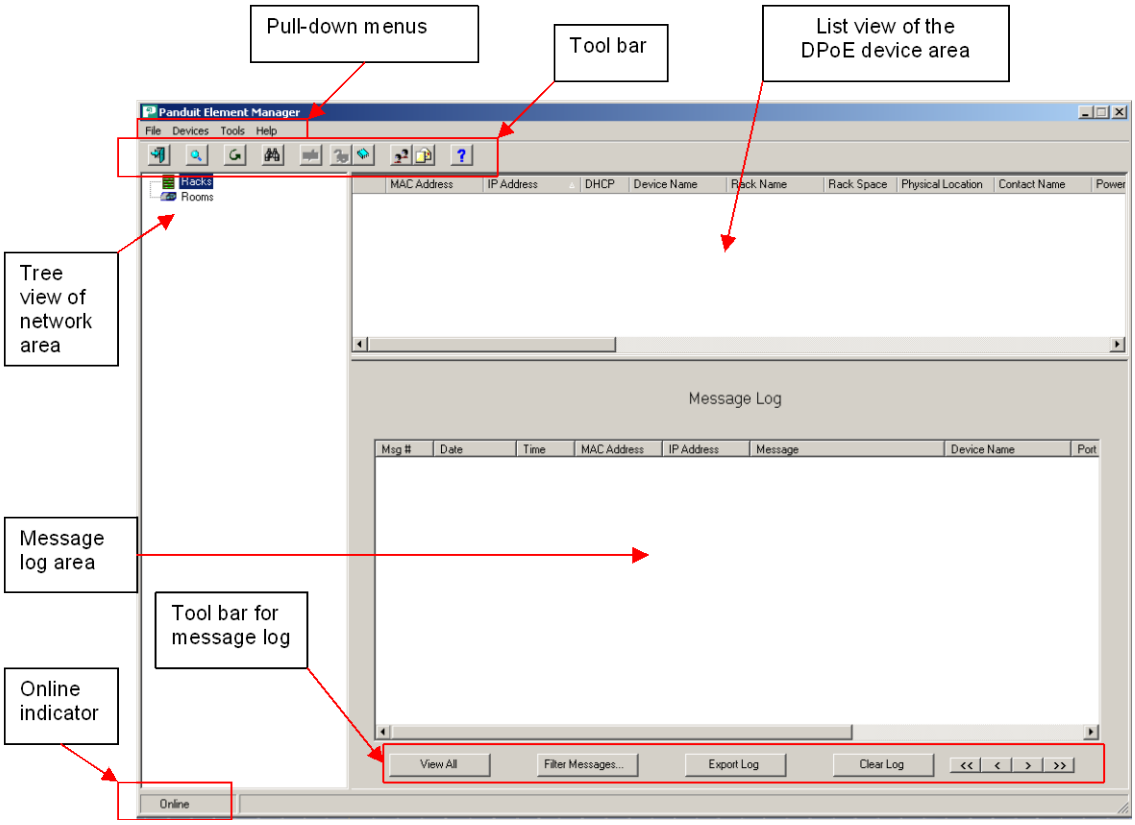


Figure 14: System-Level Opening Screen

The system-level opening screen is broken into three areas: the Tree View of the Network Area, the List View of the *DPoE™* Compact 8 Midspans and the Message Log area. By working in each of these three

areas, the network operator can easily monitor the overall status of the *DPoE™* Compact 8 Midspan network, the status of individual *DPoE™* devices, or the status of individual ports on individual *DPoE™* devices. Likewise, configuration changes can be made at the network, *DPoE™* device, or port level.

The Tree View of the Network area provides a hierarchical display of each DPOE device within the network using the configurable names assigned by the network operator. Multiple *DPoE™* devices physically wired into a single rack are grouped on the screen under the configurable name of that rack. Using the computer mouse, the operator can select a specific rack, and the display will expand to show the individuals *DPoE™* devices within that rack.

When the operator selects an individual rack, the *DPoE™* Element Manager automatically displays the information for each *DPoE™* device within that rack in the List View area (top). Likewise, all log messages relating to that rack are automatically displayed in the Message Log area (bottom). These messages indicate any conditions with the rack itself, the *DPoE™* devices on that rack or individual ports on individual *DPoE™* devices.

If the operator selects an individual device from the Tree View of the Network Area, a second screen, which overlays the Message Log and List View areas, allows the operator to configure and monitor a specific *DPoE™* device. (See ***Figure 15: View Device Screen***, for more information.)

In addition to the three areas on the system-level opening screen, the *DPoE™* Element Manager provides the following conveniences on this system-level opening screen.

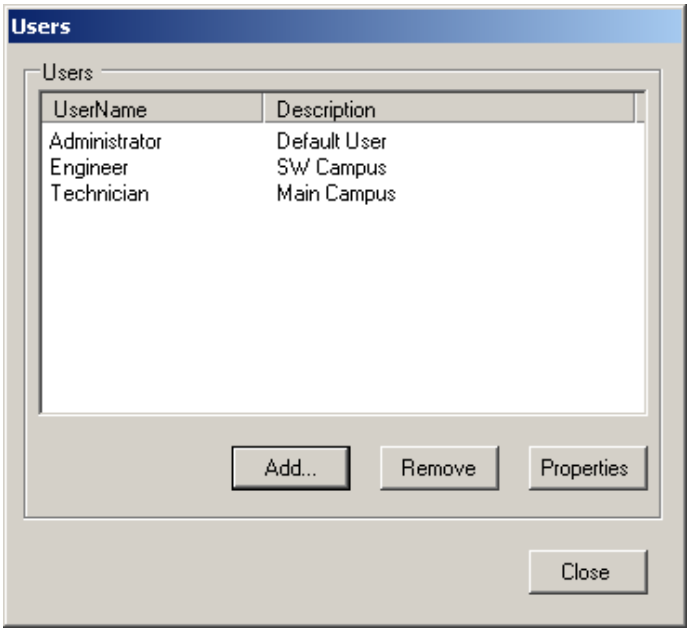
- Tool Bars – The most frequently performed actions are assigned buttons on the tool bars to assist with assigning ports and *DPoE™* devices, adding users to the management system, filtering incoming messages for trouble isolation etc.
- Pull-Down Menus – All functions available through the tool bars are also available through the pull-down menus. In addition, network-wide functions, such as copying *DPoE™* device information from an existing *DPoE™* device to a new *DPoE™* device is also available.
- Online Indicator – This real-time display indicates the communication status between the *DPoE™* Element Manager software and the *DPoE™* devices.

The following sections discuss the actions to perform various common tasks within the *DPoE™* Element Manager.

Additions or Changes to UserName/Password

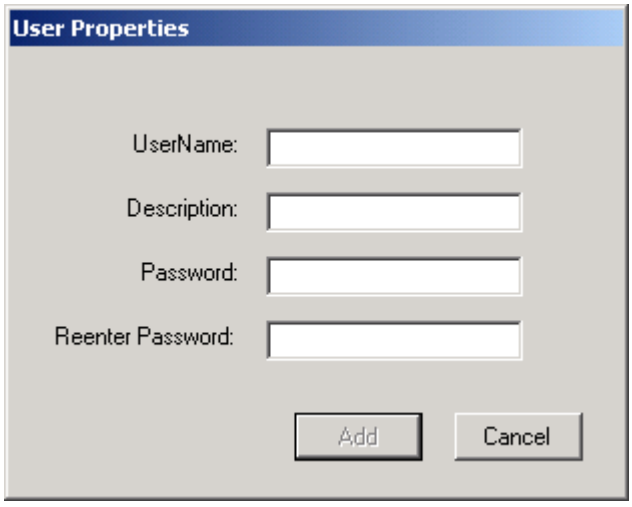
By adding additional UserNames to the *DPoE™* Element Manager, the network operator can allow access to the system by other users without the need for sharing a single UserName/Password among multiple users.

The *Users* option under the *Tools* pull-down menu provides an easy mechanism to add new or modify UserNames. There is also a button () on the top tool bar on the system-level opening screen to perform this task.



By clicking on the Add button, the network operator can create new UserNames and Passwords for use the system. A free-form Description field is also available.

Maintenance of UserNames is done by first clicking an existing Username, then clicking on either the Remove button to delete that UserName or the Properties button to have the following screen appear.



After any changes are made, use the Close button to return to the system-level opening screen.

NOTE:	Passwords are case-sensitive. Users must enter the password exactly as the network operator assigned it.

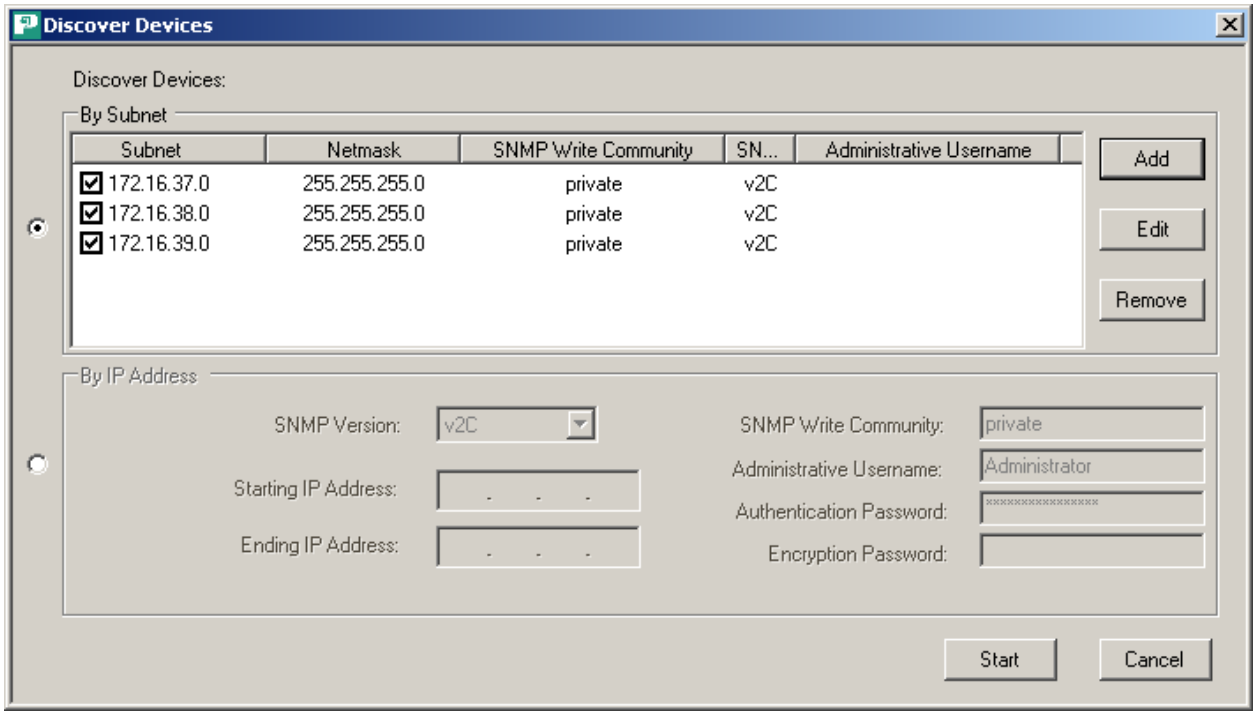
NOTE:	A user cannot delete a currently active UserName.

DPoE™ Device Discovery

Once the *DPoE™* Element Manager is connected into the network, the “Discover” capability can be used to "find" the deployed *DPoE™* Compact 8 Midspans. The *DPoE™* Element Manager initiates messages into the control network and requests responses from any *DPoE™* devices that see this message.

NOTE:	Unless the *DPoE™* Compact 8 Midspan has been configured during installation using the *DPoE™* Element Manager, this Discover capability will only receive the configuration and existence of the *DPoE™* Compact 8 Midspans themselves. The network operator will still need to enter rack and port information, such as rack location and where within each rack the DPOE device is physically mounted. (The *DPoE™* Compact 8 Midspan *Installation Worksheet* included with the product can be used to collect this information during installation.) When installing multiple *DPoE™* devices simultaneously, it is very important to record the MAC address for each *DPoE™* device. Since multiple *DPoE™* devices will return the same factory default settings to the Discover capability, the MAC address, which is written on a label on the back of each *DPoE™* Compact 8 Midspan, is unique and will allow the network operator to distinguish one *DPoE™* device from another.

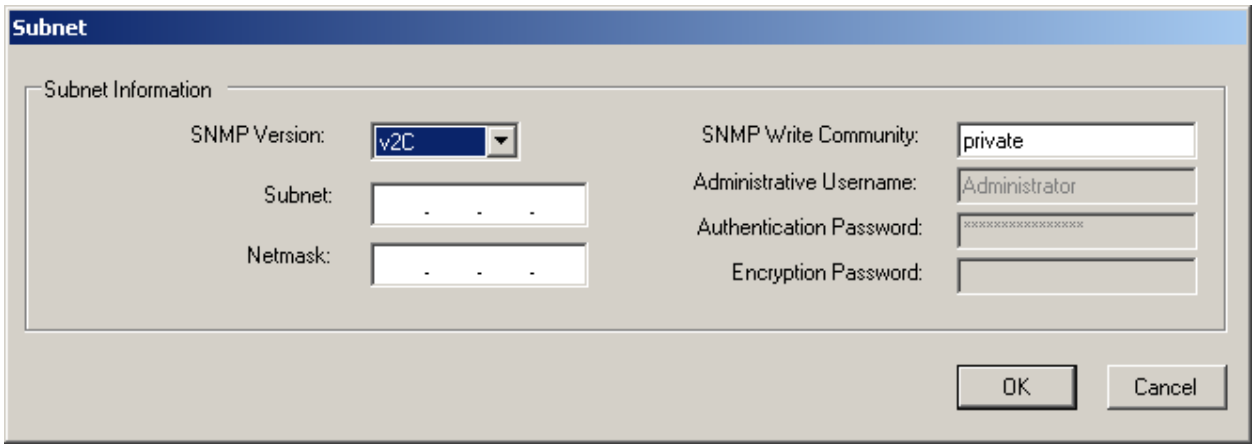
The *Discover* option under the *Devices* pull-down menu will perform this task or click the button ( ) on the top tool bar of the system-level opening screen.



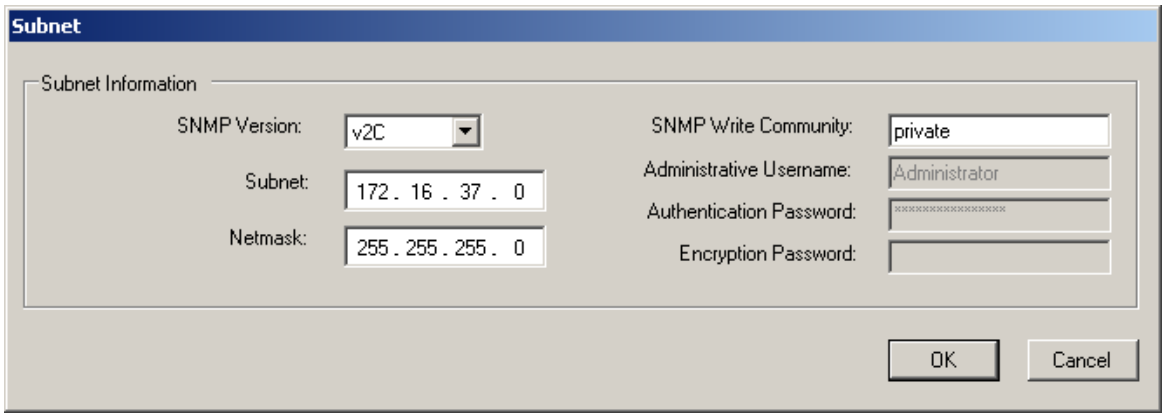
The network operator can set the Discover capability to search a specific subnetwork for devices or search across a range of IP addresses. If appropriate you should take into account the VLAN IP address of the switch port when discovering the panel/power midspan. The two leftmost buttons on this Discover Devices window are used to select which type of Discover search to initiate. By selecting the top button, the top half of the screen is then used to request a subnetwork search.

Subnetwork Search

After selecting a subnetwork option, the Add, Edit, and Remove buttons become active and give the network operator a chance to enter or modify the subnetwork information in the *DPoE™* Element Manager prior to starting the subnetwork search. When Add is selected the Subnet dialog box will open.

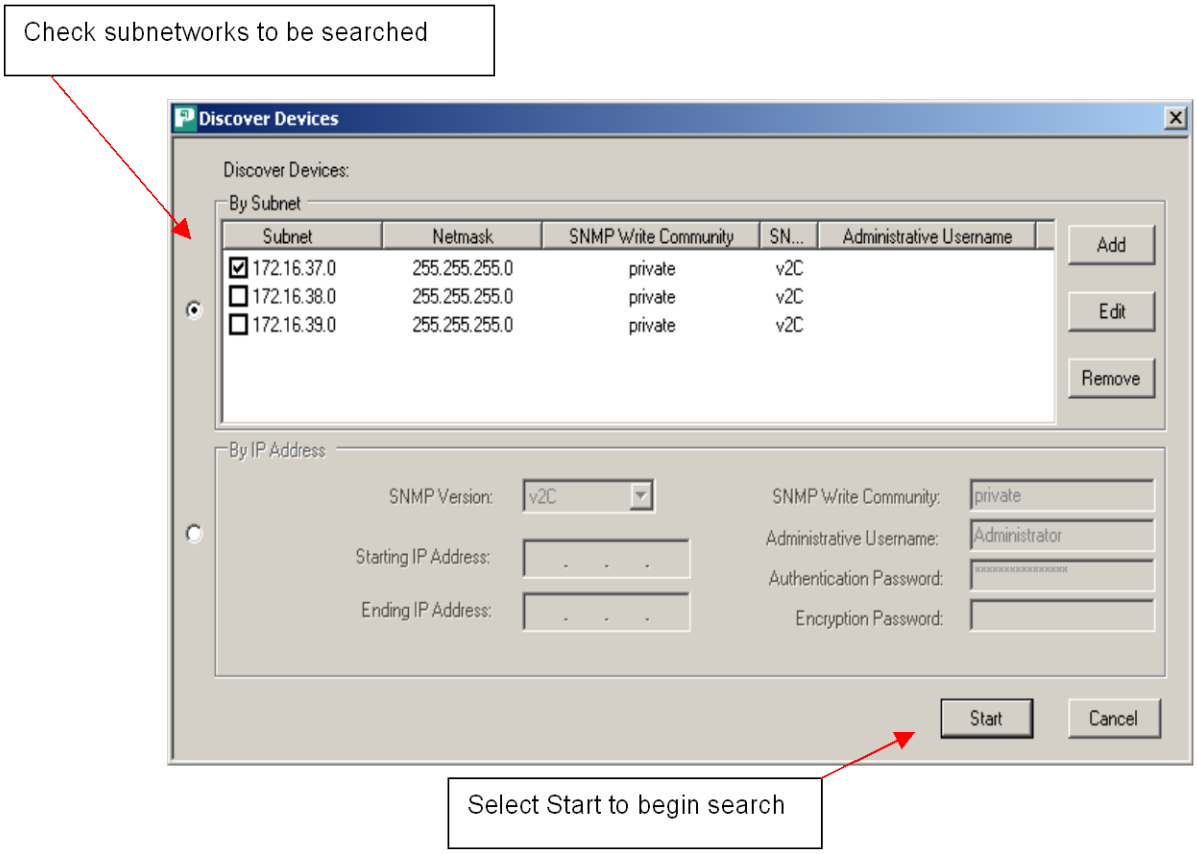


The network operator can then add the desired Subnet, Netmask, SNMP version, SNMP write community along with the Administrative Username and Password. Once the desired information is entered the network operator can select OK or Cancel.

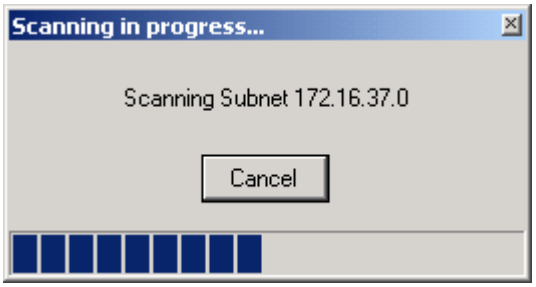


IMPORTANT:	The SNMP Community fields are case-sensitive and allow SNMP messages to be exchanged between the *DPoE™* Element Manager and the *DPoE™* Compact 8 Midspans. For security reasons, these fields should be changed from their defaults. However, caution should be taken to remember these settings as there are no provisions for recalling them once set. In addition, the default SNMP Version used for communication with the *DPoE™* Compact 8 Midspan is SNMP v2c. If you change this to SNMP v3, you will need to change the “SNMP Version” setting for the subnet discovery to be successful.

Once any subnetwork changes are entered (if required), check (☑) and those subnetworks will be searched when the Start button is selected.

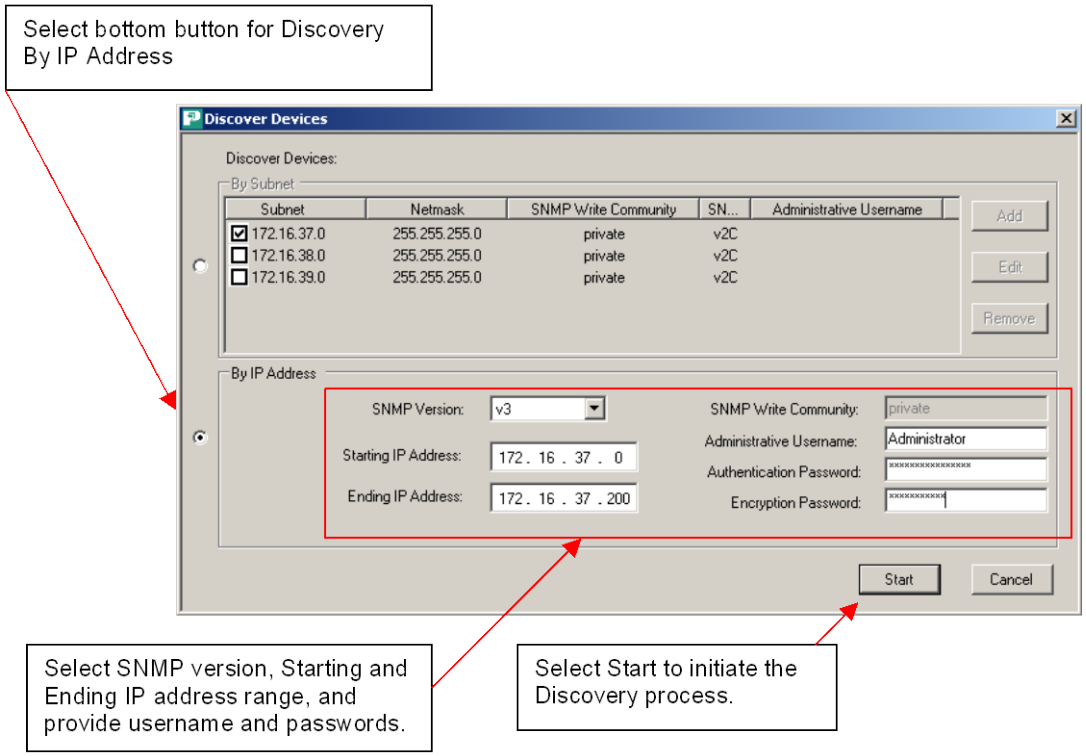


When Start is selected the Scanning in progress dialog box will open showing the Subnet that is being scanned.



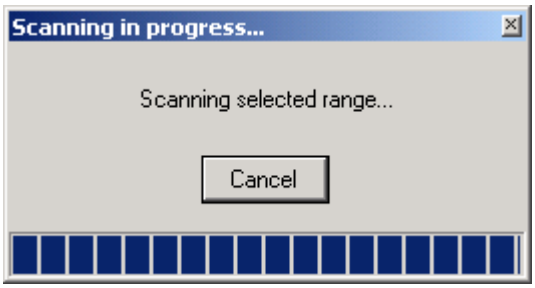
IP Range Search

By selecting the bottom button on the Discover Devices screen, the bottom half of the screen is then used to request an IP range search as part of the Discover Capability.



After entering the Starting IP Address, Ending IP Address, and SNMP Write Community, the Start button will initiate the Discover capability.

When Start is selected the Scanning selected range dialog box will open.



Whether a subnetwork search or an IP range search was conducted, all discovered *DPoE™* Compact 8 Midspan device information will be populated in the *DPoE™* Element Manager.

TIP:	In addition to the Discover capability, the *DPoE™* Element Manager also supports a Refresh capability, which collects the information stored in each device and verifies it's consistent with the information in the *DPoE™* Element Manager. (See ***Refresh the Network***, for more information.)

Provisioning the *DPoE™* device

The *DPoE™* Element Manager has the capability to discover all of the *DPoE™* devices in the network and display them in a format where the devices are grouped by their host racks based on the information entered into the *DPoE™* Element Manager during the provisioning process. These are called the Device Attributes.

Individually identifying each device and entering its specific attributes into the *DPoE™* Element Manager is an integral part of the provisioning activity. Loading this information into the *DPoE™* Element Manager enables it, as well as Network Management Software to be used in an effective working manner. It is highly recommended that the Network Administrator invest the effort to provision the *DPoE™* device in the following manner:

1. During the installation of each *DPoE™* Compact 8 Midspan, it is important to record the MAC address of the *DPoE™* Compact 8 Midspan. This is required because it is the only unique identification of the *DPoE™* device once it is placed into your network. An installation worksheet is provided to record this and other important information. A bar code of the MAC is also provided that allows a bar code reader to record this information automatically. The MAC and bar code for the MAC are found on the rear of the *DPoE™* Compact 8 Midspan near the management port.

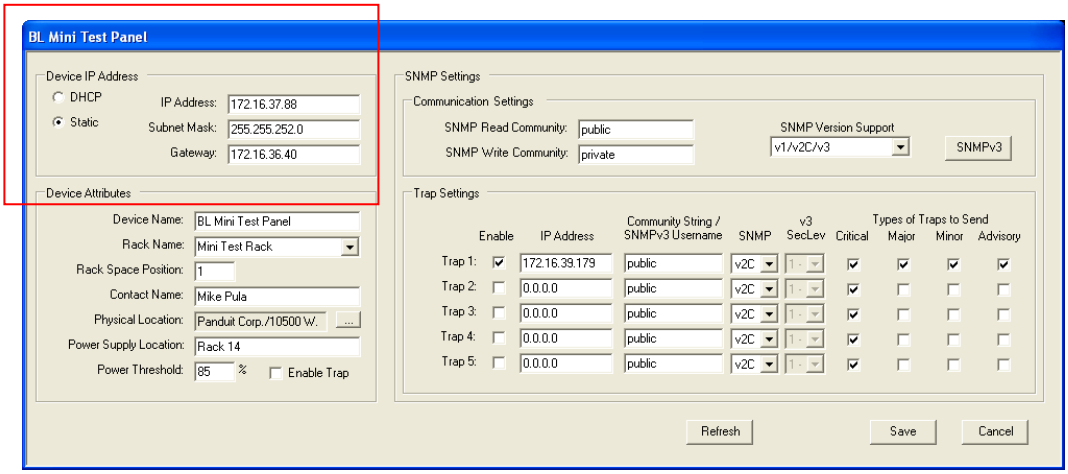
2. Once the *DPoE™* Compact 8 Midspan is connected to the network and power is applied, the *DPoE™* device will need to obtain an IP address.

    a. The *DPoE™* device can obtain an IP address via Dynamic Host Configuration Protocol (DHCP). This could take 1-2 minutes depending on your network and DHCP server settings.

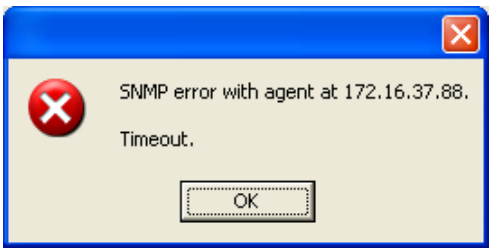
    b. Or the *DPoE™* device can be set to a static IP address. In order to set the device to a static IP address, you will need the following information:
        1. The desired static IP Address for the device.
        2. The desired Subnet Mask for the device.
        3. The IP address of the desired Gateway for the device.

    When you have this information, use the *DPoE™* Element Manager to access the device that you want to change and select “Edit Panel Info…”

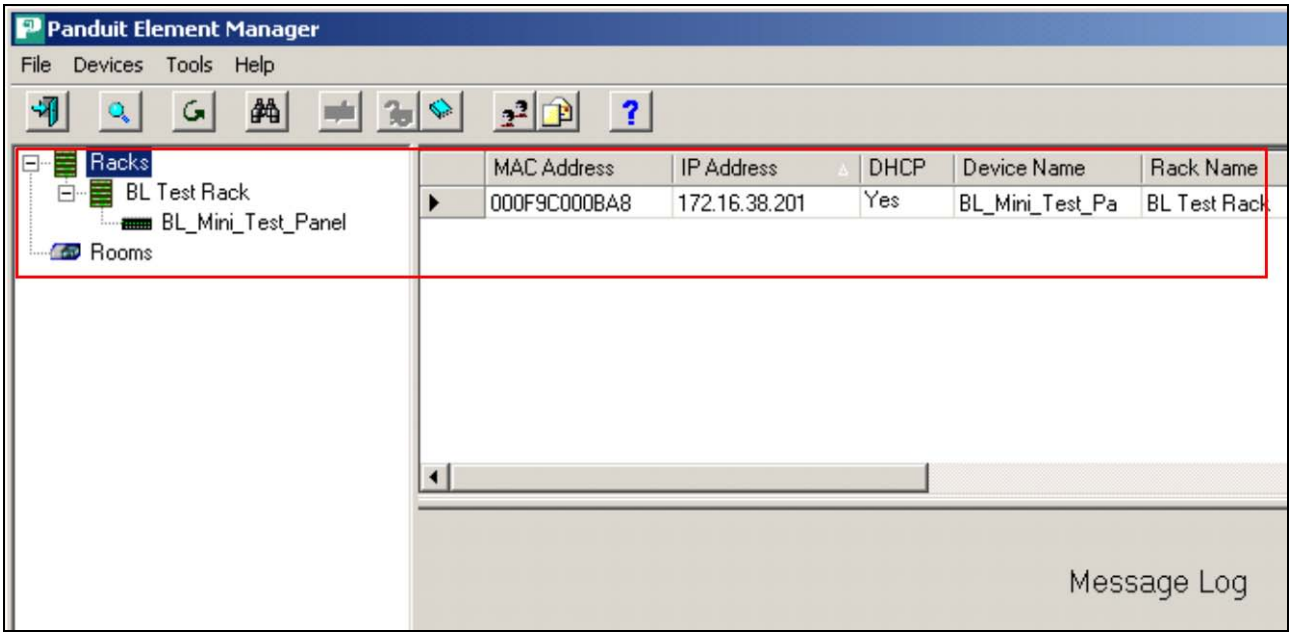
    In the “Device IP Address” area highlighted below, select “Static” and then enter the desired IP Address, Subnet Mask, and Gateway.



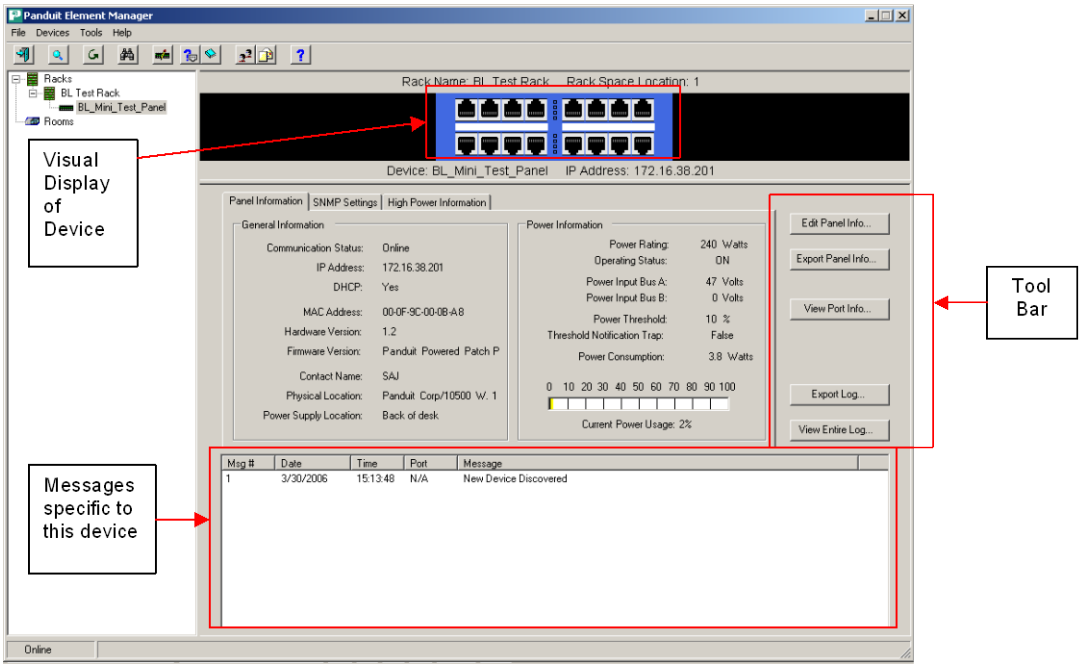
    Once this information is entered, select “Save” and the new settings will be saved to the device and the device will respond to those new settings:

NOTE:	If the computer running the *DPoE™* Element Manager is not in the subnet for the new IP address and cannot communicate with it, you will receive a timeout message similar to the one below:  In order to correct this you will need to place the computer in the appropriate subnet, or correct the network settings of device to the proper setting. If you can no longer communicate with the device, see the section on Device IP Address for instructions on how to set the device to the default network settings. (Refer to *Panel IP Address* for more information.) Occasionally, when retrieving information for the panel/power midspan, the *DPoE™* Element Manager may show a message indicating an "SNMP Agent Error". If this occurs, retry the operation. If this repeats, it may be the indication of a slow network or a large number of concurrent operations, in which case you may have to increase the timeout setting of the *DPoE™* Element Manager (located under the "Tools" section of the application). If the panel/power midspan continues to fail to respond, there may be a problem with the network connection itself. The *DPoE™* Element Manager reflects physical location information and power status based on the last time this information was refreshed. In order to work with the latest physical location information and power status, you should refresh the panel/power midspan information using the Refresh icon on the Element Manager before making any modifications. When the IP address of the panel/power midspan is first assigned or is changed, you may see the message "The IP address has changed. Do you want to commit this (yes/no)?" when you are discovering the panel(s)/power midspan(s) in your network. Please select "yes". Once this change is committed, you will not see this message again. When using the *DPoE™* Element Manager to change the network settings of the panel/power midspan, and you go from DHCP to static or static to DHCP, you will lose communication with the panel/power midspan until the panel/power midspan is placed into a network that supports the new settings or your PC is placed into the new subnet. This is expected behavior.

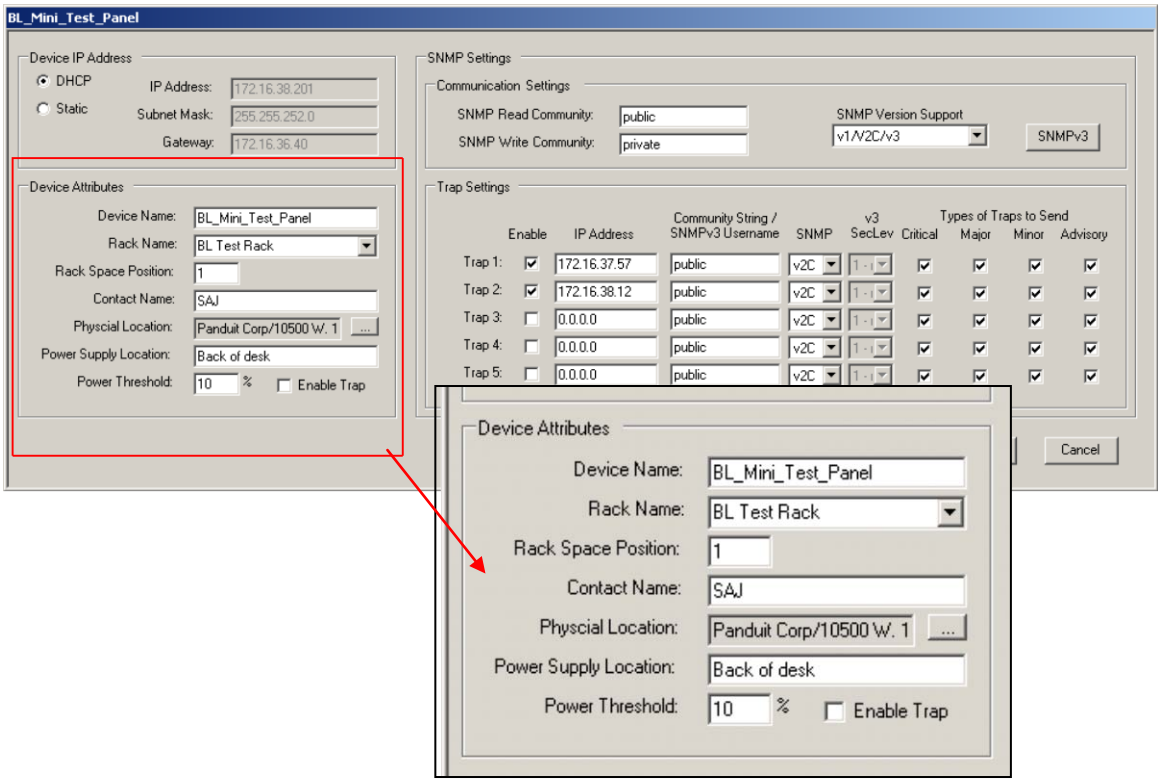
3. Using the Discover capability of the *DPoE™* Element Manager, search the subnet where the *DPoE™* devices have been installed.
4. When the *DPoE™* devices are discovered they will appear in a table as shown below:



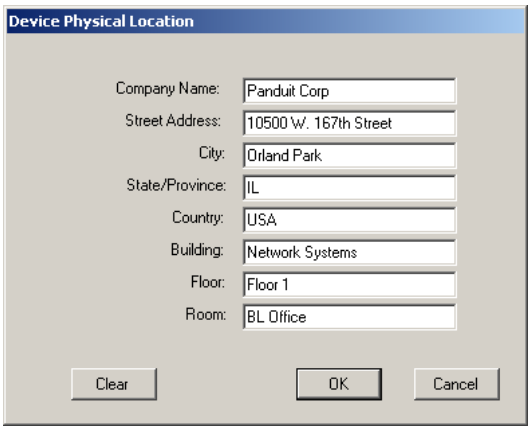
5. The table contains the MAC and IP address of the all of the discovered *DPoE*™ devices. The message log will include the MAC and IP address of the newly discovered device(s). The MAC Address can now be used to associate the discovered device with the information contained on the installation worksheet, and the Device / Panel Attributes can now be entered.
6. Double-click on the row in the table containing the first newly discovered *DPoE*™ device. After the *DPoE*™ device information is gathered from the *DPoE*™ device, the View *DPoE*™ device Screen will open and will look like this:



7. Select the Edit *DPoE*™ device Info and the following form will open. This is where the *DPoE*™ device Attributes can be entered.



The *DPoE*™ device name, rack name, rack space position, and contact name should be entered here like the example above. The *DPoE*™ Element Manager will create a rack with that name, and any device that has the same rack name will be grouped under that rack. This screen also includes a place to record the name and location information of the power system for this *DPoE*™ Compact 8 Midspan.

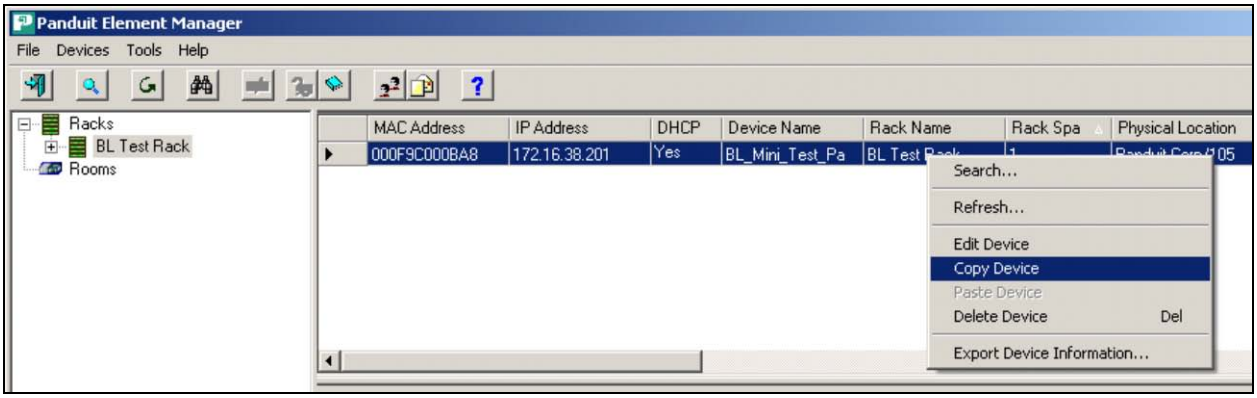


Note that the Physical Location entry line allows 1024 characters of information to be entered, which includes additional physical and geographic information for this *DPoE*™ device. This should also be filled out per the example below:

Click the OK button and the Device Physical Location information will be added to the device attributes field.

8. Once all of the desired information is entered into the device attributes field, click the Save button and this information will be saved. The device and the rack images will be shown in the *DPoE*™ Element Manager Tree View of the Network Area associated with the designated name.

9. Other newly discovered devices can be easily provisioned by copying the Device Attributes from this device, and making changes where needed for the new rack names, rack positions, device name, etc. This can be done by selecting the table row with the last provisioned *DPoE*™ device, right clicking, and choosing “Copy Device”. Select the next device to be provisioned by highlighting the row of the device, right clicking, and choosing “Paste Device." All of the Device Attributes will be applied to the new device. Select “Edit Device” and edit Device Attributes and make the appropriate modifications.



10. The previous step should be repeated for each device in the network until all the devices have been provisioned. Once this is done, the *DPoE™* Element Manager can easily manage all of the powered devices using the more intuitive physical location information that is stored in each device.

Administering Port and Device-level Information

The *DPoE™* Element Manager makes it easy to administer the deployed network of *DPoE™* devices. When a specific device is selected in the Tree Level View of the Network on the system-level screen, the *DPoE™* Element Manager automatically retrieves the latest power and LED information from the selected device and displays on the View Device Screen. (See ***Table 7: Power Midspan System LED*** **Indications**, ***Table 8: Port LED Indications*** and ***Table 9: Network Status LED Indications*** for information on the LED Indicators)

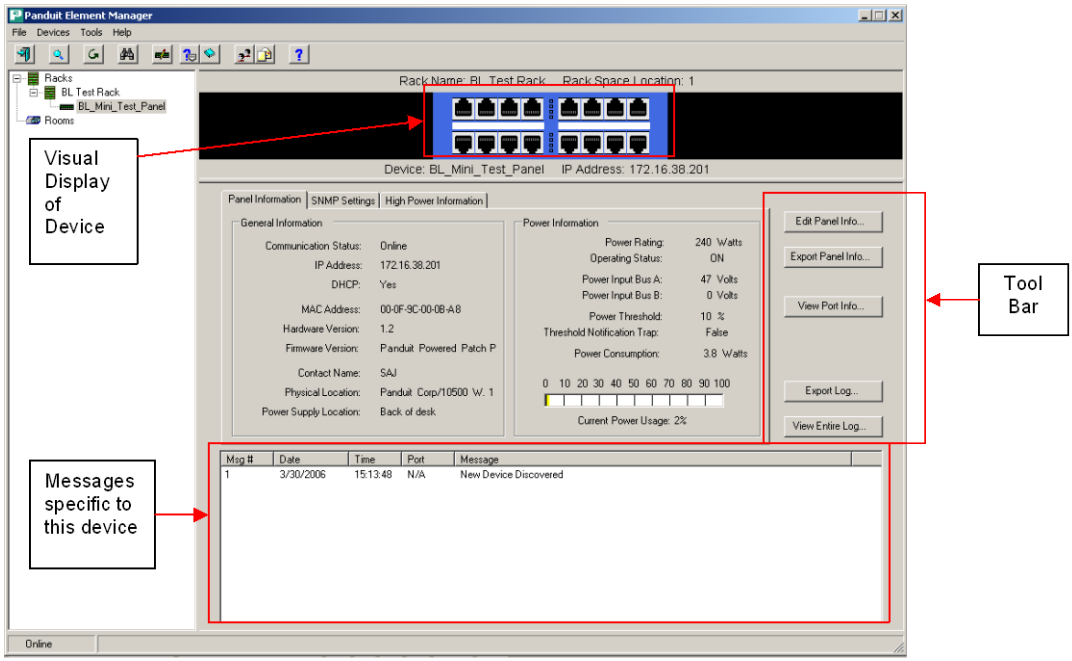


Figure 15: View Device Screen – *DPoE™* Device Information

The top portion of the device-level opening window provides a view of the *DPoE™* device which in this example is the *DPoE™* Compact 8 Midspan, complete with the current LED status, IP address, rack name and rack location. The information on this screen can be edited by selecting the Edit Panel Info… button on the right side tool bar.

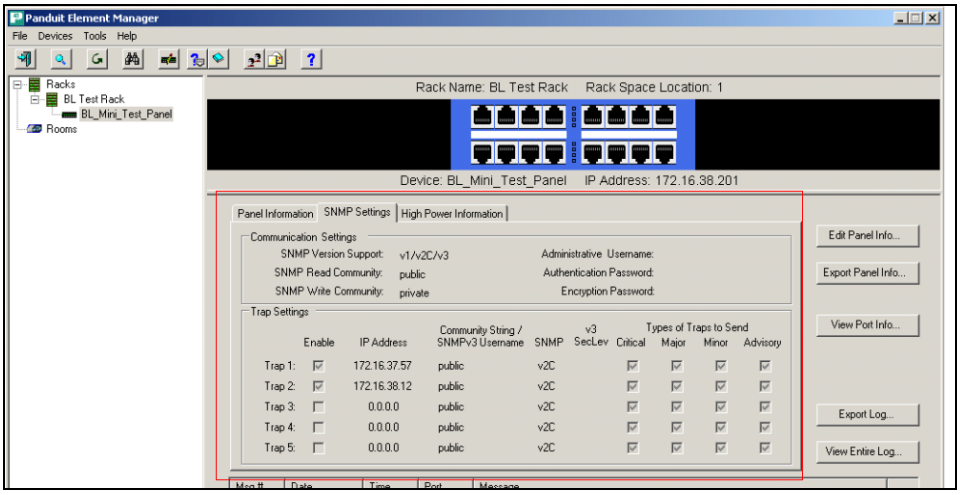


Figure 16: View Device Screen – SNMP Settings

The second tab on this screen allows user to view the SNMP information currently set for this device. This screen cannot be used to modify the configuration SNMP information. The SNMP configuration can be edited selecting the Edit Panel Info… button on the right side tool bar.

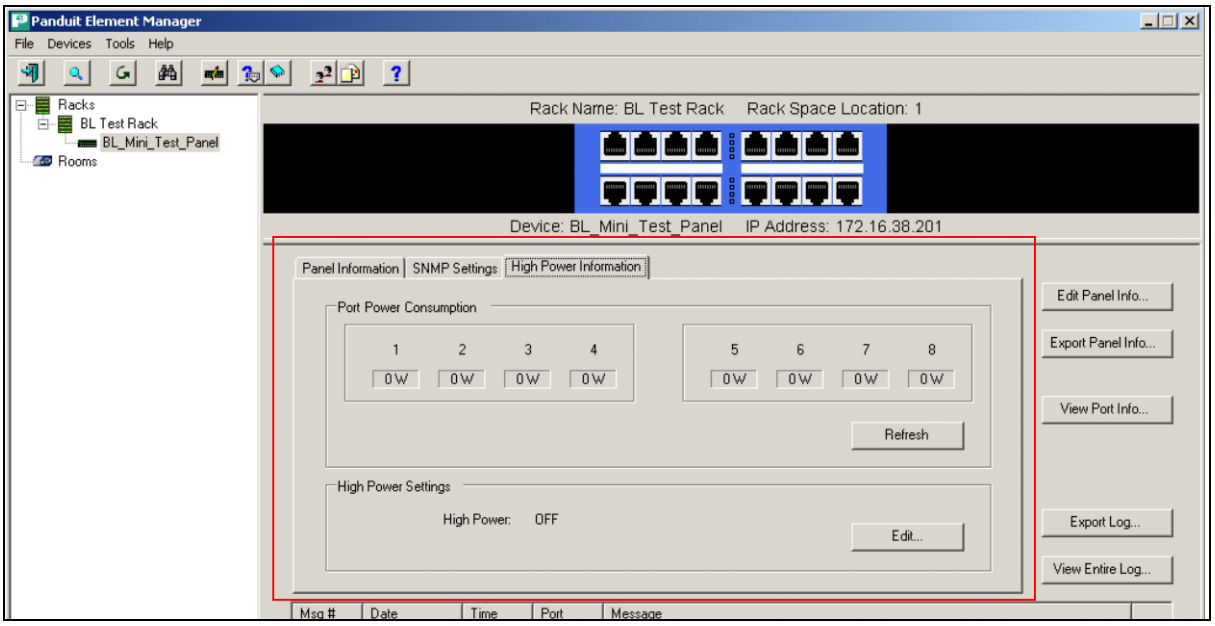
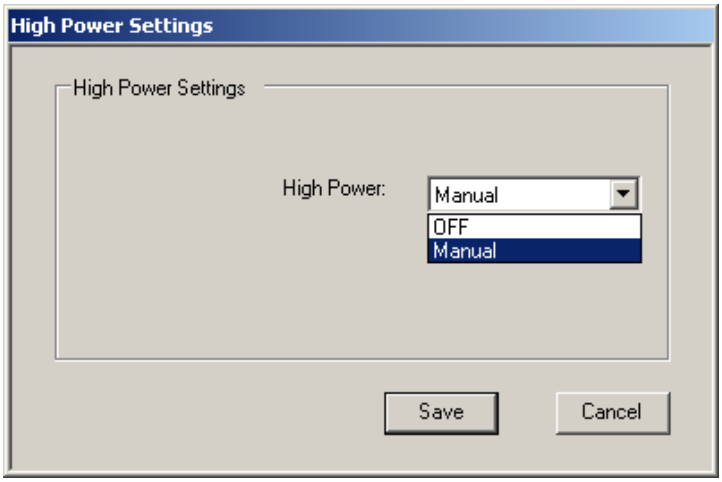
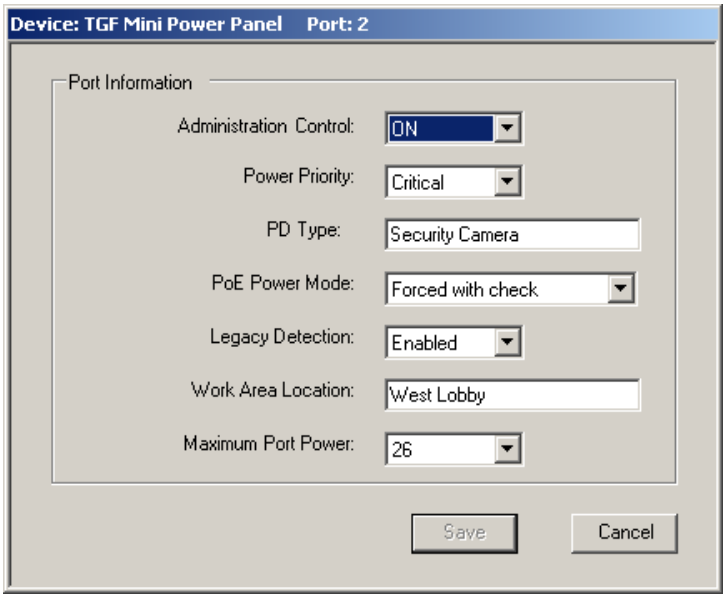


Figure 17: View Device Screen – High Power Information

The third tab on this screen allows one to view the port power consumption for this device. A Refresh button is provided to obtain the latest per port power consumption levels. This tab also displays the whether the High Power setting is ON or OFF. Clicking the Edit button within the High Power Settings section can change this setting. Clicking the Save button within the High Power Settings section will save the High Power setting to the mode selected either OFF or Manual. The Manual High power setting allows the user to manually set the appropriate power level beyond 15.4 Watts per port up to 30 Watts per port based upon the powered devices powering capability and the source power supply headroom.



Once the High Power setting is enabled to Manual setting the Port Information can be edited for High Power levels. PoE Power Mode can be set to Forced with Check or Forced and the Maximum Port Power can be selected for the Powered Device (see ***PoE Power Mode*** for more information on Forced with check or Forced power modes).



The following Warning message will be issued when the Manual High power setting is enabled and the Port Information PoE Power Mode is set as Forced with check or Forced.

Edit Panel Information

In addition to the Edit Panel Info button on the tool bar, the Edit Panel option under the *Devices* pull-down menu provides an easy mechanism to perform this task.

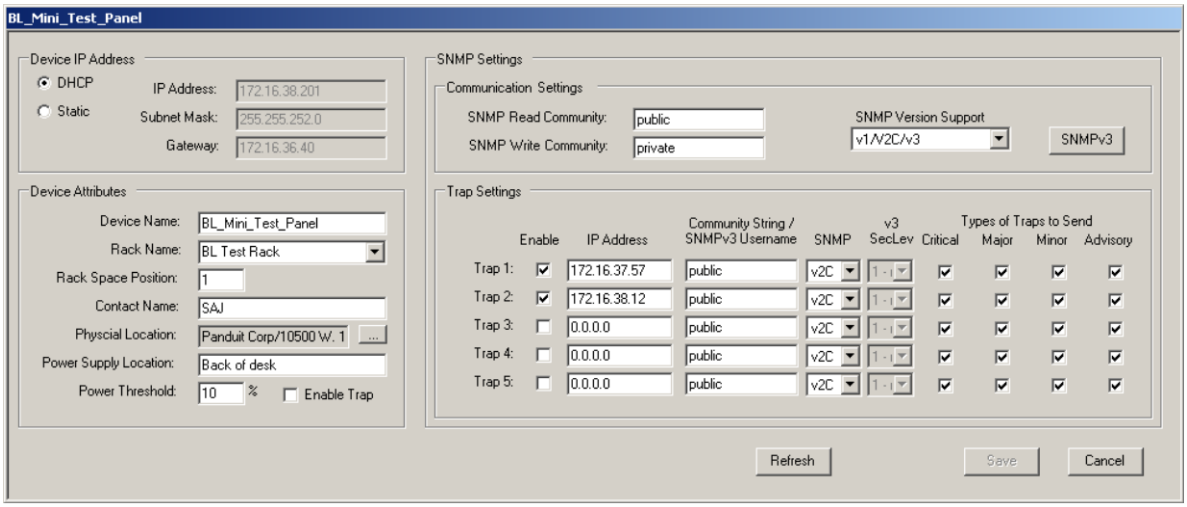


Figure 18: Edit Panel Screen

TIP:	Prior to modifying any entries on this screen, click on the Refresh button to retrieve the latest information stored in the specific *DPoE™* device.

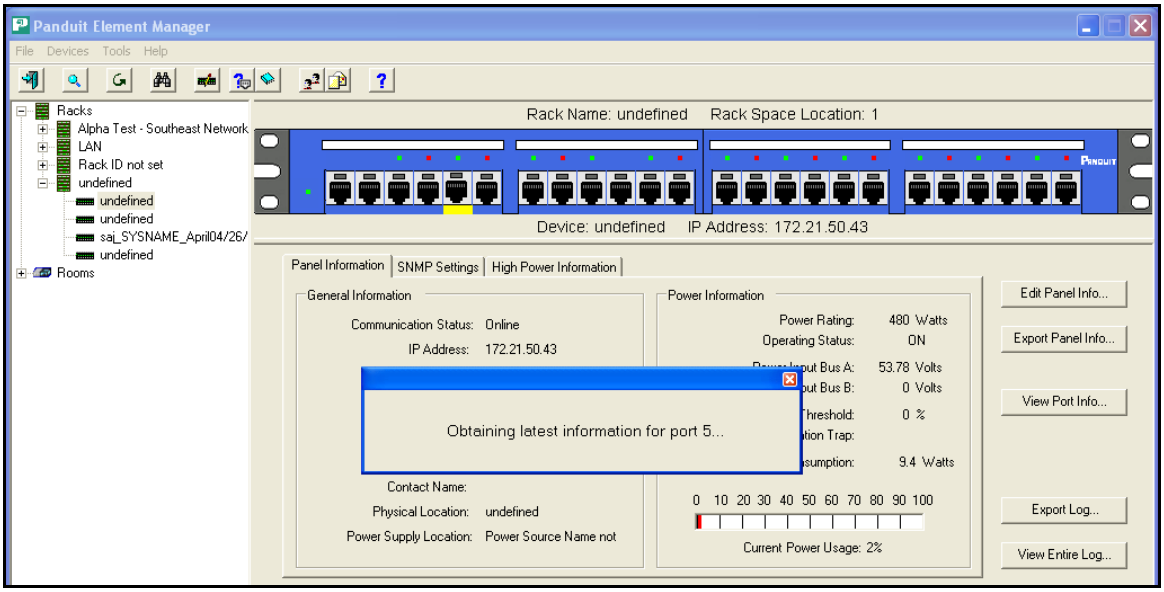
This screen will allow the network operator to change the device IP address, the device attributes, the SNMP setting, or the trap settings.

After any changes are made, clicking the Save button will store the information and transmit it to the *DPoE™* device.

Active Port Indicator

By clicking on any device port, its status information will be displayed and the selected port will be highlighted with a yellow flashing indicator on the EMS screen.

When the select device is displayed you can click on a port (for this example port 5) and the selected port will highlight with a flashing yellow indicator. You will receive a dialog box on screen stating that the EMS is obtaining the latest information for the selected port.



The port information will be displayed (for this example port 5) and the selected port will continue to be highlighted with the flashing yellow indication.

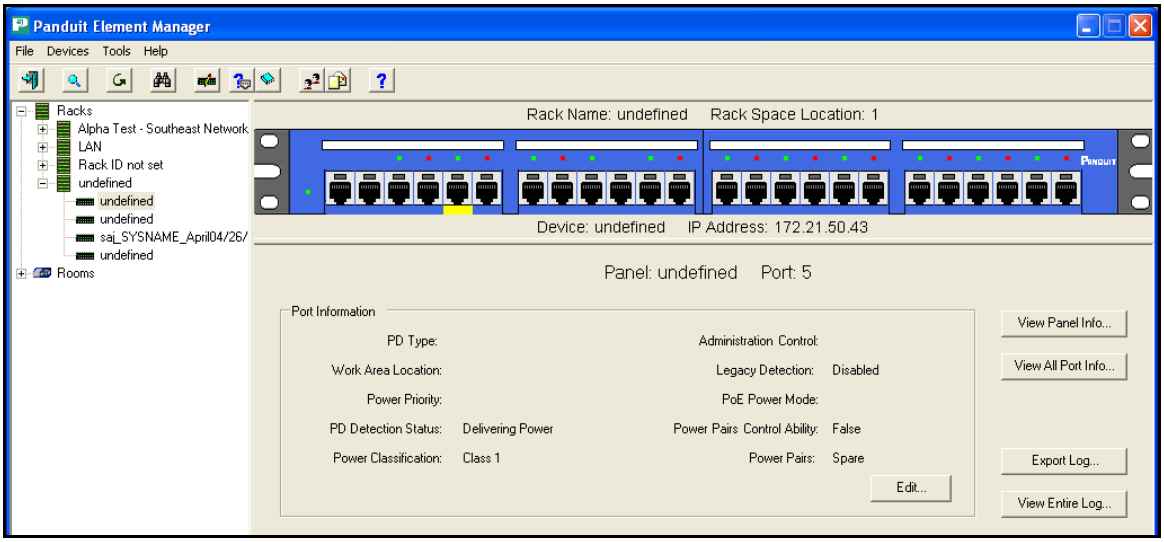


Figure 3: Active Port Indicator Screen

The Port information and yellow indicator will remain until another port is selected or you navigate to another screen view in the EMS.

Device IP Address

The *DPoE*™ Compact 8 Midspan device comes with a factory setting of DHCP address assignment. After the device is connected to the *DPoE*™ Element Manager, the network administrator may change this setting by adding an IP address & Subnet Mask, if desired, to be consistent with the rest of his/her network. The Gateway field is the IP address of a gateway. If the *DPoE*™ Element Manager and the *DPoE*™ devices are on different networks or if the Simple Mail Transfer Protocol (SMTP) server is on a different network from the device, the device will send those messages to the gateway IP address specified.

NOTE:	The *DPoE*™ Compact 8 Midspan supports either static IP addressing or DHCP address selection. If the device is set for DHCP, no other information is required in this section.

Device Attributes

This portion of the screen can be used to set the Device Name, Rack Name, Rack Space Position, Device Physical Location, and Power Supply Location. These fields are freeform and, while these fields will not change the operation of the *DPoE*™ Element Manager, they allow the *DPoE*™ Element Manager to present the device and rack information in a user-friendly format. For example, with these fields set, devices in the same rack will be grouped together in the Tree View of the Network area on the system-level opening screen. Likewise, devices wired in a single rack will be displayed consistent with the value in the Rack Space Position field. (See ***Provisioning the DPoE™ device***, for more information.) Once these values are set in the *DPoE*™ Element Manager, this information will be transmitted and stored in the *DPoE*™ devices.

Two additional fields are available on this screen, which affect the operation of the *DPoE*™ device. The first field, the Power Threshold, allows the network operator to configure the available power for this *DPoE*™ device as a percentage of the maximum power the device can support. For example, the *DPoE*™ Compact 8 Midspan can support 240 watts (8 x 30 Watts per port). If the power supply supporting the *DPoE*™ Compact 8 Midspan supplies less than 240 Watts the Power Threshold setting can be configured to send an alarm message when the power being demanded by the *DPoE*™ device

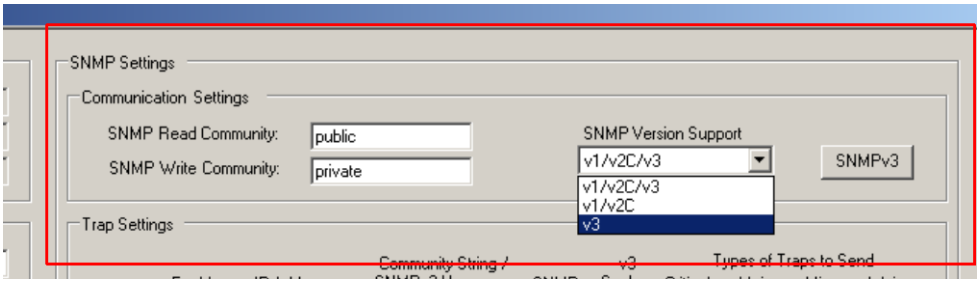
approaches the maximum available power. Therefore, the Power Threshold for this device could be set at 50%. The Power Warning Threshold, which prompts the device when to send an alarm messages, could be set at 10%, so that the device initiates the alarm message when it reaches 90% of this particular device's maximum power. (See

DPoE™ Element Manager Log Messages, for more information on Power Warning Threshold.)

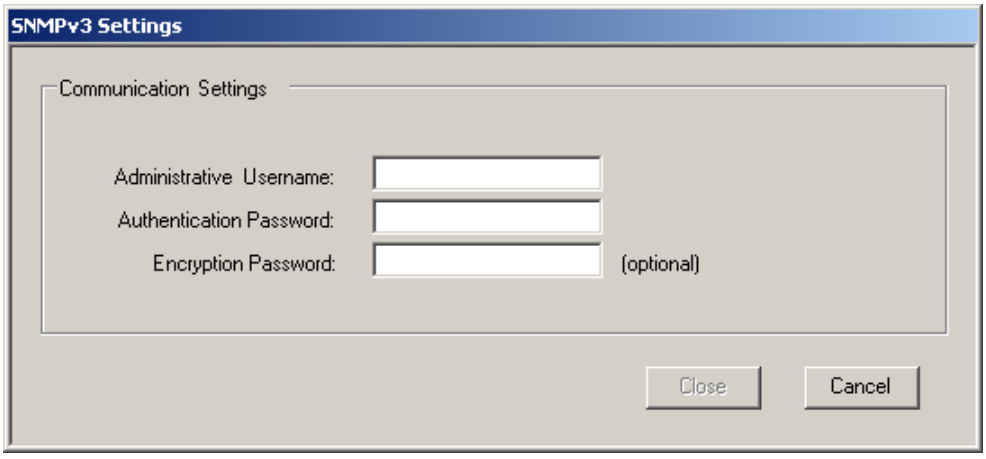
The Enable Trap is a checkbox (☑) that allows the user to turn on or off an individual *DPoE™* device's reporting of threshold power alarms.

SNMP Settings

The system defaults to “public” for the SNMP Read Community and “private” for the SNMP Write Community.
The SNMP Version Support can be selected to include v1/v2c/v3 or v1/v2c or v3



There is an SNMPv3 button within the SNMP settings section. Selecting this button will bring up the following dialog box.



This dialog box allows the user to enter the Administrative Username, Authentication Password and (optionally) the Encryption Password in support of SNMPv3.

IMPORTANT:	The SNMP Community fields are case-sensitive and allow SNMP messages to be exchanged between the *DPoE™* Element Manager and the *DPoE™* devices. **FOR SECURITY REASONS, THESE FIELDS SHOULD BE CHANGED FROM THEIR DEFAULTS.**

SNMP Access and Security

The security for the agent is based on a modified version of the security methods provided by the IETF. A set of users is provided with varying capabilities. The administrator account is able to change passwords and Authentication Levels (noAuthNoPriv, authNoPriv, authPriv). The following lists capabilities for each user.

NOTE:	It is recommended that the user change these passwords and community strings during provisioning.

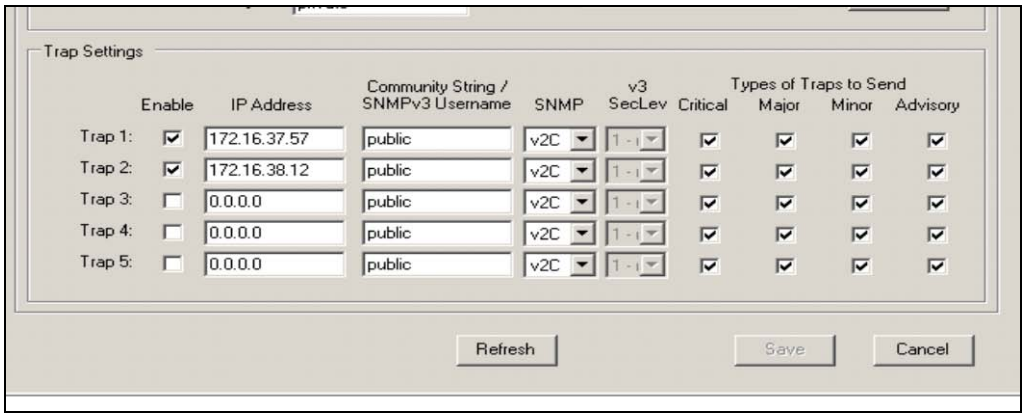
Table 11: SNMPv3 Defaults and Access

User	Default Password	SNMP Version	Minimum Authlevel	Read	Write
Administrator	setup_passphrase	v3	authNoPriv	All	All
Maintenance	setup_passphrase	v3	authNoPriv	All	All except: usmUserTable panduitNetSNMPACMTable
Read Only	setup_passphrase	v3	noAuthNoPriv	All - Can not read writecommunity	Nothing
Discovery	setup_passphrase	v3	noAuthNoPriv	SystemGroup of RFC 3418	Nothing
Private	N/A	v1/v2c	N/A	All	All except: usmUserTable panduitNetSNMPACMTable
Public	N/A	v1/v2c	N/A	All - Can not read writecommunity	none

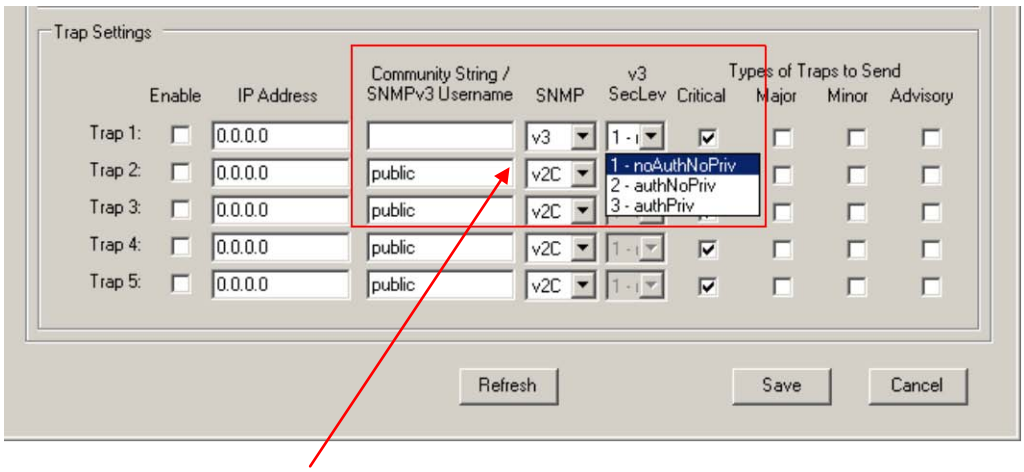
Trap Settings

The Trap Setting section allows the network operator to configure the *DPoE*™ Compact 8 Midspan to send configuration and alarm messages to up to five different IP addresses.

IMPORTANT:	One of the Traps must be configured and set to the IP address of the *DPoE*™ Element Manager in order for the *DPoE*™ Element Manager to receive configuration and alarm messages from the *DPoE*™ device**.** The computer running the *DPoE*™ Element Manager should not have any other programs running that receive trap information.



The IP Address, SNMP Community String and SNMP version are set according to the destination device for these outgoing messages. The Enable check box provides an easy on/off button for the traps without having to delete the entered information.



Note that when the SNMP version is set to v3 the SNMP Community String field changes to blank and allow entry of the SNMPv3 Username. Also when the SNMP version is set to v3 the security level (v3 SecLev) can be selected either “1” No Authentication No Privacy encryption, “2” Authentication No Privacy encryption, and “3” Authentication and Privacy encryption.

The other fields, Critical, Major, Minor, Advisory, refer to the priority of the messages and allow the network operator to designate which message should be sent for each trap. (See page 50,

DPoE™ Element Manager *Log Messages,* for more information.)

Edit/Copy/Paste/Delete Device Information

The *DPoE™* Element Manager also provides a unique feature that will allows the network operator to more efficiently configure the network by allowing all device-level information to be copied from one device to another. The Copy Device and Paste Device options under the *Devices* pull-down menu provide an easy method to perform this task.

Once a device is highlighted in the Tree View of the Network Area on the system-level opening screen, the View Panel Screen for that *DPoE™* device will appear. Using the Copy Device function all the device-level information will be copied into a buffer. Selecting another similar device on the Tree View of the Network and then selecting the Paste Device option will paste the device-level information (Device Attributes, SNMP Settings and Trap Settings) from the copied device into the selected one (destination). The paste device capability can continue by selecting another device and then selecting the Paste Device option again.

NOTE:	The Paste Device option does not overwrite the IP Addressing information for the device. (See page 34, *Edit Panel Information,* for more information.)

The Delete Device option under the *Devices* pull-down menu provides a simple way to delete a *DPoE™* device from the *DPoE™* Element Manager. This capability may be required if devices are being removed from the network. Once a device is highlighted in the Tree View of the Network area on the system-level opening screen, the View Panel Screen for that *DPoE™* device will appear. Selecting the Delete Device function will erase all device-level information in the *DPoE™* Element Manager for this device.

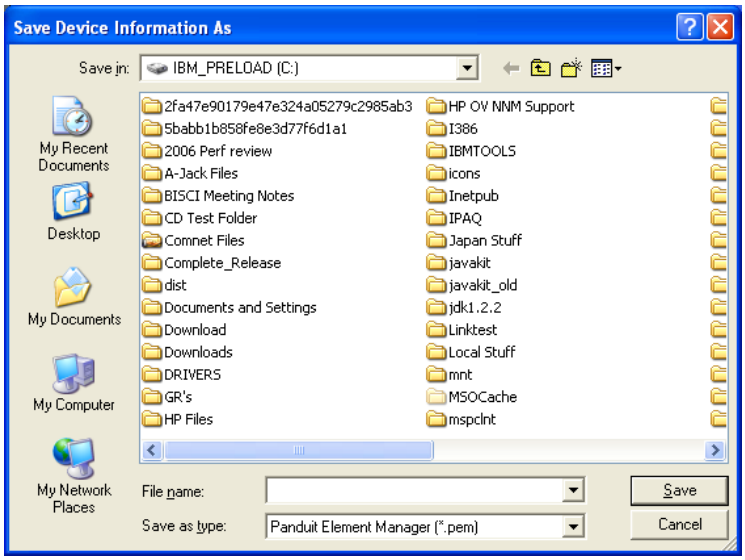
NOTE:	Since the master copy of all device information in stored in the device itself, the Discover function has the capability to find the device in the network and restore the information if it was erroneously deleted.

Backup of Panel and Port Information

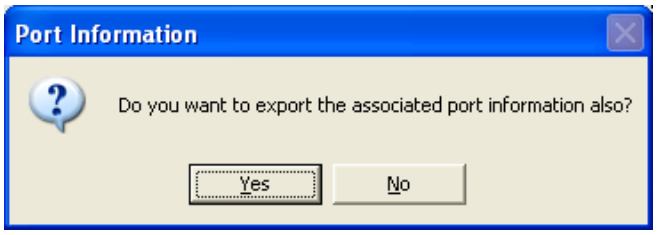
Once a *DPoE™* device has been discovered, information from that device can be exported using the **Export Device Information** in the **Tools** menu bar. This may be necessary if the *DPoE™* information needs to be backed-up in the event of a complete firmware update, to keep records of established information, or as a means to copy information from established units into new units prior to configuration.

A dialog box will appear allowing device information to be exported for All Devices, Devices that are in the Selected Rack / Room, or for the Selected Device. The Refresh Data box prompts the system to obtain the most recent information from the device.

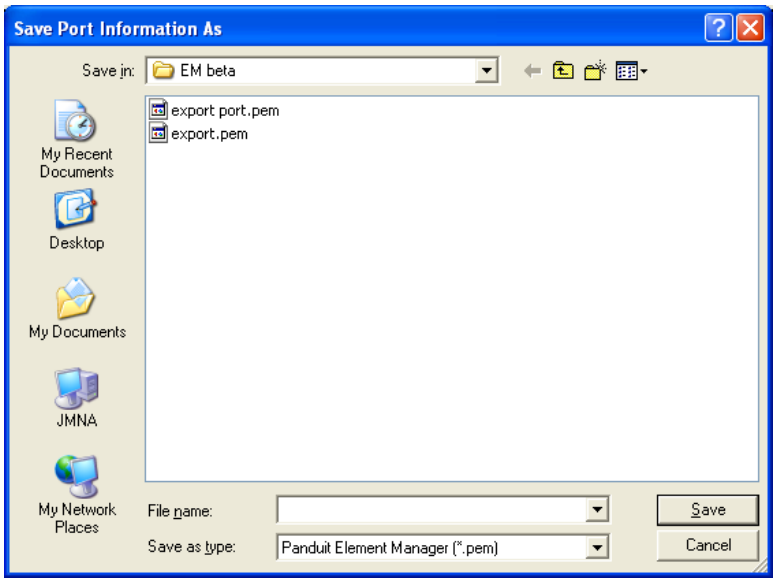
After hitting OK, a dialog box will appear requiring a file name and desired location to save the file. The first data file will be the panel summary information (network, physical allocation, etc.)



Another dialog box will prompt a confirmation to export all associated port information as well (work area location, etc.). **NOTE:** these are two independent files with unique information.



Once confirmed, another dialog box will appear and require a file name (such as “Panel A Ports”) and a desired location to save the file.

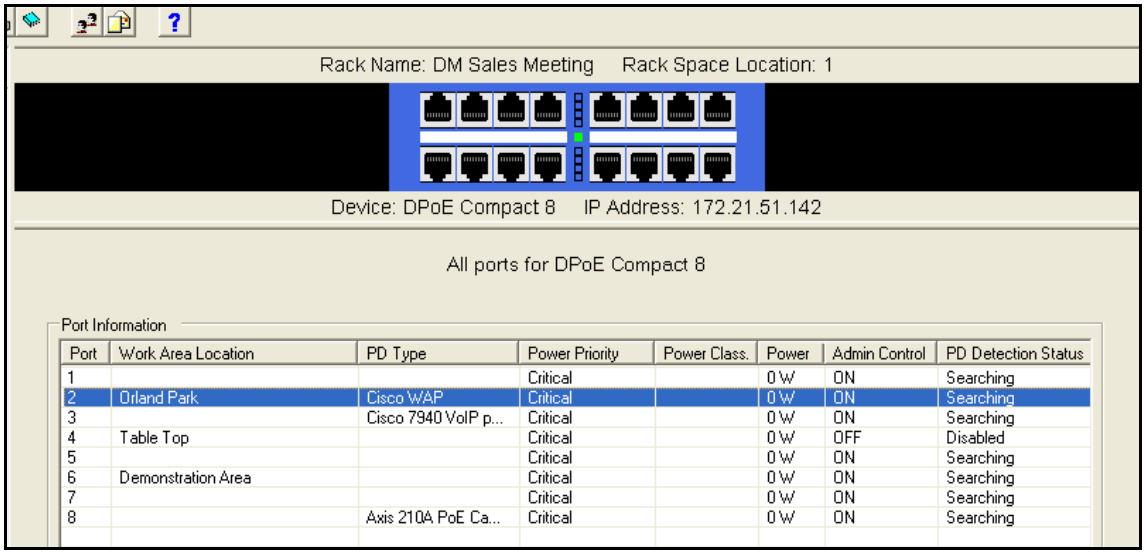


Once the Device and the Port information are saved, factory resets, firmware downloads, or other reconfigurations may be performed, with the ability to restore the previous device and port configuration information. **NOTE:** When a complete firmware update is performed, the device/port database in memory is erased.

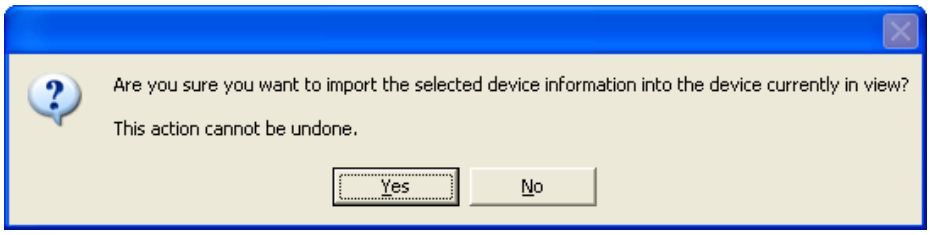
Restoring Device and Port Information

The Import function allows retrieval of saved device and port data (that has been previously extracted and saved to a file using the Export function).

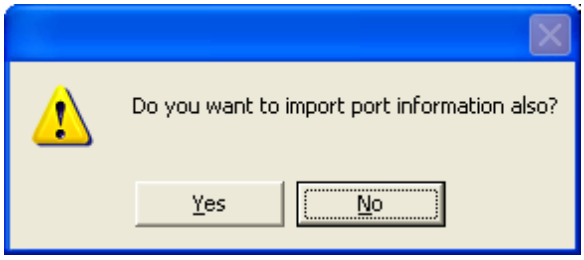
Once a device has been discovered and identified in the *DPoE™* Element Manager, retrieved device information may be imported into a discovered device using the **Import Device Information** function in the **Tools** menu bar. The device to receive the retrieved information is chosen by double-clicking on that device’s row from a list of all discovered devices. **NOTE**: the Import Device Information menu option will not appear if a device has not been discovered or selected.



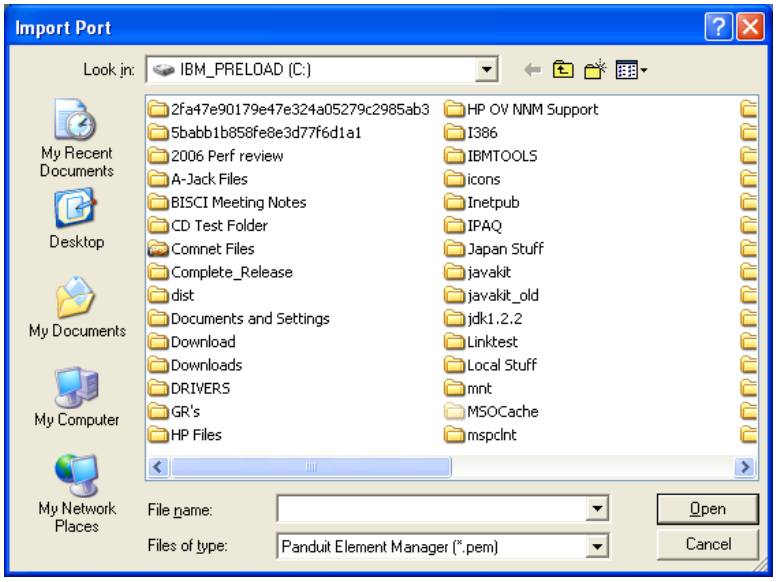
A pop-up window will ask for confirmation to import the device information.



A pop-up window will also ask for confirmation to import the port information.



After confirmation, the Import Port screen will appear, requiring the previously saved panel port information (from the Export exercise) to be located and opened.



After opened, there will be a delay as the panel information is written into the selected panel.

CAUTION: No error checking is performed in a *DPoE™* device. If a device is selected incorrectly, it is possible to overwrite a 24-port configuration information into an 8-port device (only the data representing the first 8 ports will be used). Conversely, and 8-port device can overwrite information into a 24-port unit. This may be desirable for device level configuration information (e.g., owner, location, etc), but may be undesirable for port information.

View Port Information

In addition to the View Port Info button on the tool bar, which will display configuration information for all ports on the specified *DPoE™* device, the operator may double-click any port on the Visual Display of the Front Panel portion on the View Panel Screen to view the information for that port only.

Clicking the View Port Info button will display the following screen and allow the network operator to administer the ports on a given *DPoE™* Compact 8 Midspan.

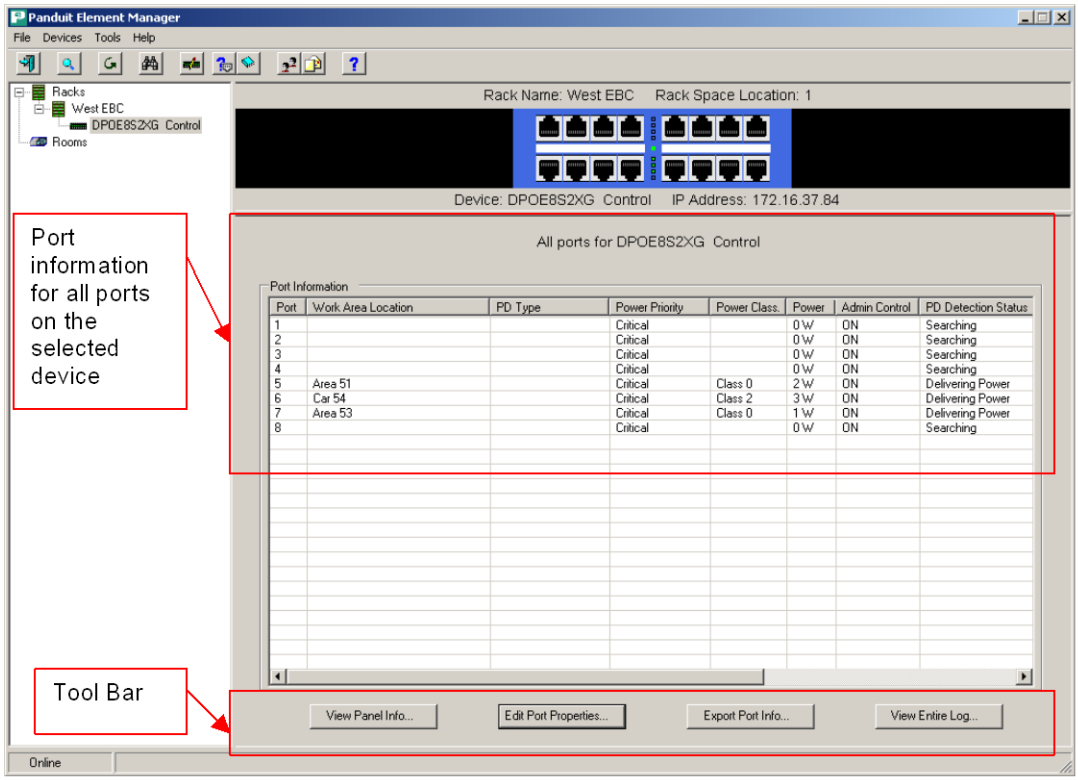


Figure 19: View All Ports Screen

Edit Port Information

Clicking any row on the port information section of this screen will bring up the configuration information for that individual port. This is the same screen that will appear by double-clicking an individual port on the Visual Display of the Front Panel portion on the View Panel Screen.

TIP:	By holding down the <ctrl> key, the network operator can select multiple ports within the same *DPoE™* Compact 8 Midspan. Then, by selecting the Edit button on the Tool Bar, the user can configure multiple ports simultaneously. Any fields not specifically overwritten with new values will be left unchanged.

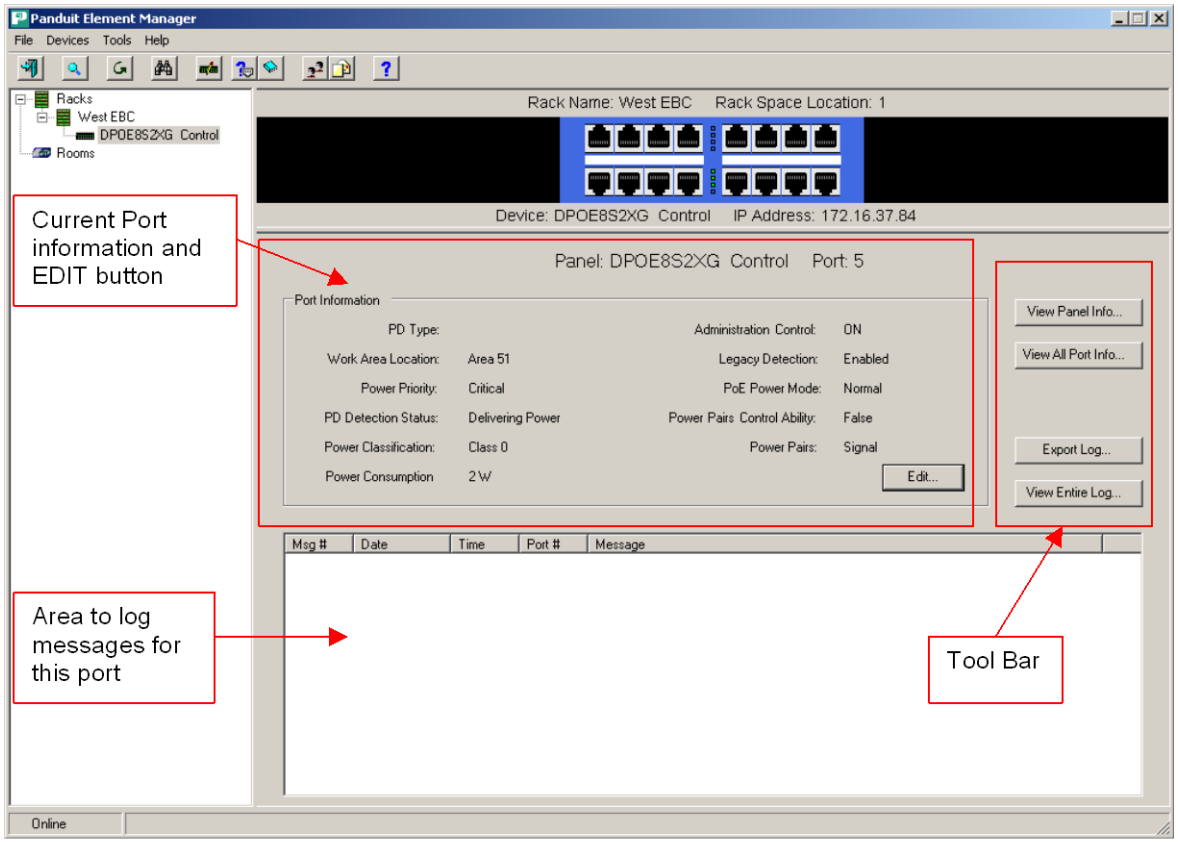
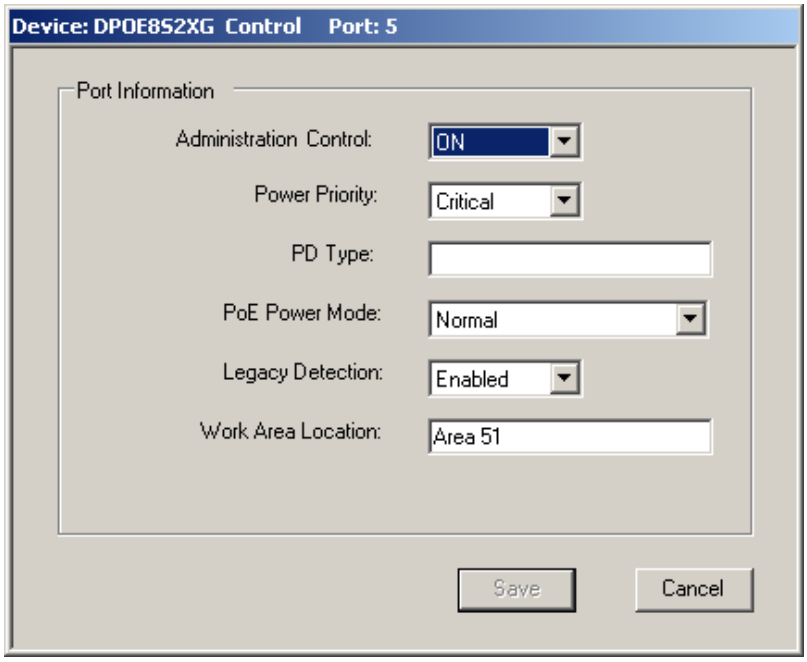
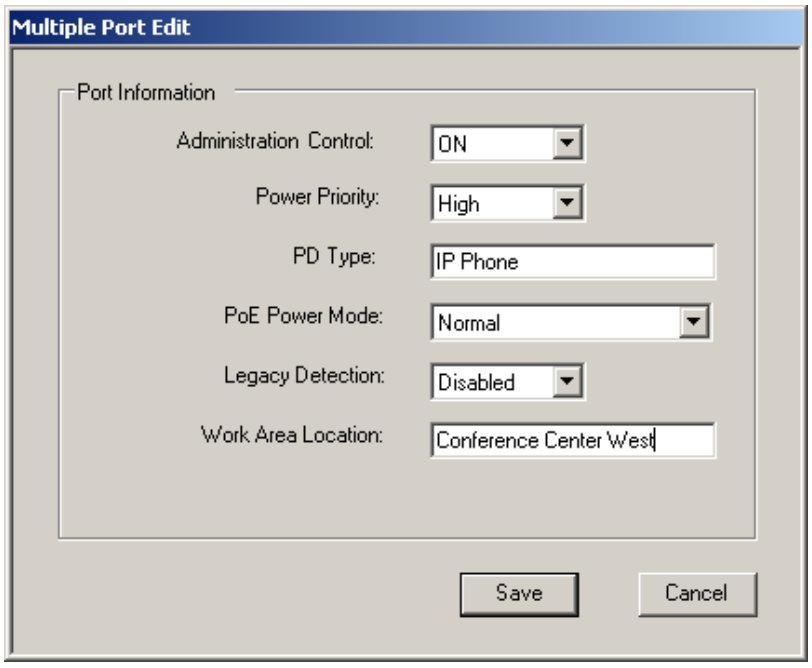


Figure 20: View Individual Port Screen

Clicking on the Edit button will bring up the screen to edit an individual port on the *DPoE™* device.



If a multiple port edit was being configured the following screen would appear and any values that were not overwritten would be left unchanged.



Administration Control - This setting {on/off} allows the network operator to control whether each individual port is sourcing PoE power. If this field is set to off, the port behaves like a non-powered port rather than a PoE port. This enables the network operator to mix non-powered or locally powered devices in the same *DPoE™* Compact 8 Midspan. The factory default setting for this field is ON.

Power Priority - These settings {low, high, critical} indicate the priority level of maintaining PoE power to this port in low-power situations. This field is used in conjunction with Network Management Systems (if deployed).

PD Type - This free-form field allows the network operator to enter information on the Powered Device (PD), such as the type of device (IP-phone, camera, etc.).

PoE Power Mode - These settings {Normal, Forced with check, Forced} indicate the power mode being delivered to a powered device. In "Normal" mode the device port will deliver the standard IEEE 802.3af-2003 compliant powering or the Cisco-In Line powering scheme. In the "Forced with check" mode the device port will deliver power only when a non-open circuit is detected. The port checks for a closed circuit condition and will not apply power until a load is detected across the circuit. In "Forced" mode the device port will deliver power without performing a detection classification. If nothing is detected within the circuit then "no device connected" traps will continuously be generated until a load is connected.

WARNING:	Forced power mode is not a normal operating condition. Although Forced mode abides by the PoE under and over current shut down precautions potential damage could be caused to certain non-PoE devices that are connected in Forced mode.

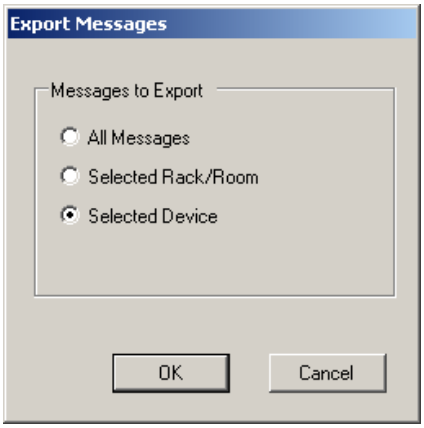
Legacy Detection – These settings {enabled, disabled} allow the PoE device detection to be modified. If this setting is enabled, the *DPoE™* Compact 8 Midspan will detect both Cisco-In Line powering scheme and the IEEE 802.3af-2003 standard powered devices. If this setting is disabled, the *DPoE™* Compact 8 Midspan will detect only devices that follow the IEEE 802.3af-2003 standard.

Work Area Location - This freeform field allows the network operator to enter information such as the location where a device is located.

Export Log

The Export Device information capability is similar to the Export Device capability. This function allows the network operator to copy the Log Messages from the currently selected port, *DPoE™* Compact 8 Midspan or the entire network of *DPoE™* devices into an external file.

The Export Log button on the tool bar on the View Panel Screen provides an easy mechanism to perform this task.



View Entire Log

The View Entire Log button on the tool bar on the View Panel Screen is used to the entire log of messages generated about the selected device. Viewing the message logs can also be activated from within the *DPoE™* Element Manager using the button on the top screen tool bar.

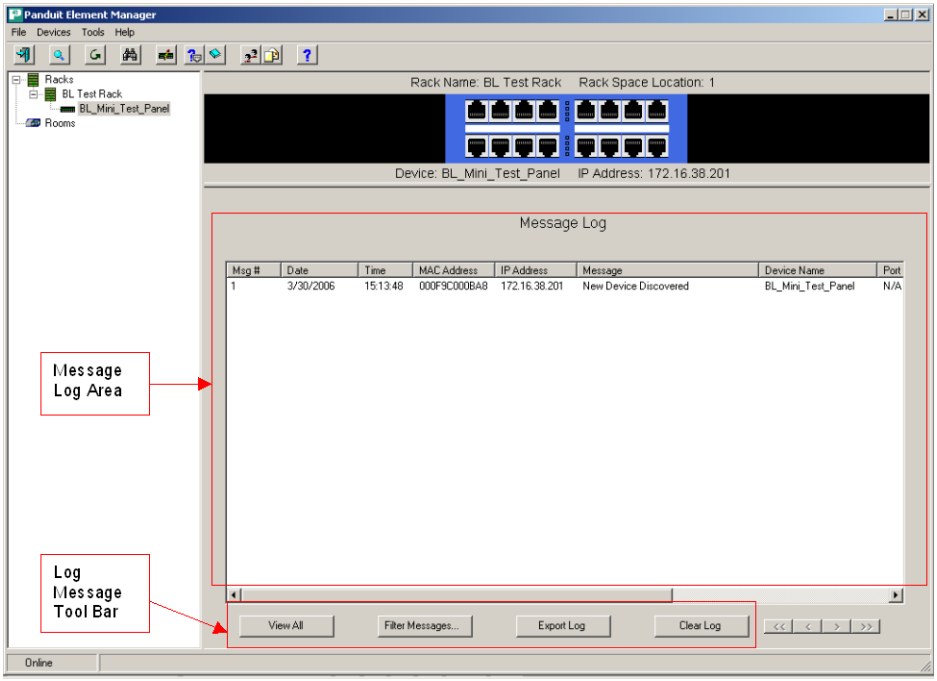


Figure 21: View Message Log Screen

The View Message Log area provides a sequential listing of all messages received by the *DPoE™* Element Manager, displaying them in a first-in, last-out manner. That is, the most recently received messages are listed at the top of the window and the older messages are pushed down toward the bottom of the window. The “rewind” and “fast-forward” buttons in the right half of the tool bar for the Message Log area are used to navigate through the message logs should it grow beyond the viewable area.

Filter Log Messages

By clicking on the Filter Messages button, the operator can selectively view and/or export a subset of the log messages.

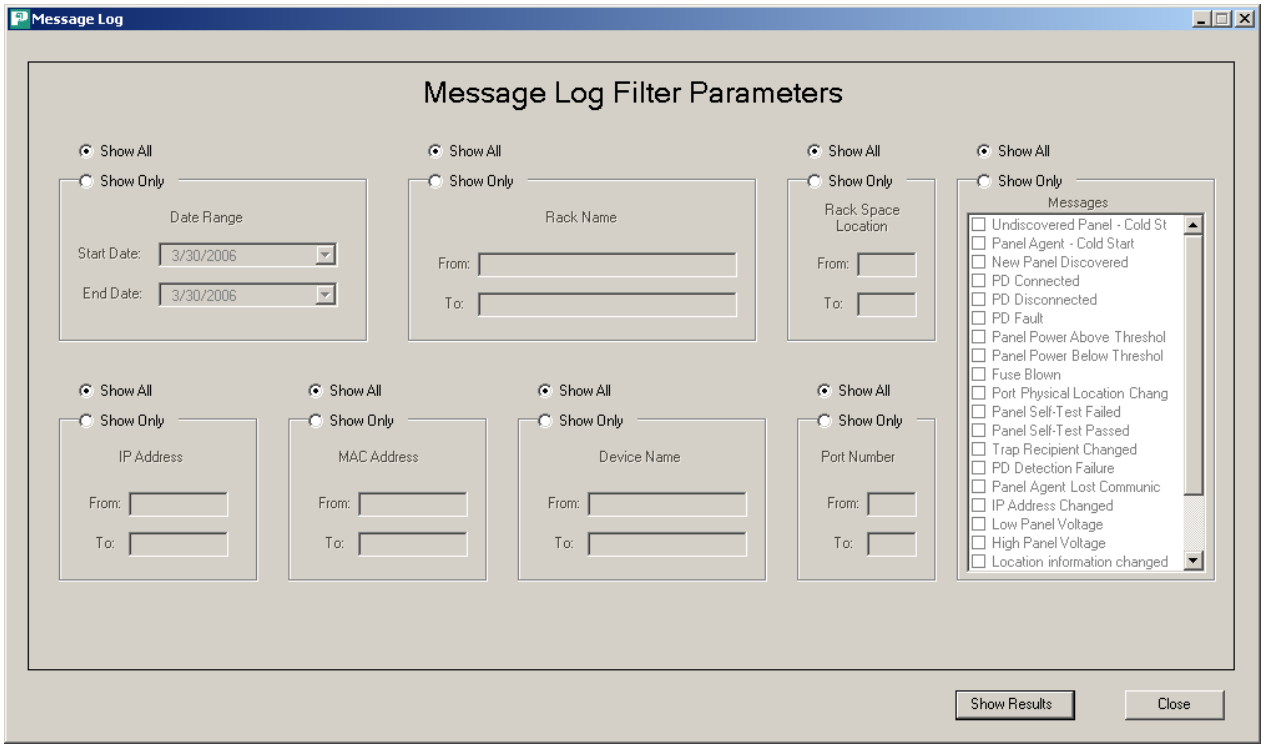


Figure 22: View Message Log Filter Parameter Screen

The Message log can be sorted and viewed generating a filtered message subset using any combination of the following parameters:

- Date Range
- Rack Name or a range of Rack Names
- Rack Space Location or range of Rack Space Locations
- IP address or range of IP addresses
- MAC Address or range of MAC Addresses
- Device Name or range of Device Names
- Port Number or range of Port Numbers
- Specific message type

Export Log

By clicking on the Export Log button, the operator is given the option of exporting the log file related to a particular device, rack or the entire log to a file.

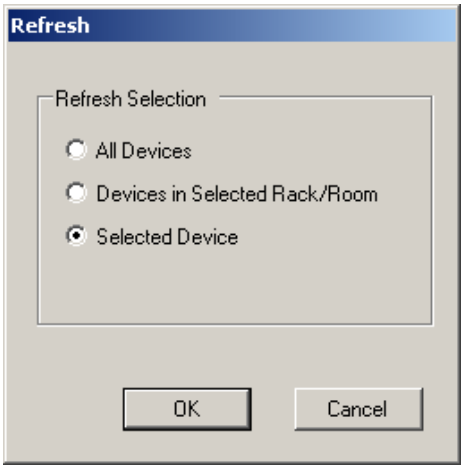
Clear Log

By clicking on the Clear Log button, the operator will be given the opportunity to export the log before erasing the entire log.

NOTE:	Clearing the log will clear the entire message log in the *DPoE™* Element Manager. It cannot be used to selectively clear a portion of the log.

Refresh the Network

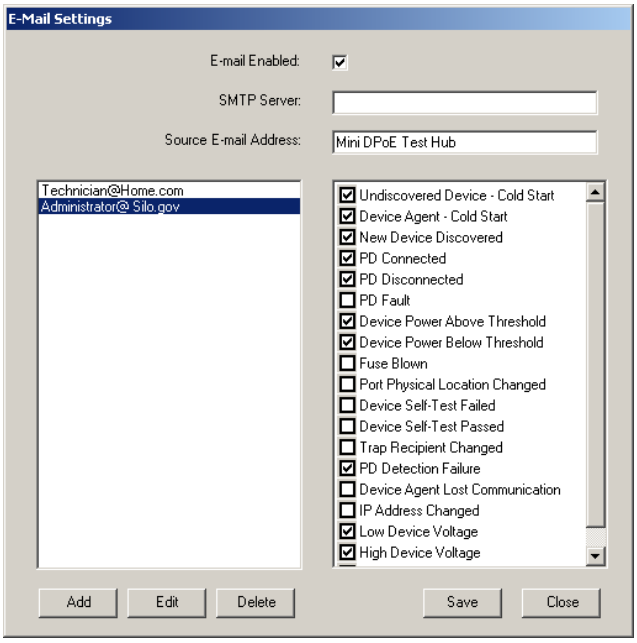
The *Refresh* option under the *Devices* pull-down menu or the button ( ) on the top tool bar provides an easy method to insure that the configuration and status information in a deployed network of *DPoE™* devices is consistent with the *DPoE™* Element Manager. Changes in network status or configuration changes made by another *DPoE™* Element Manager operating within the same network of devices are reasons why devices may exhibit different information than displayed on the current *DPoE™* Element Manager screen.



The Refresh capability can allow a Refresh of the entire network, all the devices in a rack, or a single device within a rack.

Administering E-mail Settings

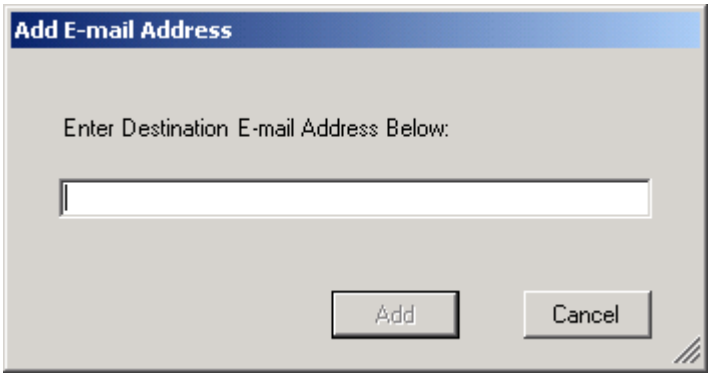
By using the E-mail capability, the network operator can assign specific e-mail addresses to be notified of network events. For example, the *DPoE™* Element Manager can be configured to send e-mail messages to one or more e-mail addresses in the event of configuration changes, incoming alarms or other events within the network of *DPoE™* devices. There are 19 categories of messages, alarms and events, which can be flexibly assigned to any of the e-mail addresses.



The *E-Mail Settings* option under the *Tools* pull-down menu provides an easy method to add new e-mail addresses to the system and to administer which events trigger messages to e-mail accounts. There is also a button ( ) on the top tool bar on the system-level opening screen that can be used to perform this task.

NOTE:	Before any e-mail messages can be sent from the system, the SMTP Server and Source E-mail Address fields must be entered. The Source E-mail Address will be used as the "from" address on all e-mails sent from the *DPoE™* Element Manager Element Manager. Once this information is added, check the E-mail Enabled box and store the settings using the Save button.

By clicking on the Add button, the network operator can enter a destination e-mail address that will receive notification e-mails when the selected network events occur.



Once the e-mail addresses are entered into the system and a specific e-mail address is selected on the left panel of the E-mail Settings, the right panel is used to select which message categories will be sent to that e-mail address. (See page 50,

DPoE™ Element Manager *Log Messages,* for information on these message types.)

NOTE:	The same category of events may be selected for multiple destination e-mail addresses.

The Edit button is used to change the e-mail address of an already assigned e-mail address without the need to delete and reenter the selection criteria.

Search for Specific Devices or Ports

The *Search* option under the *Tools* pull-down menu or the tool bar button  on the top tool bar on the system-level opening screen provides an easy method to search the *DPoE™* Element Manager for specific devices or port.

NOTE:	The * character may be used to perform wild-card searches.

The first screen to appear is the Device Search Parameter. Three alternate TABS at the top of the screen can be selected to perform a search for a specific device, port or link.

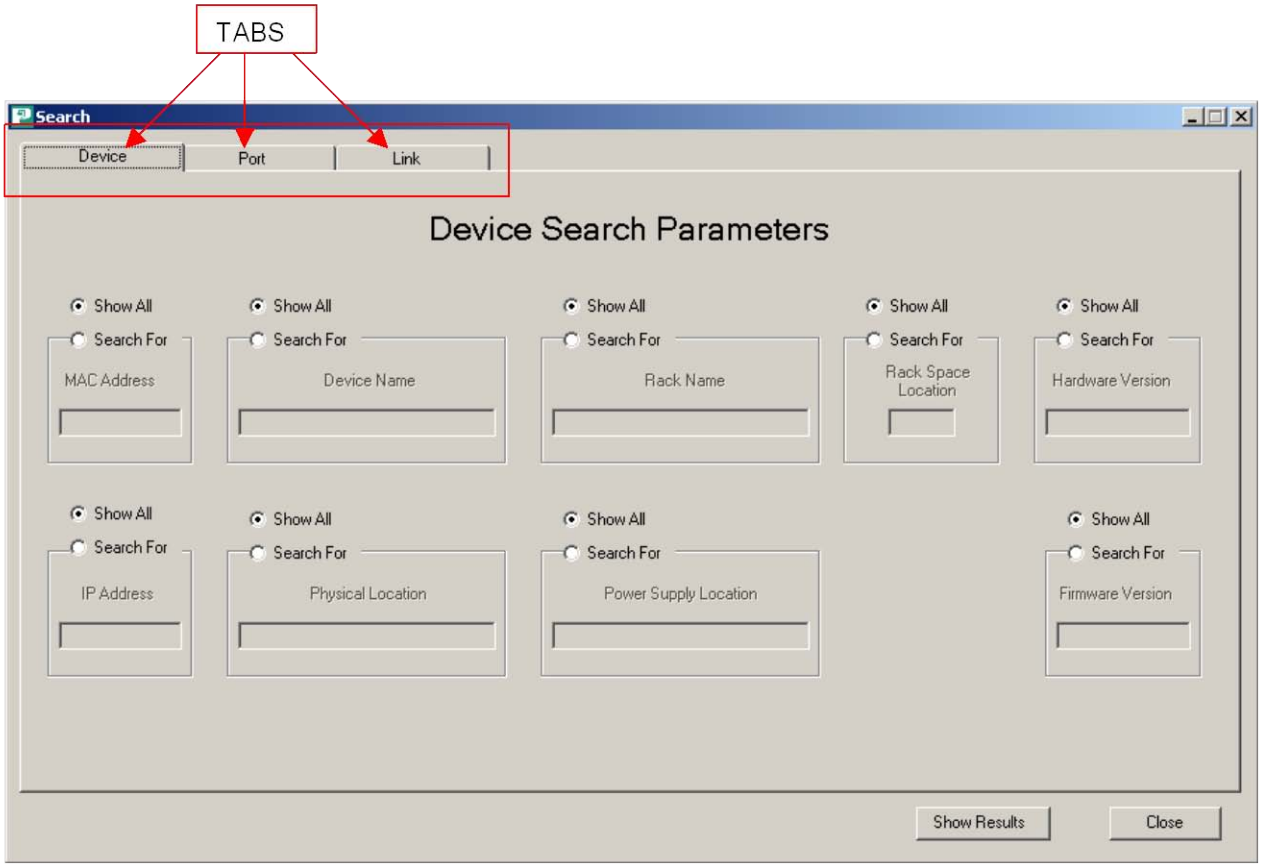


Figure 23: Device Search Parameter Screen

The Device Level Search can be categorized and the results viewed using any combination of the following parameters:

- MAC Address
- Device Name
- Rack Name
- Rack Space Location
- Hardware Version
- IP Address
- Physical Location
- Power Supply Location
- Firmware Version

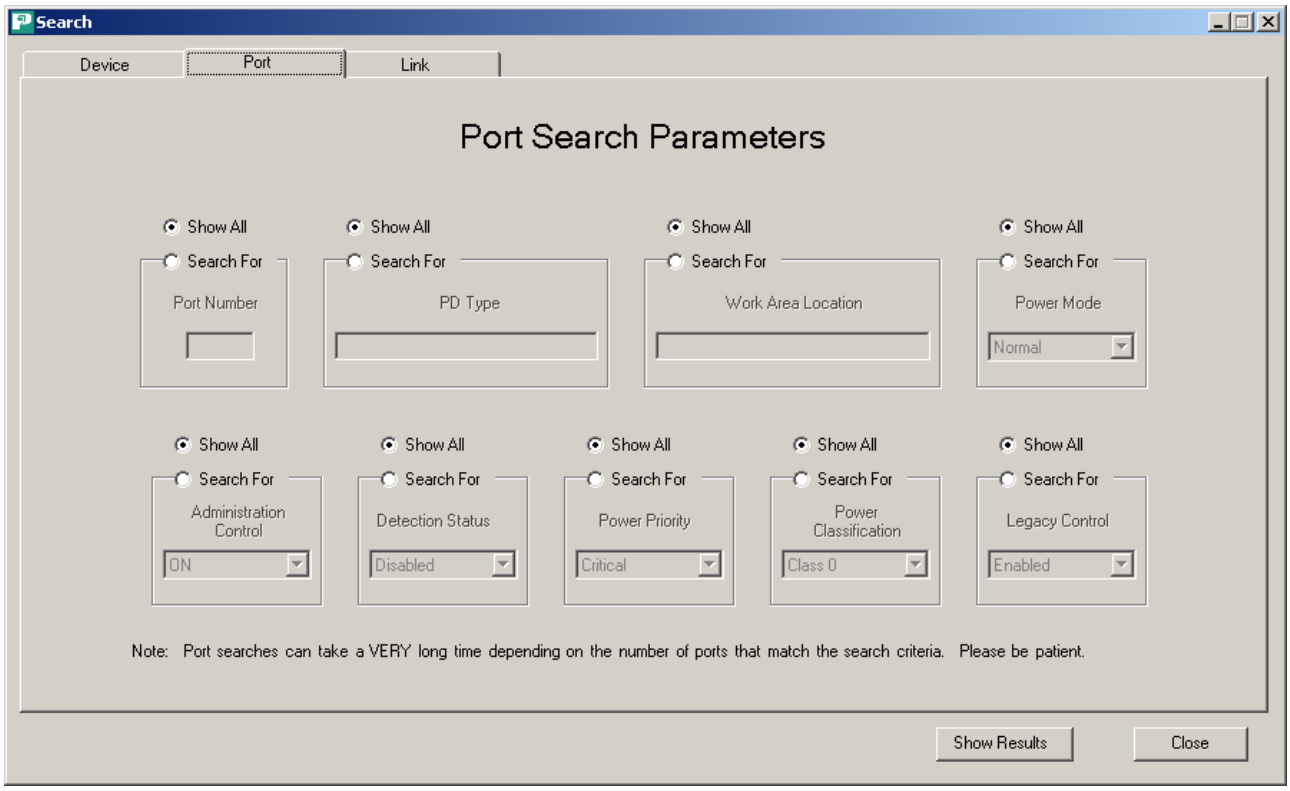


Figure 24: Port Search Parameter Screen

The Port Search can be categorized and the results viewed using any combination of the following parameters:

- Port Number
- PD Type
- Work Area Location
- Power Mode
- Administration Control
- Detection Status
- Power Priority
- Power Classification
- Legacy Control

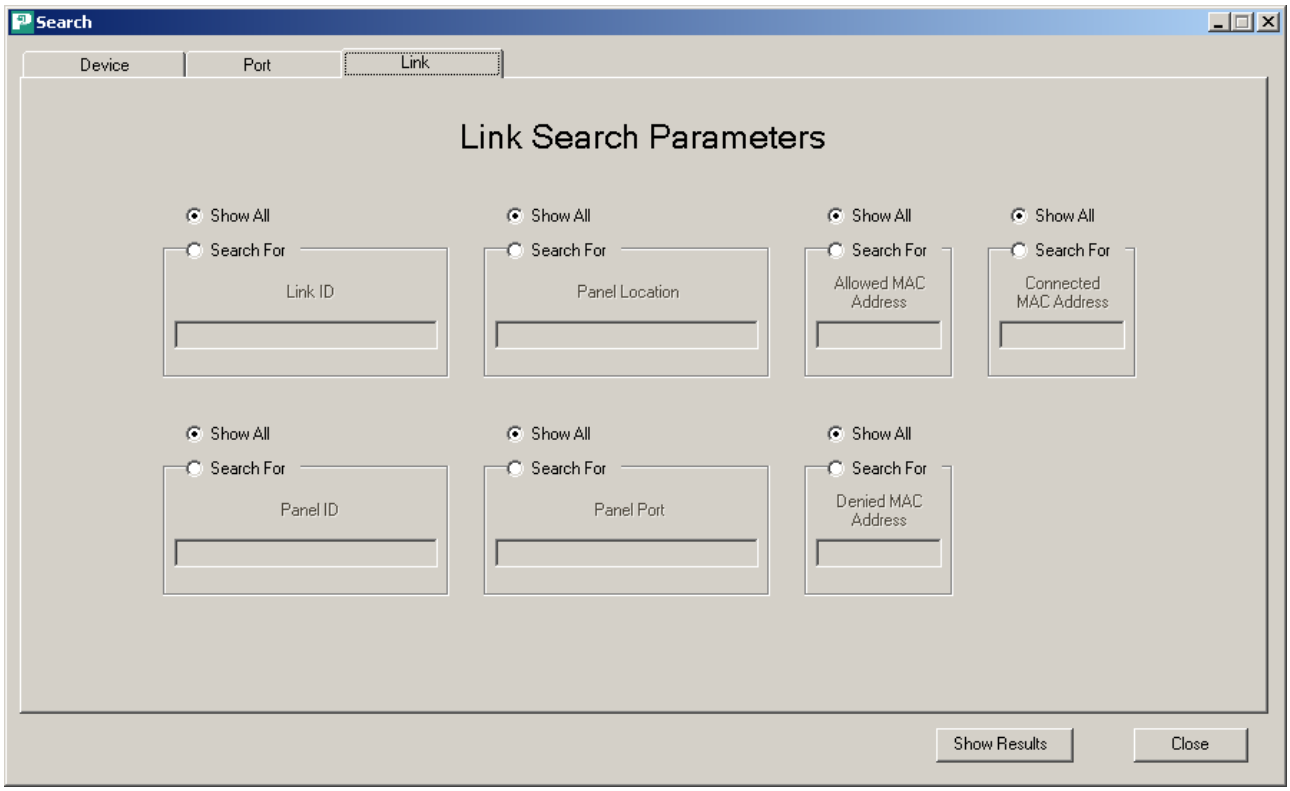


Figure 25: Link Search Parameter Screen

The Link Search can be categorized and the results viewed using any combination of the following parameters:

- Link ID
- Panel Location
- Allowed MAC Address
- Connected MAC Address
- Panel ID
- Panel Port
- Denied MAC Address

DPoE™ Element Manager Log Messages

The following types of messages are generated within the *DPoE™* device network and are displayed in the *DPoE™* Element Manager logs. While most of these messages are generated by a *DPoE™* device in the network, several of these messages originate within the *DPoE™* Element Manager when, for example, it looses communication with one of the devices in the network. The messages carry four levels of priority: Advisory, Minor, Major, and Critical. Several messages are not applicable and are reserved for future applications.

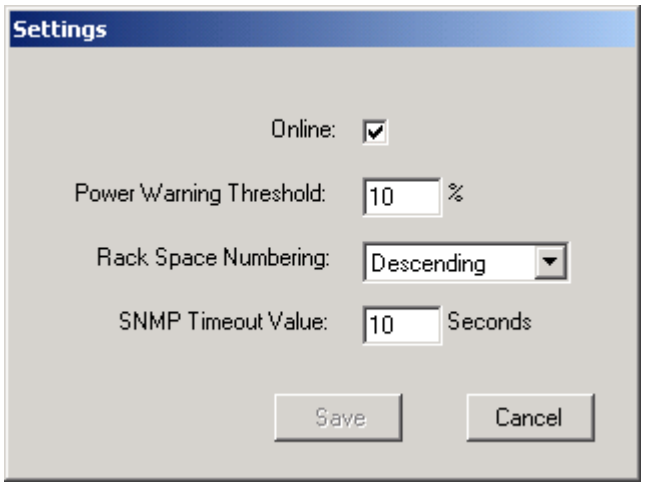
Table 12: *DPoE™* Element Manager Log Messages

Message Category	Priority Level	Description
Undiscovered Device – Cold Start	Advisory	The main software process (i.e., the device agent) in a previously unknown device is now up and running.
Device Agent – Cold Start	Advisory	The main software process (i.e., the device agent) in a previously known device is now up and running. The process will likely reset itself.
New Device Discovered	Advisory	The Discover capability has found a new device.
PD Connected	Minor	A new Powered Device has been detected at the panel.
PD Disconnected	Minor	A Powered Device has been disconnected.
PD Fault	Major	A Powered Device is unable to communicate an acknowledgement.
Device Power Above Threshold	Major	The power consumption at the device has risen above the Power Warning Threshold.
Device Power Below Threshold	Major	The power consumption at the device has fallen below the Power Warning Threshold.
Fuse Blown	Critical	The internal safety fuse has opened due to a catastrophic failure of the unit.
Port Physical Location Changed	Advisory	Location information of one of the ports has changed using the *DPoE™* Element Manager.
Device Self-Test Failed	Critical	The Device self-diagnostic test has failed.
Device Self-Test Passed	Advisory	The Device self-diagnostic test has passed.
Trap Recipient Changed	Advisory	One of the traps associated with a particular device was changed using the *DPoE™* Element Manager.
PD Detection Failure	Major	Device detected failure with one of the Powered Devices.
Device Agent Lost Communication	Critical	*DPoE™* Element Manager cannot communicate with the specified device.
IP Address Changed	Advisory	The IP address at one of the devices has changed using the *DPoE™* Element Manager.
Low Device Voltage	Major	Measured device voltage is below the minimum allowable for PoE.
High Device Voltage	Major	Measured device voltage is above the minimum allowable for PoE.
Location Information Changed	Advisory	The *DPoE™* device that was previously discovered has not been relocated to another location in the network.

Miscellaneous Settings

Several miscellaneous settings must be configured for the *DPoE™* Element Manager to communicate properly with a network of *DPoE™* devices.

The *Settings* option under the *Tools* pull-down menu provides an easy method to administer these settings.



If the Online indicator is not checked (☑), the *DPoE™* Element Manager assumes it is in the offline mode and will not attempt to connect to the deployed *DPoE™* device Network. Changes made within the *DPoE™* Element Manager will not be updated in the *DPoE™* devices.

When the total port power sourced on any given *DPoE™* device reaches the Power Warning Threshold the *DPoE™* device will issue a warning alarm and display that the *DPoE™* device has reached or exceeded the warning threshold value. The threshold value is set as a percentage below the maximum power level.

NOTE:	The power-warning threshold above setting is system-wide. It is used as a percentage below maximum for each individual device. Some devices in the network might have their maximum device power set at different levels and therefore would alarm at different points. (See page 34, *Edit Panel Information*, for more information on the Power Threshold field.)

Rack Space Numbering is a system-wide field {ascending, descending} that enables the *DPoE™* Element Manager to display the *DPoE™* devices physically in the same fashion as they are wired in the network racks. Either the rack slots are numbered from with the highest rack positions at the top (descending) or the highest rack positions at the bottom (ascending). By setting this parameter appropriately, the rack-level displays presented by the *DPoE™* Element Manager will show the *DPoE™* devices in their installed order.

The SNMP Timeout Value is a configurable threshold. If the SNMP Timeout Value has elapsed and the system has not yet received an acknowledgement from a previously transmitted SNMP message, the system will assume there is an SNMP communication problem.

Firmware Update of the *DPoE™* Compact 8 Midspan

The *DPoE™* Compact 8 Midspan has the ability to have its firmware programmed remotely. A Trivial File Transfer Protocol (TFTP) operation can be initiated using the *DPoE™* Element Manager. The *Firmware Update* option under the *Tools* pull-down menu provides a method to perform the update.

NOTE:	The latest version of firmware may be downloaded after product registration at http://www.panduit.com/Support/Software/index.htm. The panduit.com website will allow users to download firmware updates to their own TFTP server.

NOTE:	An important feature of the *DPoE™* Compact 8 Midspan is its ability to continue supplying Power over Ethernet during firmware updates. All IEEE 802.3af and Cisco In-Line protocol legacy powered devices connected to the power midspan will remain powered during a firmware update. Cisco In-Line protocol legacy new powered device detection may experience an interruption during a firmware update.

Insure that the *DPoE™* device is connected to a Network or PC that has the Element Manager application running and has the device to be programmed discovered (***see Device Discovery***)

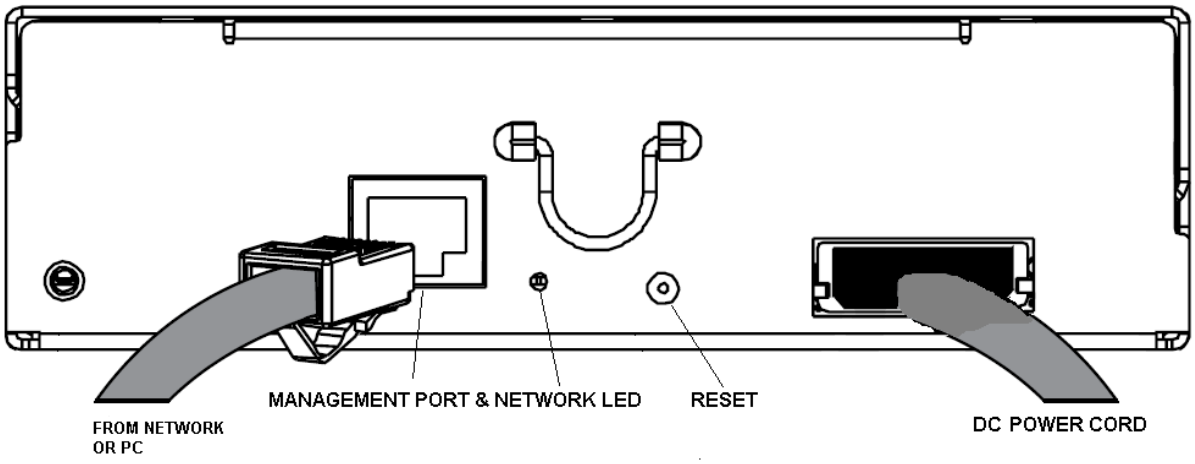


Figure 27: *DPoE™* Compact 8 Midspan (Rear View)

Detailed Description of the Firmware Update

1. Download the new *DPoE™* product file from http://www.panduit.com/Support/Software/index.htm

2. Start a local TFTP server. This may require downloading and configuring TFTP server freeware or shareware from the internet.

3. The *Firmware Update* option under the *Tools* pull-down menu opens a window that identifies the IP address, device type and device name. The window as shown in Figure 26 *DPoE™* Element Manager Firmware Update Screen can then be used to initiate the TFTP firmware update by the user entering the firmware filename and IP address of the TFTP server.

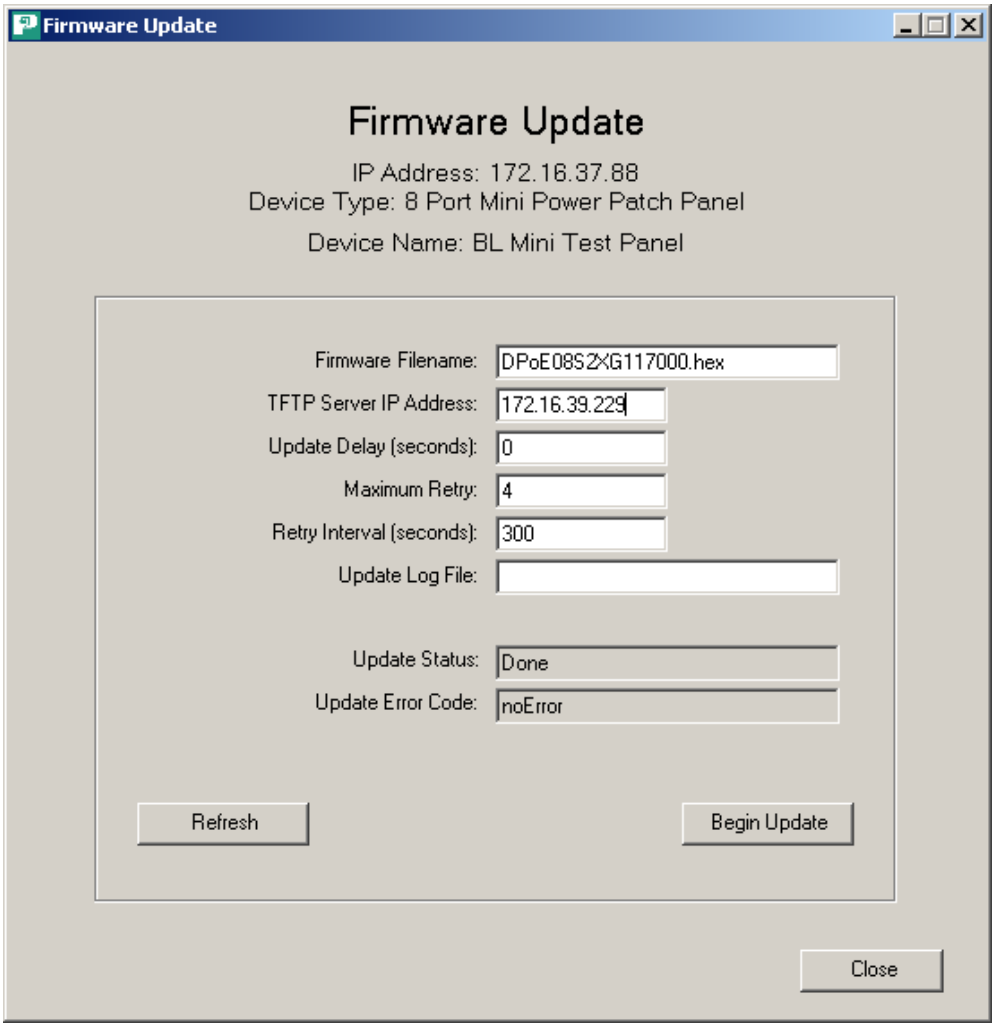


Figure 26: *DPoE*™ Element Manager Firmware Update Screen

4. Enter the TFTP information in the *DPoE*™ Element Manager screen and then click on the Begin Update button.

5. Observe the Network status LED begins flashing red on the *DPoE*™ Compact 8 Midspan. See Table 13 *DPoE*™ Compact 8 Midspan Firmware Update LED status for the LED activity during the Firmware update.

6. Allow sufficient time for the Firmware Update to complete. (Approximately 10 minutes)

7. When the Firmware Update is complete the Network status LED resumes flashing green.

Table 13: *DPoE™* Compact 8 Midspan Firmware Update LED Status

System LED Color and activity	Network LED Color and activity	State Description	Elapsed Time
Red Solid	Off	Ethernet Switch Initialization	00 – 01 seconds
	Amber Solid	DHCP Initialization	01 – 100 seconds
	Green Blink	DHCP complete	
Red rapid Blink	Green Blink	Image transfer and update in progress	5 - 7 minutes
Red slow Blink		CRC code	4 seconds
Red Solid		Image update complete	END
Green Slow Blink		Application Running	

Exiting the *DPoE™* Element Manager

The *Exit* option under the *File* pull-down menu or the button () will exit the *DPoE™* Element Manager.

Resetting the *DPoE™* Compact 8 Midspan

In the event of a lock up condition or a “lost” device the *DPoE™* Compact 8 Midspan has the ability to be hardware reset. The reset operation is initiated by inserting a rigid rod (straightened paperclip) into the RESET hole on the rear of the unit and actuating the reset pushbutton. There are four levels of reset actions that can be enabled. Each of the four reset levels is accomplished by holding in the pushbutton reset switch for subsequently longer time durations. A typical requirement for performing a hardware reset would be a processor reset, a DHCP reset, an SNMP community reset, or a complete reset to the factory default settings.

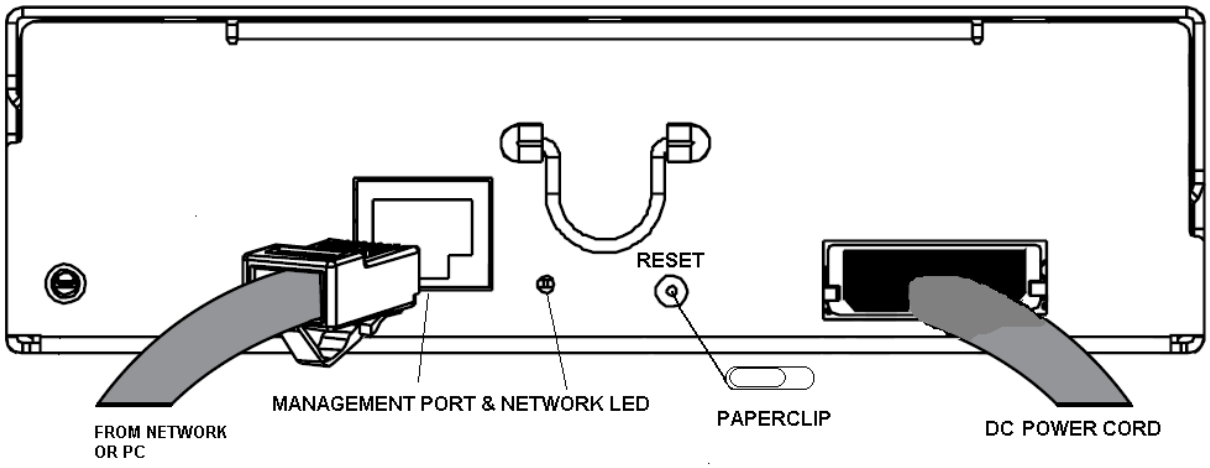


Figure 28: *DPoE™* Compact 8 Midspan (Rear View)

Detailed Description of the Pushbutton Hardware Reset

1. When the reset pushbutton is pressed the system and rear LED will light solid red for 05 seconds. If the reset pushbutton button is released during this time nothing will happen.

2. If the reset pushbutton is pressed for an additional 01 to 05 seconds (elapsed time 06 to 10 seconds) and then released, a processor reset will be performed. LED will flash fast green during this interval.

3. If the reset pushbutton is pressed for an additional 01 to 05 seconds (elapsed time 11 to 15 seconds) and then released, IP configuration will be cleared from memory and the processor will be reset. This will force a DHCP initialization. LED will flash fast amber during this interval.

4. If the reset pushbutton is pressed for an additional 01 to 05 seconds (elapsed time 16 to 20 seconds) and then released, SNMP community data will be cleared from memory and the processor will be reset. LED will flash fast red during this interval.

5. If the reset pushbutton is pressed for any additional elapsed time beyond 21 seconds and then released, **ALL** memory data will be set to a factory default and the processor will be reset. LED will be solid red during this interval.

Table 14: *DPoE*™ Compact 8 Midspan Pushbutton Hardware Reset Sequence

Reset pushbutton released when LED Color is:	Result	Elapsed Time in Seconds
Initial Solid Red	No Action	00 - 05
Flashing Green	Processor Reset	06 - 10
Flashing Amber	DHCP Reset	11 - 15
Flashing Red	SNMP Community Reset	16 - 20
Concluding Solid Red	All FLASH data set to factory default	21+

BASIC TROUBLESHOOTING

Use the Basic Troubleshooting guide to help resolve problems installing the *DPoE™* Compact 8 Midspan. If a problem persists, contact *PANDUIT* Customer Service or a local sales representative.

Table 15: Basic Troubleshooting Guide

Problem	Possible Causes and Solutions
The *DPoE™* Compact 8 Midspan SYSTEM LED does not light when power is applied to the unit.	1. No power is available at the power midspan or the power connection may be bad. 2. Check the physical connection of the keyed power connector. Insure that the DC connection is properly mated to the power midspan's power receptacle. 3. Make sure the power supply is plugged in to a working AC source and is operational.
The *DPoE™* Compact 8 Midspan SYSTEM LED is flashing green but no power is being applied to the connected powered devices (PDs). The port status LED where power should be provided is off.	1. The PD is not connected properly to the *DPoE™* Compact 8 Midspan. Make sure that the cable to the PD is properly seated and that it is connected to the top port, which has data and power. 2. The attached power device is not 802.3af-2003 or Cisco In-Line powering compliant. Make sure that the attached device meets either of these standards, and the cabling is terminated to support these. Alternatively try connecting the device to another port to see if it powers on. 3. The port Administration Control setting is set to OFF in the *DPoE™* Element Manager. The *DPoE™* Element Manager must be used to set the port Administration Control to ON. (See page 40, *Edit Port Information,* for more info.)
The *DPoE™* Compact 8 Midspan SYSTEM LED stays solid red after power is connected and over 20 seconds has elapsed.	1. Check the physical connection of the keyed power connector. Insure that the DC connection is properly mated to the power midspan's power receptacle. 2. The power supply voltage is either less than 46 volts or greater than 57 volts. The panel should be immediately disconnected from power and the input power should be verified that it is operating in the correct range.
The *DPoE™* Compact 8 Midspan is providing power to the Powered Device (PD), but there is no data connection (i.e., the Ethernet connection is not working).	1. The switch is not properly connected to the RJ-45 jacks on the front of the power midspan or the switch. Check for proper connections are established or reset the connection if required. 2. The switch port may not be active. Check with the local IT person to verify and correct it.

Problem	Possible Causes and Solutions
The *DPoE*™ Compact 8 Midspan continues supplying Power over Ethernet during firmware updates. During a firmware update, and upon the rare occasion of multiple disconnection and reconnection (at least three instances) of a powered device (PD) the *DPoE*™ Compact 8 Midspan processor may continuously roll in disconnect traps.	1. The continuous disconnect traps can simply be fixed by disconnecting and reconnecting the powered device.

Table 16: *PANDUIT* Contact Information

PANDUIT Customer Service	Phone: 800-777-3300 E-mail: cs@panduit.com
For Installation Instructions in Local Languages and Technical Support	http://www.panduit.com/Support/Software/index.htm
Worldwide Subsidiaries and Sales Offices	http://www.panduit.com/default.asp

GLOSSARY

802.3af	IEEE standard for Data Terminal Equipment Power Via Media Dependent Interface		
AWG	American Wire Gauge		
DHCP	Dynamic Host Configuration Protocol		
DPoE™	*Panduit®* registered trade mark for Data & Power over Ethernet		
DTE	Data Terminal Equipment		
IEEE	Institute of Electrical and Electronic Engineers		
IP	Internet Protocol		
LED	Light-Emitting Diode		
MAC	Media Access Control		
MDI	Media Dependent Interface		
MHz	Megahertz		
NIC	Network Interface Card		
NMS	Network Management System		
o.d.	Outside Diameter		
PC	Personal Computer		
PD	Powered Device		
PoE	Power Over Ethernet		
PSE	Power Sourcing Equipment		
SMTP	Simple Mail Transfer Protocol		
SNMP	Simplified Network Management Protocol		
UPS	Uninterruptible Power Supply		
v2c	SNMP Version 2c Communications		
v3	SNMP Version 3 Communications		
VDC	Volts – Direct Current		

APPENDIX - TFTP SERVER INSTALL

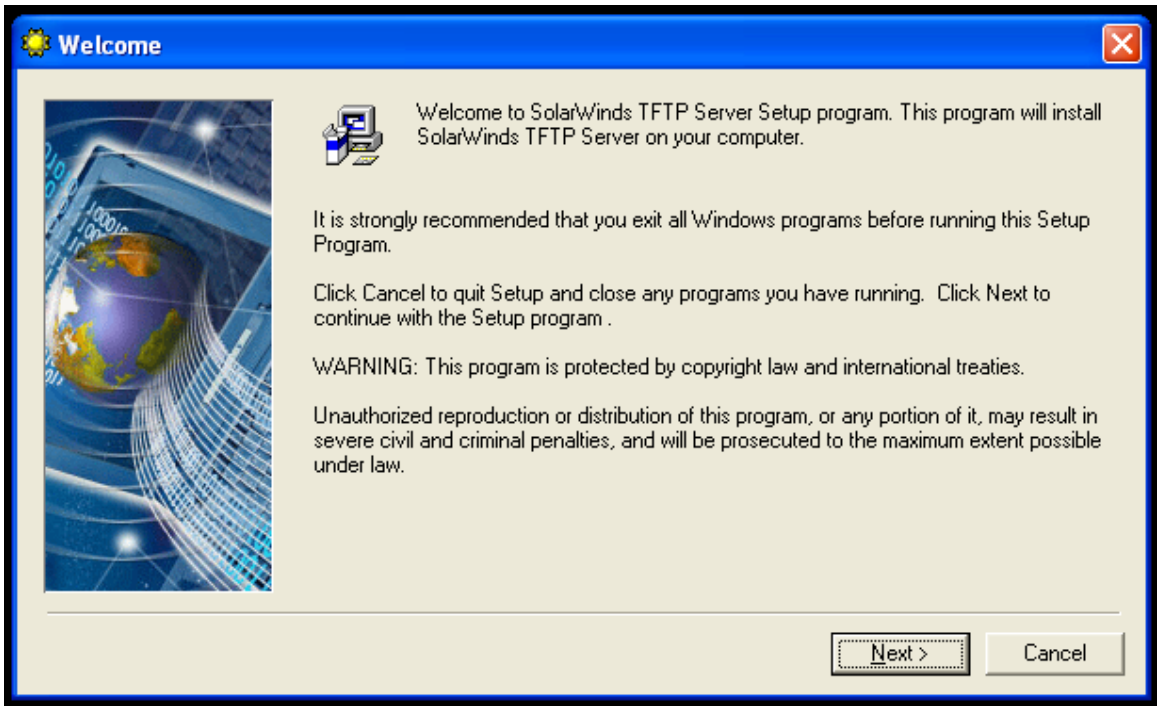
There are many excellent TFTP Servers readily available on the Internet that run on all types of computer platforms: Windows, Linux, DOS, Mac, etc.

Here is a list of TFTP servers that run on the Windows Operating System:

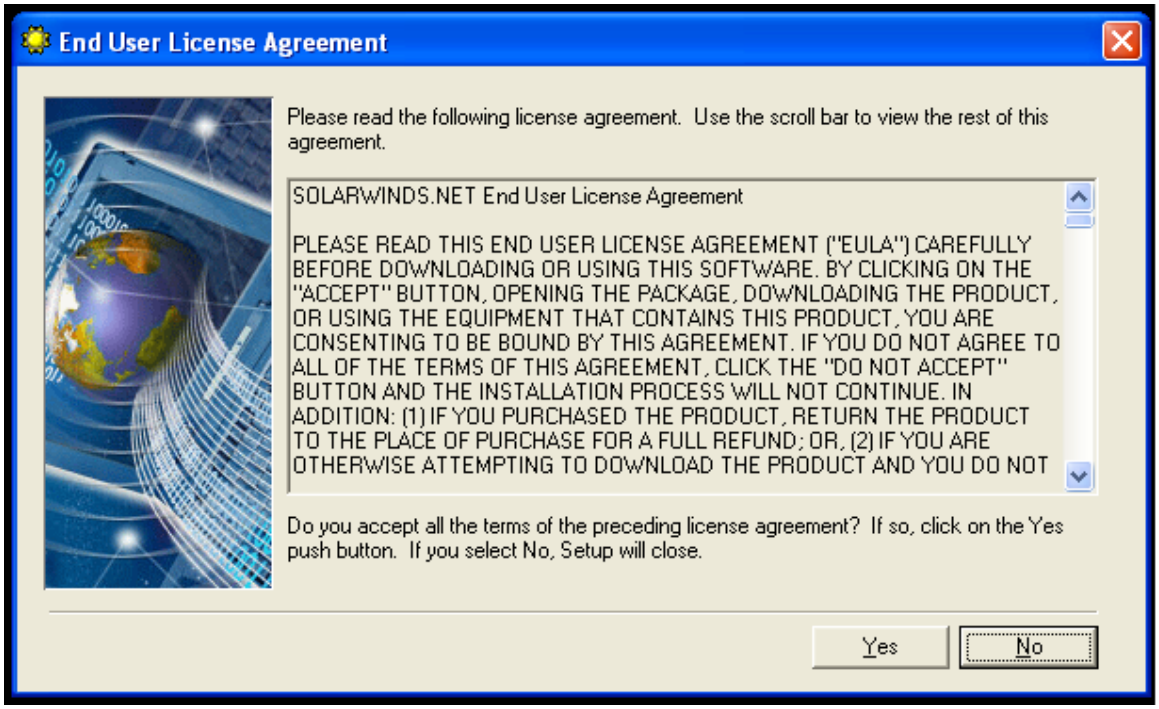
Vendor	Price	Link
Solar Winds	Freeware	http://www.solarwinds.net/products/freetools/index.aspx#TFTPServer
3Com	Freeware	ftp://ftp.3com.com/pub/utilbin/win32/3cs117.zip
Weird Solutions	Shareware	http://www.weirdsolutions.com/weirdSolutions/files/products/desktopSoftware/desktopTftp/tftp_desktop_free.exe
WinAgents	30-day Trial	http://www.winagents.com/en/products/tftp-server/index.php

For this application note, we will use the free Solar Winds TFTP server.

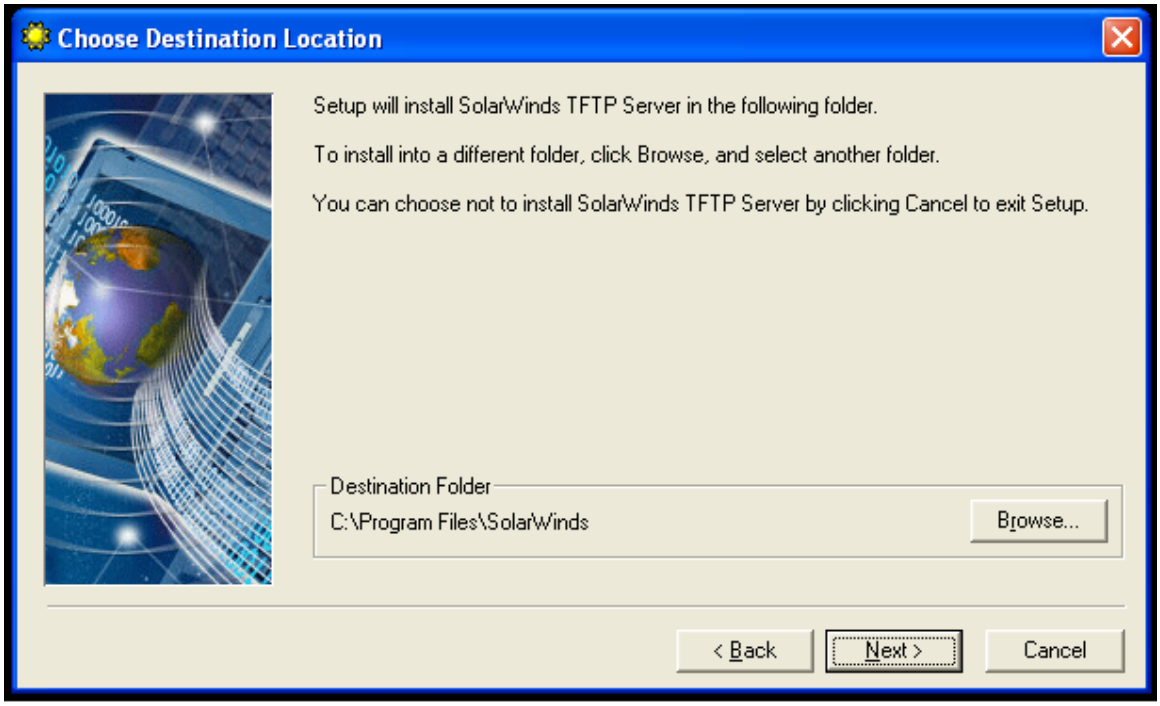
Go to the Solar Winds website listed in the table above, and download the free TFTP server.
Go to the file (SolarWinds-TFTP-Server.exe) and execute this install program (double-click).



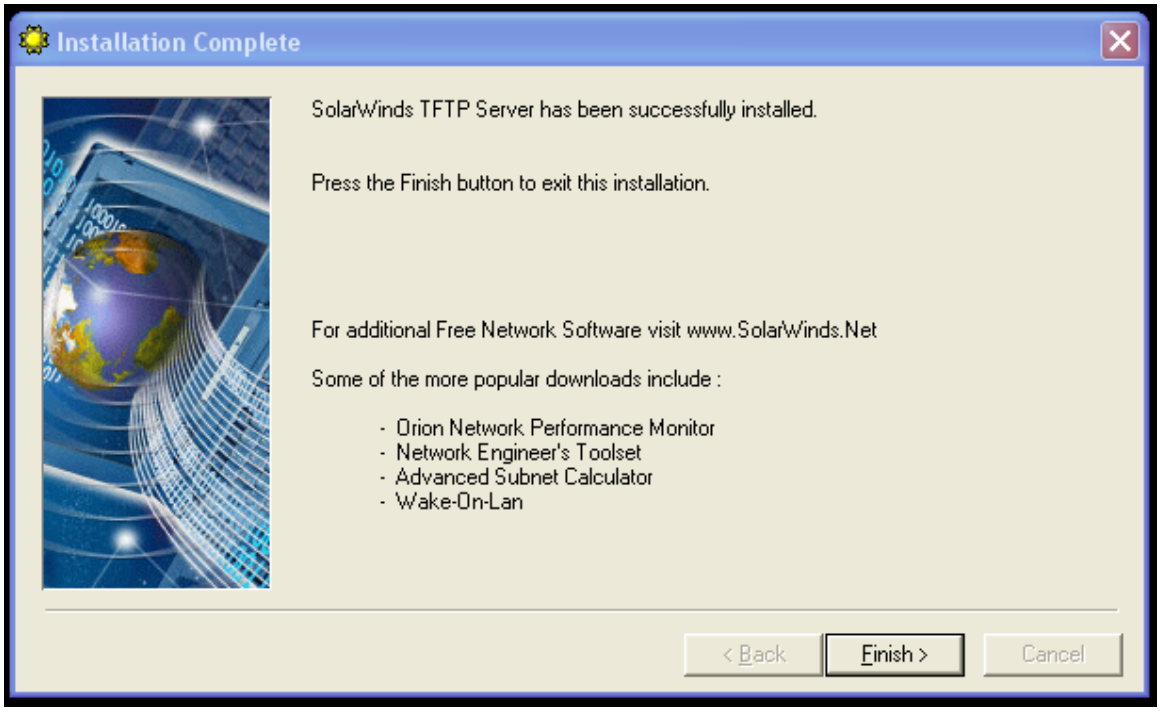
Click “Next”



Click “Yes”

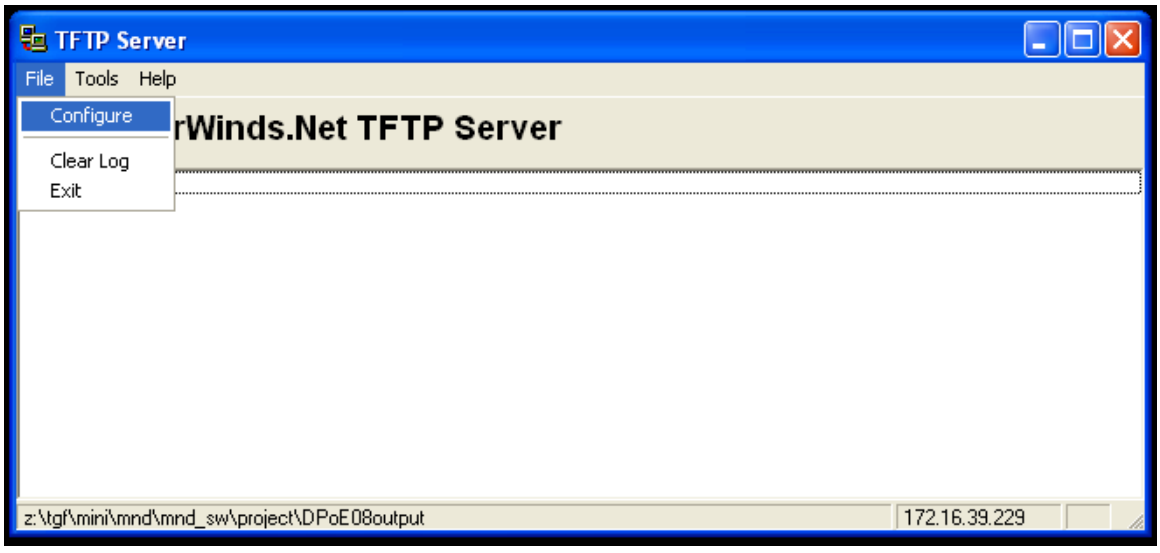


Click “Next”

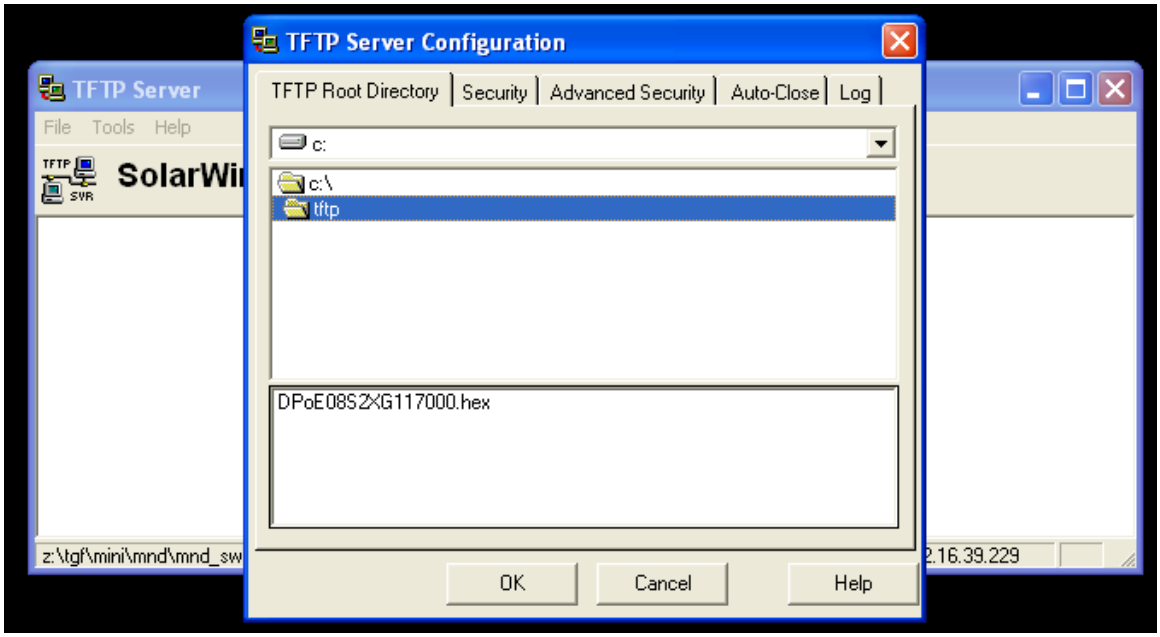


Click “Finish”

Now run the program. Move your mouse to the Start Menu (lower left corner):
Start Menu-> All Programs -> Solar Winds Free Tools -> TFTP Server

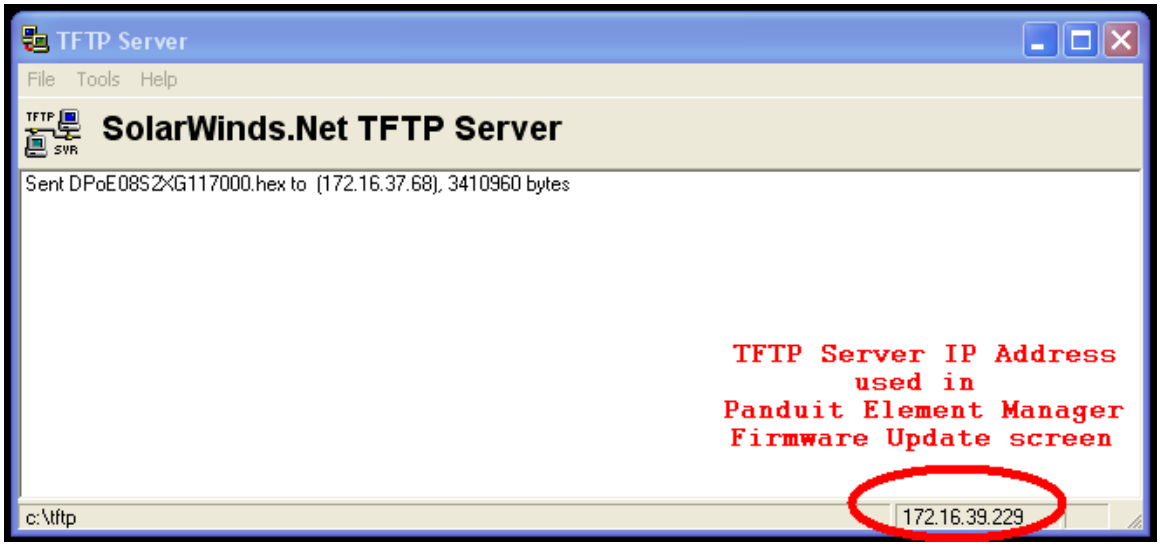


Go to the “File -> Configure” menu



Select the directory that contains the new DPoE product file. (i.e. C:\tftp_dir)

That is it! Your TFTP server has now been configured correctly. After the download works you will see something like this on the screen that shows the file transfer.



Note: If you are using a TFTP server from another vendor, they may have some user settable options. If available, please set the timeout to 2 seconds and the maximum retransmits to 20. The Solar Winds TFTP server does not make these settings available to the user.