

# NetGuardian V16/M16 G2

## USER MANUAL

**D-PK-216V2**  
**D-PK-M16G2**  
**D-PK-C16V2**



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## Revision History

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July 26, 2018	Added Event Log
June 26, 2018	Added option for additional D-wire ports on front panel
February 8, 2018	Added section for Isolated Voltage Monitor Option in M16G2
December 12, 2017	Update to Web Browser
September 26, 2016	Display Mapping Update
May 20, 2015	Added Virtual Control sections
December 19, 2014	Added relay notification and alpha paging.
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January 1, 2014	Added Derived Controls
October 18, 2013	Added Fiber top-board build option
October 16, 2013	Created Hybrid V16/M16 combination manual
September 5, 2013	Added SNMPv3, alarm qualification timers, and new notification features
May 10, 2013	Added Amphenol pinout information
April 29, 2013	Added SSL encrypted e-mail notification option.
April 17, 2013	Added alarm state duration timer
April 9, 2013	Added the Contact Closure Echo feature.
March 29, 2013	Added Graph feature to the Monitor menu in web browser interface
March 19, 2013	Added RADIUS, Voice Description Recording options, and additional User Access Rights
December 3, 2012	Merged NetGuardian 16 G2 and Voice 16 G2 manuals
October 12, 2012	Added Ping Targets, D-Wire sensors, and updated Display Mapping
September 10, 2012	Initial Release

February 13, 2012

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# 1 NetGuardian V16/M16 G2 Overview



**Fig. 1.1** Compact, easy-to-install, right-size capacity - this device offers a low-cost way of effectively monitoring smaller sites.

**Note:** This manual describes both the NetGuardian V16 G2 and the NetGuardian M16 G2. There is only one difference between these RTUs. The V16 has a voice modem for dial-out voice alerts, while the M16 has an optional serial/202 port instead.

The NetGuardian V16 G2 is predominately shown throughout this user manual. Configuration and setup processes are identical for both the NetGuardian M16 G2 and NetGuardian V16 G2, except where specifically noted.

## Effective, easy-to-install, light-capacity alarm monitoring

The NetGuardian V16 G2 is a compact, LAN-based, light-capacity remote telemetry unit. This unit is designed for easy installation at small and medium remote sites, making it cost-effective to deploy alarm monitoring throughout your entire telecom network. The NetGuardian V16 G2 features the monitoring capacity plus voice dialing capabilities for flexible notifications.

## Powerful monitoring for smaller sites

This telco-grade remote is housed in a durable aluminum case that can be rack-mounted. This SNMP remote is scaled to the needs of small sites, such as remote huts, collocation racks, and enclosed cabinets - perfect for any site where a large capacity RTU would be more than you need.

- **16 Discrete Alarm Inputs**
- **32 Ping Targets**
- **6 Analog Alarm Inputs**
- **2/18 Control Relay Outputs (Build option)**
- **1 Reach-through serial port (M16 G2 only)**
- **16/32 D-Wire temperature or humidity sensors (Build option)**
- **Dial-in and out with DTMF acknowledge (V16 G2 only)**

## SNMP or T/Mon

The device can report alarms to any SNMP manager or to the DPS Telecom T/Mon Remote Alarm Monitoring System. This NetGuardian can also report via SNMP and DCPx concurrently to T/Mon.

## Easy Alerts via Email or SNMP

Email notification reports alarm events to the e-mail addresses of specified personnel and creates a supplemental record of alarm events in addition to your master via SNMP traps.

## Upgraded Web Browser

The overhauled web interface that boasts several new monitoring tools, including new analog gauges. You'll also notice the impressive speed boost. Menus load very quickly, and the alarm status updates automatically without requiring a page refresh.

## 2 Specifications

### Hardware

<b>Dimensions:</b>	1.7" H x 17.0" W x 6.6" D
<b>Mounting:</b>	19" or 23" Rack
<b>Weight:</b>	2.25lb. (1.02 kg)
<b>Power Input:</b>	-48VDC (-36 to -72 VDC) (Optional) +24VDC (Optional) +12VDC
<b><sup>3</sup> Current Draw:</b>	200mA @ -48VDC
<b>Fuse:</b>	3/4 Amp GMT
<b><sup>1</sup> Power Outputs:</b>	(optional) +5VDC, +12VDC, or +24VDC
<b>Audible Interfaces:</b>	Alarm Speaker
<b>Visual Interfaces:</b>	5 Front Panel LEDs 6 Back Panel LEDs LCD Display
<b><sup>1</sup> Hardware Interfaces:</b>	1 : DB50 (Discrete Inputs / Control Relays) 1 RJ45 10/100BaseT Ethernet 1 RJ11 connector for D-Wire sensor network 1 Serial port: RS232, RS485, or 202 (M16 G2 only) 1 Telco jack (V16 G2 only) (optional) 4 10/100/1000 copper Ethernet ports (optional) 2 1000 Base-X SFP Fiber ports
<b>Modem:</b>	33.6 K internal
<b>Discrete Alarm Inputs:</b>	16 (reversible)
<b><sup>2</sup> Discrete Alarm Length:</b>	000Ft. (00m) per Alarm
<b>Derived Alarm:</b>	16
<b>Analogs:</b>	6 (4 user-definable, 2 for voltage monitoring)
<b>Input Range:</b>	-90 to 90 VDC or 4 to 20 mA
<b><sup>4</sup> Analog Accuracy:</b>	± 1% of Analog Range
<b>Control Outputs:</b>	2 Relays (Optional 18 Relays)
<b>Max Voltage:</b>	60 VDC/120 VAC
<b>Max Current:</b>	1A AC/DC
<b>Operating Temp:</b>	32° to 140°F (0° to 60°C)
<b><sup>1</sup> Industrial Operating Temp:</b>	-22° to 158°F (-30° to 70°C)
<b>Storage Temp:</b>	00° to 00°F (00° to 00°C)
<b>Operating Humidity:</b>	0% to 95% non-condensing
<b>MTBF:</b>	60 Years
<b>RoHS:</b>	RoHS 5/6 Approved
<b>Ordering Options:</b>	4-Port 10/100 Switch, SPF Fiber, Sensor Supply

## **Software**

<b>Downloadable Firmware:</b>	Yes
<b>Built-in Web Interface:</b>	Yes
<b>Browser Support:</b>	IE9, IE10, Firefox.....
<b>Protocols:</b>	DCPx, DCPf, TELNET, HTTP, HTTPS, Email, TRIP, TAP
<b>SNMP Support:</b>	SNMPv1, SNMPv2c, SNMPv3
<b><sup>1</sup> D-Wire Sensor Support:</b>	Temp, Temp/Humidity
<b>Ping Alarms:</b>	32
<b>OS Support:</b>	XP, Vista, 7 32/64 bit

### **Note:**

- <sup>1</sup> Valid if hardware option is included.
- <sup>2</sup> Minimum lengths determined with TTL voltage level alarms. Actual distance may vary.
- <sup>3</sup> Current measured at rated voltage with all controls latched and all alarms triggered.
- <sup>4</sup> 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 V16/M16 G2. 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 M16 G2 or Voice G2 Unit**  
D-PK-216V2 / C16V2



**NetGuardian M16 G2 / V16 G2 Resource CD**



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



**Two Locking 2-pin Power Connectors**  
2-820-35102-00



**NetGuardian M16 G2 / V16 G2**  
**User Manual**  
D-UM-216V2 / C16V2



**Pads**  
2-015-00030-00



**14 ft. Ethernet Cable**  
D-PR-923-10B-14



**Three 3/4-Amp GMT Fuses**  
2-741-00750-00



X 2

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



X 2

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



x 4

**Two Standard Rack Screws**  
**1-000-12500-06**



x 8

**3/8" Ear Screws**  
**2-000-60375-05**



x 4

**Four Metric Rack Screws**  
**2-000-80750-03**



**Telephone Cable 6 ft (V16 G2 Only)**  
**D-PR-045-10A-01**

### 3.1 Optional Shipping Items - Available by Request



**D-Wire Temperature Sensor**  
**D-PK-DSNSR-12001.00001**



**D-Wire Temperature/Humidity Sensor**  
**D-PK-DSNSR-12002.00002**

### 3.2 Optional NetGuardian Accessories

If you would like to order any of these accessories, or if you would like more information about them, call DPS Telecom at **(800) 622-3314**.



**Pluggable Back Panel  
D-PK-16PAN**

The NetGuardian's pluggable back panel allows for screw-in barrier plug connections for the NetGuardian's alarms and relays.

## 4 Installation

### 4.1 Tools Needed

To install the NetGuardian, 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

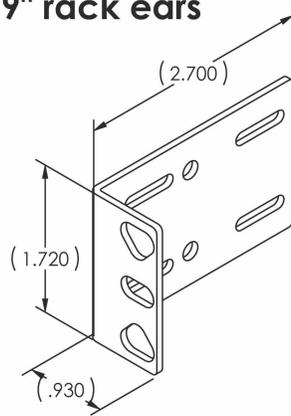


**Fig. 4.1** NetGuardian can be flush or rear-mounted

The NetGuardian mounts in a 19" or 23" rack and can be mounted in the flush-mount or rear mount locations, as shown in.

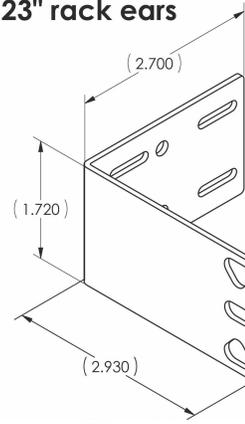
The rack ears can be rotated 90° for wall mounting or 180° for other mounting options.

**19" rack ears**



**Fig. 4.2**

**23" rack ears**



**Fig. 4.3**

## 5 NetGuardian Back Panel



Fig. 5.1 NetGuardian M16 G2 / V16 G2 back panel connections



Fig. 5.2 NetGuardian M16 G2 / V16 G2 back panel (with Fiber Option)

### 5.1 Fiber Option

#### Build Option: NetGuardian V16/M16 with GigE Fiber Top Board

If your NetGuardian V16/M16 was ordered with the GigE Fiber top board, 1000Base SFP interface must be used. The SFP ports are internally connected to the 4 port switch and device LAN interface.

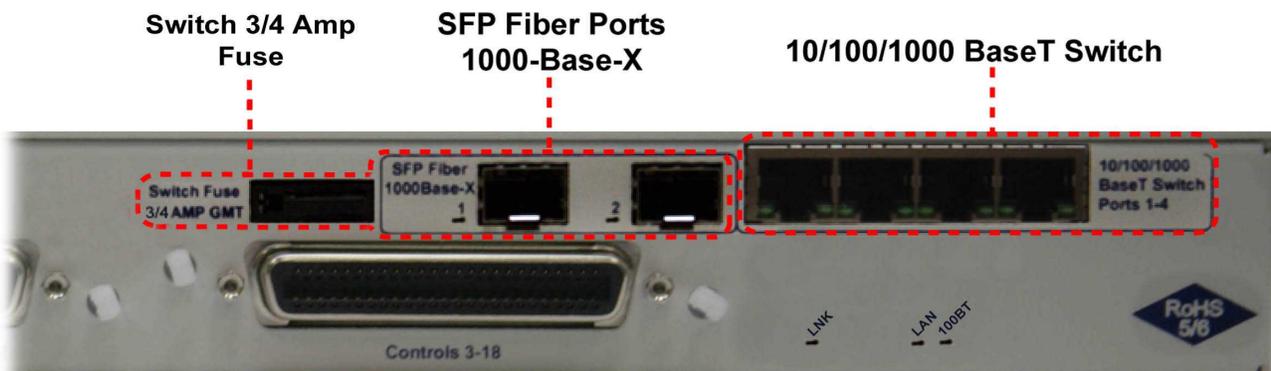


Fig. 5.3 Back panel of NetGuardian V16/M16 G2 with fiber

### 5.2 Power Connection

The NetGuardian is powered by two barrier plug power connectors.



Fig. 5.4 Locking RIA power inputs

**To connect the NetGuardian to a power supply:**

1. Use the grounding lug to connect the unit to earth ground. The grounding lug is next to the symbol .
2. Insert the eyelet of the earth ground cable between the two bolts on the grounding lug (Ground cable not included).
3. Insert a battery ground into the power connector plug's right terminal and tighten the screw.
4. Insert a battery lead to the plug's left terminal and tighten its screw.
5. Insert fuse into the fuse distribution panel.
6. Check the power status LED for polarity.
7. 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 -36 VDC and -72 VDC.

**Note:** If the voltage does not read between -36 VDC and -72 VDC, stop immediately.

8. 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.

9. 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.

## 5.2.1 NetGuardian M16 G2 Isolated Voltage Monitor

The Isolated Voltage Monitor is an optional feature that allows you to monitor the voltage of the unit while being separate from GND. This is Isolated Bonding Network (IBN) standard.

If you have ordered this option to be included on your NetGuardian M16 G2, you will only get an analog reading from Power Input B when viewing the web interface of your unit. For calibration and other information regarding this feature, see the sections below.

### Calibration:

While your Isolated Voltage Monitor will be calibrated before leaving the factory, it might be necessary to do further calibrations once the device is deployed. To calibrate your unit, follow the steps below:

- Establish a TTY interface connection with the unit you wish to calibrate.
- Once logged in, enter 'C' for config.
- Enter 'H'.
  - **NOTE:** 'H' is a hidden option. It will not be present in the list of available options.
- Enter 'C' for calibrate.
- Using a multimeter, take a reading from the Power B input of the device.
- Enter the voltage reading from the multimeter in the TTY interface and press 'Enter'.
- To verify that the calibration has taken affect, you can view Power Input B voltage in the Monitor > Analogs page of the device's web browser interface.

### View Enabled/Disabled Calibration Feature Status:

When your device arrives from the factory, the Isolated Voltage Monitor Calibration feature should be automatically enabled. To double-check that it is enabled, use the following steps:

- Establish a TTY interface connection with the desired unit.
- Enter 'S' for stats.
- There will be a line item for 'IVM VDC adjust: Enabled' if the device has the calibration feature enabled. Otherwise, this line item will not be visible.

### Enabling the Isolated Voltage Monitoring Calibration Feature:

If for some reason the Isolated Voltage Monitor Feature is disabled, use the following steps to enable it *before* calibration:

- Establish a TTY interface connection with the unit you wish to calibrate.
- Once logged in, enter 'C' for config.
- Enter 'H'.
  - **NOTE:** 'H' is a hidden option. It will not be present in the list of available options.
- Enter 'E' for enable.
- Enter 'Y' to confirm you wish to enable the calibration feature.
- Once enabled, you may calibrate the voltage reading if necessary.

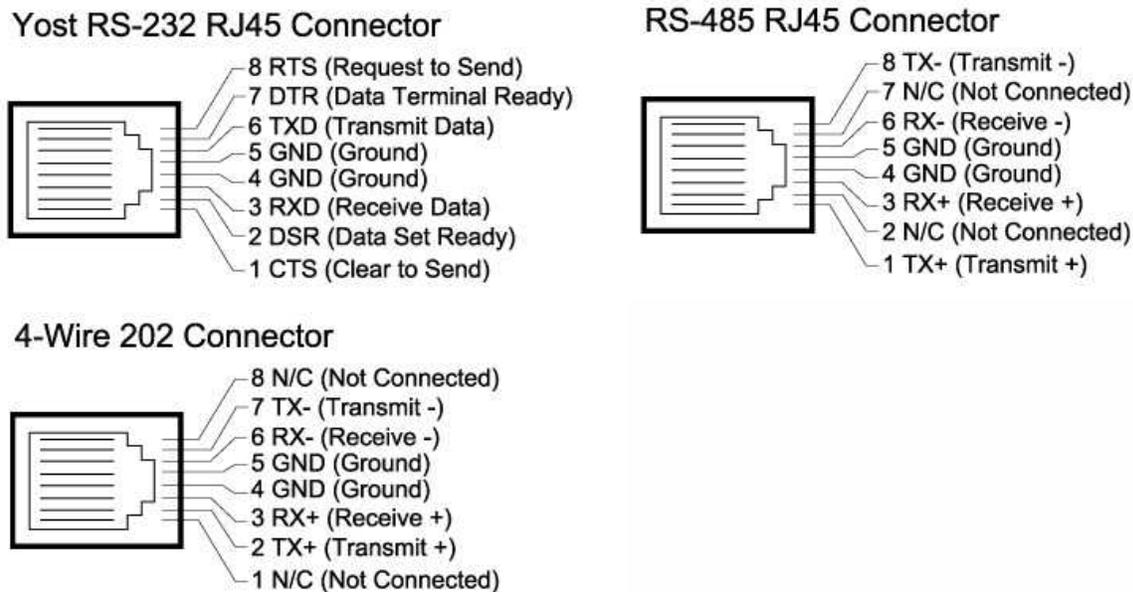
## 5.3 LAN Connection

To connect the unit to LAN, insert a standard RJ45 Ethernet cable into the 10/100BaseT Ethernet port on the back of the unit. If the LAN connection is OK, the LNK LED will light **SOLID GREEN**.

## 5.4 Serial Connection (M16 G2 Only)

The NetGuardian M16 G2 has 3 build options for its serial / dialup port. You can order your port as a **Yost RS-232**, **RS-485**, **202 modem**, or **4-wire 202 RJ45**. The serial port is located on the back panel, where it is labeled "Primary."

### Serial port build options



*Fig. 5.5 Serial Port Pinout*



### **Hot Tip!**

If you are unsure of the serial port type on your NetGuardian, login to MyDPS and click on the Product Information Search link. Type in the full part number of your unit and click the Submit button to access the specifications.

The serial port can be used for two different functions:

- Reach-through proxy connection for LAN-based Telnet access to switches, radios, PBXs and other equipment.
- Alarm reporting to the T/Mon Remote Alarm Monitoring System over an RS-232, 485, 202, or dial-up modem.

**Note:** If the serial port is configured for alarm reporting to T/Mon, the port is **not** available for use as a reach-through proxy port.

## 5.5 Telco Connection (V16 G2 Only)

The NetGuardian V16 G2 features an RJ11 Telco port on the back of the unit. This port is used for dial-up notification via your cell phone and alphanumeric pager.

RJ-11 Phone Line Connector

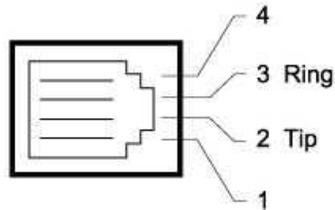


Fig. 5.6 Telco Port Pinout

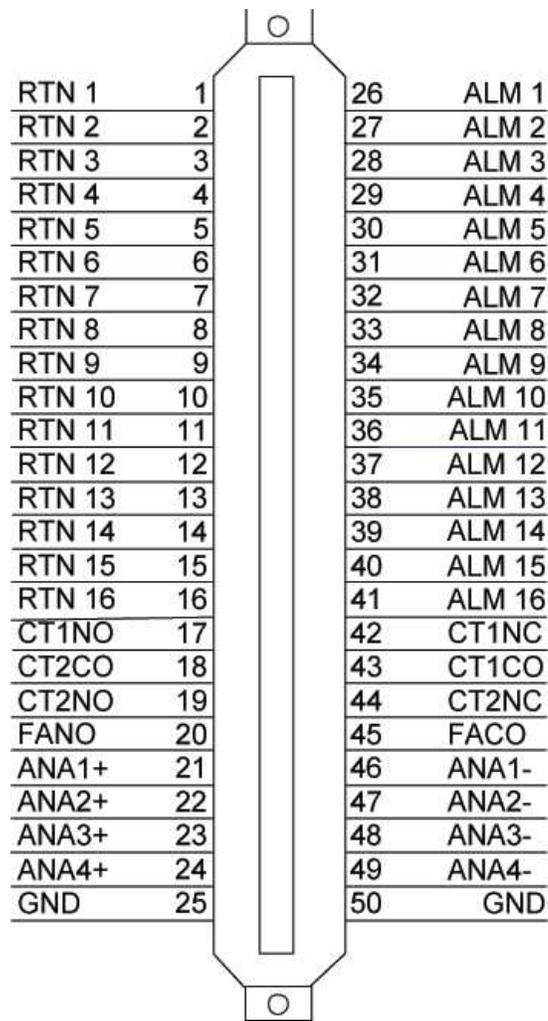
## 5.6 50-Pin Alarm and Control Relay Connector

The primary connectors for discrete alarms, analog alarms and control relays are the 50-pin Amphenol connector on the NetGuardian's back panel.

Discretes 1–16					
	RTN	ALM		RTN	ALM
<b>ALM 1</b>	1	26	<b>ALM 9</b>	9	34
<b>ALM 2</b>	2	27	<b>ALM 10</b>	10	35
<b>ALM 3</b>	3	28	<b>ALM 11</b>	11	36
<b>ALM 4</b>	4	29	<b>ALM 12</b>	12	37
<b>ALM 5</b>	5	30	<b>ALM 13</b>	13	38
<b>ALM 6</b>	6	31	<b>ALM 14</b>	14	39
<b>ALM 7</b>	7	32	<b>ALM 15</b>	15	40
<b>ALM 8</b>	8	33	<b>ALM 16</b>	16	41

Analog 1–4		
	+	–
<b>ANA 1</b>	21	46
<b>ANA 2</b>	22	47
<b>ANA 3</b>	23	48
<b>ANA 4</b>	24	49
<b>GND</b>	25	50

Control Relays 1–2		
	NO/NC	CO
<b>CTRL 1</b>	17/42	43
<b>CTRL 2</b>	19/44	18
<b>FUSE</b>	20/NA	45



**Fig. 5.7** Amphenol connector pinout.

## 5.7 Optional 66 Block Connector

The unit is also available with an optional 66 Block Connector for connecting discrete alarms, analog alarms and control relays. Pinout and wire color coding are shown.

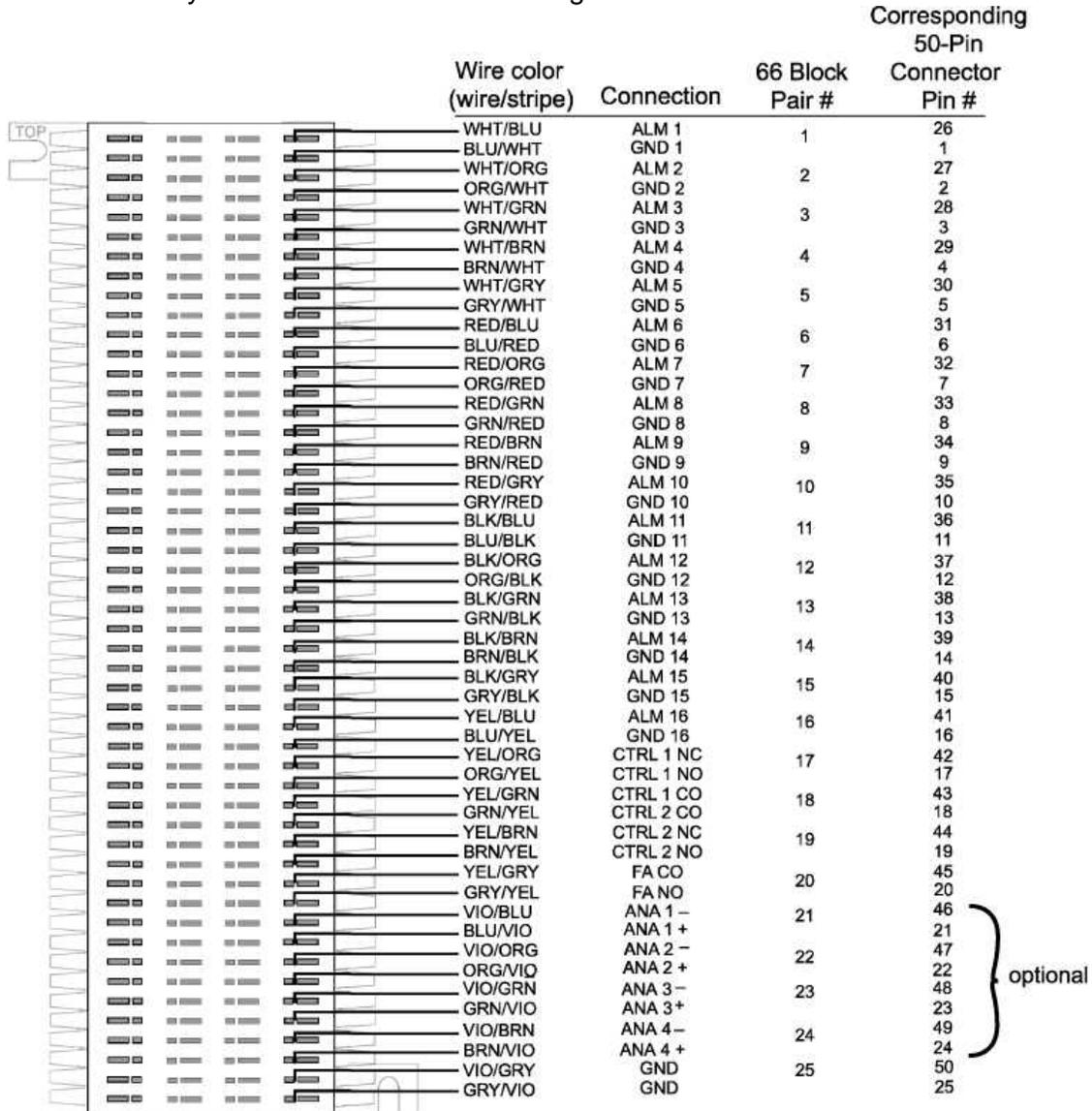


Fig. 5.8 Optional 66 block connector pinout

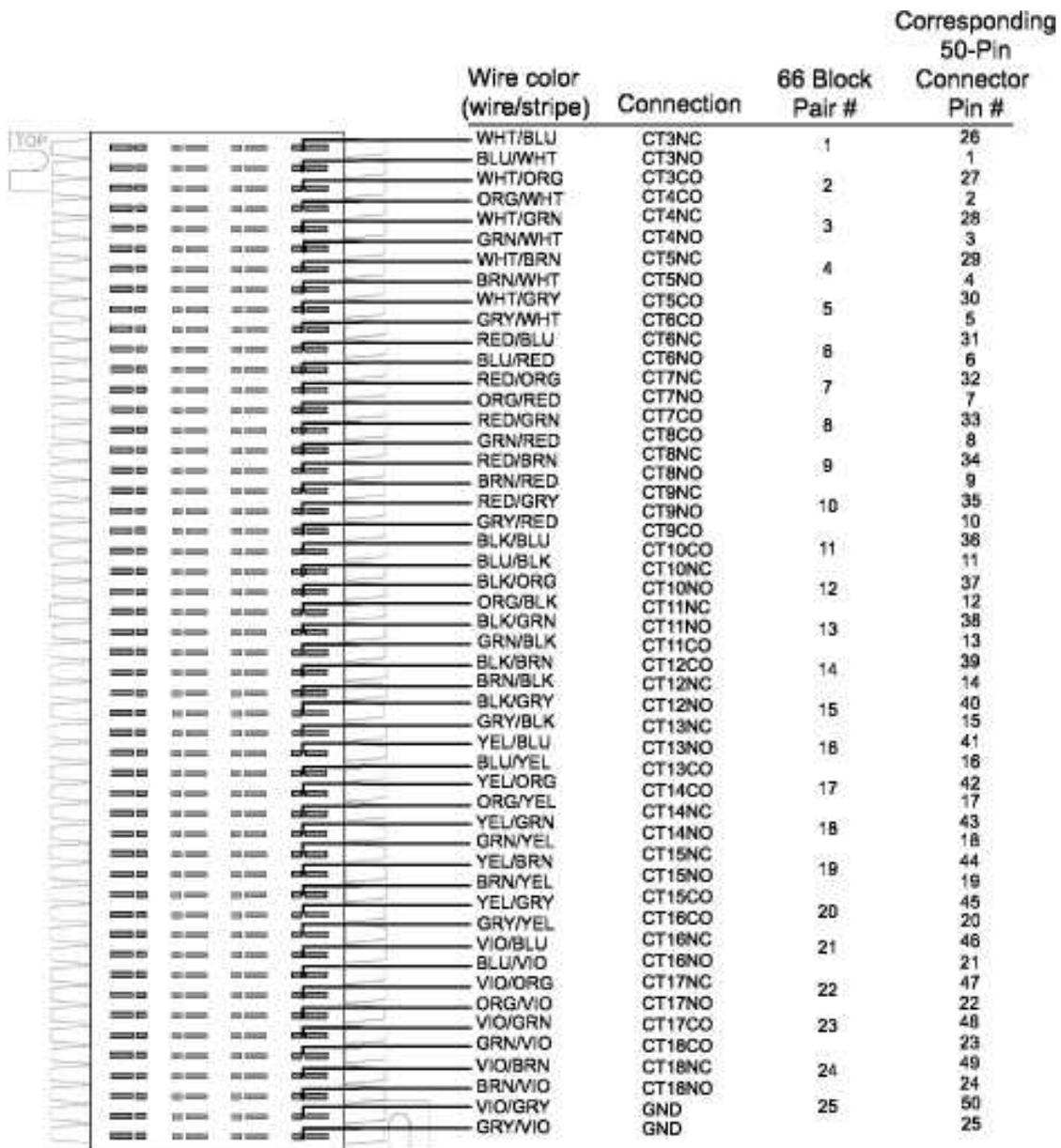
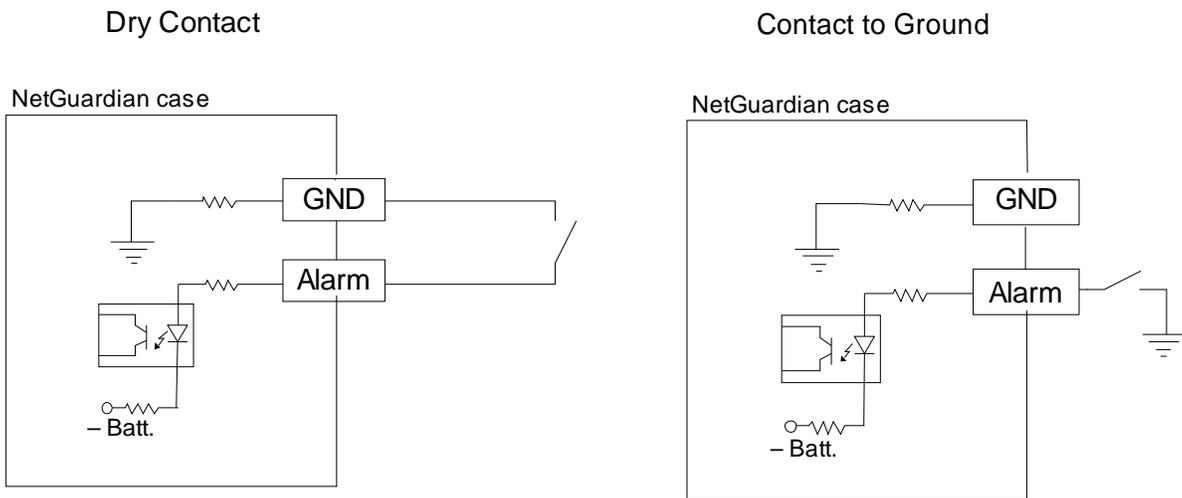


Fig. 5.9 Optional 66 block connector pinout for controls

## 5.8 Discrete Alarms



Note: Make sure that grounds have a common reference—this is usually done by tying grounds together.

**Fig. 5.10** Discrete alarm points can connect as a dry contact or a contact to ground

This device features 16 discrete alarm inputs — also called digital inputs or contact closures. Discrete alarms are either active or inactive, so they're typically used to monitor on/off conditions like power outages, equipment failures, door alarms and so on.

The NetGuardian's discrete alarm points are single-lead signals referenced to ground. The ground side of each alarm point is internally wired to ground, so alarm points can connect either as a dry contact or a contact to ground.

**In a dry contact alarm:** The alarm lead brings a contact to the ground lead, activating the alarm.

**In a contact to ground alarm:** A single wire brings a contact to an external ground, activating the alarm.

You can reverse the polarity of each individual discrete alarm point, so that the alarm is activated when the contact is open. This is done with a software configuration change.

## 5.9 Analog Alarms

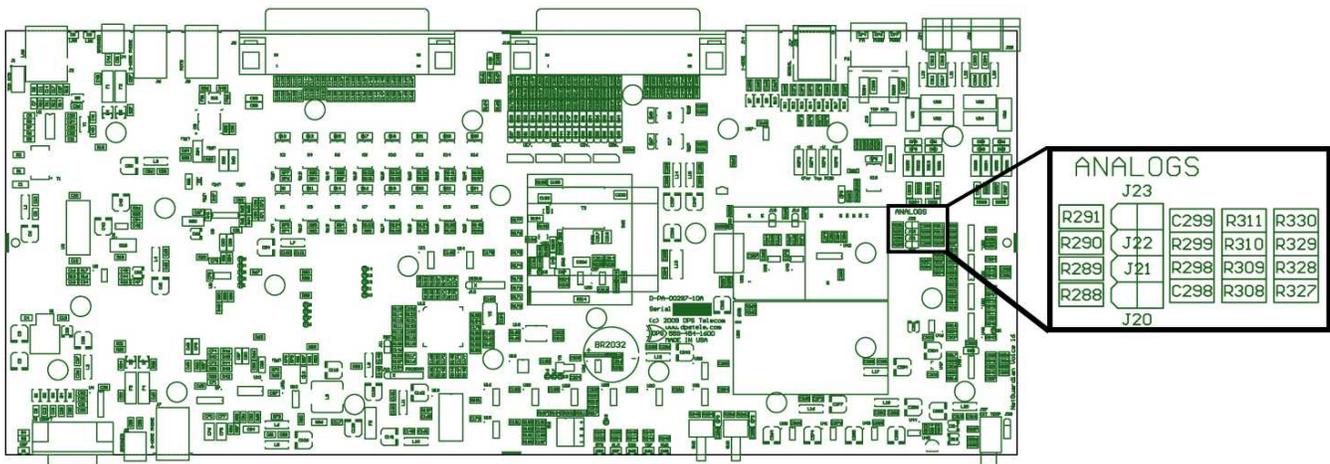
The NetGuardian's analog alarm inputs measure continuous ranges of voltage or current. Analog alarms are typically used to monitor battery voltage, charging current, temperature, humidity, wind speed, or other continuously changing conditions. The measurement range of the analog channels is -90 to +90 VDC or 4 to 20 mA. To configure the analogs for current sensing (4 - 20mA) please review the next section for jumper position.

You can use analogs 1 through 4 to monitor whatever you like. Analogs 5 and 6 are pre-configured to monitor Battery A and B. Read the following table to see where to connect the analogs.

Analog #	Connection
<b>ANA 1</b>	User-definable; connects to the 50-pin amphenol.
<b>ANA 2</b>	User-definable; connects to the 50-pin amphenol.
<b>ANA 3</b>	User-definable; connects to the 50-pin amphenol.
<b>ANA 4</b>	User-definable; connects to the 50-pin amphenol.
<b>ANA 5</b>	Pre-configured to monitor Battery A.
<b>ANA 6</b>	Pre-configured to monitor Battery B.

By default, the analog inputs are configured to measure voltage. You can switch the analog inputs to measure current by resetting jumpers on the NetGuardian circuit board.

### 5.9.1 Switching Analog Alarms to Current Operation



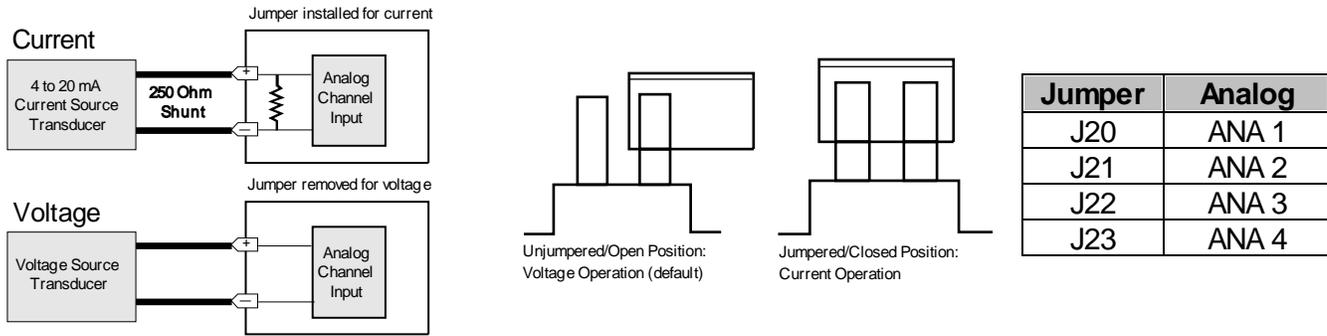
*Fig. 5.11 Adjustable jumpers on the NetGuardian circuit board*

**By default, the analog inputs are configured to measure voltage.** You can switch the analog inputs to measure current by resetting jumpers on the NetGuardian's circuit board.

**To test the analog alarm voltage/current jumpers, follow these steps:**

1. Make sure the NetGuardian is depowered and disconnected from all network connections.
2. Remove the screws from the sides of the NetGuardian case.
3. Slide the top cover of the case off to expose the circuit board.
4. The adjustable jumpers are shown in. All alarm inputs can be individually configured for current or voltage operation. Remember that the default jumper position is OPEN for measuring voltage.

**Note:** Each jumper inserts a 250-ohm shunt resistor across the input. This must be taken into account when defining the analog input reference scale.



*Jumper settings for analog alarms inputs.*

- Slide the top cover of the case back into position and replace the screws.
- Reconnect and power up the NetGuardian.

### 5.9.2 Analog Step Sizes

Analog Step Sizes		
Input Voltage Range	Resolution (Step Size)	Accuracy
0-5 V	.0015 V	+/- .05V
5-14 V	.0038 V	+/- .14V
14-30 V	.0081 V	+/- .30V
30-70 V	.0182 V	+/- .70V
70-90 V	.0231 V	+/- .90V

*Analog step sizes*

## 6 NetGuardian Front Panel



**Fig. 6.1** NetGuardian M16 G2 / V16 G2 Front panel connections

LED	Status	Description
Alarm	Flashing Red	New alarm
	Solid Red	Standing alarm acknowledged
Error	Flashing Red	System error
Primary	Flashing Green	Data transmitted on PRI Serial
	Flashing Red	Data recieved on PRI Serial
Power	Solid Green	Power supply OK
	Off	No voltage or power leads reversed
Craft	Flashing Green	Transmitting data over craft port
	Flashing Red	Receiving data over craft port
Status	Flashing Green	Application is running
	Flashing Red	Boot Loader is running

*Front Panel LED Descriptions*

## 6.1 Craft Port

Use the front panel craft port to connect the NetGuardian to a PC for onsite unit configuration. To use the craft port, connect the included USB download cable from your PC to the craft port.

## 6.2 D-Wire External Sensors

The ports on your NetGuardian labeled **D-Wire Sensors** support up to 32 total sensors (if multiple D-wire ports are present). Your NetGuardian powers and communicates with your D-Wire sensors via simple RJ-11 connections. You can chain 16 sensors to each D-Wire port on the NetGuardian, but not exceeding 32 D-wire sensors between all of the ports. The NetGuardian's internal temperature sensor counts as the first sensor on D-Wire Port 1.

The max cable length depends on the number of sensors daisy chained together. The cable lengths and corresponding number of sensors can be seen in the table below.

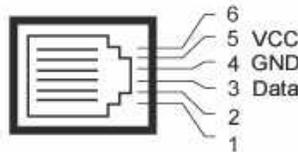
Maximum Cable Lengths							
Number of Nodes	Spec'd Max (ft)	Number of Nodes	Spec'd Max (ft)	Number of Nodes	Spec'd Max (ft)	Number of Nodes	Spec'd Max (ft)
1	800	9	150	17	75	25	50
2	700	10	125	18	75	26	50
3	475	11	125	19	50	27	50
4	350	12	100	20	50	28	50
5	275	13	100	21	50	29	50
6	225	14	100	22	50	30	40
7	200	15	75	23	50	31	40
8	175	16	75	24	50	32	40

Maximum Cable Lengths

**Note:** Some sensors may consume 2 analog channels (the combined temp/humidity sensor, D-PK-DSNSR-12002, for example).

### Connecting D-Wire Sensors

**Warning:** Be sure to only use a **straight-through RJ-11 cable** (part #D-PR-901-10A-XX, pinout below) to connect any digital sensor port on the NetGuardian to the **In** jack on a D-Wire sensor. Chain additional sensors to the D-Wire sensor (using the same straight-through cables) from the **Out** jack on the previous sensor to the **In** jack on the next (i.e. Out on sensor 4 to In on sensor 5).



**Fig. 5.12** Pinout for the NetGuardian and D-Wire Sensor RJ-11 jacks

The D-Wire line of sensors includes temp/humidity, additional analogs, discretes, and more. Contact DPS at 1-800-693-0351 for information about available D-Wire sensors.

For details about configuring your sensors through the web interface, see the **Sensors** section of this manual.



*Fig. 5.13*

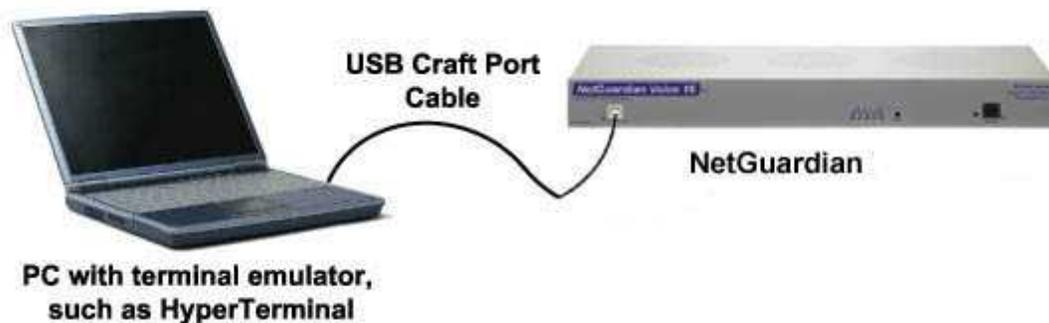
## 7 Quick Start: How to Connect to the NetGuardian

Most NetGuardian 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 and access its Web Browser. See Section 7.2.

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

The simplest way to connect to the NetGuardian is over a physical cable connection between your PC's USB port and the unit's USB craft port. **Note:** You must be connected via craft port or Telnet to use the TTY interface. Make sure you are using a standard A-B USB cable (this same cable is commonly used for USB printers) to make a USB craft port connection. We'll be using HyperTerminal to connect to the unit in the following example - however, most terminal-emulating programs are also compatible.



**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 to your PC via USB, a "Found New Hardware" message will appear:

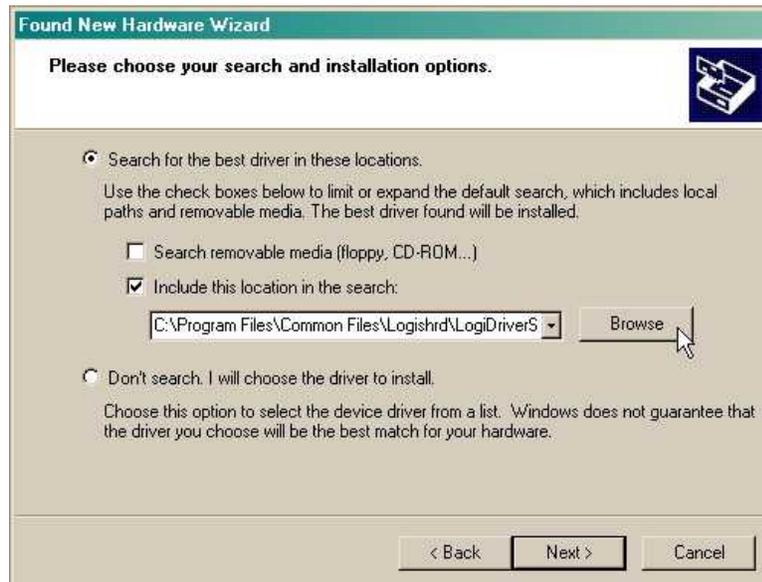


1. Click the "Found New Hardware" message/icon to launch the "Found New Hardware Wizard".

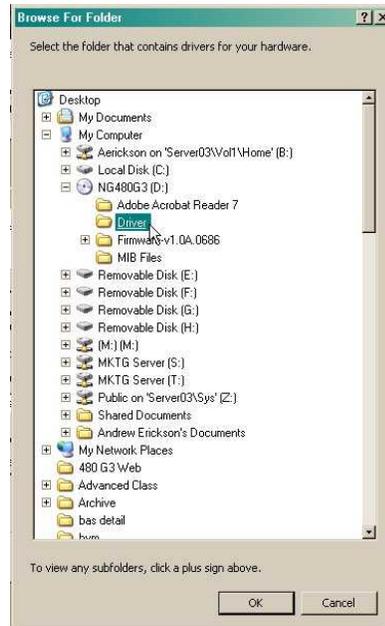


2. Select "Install from a list or specific location (Advanced)"

3. Click "Next >"



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



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

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



8. Click "Finish" to close the Wizard.

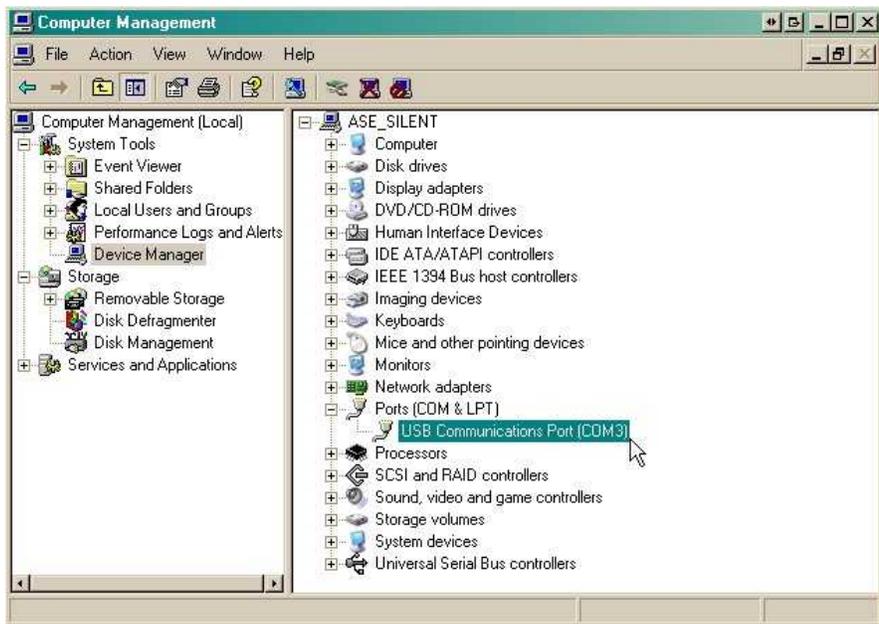
Now that the driver has been installed, a new COM port is being emulated on your PC. Before using hyperterminal, you must confirm the identity of that new COM port (COM1, COM2, COM3...) in the Windows Device Manager.



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).

Now that you know which COM port to use, it's time to launch HyperTerminal (or other terminal software):

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.



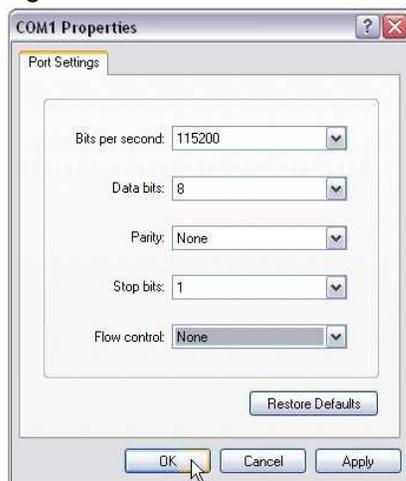
14. At the Connect To screen, use the drop-down menu to select the COM port you found earlier in the Device Manager.



15. Select the following COM port options:

- Bits per second: 115200
- 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'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 to save its new configuration.

```

COM30115200 - HyperTerminal
File Edit View Call Transfer Help
[Icons]
Login: admin
Password: *****
Logged in successfully.

NG-LTG2 v1.00A.0287
(c)2008 DPS Telecom, Inc.
Reboot required.

C)onfig P)ing D)ebug e(X)it ?

```

```

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. Plug the NetGuardian into your LAN and see the "Logging On to the NetGuardian" section to continue databasing using the Web Browser.

## 7.2 ...via LAN



*Fig. 7.1 Connection through Ethernet port*

To connect to the NetGuardian 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, 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's factory default IP settings. Follow these steps:

1. Get a LAN crossover cable and plug it directly into the NetGuardian'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**.

- Provision the NetGuardian 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 and see Section 9, "Logging On to the NetGuardian" to continue databasing using the Web Browser.

## 8 TTY Interface

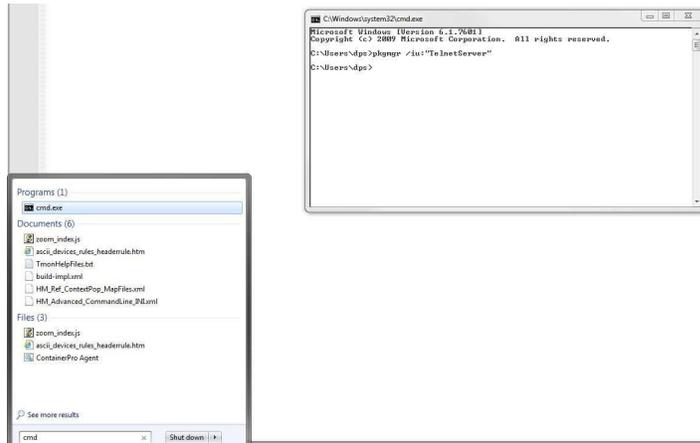
The TTY interface is the NetGuardian's built-in interface for basic configuration. From the TTY interface, you can:

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



**Fig. 8.1**

From the command line, type in **pkgmgr /iu:"TelnetServer"** 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 (M16 G2 Only)

```

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

Connected 0:00:16  ANSIW  9600 8-N-1  SCROLL  CAPS  NUM  Capture  Print echo

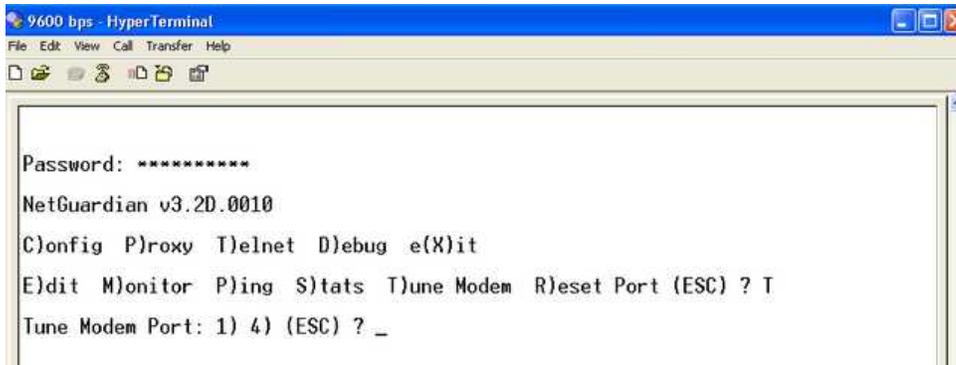
```

*Fig. 8.2 Serial port configuration*

1. To enter configuration setting for the Serial Port, login to the TTY interface and press **C)onfig > pr(l)maryPort**.
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, 202
  - **Baud:** 115200\*, 57600, 19200, 9600, 4800, 2400, 1200
  - **Parity:** None\*, even, odd
  - **Stop bits:** 1\*, 2
3. Set the RTS head / tail if using 202. (Carrier time) Suggested settings are: head=60; tail=40; 0,0 if using RS232.

## 8.2 Tune 202 Modem (M16 G2 Only)

Tuning the 202 modem on a NetGuardian M16 G2 can only be done from the TTY interface (using either HyperTerminal through the front craft port or by telnet over LAN on port 2002).



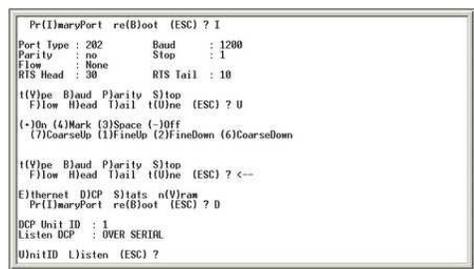
**Fig. 8.3** Tune the 202 Modem with the TTY interface

Though no menu options will appear, use the following commands to tune the 202 modem. Each menu option, when chosen, will output the character "A" on screen:

- 1) Minor Adjust DB+
- 2) Minor Adjust DB-
- 3) High Frequency
- 4) Low Frequency
- 5) Off
- 6) Major Adjust DB-
- 7) Major Adjust DB+
- 8) Median Frequency (Average of high and low frequency)

After selecting an option (like #1 in this example) for Minor Adjust the DB+ level, the NetGuardian will return a '+' command to inform you the task is completed. Each time you hit a number key (1-8), the NetGuardian will a '+' on your screen.

## 8.3 Set DCP Parameters



**Fig. 8.4** Setting DCP Parameters

1. Login to the TTY interface and press C)onfig > D)CP.
2. Set the DCP Address (Unit ID).
3. Set the DCP listening type (toggle through the options). Choose over serial, over LAN\*, or disabled.

**Note:** If not using DCP to communicate with a DPS master, set the address to 0 and disable listening.

## 9 NetGuardian Web Browser

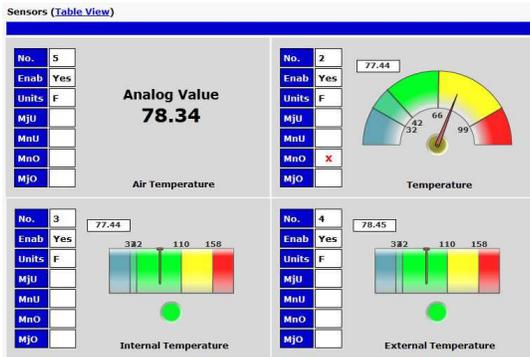


Fig. 9.1

The NetGuardian features a built-in Web Browser Interface that allows you to manage alarms and configure the unit through the Internet or your Intranet. You can quickly set up alarm point descriptions, view alarm status, issue controls, configure paging information, and more.

**NOTE:** Max number of users allowed to simultaneously access the NetGuardian via the Web is 1.

### 9.1 Logging on to the NetGuardian

For Web Interface functionality, the unit must first be configured with some basic network information. If this step has not been done, refer to the section "Quick Start: How to Connect to the NetGuardian" for instructions on initial configuration setup.

1. To connect to the NetGuardian from your Web browser, enter its IP address in the address bar of your web browser. It may be helpful to bookmark the logon page to avoid entering this each time.
2. After connecting to the unit's IP address, enter your login information and click OK. **NOTE:** The factory default username is "**admin**" and the password is "**dpstelecom**".

Username:

Password:

Login

Fig. 9.2 Enter your password to enter the device's Web Browser Interface

3. In the left frame you will see the **Monitor** menu (blue) and **Edit** menu (green) The Monitor menu links are used to view the current status of alarms. The Edit menu is used to change the unit's configuration settings. All the software configuration will occur in the **Edit** menu. The following sections provide detailed information regarding these functions.



**Hot Tip!**

The max. number of users allowed to simultaneously access the NetGuardian via the Web is 1.

## 9.1.1 Changing the Default Password

The password can be configured from the **Provisioning > User Profiles** screen. The minimum password length is four characters; however, DPS recommends setting the minimum password length to at least five characters.

Use the following steps to change the logon password:

1. From the **Edit** menu select **System**.
2. Enter the new user name in the **User** field.
3. Enter the new password in the **Password** field.
4. Click the **Save** button.

User Profile 1 (Administrator Profile)

Suspend this Profile	<input type="checkbox"/>
Username	admin
Password	••••••••
Confirm Password	••••••••
<b>Access Rights</b>	
Check all	<input type="checkbox"/>
Edit logon profiles	<input checked="" type="checkbox"/>
Write config (change unit configuration)	<input checked="" type="checkbox"/>
View monitor pages	<input checked="" type="checkbox"/>
TTY access (access via Craft port or via Telnet)	<input checked="" type="checkbox"/>
Initialize config to factory defaults	<input checked="" type="checkbox"/>
Upload new firmware or new config	<input checked="" type="checkbox"/>
Get audit log	<input checked="" type="checkbox"/>
Purge (delete) audit log	<input checked="" type="checkbox"/>
Get (backup) config	<input checked="" type="checkbox"/>
Save	
<a href="#">Go to profiles summary</a>	

**Fig. 9.3** Global System Settings section of the Provisioning > System menu

## 9.2 Using RADIUS Authentication (Available as of Firmware 5.01)

RADIUS (Remote Authentication Dial In User Service) is an industry-standard way to manage logins to many different types of equipment in one central location. The NetGuardian V16 G2 connects to your central RADIUS server. Every time a device receives a login attempt (usually a username & password), it requests an authentication from the RADIUS server. If the username & password combination is found in the server's database, an affirmative "access granted" reply is sent back to the unit device, allowing the user to connect.

**Note:** Radius is only available with the Firmware version 5.01 or higher.

RADIUS	
<b>Global Settings</b>	
Retry	3
Time-out	5sec
<b>Server 1</b>	
IPA	255.255.255.255 (Disabled)
Port	1812
Secret	labnetwork
<b>Server 2</b>	
IPA	255.255.255.255 (Disabled)
Port	1812
Secret	
Save	

*Fig. 9.4 RADIUS configuration screen*

Username:

Password:

Login

*Fig. 9.5 RADIUS server prompt for Username and Password.*

Global Settings	
<b>Retry</b>	Enter the number of times the RADIUS server should retry a logon attempt
<b>Time-out</b>	Enter the number of seconds before a logon request is timed out
Servers 1 / 2	
<b>IPA</b>	Enter the IP address of the RADIUS server
<b>Port</b>	Port 1812 is an industry-standard port for using RADIUS
<b>Secret</b>	Enter the RADIUS secret in this field

After successfully entering the settings for the RADIUS server, the NetGuardian Web Browser will prompt users for both a Username and Password, which will be verified using the information and access rights stored in the RADIUS database.

RADIUS logons are **case-sensitive**. If the RADIUS server is unavailable or access is denied, the local user profiles will work via craft port access only. Also, the "dictionary.dps" files (included on the Resource Disk) needs to be loaded on the RADIUS server for access-right definition. If RADIUS is enabled on the NetGuardian, local authentication will be invalid through the web and can only work via craft port.

## 10 NetGuardian - Quick Turn Up

The next 4 sections of this manual will walk you through some of the most common tasks for using the NetGuardian. 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.

### 10.1 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 2 to send emails.

Notifications			
Summary			
Id	Notify On	Type	Details
1	Disabled		
2	Disabled		
3	Disabled		
4	Disabled		
5	Disabled		
6	Disabled		
7	Disabled		
8	Disabled		

*Fig. 10.1*

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="radio"/> Voice Call <input type="radio"/> TRIP Dialup (T/Mon)

*Fig. 10.2*

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)**

<b>SMTP Server IP or Host Name</b>	<input type="text"/>
<b>Port (Usually Use 25)</b>	<input type="text" value="0"/>
<b>"From" E-mail Address (Global)</b>	<input type="text" value="NGLT2@dpstele.net"/>
<b>"To" E-mail Address</b>	<input type="text"/>

**How to authenticate**

No authentication  
 POP before SMTP authentication  
 SMTP authentication

<b>POP Server IP or Host Name</b>	<input type="text"/>
<b>POP Port (Usually Use 110)</b>	<input type="text" value="0"/>
<b>User name</b>	<input type="text"/>
<b>Password</b>	<input type="text"/>

**Fig. 10.3**

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"/>	Any Time <input type="radio"/> 12 h 0 min AM to 11 h 59 min PM						
2	<input checked="" type="checkbox"/>	Any Time <input type="radio"/> 12 h 0 min AM to 11 h 59 min PM						

Back Save and Finish

Fig. 10.4

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

Id	Notify On	Type	Details	Edit	Test
1	Disabled			Edit	Test
	Disabled			Edit	Test
	Disabled			Edit	Test
	Disabled			Edit	Test
	Disabled			Edit	Test
	Disabled			Edit	Test
	Disabled			Edit	Test
	Disabled			Edit	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 type="checkbox"/>	<input checked="" 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"/>

Fig. 10.5

## 10.1.1 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	SNMPv2c only
Save	

*Fig. 10.6*

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 4 to send SNMP traps to your alarm master.

Notification 4	
Status	Notify on both Alarms and Clears
Type	<input type="radio"/> Send Email <input checked="" type="radio"/> Send SNMP <input type="radio"/> Voice Call <input type="radio"/> TRIP Dialup (T/Mon)
Back Save and Next	

*Fig. 10.7*

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 Alarms only
Type	<input type="radio"/> Send Email <input checked="" type="radio"/> Send SNMP <input type="radio"/> Voice Call <input type="radio"/> TRIP Dialup (T/Mon)

*Fig. 10.8*

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 () ▾

Back Save and Next

**Fig. 10.9**

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						

Back Save and Finish

**Fig. 10.10**

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.

## 10.2 How to Send Call (Voice) Notifications (V16 G2 Only)

The following instructions will guide you through the process of setting up the unit to call your phone when alarms are triggered. Using your custom call list, the NetGuardian V16 G2 will begin the calling tree to notify the correct personnel, according to their schedules.

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 on **Edit** for a notification number. In this example, we'll setup Notification 6 to send an voice alert.

2. At the **Notification Setting** screen, select the conditions you want to be notified of from the drop down: **Notify on both Alarms and Clears**, **Notify on Alarms only**, **Notify on Clears only**. (Selecting Notification Disabled means you will not receive any type of alerts.) Select **Voice Call** and click **Save and Next**.

**Notification 6**

Status: Notification Disabled

Type:
 

- Send Email
- Send SNMP
- Voice Call
- TRIP Dialup (T/Mon)

Back Save and Next

*Fig. 10.11*

3. At the next screen, you'll select the phone numbers the NetGuardian should call when this particular alarm is triggered. Make your selections, in order, using the drop down lists. These are the phone numbers you entered in the **Provisioning > Phone List** menu. To jump to this menu and add more numbers, click the **Add Phones** link in the title bar. In the **Delay** field, enter the amount of time that should pass before the NetGuardian attempts to call the next person on the phone tree. (s = seconds; m = minutes)

**Notification 1 (Voice Call)**

Id	Phone Number to Call (Add Phone Numbers)	Delay
1	Phone List slot 1 has no number!	1s
2	Phone List slot 2 has no number!	1min
3	Phone List slot 3 has no number!	5min
4	Phone List slot 3 has no number!	25min

*Fig. 10.12*

Call all numbers in this list. Ack logic is disabled.

Extend Call Loop. Unit will loop through call list 5 times. The loop ends when call is acked. If ack never occurs, the notification failed alarm is set and the loop ends.

Back Save and Next

*Fig. 10.13*

---

**NOTE:** At the bottom of this screen, you may choose the "Call all numbers" box to disable acking. When checked, the unit will call all numbers in the list, instead of stopping when the alarm or clear is acknowledged.

5. At the **Schedule** screen, you'll select the exact days/times you want to receive notifications. You can set 2 schedules per notification. For example, you may want to send after hours or 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.)



Fig. 10.14

6. If you chose to test the notification, you will see the popup below. Click **OK** to test a voice notification. **NOTE:** This test only means that your notification settings are correct, but you still need to assign the notification to an alarm point.

7. 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 SERVER ROOM occurs. Remember that Notification #1 in the Notifications menu is the same as N1 on the alarms page.

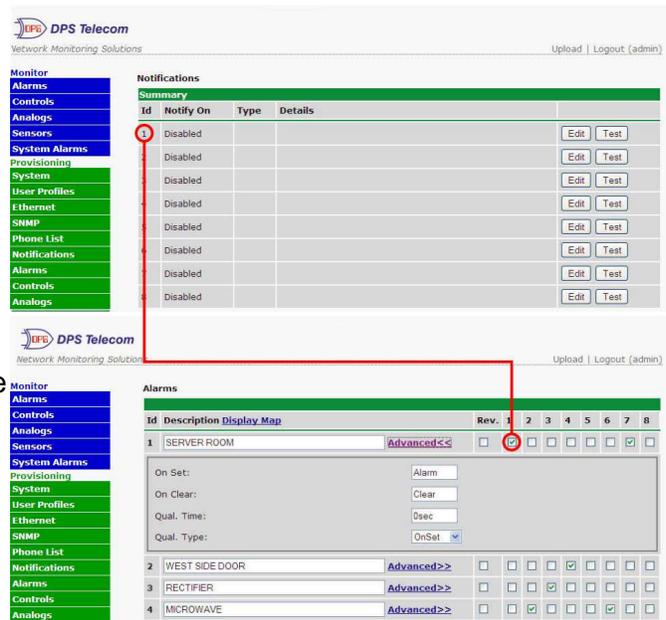


Fig. 10.15

## 10.3 How to Send TRIP Notifications (V16 G2 Only)

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 on **Edit** for a notification number. In this example, we'll setup Notification 8 to send an voice alert.

2. At the **Notification Setting** screen, select the conditions you want to be notified of from the drop down: **Notify on both Alarms and Clears**, **Notify on Alarms only**, **Notify on Clears only**. (Selecting Notification Disabled means you will not receive any type of alerts.) Select **Trip Dialup (T/Mon)** and click Next.

**Notification 1**

Status: Notify on both Alarms and Clears

Type:

- Send Email
- Send SNMP
- Voice Call
- TRIP Dialup (T/Mon)

Buttons: Back, Save and Next

**Fig. 10.16**

3. At the next screen, you'll select the phone number the NetGuardian should call when this particular alarm is triggered. Enter the T/Mon's phone number and chose if you want the NetGuardian to dial only if the DCP poller inactive is selected. Then click **Save and Next**.

**Notification 5 (TRIP Dialup)**

T/Mon Phone Number: ^15594541600

TRIP Unit ID: 3 (click to change)

Only dial if DCP poller inactive alarm is set.

Buttons: Back, Save and Next

**Fig. 10.17**

5. At the **Schedule** screen, you'll select the exact days/times you want to receive notifications. You can set 2 schedules per notification. For example, you may want to send after hours or 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 12 h 0 min AM to 11 h 59 min PM						
2	<input checked="" type="checkbox"/>	<input type="radio"/> Any Time 12 h 0 min AM to 11 h 59 min PM						

Buttons: Back, Save and Finish

**Fig. 10.18**

6. Click **Test** to send a test voice notification. **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 of the "How to Send Email Notifications" section).

## 11 Provisioning Menu Field Descriptions

NetGuardian 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.

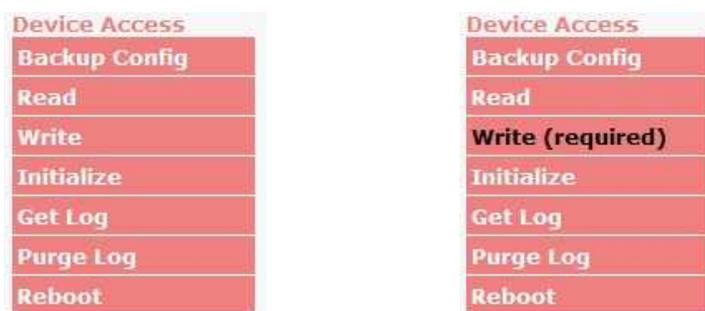
### Saving Configuration Changes to the NetGuardian:

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 before 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 Device Access menu, inform you how to implement your changes*



**Fig. 11.1** The control menu highlights items that must be completed for your changes to take effect

## 11.1 System

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

System Settings	
<b>Global Settings</b>	
Name	NetGuardian V16 G2
Location	Fresno, CA
Contact	559-454-1600
DTMF Pass Code	<input type="text"/> (Used when user first dials into the unit)
Auto-Navigate to Controls	<input type="checkbox"/>
DTMF Record Pass Code	1234 (Used when user wants to record a description)
Rings Before Pickup	3
Announce Alarms/Clears During Call	<input type="checkbox"/>
TRIP Unit ID	0 (0 = disabled)
<b>DCP Responder Settings</b> <a href="#">Display Map</a>	
<input checked="" type="radio"/> Disable DCP <input type="radio"/> DCP over LAN	
DCP Unit ID / Protocol	1 / DCPx ▾
DCP over LAN port / Protocol	2001 / UDP ▾
<b>Contact Closure Echo Settings</b>	
<input checked="" type="radio"/> Disable Contact Closure Echo <input type="radio"/> Enable Contact Closure	
Remote Unit IP / LAN port / Protocol	255.255.255.255 / 2001 / UDP ▾
Remote DCP Unit ID / Protocol	1 / DCPx ▾
Poll delay	1min Time to wait between each poll. (0s-10min)
Timeout	4sec (1s-10s)
<b>Analogs and Sensors History</b>	
Get history	<a href="#">history.csv</a>
Get Event Log	<a href="#">eventlog.csv</a>
Erase history and Event Log	<input type="button" value="Erase"/>
<b>Voice Description Recording Options</b>	
Backup Description Recordings	<a href="#">v16g2_voice.vc2</a>
Restore Description Recordings	<input type="button" value="Restore"/>
Erase Description Recordings	<input type="button" value="Erase"/>
<input type="button" value="Save"/>	

**Fig. 11.2** The Provisioning > System menu

<b>Global System Settings</b>	
<b>Name</b>	A name for this NetGuardian unit. {Optional field}
<b>Location</b>	The location of this NetGuardian unit. {Optional field}
<b>Contact</b>	Contact telephone number for the person responsible for this NetGuardian unit. {Optional field}
<b>DTMF Pass Code (V16 G2 Only)</b>	Used to login to the unit via telephone to hear alarm notifications. Only number entries are valid.
<b>Auto-Navigate to Controls (V16 G2 Only)</b>	When checked, user will be placed in Controls menu, instead of Main menu, after entering DTMF passcode.
<b>DTMF Record Pass Code (V16 G2 Only)</b>	Needed to access rights to record or re-record the custom (voice) alarm detail. Only number entries are valid.
<b>Rings Before Pickup (V16 G2 Only)</b>	Used to change the number of rings before the unit picks up when dialing into it.
<b>Announce Alarms/ Clears During Call (V16 G2 Only)</b>	Check this box to receive an audible notification if the alarm state changes during a call.
<b>TRIP Unit ID (V16 G2 Only)</b>	The site number to use when communicating over dialup to T/Mon.
<b>DCP Responder Settings (For use with T/Mon)</b>	
<b>DCP Unit ID / Protocol</b>	User-definable ID number for the target unit (DCP Address) and desired protocol.
<b>DCP LAN</b>	Enter the DCP port for the target unit (UDP/TCP port) and desired protocol.
<b>Contact Closure Echo Settings</b>	
<b>Disable/Enable (V16 G2 Only)</b>	Enable or Disable the Contact Closure Echo feature. You need two separate RTUs in order to use contact closure echoes.
<b>Remote Unit IP / LAN Port / Protocol (V16 G2 Only)</b>	Enter the IP Address of the target unit. You can find this IP in the ethernet settings of the target device. The LAN Port will specify the communication line that will be used to talk to the unit. The Protocol will define the format that data will be sent and received. The LAN Port should match the DCP Unit's LAN Port located in the DCP Responder section above. The Protocol should match the device you are polling.
<b>Remote DCP Unit ID / Protocol (V16 G2 Only)</b>	Enter the DCP Unit ID of the device you want to monitor. This should match the DCP Unit ID located in the DCP Responder section above. The Protocol will define the format that data will be sent and received.
<b>Poll delay (V16 G2 Only)</b>	How often the NetGuardian will poll the DCP Responder unit. The poll delay is the interval of time between polls.
<b>Timeout (V16 G2 Only)</b>	How long the NetGuardian will wait to receive an alarm before it times out. If the NetGuardian is unable to communicate with the responder unit, and times out three times in a row, a system alarm will become enabled.
<b>DNP3 Settings</b>	
<b>DNP3 Mode of Operation</b>	Allows user to choose between sending DNP3 requests over LAN, serially, or to disable the feature.
<b>Station Address</b>	This is the DNP3 polling address of the NetGuardian. This value can range between 0-65519.
<b>DNP3 Network</b>	Allows user to select the part for DNP3 polling over LAN. This value can range between 1-32767. User can also choose between TCP and UDP protocol.
<b>Analog and Sensors History</b>	
<b>Get History</b>	Download a log of all configured analog and sensor values.

<b>Get Event Log</b>	Download a log of all alarms and events.
<b>Erase History</b>	Erase the log of all configured analog and sensor values.
<b>Voice Description Recording Options</b>	
<b>Backup Description Recordings (V16 G2 Only)</b>	Use this option to save your voice description recordings to your computer.
<b>Restore Description Recordings (V16 G2 Only)</b>	Use this option to upload your previously saved voice description recordings.
<b>Erase Description Recordings (V16 G2 Only)</b>	Use this option to erase all current voice description recordings.

## 11.2 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's web interface.

User Profiles Summary			
Id	Username	Status	
1	admin	Default	<input type="button" value="Edit"/> (Administrator Profile)
2	tech1	Active	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
3	after_hours_tech	Active	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
4	tech2	Active	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

*Fig. 11.3 Configure access privileges for users in the User Profile screen*

**Note:** The first user profile in the User Profiles menu is the Administrator's Profile. Access rights for the administrator's profile are all enabled and may not be disabled, nor can the profile be deleted or suspended. This is a precaution to prevent a situation in which an access right is disabled for all users. You may still edit the **Username, Password, and Active Days** fields for the Administrator Profile.

User Profile 1 (Administrator Profile)	
Suspend this Profile	<input type="checkbox"/>
Username	<input type="text" value="admin"/>
Password	<input type="password" value="....."/>
Confirm Password	<input type="password" value="....."/>
Access Rights	
Check all	<input type="checkbox"/>
Edit logon profiles	<input checked="" type="checkbox"/>
Write config (change unit configuration)	<input checked="" type="checkbox"/>
View monitor pages	<input checked="" type="checkbox"/>
Send relay commands	<input checked="" type="checkbox"/>
TTY access (access via Craft port or via Telnet)	<input checked="" type="checkbox"/>
Initialize config to factory defaults	<input checked="" type="checkbox"/>
Upload new firmware, description recordings, or config	<input checked="" type="checkbox"/>
Get audit log	<input checked="" type="checkbox"/>
Purge (delete) audit log	<input checked="" type="checkbox"/>
Get (backup) config	<input checked="" type="checkbox"/>
Get and delete analog history	<input checked="" type="checkbox"/>
Get and delete description recordings	<input checked="" type="checkbox"/>
<input type="button" value="Save"/>	
<a href="#">Go to profiles summary</a>	

*Fig. 11.4 The User Profiles screen allows you control user functionality*

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

User Profile	
<b>Suspend this Profile</b>	If this box is checked, the profile will not be able to access the NetGuardian.
<b>Username</b>	Enter a username or a user description
<b>Password</b>	Enter a unique user password <b>Note:</b> All passwords are AES 128 encrypted.
<b>Confirm Password</b>	Re-enter the password.
Access Rights	
<b>Check all</b>	Enables all Access Rights
<b>Edit logon profiles</b>	Enables the user to add/modify user profiles and password information.
<b>Write Config (change unit configuration)</b>	Enables the user to change the unit config by accessing the <b>Write</b> feature in the control menu.
<b>View monitor pages</b>	Allows the user to access Monitor menu options.
<b>Send relay commands</b>	Allows the user to send commands to operate the device's control relays.
<b>TTY access (access via Craft port or via Telnet)</b>	Grants the user access to the unit via TTY interface (via craft or telnet).
<b>Initialize config to factory defaults</b>	Allows the user to use the <b>Initialize</b> option in the <b>Device Access</b> menu, resetting the NetGuardian V16 G2 to factory default settings. All user settings will be lost.
<b>Upload new firmware, description recordings, or config</b>	Allows the user to upload firmware or backed-up configuration files.
<b>Get audit log</b>	Allows the user to access the Audit Log ( <b>Get Log</b> command).
<b>Purge (delete) audit log</b>	Allows the user to delete the existing audit log.
<b>Get (backup) config</b>	Backs-up all user profile configuration settings.
<b>Get and delete analog history</b>	Allows the user to access and delete the analog and sensor history.
<b>Get and delete description recordings</b>	Allows the user to access and delete the recorded analog and sensor history.

*User profile field descriptions*

Once you've finished configuring a profile, click **Save** to store your changes locally.

To access another profile, simply click **Go to profiles summary** at the bottom of the page. You may also navigate away from the user profiles screen at any time by clicking any of the menu options on the left side of the screen.

## 11.3 Ethernet

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

Ethernet Settings	
MAC Address	0:10:81:0:6f:19
Host Name	<input type="text"/> ( )
Enable DHCP	<input type="checkbox"/>
Unit IP	206.169.87.183 (206.169.87.183)
Subnet Mask	255.255.255.240 (255.255.255.240)
Gateway	206.169.87.177 (206.169.87.177)
DNS Server 1	8.8.8.8 (8.8.8.8)
DNS Server 2	4.4.4.4 (4.4.4.4)
<input type="button" value="Save"/>	

*Fig. 11.5 The Provisioning > Ethernet menu*

Ethernet Settings	
<b>MAC Address</b>	Hardware address of the NetGuardian. (Not editable - For reference only.)
<b>Host Name</b>	Used only for web browsing. Example: If you don't want to remember this NetGuardian's IP address, you can type in a name in this field, such as NG16. Once you save and reboot the unit, you can now browse to it locally by simply typing in "NG16" in the address bar. (no "http://" needed).
<b>Enable DHCP</b>	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.
<b>Unit IP</b>	IP address of the NetGuardian.
<b>Subnet Mask</b>	A road sign to the NetGuardian, telling it whether your packets should stay on your local network or be forwarded somewhere else on a wide-area network.
<b>Gateway</b>	An important parameter if you are connected to a wide-area network. It tells the NetGuardian 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.
<b>DNS Server 1</b>	Primary IP address of the domain name server. Set to 255.255.255.255 if not using.
<b>DNS Server 2</b>	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.

## 11.4 Serial Ports (M16 G2 Only)

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

The screenshot shows the 'Primary Serial Port Configuration' form in the NetGuardian 16 web interface. The form is divided into three columns: Location, Port Configuration, and Reach-Through. The Location column contains a text box with the note 'Primary port located in the back of the unit.' The Port Configuration column includes dropdown menus for Port Type (232), Baud (9600), Parity (8-bit data, no parity), and Stop Bits (1), as well as input fields for RTS head (0) and RTS tail (0). The Reach-Through column features a checkbox for 'Enable Reach-Through', a Port input field (3000), and a Type dropdown menu (TCP). At the bottom of the form are 'Reset' and 'Save' buttons.

Fig. 11.6 The Provisioning > Serial Ports menu

Location	
A reminder that your primary serial port is located on the back of the NetGuardian chassis.	
Port Configuration	
<b>Port Type</b>	Select the serial port for your build of the NetGuardian. Choose from 232, 485...
<b>Baud, Parity, and Stop Bits</b>	Select the appropriate settings from the drop-down menu.
<b>RTS Head</b>	Only used if your NetGuardian was built with a 202 modem. The most commonly used value is 30.
<b>RTS Tail</b>	Only used if your NetGuardian was built with a 202 modem. The most commonly used value is 10.
Reach-Through	
<b>Enable Reach-through</b>	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] <b>Example:</b> telnet 192.168.1.100 3000
<b>Port</b>	Port number used for reach-through to a serial device.
<b>Type</b>	Select TCP or UDP traffic to be passed through to a serial device.

## 11.5 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	80000a7a03001081006f19				
SNMPv3 Users					
ID	SNMPv3 Username	Auth Type	Auth Pass	Priv Type	Priv Pass
1	dpstelecom	MD5	dpstelecom	AES	dpstelecom
2		No Auth		No Priv	
3		No Auth		No Priv	

Save

*Fig. 11.7 SNMP Menu*

Global Settings	
<b>Get Community</b>	Community name for SNMP requests.
<b>Set Community</b>	Community name for SNMP SET requests.
<b>Read and Write Access</b>	This field defines how the NetGuardian unit may be accessed via SNMP. This can be set to the following: <ul style="list-style-type: none"> <li>• Access Disabled- Restricts all access to unit via SNMP</li> <li>• SNMPv2c only- Allows SNMPv2c access only</li> <li>• SNMPv2c and SNMPv1-Only- Allows SNMPv1 and SNMPv2c access</li> <li>• SNMPv3, SNMPv2c and SNMPv1- Allows SNMPv3, SNMPv2c and SNMPv1 access</li> </ul>
<b>SNMPv3 Engine ID</b>	Engine ID for the SNMP v3 agent.
<b>ID</b>	The user number designated for a v3-user (up to 3 users supported.)
<b>SNMPv3 Username</b>	The name of the user for which an SNMPv3 management operation is performed.
<b>Auth Type</b>	Authorization Type: No Auth, MD5 algorithm or SHA1 algorithm.
<b>Auth Pass</b>	This field contains the password used with either MD5 or SHA authentication algorithms.
<b>Priv Type</b>	Determines the privacy type: No Privacy, DES encryption or AES encryption.
<b>Priv Pass</b>	This field contains the password used with privatisation encryption.

*Fields in the Provisioning > SNMP settings*

## 11.6 Phone List (V16 G2 Only)

Up to 32 phone numbers can be stored for the NetGuardian V16 G2 to call with alarm information. This list is unsorted and should include all phone numbers for those that need to know and/or respond to alarms. When setting up a voice call notification later, you can designate which of these individuals to call about which alarms, in your desired order.



Slot	Enab	Description	Phone Number
1	<input checked="" type="checkbox"/>	Tech1	559-454-1600
2	<input checked="" type="checkbox"/>	Tech2	800-622-3314
3	<input checked="" type="checkbox"/>	Tech3	800-693-0351

*Fig. 11.8 The Provisioning > Phone List menu*

## 11.7 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).

### 11.7.1 Notification Settings

#### Email Notification Fields

Notification 1 (Email)

SMTP Server IP or Host Name	126.10.218.83
Port (Usually Use 25)	162 <input type="checkbox"/> Use SSL
"From" E-mail Address (Global)	ng16g2@dpstele.net
"To" E-mail Address	user123@gmail.com
<b>How to authenticate</b>	
<input type="radio"/> No authentication <input checked="" type="radio"/> POP before SMTP authentication <input type="radio"/> SMTP authentication	
POP Server IP or Host Name	mail.server.com
POP Port (Usually Use 110)	110
User name	user123
Password	••••••
Confirm Password	••••••
<input type="button" value="Back"/> <input type="button" value="Save and Next"/>	

*Fig. 11.9 Editing Email Notification Settings*

Email Notification	
<b>SMTP Server IP or Host Name</b>	The IP address of your email server.
<b>Port Number</b>	The port used by your email server to receive emails, usually set to 25.
<b>Use SSL</b>	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"> <li>• SMTP Server IP or Host Name should be set to "smtp.gmail.com"</li> <li>• Port number must be set to 465.</li> <li>• SMTP authentication radio button must be selected.</li> <li>• User name and password (below under "How to Authenticate") are the user name and password for the Gmail account in use.</li> </ul>
<b>"From" E-mail Address</b>	Displays the email address (defined in the Edit menu > System) that the NetGuardian will send emails from. Not editable from this screen.
<b>"To" E-mail Address</b>	The email address of the person responsible for this NetGuardian, who will receive email alarm notifications.
<b>User Name</b>	User name for the account being used.

<b>Password</b>	Password for the 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)

<b>SNMP Trap Server IP</b>	126.10.218.83
<b>Trap Port No. (Usually Use 162)</b>	162
<b>Trap Community</b>	dps_public
<b>Trap Type</b>	SNMPv3 ▾
<b>SNMPv3 user (see SNMP menu)</b>	User 1 (dpstelecom) ▾

Back Save and Next

*Fig. 11.10 Editing SNMP notification settings*

SNMP Notification	
<b>SNMP Trap Server IP</b>	The SNMP trap manager's IP address.
<b>Trap Port No.</b>	The SNMP port (UDP port) set by the SNMP trap manager to receive traps, usually set to 162.
<b>Trap Community</b>	Community name for SNMP TRAP requests.
<b>Trap Type</b>	Indicate whether you would like to send SNMP v1, v2c or v3 traps.
<b>SNMPv3 user</b>	The SNMPv3 User.

### Voice Call Notification Fields (V16 G2 only)

Notification 1 (Voice Call)

Id	Phone Number to Call (Add Phone Numbers)	Delay
1	Phone List slot 1 has no number! ▾	1s
2	Phone List slot 2 has no number! ▾	1min
3	Phone List slot 3 has no number! ▾	5min
4	Phone List slot 3 has no number! ▾	25min

*Fig. 11.11 Editing voice call notification settings*

Voice Call Notification	
<b>Phone number to call</b>	Phone number the NetGuardian will call with incoming alarm information.
<b>Delay</b>	The amount of time that will pass before the NetGuardian will call the next person on the assigned call list. Enter s for seconds or m for minutes. <i>Example: 45s = 45 seconds.</i>
<b>Call all numbers in this list. Ack logic is disabled.</b>	Forces the NetGuardian to call everyone on the assigned call list, disabling their ability to acknowledge the alarm and stop the phone tree process.

---

<b>Extended call loop.</b>	If checked, all configured phone numbers will be dialed (in the order entered) five times or until the alarm is acknowledged.
----------------------------	---

## TRIP Dialup (T/Mon) Notification Fields (V16 G2 only)

Notification 1 (TRIP Dialup)

T/Mon Phone Number	5594541600
TRIP Unit ID	1 (click to change)
<input type="checkbox"/> Only dial if DCP poller inactive alarm is set.	
<input type="button" value="Back"/> <input type="button" value="Save and Next"/>	

*Fig. 11.12 Editing Call notification settings*

Call Notification	
<b>T/Mon Phone Number</b>	Enter the phone number for your T/Mon unit
<b>Only dial if DCP poller inactive alarm is set</b>	Check this box if you want the NetGuardian to only dial if the DCP poller inactive alarm is set

## Relay Group

Notification 2 (Relay Group)

Operation Type	<input checked="" type="radio"/> Latching <input type="radio"/> Momentary
Active Relays	Relay 1: <input type="checkbox"/> Relay 10: <input type="checkbox"/> Relay 2: <input type="checkbox"/> Relay 11: <input type="checkbox"/> Relay 3: <input type="checkbox"/> Relay 12: <input type="checkbox"/> Relay 4: <input type="checkbox"/> Relay 13: <input type="checkbox"/> Relay 5: <input type="checkbox"/> Relay 14: <input type="checkbox"/> Relay 6: <input type="checkbox"/> Relay 15: <input type="checkbox"/> Relay 7: <input type="checkbox"/> Relay 16: <input type="checkbox"/> Relay 8: <input type="checkbox"/> Relay 17: <input type="checkbox"/> Relay 9: <input type="checkbox"/> Relay 18: <input type="checkbox"/>
<input type="button" value="Back"/> <input type="button" value="Save and Next"/>	

*Fig. 11.13 Editing Relay Group settings*

Alpha Pager Notification	
<b>Operation Type</b>	Determines whether the alarm will cause the relay to stay on (Latching) or toggled (Momentary).
<b>Active Relays</b>	Relays that will be operated on alarm.

## Alpha Pager Notification (NetGuardian V16 G2 only)

### Notification 7 (Alpha)

<b>Pager Phone Number</b>	5592617099
<b>PIN</b>	5592628210
<input type="button" value="Back"/>	<input type="button" value="Save and Next"/>

*Fig. 11.14 Editing Alpha Pager settings*

Alpha Pager Notification	
<b>Phone number to call</b>	Phone number to send the notification.
<b>PIN</b>	Personal Identification Number for TAP terminal Authentication.

## 11.7.2 Schedule

The notifications scheduling menu is where you will tell the NetGuardian 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						

*Fig. 11.15 The Schedule creation screen*

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

## 11.8 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		Rev.	1	2	3	4	5	6	7	8
1	Front Door	Advanced<<	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
On Set:		Qual. Time: 5sec	Message: Alarm							
On Clear:		Qual. Time: 15sec	Message: Clear							
2	Side Door	Advanced>>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				

**Fig. 11.16** The Provisioning > Alarms menu

Basic Alarm Configuration	
<b>ID</b>	Alarm ID number.
<b>Description</b>	User-definable description for the discrete alarm point.
<b>Rev (Reverse)</b>	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.
<b>Notification Devices</b>	Check which notification device(s), 1 through 8, you want to send alarm notifications for that alarm point.
Advanced Alarm Configuration (Advanced>>)	
<b>On Set</b>	User-definable description (condition) that will appear for the discrete alarm input on Set. Example: "Alarm".
<b>On Clear</b>	User-definable description (condition) that will appear for the discrete alarm input on Clear: "Example: "Alarm Cleared".
<b>Qual. Time (Qualification Time)</b>	The length of time that must pass, without interruption, in order for the condition to be considered an Alarm or a Clear.
<b>Qual. Type (Qualification Type)</b>	Allows you to choose whether you want to apply the Qualification Time to the alarm Set, Clear, or Both.

## 11.9 Controls

The NetGuardian's 2-18 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).

*Fig. 11.17 The Provisioning > Controls screen*

Basic Controls Configuration	
<b>ID</b>	ID number for the control relay.
<b>Description</b>	User-definable description for the NetGuardian's control relay.
<b>Notification Devices</b>	Check which notification device(s), 1 through 8, you want to send alarm notifications for the control relay.
<b>Derived Description</b>	Control relays and virtual alarms can be created with a derived formula and tested with the Parse button. See below for more information.
<b>Momentary Time</b>	Control on time (in milliseconds) when you execute the MOM command. Max limit of 600 seconds.

Derived controls and alarms can be created from derived formulas using the following operations:

- \_OR** : Set the current operation to OR.
- \_AN** : Set the current operation to AND.
- \_XR** : Set the current operation to XOR.
- D** : Tag to change the active display number.
  - .** : Used like a comma to delimit numbers.
  - : Used to specify a range of points.



Spaces included here are for readability purposes only.

**Hot Tip!**

- Precedence of the operations are always left to right.
- All number references can either be one or two digits.

**\_OR D1.3-5** is logically equivalent to  $(1.3 \parallel 1.4 \parallel 1.5)$

**\_AN D 1.3-5 D2.6 \_OR D3.7** is logically equivalent to  $((1.3 \&\& 1.4 \&\& 1.5 \&\& 2.6) \parallel 3.7)$

**\_OR D01.03-05 D02.06 \_AN D02.07 D03.10.-12** is logically equivalent to  $((1.3 \parallel 1.4 \parallel 1.5 \parallel 2.6\&\& (2.7 \&\& 3.10 \&\& 3.12))$

**\_AN D1.3-5D2.6\_OR.7D3.10.12** is logically equivalent to  $((1.3 \&\& 1.4 \&\& 1.5 \&\& 2.6) \parallel 2.7 \parallel 3.10 \parallel 3.12))$

## 11.10 Virtual Controls (PGE Only)

The NetGuardian's Virtual Control Relays can be configured in the Provisioning>Virtual Controls menu. Virtual Controls allow you to manage a group of controls based on a set of instructions.



**Fig. 11.18** Provisioning > Virtual controls

### Basic Virtual Controls Configuration

**ID:** ID number for the Virtual Control  
**Description:** User-definable description for the NetGuardian's Virtual Relay  
**Enabled:** Allows user to Enable/Disable certain Virtual Controls  
**Control Group:** Group of Controls that will be included in Virtual Control  
**Script:** Instructions that the Control Group will follow when Virtual Control is triggered  
**Validate:** Allows User to check the entered Control Group and Script to ensure that the syntax is correct

### Control Group:

- All Control Index's need to be followed by a comma (","), except for the last control

-Example:

Control: 1,12,4,18

-Order of execution:

Control 1 > Control 12 > Control 4 > Control 18

### Script:

- Available Functions:

OPR (Operate Controls)  
 RLS (Release Controls)  
 DLY(x) (Delay time for x milliseconds)

- All Script Functions are case sensitive and need to be entered in UPPERCASE format.

-Example:

Control Group: 1,12,4,18

Script: OPR,DLY(5000),RLS,DLY(1000)

**Monitor**

**Provisioning**

- System
- User Profiles
- Ethernet
- RADIUS
- SNMP
- Phone List
- Notifications
- Alarms
- Disabled Alarms

**Virtual Controls**

Id	Description <a href="#">DNP3 Point Map</a> <a href="#">Script Help</a>
1	Cutover
Control Group: <input type="text" value="1,12,4,18"/>	
Script: <input type="text" value="OPR,DLY(5000),RLS,DLY(1000)"/>	
2	
3	

**Fig. 11.19** Provisioning > Virtual Controls

**-Note:** After naming your Virtual Control in the box provided, check the 'Enabled' checkbox to access the Control Group and Script fields.

-Order of execution:

Control 1 LATCHED > DELAY (5 SECONDS) > Control 1 RELEASED > DELAY (1 Second) >  
 Control 12 LATCHED > DELAY (5 SECONDS) > Control 12 RELEASED > DELAY (1 Second) >  
 Control 4 LATCHED > DELAY (5 SECONDS) > Control 4 RELEASED > DELAY (1 Second) >  
 Control 18 LATCHED > DELAY (5 SECONDS) > Control 18 RELEASED > DELAY (1 Second)

## 11.11 Analogs

The NetGuardian can have up to 6 analog channels. The 5th and 6th channels are dedicated to monitoring the power input (channel is not used if build option was not selected). These channels support the entire range of power inputs that the NetGuardian can support. Channels 1-4 are user-definable. Each channel must be individually configured to monitor data.

**Note:** Only analogs supported by the units hardware will appear in the NetGuardian web browser interface.

**User Analogs**

Id	Enab	Description <a href="#">Display Map</a>	1	2	3	4	5	6	7	8	
1	<input checked="" type="checkbox"/>	Room Temperature <a href="#">Details&lt;&lt;</a>	<input type="checkbox"/>								
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p>Record Freq: <input type="text" value="5min"/></p> <p>Deadband: <input type="text" value="1"/></p> <p>On Set: <input type="text" value="Alarm"/></p> <p>On Clear: <input type="text" value="Clear"/></p> <p>Qual. Time: <input type="text" value="0sec"/></p> <p>Qual. Type: <input type="text" value="OnSet"/></p> </div> <div style="width: 30%; text-align: center;"> <p>Scaling:</p> <p><input type="text" value="Actual"/> to <input type="text" value="Display"/></p> <p>Units: <input type="text" value="VDC"/> to <input type="text" value="VDC"/></p> <p>Low ref: <input type="text" value="-35"/> to <input type="text" value="-35"/></p> <p>High ref: <input type="text" value="35"/> to <input type="text" value="35"/></p> </div> <div style="width: 30%; text-align: center;"> <p>Thresholds:</p> <p>MjU: <input type="text" value="1.00"/></p> <p>MnU: <input type="text" value="-2.00"/></p> <p>MnO: <input type="text" value="-3.00"/></p> <p>MjO: <input type="text" value="-4.00"/></p> </div> </div> <p><b>Analog Gauge Type:</b></p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>None</p> <input type="radio"/> </div> <div style="text-align: center;">  <input checked="" type="radio"/> </div> <div style="text-align: center;">  <input type="radio"/> </div> <div style="text-align: center;">  <input type="radio"/> </div> <div style="text-align: center;">  <input type="radio"/> </div> </div>											

2	<input checked="" type="checkbox"/>	Humidity <a href="#">Details&gt;&gt;</a>	<input type="checkbox"/>							
3	<input checked="" type="checkbox"/>	Battery Voltage <a href="#">Details&gt;&gt;</a>	<input type="checkbox"/>							
4	<input checked="" type="checkbox"/>	<input type="text"/> <a href="#">Details&gt;&gt;</a>	<input type="checkbox"/>							
5	<input checked="" type="checkbox"/>	Power Input A <a href="#">Details&gt;&gt;</a>	<input type="checkbox"/>							
6	<input checked="" type="checkbox"/>	Power Input B <a href="#">Details&gt;&gt;</a>	<input type="checkbox"/>							

*Fig. 11.20 The Provisioning > Analogs menu*

Basic Analog Configuration	
<b>ID</b>	Analog ID number.
<b>Enab</b>	Check this box to enable the analog.
<b>Description</b>	User-definable description for the analog channel.
<b>Notification Devices</b>	Check which notification device(s), 1 through 8, you want to send alarm notifications for that alarm point.
Advanced Analog Configuration (Details>>)	
<b>Record Freq</b>	The amount of time, in minutes (min) or seconds (s), between each log of each analog value to history.
<b>Deadband</b>	The amount (in volts) that the channel needs to go above or below a threshold in order to cause an alarm.
<b>On Set</b>	User-definable description (condition) that will appear for the temperature alarm on Set. Example: "Alarm".
<b>On Clear</b>	User-definable description (condition) that will appear for the temperature alarm Clear. Example: "Alarm Cleared".
<b>Qual Time (Qualification Time)</b>	The length of time that must pass, without interruption, in order for the condition to be considered an Alarm or a Clear.
<b>Qual. Type (Qualification Type)</b>	Allows you to choose whether you want to apply the Qualification Time to the alarm Set, Clear, or Both.
<b>Units</b>	User-definable display units or optional choice between Fahrenheit and Celsius temperatures. The most common are: VDC = Voltage %H = Humidity F = Fahrenheit C = Celsius  User can click on the units box to cycle between available unit types
<b>Low Ref</b>	User-definable lower reference/scaling level. This scales the information collected by the sensor (in mA or VDC) to a meaningful unit for the user. For example, for a temperature sensor, the lower input collected by the sensor may be 4mA (for a 4-20mA sensor), which would correspond to a specific temperature you define in this field.
<b>High Ref</b>	User-definable upper reference/scaling level. This scales the information collected by the sensor (in mA or VDC) to a meaningful unit for the user. For example, for a temperature sensor, the upper input collected by the sensor may be 20mA (for a 4-20mA sensor), which would correspond to a specific temperature you define in this field.
<b>Thresholds</b>	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).
<b>Analog Gauge Type</b>	Select the color-coded gauge that best represents your data. Selecting <b>None</b> will disable the analog gauge and only a numerical representation of the value will be displayed under <b>Monitor &gt; Analogs</b> .

## 11.12 Sensors

The NetGuardian supports up to 16/32 daisy-chained D-Wire sensors via its D-Wire input port(s). Sensors connected to the NetGuardian will appear on the NetGuardian's web interface. The background color of the ROM field informs the user of the sensor's configuration state.

Also the NetGuardian'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'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.

**Sensors** ( ■ - detected and configured ■ - detected and NOT configured ■ - NOT detected and configured ■ - sensor type NOT supported )

[Rediscover](#)

<b>Id</b>	<b>ROM ID</b>	<b>Description</b> <a href="#">Display Map</a>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
1	28c0b84104000001	Internal Temp <a href="#">Details&lt;&lt;</a>	<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"/>
<b>Record Freq:</b> 5min <b>Deadband:</b> 1 <b>Qual. Time:</b> 0sec <b>Qual. Type:</b> OnSet ▾			<b>Type:</b> Temperature <b>Temperature Units:</b> <input checked="" type="radio"/> F <input type="radio"/> C			<b>Thresholds:</b> MjU: 32.00 MnU: 42.00 MnO: 60.00 MjO: 80.00				
<b>Analog Gauge Type:</b>										
None <input type="radio"/>  <input type="radio"/>  <input checked="" type="radio"/>  <input type="radio"/>  <input type="radio"/>										
2		<a href="#">Details&gt;&gt;</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3		<a href="#">Details&gt;&gt;</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4		<a href="#">Details&gt;&gt;</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Fig. 11.21 The Provisioning > Sensors menu

Basic Sensor Configuration	
<b>Rediscover</b>	Button forces the RTU to re-auto detect sensors.
<b>ID</b>	Sensor ID number.
<b>ROM ID</b>	<p>The ID number found on the sticker of the temperature sensor node. Your NetGuardian 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><b>Green</b> - The sensor is connected and properly configured.  <b>Yellow</b> - The sensor is connected but has not yet been configured (fill in your configuration fields and click <b>Save</b> to configure the sensor).  <b>Red</b> - The sensor is not detected and configured (i.e. a previous configured sensor is no longer connected).  <b>Blue</b> - The sensor is not supported by the NetGuardian.</p> <p>To reconfigure or disable the Sensor ID, simply delete any data in this field and click <b>Save</b>.  The unit will refresh the sensor ID on that channel.</p>
<b>Description</b>	User-definable description for the sensor channel.
<b>Notification Devices</b>	Check which notification device(s), 1 through 8, you want to send alarm notifications for that alarm point.
Advanced Sensor Configuration (Details>>)	
<b>Record Freq</b>	The amount of time, in minutes (min) or seconds (s), between each recorded sensor value.
<b>Deadband</b>	The amount (in native units) that the channel needs to go above or below a threshold in order to cause an alarm.
<b>Qual Time (Qualification Time)</b>	The length of time that must pass, without interruption, in order for the condition to be considered an Alarm or a Clear.
<b>Qual. Type (Qualification Type)</b>	<p>Allows you to choose whether you want to apply the Qualification Time to the alarm Set, Clear, or Both.</p> <p><b>On Set:</b> User-definable description (condition) that will appear for the temperature alarm on Set. Example: "Alarm".  <b>On Clear:</b> User-definable description (condition) that will appear for the temperature alarm Clear. Example: "Alarm Cleared".</p>
<b>Thresholds</b>	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).
<b>Analog Gauge Type</b>	Select the color-coded gauge that best represents your data. Selecting <b>None</b> will disable the analog gauge and only a numerical representation of the value will be displayed under <b>Monitor &gt; Sensors</b> .

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

## 11.13 Ping Targets

The **Provisioning > Ping Targets** menu allows you to configure the Description, IP Address, and Notification Devices for each of your 32 ping targets.

Ping Targets											
Id	Enab	Description <a href="#">Display Map</a>	Server (IP or Hostname)	1	2	3	4	5	6	7	8
1	<input type="checkbox"/>	Cisco Router	126.102.218.3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
2	<input type="checkbox"/>	Ethernet Switch 1	126.102.218.24	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
3	<input type="checkbox"/>	Ethernet Switch 2	126.102.218.12	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
4	<input type="checkbox"/>	Ethernet Switch 2	126.102.218.14	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
5	<input type="checkbox"/>	Router 2	126.102.218.67	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
6	<input type="checkbox"/>	Media Converter	126.102.218.29	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
7	<input type="checkbox"/>	Microwave Transmitter	126.102.218.90	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
8	<input type="checkbox"/>	Cisco 15454	126.102.218.43	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
9	<input type="checkbox"/>	Calix	126.102.218.31	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
10	<input type="checkbox"/>	Modem	126.102.218.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
11	<input type="checkbox"/>	PBX	126.102.218.15	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
12	<input type="checkbox"/>	Proxy Server	126.102.218.39	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				

*Fig. 11.22 The Provisioning > Ping Targets menu*

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

## 11.14 System Alarms

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

System Alarms										
Pnt	Description <a href="#">Display Map</a>	Silence	1	2	3	4	5	6	7	8
33	Default configuration	<input type="checkbox"/>								
34	DCP poller inactive	<input type="checkbox"/>								
39	SNMP community error	<input type="checkbox"/>								
41	Notification 1 failed	<input type="checkbox"/>								
42	Notification 2 failed	<input type="checkbox"/>								
43	Notification 3 failed	<input type="checkbox"/>								
44	Notification 4 failed	<input type="checkbox"/>								

*Fig. 11.23 The Provisioning > System Alarms menu*

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

## 11.15 Timers

The **Timers** are user-definable, and allow you to choose the intervals between automatic refreshing of the unit's web browser interface. Enter the amount of time, in seconds (sec) or minutes (m), in the value field and click **Save**.

Timers	
<b>Web Refresh (1s-60s):</b> How often web browser is refreshed when in monitor mode.	1sec
<b>DCP Poller Timeout (1m-30m, 0s=off):</b> DCP polls must be received within this time interval or the DCP poller inactive alarm will set.	5min
<b>Ping Cycle (30s-30m, 0s=off):</b> Time interval between each ping cycle (0 disables, 30 seconds minimum)	4min
<b>WebTimeout (1m-30m):</b> Maximum idle time allowed before the web interface will automatically logout.	150sec
<b>Timed Tick (0s-60m, 0s=off):</b> <input checked="" type="radio"/> This is a 'heartbeat' function that can be used by masters who don't perform integrity checks.	
<b>Timed Tick Variation (used for daily or weekly timed tick):</b> <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.	0sec
<input type="button" value="Save"/>	

**Fig. 11.24** The Provisioning > Timers menu

## 11.16 Date and Time

**Date and Time**

**Unit Time**

Date: Month Oct ▾ Day 8 ▾ Year 2012

Time: Hour 12 ▾ Minute 25 ▾ 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 ▾

*Fig. 11.25 The Provisioning > Date and Time menu*

Unit Time	
<b>Date</b>	Set today's date.
<b>Time</b>	Set the current time.
Automatic Time Adjustment (NTP)	
<b>Enable NTP</b>	Check this box to enable Network Time Protocol.
<b>NTP Server Address or Host Name</b>	Enter the NTP server's IP address or host name, then click <b>Sync</b> . Example: us.pool.ntp.org. <b>Note:</b> Make sure to configure DNS before using host name instead of IP address.
<b>Time Zone</b>	Select your time zone from the drop-down menu.
Adjust Clock for Daylight Savings Time (DST)	
<b>Enable DST</b>	Check this box to have the NetGuardian V16 G2 observe Daylight Savings.
<b>Start Day</b>	Select the month, weekday, and time when Daylight Savings will begin.
<b>End Day</b>	Select the month, weekday, and time when Daylight Savings will end.

# 12 Monitoring via the Web Browser

## 12.1 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.

**NetGuardian Voice 16 G2**

Network Monitoring Solutions Upload | Logout (admin)

**Monitor**

- Alarms
- Controls
- Analogs
- Sensors
- Ping Targets
- System Alarms
- Graph
- Provisioning
- System
- User Profiles
- Ethernet
- RADIUS
- SNMP
- Phone List
- Notifications
- Alarms
- Controls
- Analogs
- Sensors
- Ping Targets
- System Alarms
- Timers
- Date Time
- Device Access
- Backup Config
- Read
- Write
- Initialize
- Get Log
- Purge Log
- Reboot

**Alarms**

Alarms			
Id	Description <a href="#">Display Map</a>	State	Total Time in Alarm State (H:M:S)
1	Front Door	Alarm	00:00:10
2	Side Door	Clear	00:04:48
3	Back Door	Clear	00:04:48
4	Rectifier	Alarm	00:00:10
5	AC Power	Clear	00:00:00
6	Media Converter	Alarm	00:00:10
7	Microwave Transmitter	Alarm	00:00:10
8	Router 1	Clear	00:00:00
9	Router 2	Clear	00:00:00
10	Switch 1	Alarm	00:04:58
11	Switch 15454	Alarm	00:00:10
12	Water Leak	Clear	00:04:48
13	Beacon Light	Alarm	00:04:58
14	Front Light	Clear	00:00:00
15	Side Light	Clear	00:00:00
16	Back Door	Alarm	00:00:10

[Reset Timers](#)

Tuesday, April 09, 2013 11:57:35 ©2013 DPS Telecom

**Fig. 12.1** Click on Alarms in the Monitor menu to see if any base alarms have been triggered.

Basic Alarm Monitoring	
<b>ID</b>	Alarm ID number.
<b>Description</b>	User-definable description for the discrete alarm point.
<b>State</b>	The current state of the alarm. (Clear or Alarm)
<b>Total Time in Alarm State</b>	Counter for the total time the point has been in the alarm state. 1) This timer is always on.

- 2) The maximum time value is 18 hours. Once 18 hours is reached, the timer will stop counting.
- 3) The timer will survive a soft reboot (a reboot from the web interface).
- 4) The timer will not survive a hard reboot (losing power, disconnection, etc). The timer will be restored to its previously saved value.

## 12.2 Controls

Use the following rules to operate the NetGuardian'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 <a href="#">Display Map</a>	State	Command
1	Front Door	Released	OPR RLS MOM
2	Side Door	Released	OPR RLS MOM
3	Back Door	Released	OPR RLS MOM
4	Tower Lights	Released	OPR RLS MOM
5	Router 1	Released	OPR RLS MOM
6	Router 2	Released	OPR RLS MOM
7	Switch 1	Released	OPR RLS MOM
8	Switch 2	Released	OPR RLS MOM
9	Media Converter	Released	OPR RLS MOM
10	Server A	Released	OPR RLS MOM
11	Server B	Released	OPR RLS MOM
12	Server C	Released	OPR RLS MOM
13	IP Camera	Released	OPR RLS MOM
14	Encoder	Released	OPR RLS MOM
15	Decoder	Released	OPR RLS MOM
16	Media Switcher	Released	OPR RLS MOM
17	Back Lights	Released	OPR RLS MOM
18	Front Lights	Released	OPR RLS MOM

*Fig. 12.2 View and operate control relays from the Monitor > Controls menu*

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

---

duration of the latch is defined in the Provisioning > Controls menu.
---

## 12.3 Virtual Controls (PGE Only)

Use the following rules to operate the NetGuardian's Virtual Controls:

1. Select Virtual Controls from the Monitor menu.
2. Under the State field, you can see the current condition of the Virtual Control.
3. To enable the Virtual Control, click on the "OPR" (operate) button.

Monitor		Virtual Controls	
<b>Alarms</b>			
<b>Derived Alarms</b>			
<b>Controls</b>			
<b>Virtual Controls</b>			
<b>Analogs</b>			
<b>Sensors</b>			
<b>Id</b>	<b>Description</b>	<a href="#">DNP3 Point Map</a>	
<b>1</b>	<b>Cutover</b>		
<b>2</b>			
<b>3</b>			

*Fig. 12.3 Monitor > Virtual Controls*

### Basic Virtual Controls Configuration

ID: ID number for the Virtual Control

Description: Description for the NetGuardian's control relay defined in the Provisioning > Virtual

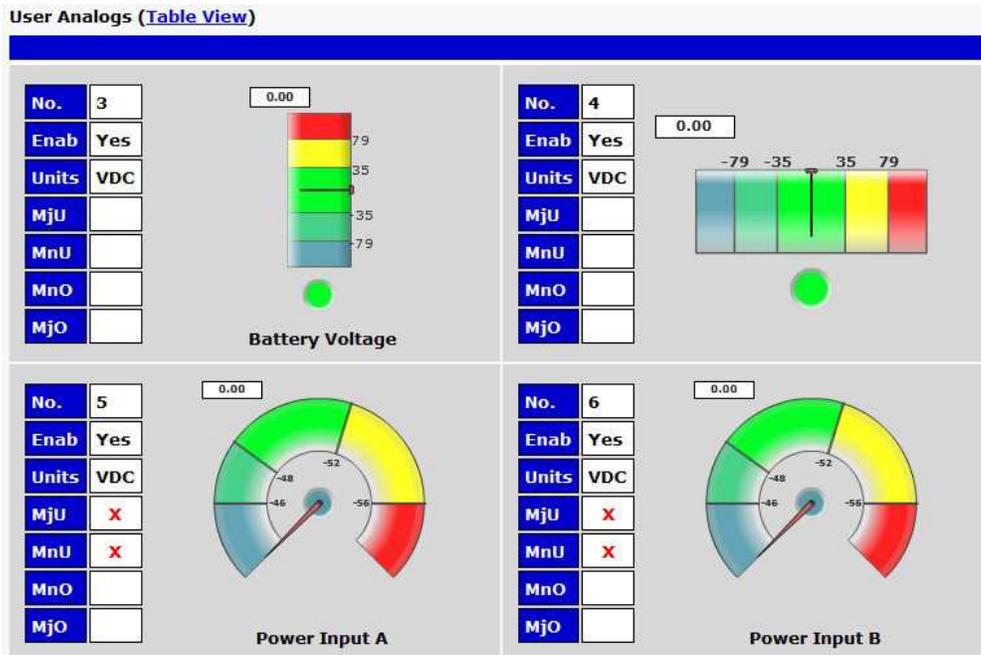
Controls menu

State: Status of the Virtual Control. Can either be Released or Latched

Command: OPR - Latch the Virtual Control

## 12.4 Analogs

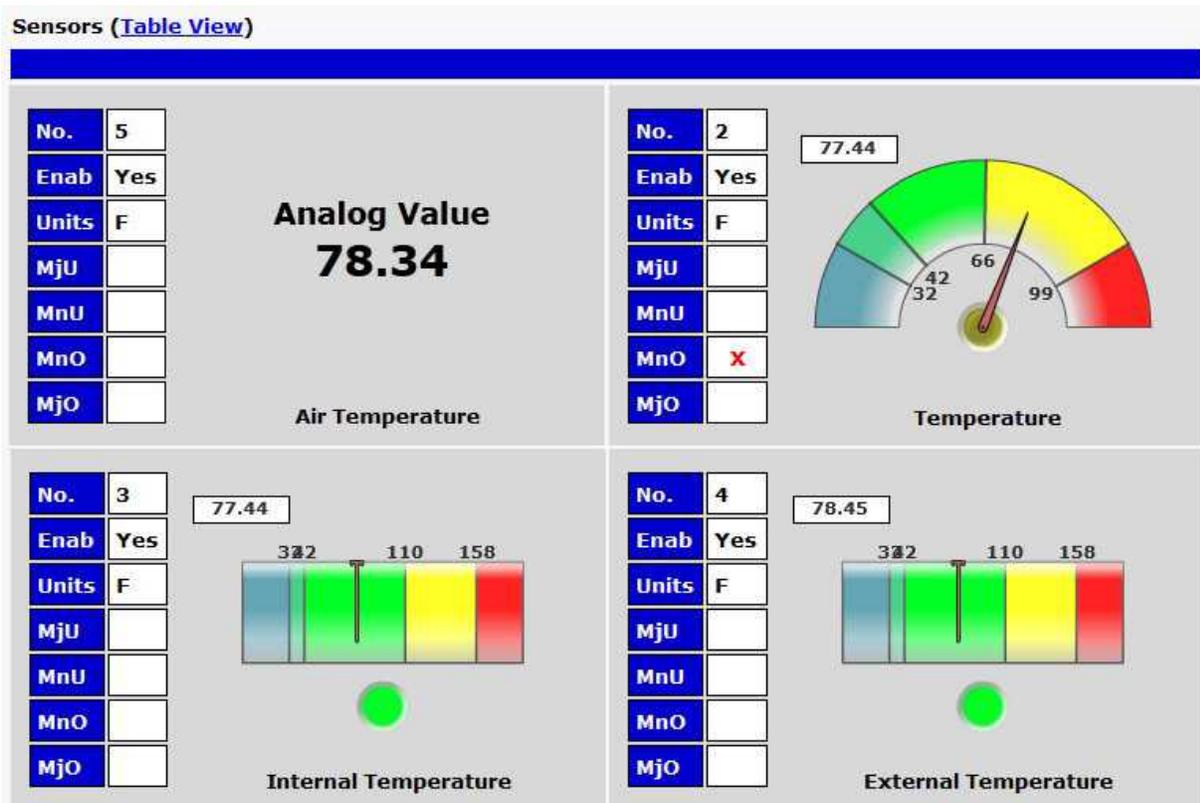
The **Monitor > Analogs** screen provides a description of each analog channel, the current reading, the units being read, and alarm conditions (major under, minor under, major over, minor over) according to your temperature settings. If configured under **Provisioning > Analogs**, your analog values will be displayed as a graphical gauge. Selecting **Table View** will display a non-graphical interface of your values.



**Fig. 12.4** Click on Analogs in the Monitor menu to view the current channel readings.

## 12.5 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.



**Fig. 12.5** The Monitor > Sensors menu in Gauge View

## 12.6 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. Up to 32 ping targets may be configured.

Ping Targets		
Id	Description <a href="#">Display Map</a>	State
1	Cisco Router	Clear
2	Ethernet Switch 1	Clear
3	Ethernet Switch 2	Clear
4	Ethernet Switch 2	Clear
5	Router 2	Clear
6	Media Converter	Clear
7	Microwave Transmitter	Clear
8	Cisco 15454	Clear
9	Calix	Clear
10	Modem	Clear
11	PBX	Clear
12	Proxy Server	Clear

*Fig. 12.6 View the status of Ping Targets from the Monitor > Ping Targets menu.*

## 12.7 System Alarms

System alarms are not-editable, housekeeping alarms that are programmed into NetGuardian. 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 <a href="#">Display Map</a>	State
33	Default configuration	Clear
34	DCP poller inactive	Clear
39	SNMP community error	Clear
41	Notification 1 failed	Clear
42	Notification 2 failed	Alarm
43	Notification 3 failed	Clear
44	Notification 4 failed	Clear

*Fig. 12.7 View the status of System Alarms from the Monitor > System Alarms menu.*

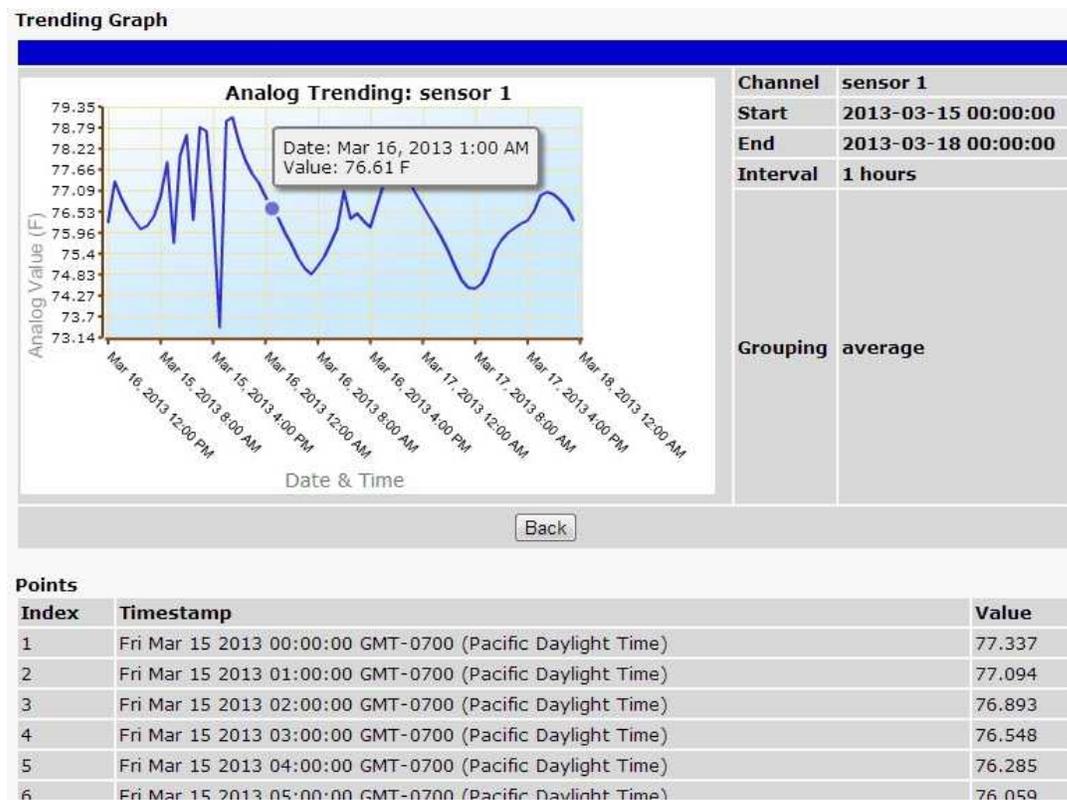
## 12.8 Graph

The Graph section of the monitor menu lets you build a graph of past 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 1-6 or Sensors 1-16), 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	<input type="text" value="analog 1"/> <span>Analogs (a1-a6), Sensors (s1-s16)</span>																																																	
Group Interval	<input type="text" value="1 min"/> <span>1-120 minute(m)/hour(h)/day(d)/week(w)</span>																																																	
Group Function	<input type="text" value="Average"/>																																																	
Start Time	<div style="display: flex; justify-content: space-between;"> <div style="flex: 1;"> <div style="text-align: center;"> <span>March, 2013</span> </div> <table border="1" style="width: 100%; text-align: center;"> <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>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>1</td><td>2</td> </tr> <tr> <td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td> </tr> <tr> <td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td> </tr> <tr> <td>17</td><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td> </tr> <tr> <td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td> </tr> <tr> <td>31</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td> </tr> </tbody> </table> <p style="text-align: center;">Today: Mar 18, 2013</p> <p>2013-03-11 00:00:00</p> </div> <div style="flex: 0.5;"> <p>Time: <input type="text" value="00:00:00"/></p> </div> </div>	S	M	T	W	T	F	S	24	25	26	27	28	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	31	1	2	3	4	5	6
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S	M	T	W	T	F	S																																												
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24	25	26	27	28	29	30																																												
31	1	2	3	4	5	6																																												
<input type="button" value="Build Graph"/>																																																		

**Fig. 12.8** Provision the Channels, Group Interval, Group Function and more - all from the Graph Parameters section of the web browser interface.

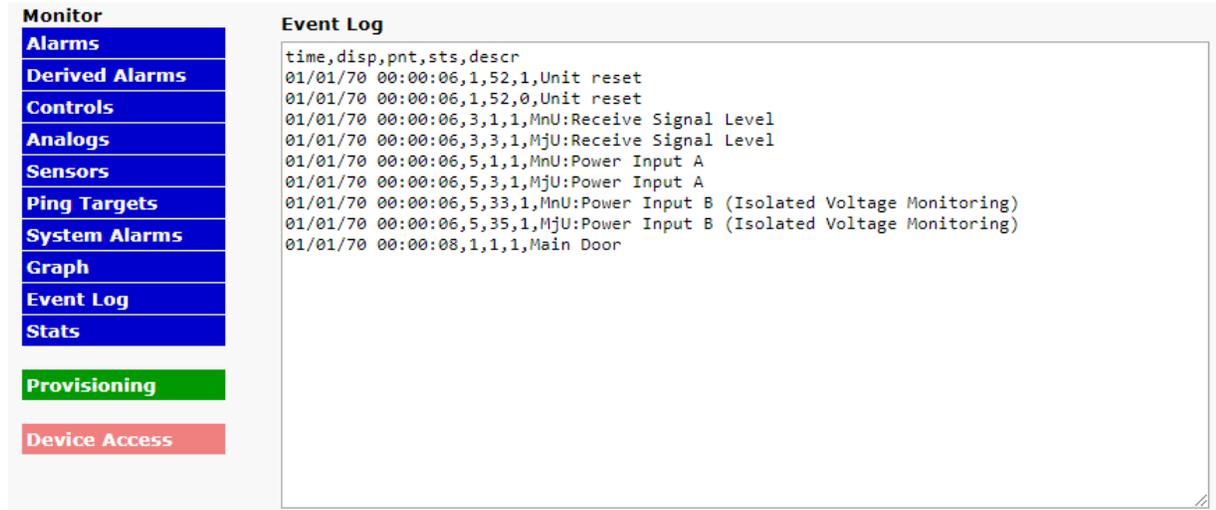
Your graph will appear on the next screen. This graph is Adobe Flash-based and allows you to mouse over the lines to quickly view measurements (date, time, and value) within their context of the overall graphing trend. Below the graph is a full textual list of all indexed points with their dates and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



**Fig. 12.9** Specify your parameter values and build an interactive graph based on the alarm point history.

## 12.9 Event Log

In **Monitor > Event Log**, you can view a log of alarm events since the unit has booted up. Each entry in the log will have a date, time, display, point, status, and description. Display and point represent where the alarm is on the NetGuardian's Display Map. Status indicates whether the log entry is a set or a clear. A '1' signifies that the alarm was set, and a '0' signifies that it was cleared. Older log entries will be near the top.



The screenshot shows a web interface with a sidebar menu on the left and a main content area on the right. The sidebar menu includes the following items: Alarms, Derived Alarms, Controls, Analogs, Sensors, Ping Targets, System Alarms, Graph, Event Log, Stats, Provisioning, and Device Access. The 'Event Log' item is highlighted. The main content area displays the following text:

```
time,disp,pnt,sts,descr
01/01/70 00:00:06,1,52,1,Unit reset
01/01/70 00:00:06,1,52,0,Unit reset
01/01/70 00:00:06,3,1,1,MnU:Receive Signal Level
01/01/70 00:00:06,3,3,1,MjU:Receive Signal Level
01/01/70 00:00:06,5,1,1,MnU:Power Input A
01/01/70 00:00:06,5,3,1,MjU:Power Input A
01/01/70 00:00:06,5,33,1,MnU:Power Input B (Isolated Voltage Monitoring)
01/01/70 00:00:06,5,35,1,MjU:Power Input B (Isolated Voltage Monitoring)
01/01/70 00:00:08,1,1,1,Main Door
```

*The Monitor > Event Log menu*

## 13 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's firmware, and rebooting the unit. Click any of the options under **Device Access** to perform the desired action.



*Fig. 13.1 The control menu is located in the bottom left of the web interface*

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

## 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.



*Fig. 14.1 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](http://www.dpstele.com) and click **Load**.



*Fig. 14.2 Browse for downloaded firmware upgrade*

# 15 Front and Back Panel LED



*Fig. 15.1 Front panel LEDs*

LED	Status	Description
<b>Alarm</b>	Flashing Red	New alarm
	Solid Red	Standing alarm acknowledged
<b>Error (M16 Only)</b>	Flashing Red	System error
<b>Primary (M16 Only)</b>	Flashing Green	Data transmitted on PRI Serial
	Flashing Red	Data received on PRI Serial
<b>Hook (V16 G2 Only)</b>	Solid Green	Modem is off hook for voice
	Solid Red	Modem is off hook for data
<b>Modem (V16 G2 Only)</b>	Flashing Green	Playing Voice (Voice Mode) / Transmitting data through the Modem (Data Mode)
	Flashing Red	Receiving DTMF commands (Voice Mode) / Receiving data through the Modem (Data Mode)
<b>Power</b>	Solid Green	Power supply OK
	Off	No voltage or power leads reversed
<b>Craft</b>	Flashing Green	Transmitting data over craft port
	Flashing Red	Receiving data over craft port
<b>Status</b>	Flashing Green	Application is running
	Flashing Red	Boot Loader is running

*Front Panel LED Descriptions*



*Fig. 15.2 Back panel LEDs*

LED	Status	Description
<b>FA</b>	Solid Red	Blown Fuse
<b>LNK</b>	Solid Green	LAN Connected
<b>LAN</b>	Flashing Green	Transmit and receive activity over Ethernet port
<b>PWR AB</b>	Solid Green	Power supply OK
	Off	No voltage or power leads reversed

<b>100BT</b>	Solid Green	LAN connection speed is 100BaseT
	Off	LAN connection speed is 10BaseT

*Back Panel LED Descriptions*



**Fig. 15.3** Back panel (with Fiber Option) LEDs

LED		Status	Description
<b>LNK</b>		Solid Green	LAN Connected
<b>LAN</b>		Flashing Green	Transmit and receive activity over Ethernet port
<b>100BT</b>		Solid Green	LAN connection speed is 100BaseT
		Off	LAN connection speed is 10BaseT
<b>SFP Fiber 1000Base-X</b> <i>(Fiber build option only)</i>	<b>1-2</b>	Solid Red	SFP detected, no link.
		Solid Green	SFP detected, link is up.
		Flashing Red	No SFP detected.
		Off	SFP detected, connection issues.
<b>10/100/1000 BaseT Switch</b> <i>(Fiber build option only)</i>	<b>1-4</b>	Flashing Green	Activity on port detected.
		Solid Green	Link detected.

## 16 Reference Section

### 16.1 Display Mapping & System Alarms

	Description	Port	Address	Point
<b>Display 1</b>	Discrete Alarms	99	1	1-16
	Derived Alarms	99	1	17-32
	Default Configuration	99	1	33
	DCP Poller Inactive	99	1	34
	SNMP Community Error	99	1	39
	Notification 1 Failed	99	1	41
	Notification 2 Failed	99	1	42
	Notification 3 Failed	99	1	43
	Notification 4 Failed	99	1	44
	Notification 5 Failed	99	1	45
	Notification 6 Failed	99	1	46
	Notification 7 Failed	99	1	47
	Notification 8 Failed	99	1	48
	NTP Failed	99	1	49
	Timed Tick	99	1	50
	Dynamic Memory Full	99	1	51
	Unit Reset	99	1	52
	TRIP Error	99	1	55
	No Dial tone	99	1	56
	Modem Failed	99	1	57
Contact Closure Communication Failed	99	1	58	
Virtual Control Configuration Error	99	1	59	
<b>Display 2</b>	Controls	99	1	1-18
	Undefined	99	1	19-32
	Ping Targets	99	1	33-64
<b>Display 3</b>	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
	Control	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
	Control	99	1	41-48
	Value	99	1	49-64
<b>Display 4</b>	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
	Control	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
	Control	99	1	41-48
	Value	99	1	49-64
<b>Display 5</b>	Power A Minor Under	99	1	1
	Power A Minor Over	99	1	2
	Power A Major Under	99	1	3
	Power A Major Over	99	1	4
	Control	99	1	9-16
	Value	99	1	17-32
	Power B Minor Under	99	1	33
	Power B Minor Over	99	1	34
	Power B Major Under	99	1	35
	Power B Major Over	99	1	36
	Control	99	1	41-48
	Value	99	1	49-64
<b>Display 6</b>	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*

Display	Description	Port	Address	Point
Display 7	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 8	Digital sensor 5 Minor Under	99	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 Sensor 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 Sensor not detected		99	1	37
Control		99	1	41-48
Value		99	1	49-64
Display 9		Digital sensor 7 Minor Under	99	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 Sensor 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 Sensor not detected	99	1	37
	Control	99	1	41-48
	Value	99	1	49-64

*Display Mapping*

Display	Description	Port	Address	Point
Display 10	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 Sensor 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 Sensor not detected	99	1	37
	Control	99	1	41-48
	Value	99	1	49-64
Display 11	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 Sensor 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 Sensor not detected	99	1	37
	Control	99	1	41-48
	Value	99	1	49-64
Display 12	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 Sensor 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 Sensor not detected	99	1	37
	Control	99	1	41-48
	Value	99	1	49-64

Display Mapping

Display	Description	Port	Address	Point
Display 13	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 Sensor 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 Sensor not detected	99	1	37
	Control	99	1	41-48
	Value	99	1	49-64
Display 14	Digital sensor 17 Minor Under	99	1	1
	Digital sensor 17 Minor Over	99	1	2
	Digital sensor 17 Major Under	99	1	3
	Digital sensor 17 Major Over	99	1	4
	Digital sensor 17 Sensor not detected	99	1	5
	Control	99	1	9-16
	Value	99	1	17-32
	Digital sensor 18 Minor Under	99	1	33
	Digital sensor 18 Minor Over	99	1	34
	Digital sensor 18 Major Under	99	1	35
	Digital sensor 18 Major Over	99	1	36
	Digital sensor 18 Sensor not detected	99	1	37
	Control	99	1	41-48
	Value	99	1	49-64
Display 15	Digital sensor 19 Minor Under	99	1	1
	Digital sensor 19 Minor Over	99	1	2
	Digital sensor 19 Major Under	99	1	3
	Digital sensor 19 Major Over	99	1	4
	Digital sensor 19 Sensor not detected	99	1	5
	Control	99	1	9-16
	Value	99	1	17-32
	Digital sensor 20 Minor Under	99	1	33
	Digital sensor 20 Minor Over	99	1	34
	Digital sensor 20 Major Under	99	1	35
	Digital sensor 20 Major Over	99	1	36
	Digital sensor 20 Sensor not detected	99	1	37
	Control	99	1	41-48
	Value	99	1	49-64

Display Mapping

Display	Description	Port	Address	Point
Display 16	Digital sensor 21 Minor Under	99	1	1
	Digital sensor 21 Minor Over	99	1	2
	Digital sensor 21 Major Under	99	1	3
	Digital sensor 21 Major Over	99	1	4
	Digital sensor 21 Sensor not detected	99	1	5
	Control	99	1	9-16
	Value	99	1	17-32
	Digital sensor 22 Minor Under	99	1	33
	Digital sensor 22 Minor Over	99	1	34
	Digital sensor 22 Major Under	99	1	35
	Digital sensor 22 Major Over	99	1	36
	Digital sensor 22 Sensor not detected	99	1	37
	Control	99	1	41-48
	Value	99	1	49-64
Display 17	Digital sensor 23 Minor Under	99	1	1
	Digital sensor 23 Minor Over	99	1	2
	Digital sensor 23 Major Under	99	1	3
	Digital sensor 23 Major Over	99	1	4
	Digital sensor 23 Sensor not detected	99	1	5
	Control	99	1	9-16
	Value	99	1	17-32
	Digital sensor 24 Minor Under	99	1	33
	Digital sensor 24 Minor Over	99	1	34
	Digital sensor 24 Major Under	99	1	35
	Digital sensor 24 Major Over	99	1	36
	Digital sensor 24 Sensor not detected	99	1	37
	Control	99	1	41-48
	Value	99	1	49-64
Display 18	Digital sensor 25 Minor Under	99	1	1
	Digital sensor 25 Minor Over	99	1	2
	Digital sensor 25 Major Under	99	1	3
	Digital sensor 25 Major Over	99	1	4
	Digital sensor 25 Sensor not detected	99	1	5
	Control	99	1	9-16
	Value	99	1	17-32
	Digital sensor 26 Minor Under	99	1	33
	Digital sensor 26 Minor Over	99	1	34
	Digital sensor 26 Major Under	99	1	35
	Digital sensor 26 Major Over	99	1	36
	Digital sensor 26 Sensor not detected	99	1	37
	Control	99	1	41-48
	Value	99	1	49-64

Display Mapping

Display	Description	Port	Address	Point
Display 19	Digital sensor 27 Minor Under	99	1	1
	Digital sensor 27 Minor Over	99	1	2
	Digital sensor 27 Major Under	99	1	3
	Digital sensor 27 Major Over	99	1	4
	Digital sensor 27 Sensor not detected	99	1	5
	Control	99	1	9-16
	Value	99	1	17-32
	Digital sensor 28 Minor Under	99	1	33
	Digital sensor 28 Minor Over	99	1	34
	Digital sensor 28 Major Under	99	1	35
	Digital sensor 28 Major Over	99	1	36
	Digital sensor 28 Sensor not detected	99	1	37
	Control	99	1	41-48
	Value	99	1	49-64
Display 20	Digital sensor 29 Minor Under	99	1	1
	Digital sensor 29 Minor Over	99	1	2
	Digital sensor 29 Major Under	99	1	3
	Digital sensor 29 Major Over	99	1	4
	Digital sensor 29 Sensor not detected	99	1	5
	Control	99	1	9-16
	Value	99	1	17-32
	Digital sensor 30 Minor Under	99	1	33
	Digital sensor 30 Minor Over	99	1	34
	Digital sensor 30 Major Under	99	1	35
	Digital sensor 30 Major Over	99	1	36
	Digital sensor 30 Sensor not detected	99	1	37
	Control	99	1	41-48
	Value	99	1	49-64
Display 21	Digital sensor 31 Minor Under	99	1	1
	Digital sensor 31 Minor Over	99	1	2
	Digital sensor 31 Major Under	99	1	3
	Digital sensor 31 Major Over	99	1	4
	Digital sensor 31 Sensor not detected	99	1	5
	Control	99	1	9-16
	Value	99	1	17-32
	Digital sensor 32 Minor Under	99	1	33
	Digital sensor 32 Minor Over	99	1	34
	Digital sensor 32 Major Under	99	1	35
	Digital sensor 32 Major Over	99	1	36
	Digital sensor 32 Sensor not detected	99	1	37
	Control	99	1	41-48
	Value	99	1	49-64

Display Mapping



Display	Points	Alarm Point	Description	Solution
1	33	Default configuration	The internal NVRAM may be damaged. The unit is using default configuration settings.	Login to the NetGuardian's web browser and configure the unit. Power cycle to see if the alarm clears.
	34	DCP poller inactive	The NetGuardian is configured to listen for DCP polls but has not received a poll in over 5 minutes.	Check if unit can ping T/Mon or disable if not in use.
	39	SNMP community error	Community string does not match your SNMP master's community string.	Verify both community strings to make sure they match.
	41	Notification 1 failed	A notification 1 event, such as a page or email, was unsuccessful.	Verify that you can ping both devices.
	42	Notification 2 failed	A notification 2 event, such as a page or email, was unsuccessful.	Use RPT filter debug to help diagnose notification problems.
	43	Notification 3 failed	A notification 3 event, such as a page or email, was unsuccessful.	Use RPT filter debug to help diagnose notification problems.
	44	Notification 4 failed	A notification 4 event, such as a page or email, was unsuccessful.	Use RPT filter debug to help diagnose notification problems.
	45	Notification 5 failed	A notification 5 event, such as a page or email, was unsuccessful.	Use RPT filter debug to help diagnose notification problems.
	46	Notification 6 failed	A notification 6 event, such as a page or email, was unsuccessful.	Use RPT filter debug to help diagnose notification problems.
	47	Notification 7 failed	A notification 7 event, such as a page or email, was unsuccessful.	Use RPT filter debug to help diagnose notification problems.
	48	Notification 8 failed	A notification 8 event, such as a page or email, was unsuccessful.	Use RPT filter debug to help diagnose notification problems.
	49	NTP failed	Communication with Network Time Server has failed.	Try pinging the Network Time Server's IP Address as it is configured. If the ping test is successful, then check the port setting and verify the port is not being blocked on your network.
	50	Timed Tick	Toggles state at constant rate as configured by the Timed Tick timer variable. Useful in testing integrity of SNMP trap alarm reporting.	To turn the feature off, set the Timed Tick timer to 0.
	51	Dynamic memory full	Not expected to occur.	Call DPS Tech Support (559) 454-1600.
	52	Unit reset	Unit has rebooted.	If unintentional, call DPS Tech Support: (559) 454-1600.
	55	TRIP error	Not expected to occur.	Make sure Trip ID on the NetGuardian unit matches the Trip ID on T/Mon for the unit. If they match, call DPS Tech Support (559) 454-1600.
56	No dial tone	Issue with connectivity.	Check cable. If cable is securely attached, call DPS Tech Support (559) 454-1600.	
57	Modem failed	Not expected to occur.	Call DPS Tech Support (559) 454-1600.	

## System Alarms Display Map

## 16.2 DNP3 Point List (PGE Only)

Point Index	Description	Class
0-15	Discrete Alarms 1-16	1
16-31	Derived Alarms 1-16	1
32	Default Configuration	1
33	DCP Poller Inactive	1
34	Unused	1
35	Unused	1
36	Unused	1
37	Unused	1
38	SNMP Community Error	1
39	Unused	1
40	Notification 1 Failed	1
41	Notification 2 Failed	1
42	Notification 3 Failed	1
43	Notification 4 Failed	1
44	Notification 5 Failed	1
45	Notification 6 Failed	1
46	Notification 7 Failed	1
47	Notification 8 Failed	1
48	NTP Failed	1
49	Timed Tick	1
50	Dynamic Memory Full	1
51	Unit Reset	1
52	Unused	1
53	Unused	1
54	TRIP Error	1
55	No Dialtone	1
56	Modem Failed	1
57	Contact Closure Comm Failed	1
58	Virtual Control Config Error	1
59-63	Unused	1
	<b>~ Analog 1 ~</b>	
64	Minor Under	1
65	Minor Over	1
66	Major Under	1
67	Major Over	1
68	Not Detected	1
	<b>~ Analog 2 ~</b>	
69	Minor Under	1
70	Minor Over	1
71	Major Under	1
72	Major Over	1
73	Not Detected	1
	<b>~ Analog 3 ~</b>	
74	Minor Under	1
75	Minor Over	1
76	Major Under	1
77	Major Over	1
78	Not Detected	1
	<b>~ Analog 4 ~</b>	
79	Minor Under	1
80	Minor Over	1

81	Major Under	1
82	Major Over	1
83	Not Detected	1
	<b>~ Analog 5 ~</b>	
84	Minor Under	1
85	Minor Over	1
86	Major Under	1
87	Major Over	1
88	Not Detected	1
	<b>~ Analog 6 ~</b>	
89	Minor Under	1
90	Minor Over	1
91	Major Under	1
92	Major Over	1
93	Not Detected	1
	<b>~ Sensor 1 ~</b>	
94	Minor Under	1
95	Minor Over	1
96	Major Under	1
97	Major Over	1
98	Not Detected	1
	<b>~ Sensor 2 ~</b>	
99	Minor Under	1
100	Minor Over	1
101	Major Under	1
102	Major Over	1
103	Not Detected	1
	<b>~ Sensor 3 ~</b>	
104	Minor Under	1
105	Minor Over	1
106	Major Under	1
107	Major Over	1
108	Not Detected	1
	<b>~ Sensor 4 ~</b>	
109	Minor Under	1
110	Minor Over	1
111	Major Under	1
112	Major Over	1
113	Not Detected	1
	<b>~ Sensor 5 ~</b>	
114	Minor Under	1
115	Minor Over	1
116	Major Under	1
117	Major Over	1
118	Not Detected	1
	<b>~ Sensor 6 ~</b>	
119	Minor Under	1
120	Minor Over	1
121	Major Under	1
122	Major Over	1
123	Not Detected	1
	<b>~ Sensor 7 ~</b>	
124	Minor Under	1
125	Minor Over	1
126	Major Under	1
127	Major Over	1

128	Not Detected	1
	<b>~ Sensor 8 ~</b>	
129	Minor Under	1
130	Minor Over	1
131	Major Under	1
132	Major Over	1
133	Not Detected	1
	<b>~ Sensor 9 ~</b>	
134	Minor Under	1
135	Minor Over	1
136	Major Under	1
137	Major Over	1
138	Not Detected	1
	<b>~ Sensor 10 ~</b>	
139	Minor Under	1
140	Minor Over	1
141	Major Under	1
142	Major Over	1
143	Not Detected	1
	<b>~ Sensor 11 ~</b>	
144	Minor Under	1
145	Minor Over	1
146	Major Under	1
147	Major Over	1
148	Not Detected	1
	<b>~ Sensor 12 ~</b>	
149	Minor Under	1
150	Minor Over	1
151	Major Under	1
152	Major Over	1
153	Not Detected	1
	<b>~ Sensor 13 ~</b>	
154	Minor Under	1
155	Minor Over	1
156	Major Under	1
157	Major Over	1
158	Not Detected	1
	<b>~ Sensor 14 ~</b>	
159	Minor Under	1
160	Minor Over	1
161	Major Under	1
162	Major Over	1
163	Not Detected	1
	<b>~ Sensor 15 ~</b>	
164	Minor Under	1
165	Minor Over	1
166	Major Under	1
167	Major Over	1
168	Not Detected	1
	<b>~ Sensor 16 ~</b>	
169	Minor Under	1
170	Minor Over	1
171	Major Under	1
172	Major Over	1
173	Not Detected	1

Point Index	Description	Class
0	Control 1	2
1	Control 2	2
2	Control 3	2
3	Control 4	2
4	Control 5	2
5	Control 6	2
6	Control 7	2
7	Control 8	2
8	Control 9	2
9	Control 10	2
10	Control 11	2
11	Control 12	2
12	Control 13	2
13	Control 14	2
14	Control 15	2
15	Control 16	2
16	Control 17	2
17	Control 18	2
18	Virtual Control 1	2
19	Virtual Control 2	2
20	Virtual Control 3	2
21	Virtual Control 4	2
22	Virtual Control 5	2
23	Virtual Control 6	2
24	Virtual Control 7	2
25	Virtual Control 8	2
26-63	Unused	2

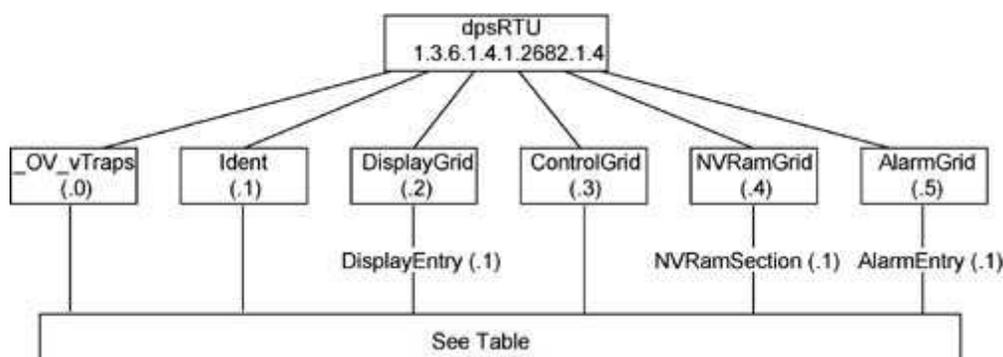
Point Index	Description	Class
0	Analog 1	3
1	Analog 2	3
2	Analog 3	3
3	Analog 4	3
4	Analog 5	3
5	Analog 6	3
6	Sensor 1	3
7	Sensor 2	3
8	Sensor 3	3
9	Sensor 4	3
10	Sensor 5	3
11	Sensor 6	3
12	Sensor 7	3
13	Sensor 8	3
14	Sensor 9	3
15	Sensor 10	3
16	Sensor 11	3
17	Sensor 12	3
18	Sensor 13	3
19	Sensor 14	3
20	Sensor 15	3
21	Sensor 16	3

## 16.3 Voice Notification Flow Chart

	Press 1	Press 2	Press 3	Press 4	Press 5	Press 6	Press 7	Press *	Press #
<b>Main Menu</b>	List Events	Acknowledge all Events	List Standing Alarms	Go to <b>Operate Relays</b>	-	-	-	Go to <b>More Options</b>	-
<b>More Options</b>	Record Descriptions, go to <b>Select Descriptions</b>	Report Analog Values	-	-	-	-	-	-	Return to <b>Main Menu</b>
<b>Select Description</b>	Select alarm description, go to <b>Record Description</b>	Select analog description, go to <b>Record Description</b>	Select relay description, go to <b>Record Description</b>	Select other descriptions, go to <b>Record Description</b>	Select alarm set description, go to <b>Record Description</b>	Select alarm clear description, go to <b>Record Description</b>	Select ping target description, go to <b>Record Description</b>	-	Return to <b>Main Menu</b>
<b>Record Description</b>	Play user description	Record user description	Delete user description	-	-	-	-	-	Return to <b>Select Description</b>
<b>Operate Relays</b>	*Operate Relay	*Release Relay	Momentary Operate Relay	-	-	-	-	-	Return to <b>More Options</b>

## 16.4 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. Table 14.2 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).



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

<b>Tbl. B2 (.1) Identity points</b>
<b>Ident (1.3.6.1.4.1.2682.1.2.1)</b>
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.

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

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

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

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

## 16.5 SNMP Granular Trap Packets

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

**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) **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 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*

## 17 Frequently Asked Questions

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

If you have a question about the NetGuardian, please call us at (559) 454-1600 or e-mail us at [support@dpstele.com](mailto:support@dpstele.com).

### 17.1 General FAQs

#### Q. How do I telnet to the NetGuardian?

A. You must use **Port 2002** to connect to the NetGuardian. 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 and Port 2002. For example, to connect to the NetGuardian using the standard Windows Telnet client, click Start, click Run, and type "telnet <NetGuardian IP address> 2002."

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

A. To connect your NetGuardian 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 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.

#### Q. The LAN link LED is green on my NetGuardian, 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.

#### Q. What characteristics of an alarm point can be configured through software? For instance, can point 4 be used to sense an active-low signal, or point 5 to sense a level or an edge?

A. The unit's standard configuration is for all alarm points to be level-sensed. You **cannot** use configuration software to convert alarm points to TTL (edge-sensed) operation. TTL alarm points are a hardware option that must be specified when you order your NetGuardian. Ordering TTL points for your NetGuardian does not add to the cost of the unit What you can do with the configuration software is change any alarm point from "Normal" to "Reversed" operation. Switching to Reversed operation has different effects, depending on the kind of input connected to the alarm point:

- **If the alarm input generates an active-high signal**, switching to Reversed operation means the NetGuardian will declare an alarm in the absence of the active-high signal, creating the practical equivalent of an active-low alarm.
- **If the alarm input generates an active-low signal**, switching to Reversed operation means the NetGuardian will declare an alarm in the absence of the active-low signal, creating the practical equivalent of an active-high alarm.
- **If the alarm input is normally open**, switching to Reversed operation converts it to a normally closed alarm point.
- **If the alarm input is normally closed**, switching to Reversed operation converts it to a normally open alarm point.

**Q. I'm unsure if the voltage of my power supply is within the specified range. How do I test the voltage?**

**A.** Connect the black common lead of a voltmeter to the ground terminal of the battery. Connect the red lead of the voltmeter to the batter's VCD terminal. The voltmeter should read between +12 and +30VDC.

## 17.2 SNMP FAQs

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

**A.** SNMP v1, SNMPv2 and SNMPv3.

**Q. How do I configure the NetGuardian to send traps to an SNMP manager? Is there a separate MIB for the NetGuardian? 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 begins sending traps as soon as the SNMP managers are defined. The NetGuardian 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.) The unit supports 2 SNMP managers, which are configured by entering its IP address in the Trap Address field of Ethernet Port Setup. To configure the community strings, choose SNMP from the Edit menu, and enter appropriate values in the Get, Set, and Trap fields.

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

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

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

**A.** The NetGuardian SNMP agent manages an embedded MIB that supports only the NetGuardian'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 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 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 and the SNMP manager are both on the network. Use the unit's ping command to ping the SNMP manager.

## 18 Technical Support

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### 3. Have access to troubled equipment.

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### 4. Call during Customer Support hours.

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