

# Phihong Midspan POE GUI User Manual SNMP v3, v2, v1 Rev. 1.3 PES12781

Compliant Models: POE125U-8N-R POE370U-480-8N-R POE370U-480-16N-R POE370U-480-24N-R POE576U-8ATN-R POE576U-16ATN-R POE576U-24AFATN-R POE806U-24ATN-R



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# NOTE: Midspans are for indoor use only!

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#### 1. Safety Procedures

#### **1.1. General Precautions**

**General** – Please read the following precautions carefully before installing and connecting the system to a power source.

**Note** – Only qualified and trained service personnel (in accordance with IEC 60950 and AS/NZS 3260) should install, replace, or service the equipment. Install the system in accordance with Country, National or to the U.S. National Electric Code if you are in the United States.

#### **Precautions:**

- 1. The building facilities in which the product will be used requires a fuse or circuit breaker no larger than 15A for 120Vac (U.S.A.) or 10A, 230Vac (international). The building facilities must protect the Midspan from over current or short-circuits.
- 2. Before connecting the Midspan to a power source (including power cord requirements), read the Midspan Hardware Setup procedure in Section 2. This procedure as with all procedures and instructions can be found in the Midspan User Manual. To download a copy of the Manual, visit www.phihong.com.
- 3. To prevent the Midspan from overheating, do not operate the product in an area that exceeds the maximum recommended ambient temperature of 40°C. Allow at least 3 to 4 inches of clearance around all ventilation openings.
- 4. In order to Support the Midspan weight, do not stack the chassis on any other equipment. Shelf mounted equipment requires a stable and durable surface. When installed, do not push or pull on the Midspan when the equipment is installed.
- 5. The Midspan consists of two rows of "Data" and "Data & Power" ports. The ports use RJ-45 data sockets. Do not connect telephone cables into these ports. Only RJ-45 data cables may be connect to these sockets.
- 6. Do not work on the Midspan system or connect or disconnect the cables, during periods of lightning activity.
- 7. The AC or DC plus/socket combination must be accessible at all times, as it serves as the main disconnect device to the product.
- 8. Before servicing the product, always disconnect the products from its AC and DC source.
- 9. Disposal of this product should abide by all appropriate National laws and regulations.



# 1.1 Sicherheitsmaßnahmen – Allgemeine Vorsichtsmaßnahmen

Allgemein – Lesen Sie die folgenden Vorsichtsmaßnahmen sorgäfltig durch, bevor Sie das System installieren und an eine Energiequelle anschließen.

Hinweis – Das Gerät derf nur durch qualifiziertes und ausgebildeten Dienstpersonal (gemäß IEC 60950 [Vorschrift 60950 der Internationalen Elektrischen Kimmission] und AS/NZS 3260 [Vorschrift für Australien und Neuseeland]) installiert, ersetzt oder repariert werden. Installieren Sie das System auch in Übereinstimmung mit den geltenden nationalen oder europäischen Vorschriften bzw. Der NEC-Vorschrift, falls Sie sich in den Vereinigten Staaten befinden.

#### Vorsichtsmaßnahmen:

- Die Gebäudeinstallationen, in denen das Produkt benutzt wird, müssen über eine Sicherung oder einen Schutzschalter mit maximal 15A für 120 Vac (USA) oder 10A für 230Vac (international) verfügen. Dis Gebäudeinstallationen müssen das Midspan-Device vor zu starkem Strom oder Kurzchlüssen schützen.
- 2. Lesen Sie vor dem anschließen des Midspan-Device an eine Energiequelle (einschließlich der erforderlichen Anschlussleitungen) die Setup-Anleitung für Ihre Midspan-Hardware in Kapitel 2 genau durch. Dieses Verfahren wird zusammen mit allen weiteren Vorgängen und Anweisungen im Benutzerhandbuch für das Midspan-Device beschrieben. Sie Können das Benutzerhandbuch unter www.phihong.com herunterladen.
- 3. Um das Midspan-Device vor Überhitzung zu schübenutzen Sie das Produkt nicht in Räumen, die maximale empfohlene Umgebungstemperatur von 40°C überschreiten. Lassen Sie um alle Lüftungsöffnungen herum mindestens 7,5 bis 10 cm (3-4 inches) frei.
- 4. Stützen Sie das Gewicht des PoE Midspan-Device nicht ab, indem Sie das Gehäuse auf ein anderes Gerät stellen. Falls Sie das Gerät auf ein Gestell montieren, muss dieses eine stabile und haltbare Oberfläche haben. Nach der Installation des Systems bewegen Sie das Midspan-Device nicht mehr.
- 5. Das Midspan-Device enthält zwei Reihen mit "Datenports" und "Daten-und-Stromports." Die Ports verwenden RJ45-Datenanschlüsse. Schließen Sie keine Kabel an und trennen Sie keine Kabelverbindungen während Gewittern mit Blitzen.
- 6. Führen Sie an dem Midspan-System keine Arbeiten durch schließen Sie keine Kabel an und trennen Sie keine Kabelverbindungen während Gewittern mit Blitzen.
- 7. Der Steckanschluss für Gleich- oder Wechselstrom muss jederzeit zugänglich sein, da er als Haupttrenngerät für das Produkt dient.
- 8. Trennen Sie das Produkt immer erst von der Stromquelle, bevor Sie Wartung oder reparaturarbeiten daran durchführen.
- 9. Entsorgen Sie dieses Produkt gemäß aller geltenden Gesetze und Vorschriften Ihres Landes und der EU (falls Sie sich in einem Land der EU befinden).



# 2. Midspan Hardware Setup

# 2.1 Physical Hardware Appearance:

#### Front Side of the Midspan:



Figure 2: Data & Power (top row), Data (bottom row)

Figure 3: Connectors and Indicators

#### Rear Side of the Midspan:



	6	5	4	
• 1				
	۵	٠		
	3	2	1	-

	Pin	Description
22	1	+47VDC to +57VDC
	2	Current Share
	3	-47VDC to -57VDC
	4	+47VDC to +57VDC
-	5	Not Used
tor*	6	-47VDC to -57VDC

Figure 6: AC Input Connector AC IN: IEC320 inlet 3 pin

Figure 5: DC Power Connector

<u>DC IN</u>:Molex, 6 pin p/n 39-30-0060 or equivalent <u>DC IN Mate</u>: Molex, 39-01-2065, pin p/n 39-00-0077

#### \* Optional Components - please see appendices A and B



# 2.2 Powering Your Midspan

# Power Cord Requirements

Power cords must meet the requirements for the country it is intended to be used.

U.S.A. and

Canada

- The cord must have a minimum of 10A rated current competence
- The cord must be CSA or UL approved
  - The minimum requirement for the flexible cord is:
    - o 18 AWG (10A)
    - o Three-Conductor (Line, Neutral, Ground)
    - Type SV (stranded Vacuum Rubber Jacketed) or SJ (stranded Junior Rubber Jacketed) or SVT (Stranded Vacuum Rubber Jacketed Thermoplastic) or SJT (Stranded Junior Thermoplastic)
  - The plus must be earth-grounded with a NEMA 5-15 (15A, 125V) or NEMA 6-15P (15A, 250V) configuration

# Europe Switzerland

• The supply plug must comply with SEV/ASE 1011

### Denmark

 The supply plug must comply with section 108-2-D1, standard DK2-1a or DK2-5a

# **United Kingdom**

 The Midspan is covered by General Approval (section 16.16.060, NS/G/12345/J100003, for indirect connection to a public telecommunication system

# France and Peru

- IT equipment cannot power this device. In the case of an IT powered device, the unite needs to be powered by 230V through an isolation transformer with a ratio of 1:1 and the secondary connection (Neutral) is properly grounded
- The Midspan must have access to a nearby power outlet. By disconnecting the power cord from the outlet, you will eliminate power from the device.
- The flexible cord that connects to the Midspan must have a configuration to connect with an EN60320/IEC320 inlet connector.
- According to the EN60950/IEC 950 specifications this device functions under SELV (Safety Extra Low Voltage) conditions. The conditions are true if the equipment and the connected device functions under SELV conditions.



# 2.3 Connecting Ethernet Cables\*



Figure 7: POE370U-480-24N connected through 'data & power' line



Figure 8: NIC Cable Connected\*

### 2.4 Connecting USB and Power Cables

#### USB cable:

The USB cable is connected to the USB connector located in the front side of the Midspan and a USB port on your PC/laptop.



Figure 9: USB Cable\*



Figure 10: USB Cable Connected

AC power cord:

The AC power cable is connected to the AC power connector located in the rear side of the Midspan and the power outlet.



Figure 11: AC Power Cord\*\*

\*Ethernet and USB cables are not included \*\*AC power cord may be ordered separately

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# 2.5 Powering UP

Midspan receives power via the power cord. In order to apply or remove power to/from the Midspan connect or disconnect the AC power cable to/from the AC power connector on the rear side of the unit.

With AC power applied, the unit starts-up and the internal fans are active. The device runs through a quick power-on test, which takes less than 10 seconds. During this period, all ports are initially disabled and the port indicators light up. The sequence of the port LEDs are shown in section 2.6 LED Indicator – Cold Start. Ports are now operating under normal conditions.

# 2.6 LED Indicator:

#### Cold Start:

- a. AC LED turns 'green' » remains on
- b. NIC LED turns 'green' » red » green » turns off » red » turns off (unless connected)
- c. 24-Ports (with ports connected) LED turns 'orange' » green » orange » green » turns off LED turns 'green individually » ports 1,9,17 » ports 2,10,18 » ports 3,11,19 » ports 4,12,20 » ports 5,13,21 » ports 6,14,22 » ports 7,15,23 » ports 8,16,24 » All 24-Ports are connected LED remains 'green'
- d. 24-Ports (without ports connected) LED turns 'orange' » green » orange » green » turns off LED blinks 'orange individually » ports 1,9,17 » ports 2,10,18 » ports 3,11,19 » ports 4,12,20 » ports 5,13,21 » ports 6,14,22 » ports 7,15,23 » ports 8,16,24 » Blinks 'orange' across all 24-Ports

#### When 'System Reset' is clicked on the GUI (applications file):

- a. AC LED remains 'green'
- b. NIC LED remains off until the unit is connected
- c. 24-Ports (with ports connected) same sequence as Cold Start
- d. 24-Ports (without ports connected) same sequence as Cold Start



Indiaatar	Conditions									
indicator	LED Off	Green	Orange	Blinking Orange						
Port LED	Indicated port Indicates port is disabled is connected has an error		Indicates port is disconnected but enabled							
NIC LED	Indicates NIC is disconnected from Network	Indicates NIC port is N/A connected		Indicates NIC is connected to Network						
AC LED	Indicates Midspan is not powered	Indicates Midspan is powered	N/A	N/A						

#### Table 1: LED Indicator

#### 2.7 Rack-Mounting Installation



Figure 12: Rack Mounted Midspan (Front)



Figure 13: Rack Mounting Bracket and screws (side/rear)

Position the Midspan on the rack. Arrange the mounting bracket to the corresponding screw holes on the Midspan. Keep the screw area visible to insert screws, and then tighten the screws. Screws and brackets will be included in the package.



#### 2.8 Technical Specifications



#### **Mechanical Specifications:**

Dimensions - 17.25 inch (438 mm) length 8.98 inch (228 mm) width 1.75 inch (44.5 mm) height

# Environmental Specifications:

# Temperature

Relative Humidity

- Operating: 0°C to +40°C
- Operating: 5 to 90%
  Non-Operating: 5 to 90
- Non-Operating: -25°C to +65°C
- Non-Operating: 5 to 90%



# **Electrical Specifications:**

#### Table 2: Electrical Specifications

Parameters	Specifications					
AC Input Voltage Rating			100V AC t	o 240V AC		
AC Input Voltage Range	90V AC to 264V AC					
AC Input Current		5.	.5A (RMS)	at Max Loa	d	
AC Input Frequency			47Hz t	o 63Hz		
Max. In-Rush Current	30A for 115V AC at Max. Load 60A for 230V AC at Max. Load					
DC Input Voltage Range (-R Option)			47V DC t	o 57V DC		
DC Input Current			8.7A	Max.		
	POE	370U		POE576	SU	POE806U
AC Output Voltage	-480		-560	-		-
	50V DC	5	6V DC	56V DC		56V DC
Max Load Current	0.32A	0	).275A	0.6A		0.6A
Output Power, per Port						
POE370U	15.4W (not to exceed total output power)					
POE576U-AT	33.6W (not to exceed total output power					ower
POE576U-AFAT	Po (r	rts 1- not to	8: 33.6W / exceed to	Ports 9-24 tal output p	: 15.4 power	W )
POE806U-AT	33.6	W (no	ot to excee	d total outp	out po	ower
Total Output Dower	No. of Ports					
Iotal Output Power	-8		-1	6		-24
POE370U	123W max		246W	/ max		370W max
POE576U-AT	269W max		538W	/ max		N/A
POE576U-AFAT	N/A		N	/A		515W
POE806U-AT	N/A		N	/A		806W
Nominal Output Voltage			44V DC t	o 57V DC		



# 3. Phihong GUI and USB Driver Installation:

Please locate and download the file **Phihong GUI Installation** from the support section of the Phihong websites: www.midspans.com or www.phihong.com.

Please follow the Installation Wizard to install the Phihong GUI for your model, and the USB-to-Serial Com Port driver. The USB-to-Serial Com Port driver is necessary for communicating between the Midspan via a Communication Port on the PC.



<u>Note:</u> Please refer to the Phihong website to insure you are installing the latest version of the Phihong GUI. The example shown is using the Midspan POE GUI.

# 3.1 PC-to-Midspan Connection via USB/RS232





#### 3.2 USB Block Diagram

Figure 17: USB Block Diagram



Note: Assume USB-to-Serial-Com Port driver is installed. Users' PC will automatically detect the newly installed/connected hardware.



# 4. Midspan GUI

The firmware is supplied with a Graphical User Interface (GUI), which is used to configure and manage the PoE midspan system. If you have successfully installed the Phihong GUI and USB driver – Please locate the Phihong Midspan POE GUI on your desktop or from your Start Menu.



#### 4.1 GUI Main Window

#### Step 1: Choose connection type



Figure 18: GUI Main Window

Step 2: A Com Port number will be selected automatically, then press Search POE and highlight the midspan



Figure 19: GUI Connection Information

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# 4.2 GUI System Control and Information:

The System Control and Information panel on the GUI supports the main system level parameters for the  $\mu$ P. It also displays information about the PoE ID, firmware revision and system status.



The system level parameters that can be configured are:

- System Reset This is a function that allows the GUI to reset the software on the μP. (If System Reset is set and the GUI does not respond, user must click "Reset GUI")
- Firmware Download This feature is used to download new application/firmware codes onto the μP. Please refer to the Phihong website www.midspans.com for the latest firmware for your midspan – POE Firmware.
- <u>Note:</u> Please allow the GUI a few seconds to respond to the commands selected. DO NOT click or check any commands simultaneously. If a command is selected more than once within two seconds, the GUI may not respond properly.

The "Save Parameters to Flash" button will save system and port parameters to flash memory, so that they can be used to the firmware across reboots of the  $\mu$ P.

The "Restore Factory Defaults" button will reset the defaults in the firmware, and clear any stored data in the flash memory, the device will reset automatically. After the device has successfully reset, the "System Status" will read "0." Click "Reset GUI" if necessary. **To make the factory defaults permanent, the user must click "Save Parameters to Flash."** 

The System ID field specifies the hardware revision of the PoE device. The firmware version is represented in a major/minor format.

System ID/Name – click "Edit" to edit/change the description of the system. If you click "Cancel", the previous description will be set for the system. **To make this permanent the user must click "Save Parameters to Flash."** 



During the 'Download In Progress', the GUI function buttons will be temporarily disabled.

stem Inform	ation / Ope	eration										
Reset/Update System/Port Param.					System I	nformation			Connection	n Informati	on	
	Sys	tem	Save Pa	rameters	Firmw Hardw	are Version are Version	FW R PoE ID	ev Rev	Connecti	on Type	SB/soft RS2	232
PHIHONG				10.511	Poi	rt Number			COM	4 🔹	Sea	rch PoE
About DOWNLOAD Restore Factory Defaults				S) (De	System ID (Description) Edit				COM4 *** POE576U-16AT			
Port Description Parametric Information												
Enable	nands /Disable Al	Il Ports	🗹 Detect Le	gacy Signa	ture	Legacy De	etect is Enabled Send Port Control					
	Port 1	Port 2	Port 3	Port 4	Port 5	Port 6	Port 7	Port 8	Port 9	Port 10	Port 11	Port 12
Port	[	[ rdit	C alit	r dit	E dit	[ rd:+	r dit	r dia	<b>F</b> -1:4	[ rdit	C-dit	r dit
rescription	Edit	Edit	Edit	Edit	Euit	Edit	Edit	Euit	Eur	Edit	Ean	Eun
Enable												
	Port 13	Port 14	Port 15	Port 16	Port 17	Port 18	Port 19	Port 20	- Port 21	Port 22	Port 23	Port 24
Port	Edit	Edit	Edit	Edit	Edit	Edit	Edit	Edit	Edit	Edit	Edit	Edit
Cashla					Cuit							Cuit
Enable									L (Dort -t-	+uc)		
		NOTE: T	o send cha system, c	nges made lick on 'Ser	in this sec nd Port Cor	tion to the trol'.	PoE	Det	ecting D	isable/Erro	or Port Co	nnected

Figure 21: System Update

Example of the firmware file:

95ATMSP4300-R12-1.2.S99

78,036

27,286 File S99

11/9/2009 2:33 ... 82A57ACF



# 4.3 GUI Port Description:

The Port Description panel shows 24-ports. On the PoE Midspans that have 8 or 16-ports, the port numbers higher than the system port count will be shaded grey and disabled. Each section specifies the individual port descriptions for the system.



Changes to the port configuration in this section can be enacted when the user clicks the "Send Port Control" button. It will send the port information to the  $\mu$ P for 24-Ports. Please allow the GUI 10 seconds to refresh when this action is taken.

*Port Description* – Click "Edit" to edit/change the description of the port. Click "OK" to set description on the GUI screen. If you click "Cancel", the previous description will be set for that particular port. Click "Send Port Control" to send the descriptions to the system. To make this permanent, the user must click "Save Parameters to Flash."

*Enable* – This check box can administratively enable or disable the selected port. If "Enable/Disable All Port" check box is selected, all ports will be enabled. Initially, the check box is not checked, but by default all ports are enabled. **Click "Send Port Control" to send the command to the system. To make this permanent, the user must click "Save Parameters to Flash."** 

If "*Detect Legacy Signature*" check box is selected, all ports are enabled and the firmware will try to detect legacy devices. By default, legacy detection is disabled. The message in blue states that the "Legacy Detect is Enabled" (Figure 16). Click "Send Port Control" to send the command to the system. To make this permanent, the user must click "Save Parameters to Flash."



The different colored LEDs show the status of the individual ports. A 'Yellow' LED shows the port is detecting or ready to be connected. A 'Red' LED shows the port as Disable/Error. A 'Green' LED shows that the port is connected to a compliant load.





#### **GUI Parametric Information:** 4.4

This section allows users to review, but not edit, Parametric Information for each port.

	- 10	Parametric Information										
	Port 1	Port 2	Port 3	Port 4	Port 5	Port 6	Port 7	Port 8	Port 9	Port 10	Port 11	Port 12
Discovery R	131070	131070	131070	131070	131070	131070	131070	131070	131070	131070	131070	131070
Discovery C	(uF)	(uF)	(uF)	(uF)	(uF)	(uF)	(uF)	(uF)	(uF)	(uF)	(uF)	(uF)
Current (mA)	0	0	0	0	0	0	0	0	0	0	0	0
Voltage (V)	2.6	2.3	2.6	2.4	2.4	2.2	2.4	2.4	2.2	2.2	2.3	2.4
Power (mW)	0	0	0	0	0	0	0	0	0	0	0	0
Class Current	0	0	0	0	0	0	0	0	0	0	0	0
etermined Class	0:33.6W	0:33.6W	0:33.6W	0:33.6W	0:33.6W	0:33.6W	0:33.6W	0:33.6W	0:33.6W	0:33.6W	0:33.6W	0:33.6W
	Port 13	Port 14	Port 15	Port 16	Port 17	Port 18	Port 19	Port 20	Port 21	Port 22	Port 23	Port 24
Discovery R	131070	131070	131070	131070	(ohm)							
Discovery C	(uF)	(uF)	(uF)	(uF)	(uF)	(uF)	(uF)	(uF)	(uF)	(uF)	(uF)	(uF)
Current (mA)	0	0	0	0	(mA)							
Voltage (V)	2.3	2.2	2.3	2.3	(V)							
Power (mW)	0	0	0	0	(mW)							
Class Current	0	0	0	0	(mA)							
and the second se												

The Port Parametric Information panel has the following set of parameters that are displayed:

- Discovery R (ohms) This value represents the discovered resistance (R) of the port in ohms.
- Current (mA) This value represents the current (I) of the port in milliamperes •
- Voltage (V) This value represents the voltage (V) of the port.
- Power (mW) This value represents the power of the port in milliwatts. •
- Class Current (mA) This value represents the class current of the port in milliamperes. •
- Determined Class This value represents the class of the discovered device.
- Note: If the ports are less than 24-ports for the system those ports greater than the total system port count will read all zeros "0". In the figure above, Port 1 is connected to a compliant load while Ports 2-24 are ready to be connected.



### 5. Midspan Troubleshooting:

If problems occur with the Midspan, verify the following:

The troubleshooting solutions provided can only solve minor problems. If your problem is not listed, please contact our Phihong Sales for further technical assistance. All up-to-date contact information can be found on our website www.phihong.com.

Table 3: Tr	publeshooting
Problem	Possible Solutions
Midspan does not power up	<ol> <li>Assure that the AC power cord is connected</li> <li>Assure that the AC power cord is in good condition</li> <li>If solutions 1 &amp; 2 are true; then disconnect the AC power cord and reconnect. Observe the Port LEDs to verify a proper power up.</li> </ol>
AC LED not lit	Verify Midspan is properly connected to an AC power source
Port LED do not light 'Green'	<ol> <li>Port maybe disabled and needs to be enabled using the GUI. Ensure Ports are enabled, then 'Save Flash Parameters.'</li> <li>Assure Ports are connected to a Network</li> </ol>
The GUI window does not update port status.	Click 'System Reset' and wait for the System to Reboot
Others. Please verify the following:	<ol> <li>Power is applied to the Midspan.</li> <li>The network Ethernet cable is connected to the Data port.</li> <li>The power device Ethernet cable is connected to the Data &amp; Power port.</li> <li>Proper type of Ethernet cable is used; do not use crossover-type Ethernet cable.</li> <li>Cable pairs are connected to corresponding ports.</li> </ol>



# Appendix A: Optional RPS – option R

# Please contact Phihong Sales for more information



DC Power Connector

Figure 25: DC Power Connector								
	Pin	Description						
	1	+47VDC to +57VDC						
5 4	2	Current Share						
	3	-47VDC to -57VDC						
<u> </u>	4	+47VDC to +57VDC						
2 1	5	Not Used						
onnector	6	-47VDC to -57VDC						

<u>DC IN</u>:Molex, 6 pin p/n 39-30-0060 or equivalent <u>DC IN Mate</u>: Molex, 39-01-2065, pin p/n 39-00-0077

Parameters	Specifications							
DC Input Voltage Range (-R option)	47VDC to 57VDC							
DC Input Current	POE370U			POE576U				
	8.7A max			14A Max				
	POE370U 15.4W							
Output power, per port	PC	DE576U-AT	33.6W					
	POE	576U-AFAT	Ports 1-8: 33.6W / 9-24: 15.4W					
Total Output Dower supported	No. of Ports							
Total Output Power supported	-8	-16		-24				
POE370U 125W		250W		370W				
POE576U-AT	POE576U-AT 269W 5		8W	N/A				
POE576U-AFAT	N/A	N	/A	515W				

Table 4: DC Specifications



# Appendix B: Optional NIC Interface – Option N

# PC-to-Network-to-Midspan:

Figure 26: PC-to-Network-to-Midspan Diagram



### 1. NIC Interface Setup:

NOTE: Assure the connection path between your PC and the Midspan. Skip Step 1 if you with to use our Phihong GUI to communicate with the Midspan.

1. Visit www.midspans.com to download the latest SNMP MIB for the NIC interface.

 Example SNMP MIB file (please check our website for updates):

 iii phihong060809.txt
 13 KB

 Text Document
 8/9/2006 9:11 AM

If you choose to use your own SNMP console, please rename the SNMP MIB text file to the file extension that matches your SNMP Console. Follow the instructions for your SNMP Console to install the MIB file.

Please check the Phihong website (www.midspans.com) occasionally for the latest updates for the MIB and SNMP Firmware.

Example of a SNMP Firmware file (please check out website for updates):

2. Visit www.midspans.com to download the Ethernet Manager tool (etm.exe). Etm.exe is a Device Management Utility that runs under the Windows 32 bit environment and is used to setup the IP address, subnet mask, and MAC address of your SNMP device. For more advanced setup settings, use Internet Explorer or another Internet Browser.



NOTE: Your IP Address may be different from the example shown below

- 3. Execute **etm.exe** Ethernet Manager tool
- 4. Assuming the connection path between your PC and the Midspan is adequate; the Ethernet Manager tool will detect your SNMP device.

IP	Address	Subnet Mask	MAC Address	Device	IC
192	.168.31.133	255.255.255.0	00-01-3D-82-03-91	1	

Figure 27: Ethernet Manager

5. If your device is not found, check the connection and click View » Refresh

Config					
Refresh	F5	) <mark>n</mark> et Mask	MAC Address	Device	I
ΕΧΙΤ	Alt+F4	.255.255.0	00-01-3D-82-03-91	1	



# 2. Advanced Setup Options

For Advanced Setup Configuration: click Config » Device Settings OR type the IP address in your Internet Browser. Your Internet Browser will open with the following window:



Click Setup Login Default User: admin Default Password: (leave area blank)

<u>NOTE</u>: If you forget your login password, please contact Phihong Sales for further instructions. For up-to-date contact information please visit our website www.phihong.com.

#### Users need to be aware that the Username and Password are both Case Sensitive!!

If the login screen is not the one featured above but a blue screen then please see the manual specific to SNMPv2 which can be found on the website www.midspans.com/support as the login information and controller settings are not the same.

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# 3. Controller Setup

#### Figure 29: Controller Main Window



#### Port Status:

The main window of the controller is a simple GUI that allows the user to enable and disable midspan ports. It is also a limited display of parametric information. A more complete list of parametric information is available using Phihong's GUI software available on the website www.midspans.com.



# 3.1 System Administration

#### Figure 30: Controller System Administration

🥙 Configurati	ion - Mozilla Firefox				
<u>File Edit Vi</u>	ew Hi <u>s</u> tory <u>B</u> ookmarks <u>T</u> ools <u>H</u> elp				
<u></u>	C 🗙 🏠 🗋 http://192.168.31.133/sys/			🟠 🔹 🚼 Phihong	۹ 🔒
Configur	ation ÷				-
Tăt	I CANT I I CANTA I				
			PHIHONG		
		Devic	e Configuration		
			-		
Status	Administration				
<u>System</u>		Administrator	admin		
SNMP		Password			
	LAN	ID Address	102 168 1 100		
		IP Address	255 255 255 0		
		Subilet Mask	235.255.255.0		
		DNC Conver	169.05.102.1		
		DHCD Cliont	Fnable -		
	System Tools	Drice client			
		Firmware Backup	Backup		
		Firmware Update	Update		
		Restore Default Settings	Default		
		Reboot System	Reboot		
			Save		
Done					

**NOTE:** If you change the Administrator name and password, users should ensure that it is written down in safe place for reference.

Click Save to make any changes permanent.

Ok. Settings have been saved successfully

Back Reboot

Click Reboot to reboot the system with the new changes. This may take a few minutes depending on the connection speed. Check the Midspan IP Address again as it may have change depending on the user settings for DHCP Client.

Click Back to review or make additional changes.



# **Configuration Description**

Table	5:	Controller	Setup
iabio	۰.	00110101101	oolup

Controller Setup				
	Default Settings	Description		
Administrator	Admin	The login administrator is a user defined name that is used at login. Please write down your new login name in a safe location for fu- ture use.		
Password	(Blank)	The login password can be empty or 1-14 characters long. Please write down your new password in a safe location for future use. The password is also used while performing SNMP Firmware updates.		
IP Address	192.168.1.111	Four groups of numbers assigned by the net- work server (DHCP mode Enabled) or User defined (DHCP mode disabled)		
Subnet mask	255.255.255.0	Four groups of numbers assigned by the Network server (DHCP mode enabled) or user defined (DHCP mode disabled)		
Gateway address	192.168.0.1	Four groups of numbers assigned by the Network server (DHCP mode enabled) or user defined (DHCP mode disabled)		
DNS Server	168.95.192.1	Four groups of numbers assigned to the net- work server		
DHCP Client	Enable	The default setting (Enable) sets the DHCP client in Dynamic mode. Dynamic mode al- lows the Network server to automatically as- sign the IP address, subnet mask, and Gate- way address. If the DHCP client is set to disable the DHCP client is set to Static mode. Static mode al- lows the user to manual assign the IP ad- dress, subnet mask, and Gateway Address.		
		Note: If the user manually assigns the IP ad- dress, the DHCP client must be set to Dis- able.		



# **System Tools**

**Firmware Backup** – click the **Backup** button and you will get a pop-up to save a BIN file of the current Firmware and settings. Save in a location that will be easy for you to remember and the file may be renamed to user specifications.

pening ROM.bin	
'ou have chosen to open	
ROM.bin	
which is a: Binary File	
1000. http://192.106.51.155	
what should Firefox do with this file	1
Open with Browse	
Save File	
Do this automatically for files	s like this from now on.
	OK Cancel
	OK Cancel
Firmware Backup	OK Cancel
Firmware Backup	OK Cancel
Firmware Backup Firmware Update	OK Cancel Backup Update
Firmware Backup Firmware Update Restore Default Settings	OK Cancel Backup Update Default

Figure 31: Controller Firmware Backup

**Firmware Update** – click Update to install the most recent firmware for your midspan or to re-install a firmware that was backed-up. Before proceeding with this step, users should ensure that the connection between the PC and Midspan is secure and will not be interrupted as this may take a few minutes.

Figure 32: Contro	oller Firmware Update	
lozilla Firefox	🕹 File Upload	×
istory Bookmarks Tools Help		Search POE576U-16AT
*	Organize 🔻 New folder	II • 🖬 🔞
	☆ Favorites	Date modified Type
Device C • Caution ! Improper operation may cause permanent damages to your dev • Please do not remove the power of the device or dose this window during • It will take several minutes to run and should not be interrupted.	Computer  Compu	2/9/2010 2:30 PM BIN File
STOP	File name: ROM.bin	All Files     Open     Cancel

Click browse then locate your firmware file (it will have a .bin file extension). Then click update.

Firmware file example:

🚾 ROM.bin -

4,096 KB BIN File

7/29/2009 10:42 AM



SNMP Firmware (version 2 and version 3) is also posted to the support section of www.phihong.com and www.midspans.com. Please check the revision date from the login screen of the controller (review sections 2 and 3 for more information) to the date of the firmware posted on the phihong website(s). If the dates are not the same it is recommended that users follow the above section on Firmware Update to ensure their midspan is operating with the most current software. Users need also be aware of the version of SNMP card currently installed on their midspan. The firmware for SNMPv3 may not be installed on a midspan with a SNMPv2 card and vice versa.

**Restore Default Settings** – This function is used to revert back to the default settings for the Firmware. This will undo any changes that you've so far made to the Firmware configuration. After using this function users will have the option to go back or to reboot their system.

Reboot System – This function will reboot the system. This screen will display:



Figure 33: Reboot System

Once the system has finished rebooting it will revert back to the GUI Main Screen.



# 3.2 SNMP Settings

The new SNMP v3 has added security features that were not found on previous versions of the management protocol. These include additional password protection.

		Figure 34: Contr	oller SNMP Settings		
🥹 Configurati	on - Mozilla Firefox	Re Vieller	COLOR COLOR	Sector States	
<u>File Edit Vie</u>	ew Hi <u>s</u> tory <u>B</u> ookmarks <u>T</u> ools <u>H</u> elp				
< · ·	C 🗙 🏠 🗋 http://192.168.31.133/sys/			😭 🔹 🛃 Phihong	۶ 🔒
Configur	ation +				*
			PHIHONG		
		Devie	e Configuration		
		Devic	ce comgutation		
<u>Status</u>	CNMD Cotting				
System	SNMP Setting				
SNMD					
SINFIE		SNMP Versions	V1 V2 V3 V3		
		Community String	get public		
			set private		
		User	admin		
		Authentication Mode	HMAC-MD5 -		
		Authentication Password	•••••		
		Privacy Mode	CBC-DES 👻		
		Privacy Password	•••••		
		Trap hosts			
			Save		
Done					

Table 6: SNMP Settings				
SNMP Settings				
	Default Setting	Description		
SNMP Versions	V1/V2/V3	This function describes the current version of SNMP management that the user is running. This version is V3.		
Get Community String	Public	Option to set to public or private		
Set Community String	Private	Option to set to public or private		
User	Admin	Logon name that may be defined by the user. If changed the information should be written in a safe place for future reference		
Authentication Mode	HMAC-MD5	Option to set encryption to HMAC-MD5 or HMAC-SHA1		
Authentication Password	12345678	User defined password may be left to the default setting or 1-18 characters in length. If changed the information should be written in a safe place for future reference. This option may be used in place of the Community Strings for SNMPv3 Access via Midspan POE GUI (see below).		

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Privacy Mode	CBC-DES	Option to set privacy encryption to CDC-DES or CFB-AES-128
Privacy Password	12345678	User defined password may be left to the default setting or 1-18 characters in length. If changed the information should be written in a safe place for future reference. This option may be used in place of the Community Strings for SNMPv3 Access via Midspan POE GUI (see below).
	0.0.0.0	Trap Hosts are the destination IP addresses that you want
Tran Llasta	0.0.0.0	the Traps to be sent to.
Inap Hosts	0.0.0.0	
	0.0.0.0	

<u>NOTE:</u> Trap Notifications are black from entering through the Windows Firewall. Please configure the Windows Firewall settings to allow incoming Network Connections, by adding a specific program (i.e. the SNMP Console).

If the user is using the Authentication and Privacy passwords, they must remember these to use the Phihong GUI. Open the Phihong GUI and locate and click **setting**.

A pop-up for the User Security Parameters will allow you to enter the correct IP Address of your midspan. If the user is using the Authentication and Privacy Passwords ensure that SNMPv3 is checked and enter in the correct passwords in the spaces provided. The default passwords for both are: 12345678. Ensure that the User also matches the name entered in the Controller Setup.

	Figure 36: GUI User Security Paramete	
	User Security Parameters	
	IP Address           Local IP Address         192.168.31.132           rip         IP Discovery         192.128.31.125.140	
Default Settings	De Community Setting	
User: admin AuthPassword: 12345678	Provide Community .	
PrivPassword: 12345678	User: admin dit	
User and Passwords are	AuthPassword : •••••••••••••••••••••••••••••••••••	
both ouse sensitive.	OK Cancel	

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If you wish to run your SNMP device in Static mode, you can also configure your IP Address and Subnet Mask through the Ethernet Manager tool (etm.exe).

# **Click Config » IP Address**

NOTE: From the System Setup menu in the Controller, your DHCP Client setting must be Disable.

Ethern	et Manager			
iew Co	onfig			
IP Ad	dress	Subnet Mask	MAC Address	Device ID
192.1	68.31.133	255.255.255.0	00-01-3D-82-03	-91 1
	Set IP Addre	SS		
	1			
	IP Add	ress 192.168.	31.133 OK	
	Cuberry		Capa	
	Subnet	Mask 255.255.2		
	Dacew	ord		
	Газэж			
	Fassw			
	Fassw			
	Fassw			
	L Tassw			
	Fassw			



# 4. DHCP Client – Dynamic or Static Mode

General		Network Connection Details:	
Connection		Property	Value
IPv4 Connectivity: IPv6 Connectivity: Media State:	Internet No Internet Enabled	Connection-specific DN Description Physical Address	Marvell Yukon 88E8040 PCI-E Fast El 00-24-BE-85-1A-FA
Activity	05:59:04 100.0 Mbps	DHCP Enabled IPv4 Address IPv4 Subnet Mask Lease Obtained Lease Expires IPv4 Default Gateway IPv4 DHCP Server IPv4 DNS Servers	Yes 192.168.31.132 255.255.255.0 Tuesday, February 09, 2010 1:53:48 F Wednesday, February 10, 2010 1:53: 192.168.31.1 192.168.31.5 192.168.31.5
Sent — Se	Received	IPv4 WINS Server NetBIOS over Tcpip En Link-local IPv6 Address IPv6 Default Gateway	Yes fe80::453e:d558:b992:a852%11
Properties Properties Dia	Close		Close

Check your Local Area Connection Status:

Figure 38: Local Area Connection Status

Click Details... to view the properties. If the DHCP Enabled is Yes, it is in Dynamic mode (an IP address is automatically assigned by the network). To change to static, the user must manually set the IP Address, Subnet mask, and Gateway Address for your PC. Click Properties to open the Local Area Connection Properties and double click the Internet Protocol Version 4 to obtain the general information to set the IP Address, Subnet Mask, Gateway Address and preferred DNS server.

	Figure 39: Local Are	ea Connection Propertie	es/Internet Protocol Properties
--	----------------------	-------------------------	---------------------------------

Connect using:	You can get IP settings assigned automatically if your network supports
Marvell Yukon 88E8040 PCI-E Fast Ethemet Controller	for the appropriate IP settings.
Configure	Obtain an IP address automatically
This connection uses the following items:	Use the following IP address:
Client for Microsoft Networks	IP address: 192 . 168 . 31 . 133
Image: Second and Printer Sharing for Microsoft Networks	Subnet mask: 255 . 255 . 255 . 0
Internet Protocol Version 6 (TCP/IPv6)	Default gateway: 192.168.31.1
Internet Protocol Version 4 (1CP/IPv4)	
Internet Protocol Version 4 (1CP/IPV4)     Ink-Layer Topology Discovery Mapper I/O Driver	Obtain DNS server address automatically
Internet Protocol Version 4 (ICP/IPV4)     Link-Layer Topology Discovery Mapper I/O Driver     Link-Layer Topology Discovery Responder	<ul> <li>Obtain DNS server address automatically</li> <li>Use the following DNS server addresses:</li> </ul>
	<ul> <li>Obtain DNS server address automatically</li> <li>Use the following DNS server addresses:</li> <li>Preferred DNS server: 192, 168, 31, 5</li> </ul>
	<ul> <li>Obtain DNS server address automatically</li> <li>Use the following DNS server addresses:</li> <li>Preferred DNS server: 192.168.31.5</li> <li>Alternate DNS server:</li> </ul>
	<ul> <li>Obtain DNS server address automatically</li> <li>Use the following DNS server addresses:</li> <li>Preferred DNS server:</li> <li>192.168.31.5</li> <li>Alternate DNS server:</li> <li>.</li> </ul>
Internet Protocol Version 4 (ICP/IPV4) Ink-Layer Topology Discovery Mapper I/O Driver Ink-Layer Topology Discovery Responder Install Uninstall Properties Description Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.	<ul> <li>Obtain DNS server address automatically</li> <li>Use the following DNS server addresses:</li> <li>Preferred DNS server:</li> <li>192, 168, 31, 5</li> <li>Alternate DNS server:</li> <li>.</li> <li>Validate settings upon exit</li> </ul>

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# 5. Setup NIC Midspan with Phihong GUI

Please locate the Phihong POE GUI on your desktop or from your Start menu.

Step 1: Choose Connection Type: SNMP/LAN & WAN and click Setting to access User Security Parameters. Users must put in a range of IP Addresses to search from to locate the midspan. Use the ETM

er Security Parameters		User Security Parameter	rs 📒
IP Address Local IP Address IP Discovery	192 . 168 . 31 . 132 192 . 168 . 31 . 133 .	IP Address Local IP Addres IP Discovery	192 . 168 . 31 . 132 192 . 168 . 31 . 133 . 133
Community Setting Read Community : Set Community :	public private	Community Setti Read Communi Set Community	ng
SNMPv3 User : AuthPassword : PrivPassword :		♥ SNMPv3 User : AuthPassword PrivPassword :	admin ••••••

NOTE: Ensure that you are using either the community string or SNMPv3 encrypted passwords set using the Controller System setup, or the GUI will not detect the midspan. To verify the IP Address for your midspan, use the Ethernet Manager tool mentioned in earlier sections. The default password for both AuthPassword and PrivPassword is: **12345678**. Users may change these using the http:// access described in section 2 of Appendix B: Advanced Setup Options.

IP Address	192 . 168 . 31 . 132		5
IP Discovery	192 . 168 . 31 . 133 . 133	TP Address Subnet Mack MAC Address Devis	0 T.D
Community Setting		192.168.31.133 255.255.25 0 00-01-3D-82-03-91 1	
Read Community :			
Set Community :			
SNMPv3			
User :	admin		
AuthPassword :	•••••		
PrivPassword :	•••••		

Figure 41: GUI User Security Parameters/Ethernet Manager



Step 2: Select Search POE: If Phihong POE device is found, click to select device

#### Figure 42: GUI Connection Information

Connection Type	SNMP/LAN & WAN
Setting	Search PoE
192.168.31.133 **	* POF576U-16AT

**NOTE:** The IP address will be saved internally for the next use.

stem Inform	ation / Op	eration										
	_ Reset/	Update	System/P	ort Param.		System In	formation			Connection	n Informati	on
PHIHONG	Sys Re	tem set	Save Pa to F	rameters Flash	Firmw Hardw Poi	are Version are Version rt Number	1.2 2.0 16		Connecti	on Type S etting	NMP/LAN 8	& WAN
About	Firm	ware nload	Restor De	e Factory faults	S <sup>1</sup> (De	ystem ID escription)	Edi	t	192.168.3	1.133 *** P	OE576U-16	AT
		Port De	scription					Pa	rametric In	f <mark>orma</mark> tion		
Port Comr	nands /Disable A	II Ports	🗹 Detect Le	egacy Signa	ture	Legacy De	tect is Ena	bled		Send Port	Control	
	Port 1	Port 2	Port 3	Port 4	Port 5	Port 6	Port 7	Port 8	Port 9	Port 10	Port 11	Port 12
Port Description	Edit	Edit	Edit	Edit	Edit	Edit	Edit	Edit	Edit	Edit	Edit	Edit
Enable												
	Port 13	Port 14	Port 15	Port 16	Port 17	Port 18	Port 19	Port 20	Port 21	Port 22	Port 23	Port 24
Port Description	Edit	Edit	Edit	Edit	Edit	Edit	Edit	Edit	Edit	Edit	Edit	Edit
Enable	<b>V</b>	<b>V</b>										
		NOTE:	To send cha system, c	nges made lick on 'Ser	in this sec id Port Cor	tion to the P ntrol'.	οE	LED K	ey (Port sta ecting D	tus) isable/Erro	or Port Co	nnected

All features except for the Firmware Download are supported. Please refer to section 4 – Midspan GUI of this document for the full description of the Phihong GUI features. To update firmware using SNMP please refer to section 7 - Controller Setup.



# Appendix C

SNMP MIB:

Phihong USA Corp. registered Enterprise ID: 1.3.6.1.4.1.24852

SNMP Version: SNMPv3

TCP, UDP Port: 161 SNMP (Simple Network Management Protocol)1

Table 7 : SNMP MIB

OID	Name	Туре	Value	Description
1.3.6.1.24852.2.2.1.0	poeSystemActionHubReset	INTEGER	ready (0) reset (1)	Reset the POE Controller
1.3.6.1.24852.2.2.2.0	poeSystemActionHubRestoreFactoryDefault	INTEGER	ready (0) restore (1)	Restore Factory Defaults
1.3.6.1.24852.2.2.3.0	poeSystemActionHubSaveconfiguration	INTEGER	ready (0) save (1)	Save the POE parameters to flash
1.3.6.1.24852.2.2.4.0	poeSystemAllPortPowerEnable	INTEGER	ready (0) disable (1) enable (2)	<ul> <li>Setting this object at a value enable (2) enables detection mechanism for all ports.</li> <li>Setting this object at a value disable (1) disables detection mechanism for all</li> </ul>
				ports
1.3.6.1.24852.2.2.6.0	poeSystemHWVersion	DisplayString	Read-Only	System hardware version for the main board
1.3.6.1.24852.2.2.7.0	poeSystemNumberOfchannel	INTEGER	Read-only	Number of ports available in the system
1.3.6.1.24852.2.2.8.0	poeSystemProductPartNumber	INTEGER	Read-only	Displays the product part number
1.3.6.1.24852.2.2.10.0	poeSystemFirmwareVersion	DisplayString	Read-only	System firmware version for the PoE
1.3.6.1.24852.2.2.11.0	poeSystemDescription	DisplayString (SIZE (010))	Read-Write	System Description, max. length of 10 characters
1.3.6.1.24852.2.2.12.0	poeSystemConsumptionPower***	INTEGER	Read-only	Measured power usage expressed in Watts
1.3.6.1.24852.2.2.13.0	poeSystemcontrolACPower***	INTEGER	Read-Write	Sets the value of available power in Watts to be supplied by primary (AC) power source
1.3.6.1.24852.2.2.14.0	poeSystemControlDCPower	INTEGER	Read-Write	Sets the value of available power in watts to be supplied by secondary (DC) power supply



1.3.6.1.24852.2.2.15.0	poeSystemControlBothPower***	INTEGER	Read-Write	Sets the value of the total available power in Watts to be supplied by both power sources
1.3.6.1.24852.2.3.1.1.1~24	poePortIndex	INTEGER	Read-only	A unique value for each port.
1.3.6.1.24852.2.3.1.2.1~24	poePortPowerEnable	INTEGER (1.2147483647)	Disable (1) Enable (2)	Setting this object at a value enable (2) enables the detection mechanism for this port. Setting this object at a value disable (1) disables the detection mechanism for this port
1.3.6.1.24852.2.3.1.3.1~24	poePortControlMaxPower***	INTEGER	Read-Write	This command specifies the max. power in watts to the port
.6.1.4.1.24852.2.3.1.4.1.0	poePortCurrentStatus***	INTEGER	undercurrent (1) overcurrent (2) both (3) ok (4)	Describes a current port status related to the power gen- eration, the value undercurrent (1) indicated that the port current is below the minimal value since the attribute was last cleared. The value over current (2) indicates that the port exceeds the maximum value since the attribute was last cleared. The value both (3) indicates that both undercurrent and over current since the attribute was last cleared. The value both (3) indicates that both undercurrent and over current since the attribute was last cleared. The value ok (4) indicates neither an undercurrent or an overcurrent condition has been detected since the attribute was last cleared. This attribute is cleared through the power- Portcurrentstatus- Clear Action.

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1.3.6.1.4.1.24852.2.3.1.5.0	poePortCurrentStatusclear***	INTEGER	off (1) clear (2)	Setting the value of this object to clear (2) clears the value of the poePortStatus and enables the agent to update the poePortStatus. During Read operation this value will be off (1)
1.3.6.1.4.1.24851.1.2.1.6.1~24	poePortDescription	DisplayString (SIZE (010))	Read-Write	Describes the port description for the port
1.3.6.1.4.1.24852.2.3.1.7.1~24	poePortDetectionStatus***	INTEGER	Read-only	Off (0) DiscR (1) DiscC (3) RampUp (4) RampDown (5) Samplel (8) SampleV (9)
1.3.6.1.4.1.24852.2.3.1.8.1~24	poePortPowerClassifications***	INTEGER	Read-only	Class0 (1) Class1 (2) Class2 (3) Class3 (4) Class4 (5)
1.3.6.1.4.1.24852.2.3.1.9.1~24	poePortPowerDetectionControl***	INTEGER	Read-Write	Command controls the port power detection control
1.3.6.1.4.1.24852.2.3.1.10.1~24	powPortPowerPriority***	INTEGER	Critical (1) High(2) Low (3)	Sets port priority
1.3.6.1.4.1.24852.2.3.1.11.1~24	powerPortPower	INTEGER	Read-only	Port Power reading in mWatts
1.3.6.1.4.1.24852.2.3.1.12.1~24	poePortVoltage	INTEGER	Read-only	Port Voltage reading in Volts
1.3.6.1.4.1.24852.2.3.1.13.1~24	poePortCurrent	INTEGER	Read-only	Port Current reading in mAmps
1.3.6.1.4.1.24852.2.3.1.14.1~24	poePortResistance	INTEGER	Read-only	Port Resistance read in Ohm
1.3.6.1.4.1.24852.2.4.1.1.1~24	poeTrapsControlGroupIndex	INTEGER (0.65535)	Not-accessible	Uniquely describes the group the Trap control is located
1.3.6.1.4.1.24852.2.4.1.2.1~24	poeTrapsControlEnable	INTEGER	TrapsDisabled (1) TrapsEnabled (2)	Enables and disables the Trap from the Agent
1.3.6.1.4.1.24852.2.5.1	poePortHWFailTrap	NOTIFICATION		Hardware Failure Trap
1.3.6.1.4.1.24852.2.5.2	poePortPeakOverCurrentTrap	NOTIFICATION		Peak over Current Trap



1.3.6.1.4.1.24852.2.5.3	poePortOverloadTrap	NOTIFICATION	Overload Trap
1.3.6.1.4.1.24852.2.5.4	poePortDiscoveryFailTrap	NOTIFICATION	Discovery Failure Trap
1.3.6.1.4.1.24852.2.5.6	poePortDisconnectTrap	NOTIFICATION	PortDisconnectTrap
1.3.6.1.4.1.24852.2.5.7	poePortVoltageFailTrap	NOTIFICATION	Port Voltage Fail Trap

\*\*\* This function is currently disabled. Reserved for future use.

1 The NIC Interface Midspan performs under the TCP/IP, UDP port of 161. UDP port 161 for SNMP is an official IANA registered EDP port number. While attempting to connect to the NIC Interface Midspan via a different network domain2 the user must acknowledge that the local network supports the UDP port 161.



### **Different Network Domain**



#### Description of Diagram:

- Building #1 has on main Network Server that links all three floors together.
- Building #2 has one main Network Server with the Network Domain of 254.168.2.xxx.

#### Different methods of connection:

- NOTE: Taking consideration that the Access Control from the Controller Setup is Disabled (allowing all access)
- **Connection within the same Network Domain**. (Please refer to the diagram above for Building #1. For instance:
  - The NIC Interface Midspan is connected to the Network Domain of **192.169.1.xxx** located on the 1st floor. All Computer connected to the Network Domain of **192.168.1.xxx** can communicate with the NIC Interface Midspan.
  - The NIC Interface Midspan remains connected on the Network Domain of **192.168.1.xxx**. Since Building 1 has a main Network Server that links all three floors together, the computers on the 2nd (**192.168.2.xxx**) and 3rd (**192.168.3.xxx**) floors can also communicate with the NIC Interface Midspan.



- **Connection between different Network Domains.** (Please refer to the diagram above Building #2) For instance:
  - The NIC Interface Midspan is connected to the Network Domain of Building #1 (192.168.1.xxx) would like to communicate with the NIC Interface Midspan from Building #1. Building #1 must configure the main Network server to allow access from an outside source, in this case Building #2. Building #1 must be able to support UDP port 161, for SNMP. Once the access is allowed, Building #2 can communicate with the NIC Interface Midspan.



# Appendix D - SSL/TLS (optional)

As an added layer of security above standard SNMPv3 encryption, Phihong has added an option for Secure Sockets Layer (SSL)/Transport Layer Security (TLS) to ensure a secure connection over a network and provide additional security to the transfer of data. It is strongly recommended that first time users familiarize themselves with all steps within this section before attempting.

#### 1. Getting Started

To get started, please visit the support section of our website, www.phihong.com or www.midspans. com, and download the following files packaged as Certificate Software under SNMPv3 Firmware:

- setup.exe (this will install the Cygwin program allowing you to create the necessary security certificates)
- x509 folder

Step 1: Copy the folder x509 to c:\x509.

- <u>Step 2:</u> Ensure that the SNMPv3 firmware is up-to-date. Check the firmware revision on your midspan to the version online at www.midspans.com/pages/support.php. To review this operation please turn to part **3.1** System Administration under Appendix B.
- <u>Step 3:</u> Launch setup.exe to run the Cygwin installation wizard and follow the instructions below. Users do not need to use this program if another is preferred, however all instructions in this manual are for this particular software.

#### 2. Installing Cygwin

E Cygwin Setup	
	Cygwin Net Release Setup Program
	This setup program is used for the initial installation of the Cygwin environment as well as all subsequent updates. Make sure to remember where you saved it.
	The pages that follow will guide you through the installation. Please note that Cygwin consists of a large number of packages spanning a wide variety of purposes. We only install a base set of packages by default. You can always run this program at any time in the future to add, remove, or upgrade packages as necessary.
	Setup.exe version 2.774
	Copyright 2000-2012
	http://www.cygwin.com/
	< Back Next > Cancel

Figure 45: Cygwin Welcome Screen

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Click the Install from Internet radio button, then click Next

Cygwin Setup - Choose Installation Type		×
Choose A Download Source		~
Choose whether to install or download from the internet, or install from files in a local directory.		Ľ
<ul> <li>Install from Internet</li> </ul>		
(downloaded files will be kept for future re-use)		
O Download Without Installing		
Install from Local Directory		
< Back Next >	Ca	ncel

Figure 46: Cygwin Choose Installation Screen

Select a Directory where you would like the cygwin software installed. The default is C:\cygwin. Select for All Users as recommended then click Next

Select Root Install Directory Select the directory where you installation parameters.	want to install Cygwin. Also ch	noose a few	E
Root Directory			
C:\cygwin		Browse	
Install For			
All Users (RECOMMENDED)			
Cygwin will be available to all	users of the system.		
🗇 Just Me			
Cygwin will still be available to important Installer information you lack Administrator privileg	all users, but Desktop Icons, ( are only available to the curren ges or if you have specific need	Cygwin Menu Entries, and t user. Only select this if s.	1

Figure 47: Cygwin Installation Directory Screen



Select the Direct Connection radio button, then click Next

Select You Setup ne the appro	eds to know how you want it to connect to the internet. Choose priate settings below.
	<ul> <li>Direct Connection</li> <li>Use IE5 Settings</li> <li>Use HTTP/FTP Proxy:</li> </ul> Proxy Host <ul> <li>Port 80</li> </ul>
	< Back Next > Cancel

Figure 48: Cygwin Connection Type Screen

Select a webpage to download the software from, http://cygwin.mirrors.hoobly.com is sufficient, now click **Next** to download.

Choose A Do Choose a	ownload Site site from this list, or add your own sites to the list		E
	Available Download Sites:		
	http://cygwin.mirrors.hoobly.com http://cygwin.lilengine.com http://cygwin.lowprofilelinks.com ftp://mirror.its.uidaho.edu http://mirror.cs.vt.edu ftp://mirror.cs.vt.edu ftp://mirror.cs.vt.edu ftp://mirror.mcs.anl.gov http://mirror.averse.net http://mirror.averse.net ftp://ftp.daum.net http://ftp.daum.net	•	_
User URL:		Add	]

Figure 49: Cygwin Choose Download Site



Click the View button located in the upper right hand corner once to get to the screens below. Scroll down till you find libopenssI100: The OpenSSL Runtime Environment and click skip till 1.0.1e-2 appears. Then continue scrolling down to find openssl: The OpenSSL runtime environment and click "Skip" till you get 1.0.1e-2 appears. Click next to begin the installation. Alternatively you can use the search box entering ssl to bring up these two files.

earch	Clear					C Keep
New	B.	. S	Categories	Size	Package	
🖸 Skip	nja	n/a	Graphics	58k	libopenipeg1: JPEG 2000 codec (runtime)	
Skip	nja	n/a	Libs, Net	152k	libopenIdap2_3_0: Lightweight Directory Access Protocol suite - (runtime)	
Skip	n/a	n/a	Libs, Net	179k	libopenIdap2_4_2: Lightweight Directory Access Protocol suite (runtime)	
Skip	n/a	n/a	Libs	717k	libopenmpi: Open Message Passing Interface API (Cruntime)	
Skip	nja	n/a	Libs	1,010k	libopenmpi-devel: Open Message Passing Interface API (development)	
Skip	nya	nía	Libs	28k	libopenmpicxx1: Open Message Passing Interface API (C++ runtime)	
Skip	nja	n/a	Libs	104k	libopenmpf77_1: Open Message Passing Interface API (Fortran 77 runtime)	
Skip	nja	n/a	Libs	44	libopenmpf90_1: Open Message Passing Interface API (Fortran 90 runtime)	
Skip	nja	n/a	Libs	114k	libopenmpifh2: Open Message Passing Interface API (Fortran runtime)	
Skip	nja	n/a	Libs	33k	libopenmpiuse1: Open Message Passing Interface API (Fortran use runtime)	
3 Skip	n/a	nto	Like Not	60.FL	Shopened(199: The OpenSSI, puntime environment (compat)	
3 1.0.1e-2	X		Libs, Net	831k	libopenss1100: The OpenSSL runtime environment	
Skip	nja	n/a	Libs	80k	liborc0.4-devel: Optimized Inner Loops Resource Compiler	
Skip	n/a	nía	Libs	160k	liborc0.4_0: Optimized Inner Loops Resource Compiler	
• Skip	nja	n/a	Text	1,090k	libosp-devel: SGML parser library (runtime)	
Skip	nja	n/a	Text	581k	libosp5: SGML parser library (runtime)	
Skip	nja	n/a	Text	1,041k	libostyle-devel: DSSSL libraries (development)	
Skip	n/a	n/a	Text	573k	libostyle1: DSSSL libraries (runtime)	
Skip	nja	n/a	Net	1k	libotp0: Kerberos 5 implementation (OTP library)	
Skip	nja	n/a	Libs	51k	libp11-kit-devel: PKCS#11 module library	
Skip	n/a	n/a	Libs	80k	libp11-kit0: PKCS#11 module library	
Skip	nja	n/a	GNOME	196k	libpango1.0-devel: GNOME text layout and rendering library	
Skip	n/a	n/a	GNOME	275k	libpango1.0_0: GNOME text layout and rendering library	
Skip	nja	n/a	GNOME	4k	libpangox1.0-devel: Deprecated PangoX library	
Skip	nja	n/a	GNOME	50k	libpangox1.0_0. Deprecated PangoXlibrary	
Skip	nja	n/a	Publishing	?	libpaper: Paper handling library (sources)	
Skip	nja	n/a	Publishing	17k	libpaper-bin: Paper handling library (utilities)	
Skip	rja	n/a	Publishing	15k	libpaper-devel: Paper handling library (development)	
3 Skip	nja	nja	Publishing	5k	libpaper1: Paper handling library (runtime)	
0		- 537	in .	538		

Figure	50:	Cygwin	Installation	Directory	Screen

Search	Clear						🖱 Кеер	O Curr	🕐 Екр	View	Full	
New		B	S	Categories	Size	Package		-				-
SKIP		nja	nýa	Graphics	/UK	openjpeg: JPEG 2000 utilities						
Skip		nía	n/a	Debug	346k	openjpeg debuginfo: Debug info for openjpeg						
Skip		nja	nfa	Net	146k	openIdap: Lightweight Directory Access Protocol suite (clients)						
Skip		n/a	n/a	Debug	5.513k	openIdap-debuginfo: Debug info for openIdap						
😯 Skip		nía	n/a	Devel, Libs, Net	685k	open/dap-devel: Lightweight Directory Access Protocol suite (development)						
O Skip		nja	n/a	Net	2,058k	openIdap-server: Lightweight Directory Access Protocol suite (server)						
O Skip		n/a	nýa	Libs	667k	openmpi: Open Message Passing Interface API						
😯 Skip		nja	n/a	Debug	12,295k	openmpi-debuginfo: Debug info for openmpi						
Skip		n/a	nía	Net	899k	openssh: The OpenSSH server and client programs						
O Skip				Debug	2,469	-openash debuginfo: Debug info far openash						
@ 1.0.1e-2				Net	432k	openssl: The OpenSSL base environment						
O Skip		- cha	nfa	Dovol, Ube	1,402	openeel devel: The Open SSL development environment						
😯 Skip		nía	n/a	Graphics, Utils	75k	optipng: Advanced PNG (Portable Network Graphics) optimizer						
C Skip		n/a	nja	Libs	?	orc: Optimized Inner Loops Resource Compiler						
Skip		n/a	n/a	Debug	595k	orc-debuginfo: Debug info for orc						
Skip		n/a	n/a	Math	393k	orpie: Fullscreen RPN calculator for the console						
Skip		n/a	n/a	Security	70k	outguess: Universal Steganographic tool for PNM and JPG files						
Skip		n/a	n/a	Libs	96k	p11-kit: PKCS#11 module tool						
Skip		nja	n/a	Debug	576k	p11-kit-debuginfo: Debug info for p11-kit						
C Skip		n/a	nja	Libs	65k	p11-kit-trust: PKCS#11 module library						
Skip		nía	n/a	Archive	1,564k	p7zip: A file archiver with very high compression ratios.						
Skip		n/a	n/a	Utils	96k	pal: A cal-like calendar with day highlight and support for events						- 1
O Skip		nía	n/a	GNOME	?	pango1.0: GNOME text layout and rendering library						
Skip		nía	n/a	Debug	753k	pango 1.0-debuginfo: Debug info for pango 1.0						
O Skip		nía	n/a	GNOME	?	pangox-compat; Deprecated PangoXlibrary						
Skip		n/a	nía	Debug	107k	pangox-compat-debuginfo: Debug info for pangox-compat						
Skip		n/a	n/a	Text	38k	par: A paragraph reformatter, vaguely similar to fmt, but better						
Skip		nia	n/a	Interpreters	2.693k	parrot: Parrot Virtual Machine						
Skip		n/a	nía	Libs	694k	parrot-devel: Parrot Virtual Machine development headers and libraries						
G Skin		No	nía	Dec	58.44	parent-docs: Parent HTML Documentation						

Figure 51: Cygwin Installation Directory Screen

The download process may take a few minutes. Once completed the wizard will give you options for where you would like to place a shortcut icon to the Cygwin program terminal. Click finish to end the installation process.



# 3. Root Certificates

# 3.1. Generating Root Certificates

Double click the Cygwin icon on the desktop to run the command prompt.



The following steps to generate the new certificate need to be followed exactly:

Step 1: enter the following - cd c:/x509 and press the enter key

Step 2: enter the following - bash x509.sh and press the enter key

Step 3: The root certificates must be generated first so enter a capital R to rebuild the root certificates to your individual specifications. The terminal is case sensitive so a lower case 'r' will register as an invalid command. The root certificates must be generated first so enter a capital R to rebuild the root certificates to your individual specifications. The terminal is case sensitive so a lower case 'r' will register as an invalid command.



Figure 52: Building Root Certificates

Follow the on screen directions. Not all information needs to be entered. To leave as default leave blank pressing enter to move to the next item. Remember or write down any unique information entered as it will need to be re-entered exactly when generating the security certificates.



# 3.2 Install Root Certificates

Locate the root certificate by opening the folder c:/x509



Figure 53: Locating Root Certificates Folder

Open the folder 'root' and double-click rootca.crt to start the installation wizard.



Figure 54: Locating the Root Certificate

The wizard will pop up and indicate that the root certificate is not trusted. Click the **install certificate** button towards the bottom of the window.

General Details Certification Path	
Certificate Information	
This CA Root certificate is not trusted. To enable trust, install this certificate in the Trusted Root Certification	
Authorities store.	Search root 🔎
	- 🗆 🔞
	Dat
Issued to: ARM7_SSL	7/11
Contraction of the contraction of the terms of the	12/1
Issued by: ARM7_SSL	7/11
Valid from 7/ 11/ 2013 to 7/ 9/ 2023	12/1
Instal Certificate) Issuer Staten	nent ,

Figure 55: Installing Root Certificates

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Click through the wizard and select the radio button place all certificates in the following store. Click browse and select the Trusted Root Certificates Folder. The click okay.

	rt Wizard	
Certificate Sto	ore	
Certificat	te stores are system areas where certificates are kept.	
147-4		
the certif	can automatically select a certificate store, or you can specify a loca ficate.	tion for
© AL	tomatically select the certificate store based on the type of certificate	e
Pla	ace all certificates in the following store	
Ce	ertificate store:	
(	Select Certificate Store	
	Select the certificate store you want to use	
	Select the certificate store you want to use.	
	Personal	
Learn more a	Personal Trusted Root Certification Authorities Enterprise Trust	
Learn more a	Personal     Trusted Root Certification Authorities     Enterprise Trust     Intermediate Certification Authorities     Trusted Publichers	

Figure 56: Placing Root Certificates

When attempting to finish the installation a pop up window with a security warning may appear asking you if you are certain you want to install this certificate. Click yes and finish the installation.



Figure 57: Installing Root Certificates Security Prompt

The root certificates are now installed for users of Internet Explorer, Google Chrome and Safari. For Mozilla Firefox users, the root certificates will also need to be installed into the browser. Please continue reading this part if using Firefox otherwise skip to part 4 to generate security certificates.



# 3.3 Load Root Certificates into Mozilla Firefox

Launch the Mozilla Firefox browser and navigate the Firefox tab to select Options. Under the Advanced tab select view certificates.

General Data Choices Net	work Update Encryption	t you	
Protocols	2) Certificate Manager		
Certificates	Your Certificates People Servers Authorities (	Others	
When a server request	You have certificates on file that identify these	certificate authorities:	
O bejeer one botom	Certificate Name	Security Device	83
Minu Cartificator	4 (c) 2005 TÜRKTRUST Bilgi İletişim ve Bilişim		
view Certificates	TÜRKTRUST Elektronik Sertifika Hizmet Sa	Builtin Object Token	
	A-Trust Ges. f. Sicherheitssysteme im elektr.	***	
	A-Trust-nQual-03	Builtin Object Token	
	AC Camerfirma S.A.		
	Global Chamberrian Poot 2008	Builtin Object Token	
	AC Camerfirma SA CIE A82743287	Builtin Object Token	
	Chambers of Commerce Root	Builtin Object Token	
	Global Chambersign Root	Builtin Object Token	-
	A.0.0750/2.5.8.0.0022585.00061		

Figure 58: Importing Root Certificates in Firefox

Click the Import button along the bottom and locate the rootca.crt file under c:/x509/root. The wizard will ask the trust levels for this certificate. Ensure that the Trust this CA to identify websites checkbox is checked and then click okay. The certificate is now installed and you can continue to generate and install the Security Certificates.

Downloading Certificate	×
You have been asked to trust a new Certificate Authority (CA).	
Do you want to trust "ARM7_SSL" for the following purposes?	
Trust this CA to identify websites.	
Trust this CA to identify email users.	
Trust this CA to identify software developers.	
Before trusting this CA for any purpose, you should examine its certificate and its policy and procedures (if available).	
View Examine CA certificate	
OK Can	cel

Figure 59: Placing Root Certificates in Firefox



#### 4 Security Certificates

#### 4.1 Generating Security Certificates

Launch the Cygwin command terminal again and follow the same first two steps as used to generate the root certificates.

The following steps to generate the new certificate need to be followed exactly:

Step 1: enter the following - cd c:/x509 and press the enter key

Step 2: enter the following - bash x509.sh and press the enter key

Step 3: To generate the security certificates, enter a capital N. Remember that the terminal is case sensitive so a lower case 'n' will register as an invalid command.

E /cygdrive/c/x509	
User@User ~	
\$ cd c:/x509	
User©User /cygdrive/c/x509 /c/x509 \$ bash x509.sh OpenSSL Utility	
N. Make new certificate к. кевила коот СА сегтificate S. Server test	
Certificate Name: [boa-ss]] [boa-ss]]	
Generating RSA private key, 2048 bit long modulus	
e is 65537 (0x10001)	+++
You are about to be asked to enter information that will be inco	rporated
What you are about to enter is what is called a Distinguished Na There are quite a few fields but you can leave some blank For some fields there will be a default value, If you enter '.', the field will be left blank.	me or a DN.
Country Name (2 letter code) [TW]: State or Province Name (full name) [Taiwan]: Locality Name (eq. city) [Taipei]:	
Organization Name (eg, company) [ARM7 SSL Device]: Organizational Unit Name (eg. section) [ARM7]:	
Domain or IP Address [192.168.1.100]:192.168.31.204 Email Address [admin@uclinux.dev]:	
Please enter the following 'extra' attributes to be sent with your certificate request A challenge password []:	
An optional company name []. Signature ok subject=/C=TW/ST=Taiwan/L=Taipei/0=ARM7 SSL Device/OU=ARM7/CN=19	2.168.31.204/ema
Getting CA Private Key	
[boa-ssl.crt] generated	
Press any key to continue	

Figure 60: Generating Security Certificates

The information in the Security Certificate must match the Root Certificate be it the default settings (left blank) or the user selected entries. The Domain/IP address must also match that of the midspan. If the IP address is changed, a new certificate must be generated.



# 4.2 Installing Security Certificates

Locate the Security Certificate in the folder c:/x509/certs. Double Click the file boa-ssl.crt to start the installation process. Click install certificate in the pop-up window to start the installation process. When prompted where to place the certificate, select the radio button Place all certificates in the following store then hit the browse button. Select Trusted Publishers before hitting okay and completing the installation.

General	Details	Certification Path	
Cert	ificate Im	port Wizard	2
	Certificate Certif	Store icate stores are system areas where certificates are kept.	
	Windo the co ©	wis can automatically select a certificate store, or you can specify a lo rtificate. Automatically select the certificate store based on the type of certific Place all certificates in the following store Certificate store:	cation for ate
Le	earn mo	Select Certificate Store	
		Intermediate Certification Authorities     Trusted Publichers     Intrusted Certifications     Show physical stores	Cancel

Figure 61: Installing Security Certificates

#### 4.3 Load Certificates into the Midspan SNMP card

Now that the certificates have been generated, they need to be uploaded into the Midspan. Open the folder containing the certificates. They will be located at c:\x509\certs.

Ensure connection with your Midspan via SNMP. Then in a new windows browser window enter the following: ftp://xxx.xxx.xxx.xxx, where the x's represent the URL of your Midspan. You will need to log in as you would through normal http:// access.

n A:	5				
٢	Either the serv	ver does not all	ow anonymous lo	gins or the e-mail add	ress was not
	FTP server:	192.168.31.	204		
	<u>U</u> ser name:				-
	Password:				
	After you log o	on, you can ad	d this server to yo	our Favorites and retu	irn to it easily
⚠	FTP does not a server. To pro	encrypt or enco	ode passwords or ity of your passw	data before sending t ords and data, use W	them to the ebDAV instea
-	server. To pro	otect the secur	ity of your passw	ords and data, use W	ebDAV inste

Figure 62: Midspan FTP Directory in Windows

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Open the folders **Flash** then **config** then **ssl**. Now copy the files **boa-ssl.crt** and **boa-ssl.pem** from the folder x509/certs.

rganize 🔻			
Favorites	bin File folder	dev File folder	
<ul> <li>Libraries</li> <li>Documents</li> <li>Music</li> </ul>	etc File folder	flash File folder	
<ul> <li>Pictures</li> <li>Videos</li> </ul>	proc File folder	swap File folder	
💐 Homegroup	tmp File folder	usb File folder	
Computer Windows (C:)	usr File folder	var File folder	
🙀 Network			

Figure 63 Midspan Directory



Figure 64: Loading Certificate to Midspan

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#### 5. Enable SSL

Go to the webpage http://XXX.XXX.XXX.XXX where XXX.XXX.XXX is the IP address of your midspan. Access the **System** page to alter the **Device Configuration**. Under the LAN heading there will be an option for SSL. The default option is set to Disable. Click the down arrow to change the settings to **Enable**. Click save and reboot the midspan to restart with SSL.

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<u>File Edit Vie</u>	w Hi <u>s</u> tory <u>B</u> ookmarks <u>T</u> ools <u>H</u> elp				
< > -	C × 🔬 🗋 http://192.168.31.133/sys/			☆ 👻 Google	۹ 🔒
Configura	tion				
<u>,                                     </u>					
			PHIHONG		
		Devic	e Configuration		
	Administration		2		
		Administrator	admin		
		Password			
	LAN				
		IP Address	192.168.1.100		
		Subnet Mask	255.255.255.0		
Status		Gateway			
otatas		DNS Server	168.05.102.1		
System		DHCP Client	Enable -		
<u>SNMP</u>		SSL	Disable 💌		
	System Tools		Disable		
		Firmware Backup	Васкир		
		Firmware Update	Update		
		Restore Default Settings	Default		
		Reboot System	Reboot		
			1914		
			Save		
Done					

Figure 65: Enabling SSL



#### 6. Access via SSL

The webpage will now display an error message saying that there is no connection to this page. The midspan may no longer be accessed via http://. You must now use the webpage https://XXX.XXX.XXX.XXX.XXX.XXX.XXX.XXX.XXX. is the IP address of your midspan. You may now login with the secure connection.



Figure 66: Access via SSL



# 7. Troubleshooting

This section is for the diagnosis of minor problems that may occur during the set-up of SSL capability on this midspan. If your issue is not listed here, please consult directly with your local phihong representative.

Problem	Possible Solutions			
Unable to access the web based GUI	1. Ensure that the IP address is correct. If the power is reset on the midspan the IP address may be re-assigned by the network and a new IP address is necessary. You will need to create a new certificate based on this new IP address. A static IP address is best for this option as the IP address will remain constant and			
	<ol> <li>Ensure that you are accessing via https:// and not the normal http://. Without the additional 's', the web based GUI will not open</li> </ol>			
	<ol> <li>Regenerate the certificates. An error may have occurred requiring you to re- start the process.</li> </ol>			
	2. Check the IP address has not changed			
I've completed all the steps and the certificate isn't working	3. Ensure that the SSL option is enabled and that the URL starts with https://			
	<ol> <li>Ensure that the certificates are properly loaded into the internet browser. For Mozilla Firefox, this may require removing the certificate and reloading.</li> </ol>			
	1. Check to ensure that the midspan is properly connected to the network			
Others	2. Check all the Ethernet cables for integrity			
	3. Ensure all firmware is up to date. This program uses third party software, please check to ensure the latest firmware is being used.			



# Appendix C: Frequently Asked Questions

- Q: What happens if I forget my username and passwords for the NIC Interface?
- A: Please contact Phihong Sales for further information on this topic.
- **Q**: What is the function of the "current share" pin on the CD Power connector? Are there any protocols or procedures associated with it?
- A: The DC solution contains 3x 500W 50V rectifier modules (1000W N+1) with custom cables available for connection between the rectifier rack and up to 4 midspans. The current share pin is an option which could be used to have the power supply inside the midspan current share with the rectifiers. There are no protocols or procedures associated with it other than it's designed only to work with our rectifier system and even then its not perfect sharing due to the inrush limiting components inside the midspan located on the DC input.
- Q: What type of Display Properties settings are required to run the Phihong SMNP v3 GUI?
- A: 16-Bit: 1024 X 768 pixels, 1280 X 1024 pixels 32-Bit: 1024 X 768 pixels, 1280 X 1024 pixels

If the settings are set to be at least the values shown below, the edges of the GUI window will be cropped.

16-Bit: 640 X 480 pixels, 800 X 600 pixels

32-Bit: 640 X 480 pixels, 800 X 600 pixels

- Q: My ports status information is taking a long time to load while I have SSL Enabled, Is there something wrong?
- A: No. With SSL enabled users may experience delays in loading their information. This is to allow time for the appropriate security certificate identification and validation.