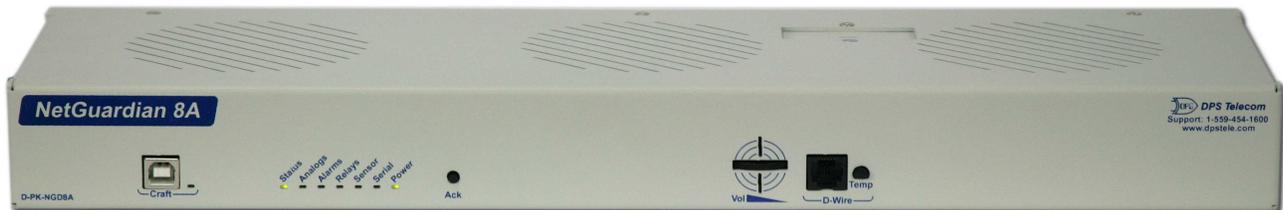


NetGuardian 8A

USER MANUAL

D-PK-NGD8A



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Revision History

July 8, 2016

Initial Release

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1 NetGuardian 8A Overview



The NetGuardian 8A

Could you estimate **how much** money your company has invested in your IT server room or data center? **How much** is your network uptime worth to you? These questions might be difficult to answer, but monitoring your valuable IT equipment certainly doesn't have to be.

You need a compact, simple, and reliable device to monitor basic environmental conditions (like temperature, humidity, smoke...) around your valuable equipment. Without this basic visibility, it's just a matter of time before your investment in your server room is seriously damaged.

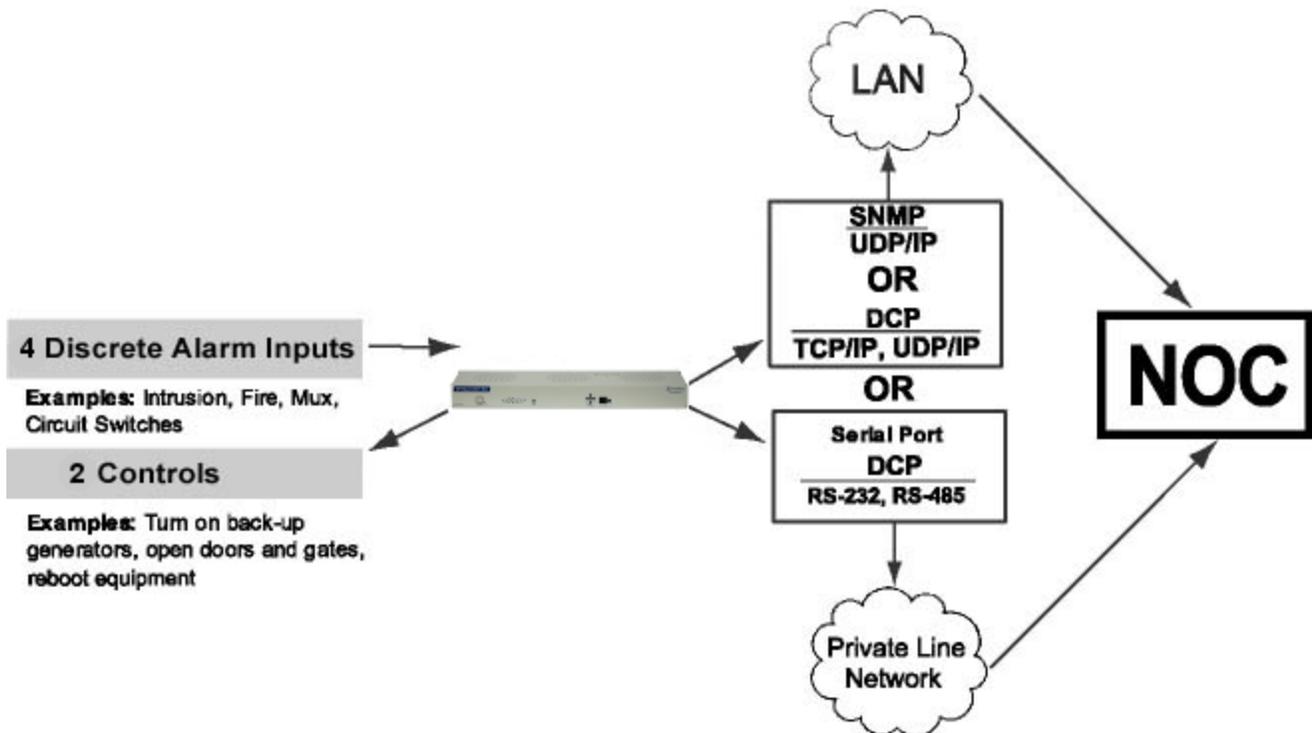
- **4 Discrete Alarm Inputs**
- **1 D-Wire sensor input jack (Build option), supporting up to 16 sensors (sold separately)**
- **2 Control Relay Outputs (Build option)**
- **Fast, integrated web browser**
- **32 ping targets to monitor other devices on the network**

Meet the NetGuardian 8A

This small device keeps tabs on all the environmental levels that affect your servers, phone closets, data centers, and other equipment locations. The 4 discrete alarms on the back panel are used to monitor dry contacts, such as motion sensors, UPS, smoke detectors, flood sensors, AC and room entry.

What's the current room temperature? When was the last time someone entered the room? Get all of this information - right from your network PC.

Don't wait until the day your AC unit fails and your server closet **overheats** to start protecting your gear. This small, 1RU device alerts you of changing conditions 24 hours a day, 7 days a week, either to your cell, email, or SNMP manager. The NetGuardian 8A is the cost-effective way to stay proactive in your monitoring.



Common Applications for the NetGuardian 8A

The NetGuardian 8A reports alarms as SNMP traps over LAN and supports DCP polling over RS-232, RS-485 or LAN. The NetGuardian 8A supports simultaneous SNMP and DCP operation.

The NetGuardian 8A supports both LAN and serial port connectivity. The LAN connection and serial port can be used at the same time to support simultaneous SNMP and DCP alarm reporting. However, only one DCP channel can be used, therefore the NetGuardian 8A cannot simultaneously report DCP over LAN and DCP over serial port connection.

In addition to its 4 discrete input points, the NetGuardian 8A has 2 control relays, all form C, user defined NO/NC with shunts, 8 analogs, and dwire. The control relays allow network administrators to respond remotely to threats to system integrity. Using the control relays, network administrators can turn on backup generators, open doors and gates for emergency access, reboot equipment, or perform other functions. The NetGuardian 8A also allows you to reverse the logic state of the alarm on a point by point basis for discrete alarms.

Another feature of the NetGuardian 8A is user-defined alarm qualification times. This will allow you to clearly distinguish momentary status changes from serious problems.

2 Specifications

Hardware

Dimensions: 16.9" W x 1.75" H x 5.12" D
Mounting: 19" or 23" Rack
Weight: 2.2 lbs (0.978 kg)

Power Input: -48VDC (-18 to -60 VDC)
 -24VDC

³ **Current Draw:** 60 mA @ 48 VDC
 120mA @ 24 VDC

Fuse: 3/4 Amp GMT Fuse

Audible Interfaces: Alarm Speaker

Visual Interfaces: 8 Front Panel LEDs
 6 back LED's

¹ **Hardware Interfaces:** 1 RJ45 10/100BaseT Ethernet
 1 RS-232 Serial (or optional RS-485)
 1 USB Craft Port
 1 RJ-11 D-Wire sensor network (optional)
 8 RJ45 (Analog)
 1 RJ45 (2x Relay)
 1 RJ45 (4x Alarm)

Discrete Alarm Inputs: 8 (reversible)
² **Discrete Alarm Length:** 000Ft. (00m) per Alarm

Analogs: 8 (plus 2 for power)
Input Range: -92 to +92 VDC or 4 to 2.0mA
⁴ **Analog Accuracy:** ±1% of Analog Range

Control Outputs: 2 Relays
Max Voltage: 60 VDC/120 VAC
Max Current: 1A AC/DC

Operating Temp: 32° to 140°F (0° to 60°C)
¹ **Industrial Operating Temp:** -22° to 158°F (-30° to 70°C)

Operating Humidity: 0% to 95% non-condensing

MTBF: 60 Years
RoHS: RoHS 5 Approved

Ordering Options: D-Wire

Software

Downloadable Firmware: Yes
Built-in Web Interface: Yes
Browser Support: IE9, IE10, Firefox.....

Protocols: DCPx, TELNET, HTTP, Email...
SNMP Support: v1, v2c, v3

¹ **D-Wire Sensor Support:** Most variants (up to 16 including internal temp)

Ping Alarms: 32

OS Support: Windows 95, 98, NT, ME, XP, 2000, Vista, 7
 32/64bit

Note:

¹ Valid if hardware option is included.

² Minimum lengths determined with TTL voltage level alarms. Actual distance may vary.

³ Current measured at rated voltage with all controls latched and all alarms triggered.

⁴ See analog section in manual for detailed analog accuracy breakdown.

* This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

3 Shipping List

Please make sure all of the following items are included with your NetGuardian 8A. If parts are missing, or if you ever need to order new parts, please refer to the part numbers listed and call DPS Telecom at **1-800-622-3314**.



NetGuardian 8A
D-PK-NGD8A



NetGuardian 8A Resource CD



NetGuardian 8A User Manual
D-UM-NGD8A



6ft. USB Download Cable
D-PR-046-10A-06



x3
3/4 Amp GMT Fuses
2-741-00500-00



x2
Large Power Connector (Main Power)
2-820-00862-02



x2
19" Rack Ears
D-CS-325-10A-00



x2
23" Rack Ears
D-CS-325-10A-01



x8
3/8" Ear Screws
1-000-60375-05



x4
Metric Rack Screws
2-000-80750-03



x 4

Two Standard Rack Screws
1-000-12500-06



Pads
2-015-00030-00



14ft. Ethernet Cable
D-PR-932-10B-14

4 Installation

4.1 Tools Needed

To install the NetGuardian 8A, you'll need the following tools:



Phillips No. 2 Screwdriver



Small Standard No. 2 Screwdriver



**PC with terminal emulator,
such as HyperTerminal**

4.2 Mounting



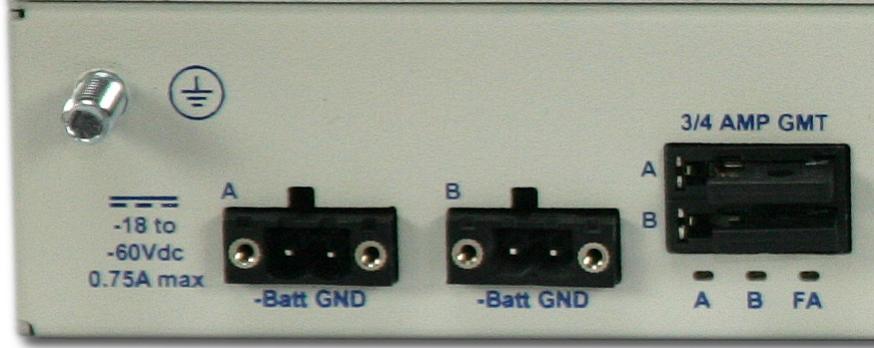
The NetGuardian 8A can be flush or rear-mounted

The NetGuardian 8A mounts in a 19" rack or a 23" rack using the provided rack ears for each size. Two rack ear locations are provided. Attach the appropriate rack ears in the flush-mount or rear-mount locations shown in Figure 6.2.1.

Note: Rack ears can be rotated 90° for wall mounting or 180° for other mounting options (not shown).

4.3 Power Connection

The NetGuardian 8A uses single or dual (Optional) power inputs, powered through two barrier plug power connectors.



NetGuardian 8A Power Terminals and Fuses

To connect the NetGuardian 8A to a power supply:

1. Locate the metal grounding lug next to the symbol . Use the grounding lug to connect the unit to earth ground.
2. Insert the eyelet of the earth ground cable between the two nuts on the grounding lug (Ground cable not included).
3. Choose a barrier plug power connector to attach your power cable to. One plug is used for main power and the other is used for backup power. Both plugs are interchangeable so it does not matter which plug you select. Each plug's right terminal is Ground and its left terminal is Battery Lead.
4. Insert a battery ground into the power connector plug's right terminal (GND) and tighten the screw.
5. Insert a battery lead to the plug's left terminal and tighten its screw.
6. Insert fuse into the fuse distribution panel.
7. Check the power status LED for polarity.
8. Measure voltage. Connect the black cable onto the ground connector of your Digital Voltage Meter (DVM) and red cable onto the other connector of your DVM. The voltmeter should read between the values listed on the silk screen next to the power connector.
9. Insert the local fuse into the power fuse slot. The power plug can be inserted into the power connector only one way to ensure the correct polarity.

Note: The negative voltage terminal is on the left and the GND terminal is on the right.

10. Verify that the  LED is lit. To confirm that power is correctly connected, the front panel status LED will flash RED and GREEN, indicating that the firmware is booting up.

5 NetGuardian 8A Front Panel



Remote Alarm Block 176N G2 Front Panel

LED	Status	Description
A	Solid Green	Power Supply A OK
	Off	No Voltage (or) Power Leads Reversed
B (Optional)	Solid Green	Power Supply B OK
	Off	No Voltage (or) Power Leads Reversed
FA	Solid Red	Blown Fuse
	Off	Fuse OK
Status	Flashing Green	Application Running
	Flashing Red	Bootloader Running
	Flashing Red/ Green (Alternating)	Firmware upgrade in process. Do not power cycle.
Alarm	Solid Red	Standing Alarm
	Off	No Alarms
Serial	Flashing Green	Data Transmitted on Serial Connection
	Flashing Red	Data Received on Serial Connection
Power (Lamp)	Solid Green	Processor has power
	Off	Processor does not have power
USB	Flashing Green	Data Transmitted over USB
	Flashing Red	Data Received over USB
D-Wire	Solid Green	At least 1 dwire enabled, no alarm
	Flashing Green	Standing alarm (Threshold)
	Off	No D-Wire Alarms
Lnk	Solid Green	LAN Connected
	Off	LAN Not Connected
LAN	Flashing Yellow	Activity over Ethernet Connection
	Off	No Activity
100BT	Solid Green	LAN Connection Speed is 100BaseT
	Off	LAN Connection Speed is 10BaseT
Analog	Solid Green	Analogs enabled, no alarm
	Solid Red	Standing alarm (Threshold)
	Off	No Analogs enabled
Relay	Solid Green	1 or more relays latched
	Off	All relay off

Front Panel LED Descriptions

6 NetGuardian 8A Back Panel



7 Quick Start: How to Connect to the NetGuardian 8A

Most NetGuardian 8A users find it easiest to give the unit an IP address, subnet and gateway through the front craft port (TTY interface) to start. Once these settings are saved and you reboot the unit, you can access it over LAN to do the rest of your databasing via the Web Browser interface.

Alternative option: You can skip the TTY interface by using a LAN crossover cable directly from your PC to the NetGuardian 8A and access its Web Browser.

7.1 ...via Craft Port (using TTY Interface)



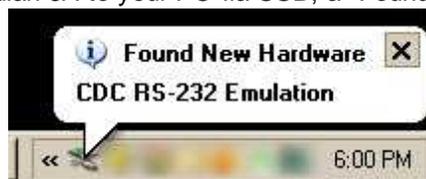
NetGuardian 8A Craft Port

Use the front panel craft port to connect the NetGuardian 8A IT to a PC for onsite unit configuration. To use the craft port, connect the included DB9 download cable from your PC's COM port to the craft port.

Note: The following images display the setup process done in Windows XP.

The following steps will occur the first time any DPS USB equipment is used on this PC. If you've used a different DPS USB device before and have installed the DPS USB drivers, then **skip to Step 9**.

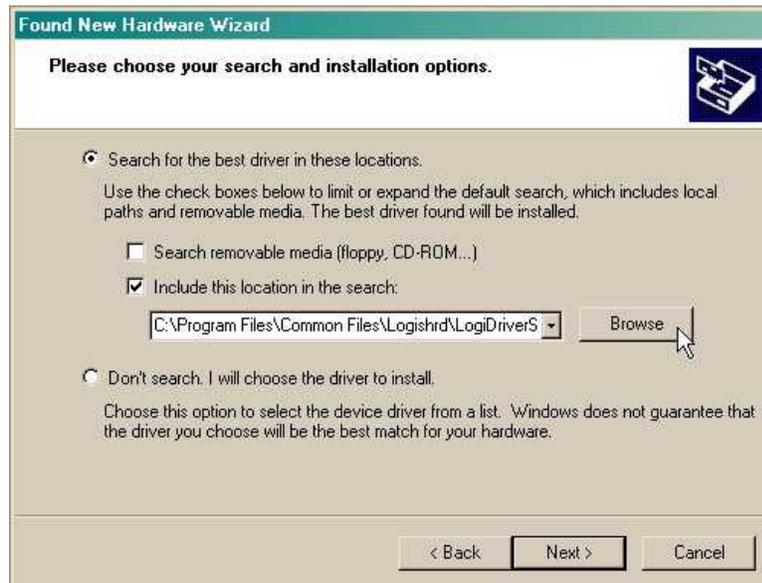
When you first connect the NetGuardian 8A to your PC via USB, a "Found New Hardware" message will appear:



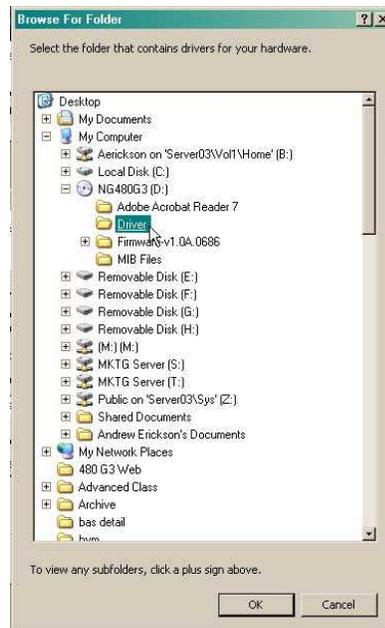
1. Click the "Found New Hardware" message/icon to launch the "Found New Hardware Wizard".



2. Select "Install from a list or specific location (Advanced)"
3. Click "Next >"



4. Select "Search for the best driver in these locations."
5. Insert NetGuardian 8A Resource Disc (CD) into your PC.
6. Click "Browse"



7. Select the "Driver" folder of your NetGuardian 8A Resource Disc Disc (CD) and click "OK"

The following message will confirm installation of a new "USB Communications Port"



8. Click "Finish" to close the Wizard.

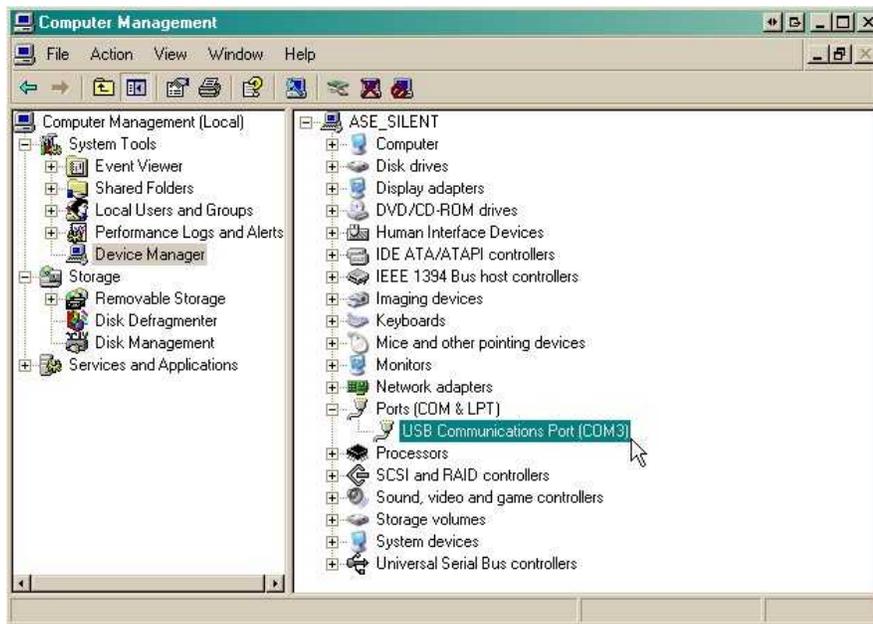
Now that the driver has been installed, a new COM port is being emulated on your PC. Before using hyperterminal, you must confirm the identity of that new COM port (COM1, COM2, COM3...) in the Windows Device Manager.



9. Right-click the "My Computer" icon on your desktop, then click "Manage"



10. Click "Device Manager" in the left pane.



11. Expand the "Ports (COM & LPT)" section in the right pane. Look for "USB Communications Port (COMx)". Note the number of the COM port ("COM3" in the example above).

12. Click on the **Start** menu > select **Programs > Accessories > Communications > HyperTerminal**.



13. At the Connection Description screen, enter a name for this connection. You may also select an icon. The name and icon do not affect your ability to connect to the unit.



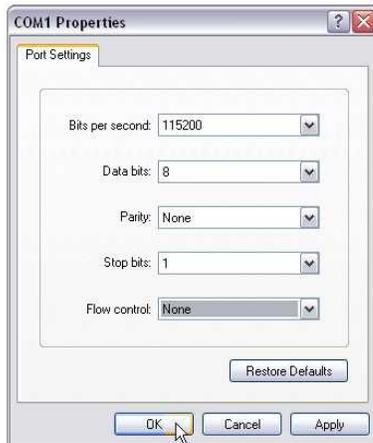
14. At the Connect To screen, use the drop-down menu to select the COM port you found earlier in the Device Manager.



15. Select the following COM port options:

- Bits per second: 9600
- Data bits: 8
- Parity: None
- Stop bits: 1
- Flow control: **None**

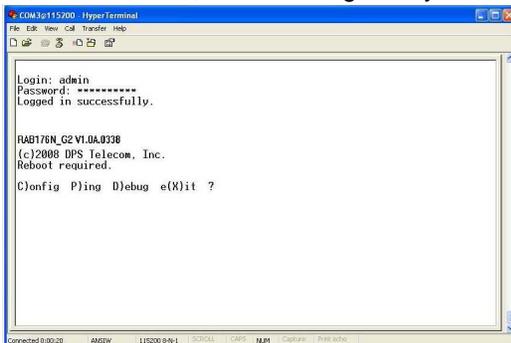
Once connected, you will see a blank, white HyperTerminal screen. Press Enter to activate the configuration menu.



16. When prompted, enter the default user name **admin** and password **dpstelecom**. **NOTE:** If you don't receive a prompt for your user name and password, check the Com port you are using on your PC and make sure you are using the cable provided. Additional cables can be ordered from DPS Telecom.



17. The NetGuardian 8A's main menu will appear. Type C for C)onfig, then E for E)thernet. Configure the unit's IP address, subnet mask, and default gateway.



18. ESC to the main menu. When asked if you'd like to save your changes, type Y for Y)es. Reboot the NetGuardian 8A to save its new configuration.

```

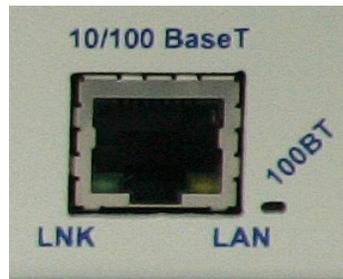
Linked      : No
DHCP       : Disabled
Host Name   :
Unit IP     : 126.10.230.127 (126.10.230.127)
Subnet Mask : 255.255.192.0 (255.255.192.0)
Gateway     : 126.10.255.23 (255.255.255.255)
Unit MAC    : 00.10.81.00.53.33 (00.10.81.00.53.33)

U)nit Addr S)ubnet G)ateway D)HCP H)ost (ESC)
E)thernet S)tats n(V)ram re(B)oot (ESC) ?
Do you want to save changes (y/N) : _

```

Now you're ready to do the rest of your configuration via LAN. Please refer to the next section "...via LAN" for instructions on setting up your LAN connection.

7.2 ...via LAN



NetGuardian 8A Ethernet Port

To connect to the NetGuardian 8A via LAN, all you need is the unit's IP address (Default IP address is 192.168.1.100).

If you **DON'T** have LAN, but **DO** have physical access to the NetGuardian 8A, connect using a LAN crossover cable. **NOTE:** Newer PCs should be able to use a standard straight-through LAN cable and handle the crossover for you. To do this, you will temporarily change your PC's IP address and subnet mask to match the NetGuardian 8A's factory default IP settings. Follow these steps:

1. Get a LAN crossover cable and plug it directly into the NetGuardian 8A's LAN port.
2. Look up your PC's current IP address and subnet mask, and write this information down.
3. Reset your PC's IP address to **192.168.1.200**. Contact your IT department if you are unsure how to do this.
4. Reset your PC's subnet mask to **255.255.0.0**. You may have to reboot your PC to apply your changes.
5. Once the IP address and subnet mask of your computer coincide with the unit, you can access the unit via a Telnet session or via Web browser by using the unit's default IP address of **192.168.1.100**.
6. Provision the NetGuardian 8A with the appropriate information, then **change your computer's IP address and subnet mask back to their original settings**.

Now you're ready to do the rest of your configuration via LAN. Plug your LAN cable into the NetGuardian 8A and see "Logging On to the NetGuardian 8A" to continue databasing using the Web Browser.

8 TTY Interface

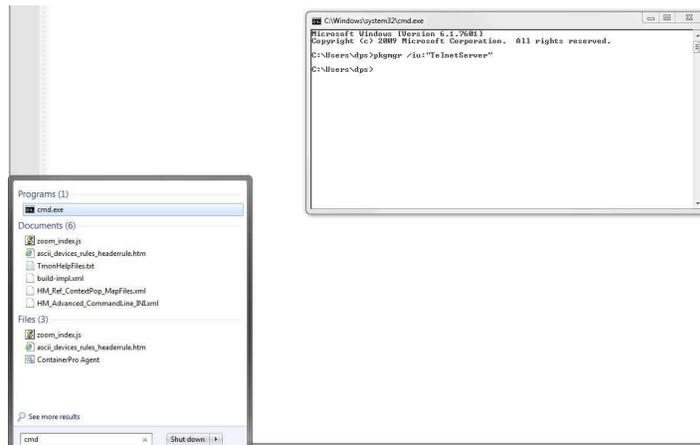
The TTY interface is the NetGuardian 8A's built-in interface for basic configuration. From the TTY interface, you can:

- Edit the IPA, subnet, and gateway
- Configure primary port
- Set unit back to factory defaults
- Set DCP info for T/Mon polling
- Ping other devices on the network
- Debug and troubleshoot

For more advanced configuration tools, please use the Web Browser Interface.

For Telnet, connect to the IP address at port 2002 to access the configuration menus after initial LAN/WAN setup. **Telnet sessions are established at port 2002, not the standard Telnet port** as an added security measure.

If you're using Windows 7, then you'll need to install telnet before you can use the TTY interface. To install telnet, open up your command line (type "cmd" into the search bar in the **Start Menu**). Select **cmd.exe** to run the command line.



From the command line, type in **pkgmgr /iu:"TelnetClient"** then press **enter**. When the command prompt appears again, the installation is complete.

Menu Shortcut Keys

The letters before or enclosed in parentheses () are menu shortcut keys. Press the shortcut key to access that option. Pressing the ESC key will always bring you back to the previous level. Entries are not case sensitive.

8.1 Configure Serial Port via TTY

```

9600 baud - HyperTerminal
File Edit View Call Transfer Help
Login: admin
Password: *****
Logged in successfully.

NetGuardian 16 v1.0H.0045
(c)2012 DPS Telecom, Inc.

C)onfig P)ing D)ebug e(X)it ? C
E)thernet S)tats n(V)ram re(B)oot (ESC) ? E
Unit IP      : 192.168.1.100    (192.168.1.100)
Subnet Mask  : 255.255.192.0    (255.255.192.0)
Gateway      : 255.255.255.255  (255.255.255.255)
Unit MAC     : 00.10.81.00.45.8F

U)nit Addr S)ubnet G)ateway (ESC) ? U
Unit IP : 126.10.230.121

```

Serial port configuration

1. To enter configuration setting for the Serial Port, login to the TTY interface and press **C)onfig** > **s(E)rial**.
2. Press the hot keys to toggle through the following options. (* Indicates default settings):

NOTE: Default settings may not reflect the primary interface that shipped in the unit.

 - **Port Type:** 232*, 485
 - **Baud:** 9600*, 57600, 19200, 9600, 4800, 2400, 1200
 - **Parity:** None*, even, odd
 - **Stop bits:** 1*, 2
3. Set the RTS head / tail (Carrier time) Suggested settings are: 0,0 if using RS232.

9 Quick Turn Up

The next sections of this manual will walk you through some of the most common tasks for using the NetGuardian 8A. You will learn how to send email notifications, and send SNMP traps to your alarm master - all using the Web browser. For details on entering your settings into each Web browser menu, the section "Provisioning Menu Field Descriptions" section.

9.1 How to Send Email Notifications

1. Click on the **Notifications** button in the **Provisioning** menu. You can setup as many as 8 different notifications. Begin the setup "wizard" by clicking **Edit** for a notification number. In this example, we'll setup Notification 1 to send emails.

Notifications				
Summary				
Id	Notify On	Type	Details	
1	Disabled			<input type="button" value="Edit"/> <input type="button" value="Test"/>
2	Disabled			<input type="button" value="Edit"/> <input type="button" value="Test"/>
3	Disabled			<input type="button" value="Edit"/> <input type="button" value="Test"/>
4	Disabled			<input type="button" value="Edit"/> <input type="button" value="Test"/>
5	Disabled			<input type="button" value="Edit"/> <input type="button" value="Test"/>
6	Disabled			<input type="button" value="Edit"/> <input type="button" value="Test"/>
7	Disabled			<input type="button" value="Edit"/> <input type="button" value="Test"/>
8	Disabled			<input type="button" value="Edit"/> <input type="button" value="Test"/>

2. At the **Notification Setting** screen, use the drop down box to set what events to use for this notification. Now, select the **Send Email Notification** button and click **Save and Next**.

Notification 1	
Status	Notify on Alarms only
Type	<input checked="" type="radio"/> Send Email <input type="radio"/> Send SNMP
<input type="button" value="Back"/> <input type="button" value="Save and Next"/>	

3. At the **Email Notification** screen, you'll enter your email server settings. Enter the **IP address** or **Host Name** of your email server. Enter the **Port Number** (usually 25) and the **"To" Email Address** of the technician that will receive these emails. If authentication is required, chose the type and fill in the necessary fields. Click **Next**.

Notification 1 (Email)	
SMTP Server IP or Host Name	<input type="text"/>
Port (Usually Use 25)	<input type="text" value="0"/>
"From" E-mail Address (Global)	xxxxxxx@dpstela.net
"To" E-mail Address	<input type="text"/>
How to authenticate	
<input checked="" type="radio"/> No authentication <input type="radio"/> POP before SMTP authentication <input type="radio"/> SMTP authentication	
POP Server IP or Host Name	<input type="text"/>
POP Port (Usually Use 110)	<input type="text" value="0"/>
User name	<input type="text"/>
Password	<input type="text"/>
<input type="button" value="Back"/> <input type="button" value="Save and Next"/>	

4. At the **Schedule** screen, you'll select the exact days/times you want to receive email notifications. You can set 2 schedules per notification. For example, you may want to receive notifications at certain times during the week, and at different hours on the weekend. Use the check boxes to select the days of the week, and select the time from the drop down menus. Click **Finish**. To try a test notification, click the **Test** button (See next step.)

Notification 1 (Schedule)

Id	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Notification Time
1	<input checked="" type="checkbox"/>	<input type="radio"/> Any Time <input checked="" type="radio"/> 12 h 0 min AM to 11 h 59 min PM						
2	<input checked="" type="checkbox"/>	<input type="radio"/> Any Time <input checked="" type="radio"/> 12 h 0 min AM to 11 h 59 min PM						

Back Save and Finish

5. If you chose to test the email notification you've just setup, you will prompted with a pop up . Click **OK** to send a test email alarm notification. Confirm all your settings by checking your email to see if you've received it. **NOTE:** This test only means that your notification settings are correct, but you still need to assign the notification to an alarm point. See the next step.

6. Now you will associate this notification to an alarm (system, base, analog, etc.) You have 8 notification devices available to use. In the image below, you might assign **Notification Device 1** to **Alarm 1**. This means that you would receive an email notification when an alarm for **Alarm 1 (SERVER ROOM)** occurs.

DPS Telecom
Network Monitoring Solutions

Upload | Logout (admin)

Monitor
Alarms
Controls
Analog
Sensors
System Alarms
Provisioning
System
User Profiles
Ethernet
SNMP
Phone List
Notifications
Alarms
Controls
Analog

Notifications

Summary

Id	Notify On	Type	Details
1	Disabled		<input type="button" value="Edit"/> <input type="button" value="Test"/>
2	Disabled		<input type="button" value="Edit"/> <input type="button" value="Test"/>
3	Disabled		<input type="button" value="Edit"/> <input type="button" value="Test"/>
4	Disabled		<input type="button" value="Edit"/> <input type="button" value="Test"/>
5	Disabled		<input type="button" value="Edit"/> <input type="button" value="Test"/>
6	Disabled		<input type="button" value="Edit"/> <input type="button" value="Test"/>
7	Disabled		<input type="button" value="Edit"/> <input type="button" value="Test"/>
8	Disabled		<input type="button" value="Edit"/> <input type="button" value="Test"/>

DPS Telecom
Network Monitoring Solution

Upload | Logout (admin)

Monitor
Alarms
Controls
Analog
Sensors
System Alarms
Provisioning
System
User Profiles
Ethernet
SNMP
Phone List
Notifications
Alarms
Controls
Analog

Alarms

Id	Description	Display_Map	Rev.	1	2	3	4	5	6	7	8
1	SERVER ROOM	Advanced<<		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	WEST SIDE DOOR	Advanced>>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	RECTIFIER	Advanced>>		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	MICROWAVE	Advanced>>		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

On Set: Alarm
On Clear: Clear
Qual. Time: 0sec
Qual. Type: OnSet

9.2 How to Send SNMP Traps

1. Click on the **SNMP** button in the **Provisioning** menu. Enter the **SNMP GET** and **SNMP SET** community strings for your network, then click **Save**. The typical SNMP SET and GET community strings for network devices is "public". As an added security measure, we've made our default "dps_public".

SNMP

Global Settings

Get Community	dps_public
Set Community	dps_public
Read and Write Access	Access disabled
SNMPv3 Engine ID	80000a7a03001081002f85

SNMPv3 Users

Id	SNMPv3 Username	Auth Type	Auth Pass	Priv Type	Priv Pass
1		No Auth		No Priv	
2		No Auth		No Priv	
3		No Auth		No Priv	

Save

2. Click on the **Notifications** button in the **Provisioning** menu. You can setup as many as 8 different notifications. Begin the setup "wizard" by clicking **Edit** for a notification number. In this example, we'll setup Notification 1 to send SNMP traps to your alarm master.

Notifications

Summary

Id	Notify On	Type	Details	
1	Disabled			Edit Test
2	Disabled			Edit Test
3	Disabled			Edit Test
4	Disabled			Edit Test
5	Disabled			Edit Test
6	Disabled			Edit Test
7	Disabled			Edit Test
8	Disabled			Edit Test

3. At the **Notification Setting** screen, use the drop down box to set what events to use for this notification. Now, select the **Send SNMP Notification** button and click Next.

Notification 1

Status Notify on both Alarms and Clears

Type

Send Email
 Send SNMP

Back Save and Next

4. At the **SNMP Notification** screen, you'll enter your network's SNMP settings. Enter the **IP address** of your SNMP Trap Server. Enter the **Trap Port Number** (usually 162) and the **Trap Community** password. Click **Save and Next**.

Notification 1 (SNMP)

SNMP Trap Server IP	<input type="text"/>
Trap Port No. (Usually Use 162)	<input type="text" value="0"/>
Trap Community	<input type="text"/>
Trap Type	SNMPv1 ▾
SNMPv3 user (see SNMP menu)	User 1 () ▾

5. At the **Schedule** screen, you'll select the exact days/times you want to receive SNMP notifications. You can set 2 schedules per notification. For example, you may want to receive notifications at certain times during the week, and at different hours on the weekend. Use the check boxes to select the days of the week, and select the time from the drop down menus. Click **Save and Finish**. To try a test notification, click the **Test** button (See next step.)

Notification 1 (Schedule)

Id	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Notification Time
1	<input checked="" type="checkbox"/>	<input type="radio"/> Any Time <input checked="" type="radio"/> 12 ▾ h 0 ▾ min AM ▾ to 11 ▾ h 59 ▾ min PM ▾						
2	<input checked="" type="checkbox"/>	<input type="radio"/> Any Time <input checked="" type="radio"/> 12 ▾ h 0 ▾ min AM ▾ to 11 ▾ h 59 ▾ min PM ▾						

6. If you chose to test the email notification you've just setup, you will prompted with a pop up . Click **OK** to send a test SNMP alarm notification. Confirm all your settings by checking your alarm master to see if the SNMP trap was received.

NOTE: This test only means that your notification settings are correct, but you still need to assign the notification to an alarm point. See Step 6 in "How to Send Email Notifications" for more detail.

10 Provisioning Menu Field Descriptions

NetGuardian 8A configuration is performed from the **Provisioning** menus, the menu options in green on the left-side of the web interface. The following pages provide a brief description of the options available in each menu.

Saving Configuration Changes to the NetGuardian 8A:

At the bottom of each screen you access from the **Provisioning** Menu, you will see a **Save** button. Clicking Save will cache your changes locally. The web interface will then prompt you to either **Write** your changes to the unit or **Reboot** the unit for changes to take effect in the top-left corner of your browser. The relevant options will be highlighted in the **Device Access** options.

Note: If the unit prompts you to both Write changes to the unit **and** Reboot, you will Write your changes first. Rebooting without writing to the unit (if a Write is required) will cause you to lose your configuration changes.

Please **WRITE** to the unit after you are finished with your changes!
Please **REBOOT** the unit for changes to take effect!

Status messages on the NetGuardian 8A Device Access menu, inform you how to implement your changes

Device Access
Backup Config
Read
Write
Initialize
Get Log
Purge Log
Reboot

Device Access
Backup Config
Read
Write (required)
Initialize
Get Log
Purge Log
Reboot

The control menu highlights items that must be completed for your changes to take effect

10.1 System

From the **Provisioning > System** menu, you will configure and edit the global system, call, T/Mon and control settings for the NetGuardian 8A.

System Settings	
Global Settings	
Name	NetGuardian8A
Location	Fresno, CA
Contact	559-454-1600
DCP Responder Settings Display Map	
<input checked="" type="radio"/> Disable DCP <input type="radio"/> DCP over LAN <input type="radio"/> DCP over Serial	
DCP Unit ID / Protocol	70 / DCPx ▼
DCP over LAN port / Protocol	2001 / UDP ▼
Modbus Responder Settings Display Map	
<input checked="" type="radio"/> Disable Modbus <input type="radio"/> Modbus over TCP	
Modbus Unit ID	0
Modbus Port	502
Sensors History	
Get history	history.csv
Erase history	<input type="button" value="Erase"/>
<input type="button" value="Save"/>	

The Provisioning > System menu

Global System Settings	
Name	A name for this NetGuardian 8A unit. {Optional field}
Location	The location of this NetGuardian 8A unit. {Optional field}
Contact	Contact telephone number for the person responsible for this NetGuardian 8A unit. {Optional field}
DCP Responder Settings (For use with T/Mon)	
DCP Unit ID	User-definable ID number for the target unit (DCP Address)
DCP Unit Protocol	Drop-down menu of available protocols for use with DCP Address
DCP over LAN port	Enter the DCP port for the target unit (UDP/TCP port)
LAN Protocol	Drop-down menu of available protocols for use over LAN
Modbus Responder Settings	
Modbus Unit ID	User-definable ID number (Modbus Address)
Modbus Port	Enter the Modbus port number
Sensors History	
Get History	Download a log of all configured analog and sensor values.
Erase History	Erase the log of all configured analog and sensor values.

10.2 User Profiles

Clicking **User Profiles** gives you access to modify the default username and password, and to edit the administrator profile and create up to 9 additional unique user profiles, each with different access rights to the NetGuardian 8A's web interface.

User Profiles Summary			
Id	Username	Status	
1	admin	Default	<input type="button" value="Edit"/> (Administrator Profile)
2		Suspended	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
3		Suspended	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
4		Suspended	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
5		Suspended	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
6		Suspended	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
7		Suspended	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
8		Suspended	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

Configure access privileges for users in the User Profile screen

To create or edit any of the 10 user profiles (including the Admin), click the **Edit** button. From there, you can change all configurable settings for a user profile.

User Profile	
Suspend this Profile	If this box is checked, the profile will not be able to access the NetGuardian 8A.
Username	Enter a username or a user description
Password	Enter a unique user password Note: All passwords are AES 128 encrypted.
Confirm Password	Re-enter the password.
Access Rights	
Check all	Enables all Access Rights
Edit logon profiles	Enables the user to add/modify user profiles and password information.
Write Config (change unit configuration)	Enables the user to change the unit config by accessing the Write feature in the control menu.
View monitor pages	Allows the user to access Monitor menu options.
Send relay commands	Allows the user to send commands to operate the device's control relays.
TTY access (access via Craft port or via Telnet)	Grants the user access to the unit via TTY interface (via craft or telnet).
Initialize config to factory defaults	Allows the user to use the Initialize option in the Device Access menu, resetting the NetGuardian 8A to factory default settings. All user settings will be lost.
Upload new firmware, or config	Allows the user to upload firmware or backed-up configuration files.
Get audit log	Allows the user to access the Audit Log (Get Log command).
Purge (delete) audit log	Allows the user to delete the existing audit log.
Get (backup) config	Backs-up all user profile configuration settings.
Get and delete analog history	Allows the user to access and delete the analog and sensor history.

User profile field descriptions

10.3 Ethernet

The **Edit > Ethernet** menu allows you to define and configure Ethernet settings.

Ethernet Settings	
IP Settings	
MAC Address	0:10:81:0:ac:36
Host Name	HI (HI)
Enable DHCP	<input type="checkbox"/>
Unit IP	10.0.50.70 (10.0.50.70)
Subnet Mask	255.255.0.0 (255.255.0.0)
Gateway	10.0.0.254 (10.0.0.254)
DNS Server 1	255.255.255.255 (255.255.255.255)
DNS Server 2	255.255.255.255 (255.255.255.255)
Advanced TCP Settings	
Force Max TCP Window Size	<input type="checkbox"/> This should only be used for slower networks. If you are experiencing issues with TCP communication (such as web browsing or telnet), then set the Maximum TCP Window Size to a value that is less than what was last used in parenthesis
Maximum TCP Window Size	16383 (Last window size: 65392)
<input type="button" value="Save"/>	

The Provisioning > Ethernet menu

Ethernet Settings	
MAC Address	Hardware address of the NetGuardian 8A. (Not editable - For reference only.)
Host Name	Used only for web browsing. Example: If you don't want to remember this NetGuardian 8A's IP address, you can type in a name in this field, such as "MyNetGuardian 8A". Once you save and reboot the unit, you can now browse to it locally by simply typing in "MyNetGuardian 8A" in the address bar. (no "http://" needed).
Enable DHCP	Used to turn on Dynamic Host Connection Protocol. NOT recommended, because the unit is assigned an IP address from your DHCP server. The IP you've already assigned to the unit becomes inactive. Using DHCP means the unit will NOT operate in a T/Mon environment.
Unit IP	IP address of the NetGuardian 8A.
Subnet Mask	A road sign to the NetGuardian 8A, telling it whether your packets should stay on your local network or be forwarded somewhere else on a wide-area network.
Gateway	An important parameter if you are connected to a wide-area network. It tells the NetGuardian 8A which machine is the gateway out of your local network. Set to 255.255.255.255 if not using. Contact your network administrator for this info.
DNS Server 1	Primary IP address of the domain name server. Set to 255.255.255.255 if not using.
DNS Server 2	Secondary IP address of the domain name server. Set to 255.255.255.255 if not using.

Note: DNS Server settings are required if a hostname is being used for ping targets.

10.4 Serial Port

The **Provisioning > Serial Port** menu allows you to change settings depending on the port type of your NetGuardian 8A. From this menu, you can select a mode of operation and enable reach-through serial port functionality.

Serial Port Settings

Location	Port Configuration	Reach-Through
Primary port located in the back of the unit.	Port Type: 232 ▼ Baud: 9600 ▼ Parity: 8-bit data, no parity ▼ Stop Bits: 1 ▼ RTS head: 0 RTS tail: 0	<input type="checkbox"/> Enable Reach-Through Port: 3000 Type: TCP ▼
<input type="button" value="Save"/>		

The Provisioning > Serial Ports menu

Location	
A reminder that your primary serial port is located on the back of the NetGuardian 8A chassis.	
Port Configuration	
Port Type	Select the serial port for your build of the NetGuardian 8A. Choose from 232, 485...
Baud, Parity, and Stop Bits	Select the appropriate settings from the drop-down menu.
RTS Head	Only used if your NetGuardian 8A was built with a 202/485 modem. The most commonly used value is 30.
RTS Tail	Only used if your NetGuardian 8A was built with a 202/485 modem. The most commonly used value is 10.
Reach-Through	
Enable Reach-through	Checking this box enables the port to be used as a terminal server. Most commonly used to Telnet through the port over LAN to a hub, switch, or router. From a command prompt, type the following (<i>note the spaces between each entry</i>): telnet [IP address] [port] Example: telnet 192.168.1.100 3000
Port	Port number used for reach-through to a serial device.
Type	Select TCP or UDP traffic to be passed through to a serial device.

10.5 SNMP

The **Provisioning > SNMP** menu allows you to define and configure the SNMP settings.

SNMP

Global Settings					
Get Community	dps_public				
Set Community	dps_public				
Read and Write Access	SNMPv3, SNMPv2c, and SNMPv1 ▼				
SNMPv3 Engine ID	80000a7a0300108100ac36				
SNMPv3 Users					
Id	SNMPv3 Username	Auth Type	Auth Pass	Priv Type	Priv Pass
1	dps	No Auth ▼		No Priv ▼	
2		No Auth ▼		No Priv ▼	
3		No Auth ▼		No Priv ▼	

Save

SNMP Menu

Global Settings	
Get Community	Community name for SNMP requests.
Set Community	Community name for SNMP SET requests.
Read and Write Access	<p>This field defines how the NetGuardian 8A unit may be accessed via SNMP. This can be set to the following:</p> <ul style="list-style-type: none"> • Access Disabled- Restricts all access to unit via SNMP • SNMPv2c only- Allows SNMPv2c access only • SNMPv2c and SNMPv1-Only- Allows SNMPv1 and SNMPv2c access • SNMPv3, SNMPv2c and SNMPv1- Allows SNMPv3, SNMPv2c and SNMPv1 access

Fields in the Provisioning > SNMP settings

10.6 Notifications

From the initial **Provisioning > Notifications** menu, you will see which of the 8 notifications are enabled, their server, and schedule. Click on the **Edit** link for one of the notifications to begin configuration.

Once you've chosen which notification you want to setup, check the **Enable Notification** to turn it "on." Then choose a notification method, either email, SNMP, voice call, or TRIP Dialup (T/Mon).

10.6.1 Notification Settings

Email Notification Fields

Notification 1 (Email)

SMTP Server IP or Host Name	10.0.2.200
Port (Usually Use 25 SMTP or 465 for SSMTP)	162 <input type="checkbox"/> Use SSL
"From" E-mail Address (Global)	remote@dpstale.net
"To" E-mail Address	
How to authenticate	
<input checked="" type="radio"/> No authentication <input type="radio"/> POP before SMTP authentication <input type="radio"/> SMTP authentication	
POP Server IP or Host Name	
POP Port (Usually Use 110)	0
User name	
Password	
Confirm Password	
<input type="button" value="Back"/> <input type="button" value="Save and Next"/>	

Editing Email Notification Settings

Email Notification	
SMTP Server IP or Host Name	The IP address of your email server.
Port Number	The port used by your email server to receive emails, usually set to 25.
Use SSL	Check this box to use SSL encryption. Currently this feature has been tested with Gmail. To send with Gmail SMTP server, do the following: <ul style="list-style-type: none"> • SMTP Server IP or Host Name should be set to "smtp.gmail.com" • Port number must be set to 465. • SMTP authentication radio button must be selected. • User name and password (below under "How to Authenticate") are the user name and password for the Gmail account in use.
"From" E-mail Address	Displays the email address (defined in the Edit menu > System) that the NetGuardian 8A will send emails from. Not editable from this screen.
"To" E-mail Address	The email address of the person responsible for this NetGuardian 8A, who will receive email alarm notifications.
User Name	User name for the Gmail account being used.
Password	Password for the Gmail account being used.

Note: If you want to send authenticated emails, click the appropriate radio button. If you enable POP authentication, you will have to enter the relevant authentication information the fields below.

SNMP Notification Fields

Notification 1 (SNMP)

SNMP Trap Server IP	10.0.2.200
Trap Port No. (Usually Use 162)	162
Trap Community	
Trap Type	SNMPv1
SNMPv3 user (see SNMP menu)	User 1 (dps)

Back Save and Next

Editing SNMP notification settings

SNMP Notification	
SNMP Trap Server IP	The SNMP trap manager's IP address.
Trap Port No.	The SNMP port (UDP port) set by the SNMP trap manager to receive traps, usually set to 162.
Trap Community	Community name for SNMP TRAP requests.
Trap Type	Indicate whether you would like to send SNMP v1, v2c or v3 traps.

10.6.2 Schedule

The notifications scheduling menu is where you will tell the NetGuardian 8A exactly which days and times you want to receive alarm notifications. You set 2 different schedules for each.

Notification 1 (Schedule)

Id	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Notification Time
1	<input checked="" type="checkbox"/>	<input type="radio"/> Any Time <input checked="" type="radio"/> 12 h 0 min AM to 11 h 59 min PM						
2	<input checked="" type="checkbox"/>	<input type="radio"/> Any Time <input checked="" type="radio"/> 12 h 0 min AM to 11 h 59 min PM						

Back Save and Finish

The Schedule creation screen

Notification Scheduling	
Days of the week	From either Schedule 1 or 2, check which days you want to receive notifications.
Any Time	Select this is if you want to receive alarm notifications at any time for the day(s) you've selected.
Notification Time	Tells the unit to only send notifications during certain hours on the day(s) you've selected.

10.7 Alarms

Discrete alarms are configured from the **Provisioning > Alarms** menu. Descriptions for the alarm points, polarity (normal or reversed) and notification type(s) are defined from this menu. You also have the option to use **Basic** or **Advanced** configuration methods, explained in this section.

Alarms

Settings

Alarm Job Delay ms

Alarms

Id	Description Display Map	Rev.	1	2	3	4	5	6	7	8
		<input type="checkbox"/>								
1	<input type="text"/> Advanced<<	<input type="checkbox"/>								
On Set: Qual. Time: <input type="text" value="0sec"/> Message: <input type="text" value="Alarm"/> On Clear: Qual. Time: <input type="text" value="0sec"/> Message: <input type="text" value="Clear"/>										
2	<input type="text"/> Advanced>>	<input type="checkbox"/>								
3	<input type="text"/> Advanced>>	<input type="checkbox"/>								
4	<input type="text"/> Advanced>>	<input type="checkbox"/>								

The Provisioning > Alarms menu

Basic Alarm Configuration	
ID	Alarm ID number.
Description	User-definable description for the discrete alarm point.
Rev (Reverse)	Reverse: Check this box to reverse the polarity of the alarm point. Leaving this option un-checked means a normally open contact closure is an alarm. When polarity is reversed, a normally closed alarm point is clear when closed.
Notification Devices	Check which notification device(s), 1 through 8, you want to send alarm notifications for that alarm point.
Advanced Alarm Configuration (Advanced>>)	
On Set	User-definable description (condition) that will appear for the discrete alarm input on Set. Example: "Alarm".
On Clear	User-definable description (condition) that will appear for the discrete alarm input on Clear. Example: "Alarm Cleared".
Qual. Time (Qualification Time)	The length of time that must pass, without interruption, in order for the condition to be considered an Alarm or a Clear.
Qual. Type (Qualification Type)	Allows you to choose whether you want to apply the Qualification Time to the alarm Set, Clear, or Both.

10.8 Controls

The NetGuardian 8A's 2 control relays can be configured in the **Provisioning > Controls** menu. You can enter your own description for these relays and designate them to a notification device(s).

Controls

Id	Description Display Map	1	2	3	4	5	6	7	8
1	<input type="text"/> Details>>	<input type="checkbox"/>							
2	<input type="text"/> Details>>	<input type="checkbox"/>							

The Provisioning > Controls screen

Basic Controls Configuration	
ID	ID number for the control relay.
Description	User-definable description for the NetGuardian 8A's control relay.
Momentary Time	Control on time (in milliseconds) when you execute the MOM command. Max limit of 600 seconds.
Notification Devices	Check which notification device(s), 1 through 8, you want to send alarm notifications for the control relay.

10.9 User Analogs

The NetGuardian 8A's 10 multi-purpose analog inputs measure continuous ranges of voltage or current. Analog alarms are typically used to monitor battery voltage, charging current, temperature, humidity, wind speed, or other continuously changing conditions. To configure a user analog, simply fill in your description, thresholds, and other fields listed in the table below, then click **Save**.

User Analogs

Id	Enab	Description Display Map	1	2	3	4	5	6	7	8
1	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>							

Details <<

<p>Record Freq: <input type="text" value="0min"/></p> <p>Deadband: <input type="text" value="1"/></p> <p>Qual. Time: <input type="text" value="0sec"/></p> <p>Qual. Type: <input type="text" value="OnSet"/></p>	<p>Scaling:</p> <p>Actual <input type="text" value=""/> to Display <input type="text" value=""/></p> <p>Units: <input type="text" value="VDC"/> to <input type="text" value="VDC"/></p> <p>Low ref: <input type="text" value="-35.00"/> to <input type="text" value="-35.00"/></p> <p>High ref: <input type="text" value="35.00"/> to <input type="text" value="35.00"/></p>	<p>Thresholds:</p> <p>MjU: <input type="text" value="-79.00"/></p> <p>MnU: <input type="text" value="-35.00"/></p> <p>MnO: <input type="text" value="35.00"/></p> <p>MjO: <input type="text" value="79.00"/></p> <p>Post On: <input type="text" value="All Thresholds"/></p>
--	---	---

Analog Gauge Type:

None    

Details >>

The Provisioning > User Analogs menu

Note: Analog channels 9 and 10 are for internal voltage monitoring (On a single power input build, channel 9 is unused.)

User Analogs	
Default monitoring to gauge view	Checking this box sets the default view in the Monitor>User Analogs menu to the gauge view.
Enab (Enable)	Checking the box in the Enab column enables monitoring of the analog channel.
Description	User-definable description for the analog channel
Rev	Checking the reverse button changes negative values to positive, and positive values to negative.
Notifications	Check which notification device(s), 1 through 8, you want to send alarm notifications for this analog input.
Details	
Record Freq	The frequency with which the NetGuardian will record the analog reading
Deadband	The additional qualifying value the NetGuardian requires above/below your alarm thresholds in order to set an alarm.
Units	The unit(s) of measurement reported by a connected analog input.
Low ref and High Ref	The low and high values for scaling voltage to your display units.
MjU (Major Under) MnU (Minor Under) MnO (Minor Over) MjO (Major Over)	Threshold settings that, when crossed, will prompt the NetGuardian to set an alarm. Recorded values less than an under value or greater than an over value will cause alarms.
Post On	Select the threshold alarms to post. All thresholds, Major Only, Minor Only, Major Over Only, Major Under Only.
Enable	Checking this box enables monitoring feature for this analog.
Qual. Time	Length of time that an alarm point must be set before before an analog can post.
Analog Gauge Type	Select the type of analog gauge represented in the Monitor>User Analogs>Gauge View menu

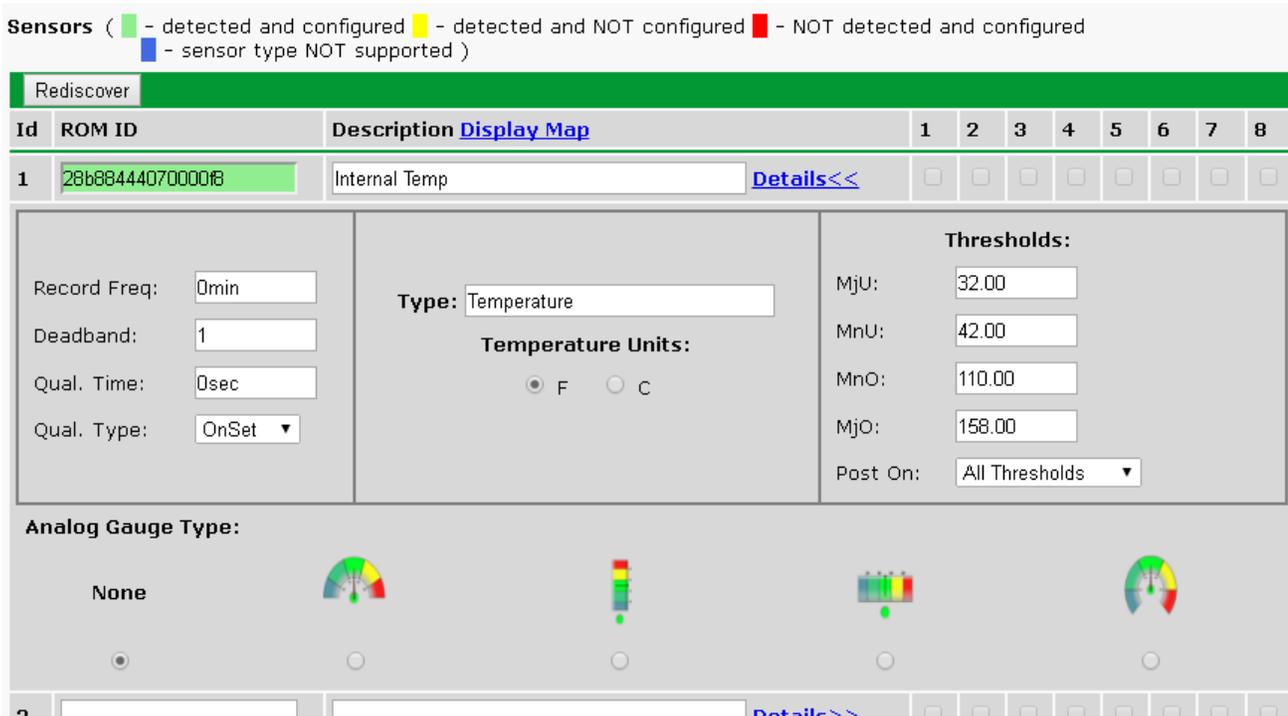
10.10 Sensors

D-Wire Sensors

The NetGuardian 8A supports up to 16 daisy-chained D-Wire sensors via its D-Wire input. Sensors connected to the NetGuardian 8A will appear on the web interface. The background color of the ROM field informs the user of the sensor's configuration state.

Also the NetGuardian 8A's first D-Wire sensor used to monitor the internal temperature. The internal temperature sensor measures a range of -40° F to 180° F (-40° C to 82.2° C) within an accuracy of about ± 2°.

Basic configuration for the NetGuardian 8A's D-Wire temperature sensors can be accomplished from the **Provisioning > Sensors** menu. From this screen, you can configure D-Wire sensors, select notification devices, and set thresholds.



The Provisioning > Sensors menu

Basic Sensor Configuration	
ID	Sensor ID number.
ROM ID	<p>The ID number found on the sticker of the temperature sensor node. Your NetGuardian 8A will automatically detect the sensor ID when you plug a sensor into the unit. The color of the sensor ID field will tell you the status of the connected sensor.</p> <p>Green - The sensor is connected and properly configured.</p> <p>Yellow - The sensor is connected but has not yet been configured (fill in your configuration fields and click Save to configure the sensor).</p> <p>Red - The sensor is not detected and configured (i.e. a previous configured sensor is no longer connected).</p> <p>Blue - The sensor is not supported by the NetGuardian 8A.</p> <p>To reconfigure or disable the Sensor ID, simply delete any data in this field and click Save.</p> <p>The unit will refresh the sensor ID on that channel.</p>

Description	User-definable description for the sensor channel.
Notification Devices	Check which notification device(s), 1 through 8, you want to send alarm notifications for that alarm point.
Advanced Sensor Configuration (Details>>)	
Record Freq	The amount of time, in minutes (min) or seconds (s), between each recorded sensor value.
Deadband	The amount (in native units) that the channel needs to go above or below a threshold in order to cause an alarm.
Qual Time (Qualification Time)	The length of time that must pass, without interruption, in order for the condition to be considered an Alarm or a Clear.
Qual. Type (Qualification Type)	Allows you to choose whether you want to apply the Qualification Time to the alarm Set, Clear, or Both.
Thresholds	These settings are set to indicate the severity of the alarm depending on which threshold values have been passed. Enter values for Major Under (MjU), Minor Under (MnU), Minor Over (MnO), and Major Over (MjO).
Post On	Select the threshold alarms to post. All thresholds, Major Only, Minor Only, Major Over Only, Major Under Only.
Analog Gauge Type	Select the color-coded gauge that best represents your data. Selecting None will disable the analog gauge and only a numerical representation of the value will be displayed under Monitor > Sensors .

Note: Before plugging in any additional D-Wire Sensors, set up the internal sensor.

10.11 Ping Targets

The **Provisioning > Ping Targets** menu allows you to configure the Description, IP Address, and Notification Devices for each of your ping targets.

Ping Targets											
Id	Enab	Description Display Map	Server (IP or Hostname)	1	2	3	4	5	6	7	8
1	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>							
2	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>							
3	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>							
4	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>							
5	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>							

The Provisioning > Ping Targets menu

Provisioning Ping Targets	
ID	ID number for the ping target.
Enab	Check this box to enable the ping target.
Description	User-definable description for the ping target.
Server (IP or Hostname)	IP address or hostname of the device you would like to ping.
Notification Devices	Check which notification device(s), 1 through 8, you want to send alarm notifications for ping target.

10.12 System Alarms

See "Display Mapping" in the Reference Section for a complete description of system alarms.

System Alarms										
Pnt	Description Display Map	Silence	1	2	3	4	5	6	7	8
33	Default configuration	<input type="checkbox"/>								
34	Dipswitch Configuration	<input type="checkbox"/>								
35	MAC address not set	<input type="checkbox"/>								
36	IP address not set	<input type="checkbox"/>								
37	LAN hardware error	<input type="checkbox"/>								
38	SNMP processing error	<input type="checkbox"/>								

The Provisioning > System Alarms menu

Editing System Alarms	
Pnt (Point)	The system alarm point number
Description	Non-editable description for this System (housekeeping) Alarm.
Silence	Check this box to choose to silence this alarm.
Notification Devices	Check which notification device(s), 1 through 8, you want to send alarm notifications for that alarm point.

10.13 Timers

Enter the amount of time in seconds (sec) or minutes (m), in each value field and click **Save**.

Timers

Web Refresh (1s-60s): How often web browser is refreshed when in monitor mode.	1sec
WebTimeout (1m-30m): Maximum idle time allowed before the web interface will automatically logout.	10min
DCP Poller Timeout (1m-30m, 0s=off): DCP polls must be received within this time interval or the DCP poller inactive alarm will set.	5min
Ping Cycle (30s-30m, 0s=off): Time interval between each ping cycle (0 disables, 30 seconds minimum)	4min
Sound Duration (0s-30m, 0s=off) How long the speaker will sound when a reportable alarm occurs.	15sec
Modbus Poller Timeout (1m-30m, 0s=off) Modbus polls must be received within this time interval or the Modbus poller inactive alarm will set.	5min
Alarm Post Delay (2s-2m) Device will delay alarm monitoring for this interval after bootup	2sec
Timed Tick (0s-60m, 0s=off): <input checked="" type="radio"/> This is a 'heartbeat' function that can be used by masters who don't perform integrity checks.	
Timed Tick Variation (used for daily or weekly timed tick): <input type="radio"/> Format: Day of Week (optional), Time of Day (military time), Duration. For example: "Mon, 17:10, 10min" or just "17:10, 10min". Use this format to toggle "Timed tick" system alarm at specified time and for specified duration. "Timed tick" alarm will be in Alarm for specified duration at a specified time.	15sec
<input type="button" value="Save"/>	

The Provisioning > Timers menu

10.14 Date and Time

Date and Time

Unit Time

Date: Month Jun ▼ Day 22 ▼ Year 2016

Time: Hour 3 ▼ Minute 26 ▼ PM ▼

Automatic Time Adjustment (NTP)

Enable NTP

NTP Server Address or Host Name:

Time Zone: GMT-08:00 Pacific Time ▼

Adjust Clock for Daylight Saving Time (DST)

Enable DST

Start Day: Month Mar ▼ Weekday Second Sunday ▼ Hour 2 ▼ AM ▼

End Day: Month Nov ▼ Weekday First Sunday ▼ Hour 2 ▼ AM ▼

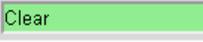
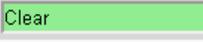
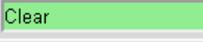
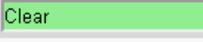
The Provisioning > Date and Time menu

Unit Time	
Date	Set today's date.
Time	Set the current time.
Automatic Time Adjustment (NTP)	
Enable NTP	Check this box to enable Network Time Protocol.
NTP Server Address or Host Name	Enter the NTP server's IP address or host name, then click Sync . Example: us.pool.ntp.org. Note: Make sure to configure DNS before using host name instead of IP address.
Time Zone	Select your time zone from the drop-down menu.
Adjust Clock for Daylight Savings Time (DST)	
Enable DST	Check this box to have the NetGuardian 8A observe Daylight Savings.
Start Day	Select the month, weekday, and time when Daylight Savings will begin.
End Day	Select the month, weekday, and time when Daylight Savings will end.

11 Monitoring via the Web Browser

11.1 Alarms

This selection provides the status of the base alarms by indicating if an alarm has been triggered. Under the **State** column, the status will appear in red if an alarm has been activated. The status will be displayed in green when the alarm condition is not present.

Alarms		
Id	Description Display Map	State
1	Door Open	Clear 
2	Power Out	Clear 
3		Clear 
4		Clear 

Click on Alarms in the Monitor menu to see if any base alarms (1-4) have been triggered.

Basic Alarm Monitoring	
ID	Alarm ID number.
Description	User-definable description for the discrete alarm point.
State	The current state of the alarm. (Clear or Alarm)

11.2 Controls

Use the following rules to operate the NetGuardian 8A's control:

1. Select **Controls** from the **Monitor** menu.
2. Under the **State** field, you can see the current condition of the control.
3. To issue the control, click on a command (**OPR** - operate, **RLS** - release, or **MOM** - momentary)

Controls			
Id	Description Display Map	State	Command
1	Generator	Released	OPR RLS MOM
2		Released	OPR RLS MOM

View and operate control relays from the Monitor > Controls menu

Control Relay Operation	
ID	ID number for the control relay.
Description	Description for the NetGuardian 8A's control relay defined in the Provisioning > Controls menu.
State	Status of the control relay. Can either be Released or Latched .
Command	OPR - Latch the relay. RLS - Release the relay. MOM - Momentarily latch the relay, then automatically release the relay. The duration of the latch is defined in the Provisioning > Controls menu.

11.3 Sensors

This selection provides the status of the system's analog channels by indicating if an alarm has been triggered. The **Monitor > Sensors** screen provides a description of each analog channel, the current reading, the units being read, and alarm conditions (major under, minor under, major over, minor over) according to your temperature settings. If configured under **Provisioning > Sensors**, your analog values will be displayed as a graphical gauge. Selecting **Table View** will display a non-graphical interface of your values.

Sensors ([Gauge View](#))
 (■ - detected and configured ■ - configured but NOT detected)

Id	ROM ID	Description Display Map	Thresholds	Reading
1	28b88444070000f8	Internal Temp	None	81.61 F
2	<input type="text"/>		None	0.00 VDC
3	<input type="text"/>		None	0.00
4	<input type="text"/>		None	0.00
5	<input type="text"/>		None	0.00

The Monitor > Sensors menu

11.4 User Analogs

On the **Monitor > User Analogs** menu, you can monitor all analog inputs. The most recent measurement will be shown, and any alarm thresholds crossed will be shown in shown in either orange for minor alarms or red for major alarms.

User Analogs ([Gauge View](#))

Id	Description Display Map	Thresholds	Reading
1	battery	None	0.00 VDC
2		Disabled	0.00 VDC
3		Disabled	0.00 VDC
4		Disabled	0.00 VDC
5		Disabled	0.00 VDC
6		Disabled	0.00 VDC
7		Disabled	0.00 VDC
8		Disabled	0.00 VDC
9	Power Input A	None	-47.70 VDC
10	Power Input B	Major Under	0.00 VDC

Fig. 12.5 Current status of all analog inputs in the Monitor > User Analogs in Table View.

User Analogs ([Table View](#))



Fig. 12.6 Current status of all analog inputs in the Monitor > User Analogs in Gauge View.

Note: The analog gauges do not account for the user definable Deadband. This may result in an alarm threshold to appear crossed in the gauge animation when the point has not set or cleared.

11.5 Ping Targets

Ping Targets can be viewed by going to **Monitor > Ping Targets**. Here you can view the state (either **Clear** or **Alarm**) for each of your configured Ping Targets.

Ping Targets

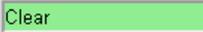
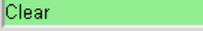
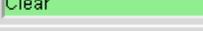
Id	Description Display Map	State
1	Default config	Clear
2	Notification 1 Failed	Clear
3	Notification 2 Failed	Clear
4	Notification 3 Failed	Clear
5	Notification 4 Failed	Clear

View the status of Ping Targets from the Monitor > Ping Targets menu.

11.6 System Alarms

System alarms are not-editable, housekeeping alarms that are programmed into NetGuardian 8A. The **Monitor > System Alarms** screen provides the status of the system alarms by indicating if an alarm has been triggered. Under the **State** column, the status will appear in red if an alarm has been activated. The status will be displayed in green when the alarm condition is not present.

See "Display Mapping" in the Reference Section for a complete description of system alarms.

System Alarms		
Pnt	Description Display Map	State
33	Default configuration	Clear 
34	Dipswitch Configuration	Clear 
35	MAC address not set	Clear 
36	IP address not set	Clear 
37	LAN hardware error	Clear 
38	SNMP processing error	Clear 

View the status of System Alarms from the Monitor > System Alarms menu.

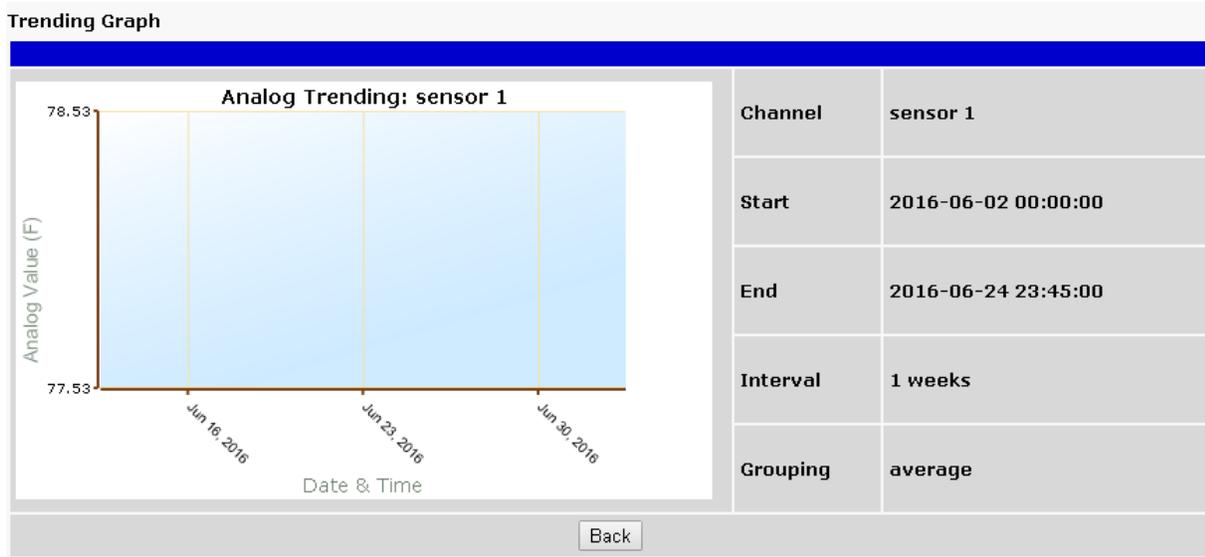
11.7 Graph

The Graph section of the monitor menu lets you build a graph of past analog and sensor measurements, which gives you a visual indication of data over time and points out trending values. To create your Graph, specify the Channel (Analog 1-8 or Sensors 1-32), Group Interval (1-120 minutes, hours, days, or weeks), the Group Function (Average, Min, Max), and Start & End Times. Once you have entered all of the desired values, click "Build Graph."

Graph Parameters																																																			
Channel	sensor 1	Analogs (a1-a8), Sensors (s1-s32)																																																	
Group Interval	1 weeks	1-120 minute(m)/hour(h)/day(d)/week(w)																																																	
Group Function	Average ▾																																																		
Start Time	<div style="border: 1px solid gray; padding: 2px;"> September, 2013 ▾ <table border="1" style="width: 100%; text-align: center; font-size: small;"> <thead> <tr> <th>S</th><th>M</th><th>T</th><th>W</th><th>T</th><th>F</th><th>S</th> </tr> </thead> <tbody> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td style="background-color: yellow;">6</td><td>7</td> </tr> <tr> <td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td> </tr> <tr> <td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td> </tr> <tr> <td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td> </tr> <tr> <td>29</td><td>30</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td> </tr> <tr> <td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td> </tr> </tbody> </table> Today: Sep 6, 2013 2013-09-06 00:00:00 </div>	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	8	9	10	11	12	Time: 00:00:00 ▾
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End Time	<div style="border: 1px solid gray; padding: 2px;"> September, 2013 ▾ <table border="1" style="width: 100%; text-align: center; font-size: small;"> <thead> <tr> <th>S</th><th>M</th><th>T</th><th>W</th><th>T</th><th>F</th><th>S</th> </tr> </thead> <tbody> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td style="background-color: yellow;">6</td><td>7</td> </tr> <tr> <td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td> </tr> <tr> <td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td> </tr> <tr> <td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td> </tr> <tr> <td>29</td><td>30</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td> </tr> <tr> <td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td> </tr> </tbody> </table> Today: Sep 6, 2013 2013-09-06 23:45:00 </div>	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	8	9	10	11	12	Time: 23:45:00 ▾
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29	30	1	2	3	4	5																																													
6	7	8	9	10	11	12																																													
Build Graph																																																			

Provision the Channels, Group Interval, Group Function and more - all from the Graph Parameters section of the web browser interface.

Your graph will appear on the next screen. This graph is Adobe Flash-based and allows you to mouse over the lines to quickly view measurements (date, time, and value) within their context of the overall graphing trend. Below the graph is a full textual list of all indexed points with their dates and values.



Points

Index	Timestamp	Value (F)
1	Jun 16, 2016 0:00 AM	78.03

Specify your parameter values and build an interactive graph based on the alarm point history.

12 Device Access Descriptions

The **Device Access** options, listed in pink on the left side of the web interface, provide options for generating reports, updating the NetGuardian 8A's firmware, and rebooting the unit. Click any of the options under **Device Access** to perform the desired action.



The control menu is located in the bottom left of the web interface

Device Access Option	Description
Backup Config	Backs up the units configuration settings
Read	Reads a configuration file from the unit
Write	Commits all changes made in the web interface to the NetGuardian 8A's non-volatile memory
Initialize	Sets the unit's configuration to factory default values
Get Log	Opens the NetGuardian 8A's event log in Notepad (or another plain text editor).
Purge Log	Deletes the NetGuardian 8A's event log history.
Reboot	Reboots the NetGuardian 8A.

13 Backup Configuration

With the NetGuardian 8A you can backup your current configuration from the Web Interface. These configuration files can then be uploaded later, or uploaded to other NetGuardian 8A units.



The Backup Config tab is located in the Device Access menu shown above.

How to backup your current configuration:

1. Click the Backup Config tab from the Device Access menu.
2. When prompted by your web browser, download the file to your desktop or other location on your computer.
3. Now your configuration should be saved. If you need to upload a configuration, follow the steps below.

To upload your configuration file, click on **Upload** on the top right corner of the web interface

How to upload a saved configuration:

1. Click the upload button at the top right corner of the Welcome screen.
2. Click the Browse... button
3. Browse to the location of the .bin file from the steps above.
4. Select that .bin file and press the Upload button.
5. You should now have the same configuration settings loaded from when you saved the .bin file above.

14 Firmware Upgrade

To access the **Firmware Load** screen, click on the **Provisioning > System** menu. At the bottom of this screen, click the **Restore Configuration** link located in the **System Controls** section.

NetGuardian8A

Home | **Upload** | Logout (admin)

Monitor

- Alarms
- Controls
- Analog
- Sensors
- Ping Targets
- System Alarms
- Graph
- Stats
- Provisioning**
- Device Access

Welcome!

Product Name: NetGuardian8A v1.1A.0177
Build Date: Jun 17 2016 12:27:56
Stack Version: v5.31

6/22/2016, 3:20:33 PM NetGuardian8A v1.1A.0177 ©2016 DPS Telecom

To upload firmware, click on **Upload** on the top right corner of the web interface

At the **Firmware Load** screen, simply browse for the firmware update you've downloaded from www.dpstele.com and click **Load**.

15 Reference Section

15.1 Display Mapping

	Description	Port	Address	Point
Display 1	Discrete Alarms 1-4	99	1	1-4
	Undefined	99	1	5-16
	Controls 1-2	99	1	17-18
	Undefined	99	1	19-32
	Default Configuration	99	1	33
	DIP Switch Config	99	1	34
	MAC Address Not Set	99	1	35
	IP Address Not Set	99	1	36
	LAN Hardware Error	99	1	37
	SNMP Processing Error	99	1	38
	SNMP community error	99	1	39
	LAN TX packet drop	99	1	40
	Notification Failed 1-8	99	1	41-48
	NTP failed	99	1	49
	Timed Tick	99	1	50
	Serial 1 RcvQ full	99	1	51
	Dynamic memory full	99	1	52
	Unit reset	99	1	53
	DCP poller inactive	99	1	54
	Reserved	99	1	55
Modbus poller inactive	99	1	56	
Reserved	99	1	57-64	
Display 2	Ping Alarms 1-32	99	1	1-32
	Undefined	99	1	33-64
Display 3	Analog 1 Minor Under	99	1	1
	Analog 1 Minor Over	99	1	2
	Analog 1 Major Under	99	1	3
	Analog 1 Major Over	99	1	4
	Reserved (CTRL)	99	1	9-16
	Value	99	1	17-32
	Analog 2 Minor Under	99	1	33
	Analog 2 Minor Over	99	1	34
	Analog 2 Major Under	99	1	35
	Analog 2 Major Over	99	1	36
	Reserved (CTRL)	99	1	41-48
	Value	99	1	49-64
Display 4	Analog 3 Minor Under	99	1	1
	Analog 3 Minor Over	99	1	2
	Analog 3 Major Under	99	1	3
	Analog 3 Major Over	99	1	4
	Reserved (CTRL)	99	1	9-16
	Value	99	1	17-32
	Analog 4 Minor Under	99	1	33
	Analog 4 Minor Over	99	1	34
	Analog 4 Major Under	99	1	35
	Analog 4 Major Over	99	1	36
	Reserved (CTRL)	99	1	41-48
	Value	99	1	49-64

Display Mapping

	Description	Port	Address	Point
Display 5	Analog 5 Minor Under	99	1	1
	Analog 5 Minor Over	99	1	2
	Analog 5 Major Under	99	1	3
	Analog 5 Major Over	99	1	4
	Reserved (CTRL)	99	1	9-16
	Value	99	1	17-32
	Analog 6 Minor Under	99	1	33
	Analog 6 Minor Over	99	1	34
	Analog 6 Major Under	99	1	35
	Analog 6 Major Over	99	1	36
	Reserved (CTRL)	99	1	41-48
	Value	99	1	49-64
Display 6	Analog 7 Minor Under	99	1	1
	Analog 7 Minor Over	99	1	2
	Analog 7 Major Under	99	1	3
	Analog 7 Major Over	99	1	4
	Reserved (CTRL)	99	1	9-16
	Value	99	1	17-32
	Analog 8 Minor Under	99	1	33
	Analog 8 Minor Over	99	1	34
	Analog 8 Major Under	99	1	35
	Analog 8 Major Over	99	1	36
	Reserved (CTRL)	99	1	41-48
	Value	99	1	49-64
Display 7	PWR A Minor Under	99	1	1
	PWR A Minor Over	99	1	2
	PWR A Major Under	99	1	3
	PWR A Major Over	99	1	4
	Reserved (CTRL)	99	1	9-16
	Value	99	1	17-32
	PWR B Minor Under	99	1	33
	PWR B Minor Over	99	1	34
	PWR B Major Under	99	1	35
	PWR B Major Over	99	1	36
	Reserved (CTRL)	99	1	41-48
	Value	99	1	49-64
Display 8	Digital sensor 1 Minor Under	99	1	1
	Digital sensor 1 Minor Over	99	1	2
	Digital sensor 1 Major Under	99	1	3
	Digital sensor 1 Major Over	99	1	4
	Digital sensor 1 Sensor not detected	99	1	5
	Control	99	1	9-16
	Value	99	1	17-32
	Digital sensor 2 Minor Under	99	1	33
	Digital sensor 2 Minor Over	99	1	34
	Digital sensor 2 Major Under	99	1	35
	Digital sensor 2 Major Over	99	1	36
	Digital sensor 2 Sensor not detected	99	1	37
	Control	99	1	41-48
	Value	99	1	49-64

Display Mapping

	Description	Port	Address	Point
Display 9	Digital Sensor 3 - Minor Under	99	1	1
	Digital Sensor 3 - Minor Over	99	1	2
	Digital Sensor 3 - Major Under	99	1	3
	Digital Sensor 3 - Major Over	99	1	4
	Digital Sensor 3 Sensor Not Detected	99	1	5
	Control	99	1	9-16
	Value	99	1	17-32
	Digital Sensor 4 - Minor Under	99	1	33
	Digital Sensor 4 - Minor Over	99	1	34
	Digital Sensor 4 - Major Under	99	1	35
	Digital Sensor 4 - Major Over	99	1	36
	Digital Sensor 4 Sensor Not Detected	99	1	37
	Control	99	1	41-48
	Value	99	1	49-64
Display 10	Digital Sensor 5 - Minor Under	99	1	1
	Digital Sensor 5 - Minor Over	99	1	2
	Digital Sensor 5 - Major Under	99	1	3
	Digital Sensor 5 - Major Over	99	1	4
	Digital Sensor 5 - Not Detected	99	1	5
	Control	99	1	9-16
	Value	99	1	17-32
	Digital Sensor 6 - Minor Under	99	1	33
	Digital Sensor 6 - Minor Over	99	1	34
	Digital Sensor 6 - Major Under	99	1	35
	Digital Sensor 6 - Major Over	99	1	36
	Digital Sensor 6 - Not Detected	99	1	37
	Control	99	1	41-48
	Value	99	1	49-64
Display 11	Digital Sensor 7 - Minor Under	99	1	1
	Digital Sensor 7 - Minor Over	99	1	2
	Digital Sensor 7 - Major Under	99	1	3
	Digital Sensor 7 - Major Over	99	1	4
	Digital Sensor 7 - Not Detected	99	1	5
	Control	99	1	9-16
	Value	99	1	17-32
	Digital Sensor 8 - Minor Under	99	1	33
	Digital Sensor 8 - Minor Over	99	1	34
	Digital Sensor 8 - Major Under	99	1	35
	Digital Sensor 8 - Major Over	99	1	36
	Digital Sensor 8 - Not Detected	99	1	37
	Control	99	1	41-48
	Value	99	1	49-64
Display 12	Digital Sensor 9 - Minor Under	99	1	1
	Digital Sensor 9 - Minor Over	99	1	2
	Digital Sensor 9 - Major Under	99	1	3
	Digital Sensor 9 - Major Over	99	1	4
	Digital Sensor 9 - Not Detected	99	1	5
	Control	99	1	9-16
	Value	99	1	17-32
	Digital Sensor 10 - Minor Under	99	1	33
	Digital Sensor 10 - Minor Over	99	1	34
	Digital Sensor 10 - Major Under	99	1	35
	Digital Sensor 10 - Major Over	99	1	36
	Digital Sensor 10 - Not Detected	99	1	37
	Control	99	1	41-48
	Value	99	1	49-64

Display Mapping

	Description	Port	Address	Point
Display 13	Digital Sensor 11 - Minor Under	99	1	1
	Digital Sensor 11 - Minor Over	99	1	2
	Digital Sensor 11 - Major Under	99	1	3
	Digital Sensor 11 - Major Over	99	1	4
	Digital Sensor 11 - Not Detected	99	1	5
	Control	99	1	9-16
	Value	99	1	17-32
	Digital Sensor 12 - Minor Under	99	1	33
	Digital Sensor 12 - Minor Over	99	1	34
	Digital Sensor 12 - Major Under	99	1	35
	Digital Sensor 12 - Major Over	99	1	36
	Digital Sensor 12 - Not Detected	99	1	37
	Control	99	1	41-48
	Value	99	1	49-64
Display 14	Digital Sensor 13 - Minor Under	99	1	1
	Digital Sensor 13 - Minor Over	99	1	2
	Digital Sensor 13 - Major Under	99	1	3
	Digital Sensor 13 - Major Over	99	1	4
	Digital Sensor 13 - Not Detected	99	1	5
	Control	99	1	9-16
	Value	99	1	17-32
	Digital Sensor 14 - Minor Under	99	1	33
	Digital Sensor 14 - Minor Over	99	1	34
	Digital Sensor 14 - Major Under	99	1	35
	Digital Sensor 14 - Major Over	99	1	36
	Digital Sensor 14 - Not Detected	99	1	37
	Control	99	1	41-48
	Value	99	1	49-64
Display 15	Digital Sensor 15 - Minor Under	99	1	1
	Digital Sensor 15 - Minor Over	99	1	2
	Digital Sensor 15 - Major Under	99	1	3
	Digital Sensor 15 - Major Over	99	1	4
	Digital Sensor 15 - Not Detected	99	1	5
	Control	99	1	9-16
	Value	99	1	17-32
	Digital Sensor 16 - Minor Under	99	1	33
	Digital Sensor 16 - Minor Over	99	1	34
	Digital Sensor 16 - Major Under	99	1	35
	Digital Sensor 16 - Major Over	99	1	36
	Digital Sensor 16 - Not Detected	99	1	37
	Control	99	1	41-48
	Value	99	1	49-64

Display Mapping

15.2 System Alarms

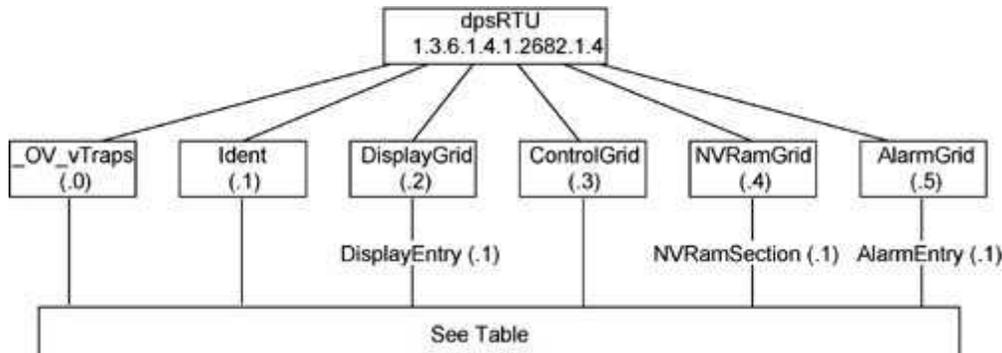
Display	Point	Description
1	33	Default Configuration
	34	DIP Switch Configuration
	35	MAC Address Not Set
	36	IP Address Not Set
	37	LAN hardware error
	38	SNMP Process Error
	39	SNMP Community Error
	40	LAN TX packet drop
	41	Notification 1 Failed
	42	Notification 2 Failed
	43	Notification 3 Failed
	44	Notification 4 Failed
	45	Notification 5 Failed
	46	Notification 6 Failed
	47	Notification 7 Failed
	48	Notification 8 failed
	49	NTP Failed
	50	Timed Tick
	51	Serial 1 RcvQ full
	52	Dynamic Memory Full
53	Unit Reset	
54	DCP Poller inactive	

System Alarms

15.3 SNMP Manager Functions

The SNMP Manager allows the user to view alarm status, set date/time, issue controls, and perform a resync. The display and tables below outline the MIB object identifiers. The table below begins with dpsRTU; however, the MIB object identifier tree has several levels above it. The full English name is as follows:

root.iso.org.dod.internet.private.enterprises.dps Inc.dpsAlarmControl.dpsRTU. Therefore, dpsRTU's full object identifier is 1.3.6.1.4.1.2682.1.2. Each level beyond dpsRTU adds another object identifying number. For example, the object identifier of the Display portion of the Control Grid is 1.3.6.1.4.1.2682.1.2.3.3 because the object identifier of dpsRTU is 1.3.6.1.4.1.2682.1.4 + the Control Grid (.3) + the Display (.3).



Tbl. B1 (0.)_OV_Traps points
_OV_vTraps (1.3.6.1.4.1.2682.1.2.0)
PointSet (.20)
PointClr (.21)
SumPSet (.101)
SumPClr (.102)
ComFailed (.103)
ComRestored (.014)
P0001Set (.10001) through P0064Set (.10064)
P0001Clr (.20001) through P0064Clr (.20064)

Tbl. B3 (.3) ControlGrid points
ControlGrid (1.3.6.1.4.1.2682.1.2.3)
Port (.1)
Address (.2)
Display (.3)
Point (.4)
Action (.5)

Tbl. B2 (.1) Identity points
Ident (1.3.6.1.4.1.2682.1.2.1)
Manufacturer (.1)
Model (.2)
Firmware Version (.3)
DateTime (.4)
ResyncReq (.5)*
* Must be set to "1" to perform the resync request which will resend TRAPs for any standing alarm.

Tbl. B6 (.6) Analog Channels
Channel Entry (1.3.6.1.4.1.2682.1.4.6.1)
Channel Number (.1)
Enabled (.2)
Description (.3)
Value (.4)
Thresholds (.5)*
*If Mj, Mn is assumed

Tbl. B3 (.2) DisplayGrid points
DisplayEntry (1.3.6.1.4.1.2682.1.2.2.1)
Port (.1)
Address (.2)
Display (.3)
DispDesc (.4)*
PntMap (.5)*

Tbl. B5 (.5) AlarmEntry points
AlarmEntry (1.3.6.4.1.2682.1.2.5.1)
Aport (.1)
AAddress (.2)
ADisplay (.3)
APoint (.4)
APntDesc (.5)*
AState (.6)
* For specific alarm points, see Table B6

15.4 SNMP Granular Trap Packets

The tables below provide a list of the information contained in the SNMP Trap packets sent by the NetGuardian 8A.

SNMP Trap managers can use one of two methods to get alarm information:

1. Granular traps (not necessary to define point descriptions for the NetGuardian 8A) **OR**
2. The SNMP manager reads the description from the Trap.

UDP Header	Description
1238	Source port
162	Destination port
303	Length
0xBAB0	Checksum

UDP Headers and descriptions

SNMP Header	Description
0	Version
Public	Request
Trap	Request
1.3.6.1.4.1.2682.1.4	Enterprise
126.10.230.181	Agent address
Enterprise Specific	Generic Trap
8001	Specific Trap
617077	Time stamp
1.3.7.1.2.1.1.1.0	Object
NetGuardian 8A v1.0K	Value
1.3.6.1.2.1.1.6.0	Object
1-800-622-3314	Value
1.3.6.1.4.1.2682.1.4.4.1.0	Object
01-02-1995 05:08:27.760	Value
1.3.6.1.4.1.2682.1.4.5.1.1.99.1.1.1	Object
99	Value
1.3.6.1.4.1.2682.1.4.5.1.2.99.1.1.1	Object
1	Value
1.3.6.1.4.1.2682.1.4.5.1.3.99.1.1.1	Object
1	Value
1.3.6.1.4.1.2682.1.4.5.1.4.99.1.1.1	Object
1	Value
1.3.6.1.4.1.2682.1.4.5.1.5.99.1.1.1	Object
Rectifier Failure	Value
1.3.6.1.4.1.2682.1.4.5.1.6.99.1.1.1	Object
Alarm	Value

SNMP Headers and descriptions

16 Frequently Asked Questions

Here are answers to some common questions from NetGuardian 8A users. The latest FAQs can be found on the NetGuardian 8A support web page, <http://www.dpstele.com>.

If you have a question about the NetGuardian 8A, please call us at **(559) 454-1600** or e-mail us at support@dpstele.com.

16.1 General FAQs

Q. How do I telnet to the NetGuardian 8A?

A. You must use **Port 2002** to connect to the NetGuardian 8A. Configure your Telnet client to connect using TCP/IP (**not** "Telnet," or any other port options). For connection information, enter the IP address of the NetGuardian 8A and Port 2002. For example, to connect to the NetGuardian 8A using the standard Windows Telnet client, click Start, click Run, and type "telnet <NetGuardian 8A IP address> 2002."

Q. How do I connect my NetGuardian 8A to the LAN?

A. To connect your NetGuardian 8A to your LAN, you need to configure the unit IP address, the subnet mask and the default gateway. A sample configuration could look like this:

Unit Address: 192.168.1.100

subnet mask: 255.255.255.0

Default Gateway: 192.168.1.1

Save your changes by writing to NVRAM and reboot. Any change to the unit's IP configuration requires a reboot.

Q. When I connect to the NetGuardian 8A through the craft port on the front panel it either doesn't work right or it doesn't work at all. What's going on?

A. Make sure your using the right COM port settings. Your COM port settings should read:

Bits per second: 9600 (9600 baud)

Data bits: 8

Parity: None

Stop bits: 1

Flow control: None

Important! Flow control **must** be set to **none**. Flow control normally defaults to hardware in most terminal programs, and this will not work correctly with the NetGuardian 8A.

Q. The LAN link LED is green on my NetGuardian 8A, but I can't poll it from my T/Mon.

A. Some routers will not forward packets to an IP address until the MAC address of the destination device has been registered on the router's Address Resolution Protocol (ARP) table. Enter the IP address of your gateway and your T/Mon system to the ARP table.

16.2 SNMP FAQs

Q. Which version of SNMP is supported by the SNMP agent on the NetGuardian 8A?

A. SNMP v1, SNMPv2 and SNMPv3.

Q. How do I configure the NetGuardian 8A to send traps to an SNMP manager? Is there a separate MIB for the NetGuardian 8A? How many SNMP managers can the agent send traps to? And how do I set the IP address of the SNMP manager and the community string to be used when sending traps?

A. The NetGuardian 8A begins sending traps as soon as the SNMP notification type is set up. The NetGuardian 8A MIB can be found on the DPS Telecom website. The MIB should be compiled on your SNMP manager. (**Note:** MIB versions may change in the future.) For step-by-step instructions, refer back to the "How to Send SNMP Traps" section of the user manual.

Q. Does the NetGuardian 8A support MIB-2 and/or any other standard MIBs?

A. The NetGuardian 8A supports the bulk of MIB-2.

Q. Does the NetGuardian 8A SNMP agent support both NetGuardian 8A and T/MonXM variables?

A. The NetGuardian 8A SNMP agent manages an embedded MIB that supports only the NetGuardian 8A's RTU variables. The T/MonXM variables are included in the distributed MIB only to provide SNMP managers with a single MIB for all DPS Telecom products.

Q. How many traps are triggered when a single point is set or cleared? The MIB defines traps like "major alarm set/cleared," "RTU point set," and a lot of granular traps, which could imply that more than one trap is sent when a change of state occurs on one point.

A. Generally, a single change of state generates a single trap.

Q. What does "point map" mean?

A. A point map is a single MIB leaf that presents the current status of a 64-alarm-point display in an ASCII-readable form, where a "." represents a clear and an "x" represents an alarm.

Q. The NetGuardian 8A manual talks about control relay outputs. How do I control these from my SNMP manager?

A. The control relays are operated by issuing the appropriate set commands, which are contained in the DPS Telecom MIB.

Q. How can I associate descriptive information with a point for the RTU granular traps?

A. The NetGuardian 8A alarm point descriptions are individually defined using the Web Browser.

Q. My SNMP traps aren't getting through. What should I try?

A. Try these three steps:

1. Make sure that the Trap Address (IP address of the SNMP manager) is defined. (If you changed the Trap Address, make sure you saved the change to NVRAM and rebooted.)
2. Make sure all alarm points are configured to send SNMP traps.
3. Make sure the NetGuardian 8A and the SNMP manager are both on the network. Use the unit's ping command to ping the SNMP manager.

17 Technical Support

DPS Telecom products are backed by our courteous, friendly Technical Support representatives, who will give you the best in fast and accurate customer service. To help us help you better, please take the following steps before calling Technical Support:

1. Check the DPS Telecom website.

You will find answers to many common questions on the DPS Telecom website, at <http://www.dpstele.com/support/>. Look here first for a fast solution to your problem.

2. Prepare relevant information.

Having important information about your DPS Telecom product in hand when you call will greatly reduce the time it takes to answer your questions. If you do not have all of the information when you call, our Technical Support representatives can assist you in gathering it. Please write the information down for easy access. Please have your user manual and hardware serial number ready.

3. Have access to troubled equipment.

Please be at or near your equipment when you call DPS Telecom Technical Support. This will help us solve your problem more efficiently.

4. Call during Customer Support hours.

Customer support hours are Monday through Friday, from 7 A.M. to 6 P.M., Pacific time. The DPS Telecom Technical Support phone number is **(559) 454-1600**.

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