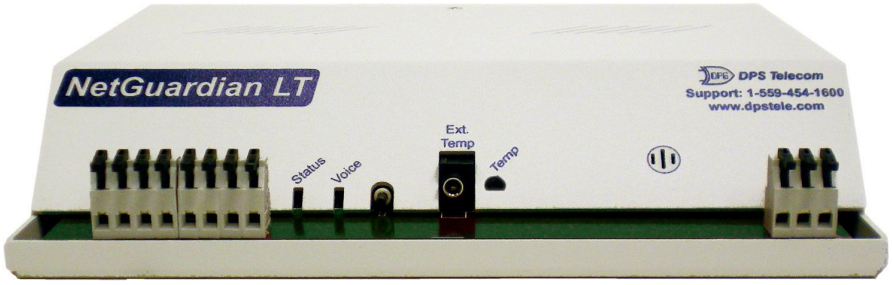
DPS Telecom

"Your Partners In Network Alarm Monitoring"

NetGuardian LT

USER MANUAL



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Revision History

September 21, 2012	Added support for DCPe polling with NetGuardian 16 with substation firmware
January 18, 2012	Added 24-hour clock detail
January 04, 2011	Clarified instructions for Creating Custom Voice Alerts
April 28, 2010	Added chapter on creating voice config with offline editor.
January 19, 2010	Added chapter on online text-to-speech tool.
April 10, 2009	Updated Specifications
April 8, 2009	Added Form-C Contact
March 11, 2009	Added optional accessories to Shipping List.
March 10, 2009	Updated NetGuardian LT User Manual released (D-OC-UM093.10100)
January 22, 2009	Preliminary NetGuardian LT User Manual released (D-OC-UM091.22100)

Notice

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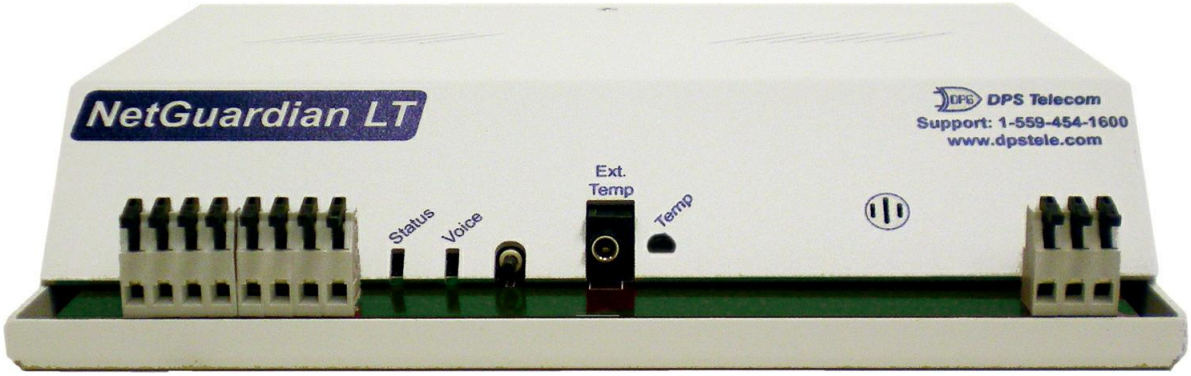
1 NetGuardian LT Overview



Compact, easy-to-install, right-size capacity - the NetGuardian LT ("Lite") offers a low-cost way of effectively monitoring smaller sites.

Effective, easy-to-install, light-capacity alarm monitoring
The NetGuardian LT is a compact, LAN-based, light-capacity remote telemetry unit. The NetGuardian LT is designed for easy installation at small remote sites, making it cost-effective to deploy alarm monitoring throughout your entire telecom network.

Powerful monitoring for smaller sites
The NetGuardian LT is based on the time-tested NetGuardian design used in high-capacity models. This telco-grade remote is housed in a durable aluminum case that can be rack or wall-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.

- **Custom Voice Dial-Out with DTMF Acknowledge**
- **Up to 4 Discrete Alarm Inputs**
- **1 Integrated Analog Temperature Sensor**
- **1 External Analog Temperature Probe (Optional)**
- **1 Control Relay (Optional)**

Easy Alerts via Phone or SNMP
When alarms occur, custom voice alerts will be sent to your phone. SNMP traps will also be sent to your SNMP manager. Dial right into the NetGuardian LT and request a verbal report using custom Voice Dial-Out technology with DTMF acknowledge.

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

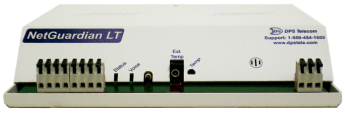
Easy installation and configuration
Since it's LAN-based, the NetGuardian LT installs quickly and easily, without the expense of laying dedicated lines. The unit mounts in any 19" or 23" rack and occupies only 1 RU. The unit has spring-clamp terminal connectors to make wiring alarms fast and easy. The front-panel LEDs show you the summary status.

2 Specifications

Discrete Alarm Inputs:	Up to 4
Temperature Sensors:	1 Integrated Analog Sensor Support for 1 External Analog Sensor
Temp. Thresholds:	4
Control Relays:	1Form-C (-92 VDC to +92 VDC)
Protocols:	SNMPv1, DCPx, TELNET, HTTP
Dimensions:	1.720" H x 8.126" W x 7.146" D (4.369 cm x 20.641 cm x 18.152 cm)
Weight:	1 lb. 5 oz.
Mounting:	19" or 23" rack
Power Input	
Voltage Options Include:	+24 VDC nominal via 110VAC wall transformer (18 to 36 VDC) -48VDC nominal (-36 to -72 VDC)
Current Draw:	100 mA @ 24VDC 50 mA @ -48VDC
Fuse:	Resettable Fuse (Internal)
Interfaces:	1 RJ45 10BaseT half-duplex Ethernet port 1 DB9 rear-panel craft port 1 - 1/8 Stereo connector for external temperature probe 1 RJ11 telco jack Up to 4 Alarm input connectors (2 inputs per alarm) 1 Relay output connector (NO, NC, CO) 1 Push button switch
Visual Interface:	8 Firmware-controlled LEDs 1 Hardware-controlled LED 2 LAN Connector Hardware LEDs
Operating Temperature:	32°–140° F (0°–60° C)
Operating Humidity:	0%–95% non-condensing
MTBF:	60 years
Windows Compatibility:	XP, Vista, 7 32/64 bit
RoHS:	5/6

3 Shipping List

Please make sure all of the following items are included with your NetGuardian LT. 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 LT
D-PK-NGDLT

NetGuardian LT User Manual
D-UM-NGDLT

NetGuardian LT Resource CD

6 ft. DB9M-DB9F Download Cable
D-PR-045-10A-04

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

Telephone Cable 6 ft
D-PR-045-10A-01

19" Rack Ear
D-CS-325-10A-00

Wall Mount Bracket
D-CS-532-10A-05

x 2

Two wall mount bracket screws
2-000-6250-01

x 2

Two Standard Rack Screws
1-000-12500-06

x 4

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

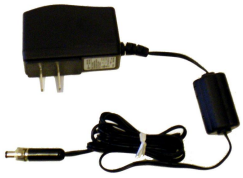
x 2

Two Metric Rack Screws
2-000-80750-03

Pads
2-015-00030-00

Optional Accessories

Power plug to open end
D-PR-1047-10A-10



+24V Wall Transformer
D-PR-105-10A-02

Long ear, 19" rack
D-CS-325-10A-08

x 4

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

x 2

1/2 Amp GMT fuses
2-741-00500-00

Small WAGO connector
2-802-01020-00

4 Tools Needed

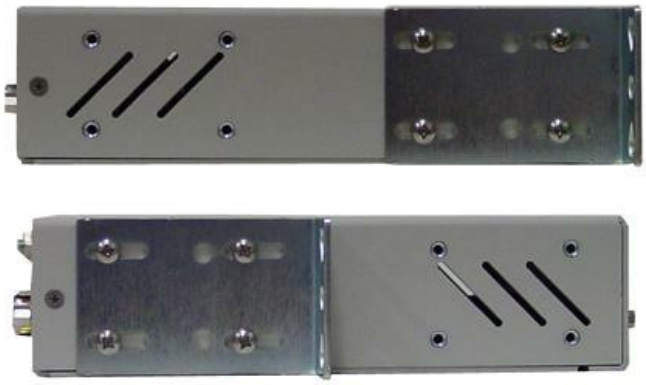
To install the NetGuardian, you'll need the following tools. **NOTE:** To install the NetGuardian LT in one of the wall-mount configurations, you will also require a wrench or driver capable of tightening 3/8" hex nuts.

Wire Strippers

Phillips No. 2 Screwdriver (For rack mounting)

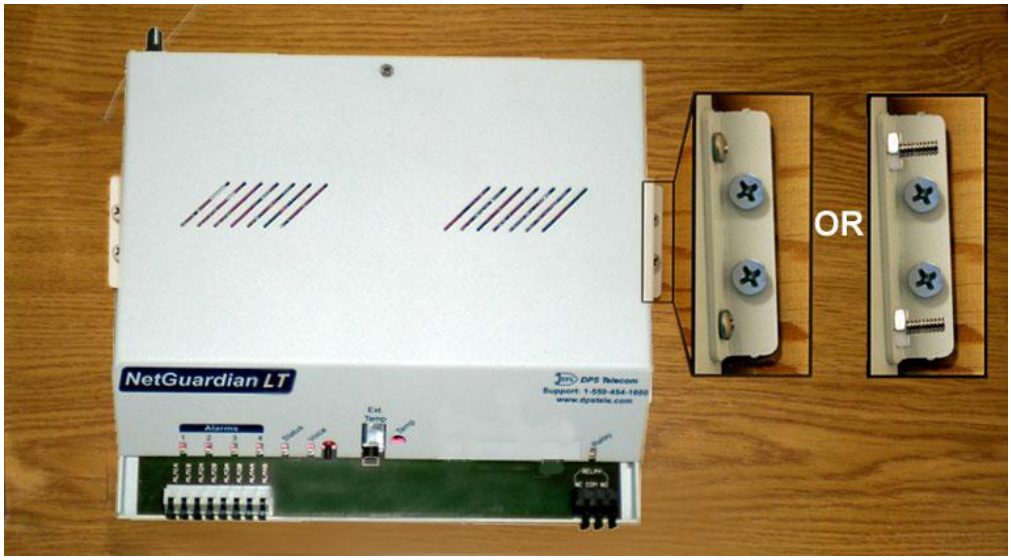
5 Installation

5.1 Mounting



The NetGuardian LT can be flush or rear-mounted

The compact NetGuardian LT occupies only half the width of a standard rack unit. 19" rack ears are supplied with the NetGuardian LT. The NetGuardian LT mounts in a 19" or 23" rack, and can be mounted on the right or left, or rear mount locations, as shown below.



Use the included wall mount bracket to mount the NetGuardian LT vertically on the wall.

Wall-Mounting Instructions

The rack ears can be rotated 90° for wall mounting or 180º for other mounting options (not shown).

1. Depending on your order options, you will can attach wall-mount flanges to both sides of the unit in one of two ways:
   a. Place the flange over the protruding screws and fasten it to the 3/8" hex nuts provided.
   b. OR Fasten the flange to the NetGuardian LT with two of the 6/32 screws provided. (**NOTE**: Screws longer than those provided may contact the internal components of the unit, adversely affecting its normal operation.)
2. After flanges have been attached to the NetGuardian LT, mount the unit in the desired location with two

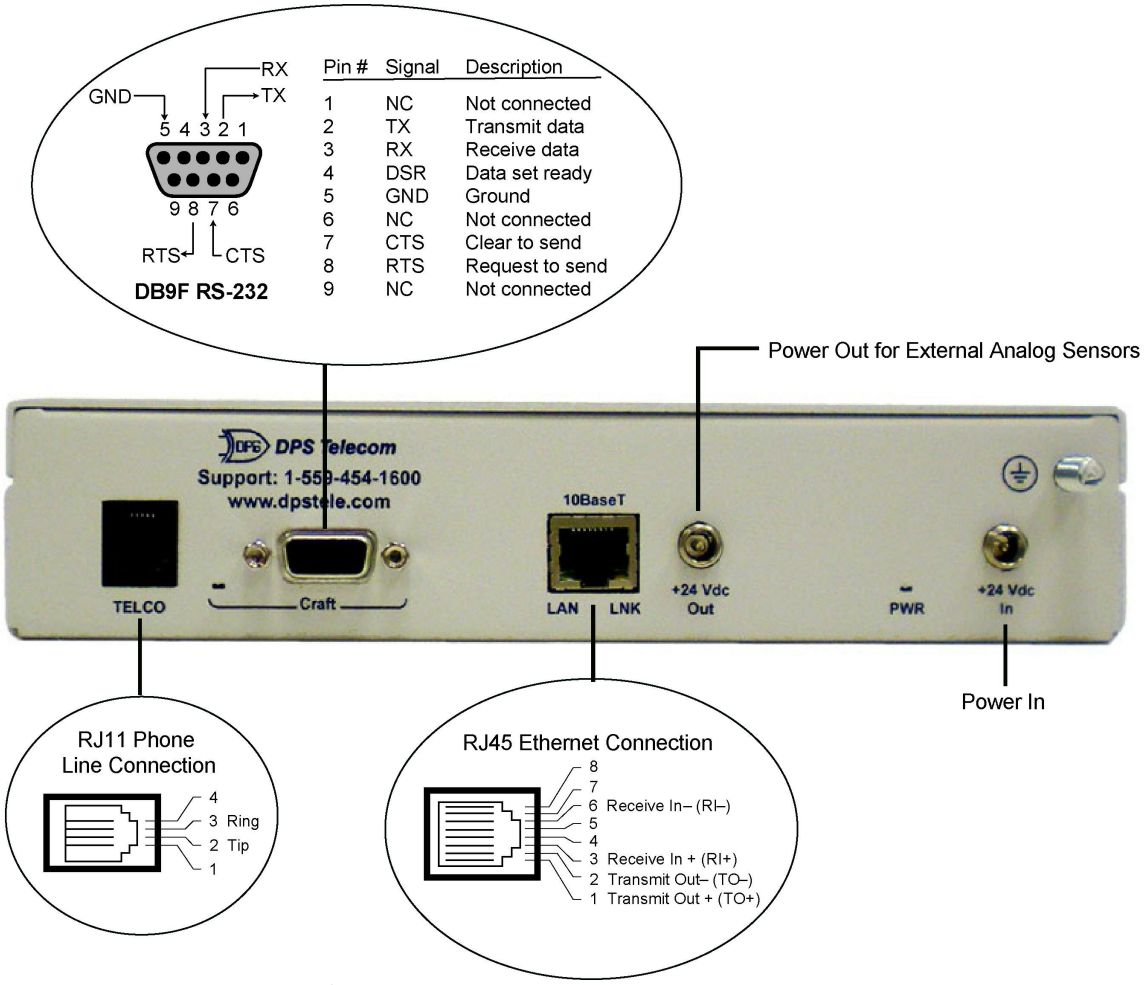
screws through each flange.

Fig. 5c *The NetGuardian LT also mounts on your 19" or 23" equipment racks.*

Rack-Mounting Instructions

The NetGuardian LT mounts onto one side of a 19" or 23" rack using the provided rack ear for either size. The ear can be rotated 180 degrees during installation to adjust the position of the unit relative to the rack. Attach the appropriate ear to the rack in the desired location.

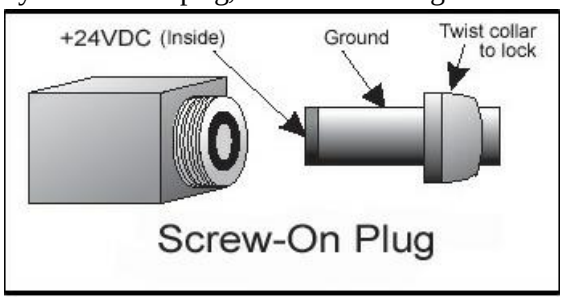
5.2 NetGuardian LT Back Panel



Pinouts for the NetGuardian LT back panel connections

5.2.1 Power Connection

The NetGuardian LT is powered by a screw-on plug, located on the right side of the back panel. (See Fig. 5e)



Close-up view of NetGuardian's screw-on power connector.

To connect the NetGuardian Lt's power supply, follow these steps:

1. Plug in the power connector to the rear panel of the NetGuardian LT.
2. Twist the collar of the plug to lock in place.
3. Plug in the wall transformer to a power outlet.

5.2.2 Power Out Jack

The VDC power out jack on the back panel of the NetGuardian LT is used to power external analog sensors. See Fig. 5e for a detailed look at the screw on plug.

5.2.3 Craft Port

The back panel craft port is primarily used to give the NetGuardian LT an IP address so you can continue the rest of your database configuration over LAN. Use a terminal emulating software program like HyperTerminal to enter the NetGuardian LT's TTY interface. Please see the Quick Start in the next section for instructions.

To use the craft port, connect the included DB9 download cable from your PC's COM port to the craft port.

5.2.4 LAN Connection

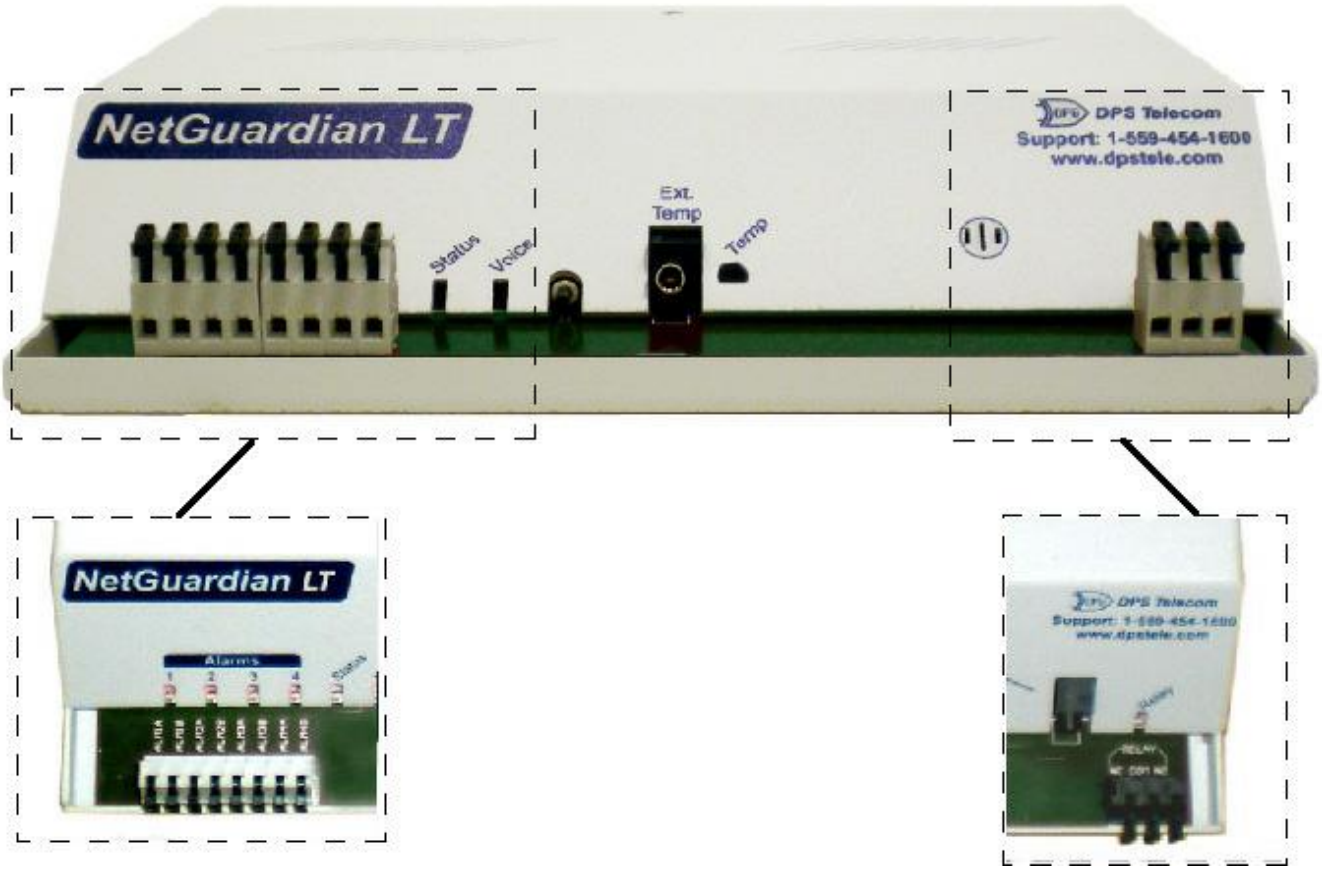
LAN is used for web browsing to the NetGuardian LT. You can also do your databasing over LAN, as well as sending email notifications and SNMP traps. To connect the NetGuardian LT to the LAN, insert a standard RJ45 Ethernet cable into the 10BaseT Ethernet port on the back of the unit. (See Fig. 5d) If the LAN connection is OK, the LNK LED will light **SOLID GREEN**.

5.2.5 Telco Connection

The NetGuardian LT's telco connection is used for voice notifications. The rear panel telco jack (see Fig. 5d) connects the NetGuardian LT to a standard telephone line. This will allow you to dial in / dial out from the unit.

5.3 NetGuardian LT Front Panel

5.3.1 Discrete Alarms and Relay Connection



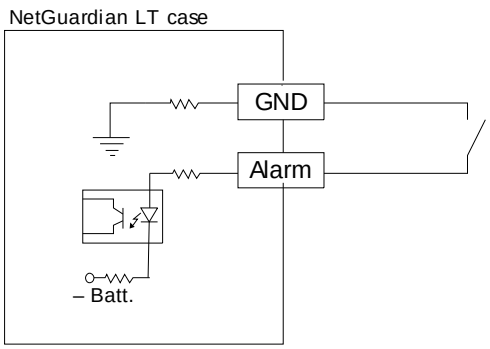
Discrete alarm inputs and control relay are wired using the spring-clamp terminal block connectors.

Convenient Latching Terminations - No Screwdriver Necessary

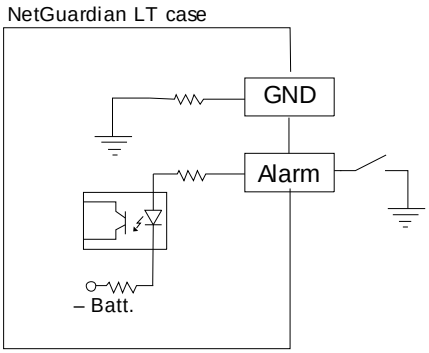
The spring-clamp terminal block connectors make wiring alarms fast and easy. The NetGuardian LT features up to 4 discrete alarm inputs (depending on your build option.) There are 2 inputs per alarm. The unit's relay connector has 3 outputs for Normally Open (NO), Normally Closed (NC), and Common (CO).

1. Strip a small piece off the end of the wire.
2. Flip open the connector for the desired alarm input. Lock it down over the wire.
3. Indicator LEDs on the front panel show you the summary status. Check for solid green light to see if power is connected.

Dry Contact

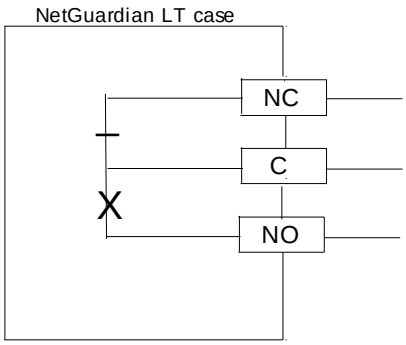


Contact to Ground



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

Form-C Contact



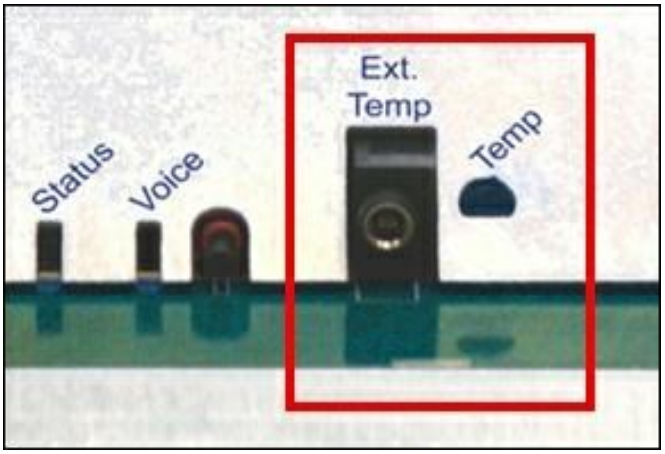
Discrete alarm points can connect as a dry contact, a contact to ground, or a Form-C contact

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

The unit'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.

5.3.2 Analog Temperature Sensors

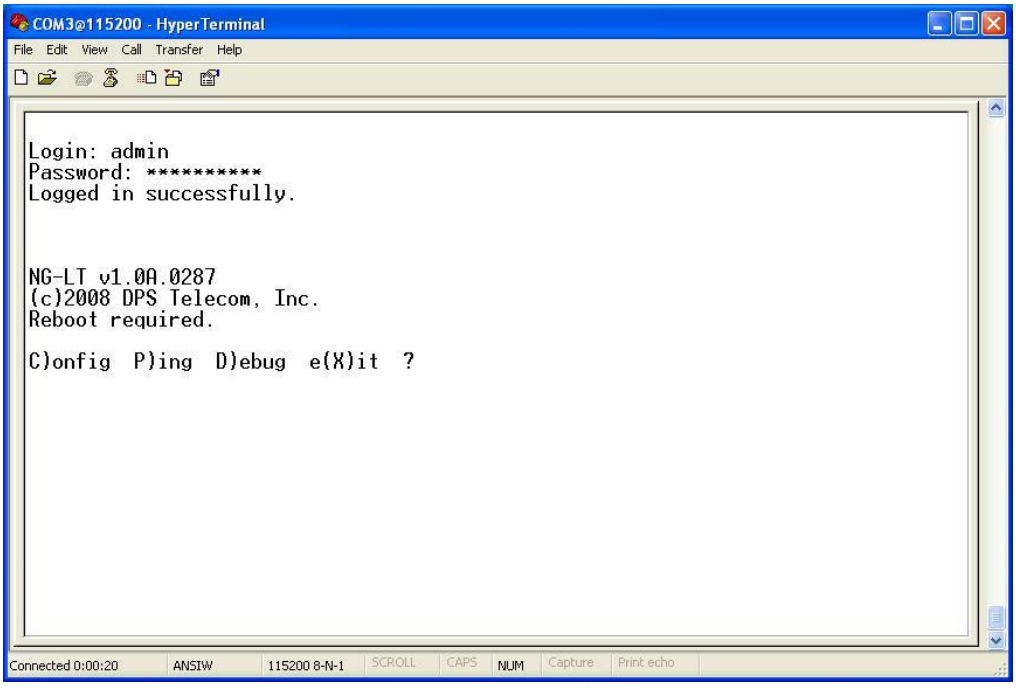


Temperature sensor jack.

1 Integrated Temperature Sensor and Support for 1 External Sensor (Optional)
The NetGuardian LT features one internal temperature sensor, used to monitor the ambient temperature. Both the internal and external temperature sensors measures a range of 32° F to 140° F (0° C to 60° C) within an accuracy of ± 1°.

The external temperature sensor probe provides external temperature readings by plugging the sensor into the Temp port on the front panel. *This is an optional hardware configuration and is not included for all units.*

6 TTY Interface

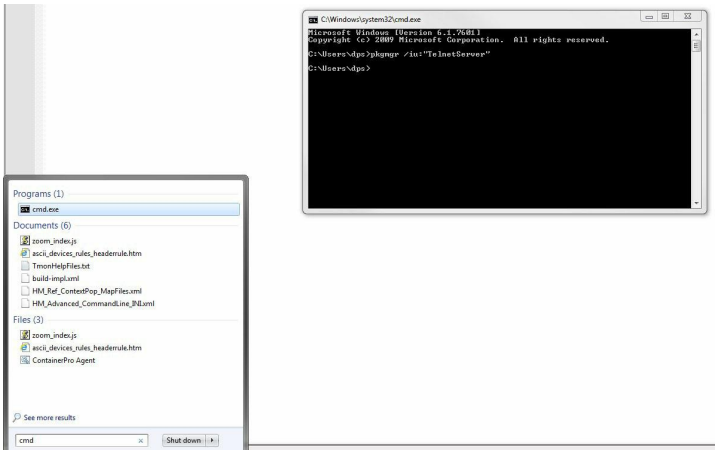


The TTY interface initial configuration screen

The TTY interface is the NetGuardian's built-in interface for basic configuration. You can configure unit's DCP settings (including protocol, IP address, and port information), Ethernet port settings, view debug, and monitor alarms. For more advanced configuration tools, please use the Web Browser Interface.

Some initial software configuration must be performed before you can use a remote connection to the NetGuardian LT. For Telnet, connect to the IP address at port 2002 to access the configuration menus after initial LAN/WAN setup. The same TTY interface is available through the front craft port. **Telnet sessions are established at port 2002, not the standard Telnet port** as an added security measure.

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



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

NOTE: The default TTY username is "admin" and the password is "dpstelecom".

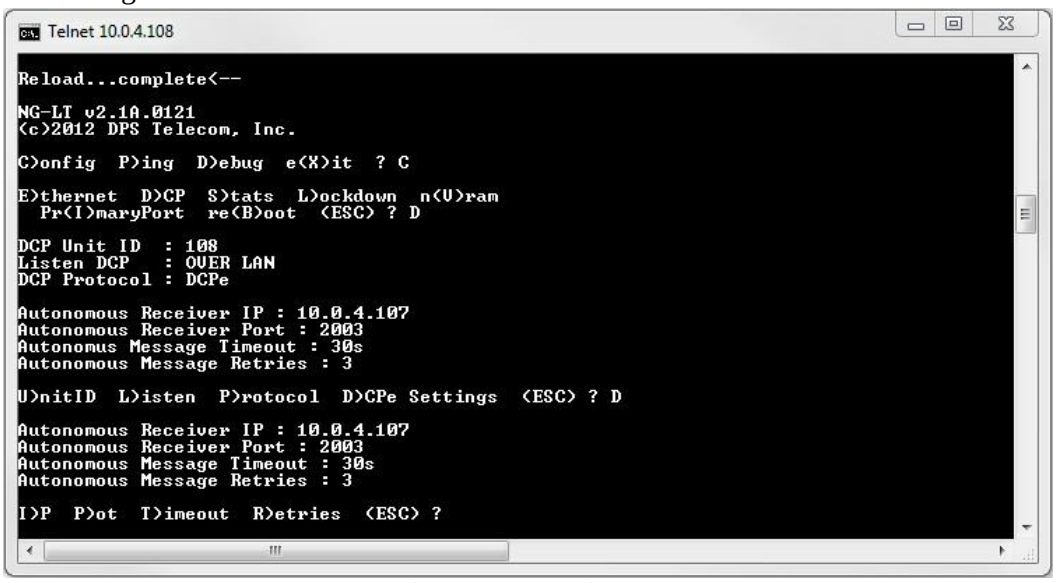
Menu Shortcut Keys

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.

6.1 DCP Settings

From the TTY interface, you can configure the DCPe settings for the NetGuardian 16 with substation firmware. You can configure the IP address, the port number, the timeout duration, and the number of retries.

To access the DCP settings:
1. Login to the TTY interface and press C)onfig.
2. Press D)CP.
3. Press D)CPe Settings.



The TTY interface DCP configuration options.

6.2 Lockdown Mode

IP Lockdown mode can be enabled via the TTY interface:
1. Login to the TTY interface and press C)onfig
2. Press L)ockdown to enable IP Lockdown mode.
3. A warning will be displayed. If you wish to enter Lockdown mode, press E)nable Lockdown to continue. If you're trying disable Lockdown mode, press D)isable Lockdown.
4. Press <ESC> to exit of the IP Lockdown menu.

WARNING: When IP Lockdown mode is enabled, the web interface, telnet, dialup, and email notifications are all deactivated for the NetGuardian LT. This device can only be accessed via direct connection using the craft port. Once enabled, Lockdown mode can only be disabled by connecting to the physical unit through the craft port. Proceed with caution.

The TTY interface for IP Lockdown mode.

7 Quick Start: How to Connect to the NetGuardian LT

Most NetGuardian users find it easiest to give the unit an IP address, subnet and gateway through the 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. *Another option*: You can skip the TTY interface by using a LAN crossover cable directly from your PC to the NetGuardian LT and access its Web Browser. See Section 7.2 .

7.1 ...via Craft Port

1. The simplest way to connect to the NetGuardian LT is over a physical cable connection between your PC's COM port and the unit's craft port. **Note:** You must be connected via craft port or Telnet to use the TTY interface. Make sure you are using the straight through (1 to 1) Male to Female DB9-DB9 download cable provided with your NetGuardian LT to make a craft port connection.

To access HyperTerminal using Windows:

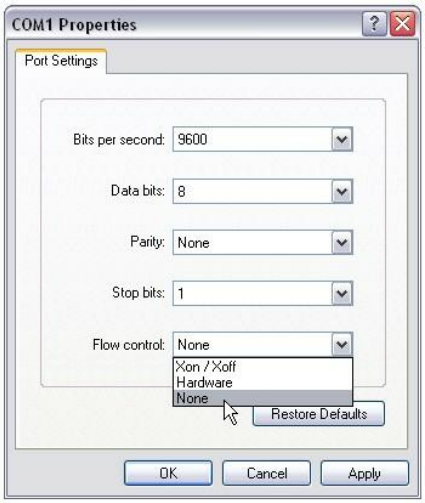
2. Click on the **Start** menu > select **Programs** > **Accessories** > **Communications** > **HyperTerminal.**

3. 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.

4. At the Connect To screen, select COM1 (the most commonly used) from the drop down menu and click OK.

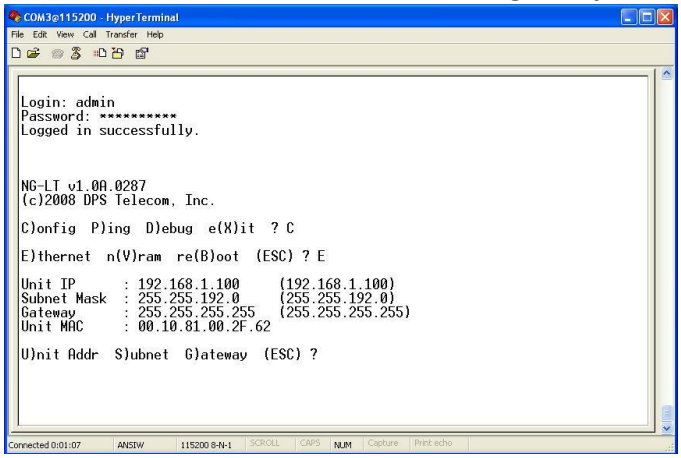
5. Select the following COM port options:
   - Connect using COM1 or appropriate COM port
   - Bits per second: 9600
   - Data bits: 8
   - Parity: None
   - Stop bits: 1
   - Flow control: **None**

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



6. 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 port you are using on your PC and make sure you are using the cable provided.

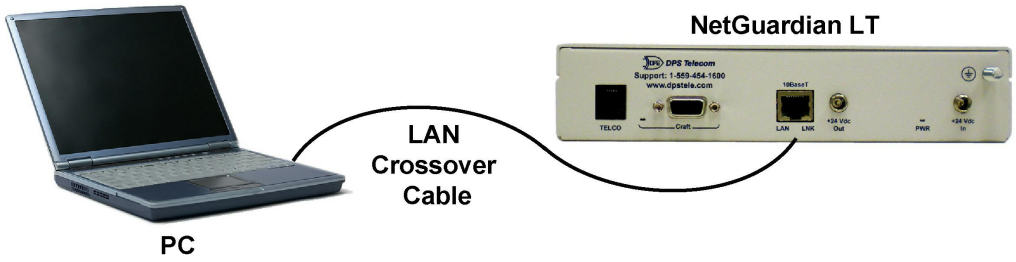
7. The NetGuardian LT's main main menu will appear. Type C for C)onfig, then E for E)thernet. Configure the unit's IP address, subnet mask, and default gateway.



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

Now you're ready to do the rest of your configuration via LAN. Plug your LAN cable into the NetGuardian LT and see Section 9, "Logging On to the NetGuardian LT" to continue databasing using the Web Browser.

7.2 ...via LAN



Connection through Ethernet port

To connect to the NetGuardian LT 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 LT, 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 LT'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**.
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 NetGuardian LT via a Telnet session or via Web browser by using the unit's default IP address of **192.168.1.100**.
6. Provision the NetGuardian LT with the appropriate information, then change your computer's IP address and subnet mask back to their original settings

8 NetGuardian LT Web Browser

8.1 Introduction

The NetGuardian LT 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, and configure paging information, and more using most commonly used browsers.

NOTE: You will see the following popup when making changes to the NetGuardian LT from the **Edit** menu. It will appear when confirming your changes to the database, either by clicking **Next** in the setup wizards or the **Save** button.

Commit to NVRAM popup

9 Logging on to the NetGuardian LT

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 LT" for instructions on initial configuration setup.

1. To connect to the NetGuardian LT 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*".

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. Most of the software configuration will occur in the **Edit** menu. The following sections provide detailed information regarding these functions.

Enter your password to enter the NetGuardian LT Web Browser Interface

Hot Tip! The max. # of users allowed to simultaneously access the NetGuardian LT via the Web is 4.

9.1 Changing the Default Password

The password can be configured from the **Edit** > **System** 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.

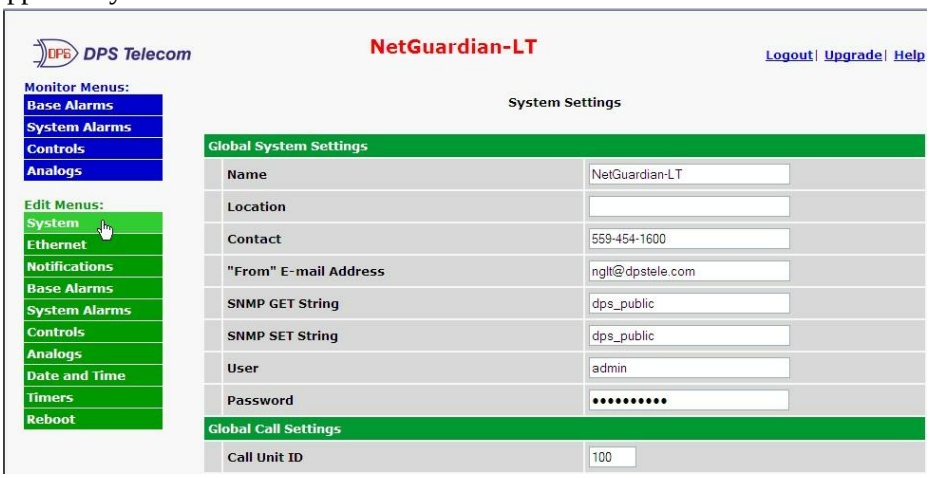
Global System Settings section of the Edit > System menu

10 NetGuardian LT - Most Important How-Tos

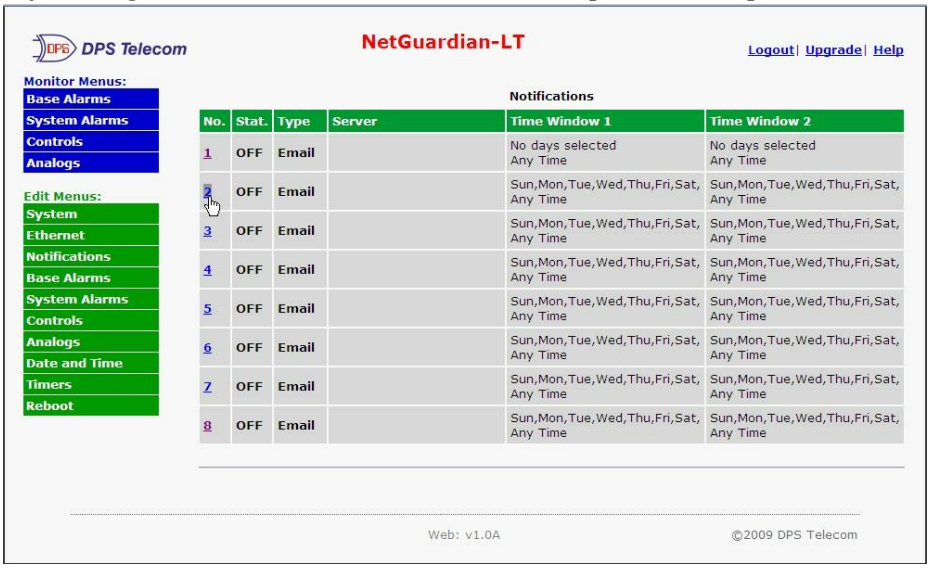
The next 3 sections of this manual will walk you through some of the most common tasks for using the NetGuardian LT. You will learn how to send email notifications, send SNMP traps to your alarm master, and setup the unit to send voice notifications - all using the Web browser. For details on entering your settings into each Web browser menu, the section "Edit Menu Field Descriptions."

10.1 How to Send Email Notifications

1. Click on the **System** button in the **Edit** menu and enter a valid email address in the **"From" Email Address** field. (You may need to check with your IT department to have one created for the unit.) This is the address that will appear in your email as the sender.

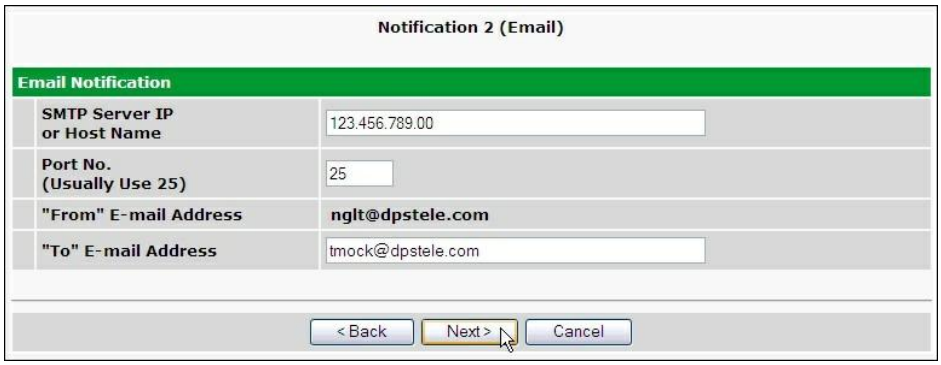


2. Click on the **Notifications** button in the **Edit** menu. You can setup as many as 8 different notifications. Begin the setup "wizard" by clicking on a notification number. In this example, we'll setup Notification 2 to send emails.

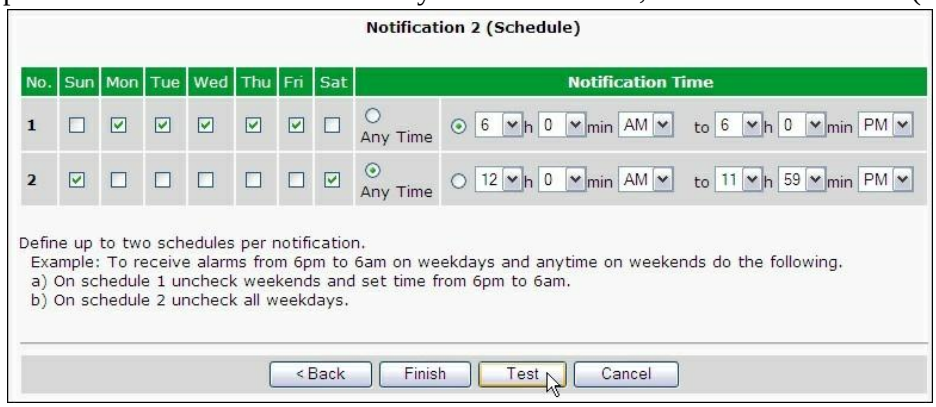


3. At the **Notification Setting** screen, check the **Enable Notification** box to turn "on" Notification 2. Now, select the **Send Email Notification** button and click Next.

4. 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. Click **Next**.

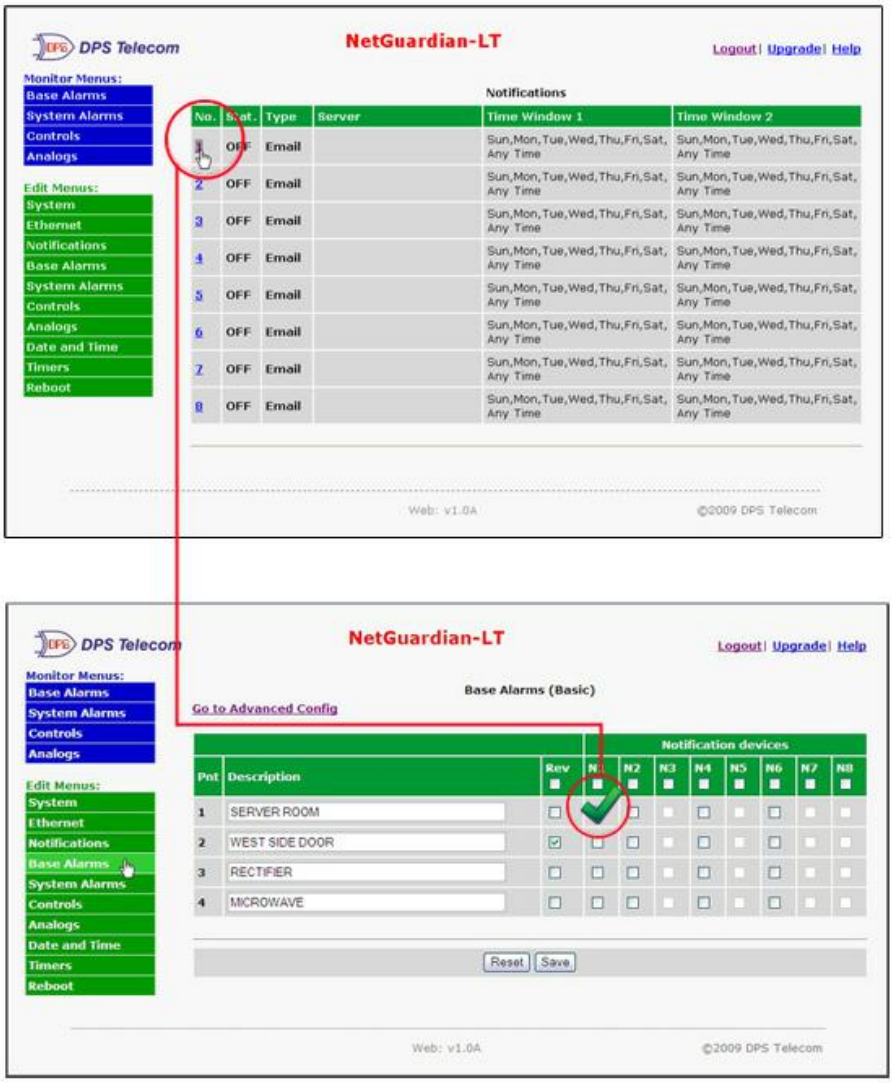


5. At the **Schedule** screen, you'll select the exact days/times you want to receive email notifications. You can set 2 schedules per notification. For example, you may want to receive notifications at certain times during the week, and at different hours on the weekend. Use the check boxes to select 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.)



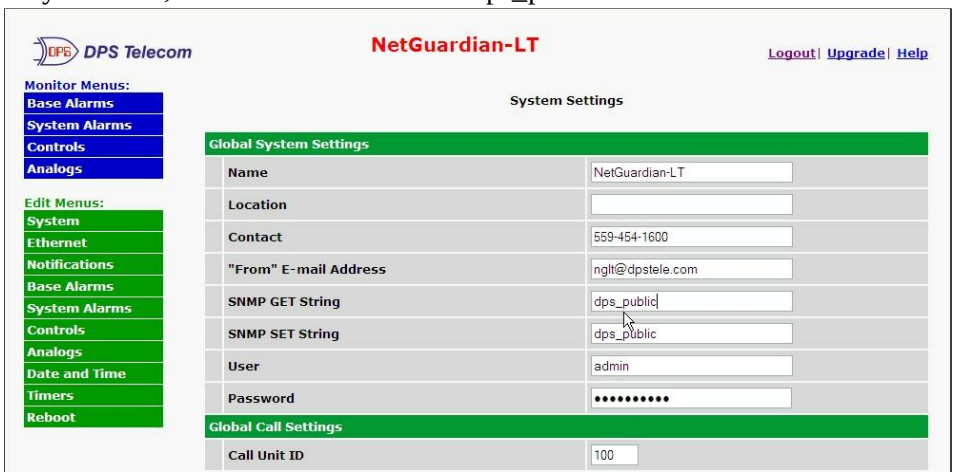
6. If you chose to test the email notification you've just setup, you will see the popup above. Click **OK** to send a test email alarm notification. Confirm all your settings by checking your email to see if you've received it. **NOTE:** This test only means that your notification settings are correct,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

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 **Base Alarm 1**. This means that you would receive an email notification when an alarm for SERVER ROOM occurs,



10.2 How to Send SNMP Traps

1. Click on the **System** button in the **Edit** menu. Enter the **SNMP GET** and **SNMP SET** 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".



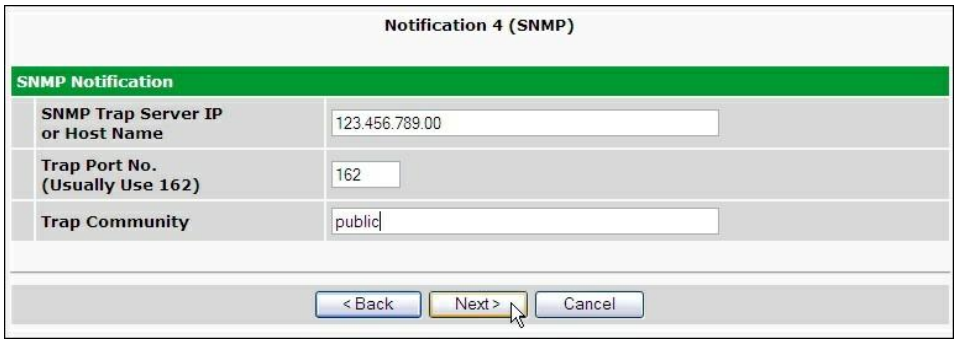
2. Click on the **Notifications** button in the **Edit** menu. You can setup as many as 8 different notifications. Begin the setup "wizard" by clicking on a notification number. In this example, we'll setup Notification 4 to send SNMP traps to your alarm master.

Notifications

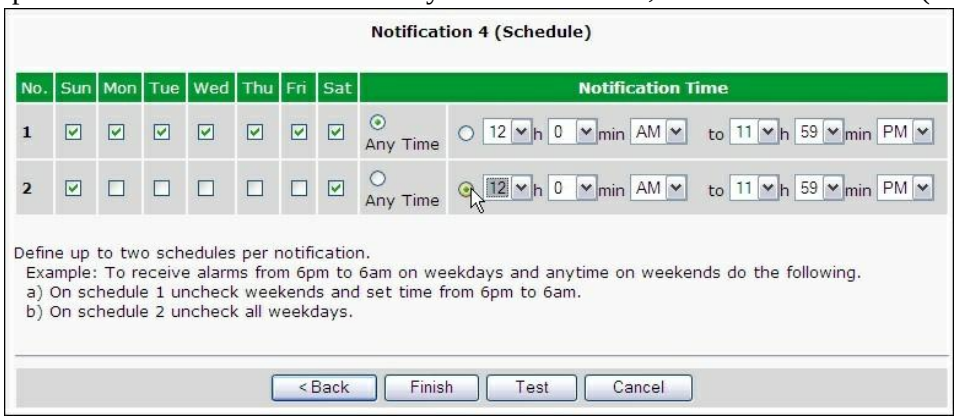
No.	Stat.	Type	Server	Time Window 1	Time Window 2
1	OFF	Email		No days selected Any Time	No days selected Any Time
2	ON	Email	123.456.789.00	Mon,Tue,Wed,Thu,Fri, 06:00AM to 06:00PM	Sun,Sat, Any Time
3	OFF	Email		Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time	Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time
4	OFF	Email		Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time	Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time
5	OFF	Email		Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time	Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time
6	OFF	Email		Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time	Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time
7	OFF	Email		Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time	Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time
8	OFF	Email		Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time	Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time

3. At the **Notification Setting** screen, check the **Enable Notification** box to turn "on" Notification 4. Now, select the **Send SNMP Notification** button and click Next.

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



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 **Finish.** To try a test notification, click the **Test** button (See next step.)

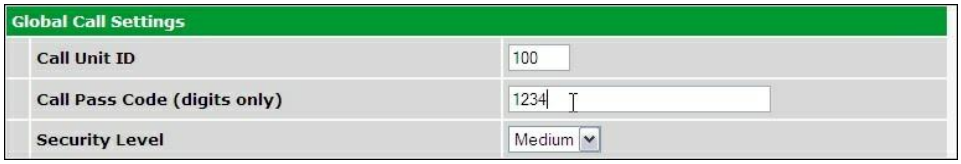


6. If you chose to test the SNMP notification, you will see the popup above. Click **OK** to send a test SNMP alarm notification. Confirm your settings by checking your alarm master to see if the SNMP trap was received.

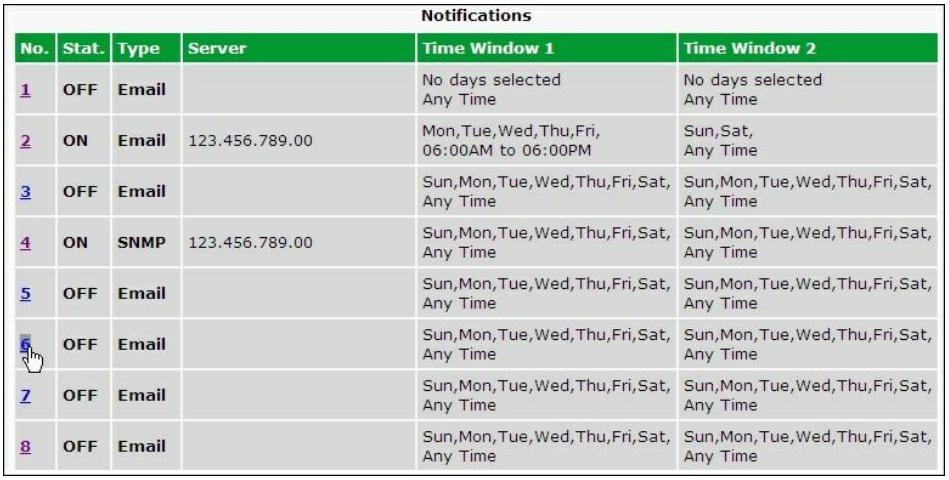
NOTE: This test only means that your notification settings are correct, but you still need to assign the notification to an alarm point. See Step 7 in "How to Send Email Notifications" for more detail.

10.3 How to Send Call (Voice) Notifications

1. Click on the **System** button in the **Edit** menu. Enter the a unit ID for this NetGuardian LT to call, as well as the global pass code. Click **Save**.



2. Click on the **Notifications** button in the Edit menu. You can setup as many as 8 different notifications. Begin the setup "wizard" by clicking on a notification number. In this example, we'll setup Notification 6 to send call (voice) notifications.

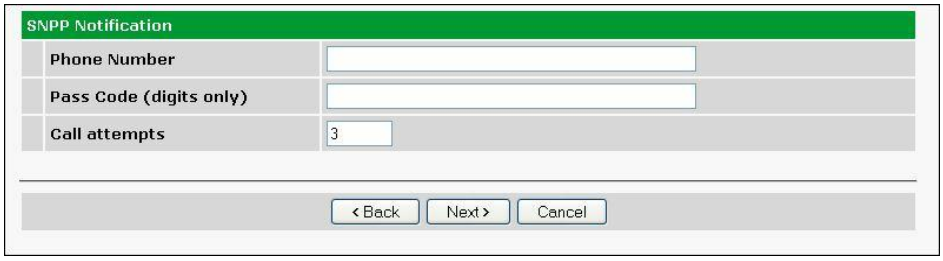


Notifications

No.	Stat.	Type	Server	Time Window 1	Time Window 2
1	OFF	Email		No days selected Any Time	No days selected Any Time
2	ON	Email	123.456.789.00	Mon,Tue,Wed,Thu,Fri, 06:00AM to 06:00PM	Sun,Sat, Any Time
3	OFF	Email		Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time	Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time
4	ON	SNMP	123.456.789.00	Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time	Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time
5	OFF	Email		Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time	Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time
6	OFF	Email		Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time	Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time
7	OFF	Email		Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time	Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time
8	OFF	Email		Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time	Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time

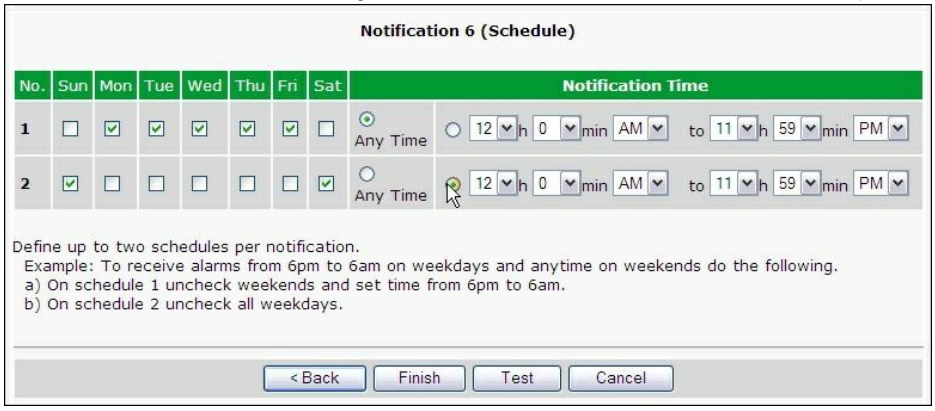
3. At the **Notification Setting** screen, check the **Enable Notification** box to turn "on" Notification 6. Now, select the **Call Notification** button and click **Next**.

4. At the **SNPP Notification** screen, enter the phone number for this notification and the pass code. Click **Next**.



5. At the **Schedule** screen, you'll select the exact days/times you want to receive call 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.)



6. If you chose to test the email notification you've just setup, you will see the popup above. Click **OK** to send a test call alarm notification. Confirm all your settings by having your phone nearby to receive the test call.

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 7 in "How to Send Email Notifications" for more detail.

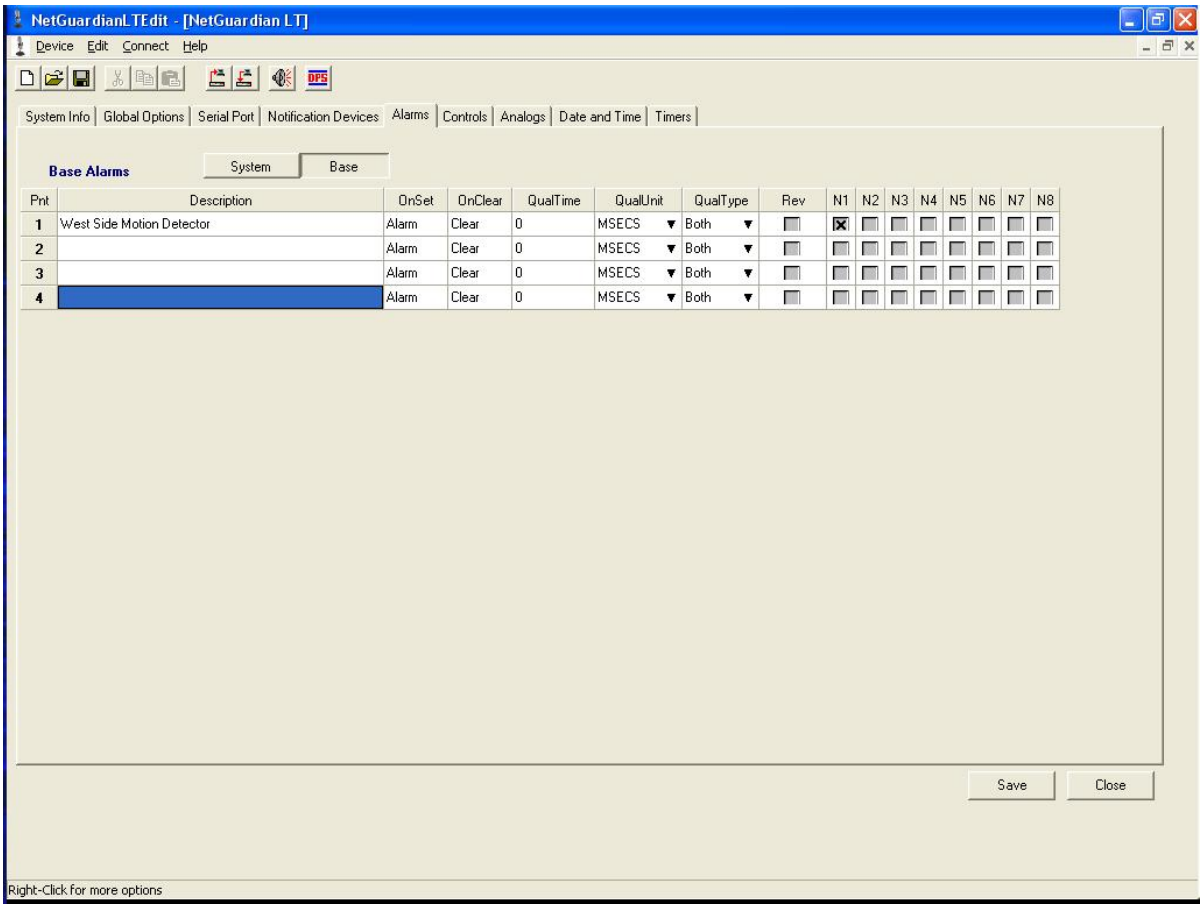
10.4 How to Create Custom Voice Alerts

One feature that sets the NetGuardian LT apart from other DPS RTUs is the custom voice notifications. The NetGuardian LT can be setup to call your home or cell phone, informing you of exactly which points are in alarm. No matter where you are in the field, you'll have the ability to acknowledge alarms from your touch-tone phone.

10.4.1 Using the NetGuardianLTEdit Software

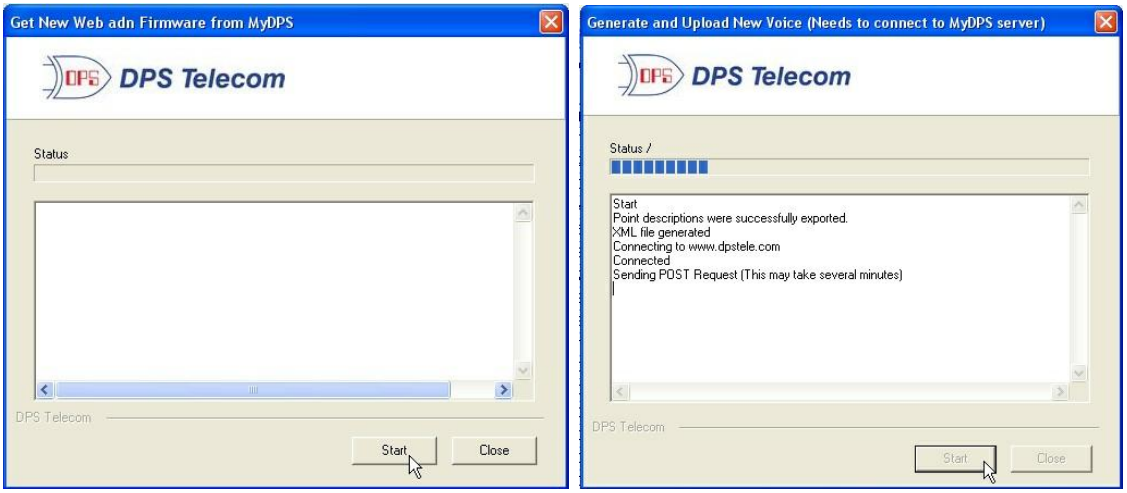
To generate voice config files from the offline editor:

1. Set your alarm and control descriptions, then click **Save** at the bottom of the LTEdit utility . For information on using the LTEdit software, see the LTEdit software manual.

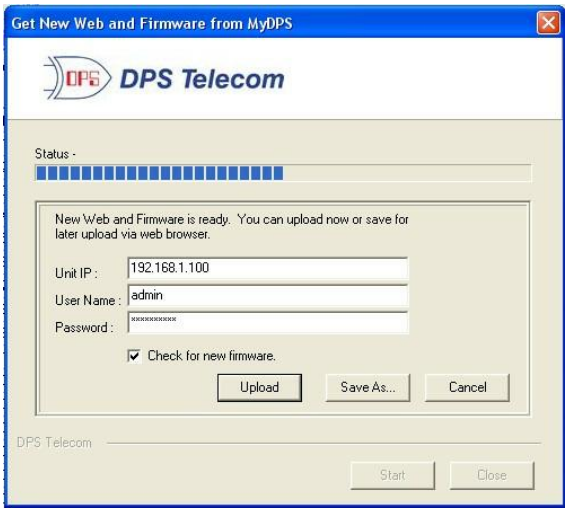


2. Click on the  **Generate and Upload Voice** button at the top of the screen.

3. When prompt appears, select start to send POST request. **Note:** This process requires your PC to reach the DPS Telecom website (www.dpstele.com). The DPS website converts your text ("West Side Motion Detector in the example above) into a voice file to be played when an alarm occurs.



4. To upload new web and firmware, type in NetGuardian LT IP address, user name and password. Select **Check for new firmware** to get the latest firmware version.



5. Click **Upload** to upload new web and firmware to the unit. Or click **Cancel** to keep current .bnd file in install directory

6. Click **Save As...** to save new web and firmware to your PC

7. Upload the new .bnd file to the NetGuardian LT via the NetGuardian LT web browser

8. Now the voice file and firmware have been upgraded, but the database created using NetGuardian LTEdit has not yet been sent to the unit. Click **Connect** at the top of the NetGuardian LTEdit software, then click **Write to Unit.**

Note: If you require custom text-to-speech notifications or need to use your own voice file for notifications, contact DPS Tech Support at **(559)-454-1600**.

11 Monitoring via the Web Browser

11.1 Monitoring Base Alarms

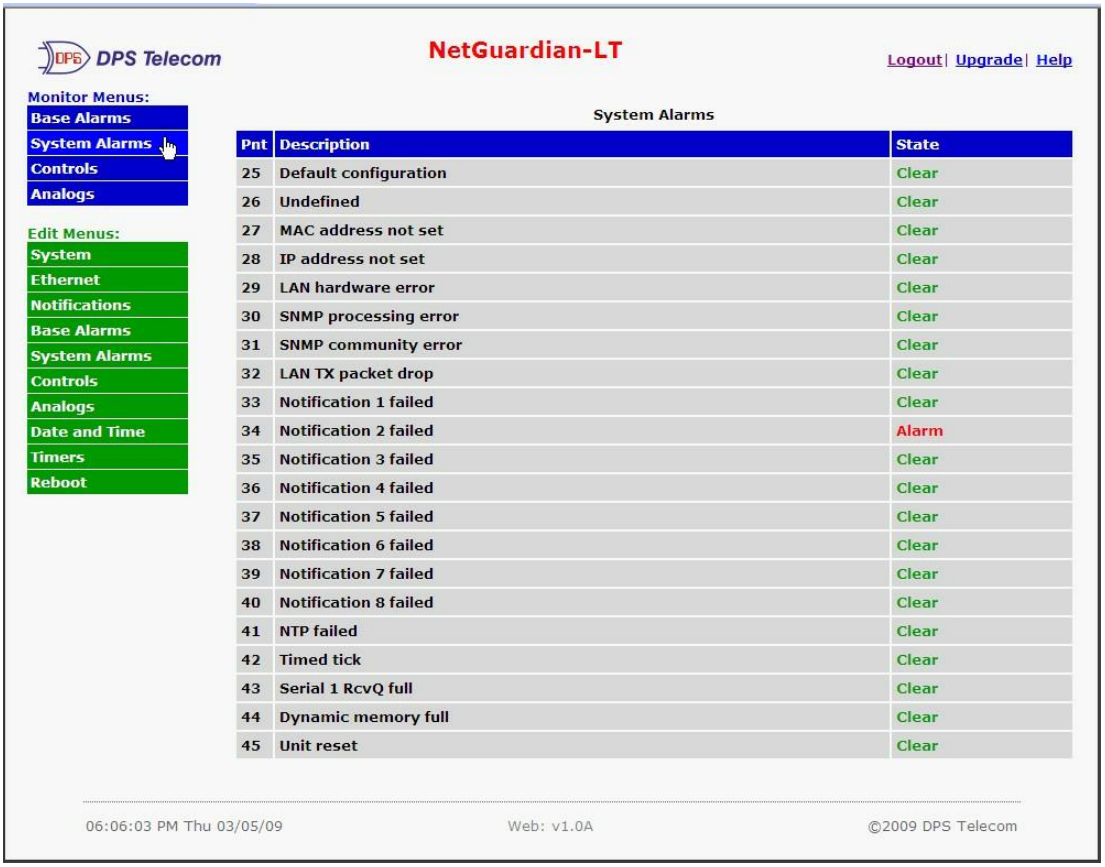
This selection provides the status of the base alarms by indicating if an alarm has been triggered. Under the **State** column, the status will appear in red if an alarm has been activated. The status will be displayed in green when the alarm condition is not present.

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

11.2 Monitoring System Alarms

System alarms are not-editable, housekeeping alarms that are programmed into NetGuardian LT. 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.

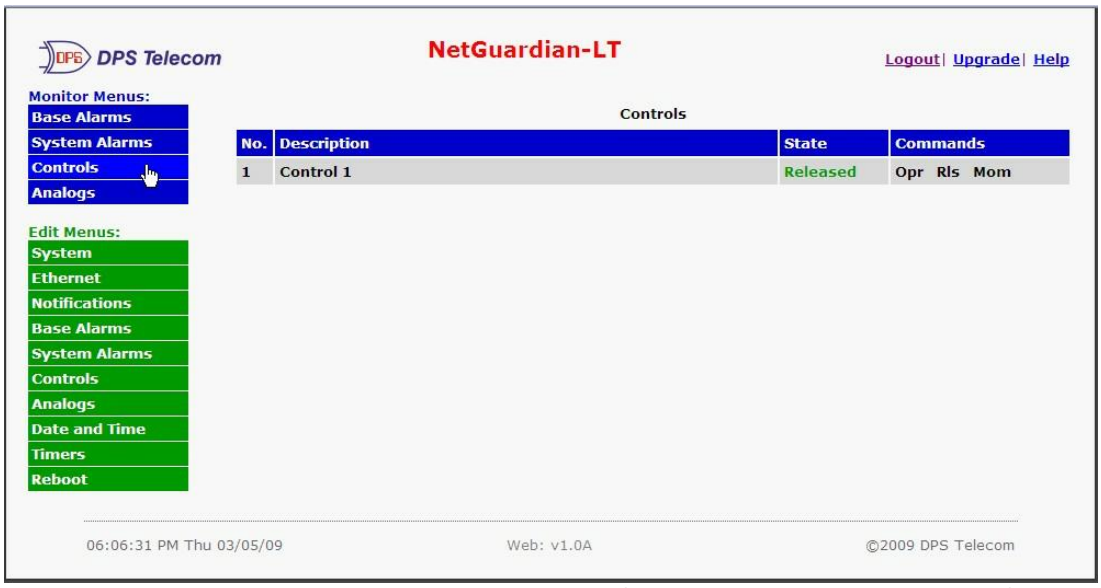


View the status of System Alarms from the Monitor > System Alarms menu.

11.3 Operating Controls

Use the following rules to operate the NetGuardian LT's control:

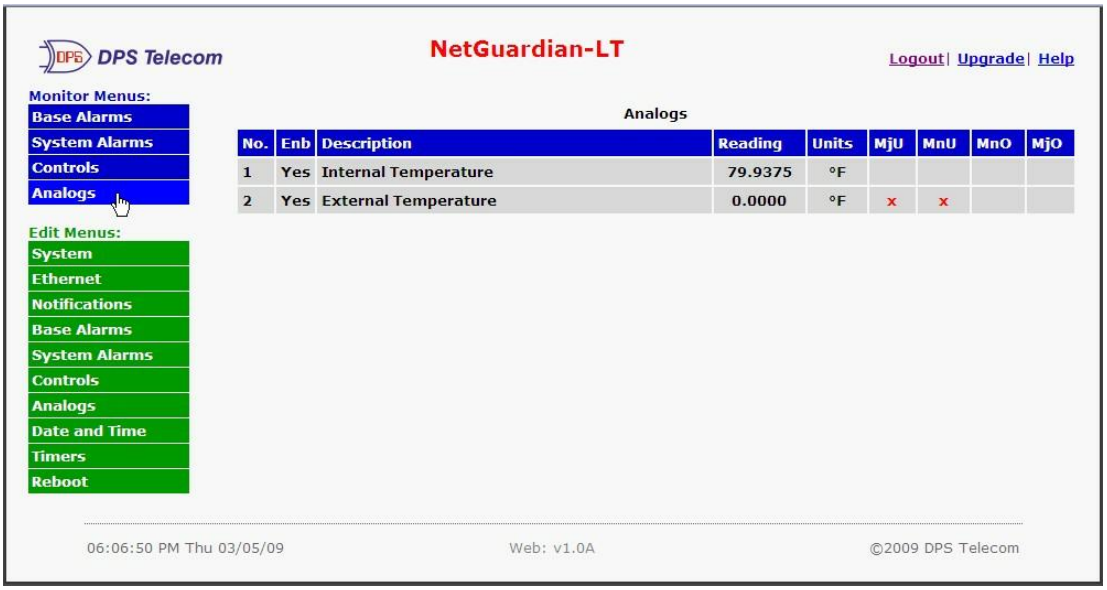
1. Select **Controls** from the **Monitor** menu.
2. Under the **State** field, you can see the current condition of the control.
3. To issue the control, click on a command (**Opr** - operate, **Rls** - release, or **Mom** - momentary)



Operate the control relay by clicking on one of the actions in the Commands field.

11.4 Monitoring Analog Temperature Sensors

This selection provides the status of the system's temperature sensors by indicating if an alarm has been triggered. The **Monitor** menu > **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.

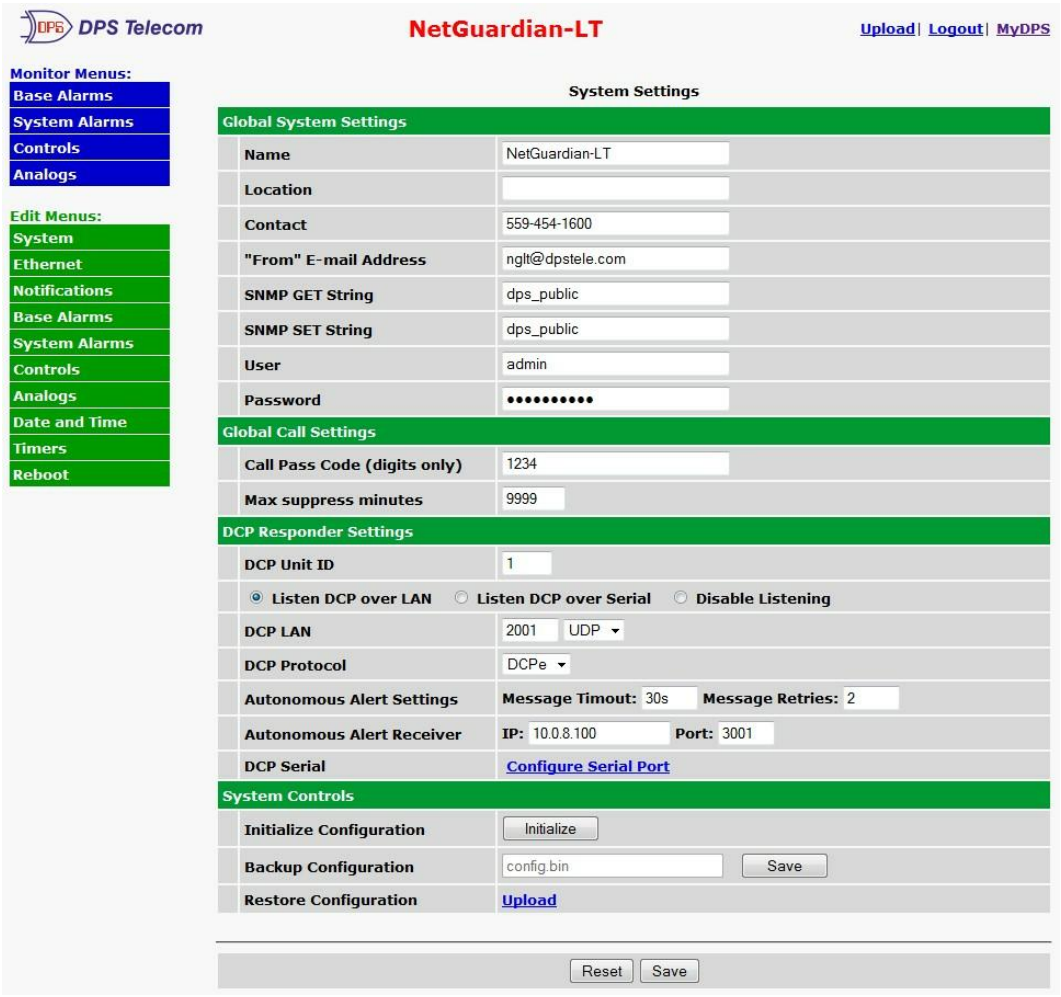


Click on Analogs in the Monitor menu to view the current internal and external temperature readings.

12 Edit Menu Field Descriptions

12.1 System

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

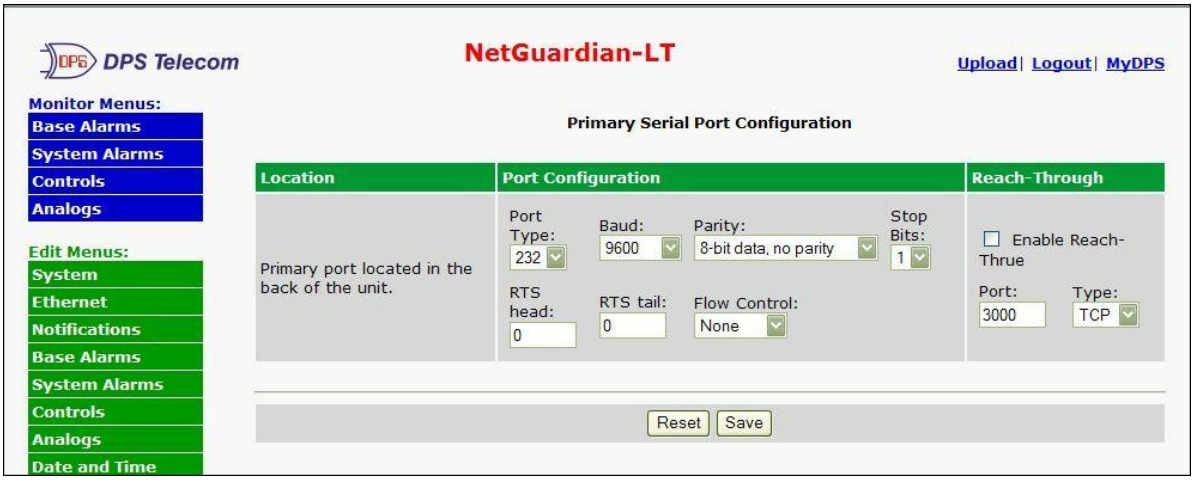


The Edit > System menu

Global System Settings	
Name	A name for this NetGuardian LT.
Location	The location of this NetGuardian LT.
Contact	Contact telephone number for the person responsible for this NetGuardian LT.
"From" Email Address	A valid email address used by the NetGuardian LT for sending email alarm notifications.
SNMP GET String	Community name for SNMP requests. (case-sensitive).
SNMP SET String	Community name for SNMP SET requests. (case-sensitive).
User	Used to change the username for logging into the unit.
Password	Used to change the password for logging into the unit (case-sensitive).
Global Call Settings	
Call Pass Code	Pass code used for inbound and outbound voice/DTMF access. Enter digits only.
Max Suppress Minutes	Indicates the maximum number of minutes for which a user may suppress an alarm.

	Suppressing Alarms Via the DTMF menus, a user may choose to "suppress" an alarm. Suppressing an alarm prevents the NetGuardian from sending voice notifications for that alarm for a user-specified number of minutes. When the suppression period expires, the NetGuardian will send voice notification of the alarm's last recorded state.
DCP Responder Settings *(For use with T/Mon)*	
DCP Unit ID	User-definable ID number for this NetGuardian LT (DCP Address).
Listen DCP	Choose to listen DCP over LAN or serial. May also be disabled.
DCP LAN	Enter the DCP port for this NetGuardian LT (UDP/TCP port).
DCP Protocol	Selects DCP protocol. Options include the standard DCPx communication protocol or the DCPe protocol for polling applications. Selecting DCPe will display two new options.
Autonomous Alert Settings (DCPe only)	Input a duration for message timeouts (use 's' for seconds and 'm' for minutes) and the number of polling retries (maximum number of retires can be set to 20). Only used for polling application with NetGuardian 16 with substation firmware.
Autonomous Alert Receiver (DCPe only)	Enter the IP address and Autonomous Receiver Port number of the polling device that's going to receive the messages (IP address for the NetGuardian 16). Only used for polling application with NetGuardian 16 with substation firmware.
DCP Serial	Clickable link to configure serial port settings.
System Controls	
Initialize Configuration	Used to restore all factory default settings to the NetGuardian LT. Do not initialize the non-volatile RAM (NVRAM) unless you want to re-enter all of your configuration settings again.
Upgrade Firmware	Clickable link that takes you to the Firmware Load screen, where you'll browse to the downloaded firmware update saved on your PC.

12.1.1 Configure Serial Port

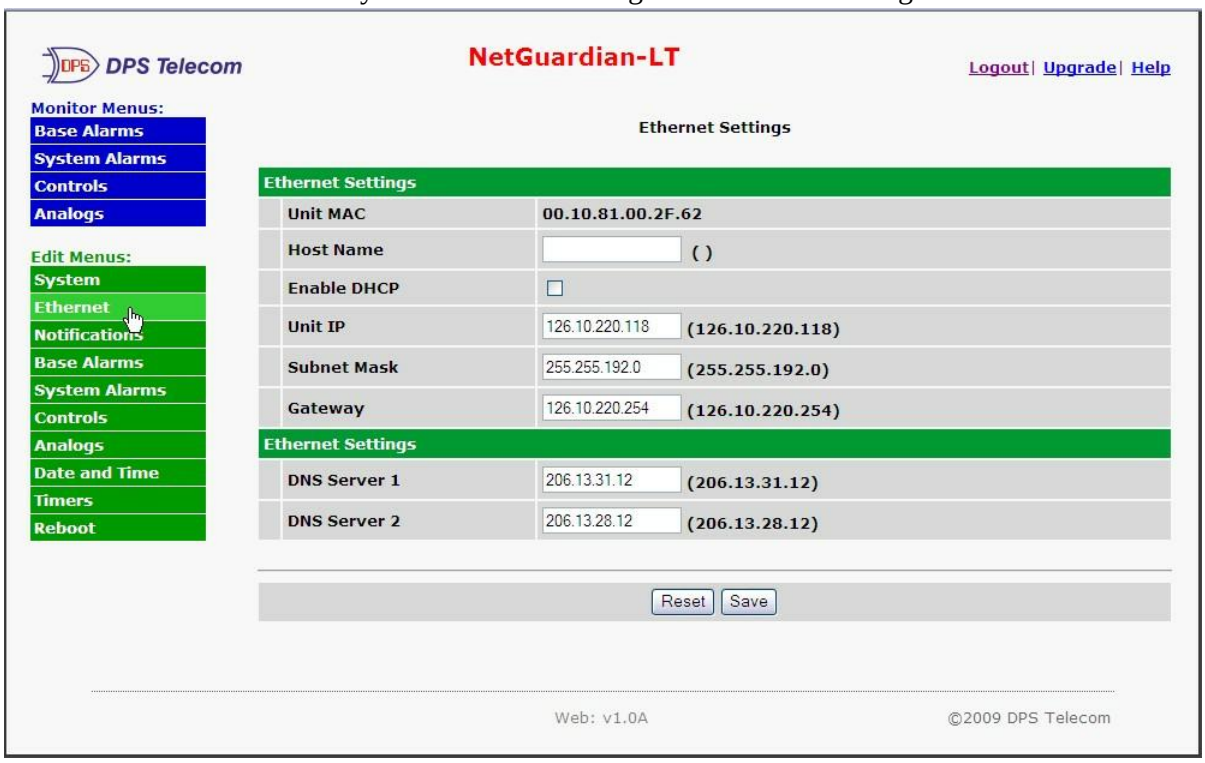


Port Configuration	
Port Type	Select the serial port for your build of the NetGuardian. Choose from 202, 232, 485...
Baud, Parity, Stop Bits, and Flow Control	Select the appropriate settings from the drop-down menu.
RTS Head	Only used if your NetGuardian was built with a 202 modem. The most commonly used value is 30.
RTS Tail	Only used if your NetGuardian was built with a 202 modem. The most commonly used value is 10.

Flow Control	
Reach-Through	
Enable Reach-through	Checking this box enables the port to be used as a terminal server. Most commonly used to Telnet through the port over LAN to a hub, switch, or router. From a command prompt, type the following *(note the spaces between each entry)*: telnet [IP address] [port] **Example**: telnet 192.168.1.100 3000
Port	Port number used for reach-through to a serial device.
Type	Select TCP or UDP traffic to be passed through to a serial device.

12.2 Ethernet

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



The Edit > Ethernet menu

Ethernet Settings	
Unit MAC	Hardware address of the NetGuardian LT. (Not editable - For reference only.)
Host Name	Used for local subnet access.
Enable DHCP	Used to turn on Dynamic Host Connection Protocol.
Unit IP	IP address of the NetGuardian LT.
Subnet Mask	A road sign to the NetGuardian LT, telling it whether your packets should stay on your local network or be forwarded somewhere else on a wide-area network.
Gateway	An important parameter if you are connected to a wide-area network. It tells the NetGuardian which machine is the gateway out of your local network. Set to 255.255.255.255 if not using.
Ethernet Settings	
DNS Server 1	Primary IP address of the domain name server. Set to 255.255.255.255 if not using.

DNS Server 2	Secondary IP address of the domain name server. Set to 255.255.255.255 is not using.

12.3 Notifications

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

Notifications

No.	Stat.	Type	Server	Time Window 1	Time Window 2
1	OFF	Email		No days selected Any Time	No days selected Any Time
2	ON	Email	123.456.789.00	Mon,Tue,Wed,Thu,Fri, 06:00AM to 06:00PM	Sun,Sat, Any Time
3	OFF	Email		Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time	Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time
4	OFF	Email		Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time	Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time
5	OFF	Email		Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time	Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time
6	OFF	Email		Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time	Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time
7	OFF	Email		Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time	Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time
8	OFF	Email		Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time	Sun,Mon,Tue,Wed,Thu,Fri,Sat, Any Time

The Edit > Notifications menu

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 or call (voice).

Notification 2

Notification Setting

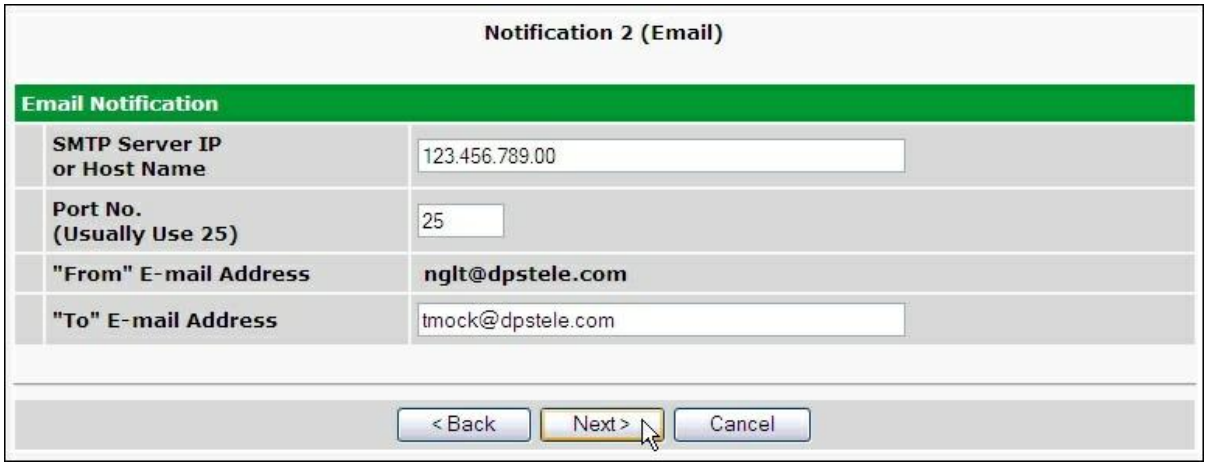
- ☑ Enable Notification
- ◉ Send Email Notification
- ○ Send SNMP Notification
- ○ Call Notification

Next > Cancel

The Notification Setting menu

12.3.1 Notification Settings

Email Notification Fields



Email Notification	
SMTP Server IP or Host Name	The IP address of your email server.
Port Number	The port used by your email server to receive emails, usually set to 25.
"From" E-mail Address	Displays the email address (defined in the Edit menu > System) that the NetGuardian LT will send email from. Not editable from this screen.
"To" E-mail Address	The email address of the person responsible for this NetGuardian LT, who will receive email alarm notifications.

- -

SNMP Notification Fields

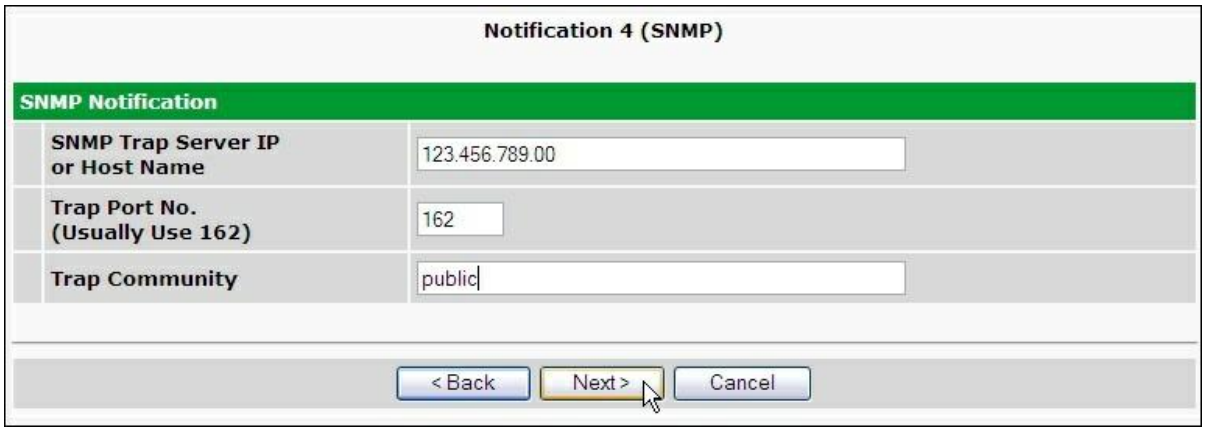


Fig. 12f *- Editing SNMP notification settings*

SNMP Notification	
SNMP Trap Server IP or Host Name	The SNMP trap manager's IP address.
Trap Port No.	The SNMP port (UDP port) set by the SNMP trap manager to receive traps, usually set to 162.
Trap Community	Community name for SNMP TRAP requests.

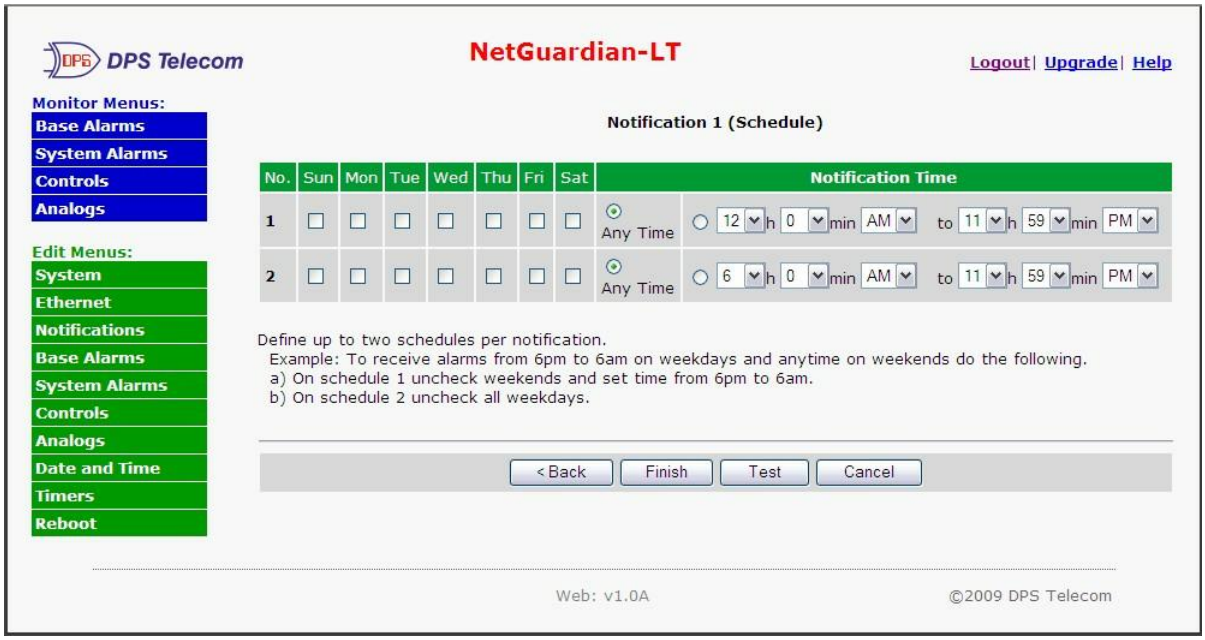
Call Notification Fields

Editing Call notification settings

Call Notification	
Phone Number	The phone number the NetGuardian LT should call when sending call (voice) notifications.
Pass Code	Pass code for inbound and outbound voice/DTMF access. Enter digits only.
Call Attempts	Number of tries the NetGuardian LT will attempt to call a phone number before moving on to the next one.
24-hour clock format	Changes the notification time stamp to 24-hour format

12.3.2 Schedule

The **Edit** > **Schedule** menu is where you will tell the NetGuardian LT exactly which days and times you want to receive alarm notifications. You set 2 different schedules for each discrete base alarm.

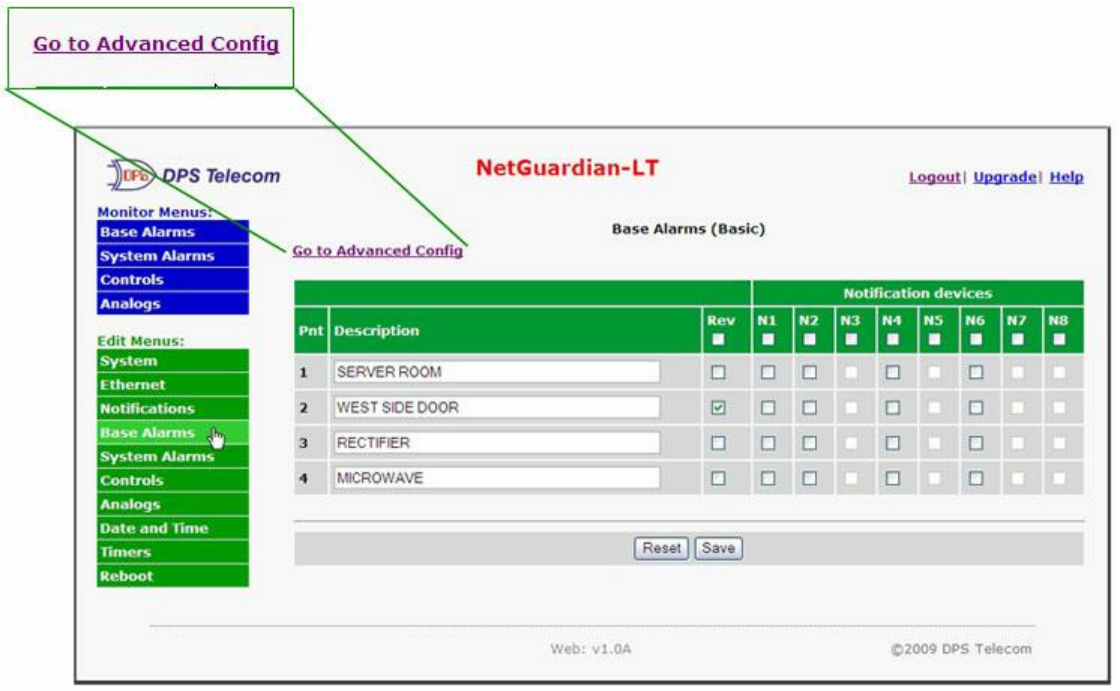


The Schedule creation screen

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

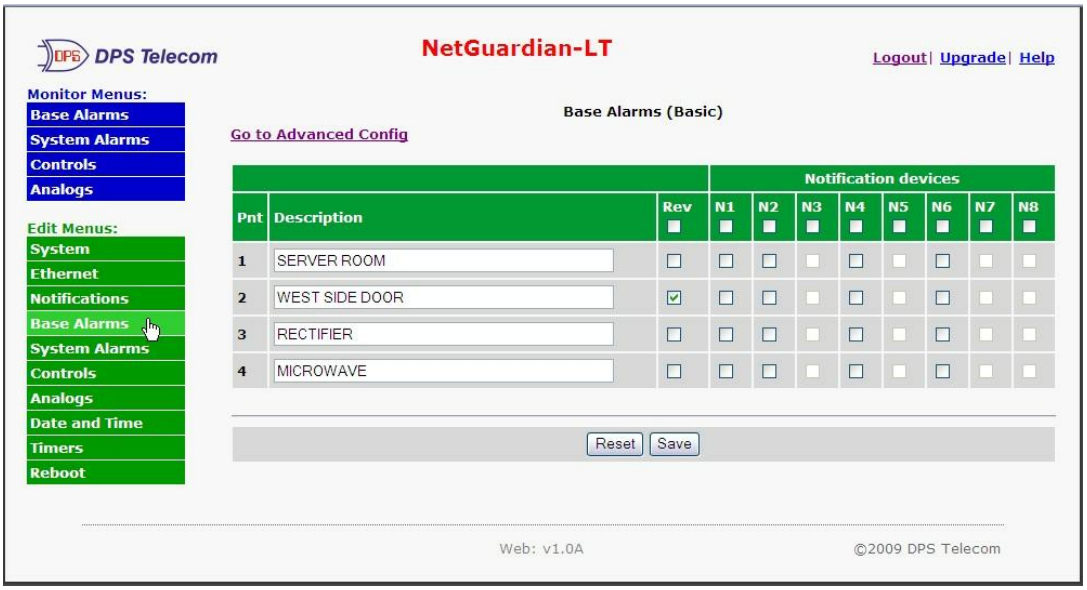
12.4 Base Alarms

The NetGuardian LT's 4 discrete base alarms are configured from the **Edit** > **Base 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 a **Basic** or **Advanced** configuration methods, explained the the following 2 sections.



The Advanced Config button on the Edit > Base Alarms screen

12.4.1 Basic Configuration



The Edit > Base Alarms menu

Pnt (Point)	Alarm point number.
Description	User-definable description for the discrete alarm input.
Rev (Reverse)	Reverse: Check this box to reverse the polarity of the alarm point. Left un-checked, this means a normally-open contact closure is an alarm. When polarity is reversed, a normally-closed alarm point is clear when closed.
Notification devices	Check which notification device(s), 1 through 8, you want to send alarm notifications for that alarm point. Check the box in the green bar (top) to have a notification device send an alarm for all 4 alarm points.

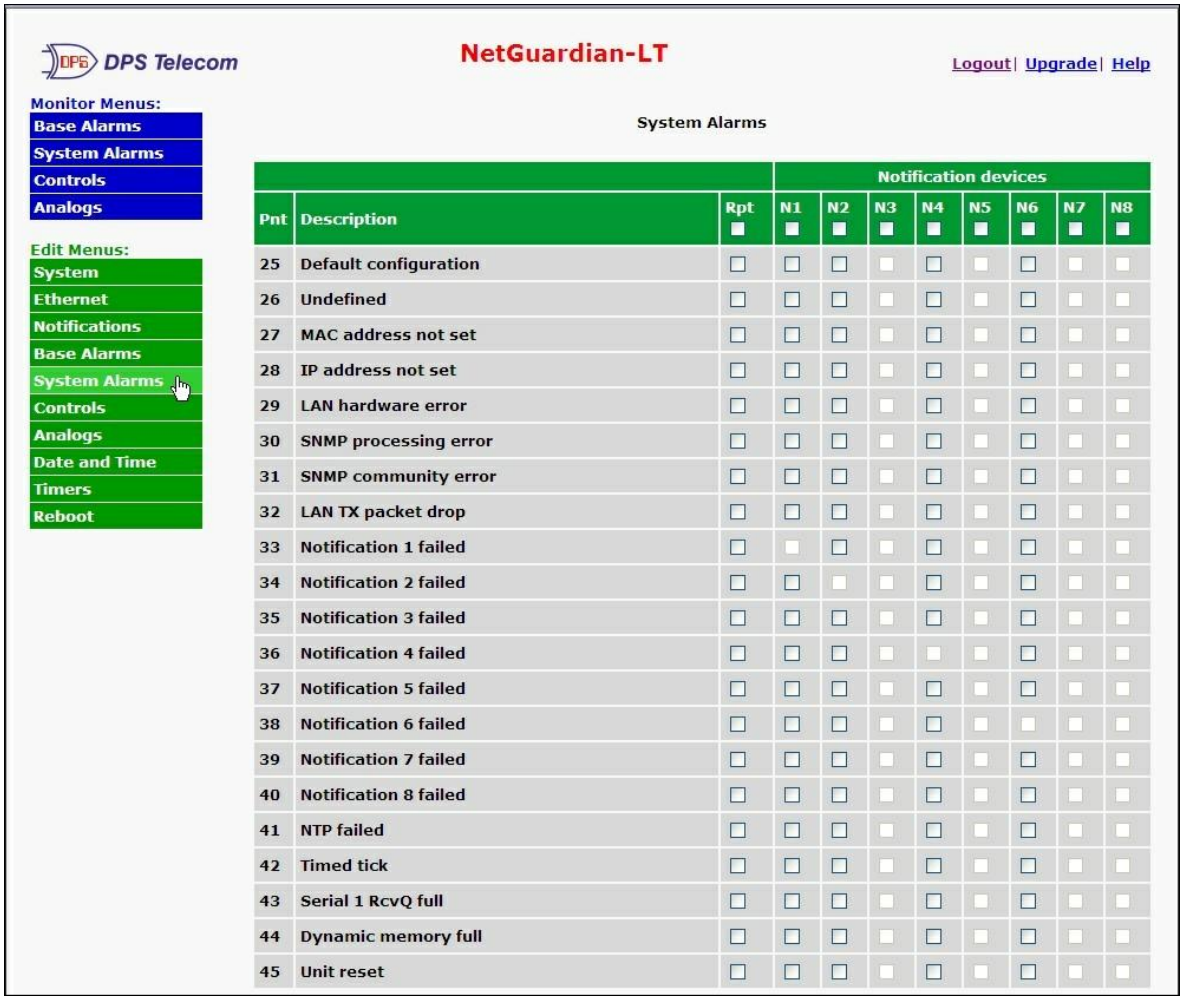
12.4.2 Advanced Configuration

The Advanced Base Alarms Config screen

Pnt (Point)	Point: Alarm point number.
Description	User-definable description for the discrete alarm input.
On Set	User-definable description (condition) that will appear for the discrete alarm input on Set. Example: "Alarm"
On Clear	User-definable description (condition) that will appear for the discrete alarm input on Clear. Example: "Clear"
Qual. Time (Qualification Time)	The length of time that must pass, without interruption, in order for the condition to be considered an Alarm or a Clear.
Qual. Type (Qualification Type)	Allows you to choose whether you want to apply the Qualification Time to the alarm Set, Clear, or Both.

12.5 System Alarms

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

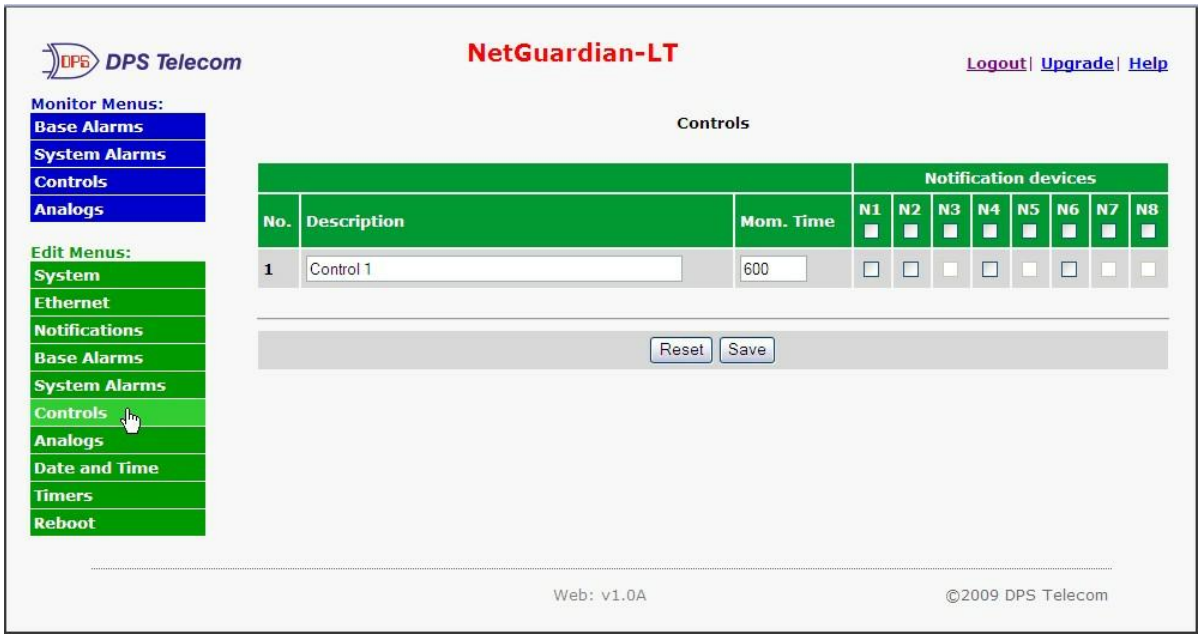


The Edit > System Alarms menu

Pnt (Point)	Alarm point number
Description	Non-editable description for this System (housekeeping) Alarm.
Rpt (Report)	Check this box to choose to report this alarm.Check the box in the green bar (top) to have all System Alarms reported.
Notification devices	Check which notification device(s), 1 through 8, you want to send alarm notifications for that alarm point. Check the box in the green bar (top) to have that notification device send a notification for all the System Alarms.

12.6 Controls

The NetGuardian LT's relay can be configured in the **Edit** > **Controls** menu. You can enter your own description for this relay and designate it to a notification device(s).



The Edit > Controls menu

Description	User-definable description for the NetGuardian LT's control.
Mom. Time	Control on time (in milli-seconds) when you execute the MOM command.
Notification devices	Check which notification device(s), 1 through 8, you want to send alarm notifications for the control.

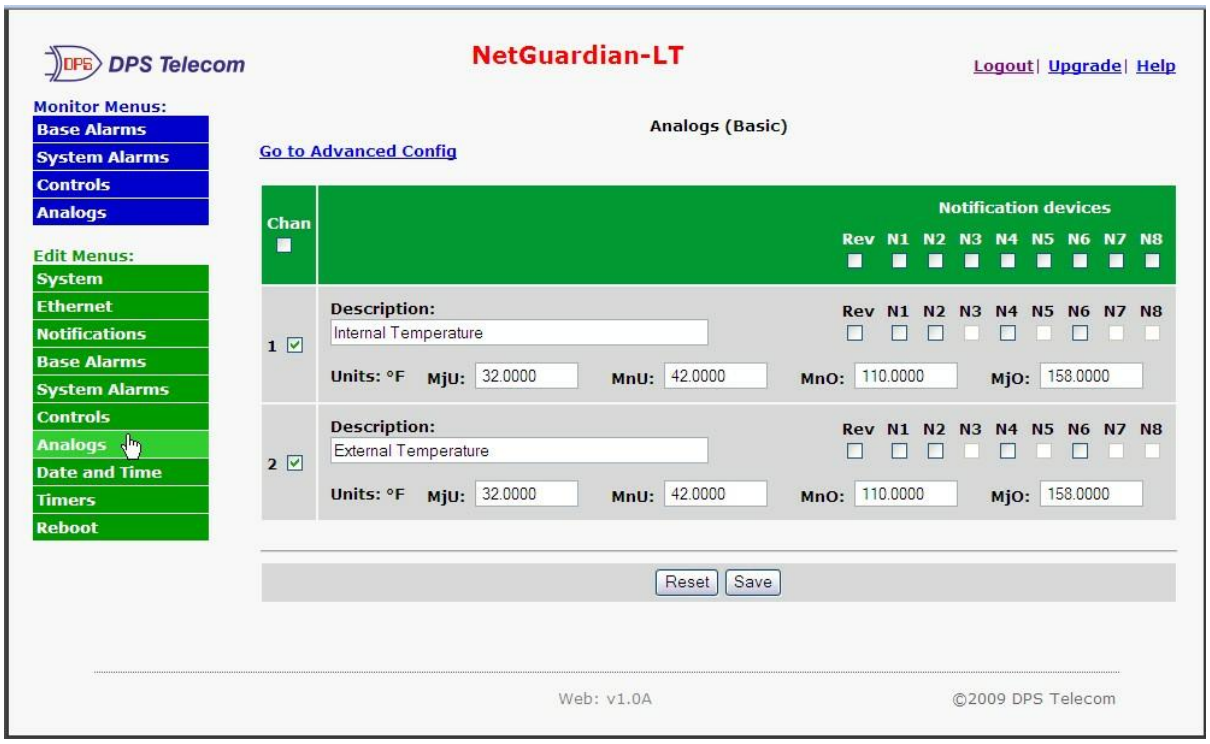
12.7 Analogs

The NetGuardian LT's internal and external temperature sensors monitor the ambient temperature. Both sensors measure a range of 32° F to 140° F (0° C to 60° C) within an accuracy of ± 1°. The external temperature sensor provides external temperature readings by plugging the optional probe into the ttemperature port on the NetGuardian LT's front panel.

You also have the option to use a Basic or Advanced configuration methods, explained the the following 2 sections.

12.7.1 Basic Configuration

Basic configuration for the NetGuardian LT's analog temperature sensors can be accomplished from the **Edit** > **Analogs** menu. From this screen, you enable or disable the analog channels, select notification devices, and set thresholds.



The basic Edit > Analogs menu

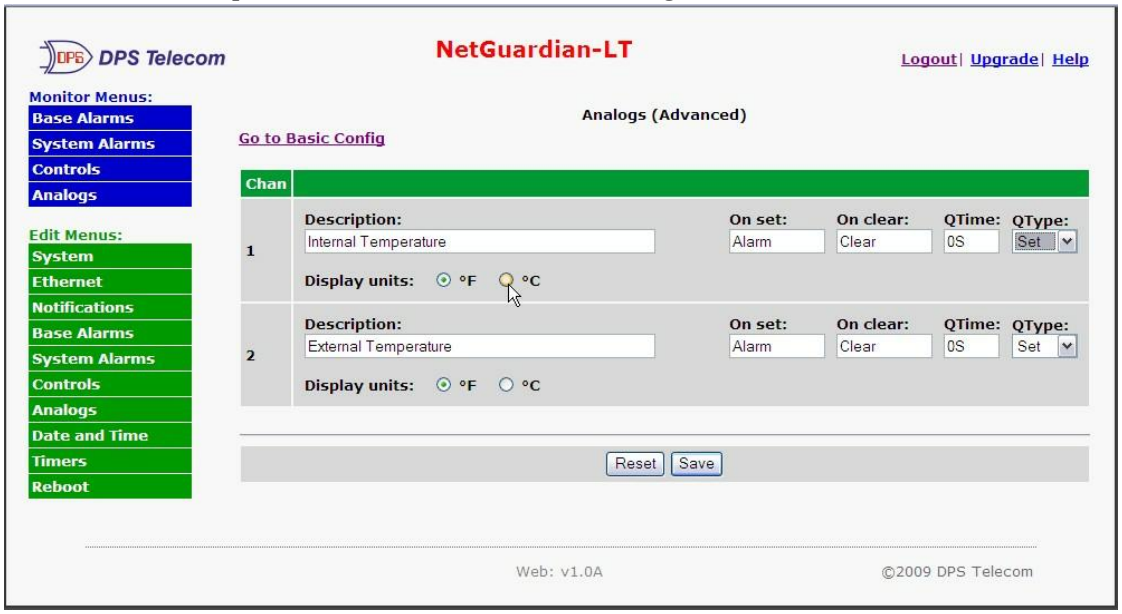
Chan (Channel)	Check which analog temperature channel you want to use.
Description	User-definable description for the analog channel.
Rev (Reverse)	Check this box to reverse the polarity.
Notification devices	Check which notification device(s), 1 through 8, you want to send alarm notifications for that analog alarm. Check the box in the green bar (top) to have a notification device send an alarm for both analog channels.
MjU (Major Under) MnU (Minor Under) MnO (Minor Over) MjO (Major Over)	Threshold settings. These user-defined value are used to indicate the severity of the alarm by indicating when the temperature has passed the values you've set.

12.7.2 Advanced Configuration

To access the **Advanced** configuration screen, click the **Go to Advanced Config** link near the top of the screen.

The Advanced Config button on the Edit > Analogs screen

From the **Advanced** configuration screen, you can now select which temperature units you want to use, define alarm "set" and "clear" descriptions, and define Qualification settings.

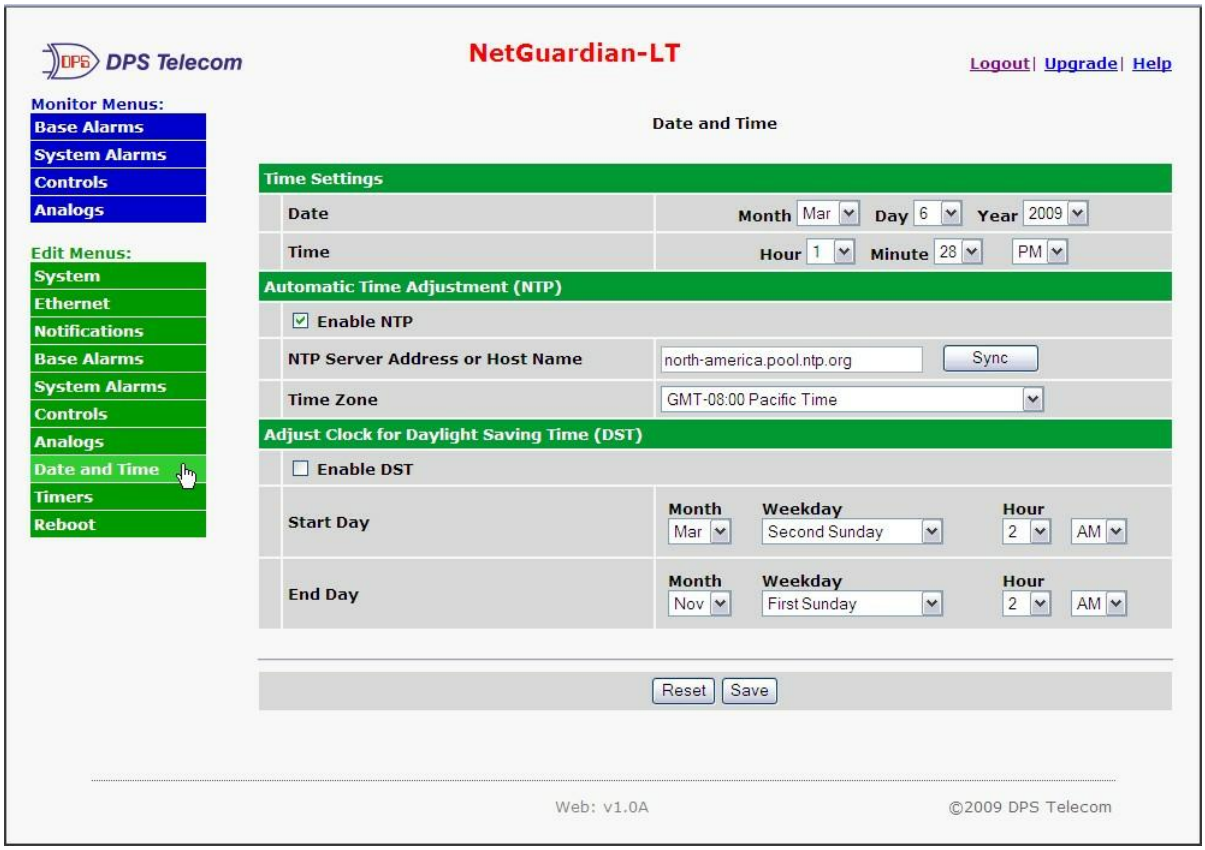


The Advanced Edit > Analogs menu

Description	User-definable description for the analog alarm.
On set	User-definable description (condition) that will appear for the temperature alarm on Set. Example: "Alarm"
On clear	User-definable description (condition) that will appear for the temperature alarm Clear. Example: "Clear"
QTime (Qualification Time)	The length of time that must pass, without interruption, in order for the condition to be considered an Alarm or a Clear.
QType (Qualification Type)	Allows you to choose whether you want to apply the Qualification Time to the alarm Set, Clear, or Both.

Display Units	Choose to display temperature readings in degrees Fahrenheit or Celsius.

12.8 Date and Time

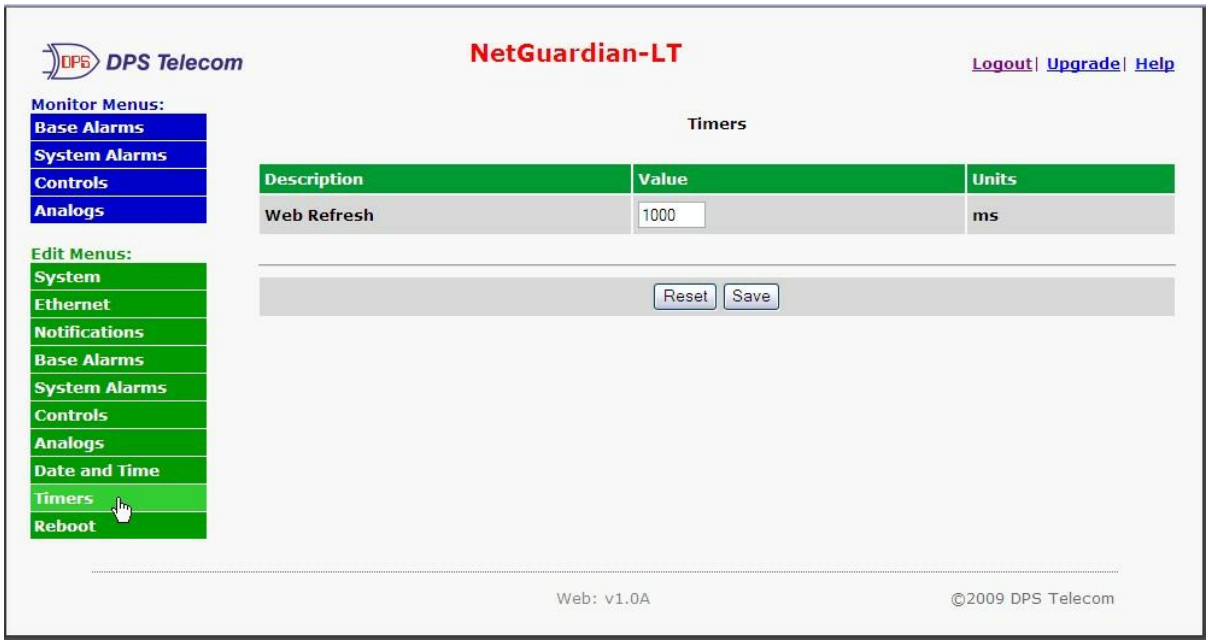


The Edit > Date and Time menu

Time Settings	
Date	Select the current month, day, and year from the drop-down menus.
Time	Select the current hour, minutes, and time of day fro the drop-down menus.
Automatic Time Adjustment (NTP)	
Enable NTP	Check this box to enable Network Time Protocol.
NTP Server Address or Host Name	Enter the NTP server's IP address or host name, then click Sync. Example: north-america.pool.ntp.org
Time Zone	Select your time zone from the drop-down menu.
Adjust Clock for Daylight Savings Time (DST)	
Enable DST	Check this box to have the NetGuardian LT observe Daylight Savings.
Start Day	Select the month, weekday, and time when Daylight Savings will begin.
End Day	Select the month, weekday, and time when Daylight Savings will end.

12.9 Timers

The **Web Refresh** timer is user-definable, and allows to choose the intervals to automatically refreshing the NetGuardian LT Web Browser. Enter the amount of time (in milli-seconds) in the **Value** field and click **Save**.



The Edit > Timers menu

12.10 Reboot

Click on the **Reboot** link from the **Edit** menu will reboot the NetGuardian LT after writing all changes to NVRAM.

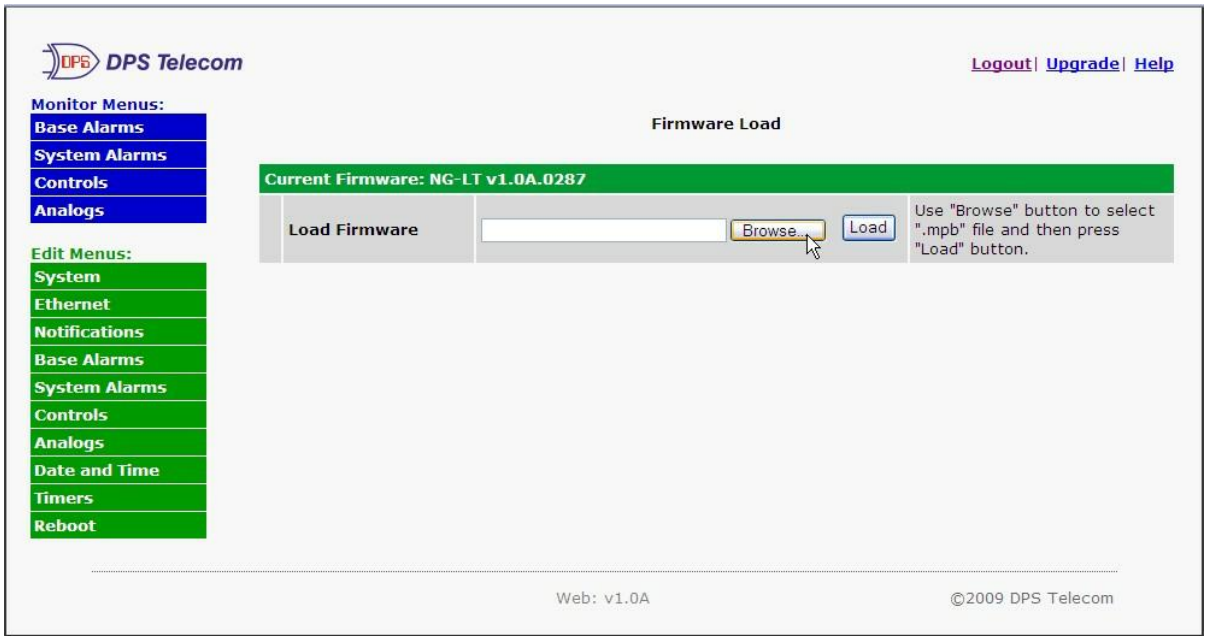
The Edit > Reboot confirmation popup

13 Firmware Upgrade

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

The clickable link to upgrade firmware from the Edit > System menu

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



Browse for downloaded firmware upgrade

14 Reference Section

14.1 LED Funtionality

Front Panel LEDs

LED	Status	Description
Alarms 1 - 4	Solid Red	Alarm active
	Off	No alarm
Status	Slow Green	Shows the unit is running
Voice	Blink Red	Voice file is playing
	Blink Green	Dialing
Relay	Solid Red	Relay latched
	Green	Relay unlatched

Back Panel LEDs

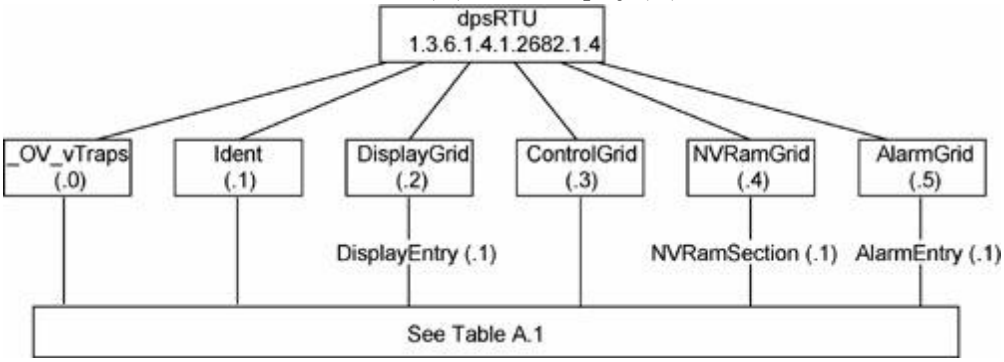
LED	Status	Description
Craft Port	Blink Green	Transmit over craft.
	Blink Red	Receive over craft.
LAN	Blink Yellow	Transmit and receive activity over Ethernet port.
LNK	Solid Green	Ethernet link OK.
Power	Solid Green	Power is connected to the NetGuardian LT.
	Off	Power is disconnected from the NetGuardian LT.

14.2 Display Mapping

	Description	Port	Address	Point
Display 1	Discrete Alarms	99	1	1-4
	Unused	99	1	5-16
	Control Relays	99	1	17
	Unused	99	1	18-32
	System Alarms	99	1	25-45
Display 2	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
	Internal Temp Value	99	1	5-64
Display 3	Analog 2 Minor Under	99	1	1
	Analog 2 Minor Over	99	1	2
	Analog 2 Major Under	99	1	3
	Analog 2 Major Over	99	1	4
	External Temp Value	99	1	5-64

14.3 SNMP Manager Functions

The SNMP Manager allows the user to view alarm status, set date/time, issue controls, and perform a resync. The display and tables below outline the MIB object identifiers. Table B.1 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 1.3.6.1.4.1.2682.1.4. Each level beyond dpsRTU adds another object identifying number. For example, the object identifier of the Display portion of the Control Grid is 1.3.6.1.4.1.2682.1.4.3.3 because the object identifier of dpsRTU is 1.3.6.1.4.1.2682.1.4 + the Control Grid (.3) + the Display (.3).



Tbl. B1 (O.)_OV_Traps points
_OV_vTraps (1.3.6.1.4.1.2682.1.4.0)
PointSet (.20)
PointClr (.21)
SumPSet (.101)
SumPClr (.102)
ComFailed (.103)
ComRestored (.014)
P0001Set (.10001) through P0064Set (.10064)
P0001Clr (.20001) through P0064Clr (.20064)

Tbl. B2 (.1) Identity points
Ident (1.3.6.1.4.1.2682.1.4.1)
Manufacturer (.1)
Model (.2)
Firmware Version (.3)
DateTime (.4)
ResyncReq (.5)*
* Must be set to "1" to perform the resync request which will resend TRAPs for any standing alarm.

Tbl. B3 (.2) DisplayGrid points
DisplayEntry (1.3.6.1.4.1.2682.1.4.2.1)
Port (.1)
Address (.2)
Display (.3)
DispDesc (.4)*
PntMap (.5)*

Tbl. B3 (.3) ControlGrid points
ControlGrid (1.3.6.1.4.1.2682.1.4.3)
Port (.1)
Address (.2)
Display (.3)
Point (.4)
Action (.5)

Tbl. B5 (.5) AlarmEntry points
AlarmEntry (1.3.6.4.1.2682.1.4.5.1)
Aport (.1)
AAddress (.2)
ADisplay (.3)
APoint (.4)
APntDesc (.5)*
AState (.6)
* For specific alarm points, see Table B6

Hot Tip! The NetGuardian LT 82IP G2 OID has changed from 1.3.6.1.4.1.2682.1.2 to 1.3.6.1.4.1.2682.1.4 Updated MIB files are available on the Resource CD or upon request.

14.4 SNMP Granular Trap Packets

Tables 14.3.A and 14.3.B provide a list of the information contained in the SNMP Trap packets sent by the NetGuardian LT

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 LT)

OR

2. The SNMP manager reads the description from the Trap.

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

***Table 11.3.A** 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

***Table 11.3.B.** SNMP Headers and descriptions*

15 Frequently Asked Questions

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

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

15.1 General FAQs

Q. How do I telnet to the NetGuardian LT?

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

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

A. To connect your NetGuardian LT 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 LT 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 LT.

Q. The LAN link LED is green on my NetGuardian LT, 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 LT. Ordering TTL points for your NetGuardian LT 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 LT 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 LT 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.

15.2 SNMP FAQs

Q. Which version of SNMP is supported by the SNMP agent on the NetGuardian?
A. SNMP v1.

Q. How do I configure the NetGuardian LT to send traps to an SNMP manager? Is there a separate MIB for the NetGuardian LT? 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 LT begins sending traps as soon as the SNMP managers are defined. The NetGuardian LT MIB is included on the NetGuardian LT Resource CD. 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 LT support MIB-2 and/or any other standard MIBs?
A. The NetGuardian LT supports the bulk of MIB-2.

Q. Does the NetGuardian LT SNMP agent support both NetGuardian LT and T/MonXM variables?
A. The NetGuardian LT SNMP agent manages an embedded MIB that supports only the NetGuardian LT'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 LT 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 LT 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 LT and the SNMP manager are both on the network. Use the unit's ping command to ping the SNMP manager.

16 Technical Support

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

1. Check the DPS Telecom website.

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

2. Prepare relevant information.

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

3. Have access to troubled equipment.

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

4. Call during Customer Support hours.

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

Emergency Assistance: *Emergency assistance is available 24 hours a day, 7 days a week. For emergency assistance after hours, allow the phone to ring until it is answered with a paging message. You will be asked to enter your phone number. An on-call technical support representative will return your call as soon as possible.*

17 End User Lisence Agreement

All Software and firmware used in, for, or in connection with the Product, parts, subsystems, or derivatives thereof, in whatever form, including, without limitation, source code, object code and microcode, including any computer programs and any documentation relating to or describing such Software is furnished to the End User only under a non-exclusive perpetual license solely for End User's use with the Product.

The Software may not be copied or modified, in whole or in part, for any purpose whatsoever. The Software may not be reverse engineered, compiled, or disassembled. No title to or ownership of the Software or any of its parts is transferred to the End User. Title to all patents, copyrights, trade secrets, and any other applicable rights shall remain with the DPS Telecom.

DPS Telecom's warranty and limitation on its liability for the Software is as described in the warranty information provided to End User in the Product Manual.

End User shall indemnify DPS Telecom and hold it harmless for and against any and all claims, damages, losses, costs, expenses, obligations, liabilities, fees and costs and all amounts paid in settlement of any claim, action or suit which may be asserted against DPS Telecom which arise out of or are related to the non-fulfillment of any covenant or obligation of End User in connection with this Agreement.

This Agreement shall be construed and enforced in accordance with the laws of the State of California, without regard to choice of law principles and excluding the provisions of the UN Convention on Contracts for the International Sale of Goods. Any dispute arising out of the Agreement shall be commenced and maintained only in Fresno County, California. In the event suit is brought or an attorney is retained by any party to this Agreement to seek interpretation or construction of any term or provision of this Agreement, to enforce the terms of this Agreement, to collect any money due, or to obtain any money damages or equitable relief for breach, the prevailing party shall be entitled to recover, in addition to any other available remedy, reimbursement for reasonable attorneys' fees, court costs, costs of investigation, and other related expenses.

Warranty

DPS Telecom warrants, to the original purchaser only, that its products a) substantially conform to DPS' published specifications and b) are substantially free from defects in material and workmanship. This warranty expires two years from the date of product delivery with respect to hardware and ninety days from the date of product delivery with respect to software. If the purchaser discovers within these periods a failure of the product to substantially conform to the specifications or that the product is not substantially free from defects in material and workmanship, the purchaser must promply notify DPS. Within reasonable time after notification, DPS will endeavor to correct any substantial non-conformance with the specifications or substantial defects in material and workmanship, with new or used replacement parts. All warranty service will be performed at the company's office in Fresno, California, at no charge to the purchaser, other than the cost of shipping to and from DPS, which shall be the responsiblity of the purchaser. If DPS is unable to repair the product to conform to the warranty, DPS will provide at its option one of the following: a replacement product or a refund of the purchase price for the non-conforming product. These remedies are the purchaser's only remedies for breach of warranty. Prior to initial use the purchaser shall have determined the suitability of the product for its intended use. DPS does not warrant a) any product, components or parts not manufactured by DPS, b) defects caused by the purchaser's failure to provide a suitable installation environment for the product, c) damage caused by use of the product for purposes other than those for which it was designed, d) damage caused by disasters such as fire, flood, wind or lightning unless and to the extent that the product specification provides for resistance to a defined disaster, e) damage caused by unauthorized attachments or modifications, f) damage during shipment from the purchaser to DPS, or g) any abuse or misuse by the purchaser.

THE FOREGOING WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

In no event will DPS be liable for any special, incidental, or consequential damages based on breach of warranty, breach of contract, negligence, strict tort, or any other legal theory. Damages that DPS will not be responsible for include but are not limited to, loss of profits; loss of savings or revenue; loss of use of the product or any associated equipment; cost of capital; cost of any substitute equipment, facilities or services; downtime; claims of third parties including customers; and injury to property.

The purchaser shall fill out the requested information on the Product Warranty Card and mail the card to DPS. This card provides information that helps DPS make product improvements and develop new products.

For an additional fee DPS may, at its option, make available by written agreement only an extended warranty providing an additional period of time for the applicability of the standard warranty.

Technical Support

If a purchaser believes that a product is not operating in substantial conformance with DPS' published specifications or there appear to be defects in material and workmanship, the purchaser should contact our technical support representatives. If the problem cannot be corrected over the telephone and the product and problem are covered by the warranty, the technical support representative will authorize the return of the product for service and provide shipping information. If the product is out of warranty, repair charges will be quoted. All non-warranty repairs receive a 90-day warranty.

Free Tech Support is Only a Click Away

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www.DpsTelecom.com

Free Tech Support in Your Email: The Protocol Alarm Monitoring Ezine

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- Expert tips on using your alarm monitoring equipment - advanced techniques that will save you hours of work
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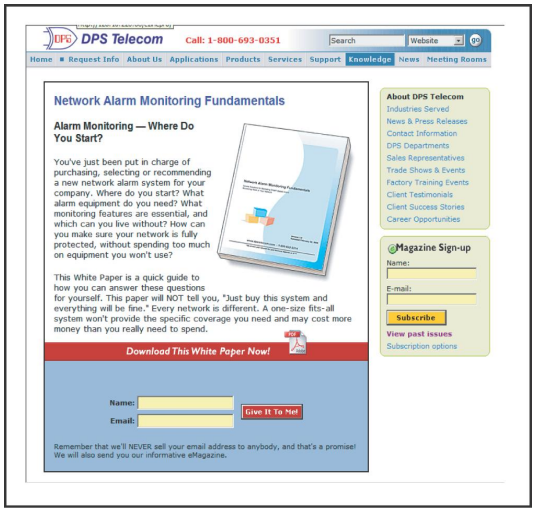

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