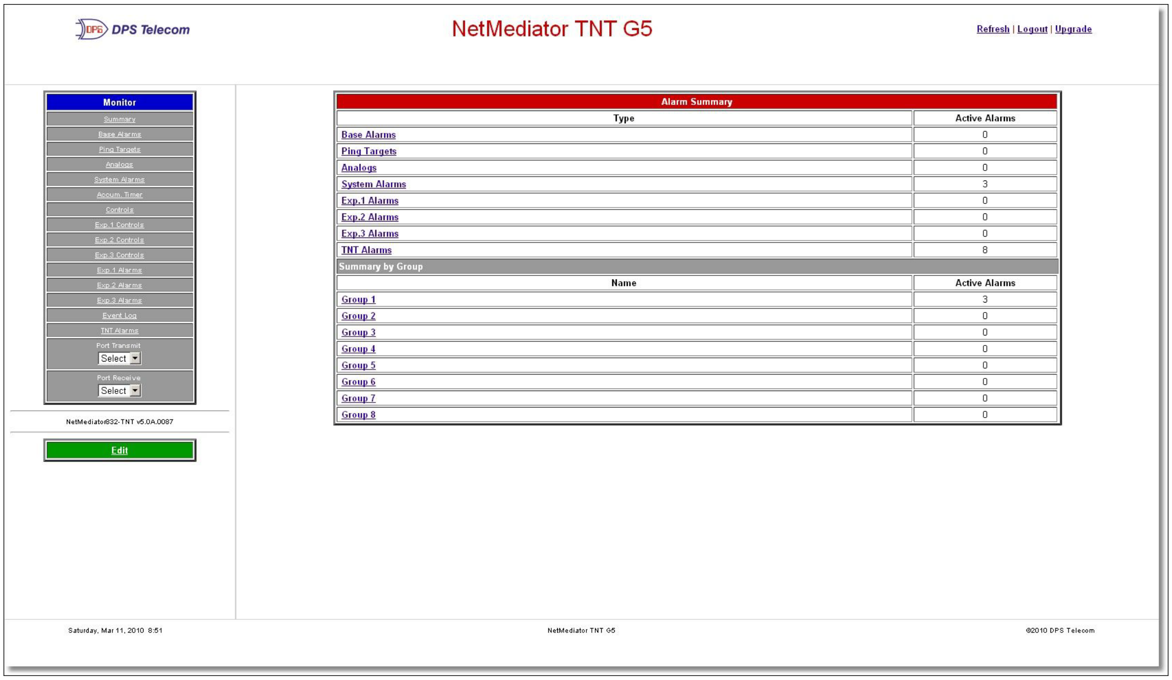
DPS Telecom
"Your Partners in Network Alarm Monitoring"

NetMediator TNT Web Browser

USER MANUAL



NetMediator TNT G5

Alarm Summary

Type	Active Alarms
Base Alarms	0
Ping Targets	0
Analogs	0
System Alarms	3
Exp.1 Alarms	0
Exp.2 Alarms	0
Exp.3 Alarms	0
TNT Alarms	8

Summary by Group

Name	Active Alarms
Group 1	3
Group 2	0
Group 3	0
Group 4	0
Group 5	0
Group 6	0
Group 7	0
Group 8	0

NetMediator832-TNT v5.0A.0087

Saturday, Mar 11, 2010 8:51 NetMediator TNT G5 ©2010 DPS Telecom

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March 12, 2010 D-OC-UM103.12100 Firmware Version 5.2D

Revision History

March 12, 2010	Initial release of NetMediator TNT G5 Web Browser manual.

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1 Overview

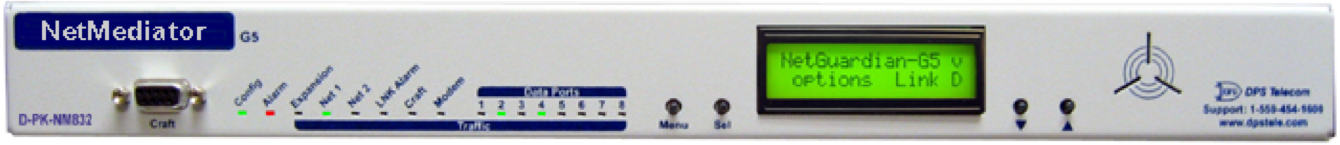


Fig. 1.1. *NetMediator TNT G5 monitors alarms, pings network elements, and reports via SNMP, pager, or email*

1.1 Introduction

The NetMediator's Web Browser Interface lets you 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. The NetMediator supports Internet Explorer versions 4.0 and above and Netscape Navigator versions 4.7 and above.

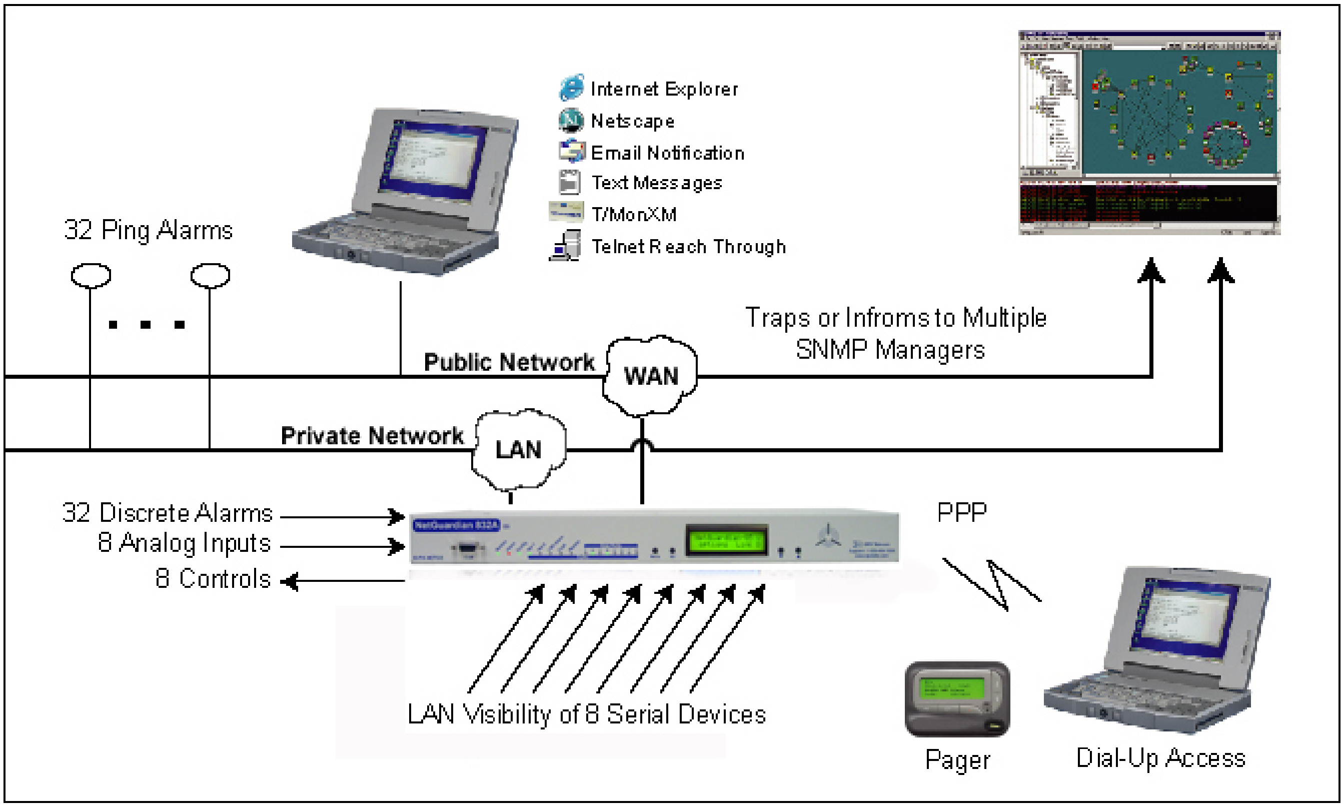


Fig. 1.2. *NetMediator TNT G5 has the capacity to monitor IP aware devices' network presence and also interfaces discrete alarm points and controls at your network sites*

1.2 Potential Problems using Web Interface in a Secure Proxy Network

Using the Web Browser Interface for the NetMediator in a secure proxy network can cause certain problems to occur. If you are logged on to the NetMediator from within your network through a proxy, and another user from within your network tries to access the same NetMediator, the second user will not need to login to the NetMediator. Both users will essentially be logged in using the same IP address because of the masking done by the proxy server.

1.3 What's New in NetMediator TNT

The NetMediator TNT G5 series adds these new features:

SNMP v2c Support and Robust Message Delivery
NetMediator TNT G5 supports SNMP v2c, and the SNMP INFORM command, which permits robust delivery of alarm notification to your SNMP manager.

Alarm Point Grouping
Each NetMediator Alarm point can be assigned to one of eight groups, which are identified with a user-defined label. Some of the ways you can use Alarm Point Grouping include:

Alarm Severity Levels: Configure the NetMediator to indicate assigned alarm security levels like Critical, Major, Minor and Status in a variable binding within the SNMP TRAP or INFORM message — so alarms can be sorted by severity even if your SNMP manager doesn't support severity levels.

Two Sets of Alarm Severity Levels: With 8 alarm groups to work with, you can easily create two different sets of severity levels. For example, you could separate power alarms (rated from Critical to Status) from environmental alarms (also rated Critical to Status).

Custom Virtual Alarms: Create virtual alarms based on easy formulas like All security alarms or Critical power alarms.

Flexible Custom Derived Controls: NetMediator TNT G5 lets you create Derived Controls formulas based on Alarm Point Groups.

Granular Pager and Email Notification: Selectively assign alarm points to specific pager and email notification recipients. The NetMediator can be configured to send pager notifications only for Critical or Major alarms — or you can send power alarms to repair technicians and intrusion alarms to a security guard.

Global Support for Dual SNMP Managers
NetMediator TNT G5 supports sending all SNMP TRAP and INFORM notifications to **two** global SNMP managers. This makes it easier to configure a secondary SNMP manager and frees up your NetMediator configuration for additional notification devices and more flexible alarm reporting. You can easily send an alarm to your primary SNMP manager at the NOC; to a secondary backup SNMP manager at another location; to the pager of the on-call technician; and the email in-box of the technician's supervisor.

Ping Devices with SNMPv1 GET
NetMediator TNT G5 allows the use of SNMPv1 GETs to verify connectivity to a device. This re-uses the ping target functionality and allows an option between ICMP ping and SNMP ping. The SNMP ping will be an SNMPv1 GET against common MIB variables; sysDescr, SysObjectID, or SysUpTime. No special OID entry is required.

Filter or Reset the NetMediator Event Log
The NetMediator Event Log has been enhanced to support new NetMediator TNT G5 features:

- You can filter Event Log entries by Alarm Point Group, to see only the alarms you want.
- You can reset the Event Log, to clear old alarms from the display.
- You can reset the Event Log by Alarm Point Group; for example, clear power alarms while retaining intruder alarms.

Alarm Sync Makes Turnup and Testing Easy
NetMediator TNT G5 also provides a new command to re-synchronize all alarms. This command clears all alarms, so that a new notification is sent for all standing alarms. You can easily test alarm connections during turnup without rebooting the NetMediator unit.

2 Unit Configuration

2.1 Logging on to the NetMediator TNT

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 NetMediator User Manual for initial software configuration setup.

1. To connect to the NetMediator from your Web browser, you must know its IP address or domain name if it has been registered with your internal DNS. Enter it in the address bar of your Web browser. It may be helpful to bookmark the logon page to simplify access.

2. After connecting to the NetMediator's IP address, enter your password and click Submit, see Figure 2.1. **Note:** The factory default password is **dpstelecom.**

3. In the left frame there is **Monitor** menu button and an **Edit** menu button. Most of the software configuration will occur in the **Edit** menu. The following sections provide detailed information regarding these functions.

Hot Tip!

If the **Edit** menu does not appear in the left frame after logging on, it means that another station has already logged on as the primary user, or that you don't have the rights to modify parameters. The maximum number of users allowed to simultaneously access the NetMediator via Web is four. The primary user is the only user with access to the editing features.

Exiting the Web interface without logging out prevents other users from accessing the Editing features, as well. Web sessions are tracked by IP Address and the session will time out after twelve minutes of inactivity, unless configured with a longer Web timeout duration. (See section "Setting System Timers" for more information.)

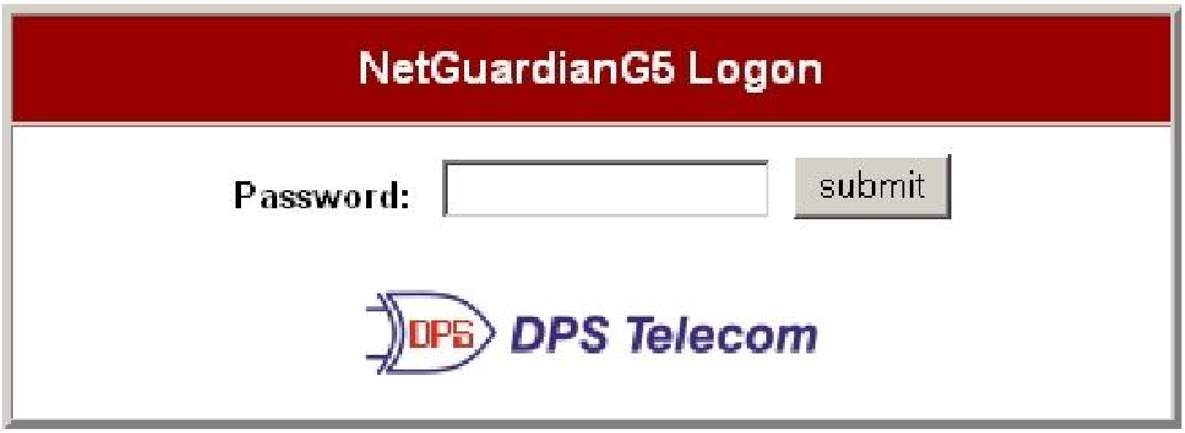
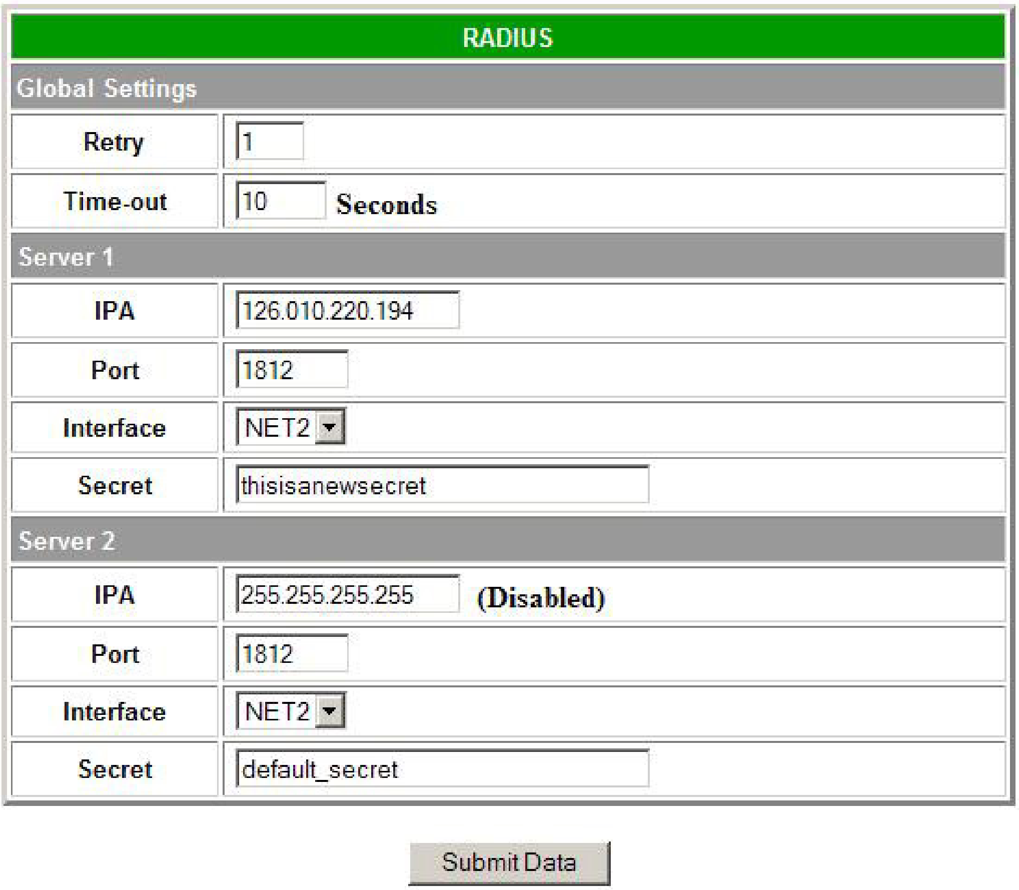


Fig. 2.1. *Enter your password to enter the NetMediator Web Browser Interface*

2.2 Using RADIUS Authentication (Available as of Firmware v5.0I)

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 NetMediator 832A / 864A G5 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 5.0 I or higher.



RADIUS

Global Settings

Retry	1
Time-out	10 Seconds

Server 1

IPA	126.010.220.194
Port	1812
Interface	NET2
Secret	thisisanewsecret

Server 2

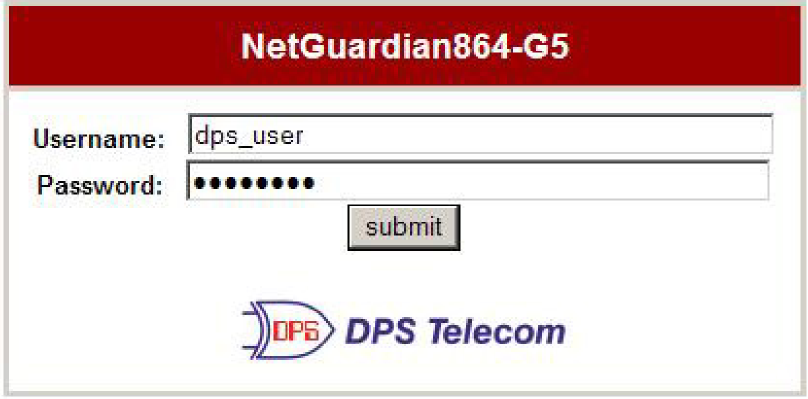
IPA	255.255.255.255 (Disabled)
Port	1812
Interface	NET2
Secret	default_secret

Fig. 2.1. *RADIUS configuration screen*

Global Settings	
Retry	Enter the number of times the RADIUS server should retry a logon attempt
Time-out	Enter in the number of seconds before a logon request is timed out
Servers 1 / 2	
IPA	Enter the IP address of the RADIUS server
Port	Port 1812 is an industry-standard port for using RADIUS
Interface	Use the drop-down menu to choose between NET1 and NET2
Secret	Enter the RADIUS secret in this field

After successfully entering the settings for the RADIUS server, the NetMediator 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 master password will work for 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 NetMediator, the local authentication will not be valid.



NetGuardian864-G5

Username: dps_user

Password: ••••••••

Fig. 2.2. RADIUS server prompt for Username ***and*** *Password.*

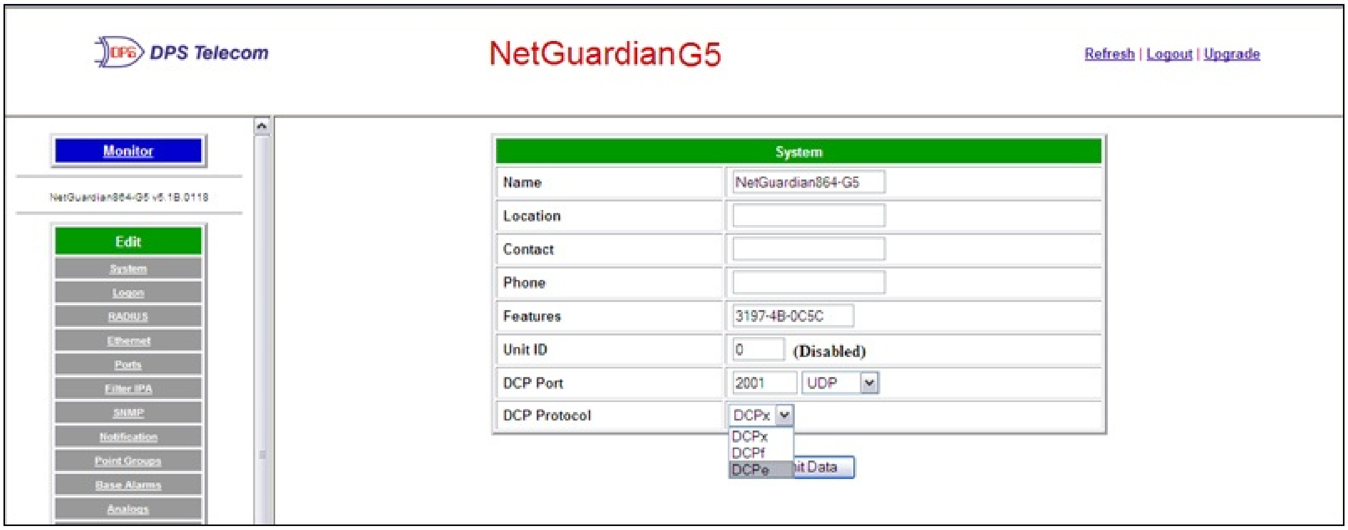
2.3 Entering System Settings

From the **System** screen you can enter the name, location, contact, features, and SNMP community names.

Use the following steps to define your NetMediator system information:

1. From the **Edit** menu choose **System**, see Figure 2.2.
2. Enter the designated user name for your NetMediator.*
3. Enter the location or address of the NetMediator.*
4. Set the contact by entering the telephone number or other contact information for the person or group responsible for this NetMediator.
5. The **Features** field is used for entering feature codes for future upgrades. Do not change this code unless instructed by DPS Technical Support.
6. Click **Submit** to save your system information settings.

* If using email pager type refer to Section 2.5 for correct name and location field formatting.



System

Name	NetGuardian864-G5
Location	
Contact	
Phone	
Features	3197-4B-0C5C
Unit ID	0 (Disabled)
DCP Port	2001 UDP
DCP Protocol	DCPx

Fig. 3.2. Configure the system information by selecting the System screen from the Edit menu

Field	Description
Name	Used to set the Name@Location email address. **Note:** Name is the portion before the @ character.
Location	Used to set the Name@Location email address. **Note:** Location is the portion after the @ character, this is a host name or IP address.
Contact	Information for how to contact the person responsible for this NetMediator.
Phone	Contact's telephone number.
Features	Used for entering feature codes for future upgrade features.
Unit ID	User definable ID number for this NetMediator (DCP Address).
DCP Port	Enter the DCP Port for this NetMediator. (1-8 serial otherwise UDP/IP Port) **Note**: DCPe added to the list of DCP protocols.

Table 3.A. System fields

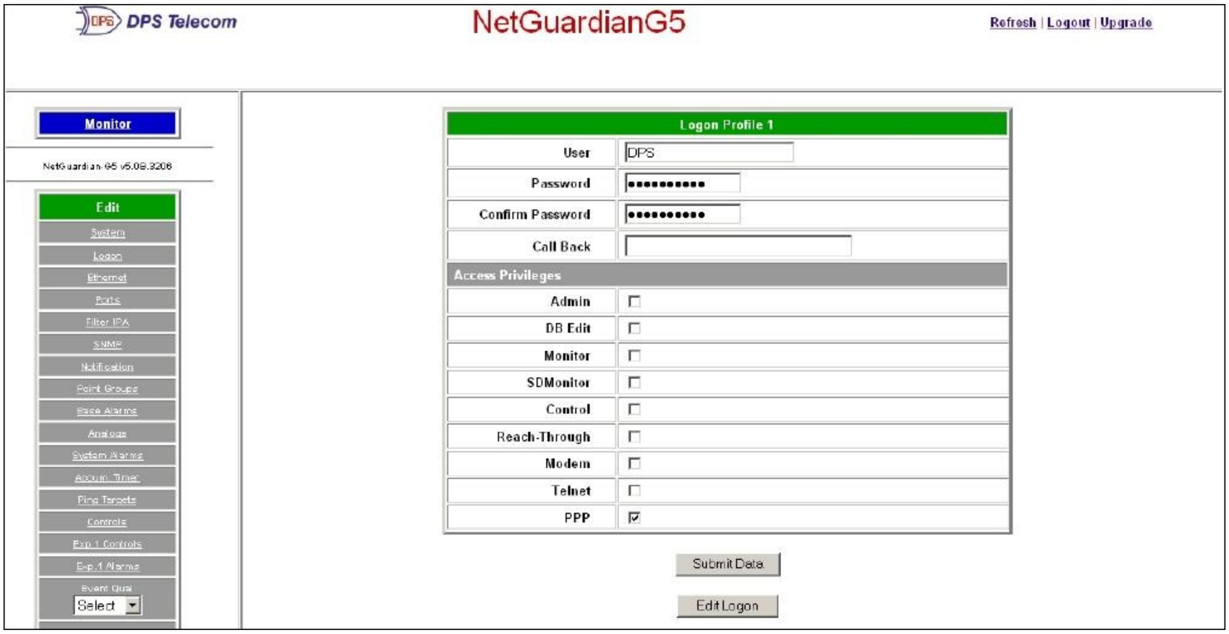
2.4 Changing the Logon Password

The password can be configured from the **Edit** menu > **Logon** screen > **Master Password** section. The minimum password length is four characters; however, DPS recommends setting the minimum password length to at least five characters. You can also configure security logon profiles to individual access rights and security dial-back functions in the **Logon Profile** screen. (See section for dial-back and logon profile configuration information.)

The factory default password is **dpstelecom**. DPS Telecom strongly recommends that the default password be changed.

Use the following steps to change the logon password:

1. From the **Edit** menu select **Logon**.
2. Enter the minimum password length you wish to set.
3. Enter your new password in the **Password** and **Confirm Password** fields.
4. Click the **Submit Data** button.



Logon Profile 1	
User	DPS
Password	●●●●●●●●●●
Confirm Password	●●●●●●●●●●
Call Back	
Access Privileges	
Admin	□
DB Edit	□
Monitor	□
SDMonitor	□
Control	□
Reach-Through	□
Modem	□
Telnet	□
PPP	☑

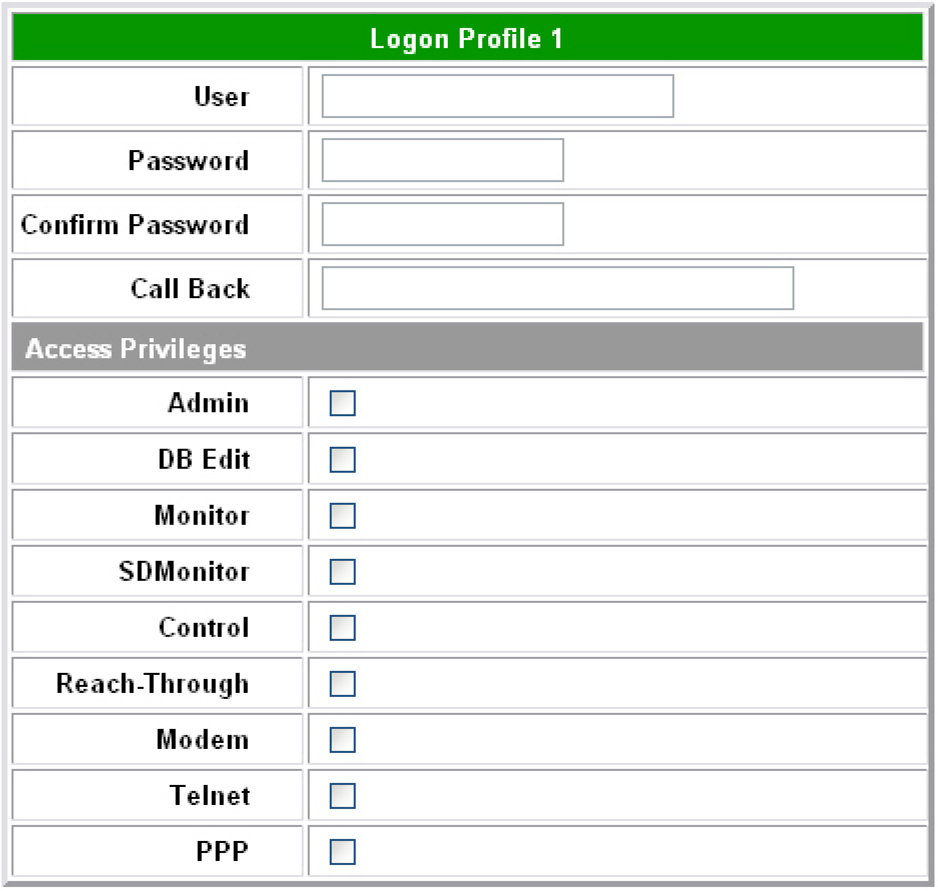
Fig. 2.3. *Configure the password parameters from the Login screen*

2.4.1 Logon Profiles and Access Rights

Creating logon profiles allows you to grant personnel access to certain functions of the NetMediator without allowing access to sensitive or secure areas of the database.

Use the following steps to create logon profiles:

1. From the **Edit** menu select **Logon**, then click on the **Available** link. (See Figure 2.3.)
2. Enter the user information in the appropriate fields. See Table 2.B for field and access privileges descriptions.
3. Click **Submit Data** to save the user profile.



Logon Profile 1	
User	
Password	
Confirm Password	
Call Back	
Access Privileges	
Admin	□
DB Edit	□
Monitor	□
SDMonitor	□
Control	□
Reach-Through	□
Modem	□
Telnet	□
PPP	□

Fig. 2.4. *Configure access privileges for users in the Logon Profile screen*

NOTE: If RADIUS is enabled on the NetMediator, local authentication will not be valid.

Profile Field	Description
User	Enter a username or a user description. (18 characters maximum)
Password	Enter a unique user password. (4 character minimum) **Note:** This password will be used by the NetMediator to determine whether or not to initiate the "Call-Back" function and also if any limited access applies.
Confirm Password	Re-enter the password.
Call Back	This is the phone number the NetMediator uses to call back to the user's modem.
Access Privileges	
Admin	Enables the user to add/modify logon profiles and NetMediator password information.
DB Edit	Enables the user to perform database edits in the NetMediator.
Monitor	Enables the user to have Monitor access of the NetMediator.
SDMonitor	Enables the user to view serial port buffers.
Control	Gives the user the ability to issue controls. This also automatically activates Monitor.
Reach-Through	Enables the user to achieve reach-through (Proxy) access.
Modem	Enables the user to call into the unit.
Telnet	Enables the user to have Telnet access to the unit.
PPP	Enables the user to access the PPP server with the user defined password.

Table 2.B. *Logon profile field descriptions*

2.4.2 Security Dial-Back

The Dial-Back feature serves as an additional level of security when accessing the NetMediator from the modem. Once users are assigned a logon profile, along with a unique NetMediator logon password, the unit can be set to initiate a dial-back when a valid logon password is entered. If a valid password is entered users will see **accepted, Disconnecting.** The NetMediator will then hang up and dial back to the users modem using the number entered in the logon profile. When the NetMediator dials back, the user will be logged on to whatever security access that user has been granted in their logon profile.

Hot Tip!

To enable dial-back security, at least one of the access privileges must be activated and a call back phone number must be defined. As long as the dial-back security mode is enabled, that will be the only method of external dial-up access to the unit.

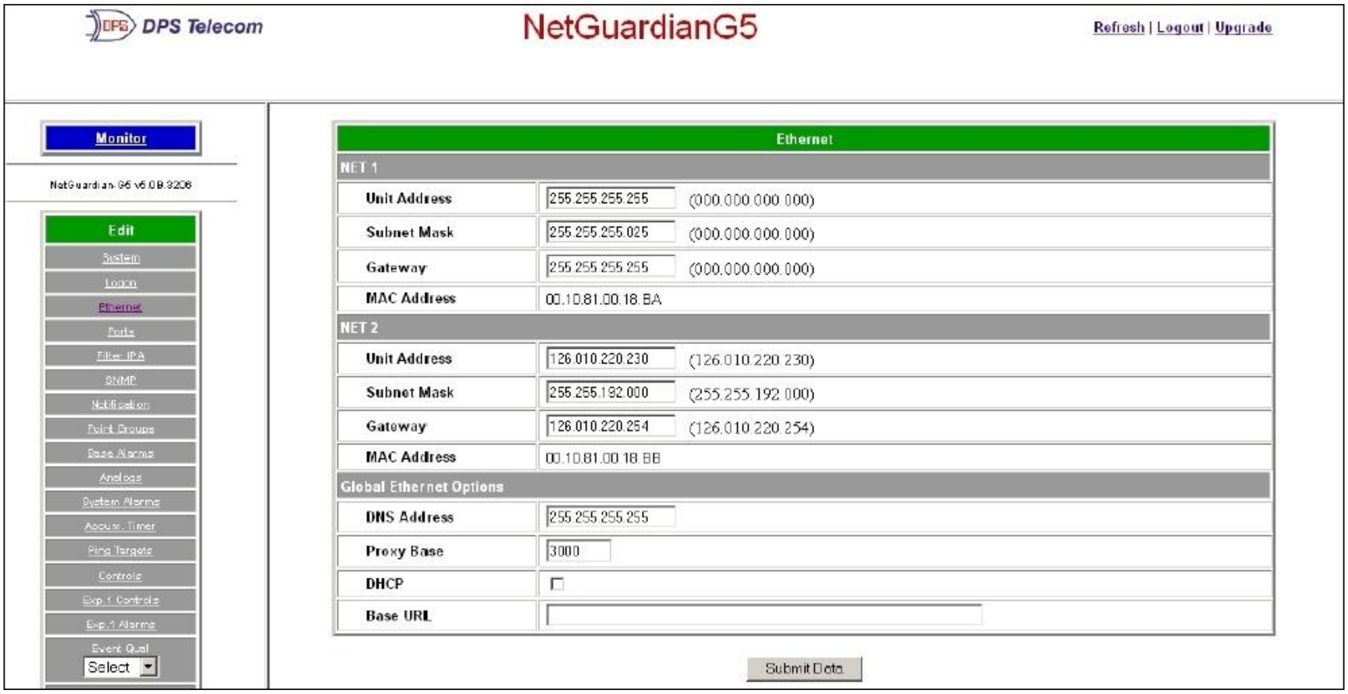
2.5 Configuring Port Parameters

The **Edit** menu > **Ports** screen allows you to configure the ethernet, modem, craft port and data port settings.

2.5.1 Ethernet Ports

Use the following steps to configure the ethernet port settings:

1. Configure the NetMediator ethernet port by clicking on the **Ethernet** link from the **Edit** menu.
2. Enter the appropriate information for your ethernet port in the corresponding fields. Refer to Figure 2.5 and Table 2.C..
3. Click **Submit Data** to save your configuration settings.



Ethernet		
NET 1		
Unit Address	255.255.255.255	(000.000.000.000)
Subnet Mask	255.255.255.025	(000.000.000.000)
Gateway	255.255.255.255	(000.000.000.000)
MAC Address	00.10.81.00.18.BA	
NET 2		
Unit Address	126.010.220.230	(126.010.220.230)
Subnet Mask	255.255.192.000	(255.255.192.000)
Gateway	126.010.220.254	(126.010.220.254)
MAC Address	00.10.81.00.18.BB	
Global Ethernet Options		
DNS Address	255.255.255.255	
Proxy Base	3000	
DHCP	□	
Base URL		

Fig. 2.5. *All port configuration is accomplished from the Edit menu > Ethernet screen*

Field	Description
Unit Address	IP address of the NetMediator
Subnet Mask	The Subnet mask is a road sign to the NetMediator telling it whether your packets should stay on your local network or be forwarded somewhere else on a wide area network.
Default Gateway	An important parameter if you are on a network that is connected to a wide area network. It tell the NetMediator which machine is the gateway out of your local network. Set to 255.255.255.255 if not using .
DNS Address	IP address of the domain name server. Set to 255.255.255.255 if not using.
Proxy Base	Defines the NetMediator TCP ports used by data ports 1-8 (serial ports). Data port 1 receives the port number entered here. Data ports 2-8 receive the next 7 port numbers in ascending order. (i.e. TCP port 3000 through port 3007 at the IP address of the NetMediator).
DCHP	Toggles the Dynamic Host Connection Protocol On or Off
Base URL	The Base URL is the destination website address o the alarm point descriptions hyperlinks. See Section "Using the Base URL Field."
MAC Address	Hardware address of the NetMediator (not editable, for reference only).

Table 2.C. *Fields in the Edit > Ethernet > NET1/NET2settings*

2.5.2 Using the Base URL Field

The NetMediator allows users to turn each alarm point description into a hyperlink. When utilized, the alarm description for each alarm point that appears in the monitor mode (for base alarms, ping targets, or system alarms) becomes a link that directs technicians/managers to specific Web pages or to other files viewable by a Web browser. This allows users to create easily accessible informational databases on how to handle specific alarm conditions or other instructions. The hyperlinked page or file will be displayed in the main window frame of the NetMediator Web browser. Follow the directions below to create hyperlinks for alarm point descriptions.

1. From the **Edit** Menu select **Ports**. Scroll down to the **Base URL** field, see Figure 2.5.
2. Enter your base URL (e.g. **http://www.dpstelecom.com**). The NetMediator creates the links from the alarm point descriptions based on the URL. Once the base URL is entered, the NetMediator automatically attaches a unique suffix to each alarm point. For example, if the base URL is **http://www.dpstelecom.com** the link for the base alarm at point 1 would be **http://www.dpstele.com/base1.html**, Base Alarm Point 2 would be **http://www.dpstele.com/base2.html**, and so on.
3. To add a suffix other than `html` to the hyperlinks, insert the text **&pntID;** into the base URL. This allows the user to specify the extension. For example, if the base URL is **http://www.dpstele.com/&pntID;.pdf**, the link for the base alarm at point 1 would be **http://www.dpstele.com/base1.pdf/.**

Hot Tip!

Any file type that is viewable in your Web browser (e.g. word document, PDF, txt, etc.) is a linkable file.

4. The same link structure applies to the Ping Alarms, System Alarms, and Analog Alarms fields. See Table 2.D for specific URL extension link information.

Alarm Page	Base URL web page link*
Base Alarms	Base1.html - Base32.html
Ping Alarms	Ping1.html - Ping32.html
System Alarms	System1.html - System64.html
Analog Alarms	Analog1.html - Analog8.html

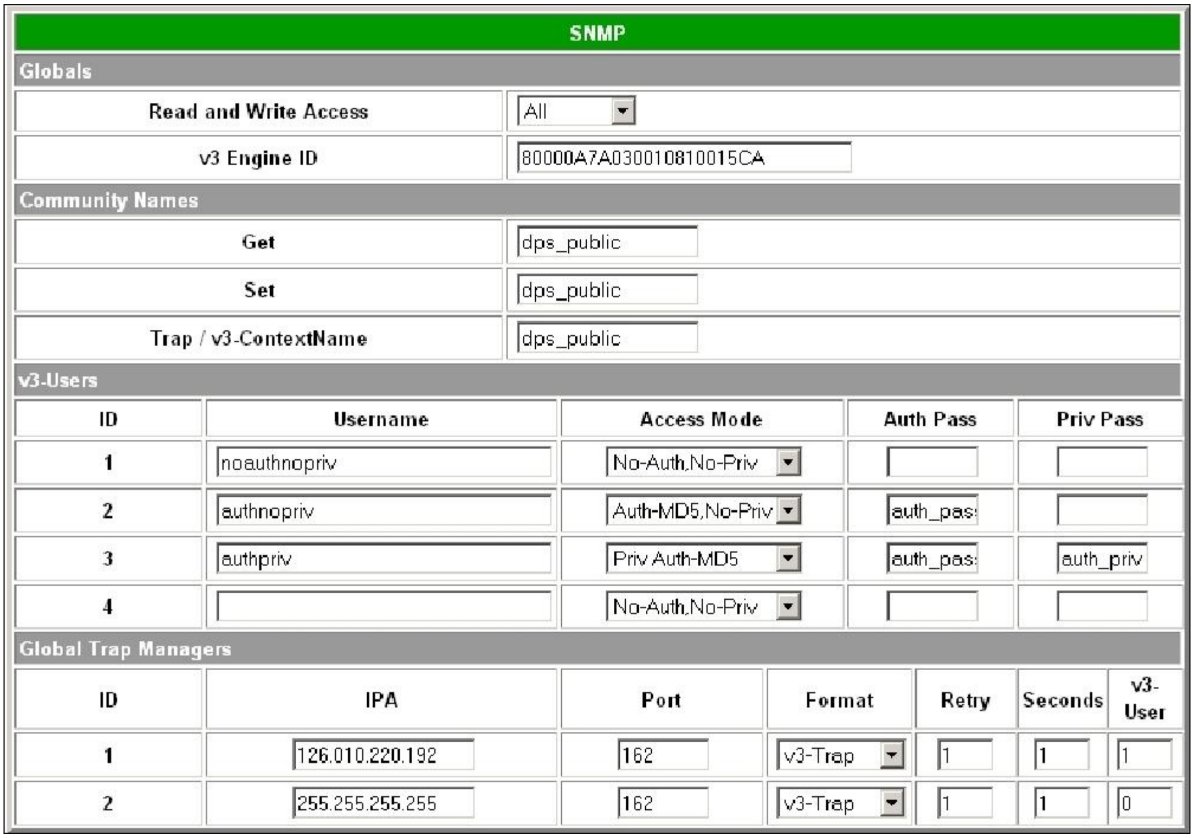
Table 2.D. *Specific link extensions*

* Using the **&pntID;** code in the base URL enables you to link to any file type viewable in your Web browser.

2.5.3 Setting Up SNMPv1 or v2c

Use the following steps to define your NetMediator system information:

1. From the **Edit** menu choose SNMP, see Figure 2.6.
2. Set **Read and Write Access** to **All**, **v1-Only**, or **v2c-Only**.
3. Enter the community name for SNMP GET requests.
4. Enter the community name for SNMP SET requests.
5. Enter the community name for SNMP TRAPs.
6. Define the **IP** address of your trap managers. Set to 255.255.255.255 if not using.
7. Define the **UDP** port set by the SNMP managers to receive traps; usually 162.
8. Select the Format in which you want your traps to be sent to your managers.
9. Click **Submit** to save your system information settings.



SNMP

Globals

Read and Write Access	All
v3 Engine ID	80000A7A030010810015CA

Community Names

Get	dps_public
Set	dps_public
Trap / v3-ContextName	dps_public

v3-Users

ID	Username	Access Mode	Auth Pass	Priv Pass
1	noauthnopriv	No-Auth,No-Priv		
2	authnopriv	Auth-MD5,No-Priv	auth_pas:	
3	authpriv	Priv Auth-MD5	auth_pas:	auth_priv
4		No-Auth,No-Priv		

Global Trap Managers

ID	IPA	Port	Format	Retry	Seconds	v3-User
1	126.010.220.192	162	v3-Trap	1	1	1
2	255.255.255.255	162	v3-Trap	1	1	0

Fig. 2.6 *SNMP Menu*

Globals	
Read and Write Access	This field defines how the NetMediator unit may be accessed via SNMP. This can be set to the following: • All- Allows you to read or write using any version of SNMP (v1, v2c, v3) • Disabled- Restricts all access to unit via SNMP • v1-Only- Allows SNMPv1 access only • v2c-Only- Allows SNMPv2c access only • v3-Only- Allows SNMPv3 access only
v3 Engine ID	Specifies the v3 Engine ID for your NetMediator device. DPS recommends using the default ID for the unit, which is automatically generated by the unit.The default ID is generated according to RFC3411 and is based on the unit's unique MAC address and

	DPS Telecom's SNMP enterprise number. **Note:** To have the unit generate a unique Engine ID, clear the **v3 Engine ID** field and press the **Submit** key.
SNMP Communities	
Get	Community name for SNMP requests.
Set	Community name for SNMP SET requests.
Trap / v3 Context Name	Community name for SNMP TRAP requests. In SNMP v3, defines the context name field of a v3-Trap. **Note:** Make sure that your community strings match those used by the SNMP manager. In v1 and v2c, community strings are security passwords; if the strings do not match, the SNMP manager will not accept Traps from the NetMediator TNT G5. Community strings are case sensitive.
v3-Users	
ID	The user number designated for a v3-user. The NetMediator TNT G5 supports up to four v3-User profiles.
Username	The name of the user for which an SNMPv3 management operation is performed.
Access Mode	This identifies the security modes available when SNMPv3 is utilitized. The modes are as follows: • **No-Auth, No-Priv-** This access mode does not require authentication and does not require encryption. This mode is the least secure and is comparable to v1 and v2c. • **Auth-MD5,No-Priv-** Provides authentication based on the MD5 algorithm and does not require encryption. • **Auth-SHA,No-Priv-** Provides authentication based on the SHA algorithm and does not require encryption. • **Priv Auth-MD5-** Provides authentication based on the MD5 algorithm and provides DES 56-bit encryption based on the CBC-DES standard. • **Priv Auth-SHA-** Provides authentication based on the SHA algorithm and provides DES 56-bit encryption based on the CBC-DES standard.
Auth Pass	This field contains the password used with either MD5 or SHA authentication algorithms.
Priv Pass	This field contains the password used with privatization encryption.
Global Trap Managers	
IPA	Defines the SNMP trap manager's IP address. Set to 255.255.255.255 if not using.
Port	The SNMP port is the UDP port set by the SNMP manager to receive traps, usually set to 162.
Format	Select between v1-Trap, v2c-Trap, v2c-Inform, or v3-Trap.
Retry	Number of times the NetMediator TNT G5 will resend SNMP v2c-Informs
Seconds	Time interval in seconds between attempts to resend SNMP v2c-Informs.
v3-Users	Association to the v3-User Table is made to specify the username, security mode, and passwords that should be used for sending a v3-Trap.

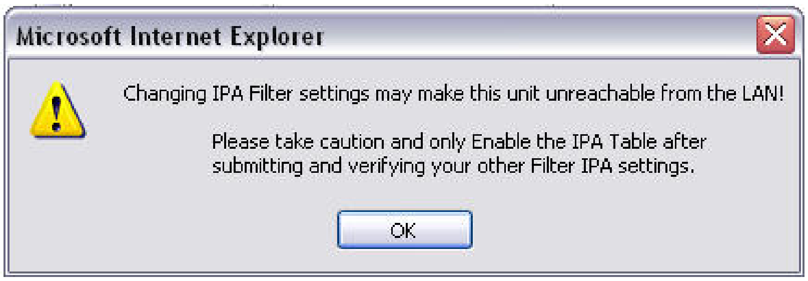
Table 2.E. *Fields in the Edit > SNMP settings*

If you are using SNMPv3, any changes to the Engine ID or passwords will require a reboot. At bootup,you may experience a slight delay while the authorization and privatization keys update.

2.5.4 Filter IPA Config and Operation

The Filter IPA table allows you to increase the NetMediator's network security by allowing or blocking packets from specified IP addresses. Addresses which appear in the table will be processed by the NetMediator. Defined IP addresses associated with network cameras or the network time server are automatically processed and will not be filtered out by this feature. Broadcast packets of 255.255.255.255 and ARP requests for the NetMediator IP address are also not filtered.

1. From the **Edit** menu select **Filter IPA**.
2. A warning prompt will appear, see Figure 2.7. Click **OK** to continue, or **Exit** to cancel.



Changing IPA Filter settings may make this unit unreachable from the LAN!

Please take caution and only Enable the IPA Table after submitting and verifying your other Filter IPA settings.

Fig. 2.7. *Filter IPA warning prompt*

3. Once enabled only the IP addresses in the table will be allowed access to the NetMediator.
4. Select to **Enable IPA Table.**
5. Enter the IP address of the machine(s) you would like to give access to the NetMediator.
6. Click **Submit** to save the configuration settings.

Hot Tip!

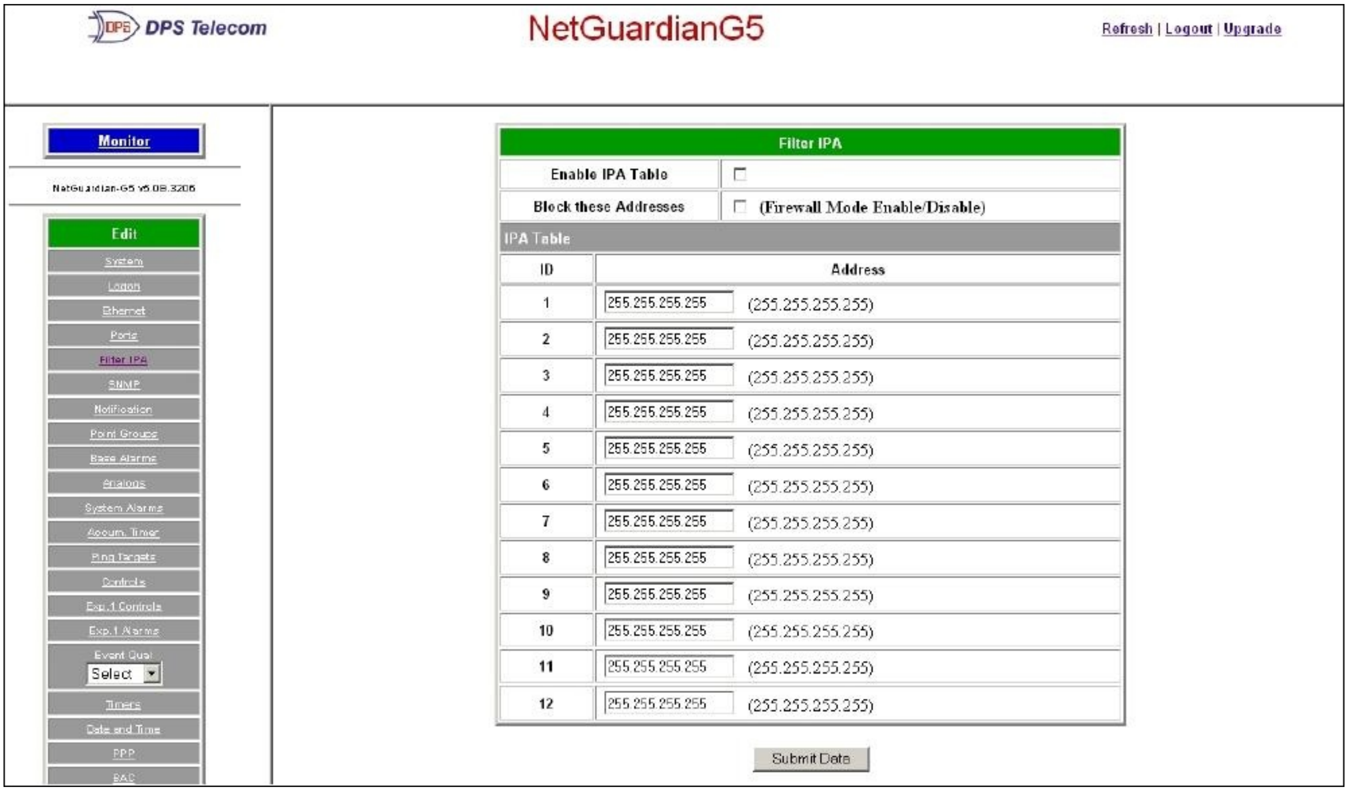
Entering a zero in any of the octet fields will declare that part of the octet to be a wildcard.

WARNING: Does not work with networks that assign IP addresses. Use the wildcard field to open an entire subnet.

<u>Two Modes:</u>
Firewall: Block specific addresses
Filter table: only allow specific addresses

Hot Tip!

Filter IPA table is primarily used for diagnostic purposes and should not be required unless to increase security.



Filter IPA

Enable IPA Table	□
Block these Addresses	□ (Firewall Mode Enable/Disable)

IPA Table

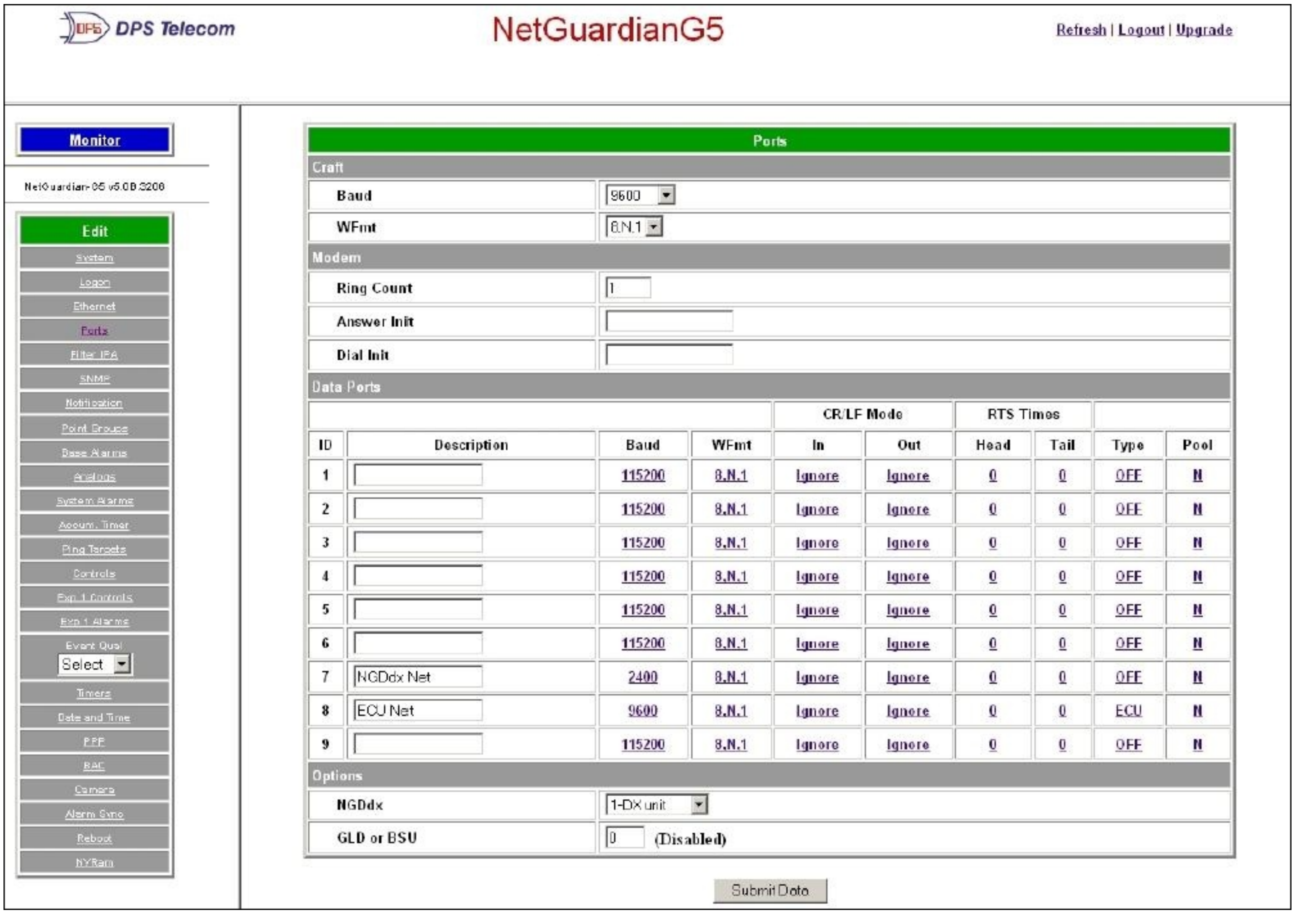
ID	Address
1	255.255.255.255 (255.255.255.255)
2	255.255.255.255 (255.255.255.255)
3	255.255.255.255 (255.255.255.255)
4	255.255.255.255 (255.255.255.255)
5	255.255.255.255 (255.255.255.255)
6	255.255.255.255 (255.255.255.255)
7	255.255.255.255 (255.255.255.255)
8	255.255.255.255 (255.255.255.255)
9	255.255.255.255 (255.255.255.255)
10	255.255.255.255 (255.255.255.255)
11	255.255.255.255 (255.255.255.255)
12	255.255.255.255 (255.255.255.255)

Fig. 2.8. *Select Filter IPA from the Edit menu to configure your Filter IPA table*

2.5.5 Changing Craft Port Communication Settings

Use the following steps to change the craft port communication settings:

1. From the **Edit** menu > **Ports** screen, scroll down to the **Craft** section, see Figure 2.9.
2. You can set the baud rate for the craft port to 300, 1200, 2400, 9600, 19200, 38400, 57600, 115200. (Default Baud is 9600)
3. Under the **Wfmt** (word format) field, select the appropriate data bits, parity, and stop bits setting to match your terminal emulation software or device connected to the NetMediator craft port. (Default designation is 8,N,1)
4. Click **Submit Data** to save the craft port settings.



Ports

Craft

Baud	9600
WFmt	8,N,1

Modem

Ring Count	1
Answer Init	
Dial Init	

Data Ports

				CR/LF Mode		RTS Times			
ID	Description	Baud	WFmt	In	Out	Head	Tail	Type	Pool
1		115200	8,N,1	Ignore	Ignore	0	0	OFF	N
2		115200	8,N,1	Ignore	Ignore	0	0	OFF	N
3		115200	8,N,1	Ignore	Ignore	0	0	OFF	N
4		115200	8,N,1	Ignore	Ignore	0	0	OFF	N
5		115200	8,N,1	Ignore	Ignore	0	0	OFF	N
6		115200	8,N,1	Ignore	Ignore	0	0	OFF	N
7	NGDdx Net	2400	8,N,1	Ignore	Ignore	0	0	OFF	N
8	ECU Net	9600	8,N,1	Ignore	Ignore	0	0	ECU	N
9		115200	8,N,1	Ignore	Ignore	0	0	OFF	N

Options

NGDdx	1-DX unit
GLD or BSU	0 (Disabled)

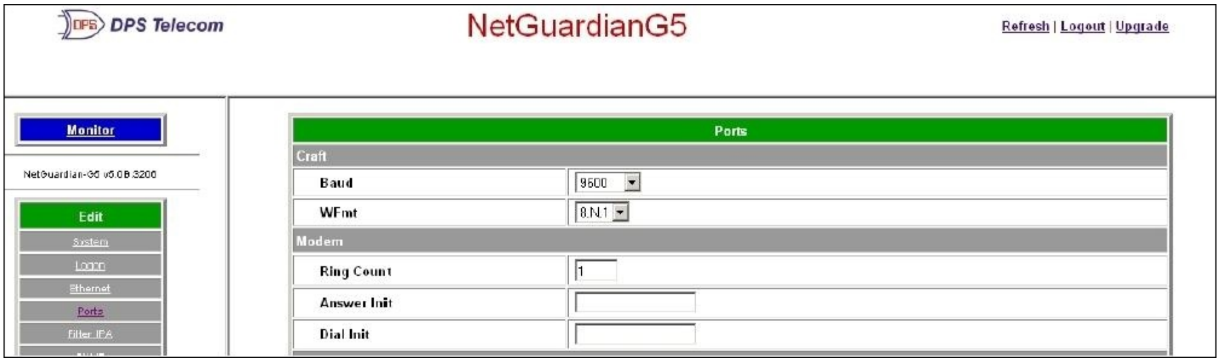
Fig. 2.9. *Configure the front panel craft port parameters from the Ports screen*

2.5.6 Configuring Modem Port Settings

Use the following steps to configure the modem port settings:

1. From the **Edit** menu > **Ports** screen, scroll to the **Modem** section, see Figure 2.10.
2. In the **Ring Count** field enter the number of rings before answering. (Default = 1)
3. The **Dial Init** and the **Answer Init** fields can be used if any other modem initialization settings need to be set. For example, the modem can be set to ignore the dial-tone by entering a character code in either the Answer Init (into the NetMediator) or the Dial Init (out from the NetMediator).
4. Click **Submit Data** to save your modem port settings.

The default setting for these fields is blank.



Ports

Craft

Baud: 9600

WFmt: 8.N.1

Modem

Ring Count: 1

Answer Init:

Dial Init:

Fig. 2.10. Change the modem settings from the Edit menu > Ports screen

Command		Description
A		Answer command
Bn		Select communications standard
D		Dial
	P	Pulse dial
	T	Tone dial
	R	Connect as answering modem
	W	Wait for dial tone
	,	Pause for the duration of S8
	@	Wait for silence
	!	Switch hook flash
	;	Return to the command state
En		Command echo
Hn		Switch hook control
In		Modem identification
Ln		Speaker volume
Mn		Speaker activity
On		Online
Qn		Responses
Sr?		Interrogate register
Sr=n		Set register value
Vn		Result codes
Xn		Result code set
Z		Reset

Table 2.F. Standard modem commands (Hayes)

Modem commands may vary. See your modem user manual for commands specific to your modem.

Hot Tip!

If you set the ring count to 0, the NetMediator will still be able to dial out for notifications, but will NEVER answer an incoming call.

2.5.7 Configuring Data Ports 1 - 9

Data port settings can be configured in the **Edit** menu > **Ports** screen.

Use the following steps to define your data port settings:

1. From the **Ports** window, scroll down to the **Data Ports** section, see Figure 2.11.
2. Under the options heading, enter in the appropriate number of GLDs (1-12) or NetMediator Discrete Expansions (1-3) installed.* Entering zero disables these options. If connecting more than 3 GLDs, the baud rate must be set to 9600.
3. Enter a description for each port with a connected device. The communication settings for each port can be configured for baud rate, word format and to ignore or remove CR/LF (carriage return/line feed) characters in either the input or output data stream.
4. Advanced settings can also be configured when you select an appropriate data port type. See section 2.4.7.1 to select the appropriate data port type setting for your application.

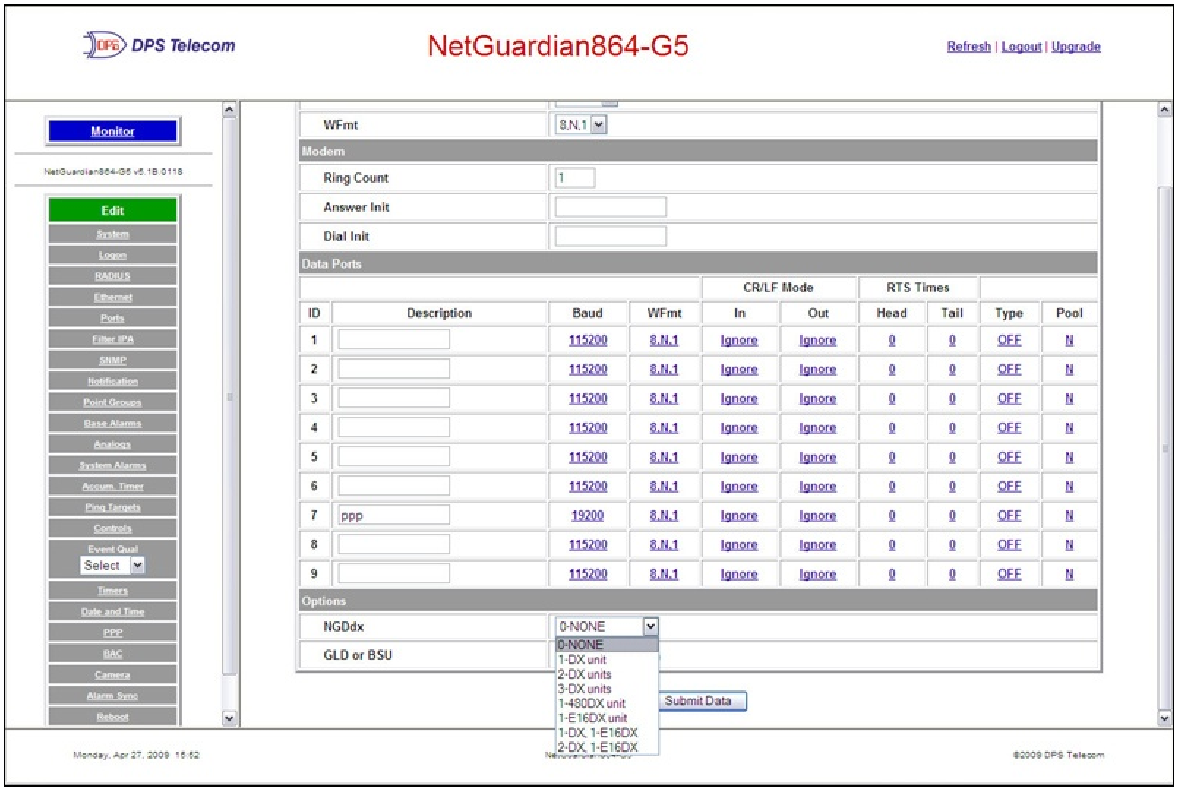
*GLDs uses the expansion port.
See their respective user manuals for detailed configuration information.

Port 9 configuration is mapped to the expansion serial port on the back of the unit, typically a RS-485.

Hot Tip!

NGDdx is an abbreviation for "NetMediator Expansion." Expansion units enable you to scale from 32 base alarms and 8 base relays to a maximum of 176 alarm and 32 relays.You can also have one NG480 (configured as a DX) hooked up as an expansion unit. The NG480 will give you an additional 80 alarms and 4 relays. You also have the option of adding the NetMediator E16 DX, giving you 16 more alarm points and 16 more controls. Only one NewGuardian E16 DX may be used per NetMediator G6, and it must be the last unit in the daisy-chain.

Note: You can have either 1 NG480 or 1 to 3 NGDdx units. You cannot have both at the same time.



WFmt: 8,N,1

Modem

Ring Count: 1

Answer Init:

Dial Init:

Data Ports

				CR/LF Mode		RTS Times			
ID	Description	Baud	WFmt	In	Out	Head	Tail	Type	Pool
1		115200	8,N,1	Ignore	Ignore	0	0	OFF	N
2		115200	8,N,1	Ignore	Ignore	0	0	OFF	N
3		115200	8,N,1	Ignore	Ignore	0	0	OFF	N
4		115200	8,N,1	Ignore	Ignore	0	0	OFF	N
5		115200	8,N,1	Ignore	Ignore	0	0	OFF	N
6		115200	8,N,1	Ignore	Ignore	0	0	OFF	N
7	ppp	19200	8,N,1	Ignore	Ignore	0	0	OFF	N
8		115200	8,N,1	Ignore	Ignore	0	0	OFF	N
9		115200	8,N,1	Ignore	Ignore	0	0	OFF	N

Options

NGDdx: 0-NONE
0-NONE
1-DX unit
2-DX units
3-DX units
1-480DX unit
1-E16DX unit
1-DX, 1-E16DX
2-DX, 1-E16DX

GLD or BSU

Fig. 2.11. Configure the data port parameters from the Ports screen

2.5.7.1 Data Port Types

Each of the NetMediator's 8 data ports can be configured with different functions:

TCP
Makes reach-through available at TCP ports (Telnet).

RTCP
Raw TCP (negates Telnet negotiation). The RTCP (Raw TCP Data Port) negates Telnet negotiation and will allow all characters (including [FF]) to pass straight through from IP to serial or serial to IP.

HTCP
High speed TCP port (only 1 HTCP port is available). An HTCP, or High-speed TCP data port, which operates in Telnet Raw mode, is essentially the same as a RTCP port except that it has better performance and is more robust when transferring streaming data (like a data file). Unlike RTCP ports, the user can only assign one port as HTCP.

PTCP
Permanent TCP (during a proxy connection, the connection will never time out).

SPS8
Serial Port Switch 8 (allows eight serial devices to be connected to single port).

UDP
Makes reach-through available at UDP ports (up to 4 UDP ports available).

CHAN
Creates logical bridge to odd/even partner. The odd/even partners are pairs of 1-2, 3-4, 5-6, and 7-8. This allows the NetMediator to view communication traffic in either direction when inserted in the serial communication path between two devices. This is accomplished by going "in" to the NetMediator with one device and "out" to the other device from the odd/even partner port. Data is passed directly from one port to its odd/even partner without being altered in any way. This ability greatly simplifies troubleshooting communication problems by isolating the non-communicating device.

When **CHAN** is selected, the NetMediator automatically activates the odd/even partner as **CHAN**. Baud rates for the odd/even pairs can be set to any available rate except for any combination of 19200 and 38400 between the two ports. Use "SPO" filter debug to analyze protocol traffic in a terminal.

CRFT
Causes the data port to have the same functionality as the front panel craft port.

CAP
Allows the user to capture debug information. The debug information is stored in the receive queue of the NetMediator (See section "Monitoring Data Port Activity" for more information). This is used primarily as a troubleshooting feature.

ECU
For use if an ECU is connected to this port (see section "Building Access Controller").

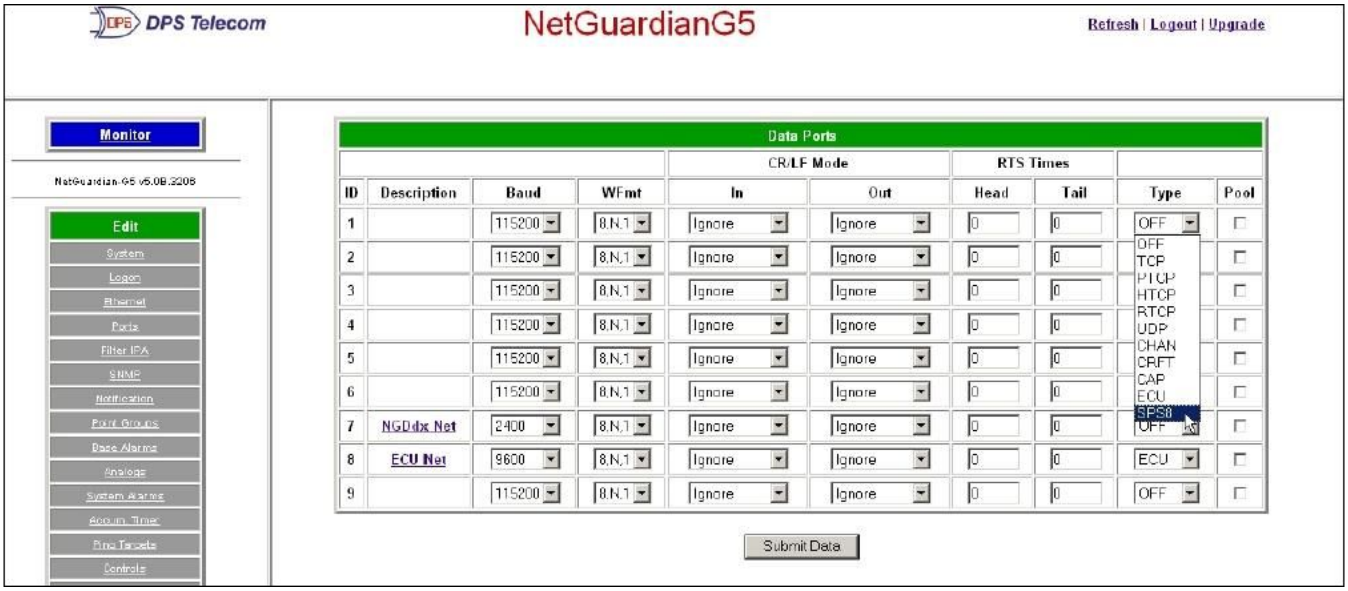
NGDx
Tell the NetGuardian which RS232 port the NetGuardian expansion units are connected to. (Optional)

TBOS
Allows polling of TBOS devices with 8 displays per port. **NOTE**: Edit TBOS port settings from the Serial

Alarms tab.

TABS
Allows polling of one TABS address per port with up to 8 displays. **NOTE**: Edit TABs port settings from the Serial Alarms tab.

2.5.7.2 Defining SPS8 Ports



Data Ports

				CR/LF Mode		RTS Times			
ID	Description	Baud	WFmt	In	Out	Head	Tail	Type	Pool
1		115200	8,N,1	Ignore	Ignore	0	0	OFF	□
2		115200	8,N,1	Ignore	Ignore	0	0		□
3		115200	8,N,1	Ignore	Ignore	0	0		□
4		115200	8,N,1	Ignore	Ignore	0	0		□
5		115200	8,N,1	Ignore	Ignore	0	0		□
6		115200	8,N,1	Ignore	Ignore	0	0		□
7	NGDdx Net	2400	8,N,1	Ignore	Ignore	0	0	OFF	□
8	ECU Net	9600	8,N,1	Ignore	Ignore	0	0	ECU	□
9		115200	8,N,1	Ignore	Ignore	0	0	OFF	□

Fig. 2.12. *Select SPS8 port type from the Edit > Ports, Data Ports screen*

The SPS8 port type can be selected in the **Type** option when configuring data ports with NGEdit4 or the Web Browser Interface. However, you may only edit SPS8 port descriptions in NGEdit4. The Web Browser Interface will allow you to set SPS8 type, but not the port descriptions.

The Serial Port Switch 8 (SPS8) is an external device hub that allows the connection of up to eight serial port devices to a single NetMediator data port. When an SPS8 port is selected, the NetMediator will negotiate the connection for the user. To break the SPS8 connection and return to the normal NetMediator interface, type **@@@** and press Enter.

Hot Tip!

SPS8 ports do not support direct proxy. You must navigate via the TTY menu.

Use the following steps to select a SPS8 port:

1. From the **Edit** menu > **Ports** screen, scroll to the **Data Ports** section.
2. Enter a description and click on the **TCP** link, see Figure 2.11.
3. Under the **Type** column, click on the drop-down menu and select SPS8, see Figure 2.12.
4. Click **Submit Data** to save your configuration settings.

CAUTION: If you initialize the NVRAM, the NetMediator will erase all SPS8 port descriptions.

Hot Tip!

If interfacing a T/Mon XM to SPS8 through a NetMediator set port type to **TCP**.

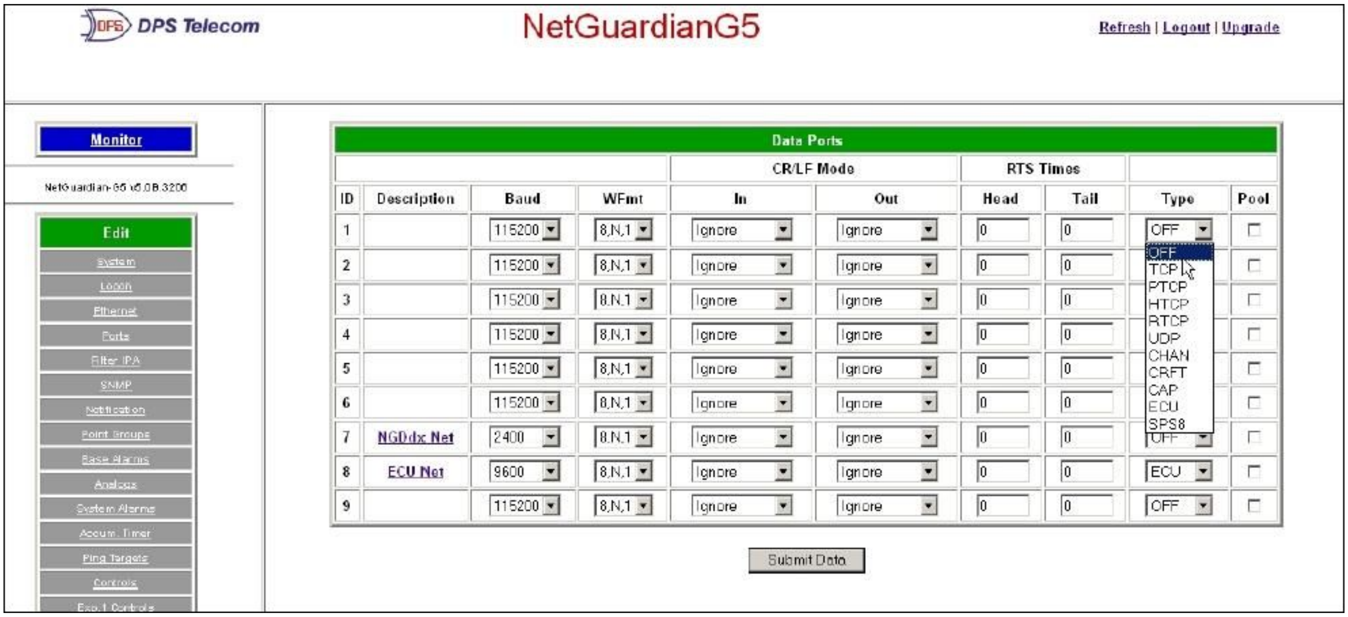
2.5.7.3 Direct and Indirect Proxy Connections

The NetMediator supports two proxy connections, direct and indirect. In a direct proxy connection, the user enters an IP address and port number to Telnet directly to a TCP serial port. In an indirect connection, the user navigates the TTY menu to select a proxy port. Since the TTY interface is password protected, indirect connections are preferred. Some users prefer to disable direct proxy for all connections in order to enforce the password security provided by the TTY interface.

One way to disable proxy connections is to set the proxy port to an uncommon value. This restricts the access of other users, but it is more convenient and secure to set the data ports to **off** in the **Type** field. When set to **off**, the port is no longer associated with a TCP socket, which effectively disables the port from direct access.

Use the following steps to select proxy connections:

1. From the **Edit** menu > **Ports** screen, scroll down to the **Data Ports** section.
2. Enter a description and click on the **TCP** link, see Figure 2.11.
3. Under the **Type** column click on the drop-down menu and select the appropriate proxy connection, see Figure 2.13.
4. Click the **Submit Data** button to save your configuration settings.



Data Ports

				CR/LF Mode		RTS Times			
ID	Description	Baud	WFmt	In	Out	Head	Tail	Type	Pool
1		115200	8,N,1	Ignore	Ignore	0	0	OFF	□
2		115200	8,N,1	Ignore	Ignore	0	0		□
3		115200	8,N,1	Ignore	Ignore	0	0		□
4		115200	8,N,1	Ignore	Ignore	0	0		□
5		115200	8,N,1	Ignore	Ignore	0	0		□
6		115200	8,N,1	Ignore	Ignore	0	0		□
7	NGDdx Net	2400	8,N,1	Ignore	Ignore	0	0	OFF	□
8	ECU Net	9600	8,N,1	Ignore	Ignore	0	0	ECU	□
9		115200	8,N,1	Ignore	Ignore	0	0	OFF	□

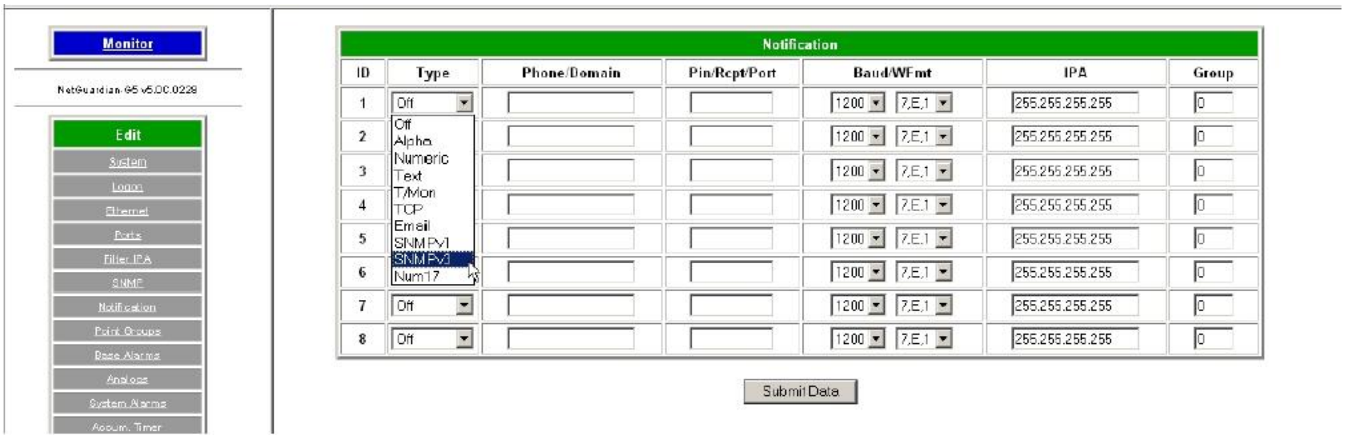
Fig. 2.13. *Set proxy connections in Edit menu > Ports screen > Data Ports*

2.6 Setting Up Notification Methods

The **Edit** menu > **Pagers** screen allows you to configure several alarm notification methods in addition to pagers. Each notification method is defined as a pager type in this screen. To define a pager as the primary or secondary notification of alarm conditions, select the pager in the appropriate alarm point provisioning screens.

⚠ ***Hot Tip!***

Refer to Section 2.9, "Configuring Base Discrete Alarms," and Section 2.9, "Setting System Alarm Notifications," for more information.



Notification

ID	Type	Phone/Domain	Pin/Rcpt/Port	Baud/WFmt		IPA	Group
1	Off			1200	7,E,1	255.255.255.255	0
2				1200	7,E,1	255.255.255.255	0
3				1200	7,E,1	255.255.255.255	0
4				1200	7,E,1	255.255.255.255	0
5				1200	7,E,1	255.255.255.255	0
6				1200	7,E,1	255.255.255.255	0
7	Off			1200	7,E,1	255.255.255.255	0
8	Off			1200	7,E,1	255.255.255.255	0

Fig. 2.14. *Multiple notification methods and group assignments are configured from the Notification screen*

Pager Format	Description
Alphanumeric Paging	Format recognizes numbers, letters, and symbols. Can receive information including alarm point addresses, alarm descriptions, time of alarms, and alarm state a.k.a TAP.
Numeric Paging	Format recognizes numbers only. Message is reported in the following order: [IP]*[Display] [Address]*[State]. When read on the pager it appears as follows: 192.168.1.100 99.01.01.01
Text Paging	Can receive information including alarm point addresses, alarm descriptions, time of alarms, and alarm state. May be accessed using a terminal.
T/Mon Paging	The T/Mon may receive alarm information from the NetMediator via dial-up and display alarm information, alarm description, and threshold status. (Only activates if DCP Poller is inactive)
TCP (ASCII) Paging	Alarm status notification via multiple TCP or HTCP ports. Connection from a higher level master must be established for alarm notification.
Email/SMTP Paging	Provides alarm notification via email, with a description similar to the Alphanumeric pager.
SNMPv1 Paging	May send alarm status to multiple SNMP managers, including the SNMP that alarms are reporting to. The SNMP trap format is v1.
SNMPv3 Paging	May send alarm status to multiple SNMP managers, including the SNMP that alarms are reporting to. The SNMP trap format is v3.
Num17 Paging	Provides alarm notification in a manner similar to that of the Numeric pager. However, Num17 eliminates the (*) symbol from the page. Message is reported in the following order: [IP][Display][Address][State]. When read on the pager it appears as follows: 192.168.1.100 99.01.01.01
Echo	Allows an alarm point on the NetMediator TNT G5 to operate a control on another SNMP-enabled, DPS Telecom RTU.

Table 2.G. *Notification formats*

⚠ ***Hot Tip!***

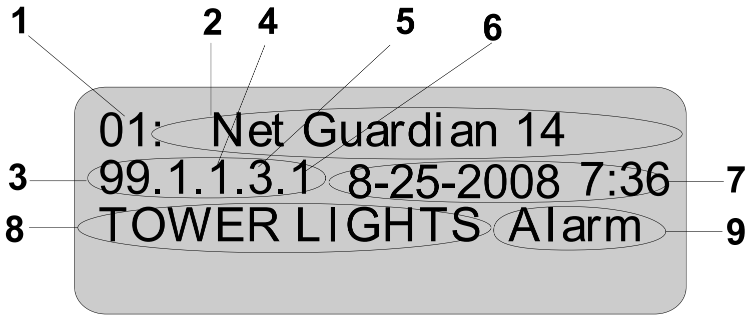
Many cellular carriers offer a TAP gateway to SMS. Check with your carrier to see if you can use a dial-up connection to send SMS messages to your phone. This creates an out-of-band path in the case of a network failure.

2.6.1 Alpha Numeric Pager Setup

The alpha numeric pager can receive text messages including alarm descriptions, time of occurrence, and point addresses.

Use the following steps to configure the alpha numeric pager settings:

1. From the **Edit** menu > **Notification** screen, select an ID number to use. See Table 2.G for pager descriptions. **Note:** Pager IDs are used in the alarm provisioning screen to designate the primary and secondary person/device being paged when an alarm condition occurs or clears.
2. Under the **Type** column, select type **Alpha** from the drop-down menu, see Figure 2.14.
3. Enter the phone number of the Alpha numeric pager under the **Phone/Domain** heading.
4. Enter a personal identification number under the **PIN/Rcpt/Port** heading.
5. Set the pager data rate (i.e. 300, 1200, 2400 or 9600). The default baud is 1200.
6. Select a pager word format (Data Bits, Parity, Stop Bits). The default setting is 7,Even,1.



1. Number of pages
2. Unit name
3. Port # and Address
   (Applicable to T/Mon and IAM only)
4. Display number
5. Alarm point number
6. Alarm status: 1=alarm, 0=clear
7. Date and Time NetGuardian sent page
8. Alarm point description
9. Alarm status

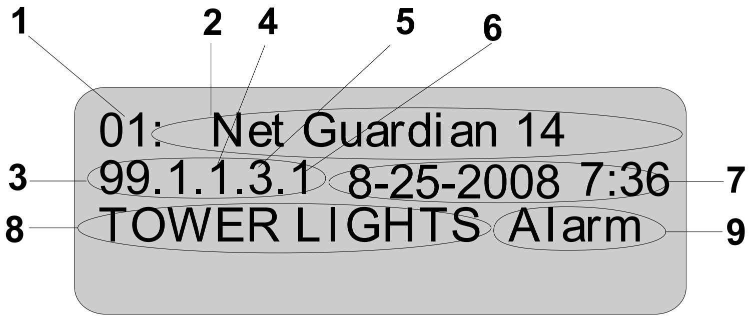
Fig. 2.15. *Alpha numeric pager description*

2.6.2 SNPP Notification Setup

The alpha numeric pager can receive text messages including alarm descriptions, time of occurrence, and point addresses from SNPP service.

Use the following steps to configure the alpha numeric pager settings:

1. From the **Edit** menu > **Notification** screen, select an ID number to use. See Table 2.G for pager descriptions. **Note:** Pager IDs are used in the alarm provisioning screen to designate the primary and secondary person/device being paged when an alarm condition occurs or clears.
2. Under the **Type** column, select type **SNPP** from the drop-down menu, see Figure 2.14.
3. Leave the **Phone/Domain** field blank.
4. Enter the numeric pager number under the **PIN/Rcpt/Port** heading.
5. Under the IPA field, enter the static IPA of the SNPP server. Port automatically defaults to 444.



1. Number of pages
2. Unit name
3. Port # and Address
   (Applicable to T/Mon and IAM only)
4. Display number
5. Alarm point number
6. Alarm status: 1=alarm, 0=clear
7. Date and Time NetGuardian sent page
8. Alarm point description
9. Alarm status

***Fig. 2.15.** Alpha numeric pager description*

2.6.3 Numeric Pager Setup

The numeric pager can receive point addresses of alarms.

Use the following steps to configure the numeric pager settings:

1. From the **Edit** menu > **Notification** screen, select an ID number to use, see Figure 2.14.
   Note: Pager IDs are used in the alarm provisioning screen to designate the primary and secondary person/device being paged when an alarm condition occurs or clears.
2. Under the **Type** column select **Numeric** from the drop-down menu, see Figure 2.14.
3. Enter the phone number of the numeric pager under the **Phone/Domain** heading, followed by 7 commas (e.g. **555-1212,,,,,,,**). Placing a comma after the phone number initiates a two second pause (per comma). This allows enough time for the pager to answer before the NetMediator sends the alarm information.

The Baud/Wfmt and IPA fields are not used from numeric pager types.

2.6.4 Text Paging Setup

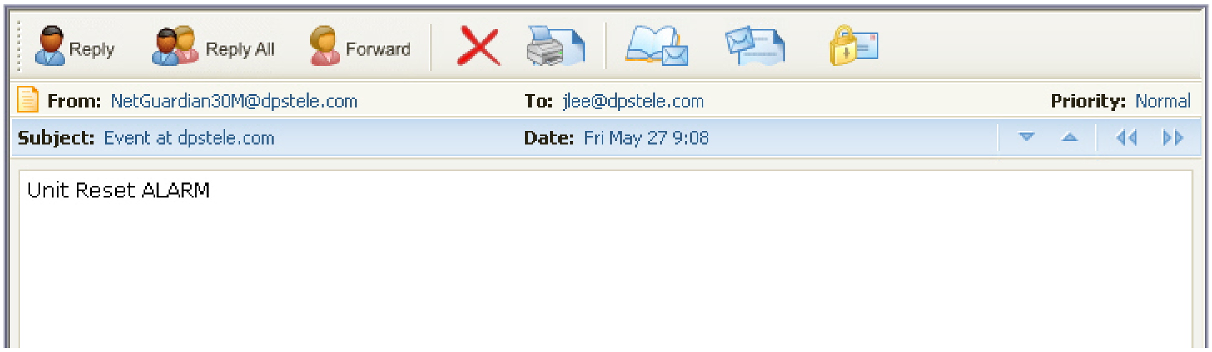
Text pages can receive information including the point addresses of alarms, the alarm description, time of the alarm, and state (alarm or clear). The text pages may be viewed using a terminal such as HyperTerminal.

Use the following steps to configure the text paging settings:

1. From the **Edit** menu > **Notification** screen, select an ID number to use, refer to Figure 2.14.
   Note: Pager IDs are used in the alarm provisioning screen to designate the primary and secondary person/device being paged when an alarm condition occurs or clears.
2. Under the **Type** column select **Text** from the drop-down menu, see Figure 2.14.
3. Enter the phone number of the text paging device under the **Phone/Domain** heading.
4. Set the pager data rate (i.e. 300, 1200, 2400 or 9600). The default baud is 1,200.
5. Select a pager word format (e.g Data bits: 7 or 8, Parity: none (N), even (E) or odd (O), and Stop Bits: 1). The default setting is 7, Even,1.

To set up text paging from T/Mon see the T/Mon user manual.

2.6.5 Email Notification Setup



From: NetGuardian30M@dpstele.com To: jlee@dpstele.com Priority: Normal

Subject: Event at dpstele.com Date: Fri May 27 9:08

Unit Reset ALARM

Fig. 2.16. *Email notification from the NetMediator*

The email pager provides alarm notification via email, with a description similar to that of the alpha-numeric pager.

Use the following steps to configure the email notification settings:

1. From the **Edit** menu > **Notification** screen, select an ID number to use, see to Figure 2.14.
   Note: Pager IDs are used in the alarm provisioning screen to designate the primary and secondary person/device being paged when an alarm condition occurs or clears.

2. Under the **Type** column, select `Email` from the drop-down menu, see Figure 2.14.

3. Enter the domain name of the email address under the **Phone/Domain** heading. This is the portion of an email address after the **@** symbol in **name@domain.com**.
   Note: There cannot be any spaces in the domain name.

4. Enter the email recipient's user name under the **PIN/Rcpt/Port** heading. This is the portion of an email address before the @ symbol in the **name@domain.com.**
   Note: There cannot be any spaces in the recipient's user name

5. Enter the IP address of the SMTP mail server in the **IPA** field.

6. Click **Submit Data** to save your email notification settings.

7. Click on the **System** link. If you have not done so, set up the "from" address sent in email messages sent from the NetMediator by entering the appropriate information in the **Name** and **Location** fields. The email notification from the NetMediator will appear as follows: **name@location**.

Hot Tip!

Most email programs can be set to perform a certain action if a message is received from a specified address, such as moving the message to a special Alarms folder. Use the address entered in the **Systems** screen for such purposes.

8. Click **Submit Data** to save your new system information settings.

The "from" email address is for identification purposes. It is not necessarily a real email address that can be replied to unless one is entered.

2.6.5.1 SMTP POP3 Authentication Support

This section contains steps to configure your NetMediator for SMTP POP3 Authentication support.

Unauthenticated Emails:
The configuration setup will not change. If you want the email to send to **user@yourdomain.com**, use the following steps:
1. In the **Phone/Domain** field type **yourdomain.com**.
2. In the **Pin/Rcpt** field type **user**.
3. Click **Submit Data** to save the configuration settings.

The "from" location is specified by the system info name and location strings, which also do not change. Use the following steps to configure the "from" location **from@fromdomain.com:**
1. Click on the **Edit** menu > **System** link.
2. In the `Name` field type **from**.
3. In the **Location** field type **fromdomain.com**.
4. Click **Submit Data** to save the new system information settings.

Authenticated Emails:
If you want to send an authenticated email to **user@yourdomain.com** from **from@fromdomain.com**, password **= authentic**, then use the following steps:
1. In the **Pin/Rcpt** field type **authentic**.
2. Click **Submit Data** to save your changes.
3. Click on the **Edit menu > System** link.
4. In the `Name` field type **user**.
5. In the **Location** field type **yourdomain.com.**
6. Click **Submit Data** to save the new system information settings.

2.6.6 SNMPv1 Paging Setup

The SNMPv1 paging feature allows you to view alarm status from multiple SNMP managers in addition to the global managers, which are setup from the SNMP menu.

Use the following steps to configure the SNMP paging settings:
1. From the **Edit** menu > **Notification** screen select an ID number to use, refer to Figure 2.14.
   Note: Pager IDs are used in the alarm provisioning screen to designate the primary and secondary person/device being paged when an alarm condition occurs or clears.
2. Under the **Type** column, select **SNMPv1** from the drop-down menu, see Figure 2.14.
3. Set the SNMP port under the **PIN/Rcpt/Port** heading, usually 162.
4. Enter the IP address of the SNMP manager in the **IPA** field.

2.6.7 SNMPv3 Paging Setup

The SNMPv3 paging feature allows you to view alarm status from multiple SNMP managers in addition to the global managers, which are setup from the SNMP menu.

Use the following steps to configure the SNMP paging settings:
1. From the **Edit** menu > **Notification** screen select an ID number to use, refer to Figure 2.14.
   Note: Pager IDs are used in the alarm provisioning screen to designate the primary and secondary person/device being paged when an alarm condition occurs or clears.
2. Under the **Type** column, select **SNMPv3** from the drop-down menu, see Figure 2.14.
3. Enter a v3-User ID under the v3-User heading. The values can range from 0-4. These values refer to the **v3-Users** table in the SNMP page. The v3-User association is used to specify username, security mode, and passwords that should be used for sending a v3-Trap.

4. Set the SNMP port under the **PIN/Rcpt/Port** heading, usually 162.
5.. Enter the IP address of the SNMP manager in the **IPA** field.

2.6.8 TCP Paging Setup

```
<MSG_BEG 00001>
VID : DPS Telecom
FID : NetMediator SNMP v5.0B.3206
SITE: Yale Office
PNT : 99.01.01.01
DESC: RECTIFIER 1
STAT: CLEAR
DATE: 01/01/2001
TIME: 12:17:02
<MSG_END 00001>
```

Fig. 2.17. *Example TCP message*

Heading	Description
MSG_BEG MSG_END	Sequential message number used to group the message and detect missing messages (e.g. 00001, 00002, etc...).
VID	Vendor ID
FID	NetMediator Firmware ID.
SITE	NetMediator system name.
PNT	Point ID (port.address.display.point). See Appendix A for display mapping.
DESC	Description set forth in the Alarm parameters.
STAT	Status of the alarm (Clear or Alarm).
DATE	Date the alarm occurred.
TIME	Time the alarm occurred.

Table 2.H. *TCP alarm message field descriptions*

The NetMediator offers alarm status notification via multiple TCP ports. When an alarm condition occurs, an alarm condition formatted according to Figure 2.17 will be sent to the specified TCP points for use by a higher level master. This connection must be established by the master. Any applicable alarm activity occurring prior to an established connection will be discarded.

Use the following steps to configure the TCP paging settings:

1. From the **Edit** menu> **Notification** screen, select an ID number to use, see Figure 2.14.
   Note: Pager IDs are used in the alarm provisioning screen to designate the primary and secondary person/device being paged when an alarm condition occurs or clears.
2. Under the **Type** column, select **TCP** from the drop-down menu, see Figure 2.14.
3. In the **Pin/Rcpt/Port** field enter the NetMediator TCP port number where alarm messages will be sent (from 1 to 65,536). Multiple ports can be defined by defining multiple pager IDs as TCP pagers and then entering the desired ports.
4. The TCP message can be viewed by a Telnet session by connecting to the NetMediator's IP address and the TCP port entered in this screen. For example, Telnet to **126.10.220.199 5000** if port 5000 is selected and 126.10.220.199 is the unit's IP address. See Figure 2.17 for an example message and Table 2.H for TCP message format information.

2.6.9 Num17 Pager Setup

The Num17 Pager can receive point addresses of alarms. It is quite similar to the Numeric Paging format in the way it receives and reports alarms. However, on certain pager systems the symbol * will cause a freeze or other undesirable situations. Num17 eliminates the * symbol from the pages it receives and reports alarms as a 17-digit series of numbers.

User the following steps to configure Num17 Pager settings:

1. From the **Edit** menu > **Notification** screen select an ID number to use, refer to Figure 2.14.
   Note: Pager IDs are used in the alarm provisioning screen to designate the primary and secondary person/device being paged when an alarm condition occurs or clears.

2. Under the **Type** column select **Num17** from the drop-down menu, see Figure 2.14.

3. Enter the phone number of the numeric pager under the `Phone` heading, followed by commas (for example **555-1212,,,,,,,**). Placing a comma after the phone number initiates a two second pause per comma. This allows enough time for the pager to answer before the NetMediator sends the alarm information. The **Baud/Wfmt** and **IPA** fields are not used from Num17 pager types.

4. Click **Submit Data** to save the configuration settings.

2.6.10 Echo Notification Setup

⚠ ***New Feature!***

As of firmware 5.0K and above. An Echo notification type enables an alarm point on the NetMediator TNT G5 to operate a control on another SNMP remote from DPS.

1. From the **Notification** devices tab, choose **Echo** as the notification **Type**.
2. Enter the Community Set Name in the **Phone/Domain** field.
3. Enter the Relay Point Reference in the **Pin/Pcpt/Port** field. This is entered as:[Port].[Address].[Display].[Relay Point] **NOTE**: The Port will always be 99, and the address is always 1. Therefore, your entries will always begin with 99.1.
4. The **Baud/WFmt** and **Group** fields will <u>not</u> be used.
5. Under **IPA**, enter in the IP address of the SNMP-enabled, DPS remote you are setting up to operate its relay.

NOTE: If more than one point is mapped to Echo notification, the OR'ed logic is applied.

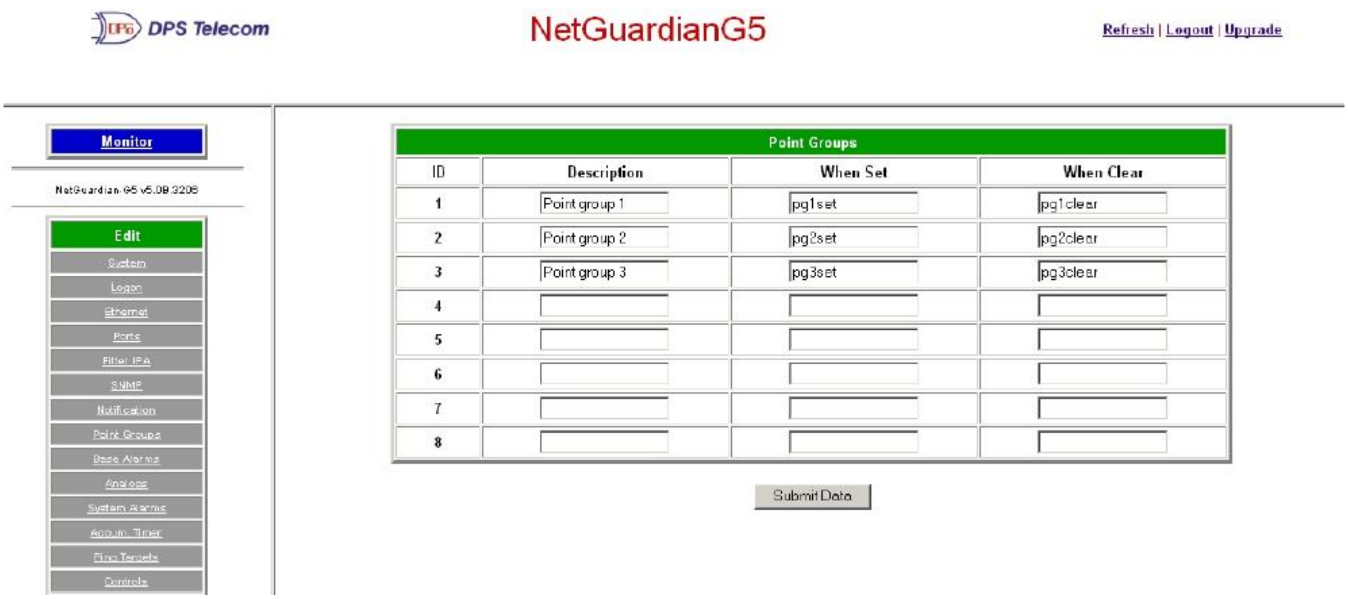
2.7 Defining Point Groups

⚠ ***New Feature!***

Each NetMediator Alarm point can be assigned to one of eight groups, which are identified with a user-defined label. Once the point groups are defined, the Point Group IDs can be used to group base and system alarms, see section "Configuring Base Discrete Alarms."

Use the following steps to define alarm messages for alarm point groups:

1. To define the point groups, select **Point Group** from the **Edit** menu.
2. Then enter the appropriate descriptions in the **Description**, **When Set** and **When Clear** fields for each point group.
3. Click **Submit Data** to save the point group settings.



Point Groups

ID	Description	When Set	When Clear
1	Point group 1	pg1set	pg1clear
2	Point group 2	pg2set	pg2clear
3	Point group 3	pg3set	pg3clear
4			
5			
6			
7			
8			

Fig. 2.18. *Define the Alarm and Clear messages for up to eight different point groups*

2.8 Configuring Base Discrete Alarms

All of the NetMediator's 32 discrete alarms are configured from the **Edit** menu > **Base Alarms** screen. Descriptions of the alarm point, polarity (normal or reversed), whether to use an SNMP Trap or not, and the primary and secondary pager used to report the alarm, and group assignments, are configured in this screen.

Use the following steps to configure base discrete alarm settings:

1. From the **Edit** menu select the **Base Alarms** link, see Figure 2.19.

2. Enter a description for each discrete input alarm being used in the **Description** field.

3. Under the **Polarity** column, you can choose to reverse the polarity or leave it normal. If you select **Normal**, a contact closure is an alarm. If the Reverse option is selected, the alarm is clear when closed.

4. Select the **Trap** check box to send an SNMP trap for that alarm point in the event of an alarm condition. Leave the box blank if you do not wish the NetMediatorto send an SNMP trap.

5. Set the primary and secondary pagers with a pager ID from your defined pager list. (See Section "Setting up Notification Methods" for more information.)

   The NetMediator will notify both the primary and the secondary notification device when point status changes (both alarm and clear).

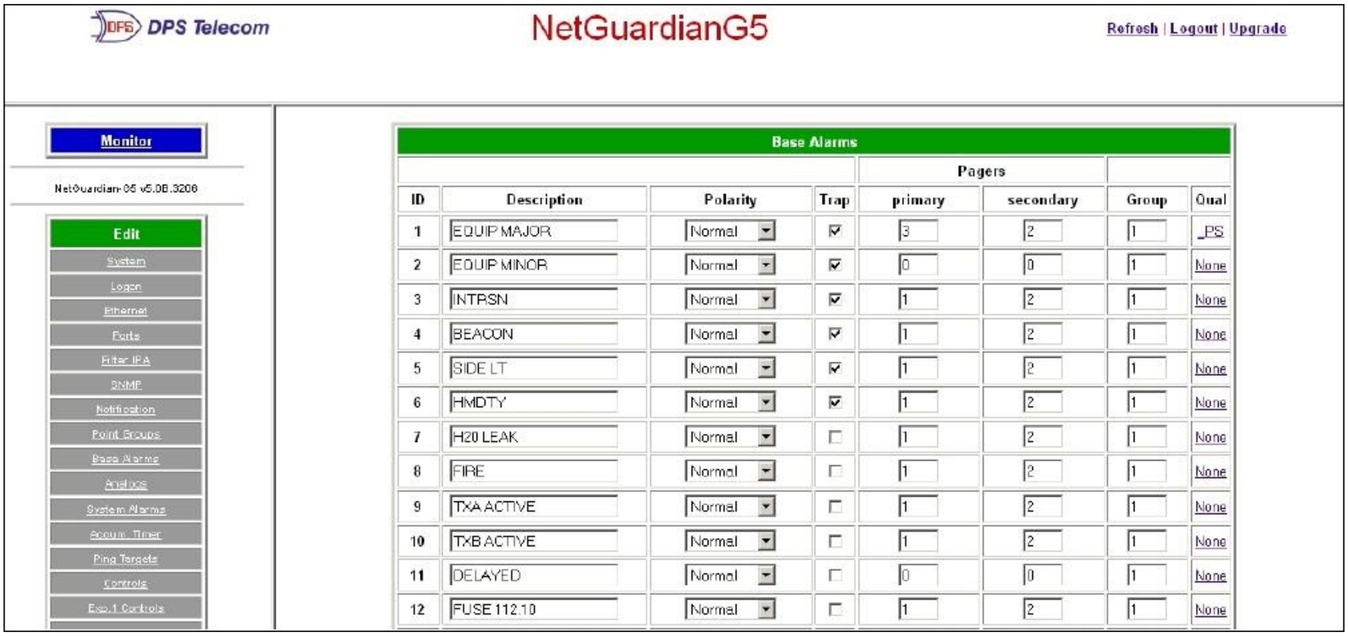
6. Under the **Group** column enter the appropriate point group ID, see section "Defining Point Groups."

7. Under the **Qual** column click the **None** link to configure an event qualification time setting for the alarm point. The **Event Qual** screen will appear, refer to section 2.8, "Event Qualification Timers" for more information.

8. Click **Submit Data** to save base alarm configuration settings.

Hot Tip!

The pager device can be an ASCII terminal, T/Mon element manager, email, or multiple SNMP managers as well as an alpha or numeric pager.

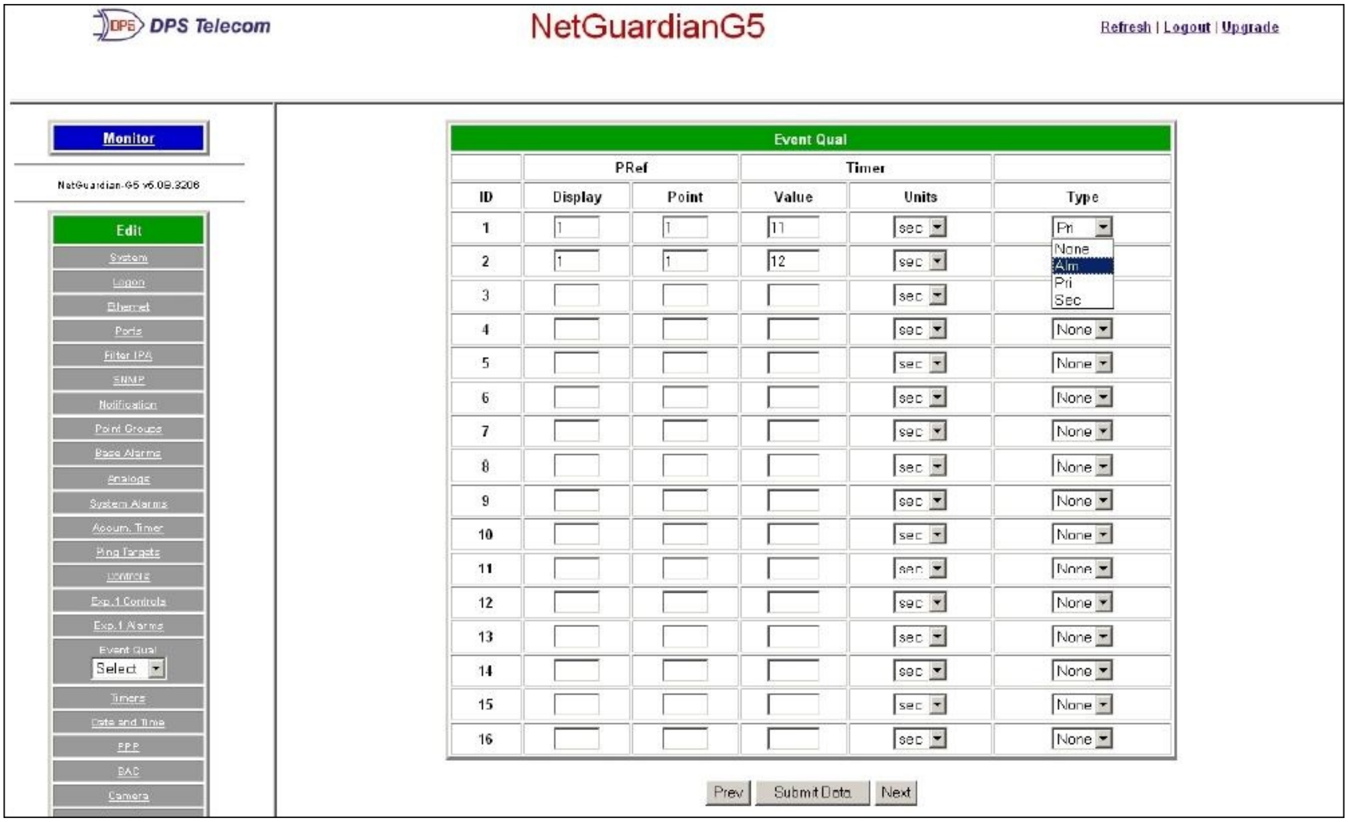


Base Alarms

				Pagers			
ID	Description	Polarity	Trap	primary	secondary	Group	Qual
1	EQUIP MAJOR	Normal	☑	3	2	1	_PS
2	EQUIP MINOR	Normal	☑	0	0	1	None
3	INTRSN	Normal	☑	1	2	1	None
4	BEACON	Normal	☑	1	2	1	None
5	SIDE LT	Normal	☑	1	2	1	None
6	HMDTY	Normal	☑	1	2	1	None
7	H20 LEAK	Normal	□	1	2	1	None
8	FIRE	Normal	□	1	2	1	None
9	TXA ACTIVE	Normal	□	1	2	1	None
10	TXB ACTIVE	Normal	□	1	2	1	None
11	DELAYED	Normal	□	0	0	1	None
12	FUSE 112.10	Normal	□	1	2	1	None

Fig. 2.19. *Configure the 32 discrete alarms from the Base Alarms screen*

2.9 Event Qualification Timers



Event Qual

	PRef		Timer		
ID	Display	Point	Value	Units	Type
1	1	1	11	sec	Pri
2	1	1	12	sec	
3				sec	
4				sec	None
5				sec	None
6				sec	None
7				sec	None
8				sec	None
9				sec	None
10				sec	None
11				sec	None
12				sec	None
13				sec	None
14				sec	None
15				sec	None
16				sec	None

Fig. 2.20. *Edit the Even Qualification Timer settings from the Edit > Even Qual screen*

Use the following steps to configure your Event Qual timer settings:

1. From the **Edit** menu select from the **Event Qual** drop down menu.
2. The standard NetMediator units can have up to 128 Event Quals, which are grouped into sections of sixteen.
3. Enter the display and point number for the point you wish to qualify in the appropriate ID row.
   Note: the ID will correspond to Event Qualification. A list of displays and points can be found in Appendix B.
5. In the **Value** field enter the appropriate amount of time (1 - 127).
6. Under the **Units** column, click on the drop-down menu and select the appropriate unit (min, sec, hour).
7. Under the **Type** column click on the drop-down menu and select the appropriate event type (Alm = alarm, Pri = primary, Sec = secondary).

Hot Tip!

To delete the entry, set the **Type** to None.

8. When you are done making changes, scroll to the bottom of the page and click **Submit Data**.

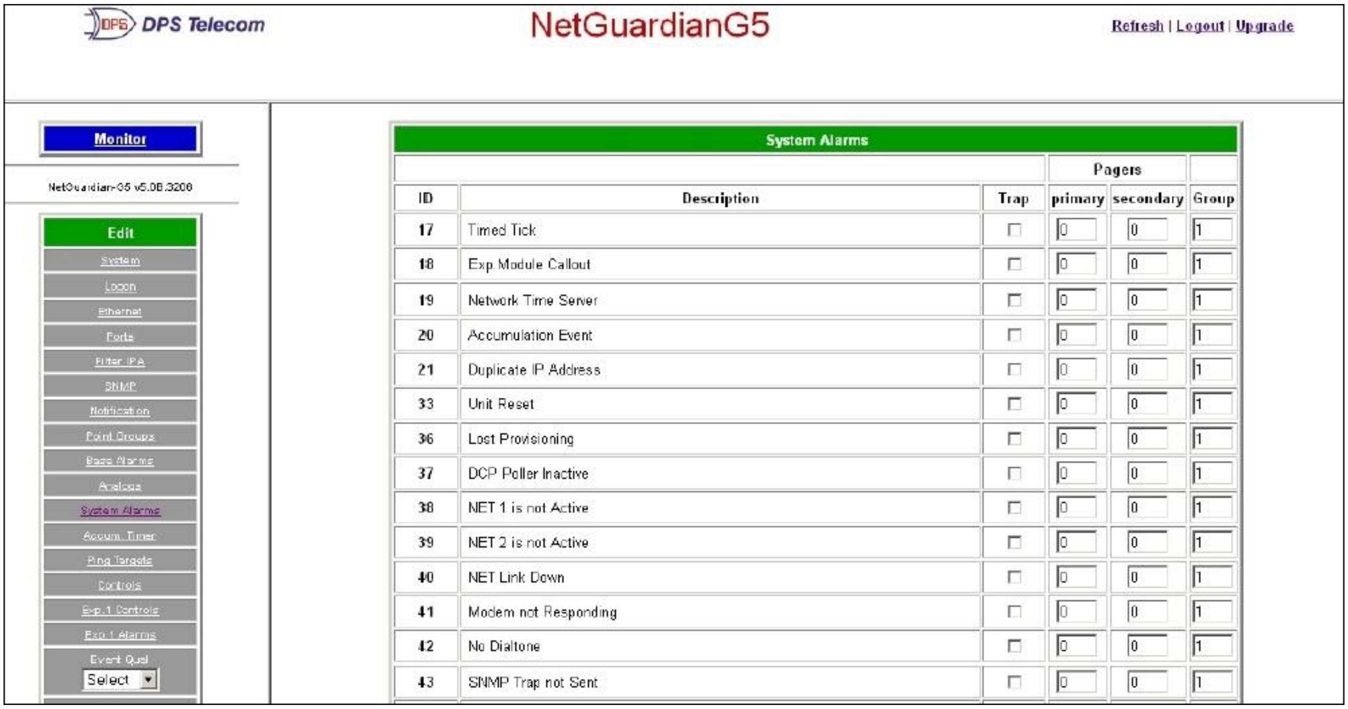
CAUTION: Set conditions are qualified, clears are not.

Please note that the alarm qualification event becomes relay momentary time if display and point reference a control (non-expansion control). Controls are mapped to Display 11, Points 1-8, see Reference Information Table A1 and A2 for display descriptions, see Reference Information for Display Mapping Table.

Also, you must set the Type field first, before attempting to edit other data for each ID. To setup Event Qualification Timers, follow the instructions below:

1. Choose the Event Qual tab from the menu selections
2. Enter the ID of the Event qual you would like to modify, 3. Then input the Type, Display, Point, Value and Timer units for each ID. Where Display is 1 - 16, Point is the qualifying alarm point. The Timer value can be set in units of seconds, minutes or hour units. The Type options are Alarm, Primary Pager, Secondary Pager, or None. Please note, if you select None from the Type menu, your entry will be deleted.
3. Click the Save button.

2.10 Setting System Alarm Notifications



System Alarms

			Pagers		
ID	Description	Trap	primary	secondary	Group
17	Timed Tick	□	0	0	1
18	Exp.Module Callout	□	0	0	1
19	Network Time Server	□	0	0	1
20	Accumulation Event	□	0	0	1
21	Duplicate IP Address	□	0	0	1
33	Unit Reset	□	0	0	1
36	Lost Provisioning	□	0	0	1
37	DCP Poller Inactive	□	0	0	1
38	NET 1 is not Active	□	0	0	1
39	NET 2 is not Active	□	0	0	1
40	NET Link Down	□	0	0	1
41	Modem not Responding	□	0	0	1
42	No Dialtone	□	0	0	1
43	SNMP Trap not Sent	□	0	0	1

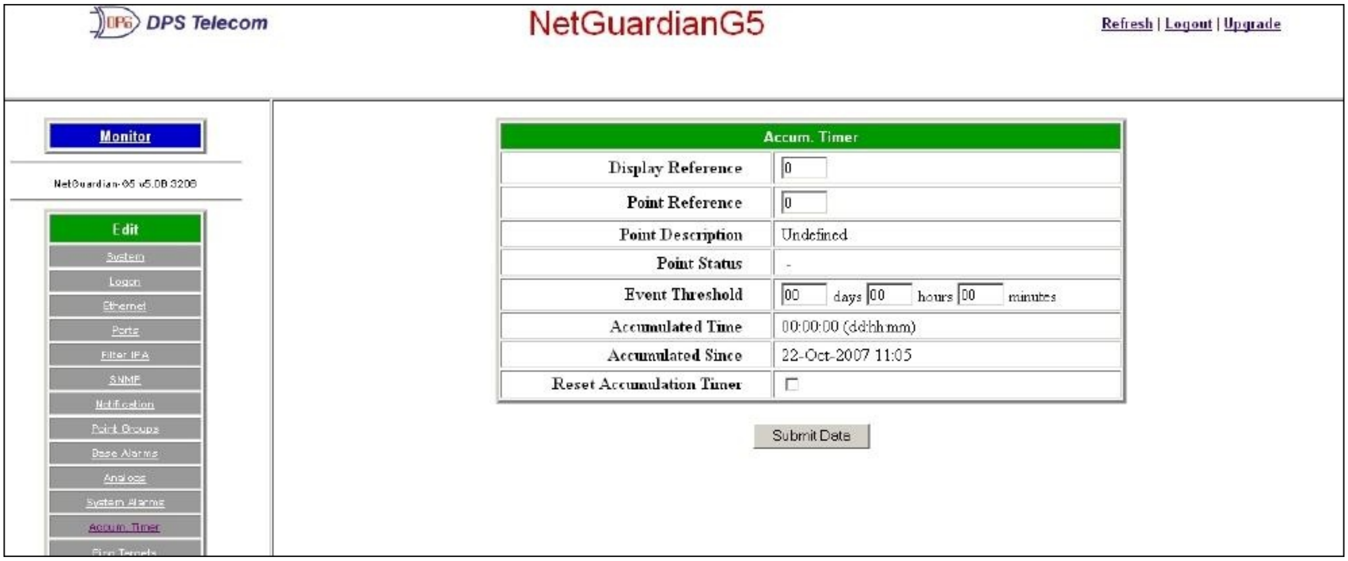
Fig. 2.21. *SNMP Traps and primary or secondary pager devices can be selected for each system alarm*

The **System Alarms** screen allows you to individually set the notification method for each system alarm. See Appendix A for system alarm point descriptions.

Use the following steps to configure your system alarm notification settings:

1. From the **Edit** menu select the **System Alarms** link, see Figure 2.21.
2. Check the **Trap** box to send an SNMP trap for that alarm point. Selecting the box will set that point to send a SNMP trap, leaving the box blank will set that point to not send an SNMP trap.
3. Set the primary and secondary pagers with a pager ID from your defined pager list. (See Section "Setting up Notification Methods" for more information.)
   Note: The NetMediator will notify both the primary and the secondary notification device when point status changes (both alarm and clear).
4. Under the **Group** column enter the appropriate point group ID, see section "Defining Point Groups."
5. Click **Submit Data** to save the configuration settings.

2.11 Configure the Accumulation Timer



Accum. Timer	
Display Reference	0
Point Reference	0
Point Description	Undefined
Point Status	-
Event Threshold	00 days 00 hours 00 minutes
Accumulated Time	00:00:00 (dd:hh:mm)
Accumulated Since	22-Oct-2007 11:05
Reset Accumulation Timer	□

Fig. 2.22. *Define the Accumulation Timer settings to send an Accumulation Event alarm*

Field	Description
Display and Point Reference	Indicates which alarm point is to be monitored
Point Description	The user-defined description of the monitored alarm point.
Point Status	The current status of the monitored point.
Event Threshold	The amount of time allowed to accumulate before the "Accumulation Event" system alarm is set. Maximum is 45 days.
Accumulated Time	The total time the monitored point has been in ALARM state.
Accumulated Since	Indicates the last time the accumulation timer was reset.
Reset Accumulation Timer	Placing a check mark here will reset the timer when the user presses the Submit button.

Table 2.I. *Fields in the Accumulation Timer screen*

The NetMediator's **Accumulation Timer** keeps a running total of the amount of time a point is in an alarm state to send an Accumulation Event system alarm once the total time exceeds a defined threshold. Refer to Table 2.I for field descriptions.

Use the following steps to configure the accumulation timer settings:

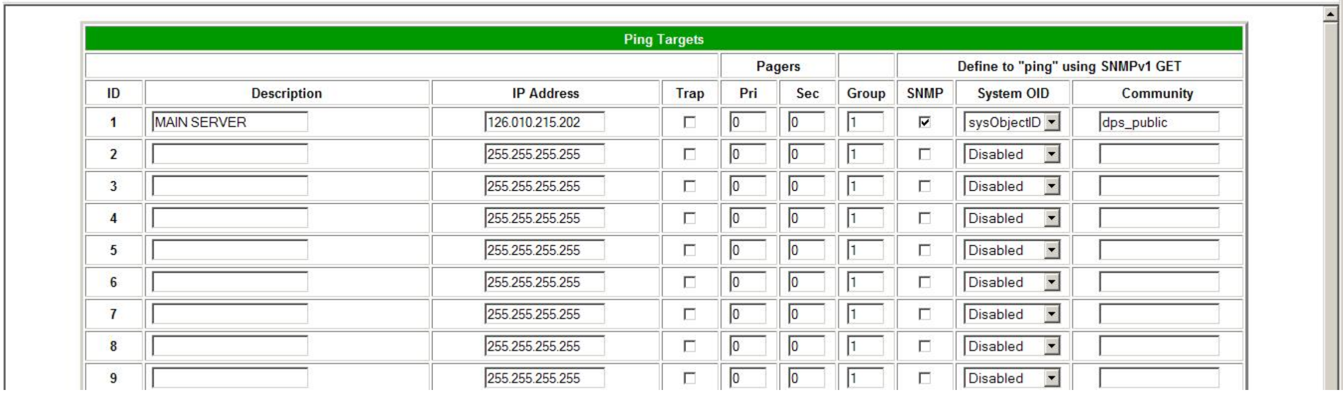
1. Go to the **Edit** menu and select the Accum. Timer link, see Figure 2.22.
2. In the **Display Reference** field enter the corresponding display number to be monitored.
3. In the **Point Reference** field enter the corresponding alarm point to be monitored.
4. In the **Event Threshold** row enter the appropriate running total days, hours and minutes a point is in a alarm state in order to send an accumulation event system alarm.
5. Click **Submit Data** to save the configuration settings.

Hot Tip!

Only check the **Reset Accumulation Timer** box if you wish to reset the timer.

The **Point Description, Point Status, Accumulated Time, and Accumulated Since** fields are not configurable. These fields will show the corresponding data of the point you configure for the accumulation timer after you have hit the **Submit Data** button.

2.12 Configuring Ping Targets



Ping Targets

				Pagers			Define to "ping" using SNMPv1 GET		
ID	Description	IP Address	Trap	Pri	Sec	Group	SNMP	System OID	Community
1	MAIN SERVER	126.010.215.202	□	0	0	1	☑	sysObjectID	dps_public
2		255.255.255.255	□	0	0	1	□	Disabled	
3		255.255.255.255	□	0	0	1	□	Disabled	
4		255.255.255.255	□	0	0	1	□	Disabled	
5		255.255.255.255	□	0	0	1	□	Disabled	
6		255.255.255.255	□	0	0	1	□	Disabled	
7		255.255.255.255	□	0	0	1	□	Disabled	
8		255.255.255.255	□	0	0	1	□	Disabled	
9		255.255.255.255	□	0	0	1	□	Disabled	

Fig. 2.23. *Configure the ping target parameters from the Ping Info screen*

Each of the 32 ping targets can be provisioned with a description, an IP address, primary and secondary notification devices, and an option to verify connection using SNMPv1 GET. The NetMediator TNT G5 will issue a call to the primary notification device followed by a call to the secondary notification device in the event a ping alarm occurs.*

Use the following steps to configure the ping targets:

1. From the **Edit** menu select **Ping Targets**, see Figure 2.23.
2. In the **Description** field, enter a description of the device to be pinged.
3. In the **IP Address** field enter the IP address of the device to be pinged.
4. Under the **Trap** column check the box to designate that an SNMP trap will be sent when an alarm condition exists. Leaving the box blank designates that an SNMP trap will not be sent when an alarm condition exists.
5. Set the primary and secondary pagers with a pager ID from your defined pager list. (See Section "Setting up Notification Methods" for more information.)
   Note: The NetMediator TNT G5 will notify both the primary and the secondary notification device when point status changes (both alarm and clear).
6. Under the **Group** column enter the appropriate point group ID, see section "Defining Point Groups."
7. Under the **SNMP** column check the box to enable pinging of the device using SNMPv1 GETs instead of traditional ICMP. If the box is not checked, the device will be pinged using traditional ICMP.**
8. Select the OID to retrieve with the SNMP GET. The following is a list of available MIB variables in the **System OID** field:**
   sysDescr, OID .1.3.6.1.2.1.1.1.0
   sysObjectID, OID .1.3.6.1.2.1.1.2.0
   SysUpTime, OID .1.3.6.1.2.1.1.3.0
9. In the **Community** field enter the community string for the SNMP GET request.The community string must match the community string configured in the target device.**
10. Click **Submit Data** to save the configuration settings.

*See Section 'Setting System Timers' to set ping response and fail times.

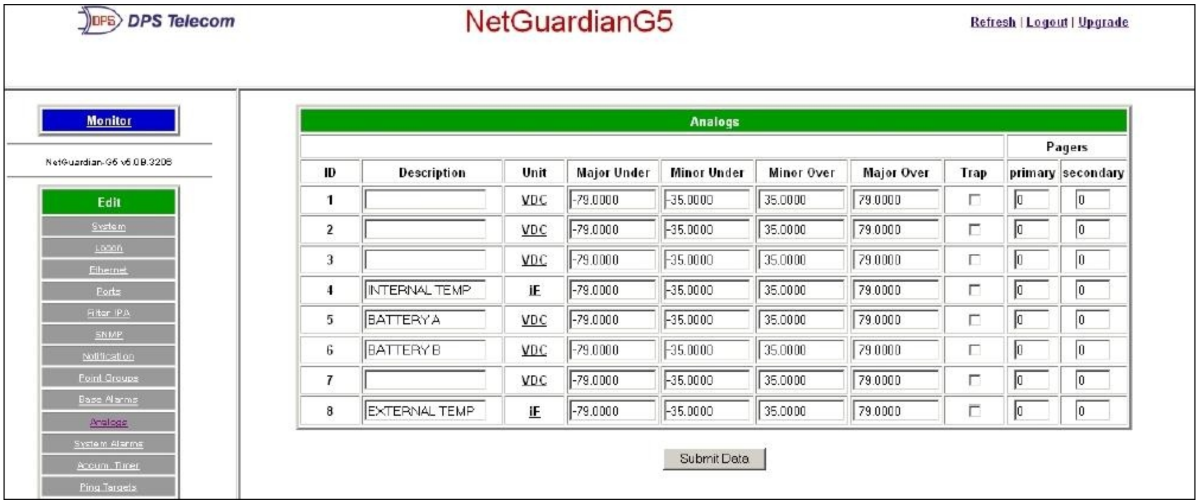
** **Note:** The following field options are only available with firmware version 5.1 D or higher.

2.13 Analog Parameters

Each of the NetMediator TNT G5's analog channels must be individually configured to monitor data. The ADCs (analog to digital converters) support a range of –70 to 94 VDC. There are four alarm trip points (thresholds) in ascending order: major under, minor under, minor over, and major over. You can choose the values for each of the thresholds on all channels. As with the other alarms, you can designate whether or not to send an SNMP trap when a threshold is crossed. The primary/secondary pager used to report the alarm is also set here. The thresholds must be set from **Under** to **Over** in either ascending or descending potential (or current) order. Thus the settings of –10, –5, 5 and 10 corresponding respectively to major under, minor under, minor over and major over is valid.

The analog alarms are set to measure voltage by default and the thresholds are reported as "native units." For example, you may set Channel 3 to measure outside temperature. If you were using a sensor with a measurable temperature range between –4° to 167° Fahrenheit (–20° to 75° Celsius). The voltage for that channel varies between 1 and 5 VDC for that sensor, which is to be reported as ° Fahrenheit (native units) where 1 volt represents –4° Fahrenheit and 5 volts represents 167° Fahrenheit.

To change any one analog alarm to measure current instead, a dip switch setting must be changed. Refer to the NetMediator hardware user manual for details on jumper locations and positions. The jumper inserts a 250 ohm shunt resistor across the input to convert the sensors current output to volts. Use ohms law to find the voltage drop across the 250 ohm shunt resistor (multiply the current by the resistance 250 ohms). Please refer to the operation manual for your sensor to determine any other conversion factors. This will allow you to correctly set the thresholds for **over** and **under** conditions.

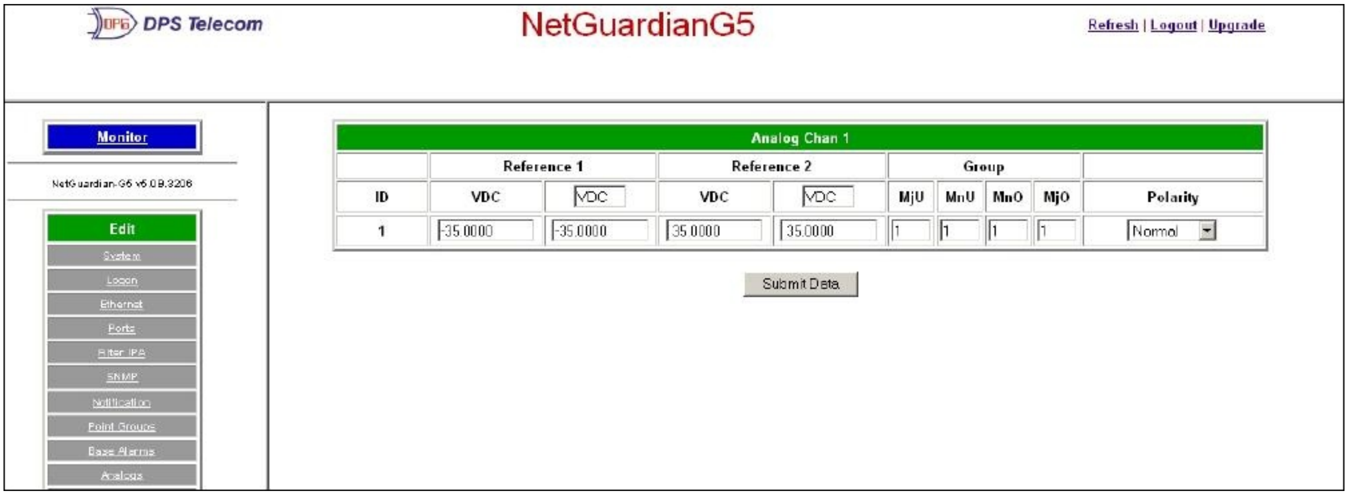


Analogs

								Pagers	
ID	Description	Unit	Major Under	Minor Under	Minor Over	Major Over	Trap	primary	secondary
1		VDC	-79.0000	-35.0000	35.0000	79.0000	□	0	0
2		VDC	-79.0000	-35.0000	35.0000	79.0000	□	0	0
3		VDC	-79.0000	-35.0000	35.0000	79.0000	□	0	0
4	INTERNAL TEMP	F	-79.0000	-35.0000	35.0000	79.0000	□	0	0
5	BATTERY A	VDC	-79.0000	-35.0000	35.0000	79.0000	□	0	0
6	BATTERY B	VDC	-79.0000	-35.0000	35.0000	79.0000	□	0	0
7		VDC	-79.0000	-35.0000	35.0000	79.0000	□	0	0
8	EXTERNAL TEMP	F	-79.0000	-35.0000	35.0000	79.0000	□	0	0

Fig. 2.24. *The Analog Parameters can be viewed and changed from the Analogs screen*

1. From the **Edit** menu click on the **Analogs** link.
2. In the **Description** field enter a description for each analog channel being utilized.
3. Under the **Unit** column, click on the abbreviated units link (e.g VDC, RH, F, etc.) to convert the reference units and the native units for that analog channel, see Figure 2.24.
4. Set **Reference 1** (VDC) to the minimum output (in volts DC) of the analog device being configured.
5. In the box next to **VDC** (the space may already contain the abbreviation VDC) enter an abbreviation for the native units (e.g. RH for relative humidity, F for ° Fahrenheit, etc.).
6. In the box below the abbreviated native unit setting enter the native unit amount that corresponds to the minimum output entered in the previous step.
7. Set **Reference 2** (VDC) to the maximum output (in volts DC) of the analog device being configured.
8. In the box next to **VDC** enter an abbreviation for the native units (e.g. RH for relative humidity, F for ° Fahrenheit, etc.).
9. In the box below the abbreviated native unit setting enter the native unit amount that corresponds to the maximum output entered in the previous step.
10. Enter the Point Group ID designated for each alarm level (MjU = Major Under, MnU = Minor Under, MjO = Major Over, MnO = Minor Under), see section "Defining Point Groups."
11. Follow these steps for each analog channel being configured.
12. Click the **Submit Data** button to save the configuration settings.



Analog Chan 1

	Reference 1		Reference 2		Group				
ID	VDC	VDC	VDC	VDC	MjU	MnU	MnO	MjO	Polarity
1	-35.0000	-35.0000	35.0000	35.0000	1	1	1	1	Normal

Fig. 2.25. Reference 1 and reference 2 correspond to the minimum and maximum output values of your analog device

2.13.1 Integrated Temperature and Battery Sensor (Optional)

The optional integrated temperature and battery sensor allows the user to monitor surrounding temperature as well as the unit's current draw. This is only available if the NetMediator was purchased with this option. If you are using the temperature or battery sensor, you must dedicate an analog port to each one (see user manual for connection information).

CAUTION: Ambient room temperature will be cooler than the NetMediator integrated temperature.

Temperature Sensor

1. In the **Description** field enter a description in the analog channel you are using for the integrated temperature sensor. 4=internal and 8=external.
2. Under the **Unit** column, click on the abbreviated units link (e.g VDC, RH, F, etc.) to convert the reference units and the native units for that analog channel, see Figure 2.24.
3. In **Reference 1** enter **iF** (integrated Fahrenheit) in the box next to **VDC** (the space may already contain the abbreviation VDC), see Figure 2.24. This enables the NetMediator's pre-configured temperature settings. Repeat this step for **Reference 2.**
4. Set your desired thresholds.

Battery Sensor

1. In the **Description** field enter a description in the analog channel you are using for the integrated current sensor. 5= Battery A and 6= Battery B.
2. Set your desired thresholds. Be sure to set your thresholds in reference to your NetMediator's power input (e.g. –24 VDC, –48 VDC, or wide range).

2.13.2 Analog Polarity Override

iF : integrated temperature sensor in fahrenheit or `iC` for celsius
oV+ : override polarity VDC to positive
oV- : override polarity VDC to negative

If you have a positive powered NetMediator, you may want to use this feature if you are using the internal battery sensor. The Web Browser Interface will override **oV+** and **oV-** tags and show `VDC`. So you won't have to view an uncommon looking tag while in monitor mode.

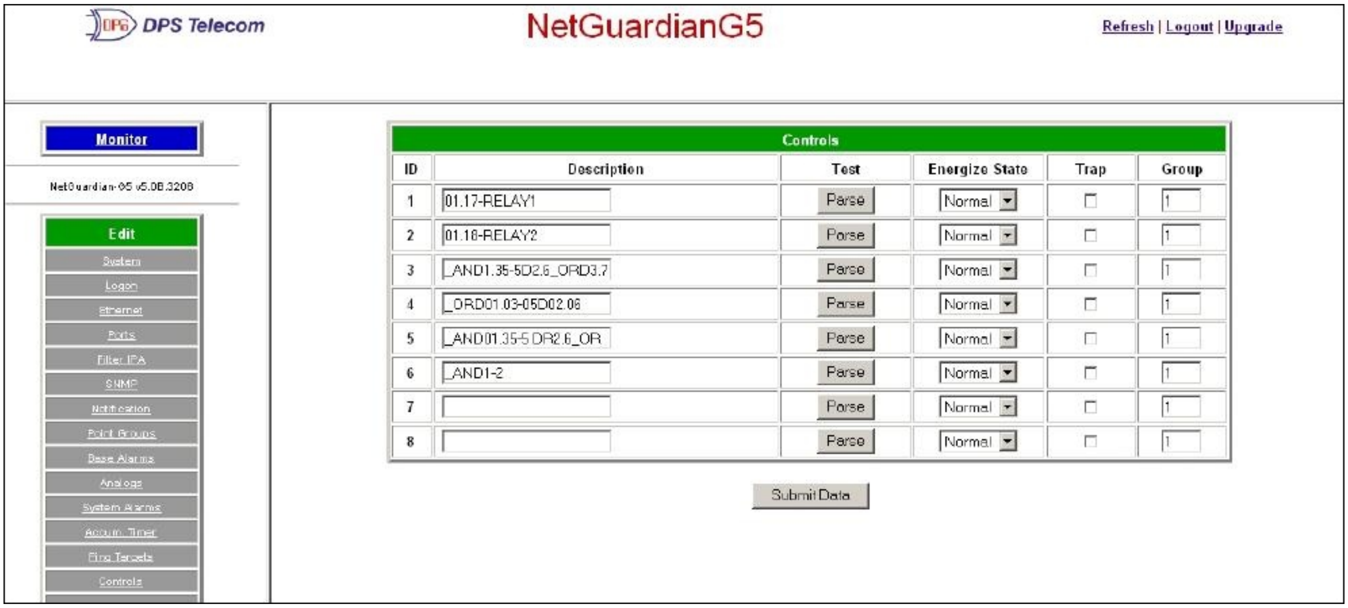
Analog Accuracy:
+/- 1% of analog range.

2.13.3 Analog Step Sizes

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

Table 2.J. *Analog step sizes*

2.14 Configuring the Control Relays



Controls

ID	Description	Test	Energize State	Trap	Group
1	01.17-RELAY1	Parse	Normal	□	1
2	01.18-RELAY2	Parse	Normal	□	1
3	_AND1.35-5D2.6_ORD3.7	Parse	Normal	□	1
4	_ORD01.03-05D02.06	Parse	Normal	□	1
5	_AND01.35-5 DR2.6_OR	Parse	Normal	□	1
6	_AND1-2	Parse	Normal	□	1
7		Parse	Normal	□	1
8		Parse	Normal	□	1

Fig. 2.26. *Configure controls in the Edit menu > Controls screen*

The Relays of the NetMediator TNT G5 can be identified and configured using the **Edit** menu > **Controls** screen. A description can be entered for each of the relays. You can also designate whether or not to send SNMP Traps when a relay is actuated. Relays are normally open (N/O) by default. A circuit board jumper can be changed for each control to make it normally closed (N/C). Refer to the NetMediator user manual for PCB settings and jumper positions.

1. From the **Edit** menu, select the **Controls** link, see Figure 2.26.
2. In the **Description** field enter a description for each control/relay being used.
3. Set the **Energize State** to either **Normal** or **Inverted**. Selecting **Normal** sets the relay's normal electrical state to **De-energized**. Selecting **Inverted** sets the relay's normal electrical state to **Energized**.
4. Check the **Trap** box to send an SNMP trap for that alarm point. Selecting the box will set that point to send a SNMP trap, leaving the box blank will set that point to not send an SNMP trap.
5. Under the **Group** column enter the appropriate point group ID, see section "Defining Point Groups."
6. Click **Submit Data** to save the configuration settings.

Hot Tip!

The Energize State is different than the normal state of the physical contact closure position of each relay, which is determined by circuit board jumpers. This gives you the added benefit of being able to monitor the wire. In the event of a power failure, the relay would de-energize back to it's normal physical contact closure set by the circuit board jumper for that relay. Check your jumper settings and relay connections before setting to Normal or Inverted. Refer to the NetMediator manual for jumper settings and relay connection options.

4. Check the **Trap** box designate an SNMP trap when a control point operates.
5. Click **Submit Data** to save the configuration settings.

2.14.1 Activating Relays from an Alarm Point's Change of Status

The NetMediator allows the user to echo an alarm point state to activate a relay. Any of the NetMediator's discrete alarms, system alarms, ping alarms, or analog alarms may be echoed to activate a relay in the event that alarm is triggered. However, a relay set to echo an alarm point cannot be manually activated. To allow the relay to be manually activated while still maintaining its echoed status, the relay point must be set to **ORed**.

2.14.1.1 Echoing alarm points to relays

In the **Description** field (see Figure 2.26) enter the display, alarm point, a dash (**-**), and the description of the alarm you wish to echo. For example, if echoing discrete alarm 8, enter **01.08-**your alarm description. (The display and alarm point are formatted as **DD.PP**, where DD = the display number and PP = the point number or **GX** where **X** is the group number) See Appendix A for a complete list of display and point numbers.

2.14.1.2 Oring echoed alarm points

In the **Description** field enter the display, alarm point, an under bar (**_**), and the description of the alarm you wish to set to ORed. For example, if ORing discrete alarm 8, enter **01.08_**your alarm description. The display and alarm point are formatted as **DD.PP**, where DD = the display number and PP = the point number or **GX** where **X** is the group number) See Appendix A for a complete list of display and point numbers.

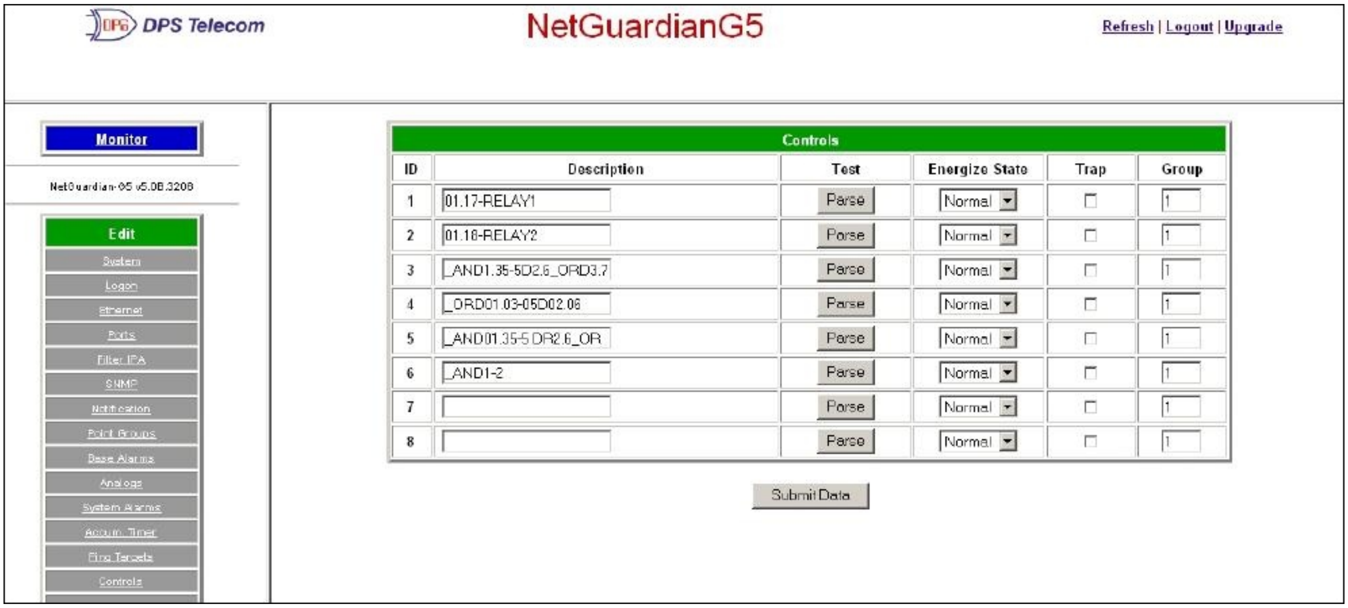
2.14.2 Derived Control Relays and Virtual Alarming

Control relays and virtual 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.
G : Tag to change the active group 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.



Controls

ID	Description	Test	Energize State	Trap	Group
1	01.17-RELAY1	Parse	Normal	□	1
2	01.18-RELAY2	Parse	Normal	□	1
3	_AND1.35-5D2.6_ORD3.7	Parse	Normal	□	1
4	_ORD01.03-05D02.06	Parse	Normal	□	1
5	_AND01.35-5 DR2.6_OR	Parse	Normal	□	1
6	_AND1-2	Parse	Normal	□	1
7		Parse	Normal	□	1
8		Parse	Normal	□	1

Fig. 2.27. *Derived control relays*

_OR D1.3-5 is logically equivalent to (1.3 || 1.4 || 1.5)
_AN D 1.3-5 D2.6 _OR D3.7 is logically equivalent to ((1.3 && 1.4 && 1.5 && 2.6) || 3.7)
_OR D01.03-05 D02.06 _AN D02.07 D03.10.-12 is logically equivalent to ((1.3 || 1.4 || 1.5 || 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) || 2.7 || 3.10 || 3.12))
o will not parse
_AN D1-2 : Control will parse
_OR G1 will latch if any alarm in group 1 is active

2.14.3 Relay Operating Modes

A trap is sent on a relay COS for normal or echoed controls when the send trap option is selected. A trap is also sent when an oRed relay is manually controlled. A trap will not be sent for an ORed relay latched or released due to an alarm echo.

Each relay can be mapped to one alarm point. Any system, base, or expansion point can be used. Multiple alarm points cannot be mapped to the same control.

The operation of a control is determined by the first six characters of the control description. The format **DD.PP** is used to specify the display and point number of the alarm to be mapped to the control.

2.14.3.1 Echoed Mode

An echoed control reflects the state of the alarm for which it is assigned. The user is blocked from using manual control commands, like **opr** and **rls**.

Description format **DD.PP**- where **DD** = Display #, and **PP** = Point #. Example: **01.08-My Control** : Echoes the state of the alarm at display 1, point 8 to the relay, see Figure 2.27.

2.14.3.2 ORed Mode

An ORed control is active if the alarm for which it is assigned is active or if the control has been manually activated. The user will see the relay mode displayed in red text.

This will not work with Boolean equations.

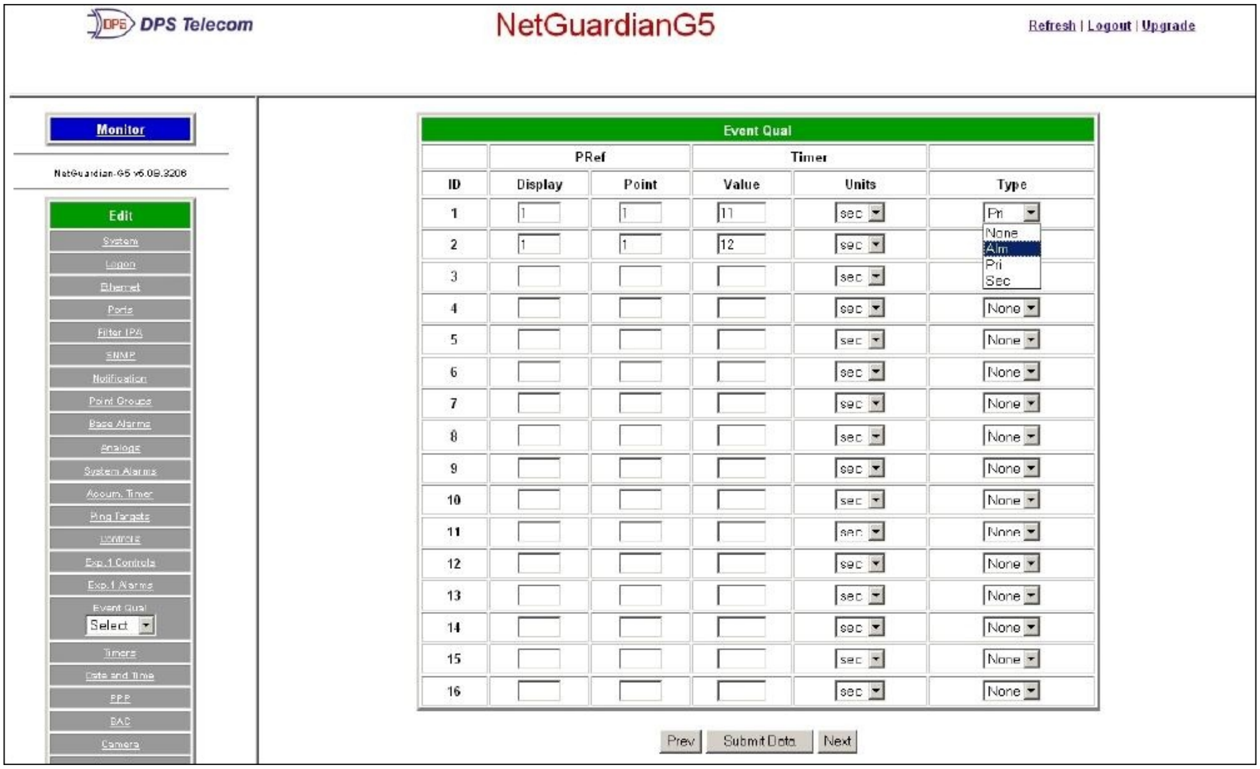
Description format **DD.PP_** where **DD** = Display #, and **PP** = Point #. Example: **01_08_My Control** : ORs the state of the alarm at display1, point 8 to the relay, see Figure 2.27.

2.14.3.3 Normal Mode

Relay energized state is similar to alarm point polarity. A normal control is latched when the relay state is **opr**, and open when the relay state is `rls`. Conversely, an inverted control is latched when the relay state is `rls`, and open when the relay state is **opr**.

In normal mode, the description does not follow formatting for echoed or ORed modes. Example: **My Control** : Normal relay operation, see Figure 2.27.

2.14.4 Override Default Relay Momentary Time Using Event Qualification



Event Qual

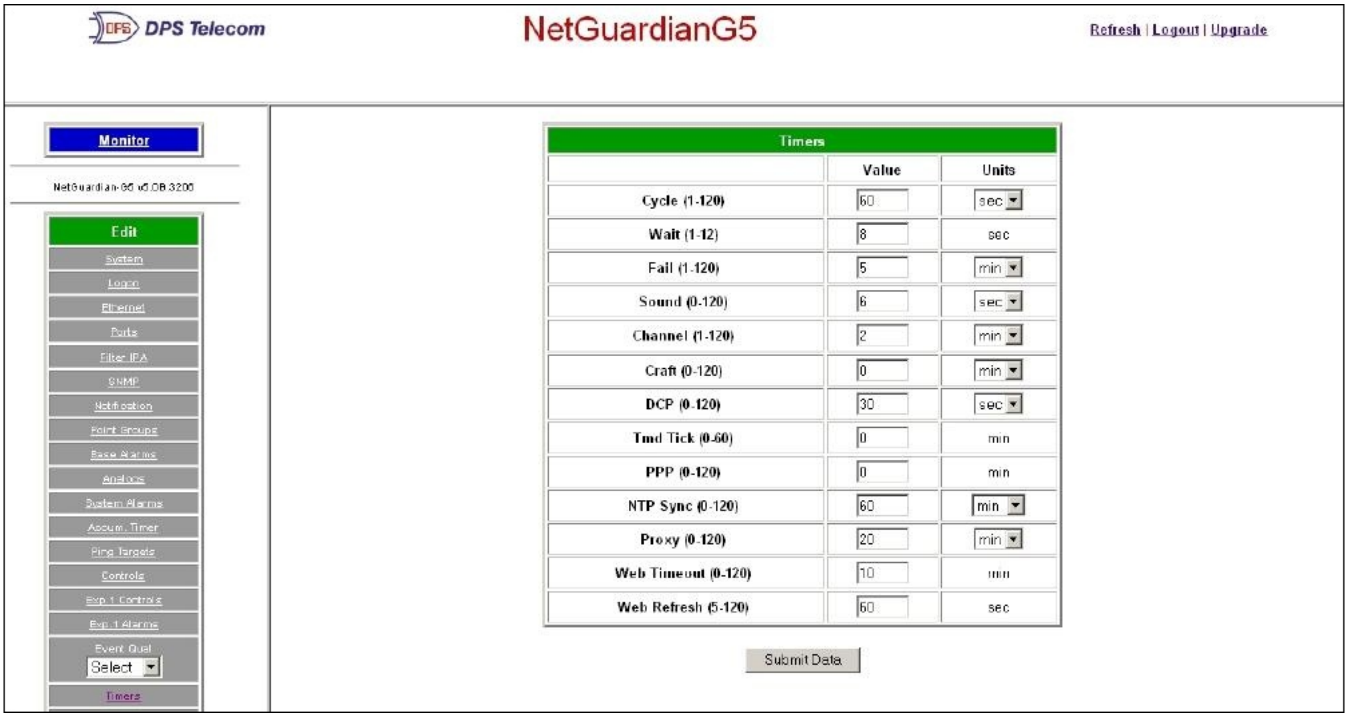
	PRef		Timer		
ID	Display	Point	Value	Units	Type
1	1	1	11	sec	Pri
2	1	1	12	sec	
3				sec	
4				sec	None
5				sec	None
6				sec	None
7				sec	None
8				sec	None
9				sec	None
10				sec	None
11				sec	None
12				sec	None
13				sec	None
14				sec	None
15				sec	None
16				sec	None

Fig. 2.28. Using Event Qualification to override default relay momentary time

Use the following steps to override default relay momentary time, using the NetMediator's Event Qualification feature:

1. From the **Edit** menu click on the **Event Qual** drop-down menu and select the appropriate group.
2. In the **Display** text box, type `11`.
3. In the **Point** text box, type the number of the relay you would like to change.
4. In the **Value** box, type the amount of time. You may not select more than 127 units.
5. In the **Units** box, select the appropriate units (seconds, minutes, or hours).
6. In the **Type** box, select **Alm**.
7. Click **Submit Data** to save the changes.

2.15 Setting System Timers



Timers

	Value	Units
Cycle (1-120)	60	sec
Wait (1-12)	8	sec
Fail (1-120)	5	min
Sound (0-120)	6	sec
Channel (1-120)	2	min
Craft (0-120)	0	min
DCP (0-120)	30	sec
Tmd Tick (0-60)	0	min
PPP (0-120)	0	min
NTP Sync (0-120)	60	min
Proxy (0-120)	20	min
Web Timeout (0-120)	10	min
Web Refresh (5-120)	60	sec

Fig. 2.29. *When a target fails to respond to a ping within the fail time period, a fault is declared*

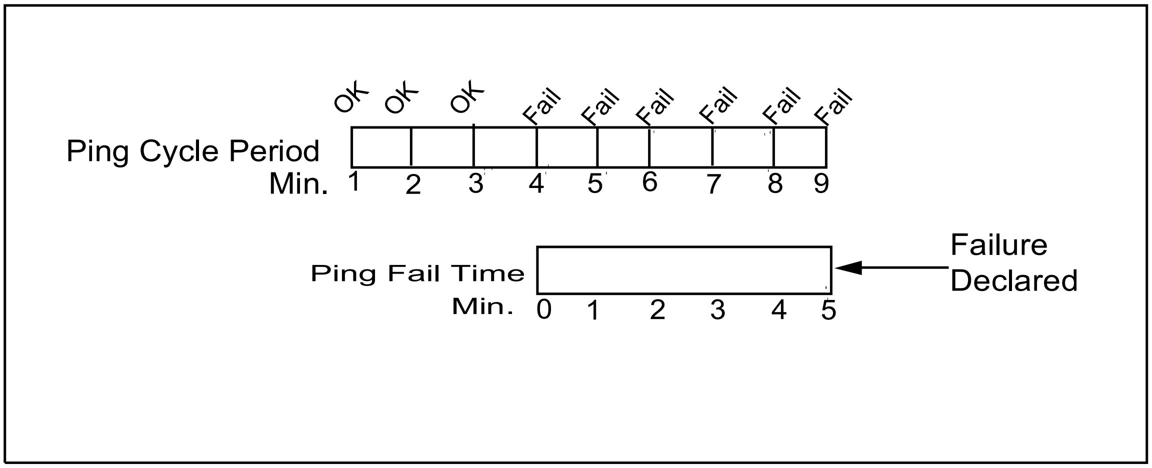


Fig. 2.30. *Default timer settings*

The NetMediator's System Timers allow you to control the rate of your pinging activity, time of speaker sounding, inactivity time for data ports, and discrete alarm detect time. Ping timer settings allow you to balance network traffic against alarm response times. Although you can change the values from their default settings, it is recommended that you use either the default settings or plan your settings so that there is no conflict among the timers. Specifically, the FAIL time should be set to several times the CYCLE time to allow multiple PINGs before a FAIL is declared. Likewise, the CYCLE time should be set to several times the wait time.

Hot Tip!

The smaller the CYCLE number, the sooner you will find out about failures; however, you will increase traffic on your LAN.

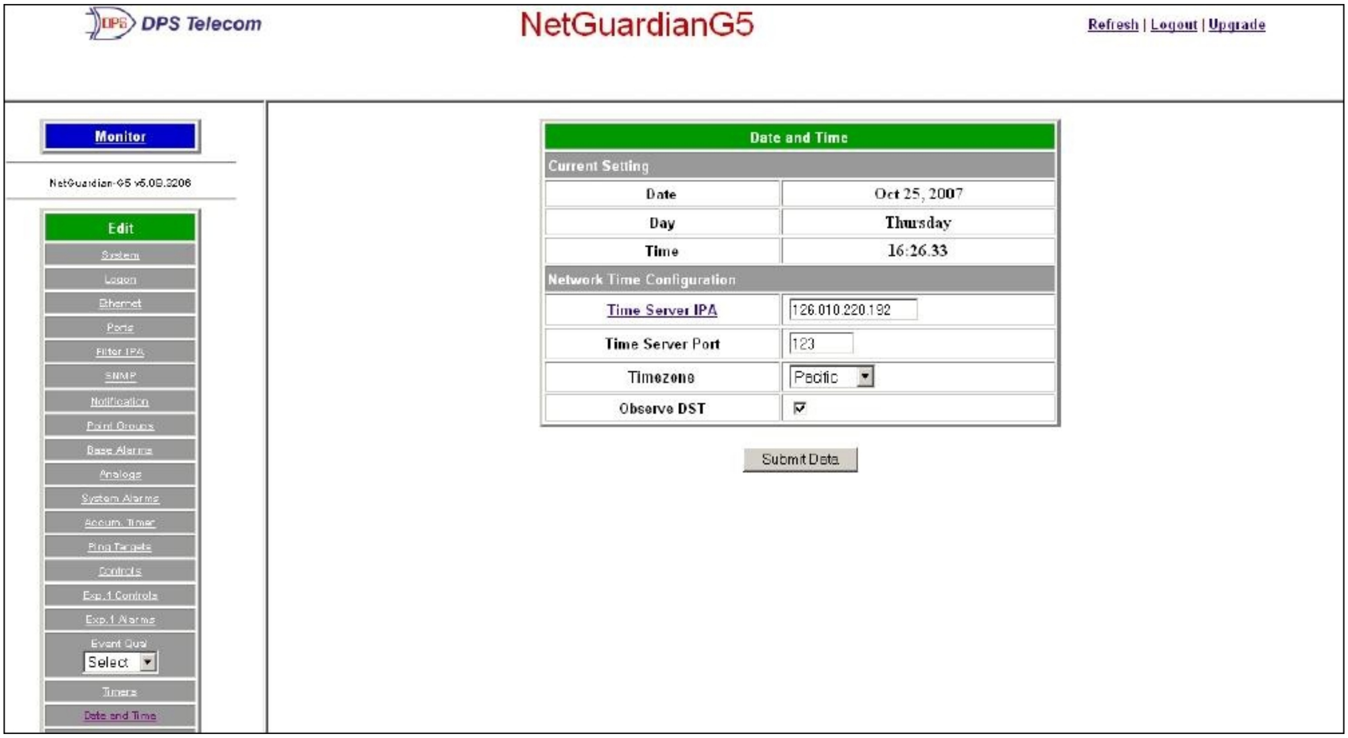
1. From the **Edit** menu select **System Timers**, see Figure 2.29.
2. Set the **Cycle** time. This determines how often the NetMediator will go through its list of ping targets and attempts to reach them with an ICMP ping. Set the value between zero and 120 and set the units to either seconds or minutes. Default is 60 seconds.
3. Set the **Wait** time. The NetMediator waits after sending a ping request before it determines that the target is unreachable. Set the value between zero and 12 and set the units to either seconds or minutes. Default is 8 seconds.
4. Set the **Fail** time. This determines the period of time over which, if a unit has not responded, it is considered failed. Set the value between zero and 120 and set the units to either seconds or minutes. Default is 5 minutes.
5. Set the **Sound** time. This determines how long the NetMediator's speaker will sound when an alarm occurs or clears. The alarm condition will still be present after the speaker shuts off. The sound timer only affects the duration of the audible alarm annunciation. Set the value between zero and 120 and set the units to either seconds or minutes.
6. Set the **Channel** time. This determines the period of time over which, if there is no activity on the data ports designated as channel ports, it is considered failed. Set the value between zero and 120 and set the units to either seconds or minutes. Alarm activity is indicated in Display 11, Point 62. (See Appendix A, "Display Mapping.")
7. Set the **Craft** time. This determines the period of time over which, if the device connected through a port designated as a **craft** port doesn't reset the timer, an alarm will be triggered. Set between 0 and 120 (min or sec). Alarm activity is indicated in Display 11, Point 63. (See Appendix A, "Display Mapping.")
8. Set the **DCP** time. Set between 0–120 (sec or min). This determines the period of time over which, if the NetMediator does not receive a DCP poll, to trigger an alarm. Once the alarm is triggered, then dial back-up may be enabled if a T/Mon pager profile is configured.
9. Set the **Timed Tick** between 0–60 minutes. This is a "keep alive or heartbeat" function that can be used by Masters who don't perform integrity checks. For example, if you entered `30`, the NetMediator would notify you every 30 minutes. See section "Setting Up Notification Methods" for paging information.
10. Set the **PPP** time. Set between 0–120 for onDemand mode.
11. Set the **NTP** Sync. Set between 0–120 (sec or min).

Hot Tip!

The timer settings are accurate to ± one tick. This means that if a timer is set to one minute, it may actually respond anywhere from zero to two minutes. If your target time is one minute, then set the timer to 60 seconds so that it will respond anywhere from 59-61 seconds.

13. Set the **Web Edit Timeout** time between 5–120 minutes. This determines the period of time a Web edit page may be active without any activity. A logon is required if a Web edit timeout occurs. The default Web edit time is 10 mins.
    Note: The time units are preset to minutes by default and cannot be changed.
14. Set the **Web Monitor Refresh** time between 5–120 seconds. This timer enables the user to specify how long the NetMediator should wait before auto-refreshing a Monitor page to the Web browser. The default Web monitor refresh time is 60 seconds.
    Note: The time units are preset to seconds by default and cannot be changed.

2.16 Setting the System Date and Time



Date and Time	
Current Setting	
Date	Oct 25, 2007
Day	Thursday
Time	16:26.33
Network Time Configuration	
Time Server IPA	126.010.220.192
Time Server Port	123
Timezone	Pacific
Observe DST	☑

Fig. 2.31. *The current date and time can be entered from the Date and Time screen or from an SNMP manager*

The date is entered in the mm/dd/yyyy format and the time is entered in the hh:mm:ss format.

Hot Tip!

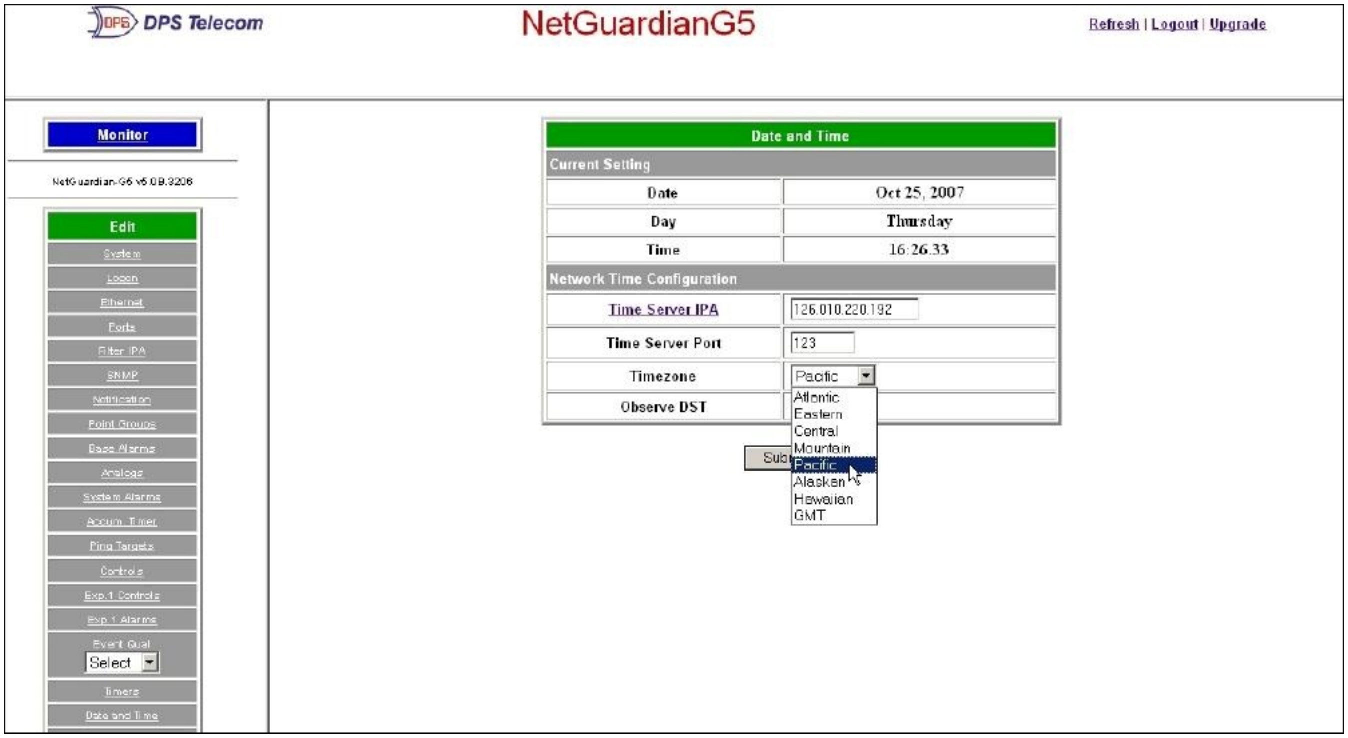
The date and time can also be set from an SNMP manager.

Use the following steps to manually set the system's time and date:

1. From the **Edit** menu, select **Date and Time**, see Figure 2.31.
2. Enter the appropriate date, the day of the week, and time.
3. Click **Submit Data** to save the data and time settings.

The date and time will need resetting following a power failure or reboot unless your NetMediator is equipped with the real-time clock option or network time is enabled. (See the section 2.15.1 for instructions on setting the network time configuration.)

2.16.1 Network Time Protocol Support

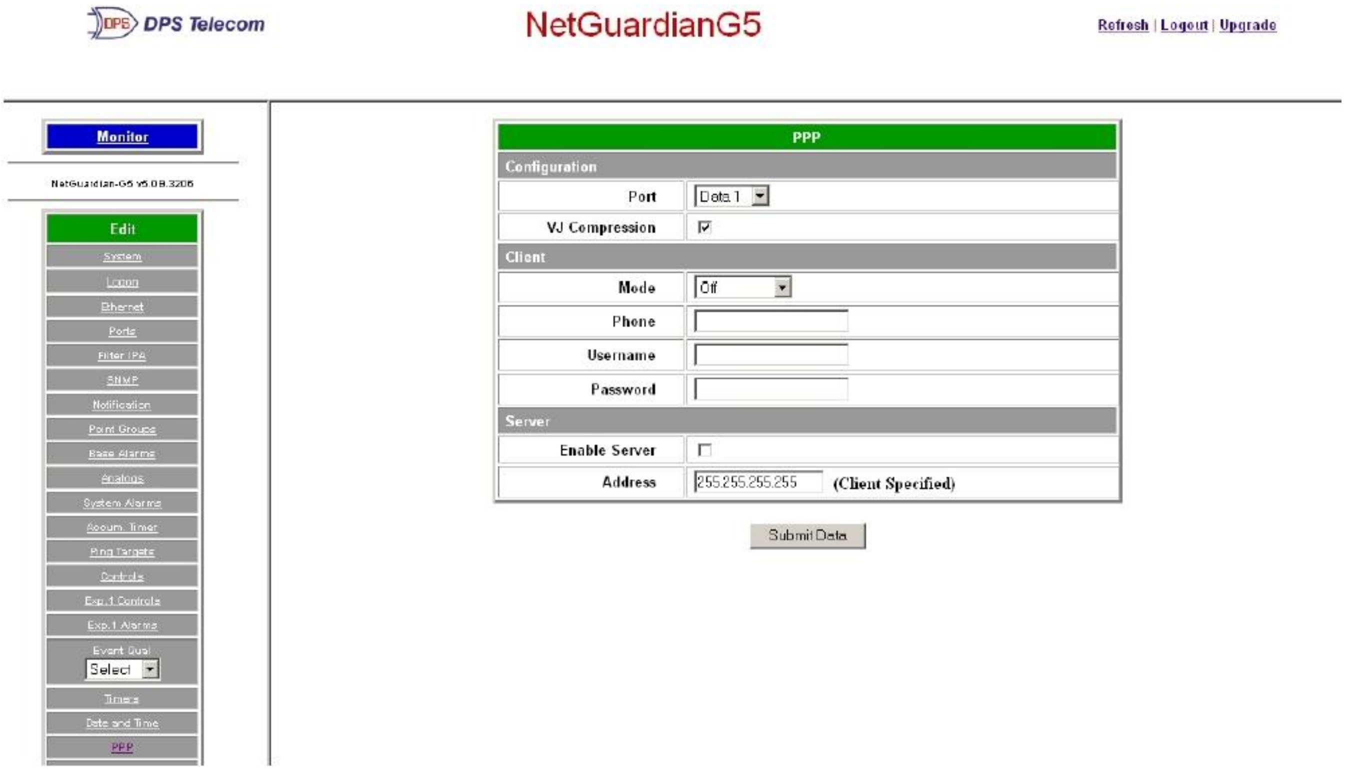


Date and Time	
Current Setting	
Date	Oct 25, 2007
Day	Thursday
Time	16:26:33
Network Time Configuration	
Time Server IPA	126.010.220.192
Time Server Port	123
Timezone	Pacific
Observe DST	

Fig. 2.32. *Configure the Network Time Protocol feature in the Date and Time screen*

1. From the **Edit** menu select **Date and Time.**
2. Click on the **Time Zone** drop-down menu and select the appropriate time zone.
3. Put a check next to **Observe DST** if you are in an area that observes daylight saving.
4. You may also change the server IP Address that the NetMediator syncs with by entering a the appropriate IP address in the **Time Server IPA** field.
5. If you do not want your NetMediator to sync with an NTP server, simply set the Time Server IPA to **255.255.255.255**.
   Note: If Time Server IPA is set to 255.255.255.255, you will be able to manually adjust the date and time.
6. Click **Submit Data** to save the date and time settings.

2.17 Configuring PPP Modes



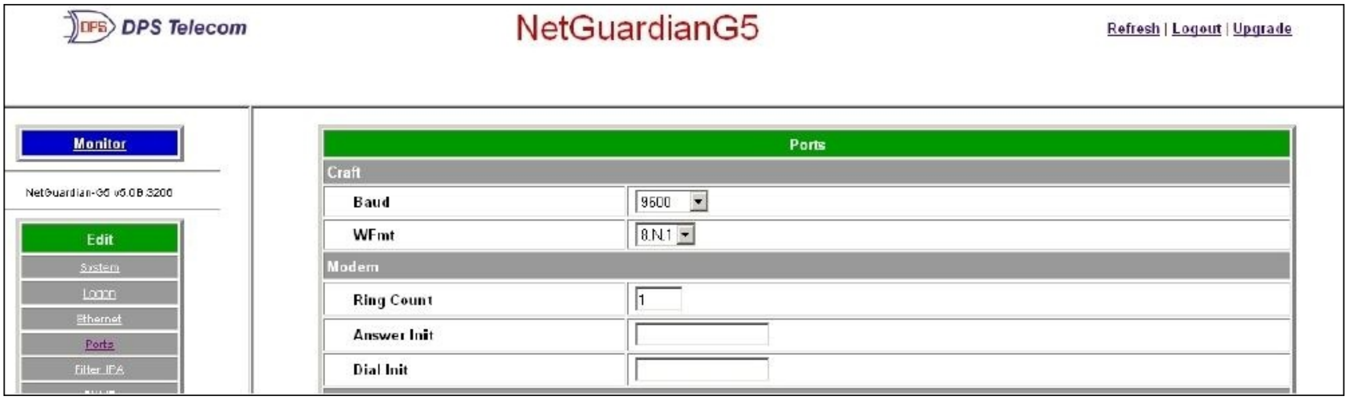
PPP	
Configuration	
Port	Data 1
VJ Compression	☑
Client	
Mode	Off
Phone	
Username	
Password	
Server	
Enable Server	☐
Address	255.255.255.255 (Client Specified)

Fig. 2.33. *Configure the PPP port settings in the Edit menu > PPP screen*

If the LAN connection to your remote sites fails, you can still keep in touch with your remote equipment by using the NetMediator as a PPP (Point-to-Point Protocol) server via dial-up.

Use the following steps to configure the NetMediator as a PPP Server:

1. Select **PPP** from the **Edit** menu.
2. In the **Server** section check the **Enable Server** (also known as Hosting Mode) box.
3. Set the IP address that is given to the guest dialing in. (This must be a valid and available IP address for the subnet on the LAN you will be connecting to, the same one the NetMediator is connected to.)
4. Click **Submit Data** to save your PPP settings.

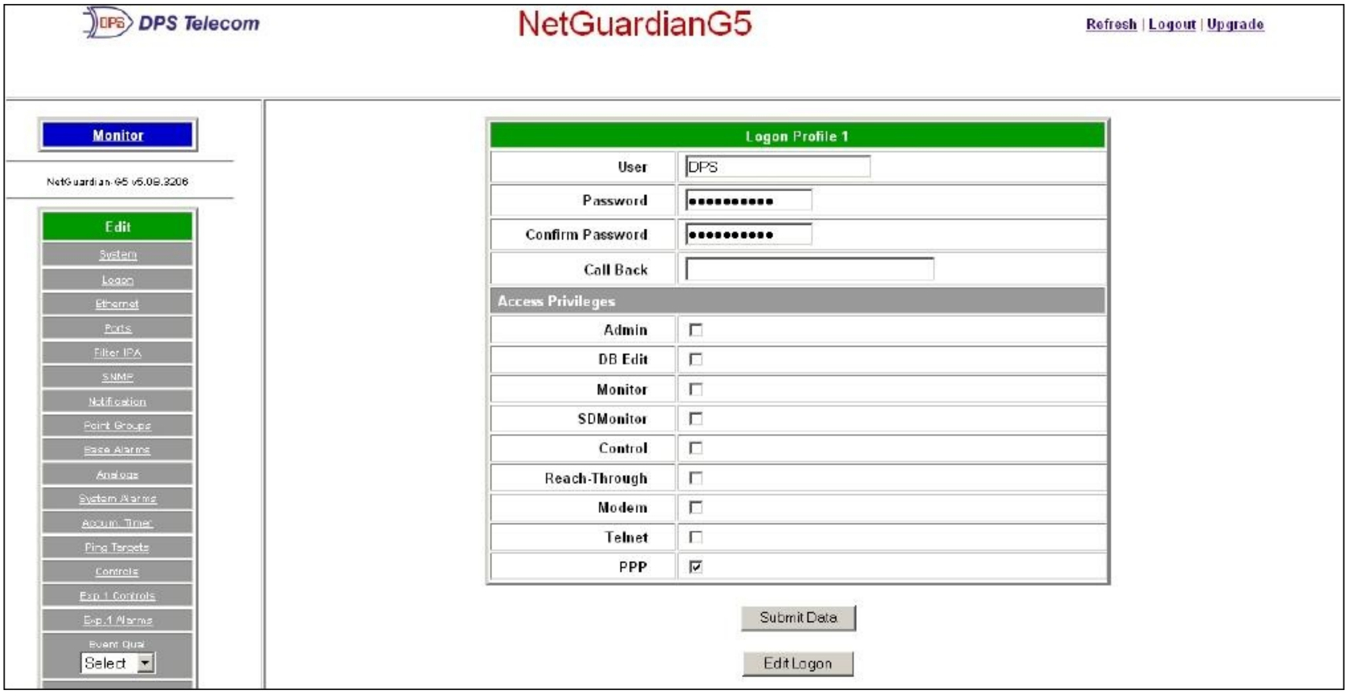


Ports	
Craft	
Baud	9600
WFmt	8,N,1
Modem	
Ring Count	1
Answer Init	
Dial Init	

Fig. 2.34. *Edit the Modem settings for the PPP server in the Edit menu > Ports screen > Modem section*

5. Select **Ports** from the **Edit** menu.
6. Scroll down to the **Modem** section. In the **Ring Count** field enter a ring count greater than zero, see Figure 2.34.

7. In Answer Init String field type **&Q6**.
8. Click **Submit Data** to save your Modem changes.



Logon Profile 1	
User	DPS
Password	••••••••••
Confirm Password	••••••••••
Call Back	
Access Privileges	
Admin	□
DB Edit	□
Monitor	□
SDMonitor	□
Control	□
Reach-Through	□
Modem	□
Telnet	□
PPP	☑

Fig. 2.35. *Select PPP and Telnet access privileges in the Edit menu > Logon > Logon Profiles screen*

9. Select **Logon** in the **Edit** menu.

Hot Tip!

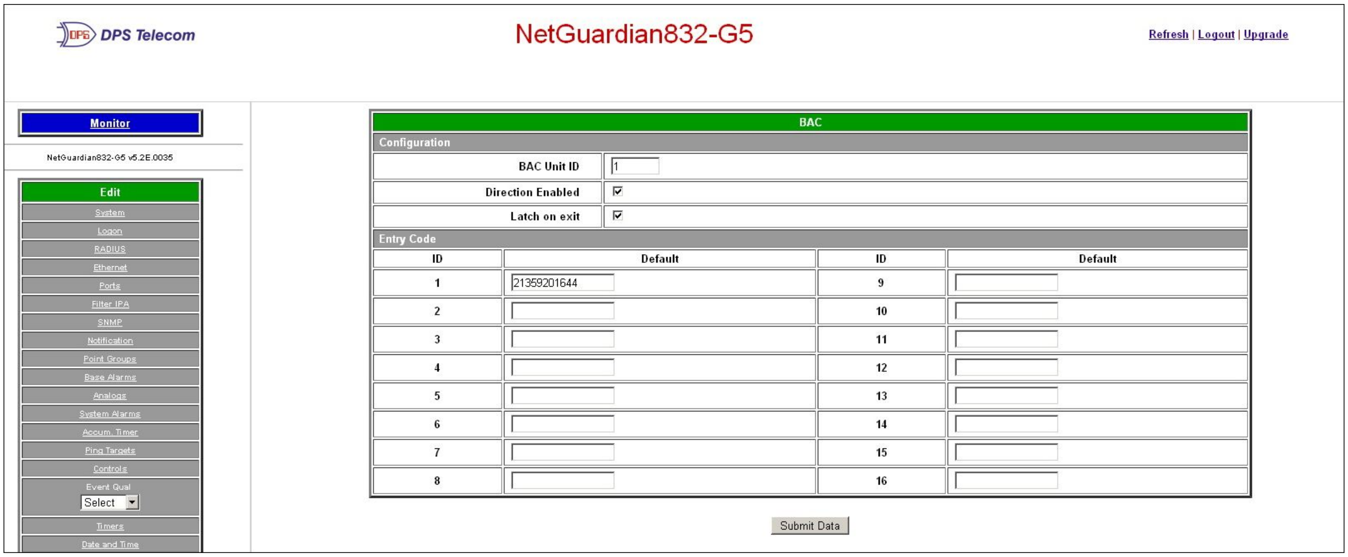
There can be up to 16 different user names and each one must have its own password.

10. Click the **Available** link or the user you want to have PPP and Telnet access privileges.
11. Under the **Access Privileges** section check the **PPP** and **Telnet** boxes.
12. Click **Submit Data** to save the configuration settings.
13. Select **Reboot** in **Edit** menu to reboot the NetMediator. (See section "Rebooting the NetMediator.")

You also need to configure your remote terminal modem in order to access your NetMediator by following these steps:

Windows 98 users:	Set baud rate to **9600.**
Windows 2000, XP users:	In **Modem Configuration General** tab uncheck **Enable modem error control** and **Enable compression.**
Mac OSX users:	Use standard dial-in.

2.18 Building Access Controller



BAC

Configuration

BAC Unit ID	1
Direction Enabled	☑
Latch on exit	☑

Entry Code

ID	Default	ID	Default
1	21359201644	9	
2		10	
3		11	
4		12	
5		13	
6		14	
7		15	
8		16	

Fig.2.36. *Edit BAC configuration settings in the Edit menu > BAC screen*

The Building Access Controller (BAC) option is only available if the BAC is installed on the NetMediator. (See BAC user manual for more information.)

Use the following steps to configure the BAC settings:

1. Enter a password for each door point being used. The passwords entered here are for turnup and test procedures only and are only effective until the BAC provisioning information is downloaded from an T/Mon master. Once the information is downloaded from T/Mon, the passwords entered here will be replaced with the new passwords.

2. Enter the BAC unit ID number. This is the DCP address of the BAC module. It must match the base address being polled by the Master. Any range from 1-255 is acceptable or blank field to disable.

Hot Tip!

When **Direction** is enabled, users are required to enter a **1** for Enter immediately following their password or a **4** for Exit immediately following their password. Be sure to define the data port you are using for the ECU as an **ECU** type. (See Section "Data Port Types.") If there is no information downloaded from the T/Mon regarding a door point with a NetMediator password, the NetMediator password will remain valid.

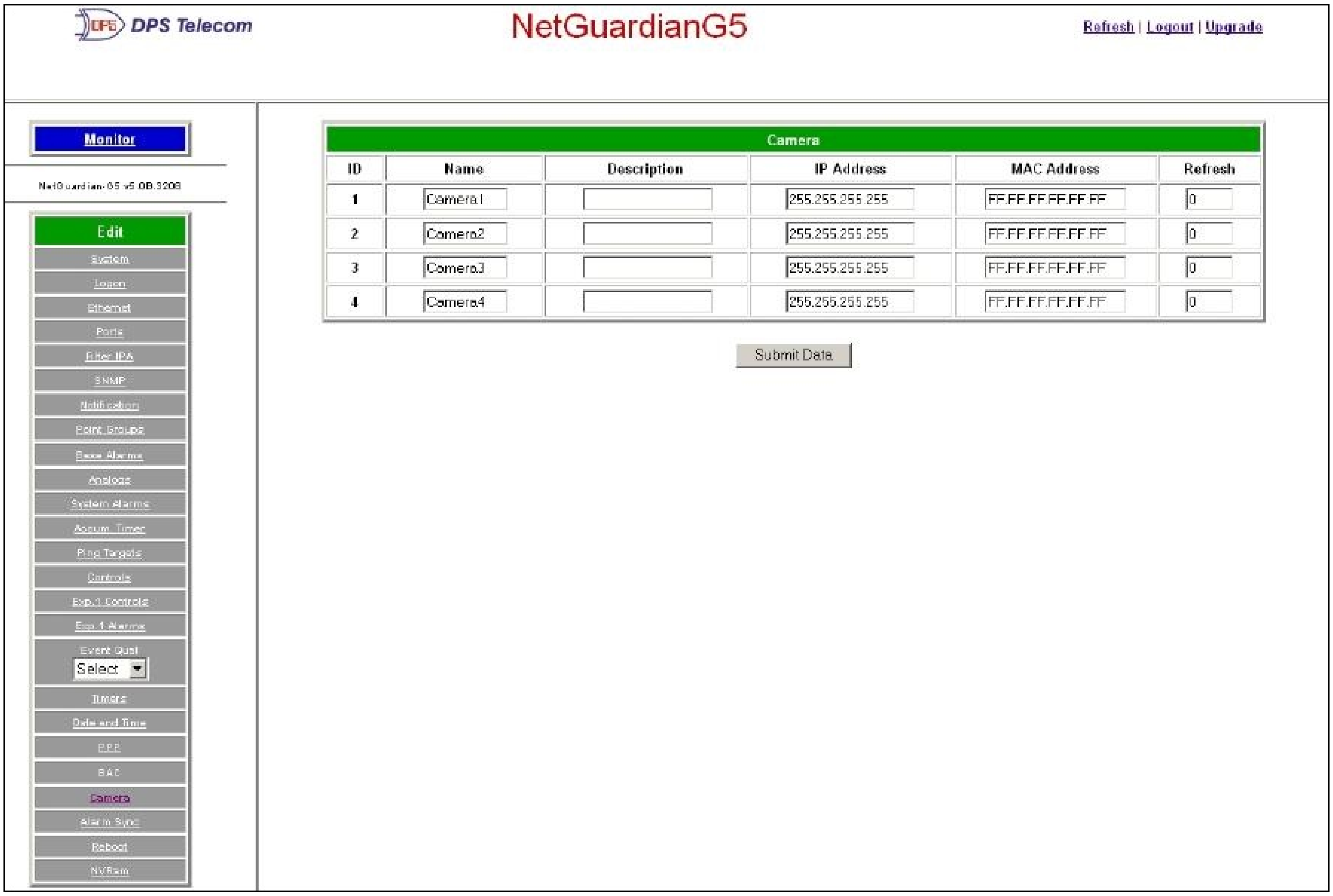
Direction **must** be enabled if the **ECU G3** is in dual proxy mode. If you would like to unlock from a card scan on the "inside" proxy, check the "Latch on exit" box.

2.19 Camera Settings

The NetMediator SiteCam provides users with live streaming video of their remote sites. The direct pan-and-tilt features allows users to visually check the status of their sites from the convenience of their desktop.

Use the following steps to configure your camera settings:

1. From the **Edit** menu select **Camera**, see Figure 2.37.
2. Refer to Table 2.K and enter the appropriate information in the **Name**, **Description**, **IP Address**, and **MAC Address** fields.
   Note: See Section "Monitoring Camera Activity" for camera viewing options.
3. Click Submit Data to save your camera configuration settings.



Camera					
ID	Name	Description	IP Address	MAC Address	Refresh
1	Camera1		255.255.255.255	FF.FF.FF.FF.FF.FF	0
2	Camera2		255.255.255.255	FF.FF.FF.FF.FF.FF	0
3	Camera3		255.255.255.255	FF.FF.FF.FF.FF.FF	0
4	Camera4		255.255.255.255	FF.FF.FF.FF.FF.FF	0

Fig. 2.37. *View live streaming video of your remote sites via Web browser*

Camera Field	Description
Name	Enter the name of the camera.
Description	Enter a description of the camera.
IP Address	Enter the IP Address of the camera (not the NetMediator). The NetMediator will provision this in the camera. The unit will also send the NetMediator subnet and gateway information.
MAC Address	Enter the hardware address of the camera (not the NetMediator).
Refresh	Enter the refresh time. This determines the amount of time (in seconds) that elapses before the image will be updated. Entering 0 will cause uninterrupted, live streaming video (bandwidth rated at 146 kB per second).

Table 2.K. *Camera field descriptions*

Camera Internet Settings
In order to perform the pan-and-tilt functions of the camera, your Web browser must be set to check for newer versions of stored pages at every visit to the page.

The directions for checking for newer versions of stored pages may vary depending on what version of Windows you are running. The instructions below are relevant to Internet Explorer 5.5 and 6.0 only.

1. With the Web browser open (Internet Explorer version 5.5 or later), click on **Tools** and select **Internet**

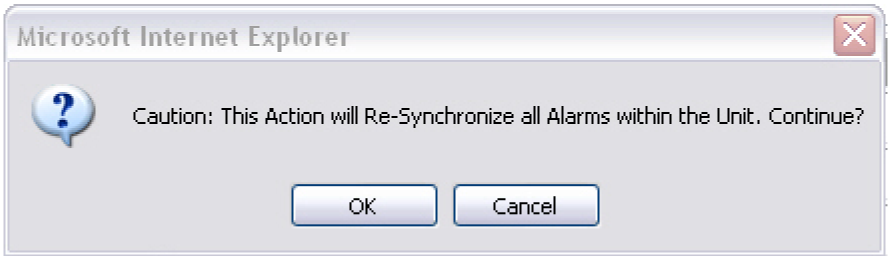
Options from the drop-down menu.

2. Click on the **Settings** button under the **Temporary Internet files** heading.
3. Click on the **Every visit to the page** button and click Ok.

2.20 Alarm Sync

⚠ ***New Feature!***

Clicking on the Alarm Sync link from the Edit menu will re-synchronize all of the NetMediator alarms. This command clears all alarms, so that a new notification is sent for all standing alarms. You can easily test alarm connections during turnup without rebooting the NetMediator unit. A warning prompt will appear, click **Ok** to continue or **Cancel** to exit without resynchronizing your alarms, see Figure 2.38.



Microsoft Internet Explorer

Caution: This Action will Re-Synchronize all Alarms within the Unit. Continue?

Fig. 2.38. *Click Ok to re-synchronize the NetMediator alarms or Cancel to exit*

2.21 Saving Changes or Resetting Factory Defaults

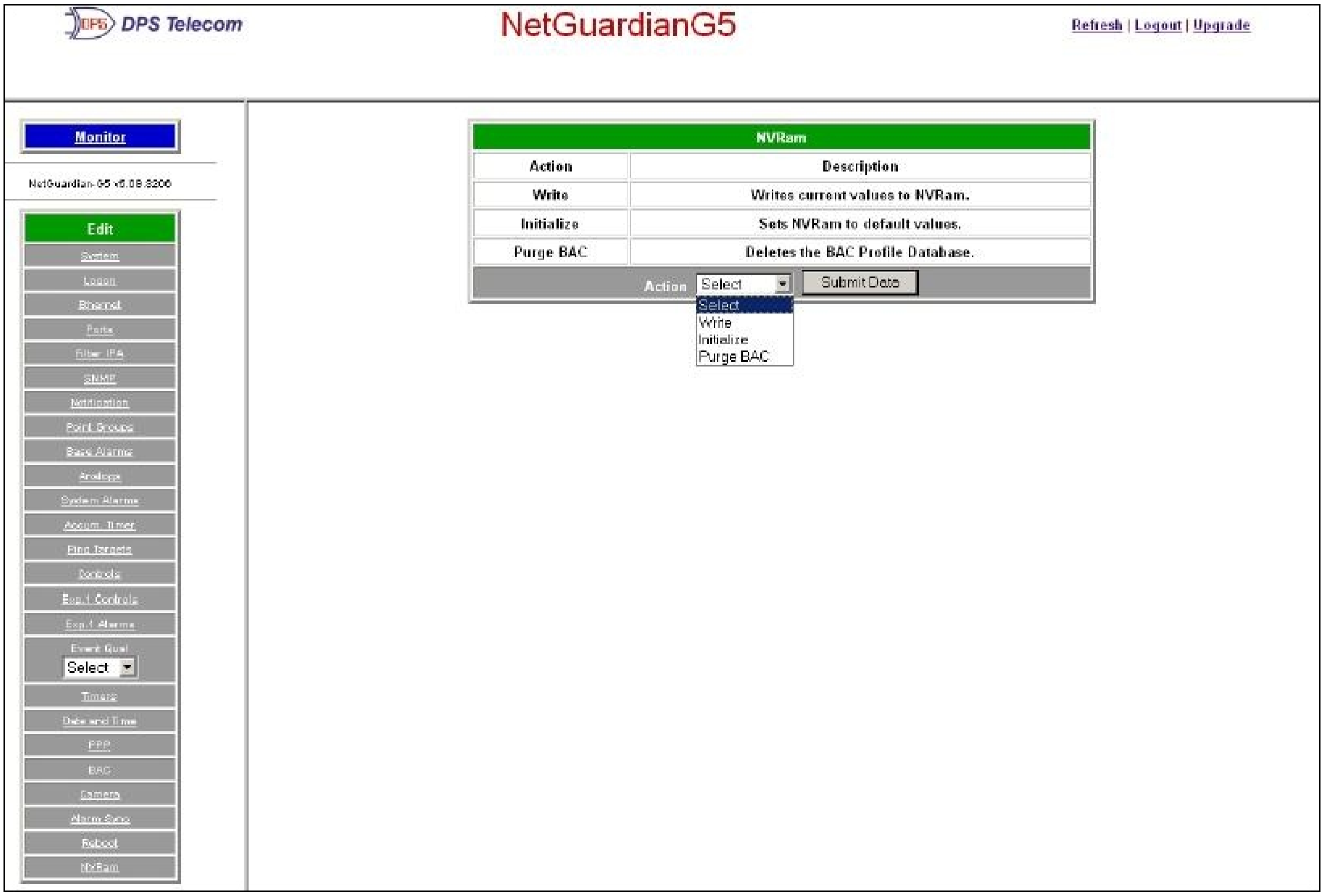
Your NetMediator TNT G5 comes equipped with Non Volatile RAM (NVRAM), which enables the retention of data in the event of power loss. This section allows you to write and initialize the NVRAM.

ℹ Some changes require a reboot of the NetMediator to take effect, see Section "Rebooting the NetMediator."

1. From the **Edit** menu select **NVRAM**, see Figure 2.39.
2. Select **Write** to cause the current data in RAM to be written to NVRAM and then verified.
3. Select **Initialize** to reload factory defaults into NVRAM.

DO NOT SELECT THIS OPTION UNLESS YOU WANT TO RE-ENTER ALL OF YOUR CONFIGURATION INFORMATION AGAIN.

4. Select **Purge BAC** to delete the Building Access Controller profile database downloaded from T/Mon XM.



NVRam	
Action	Description
Write	Writes current values to NVRam.
Initialize	Sets NVRam to default values.
Purge BAC	Deletes the BAC Profile Database.

Fig. 2.39. NVRAM enables the NetMediator to retain data even through a power loss

2.22 Rebooting the NetGuardian

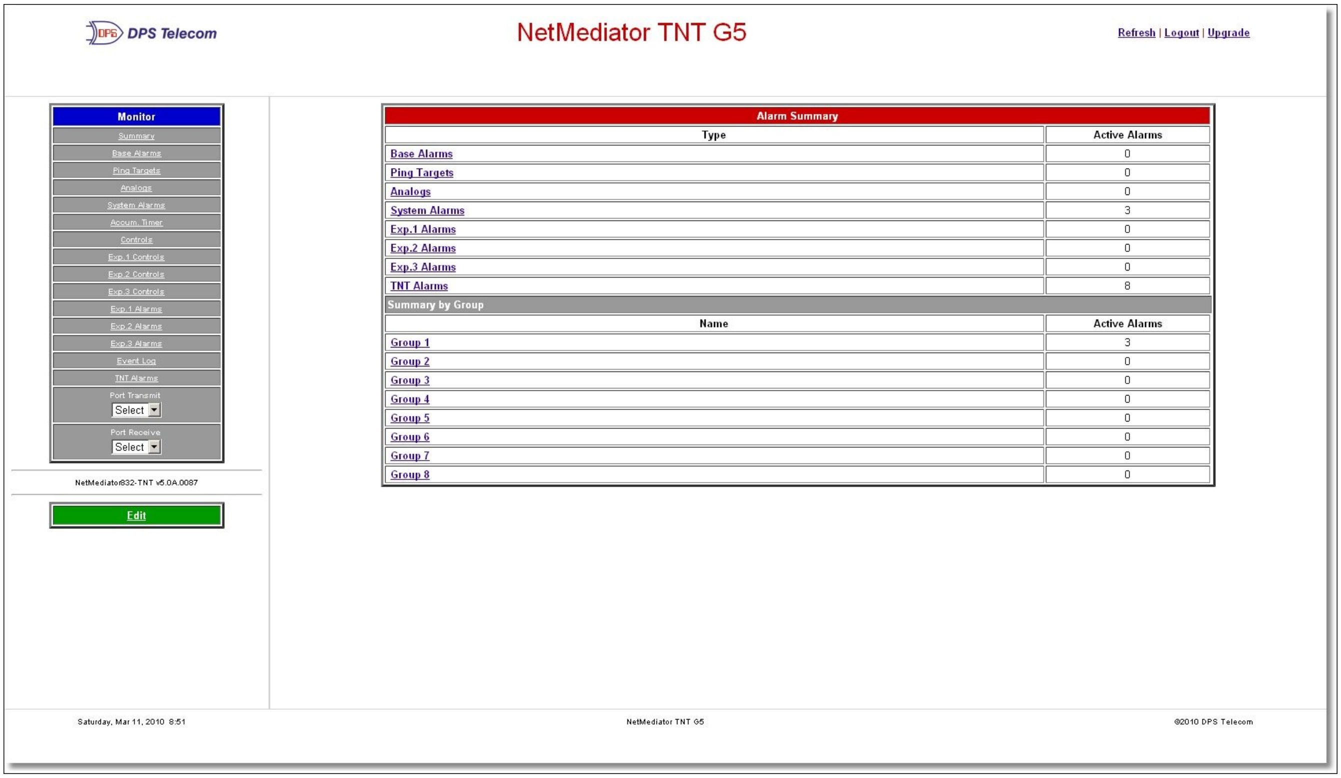
Click on the **Reboot** link from the **Edit** menu to reboot the NetMediator after writing all changes to NVRAM. Any changes to port settings require a reboot to take effect. The window footer will display the text **Reboot Needed** if a reboot is necessary to initiate changes.

3 Web Server Monitoring Chapter 3

The Web browser allows you to do full-system monitoring for your NetMediator, which includes all alarms, ping information, relays, analogs and system status. To connect to the NetMediator from your Web browser, you must know it's IP address or domain name if it has been registered with your internal DNS. Enter it in the address bar of your Web browser (it may be helpful to bookmark the logon page to simplify access). After connecting to the NetMediator's IP address, enter your password and click **Submit** (factory default password is **dpstelecom**).

If the **Edit** menu does not appear in the left frame after logging on, it means that another station has already logged on as the primary user or you do not have access.

3.1 Alarm Summary Window



Alarm Summary

Type	Active Alarms
Base Alarms	0
Ping Targets	0
Analogs	0
System Alarms	3
Exp.1 Alarms	0
Exp.2 Alarms	0
Exp.3 Alarms	0
TNT Alarms	8

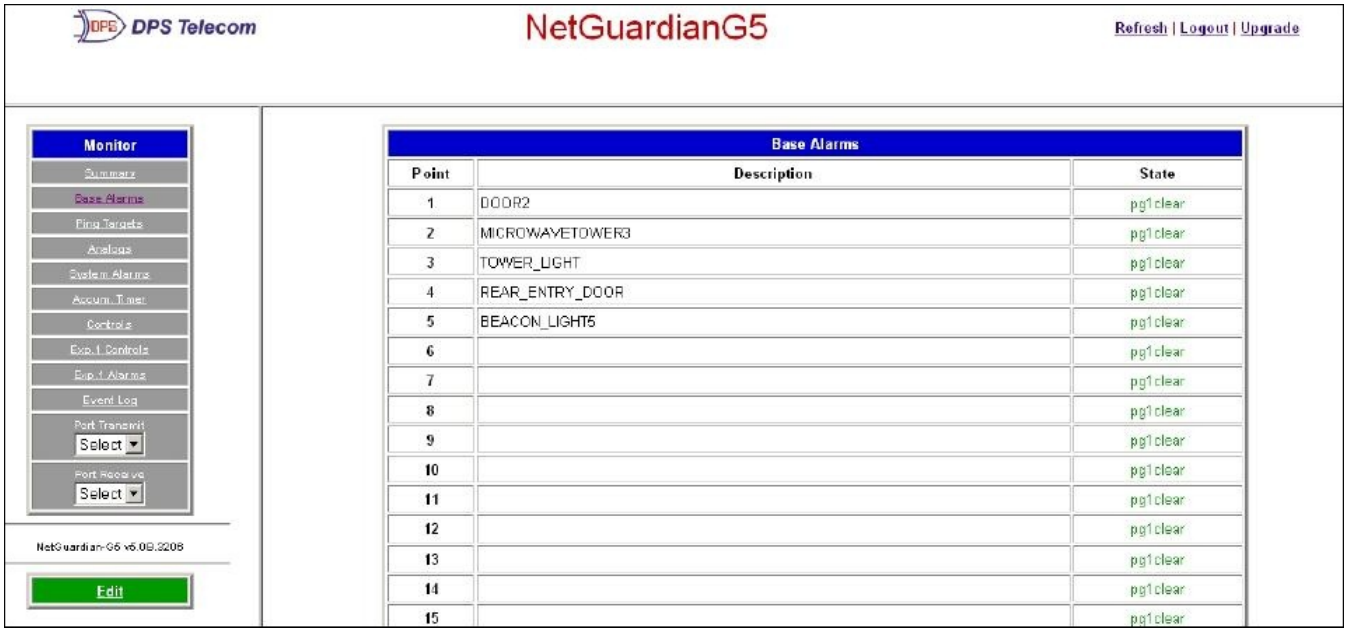
Summary by Group

Name	Active Alarms
Group 1	3
Group 2	0
Group 3	0
Group 4	0
Group 5	0
Group 6	0
Group 7	0
Group 8	0

Fig. 3.1. *The Alarm Summary display can be accessed by selecting either the Monitor or the Summary link*

Clicking on the **Monitor** or **Summary** buttons shows the **Alarm Summary** display. The **Summary** screen gives you a quick indication of any alarms that have been triggered in the NetMediator's base alarms, ping targets, analogs, system alarms, and any NetMediator discrete expansions.

3.2 Monitoring Base Alarms



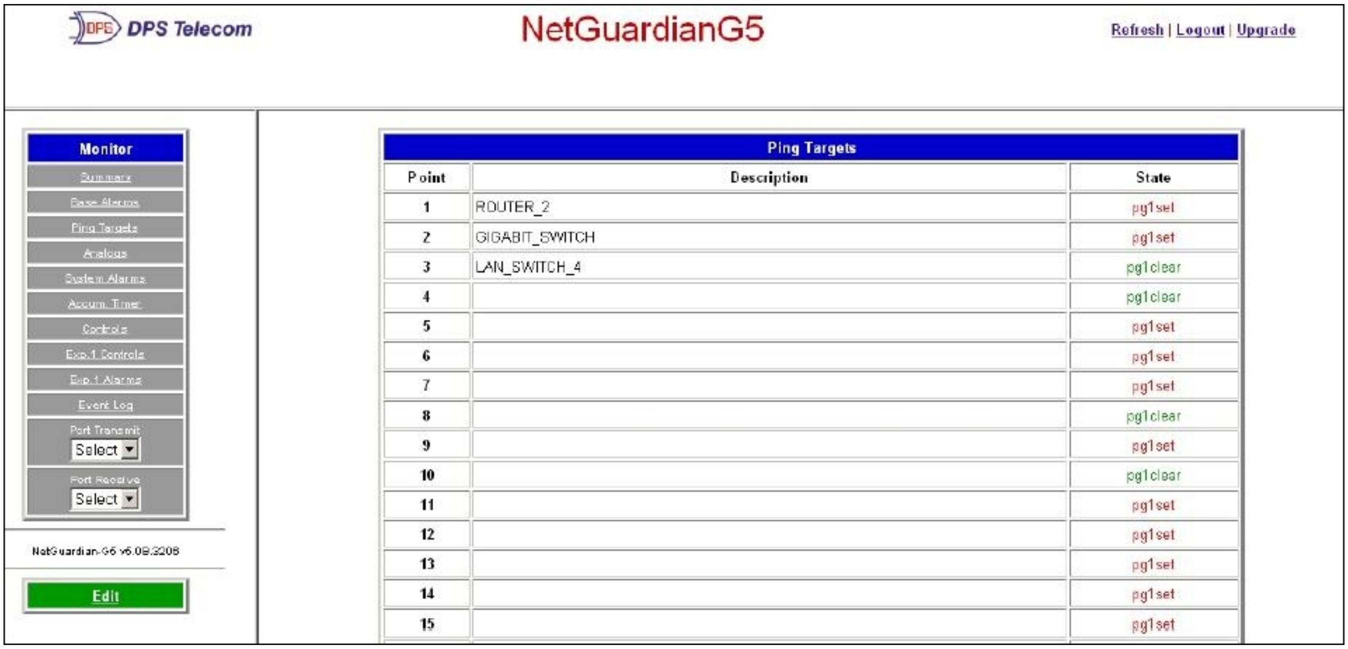
Base Alarms

Point	Description	State
1	DOOR2	pg1 clear
2	MICROWAVETOWER3	pg1 clear
3	TOWER_LIGHT	pg1 clear
4	REAR_ENTRY_DOOR	pg1 clear
5	BEACON_LIGHT5	pg1 clear
6		pg1 clear
7		pg1 clear
8		pg1 clear
9		pg1 clear
10		pg1 clear
11		pg1 clear
12		pg1 clear
13		pg1 clear
14		pg1 clear
15		pg1 clear

Fig. 3.2. *View the status of the Base Alarms from the Monitor > Base Alarms screen*

This selection provides the status of the system's base alarms by indicating if an alarm has been triggered. Under the **State** column, the description defined in **Edit** menu > **Point Groups** will appear in red if an alarm has been activated. The description defined in **Edit** menu > **Point Groups** will be displayed in green when the alarm condition is not present.

3.3 Monitoring Ping Targets



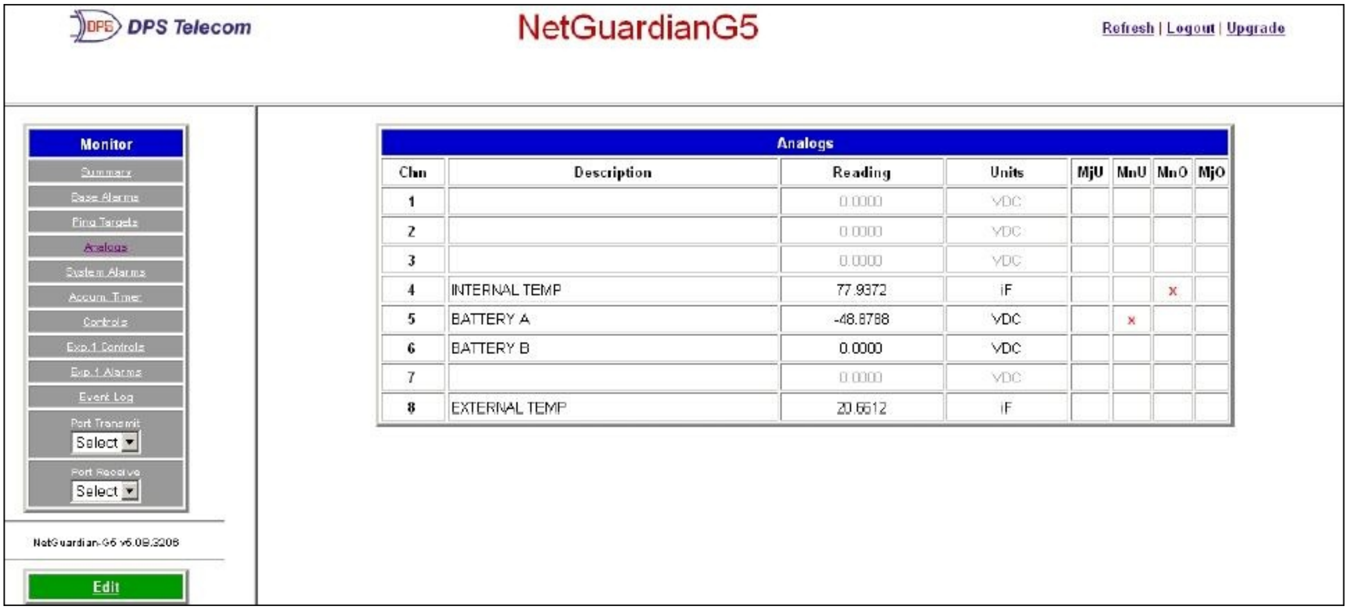
Ping Targets

Point	Description	State
1	ROUTER_2	pg1set
2	GIGABIT_SWITCH	pg1set
3	LAN_SWITCH_4	pg1clear
4		pg1clear
5		pg1set
6		pg1set
7		pg1set
8		pg1clear
9		pg1set
10		pg1clear
11		pg1set
12		pg1set
13		pg1set
14		pg1set
15		pg1set

Fig. 3.3. *View the status of the Ping Targets from the Monitor > Ping Targets screen*

This selection provides the status of the system's ping targets by indicating if an alarm has been triggered. Under the **State** column, the description defined in **Edit** menu > **Point Groups** will appear in red if an alarm has been activated. The description defined in **Edit** menu > **Point Groups** will be displayed in green when the alarm condition is not present.

3.4 Monitoring Analogs



Analogs

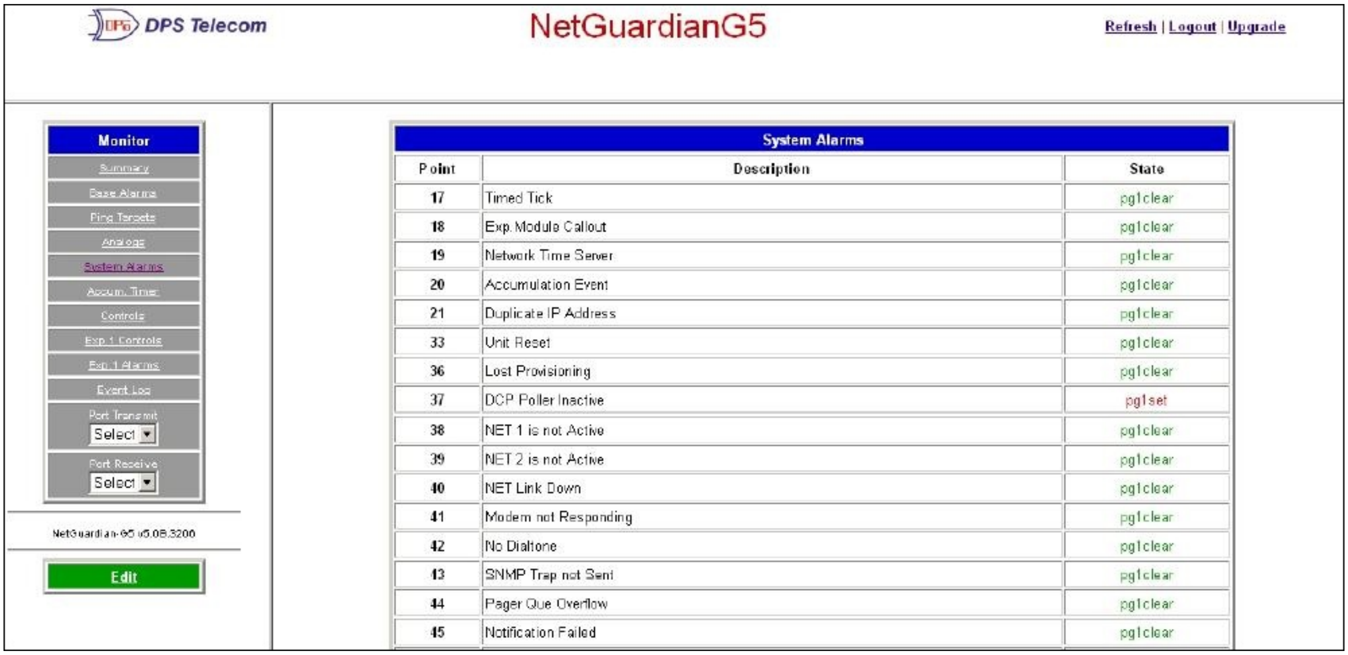
Chn	Description	Reading	Units	MjU	MnU	MnO	MjO
1		0.0000	VDC				
2		0.0000	VDC				
3		0.0000	VDC				
4	INTERNAL TEMP	77.9372	iF			x	
5	BATTERY A	-48.8788	VDC		x		
6	BATTERY B	0.0000	VDC				
7		0.0000	VDC				
8	EXTERNAL TEMP	20.6612	iF				

Fig. 3.4. *View the status of the Analogs from the Monitor > Analogs screen*

This selection provides the status of the system's analogs 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 analog settings.

3.5 Monitoring System Alarms



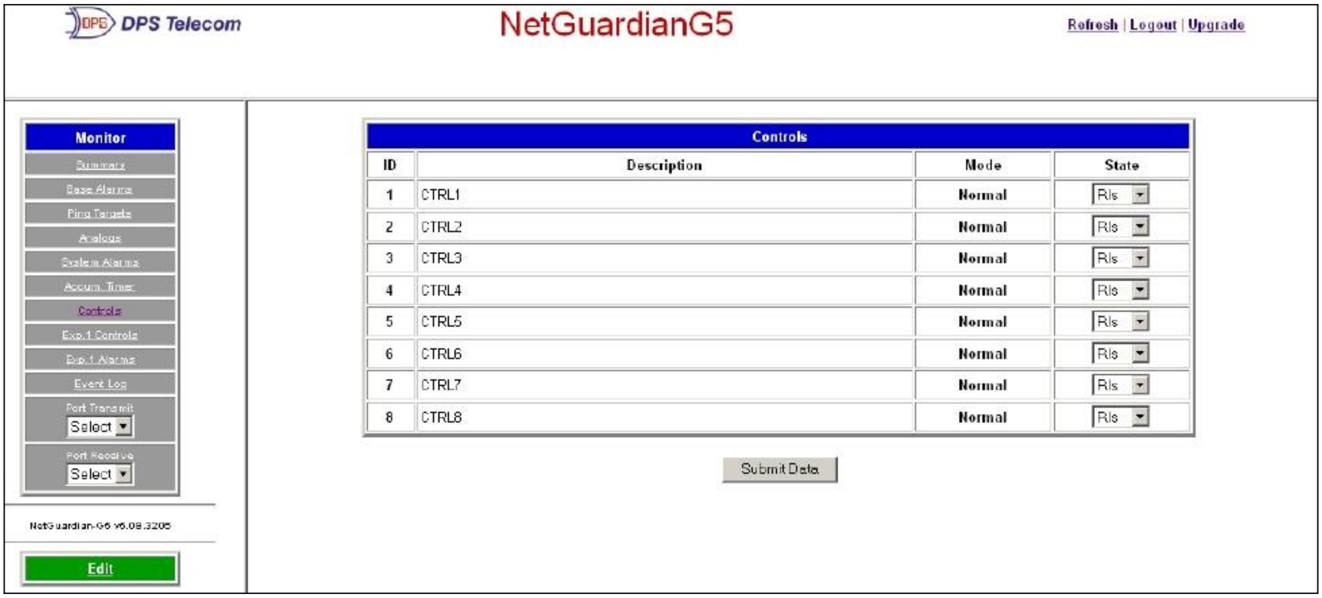
System Alarms

Point	Description	State
17	Timed Tick	pg1clear
18	Exp.Module Callout	pg1clear
19	Network Time Server	pg1clear
20	Accumulation Event	pg1clear
21	Duplicate IP Address	pg1clear
33	Unit Reset	pg1clear
36	Lost Provisioning	pg1clear
37	DCP Poller Inactive	pg1set
38	NET 1 is not Active	pg1clear
39	NET 2 is not Active	pg1clear
40	NET Link Down	pg1clear
41	Modem not Responding	pg1clear
42	No Dialtone	pg1clear
43	SNMP Trap not Sent	pg1clear
44	Pager Que Overflow	pg1clear
45	Notification Failed	pg1clear

Fig.3.5. *View the status of the System Alarms from the Monitor > System Alarms screen*

This selection provides the status of the system alarms by indicating if an alarm has been triggered. Under the **State** column, the description defined in **Edit** menu > **Point Groups** will appear in red if an alarm has been activated. The description defined in **Edit** menu > **Point Groups** will be displayed in green when the alarm condition is not present. *(Refer to Appendix A for system alarm trap numbers.)*

3.6 Operating Controls



Controls

ID	Description	Mode	State
1	CTRL1	Normal	Rls
2	CTRL2	Normal	Rls
3	CTRL3	Normal	Rls
4	CTRL4	Normal	Rls
5	CTRL5	Normal	Rls
6	CTRL6	Normal	Rls
7	CTRL7	Normal	Rls
8	CTRL8	Normal	Rls

Fig. 3.6. *Issue controls from the Monitor > Controls screen*

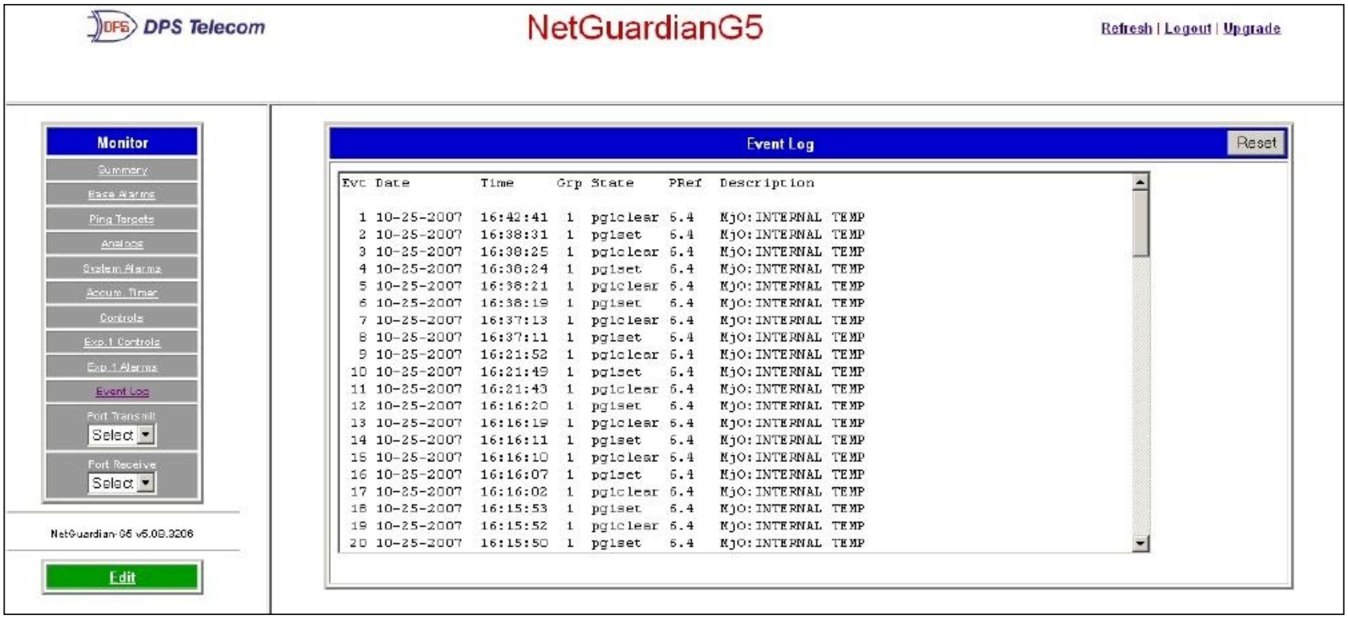
Use the following rules to operate controls:

1. Select **Controls** from the **Monitor** menu.

2. Under the **State** field, choose a command (Opr - operate, Rls - release, or Mom - momentary).
3. Click **Submit Data** to issue the control.

The control relay's normal state - open or closed - is determined by a PCB jumper. Operating a control thus changes the normal state of the relay (energizes it) until it is released (de-energized). The momentary command energizes the relay for approximately one second before it is released again. Use the event qualifiers to extend the momentary period.

3.7 Event Logging



```
Evt Date        Time      Grp State    PRef  Description

  1 10-25-2007  16:42:41   1  pg1clear 6.4   MjO:INTERNAL TEMP
  2 10-25-2007  16:38:31   1  pg1set   6.4   MjO:INTERNAL TEMP
  3 10-25-2007  16:38:25   1  pg1clear 6.4   MjO:INTERNAL TEMP
  4 10-25-2007  16:38:24   1  pg1set   6.4   MjO:INTERNAL TEMP
  5 10-25-2007  16:38:21   1  pg1clear 6.4   MjO:INTERNAL TEMP
  6 10-25-2007  16:38:19   1  pg1set   6.4   MjO:INTERNAL TEMP
  7 10-25-2007  16:37:13   1  pg1clear 6.4   MjO:INTERNAL TEMP
  8 10-25-2007  16:37:11   1  pg1set   6.4   MjO:INTERNAL TEMP
  9 10-25-2007  16:21:52   1  pg1clear 6.4   MjO:INTERNAL TEMP
 10 10-25-2007  16:21:49   1  pg1set   6.4   MjO:INTERNAL TEMP
 11 10-25-2007  16:21:43   1  pg1clear 6.4   MjO:INTERNAL TEMP
 12 10-25-2007  16:16:20   1  pg1set   6.4   MjO:INTERNAL TEMP
 13 10-25-2007  16:16:19   1  pg1clear 6.4   MjO:INTERNAL TEMP
 14 10-25-2007  16:16:11   1  pg1set   6.4   MjO:INTERNAL TEMP
 15 10-25-2007  16:16:10   1  pg1clear 6.4   MjO:INTERNAL TEMP
 16 10-25-2007  16:16:07   1  pg1set   6.4   MjO:INTERNAL TEMP
 17 10-25-2007  16:16:02   1  pg1clear 6.4   MjO:INTERNAL TEMP
 18 10-25-2007  16:15:53   1  pg1set   6.4   MjO:INTERNAL TEMP
 19 10-25-2007  16:15:52   1  pg1clear 6.4   MjO:INTERNAL TEMP
 20 10-25-2007  16:15:50   1  pg1set   6.4   MjO:INTERNAL TEMP
```

Fig. 3.7. *Monitor the last 100 events recorded by the NetMediator in the Event Log window*

Event Log Field	Description
Evt	Event number (1-100)
Date	Date the event occurred*
Time	Time the event occurred*
St	State of the event (A=alarm, C=clear)
Pref	Point reference. See Appendix A for display descriptions.
Description	User defined description of the event as entered in the alarm point and relay description fields

Table 3.A. *Event Logging window field descriptions*

The NetMediator Event Log has been enhanced to support new NetMediator TNT G5 features:

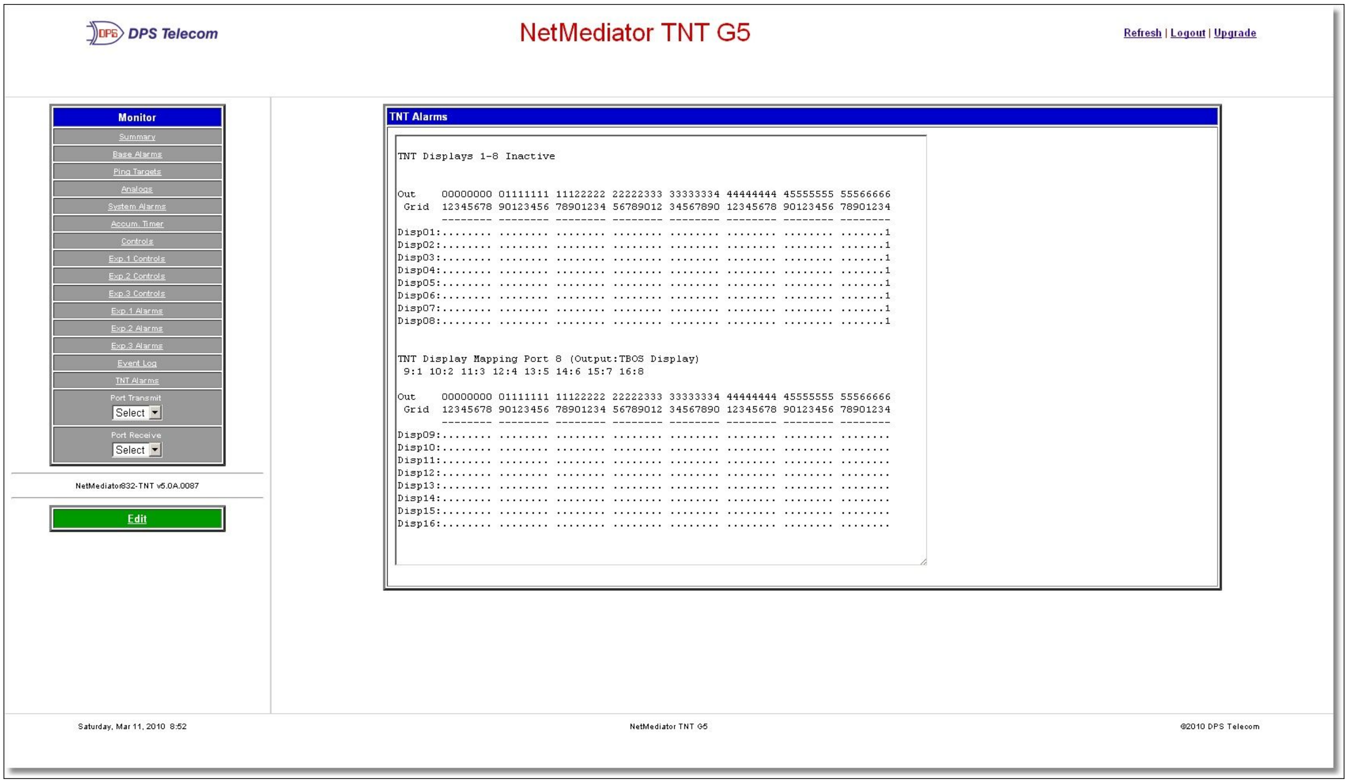
- You can filter Event Log entries by Alarm Point Group, to see only the alarms you want.
- You can reset the Event Log, to clear old alarms from the display.
- You can reset the Event Log by Alarm Point Group; for example, clear power alarms while retaining intruder alarms.

Click on the **Monitor** menu > **Event Log** link to view the event log. The NetMediator's Event Log allows the NetMediator to post and monitor up to 100 events including power up, base and system alarms, ping alarms, analog alarms, and controls. Posted events for the various alarms include both alarm and clear status. See Table 3.A for Event Alarm field descriptions. All information in the event log will be erased upon reboot or a power failure.

* DCPx versions of the NetMediator automatically timestamp events before sending them to the event logs. The

time is based on the real-time clock (if installed). If there is no real-time clock installed, the time is based on the NetMediator's software clock (requires resetting after power failure or power cycle).

3.8 Monitoring TNT Alarms

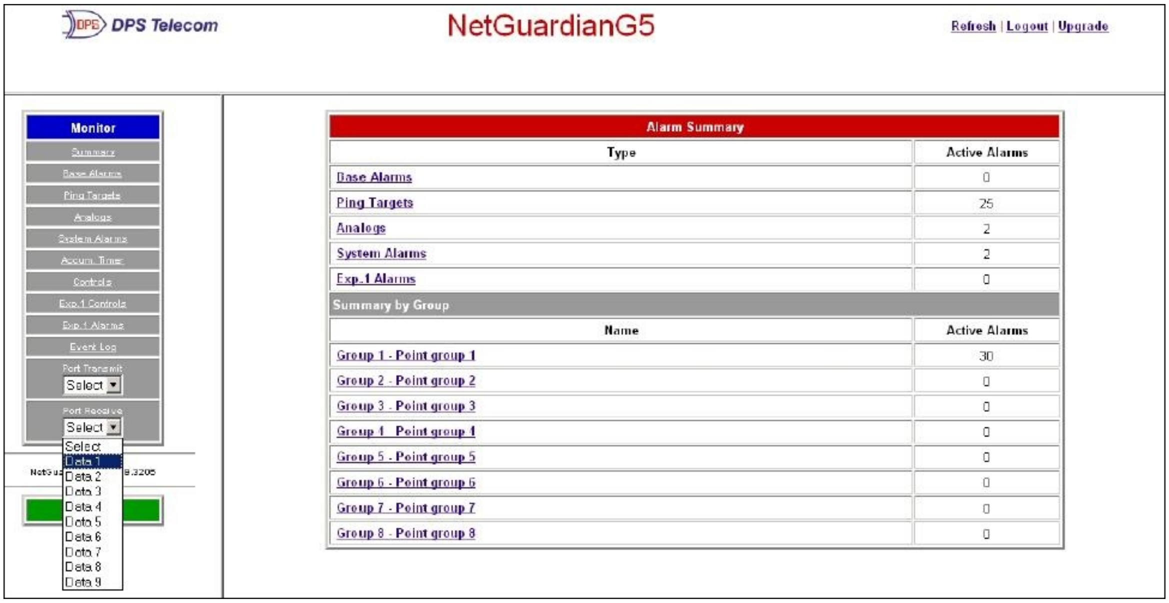


```
TNT Displays 1-8 Inactive


Out    00000000 01111111 11122222 22222333 33333334 44444444 45555555 55566666
 Grid  12345678 90123456 78901234 56789012 34567890 12345678 90123456 78901234
       -------- -------- -------- -------- -------- -------- -------- --------
Disp01:........ ........ ........ ........ ........ ........ ........ .......1
Disp02:........ ........ ........ ........ ........ ........ ........ .......1
Disp03:........ ........ ........ ........ ........ ........ ........ .......1
Disp04:........ ........ ........ ........ ........ ........ ........ .......1
Disp05:........ ........ ........ ........ ........ ........ ........ .......1
Disp06:........ ........ ........ ........ ........ ........ ........ .......1
Disp07:........ ........ ........ ........ ........ ........ ........ .......1
Disp08:........ ........ ........ ........ ........ ........ ........ .......1


TNT Display Mapping Port 8 (Output:TBOS Display)
 9:1 10:2 11:3 12:4 13:5 14:6 15:7 16:8

Out    00000000 01111111 11122222 22222333 33333334 44444444 45555555 55566666
 Grid  12345678 90123456 78901234 56789012 34567890 12345678 90123456 78901234
       -------- -------- -------- -------- -------- -------- -------- --------
Disp09:........ ........ ........ ........ ........ ........ ........ ........
Disp10:........ ........ ........ ........ ........ ........ ........ ........
Disp11:........ ........ ........ ........ ........ ........ ........ ........
Disp12:........ ........ ........ ........ ........ ........ ........ ........
Disp13:........ ........ ........ ........ ........ ........ ........ ........
Disp14:........ ........ ........ ........ ........ ........ ........ ........
Disp15:........ ........ ........ ........ ........ ........ ........ ........
Disp16:........ ........ ........ ........ ........ ........ ........ ........
```

Fig. 3.8. *Monitor the status of all your TBOS and TABS alarms.*

This view will show you the status of all TBOS / TABS bits defined to be polled by the NetMediator. **NOTE**: Bit 64 for each display means that display poll did not respond.

3.9 Monitoring Data Port Activity



Alarm Summary

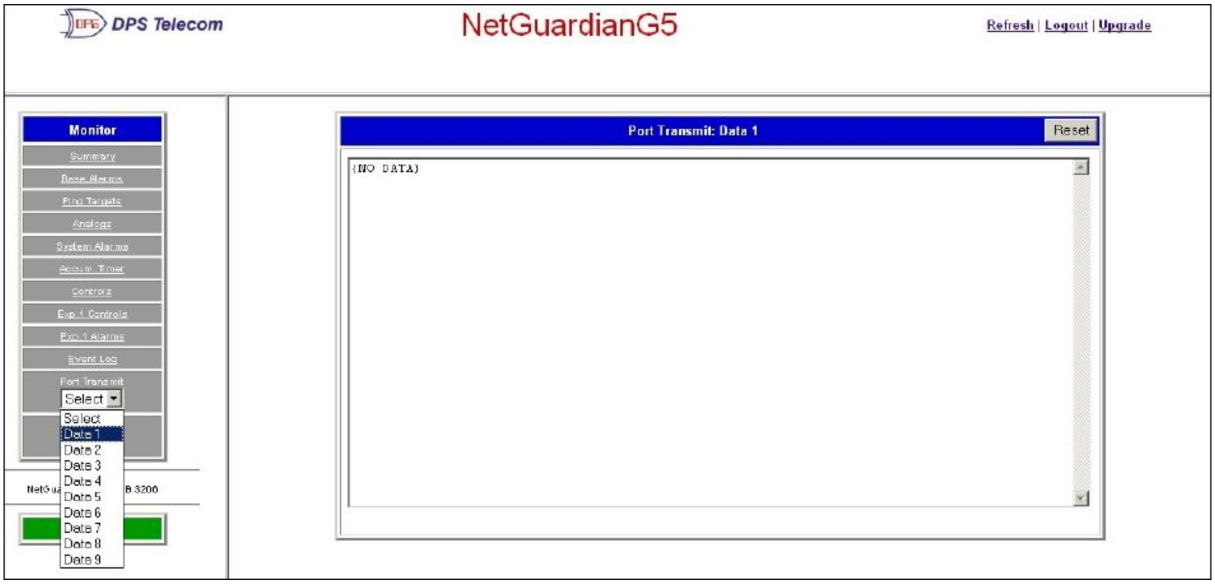
Type	Active Alarms
Base Alarms	0
Ping Targets	25
Analogs	2
System Alarms	2
Exp.1 Alarms	0

Summary by Group

Name	Active Alarms
Group 1 - Point group 1	30
Group 2 - Point group 2	0
Group 3 - Point group 3	0
Group 4 - Point group 4	0
Group 5 - Point group 5	0
Group 6 - Point group 6	0
Group 7 - Point group 7	0
Group 8 - Point group 8	0

Fig. 3.9. *To view the data being received by the connected equipment, select the data port number from the Monitor menu > Port Receive drop-down menu*

The **Port Transmit** and **Port Receive** screens provide live status information for the eight data ports by displaying transmit or receive activity in ASCII for the selected port. See Appendix C, "ASCII Conversion" for specific ASCII symbol conversion.



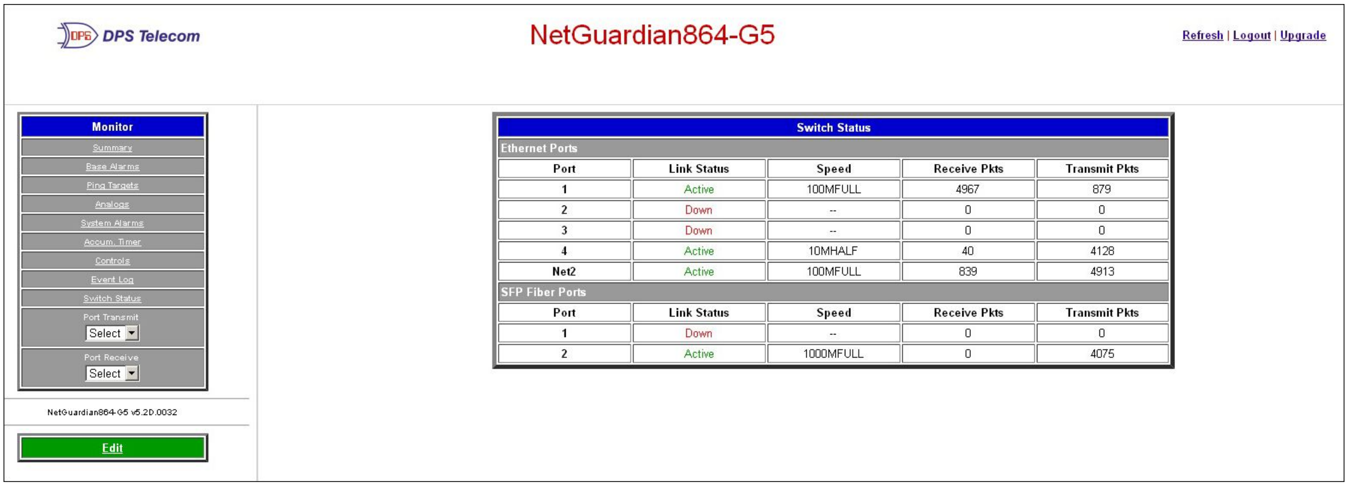
```
{NO DATA}
```

Fig. 3.10. To view the data being transmitted to the connected equipment, select the data port number from the Monitor menu > Port Transmit drop-down menu

Hot Tip!

Use the NetMediator's `CHAN` feature to analyze bi-directional communication between two device in real time, see section "Data Port Types."

3.10 Monitoring Switch Status



Switch Status

Ethernet Ports

Port	Link Status	Speed	Receive Pkts	Transmit Pkts
1	Active	100MFULL	4967	879
2	Down	--	0	0
3	Down	--	0	0
4	Active	10MHALF	40	4128
Net2	Active	100MFULL	839	4913

SFP Fiber Ports

Port	Link Status	Speed	Receive Pkts	Transmit Pkts
1	Down	--	0	0
2	Active	1000MFULL	0	4075

Fig. 3.11 *The Monitor > Switch Status Menu.*

If you ordered your NetMediator TNT G5 with the optional Fiber top board, you will see the Switch Status option in the Monitor Menu. From here, you'll keep tabs on Link Status, Speed, and Packets from both the 10/100/1000 Base Switch and SFP Fiber ports.

3.11 Monitoring Camera Activity

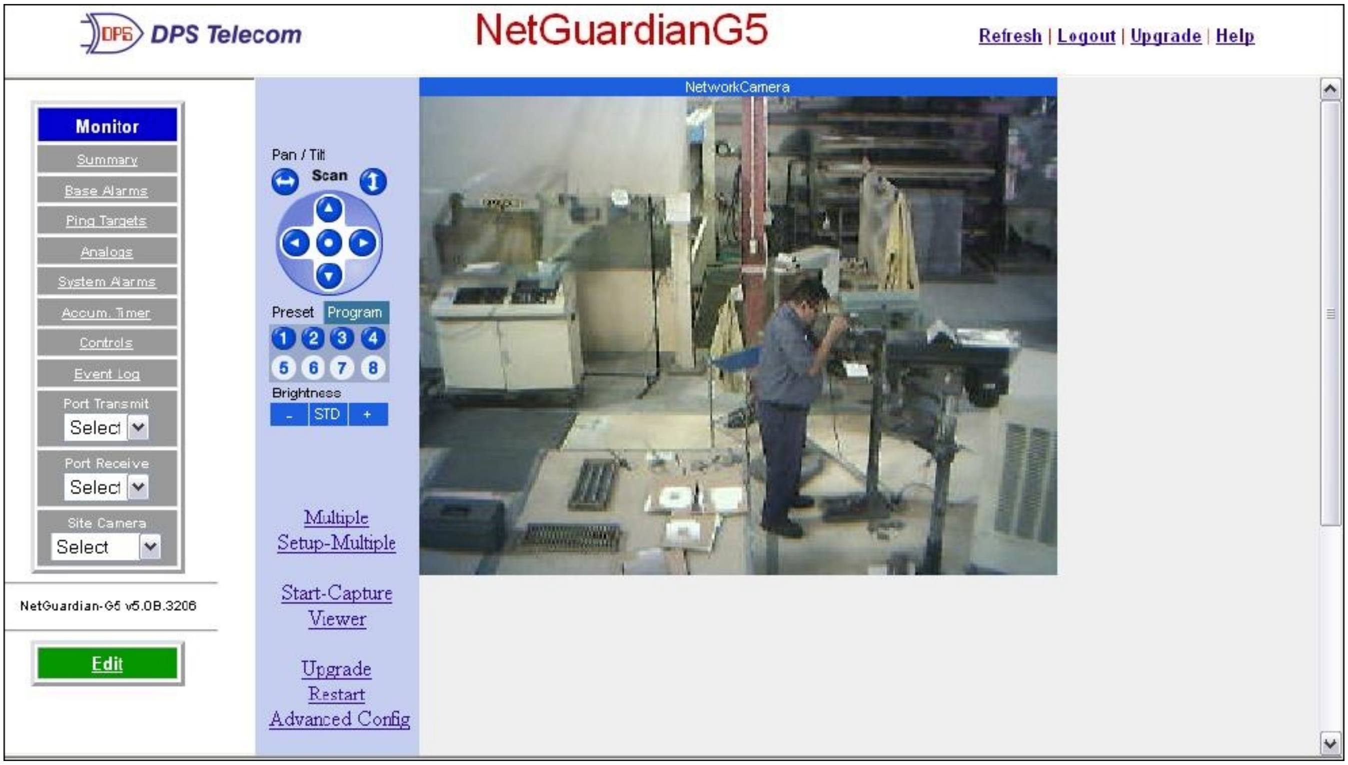


Fig. 3.12. Monitor live streaming video via the NetMediator's Web browser

Select the **Site Camera** drop-down menu from the **Monitor** menu to view activity from the site camera. Bandwidth usage in live streaming mode is rated at 146 kB per second.

The NetMediator only sends the camera data when a user is monitoring the image.

3.11.1 Pan-and-tilt Camera Controls

Control left-right and up-down viewing options via the **Pan/Tilt** options. Clicking on the image will make that the new center point.

In order to have pan-and-tilt controls, your Internet settings must be set to check for newer versions of stored pages every visit to the page, see section "Camera Internet Settings."

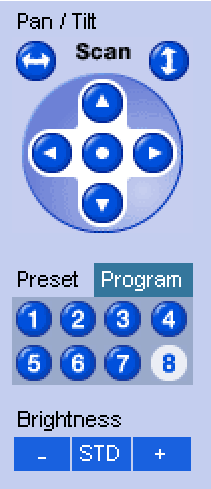


Fig. 3.13. *Use the arrow buttons to use the pan-and-tilt features of the NetMediator SiteCAM*

The preset number controls allow you to tilt to the four corners of the screen (1-4). To alter the screen size click on the **Program** link . To adjust the brightness, click on the **–** to darken the image screen or **+** to brighten it. Click on **STD** to return to the default settings.

3.11.2 Monitoring Multiple Cameras

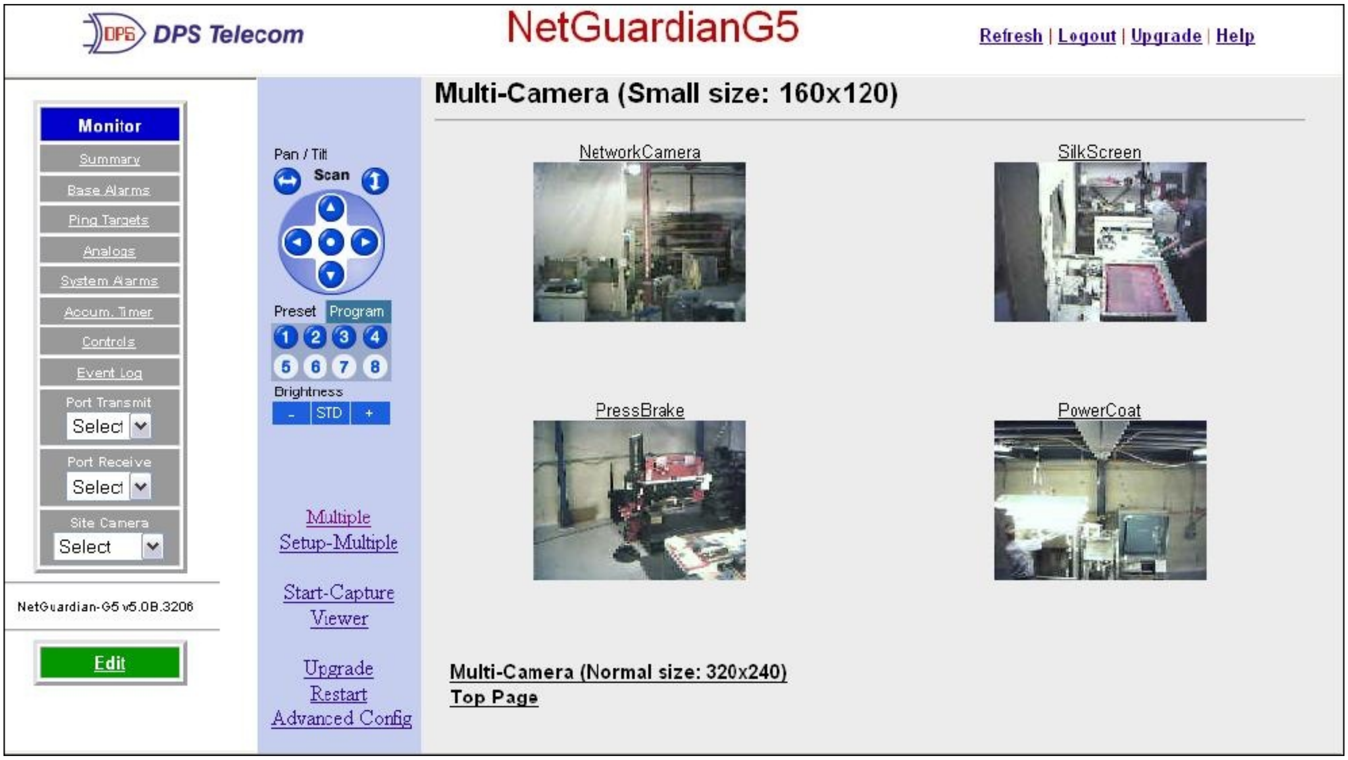
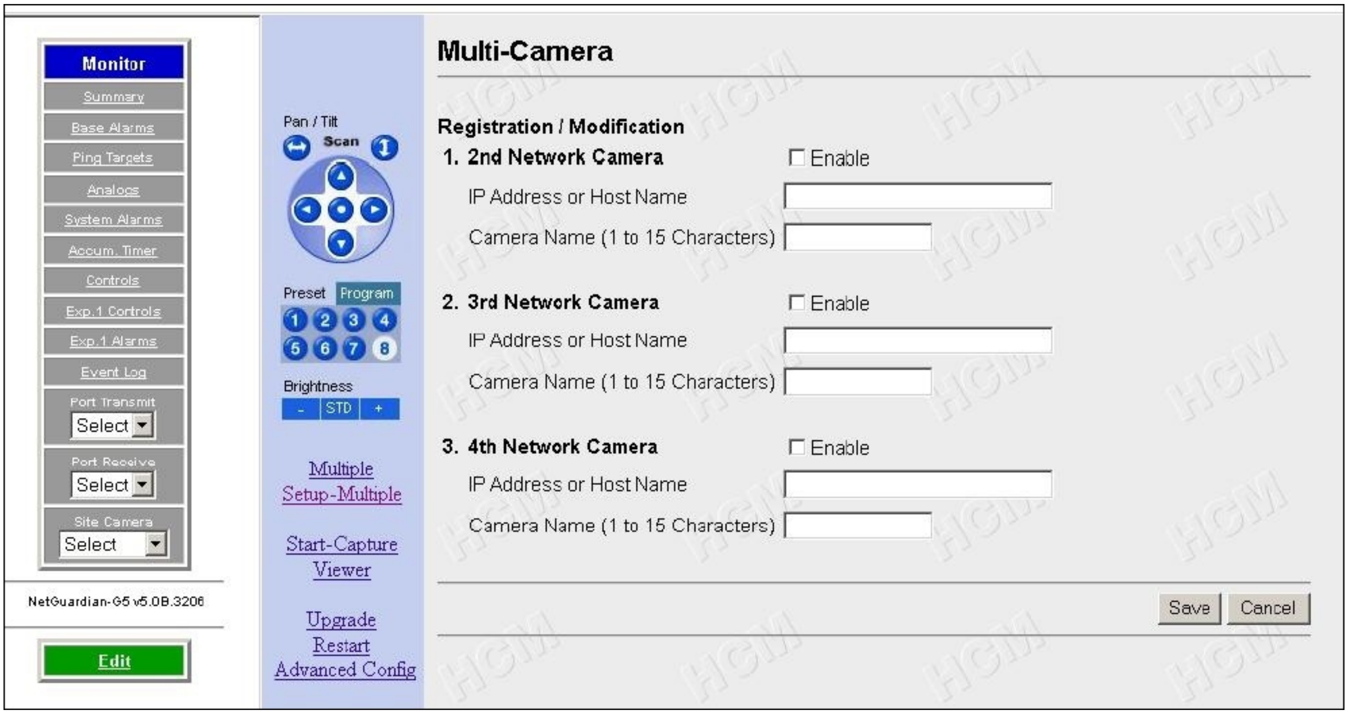


Fig. 3.14 View up to 4 multiple cameras.

You can monitor multiple cameras at one time by clicking the **Multiple** link. To view individual screens you may select the site camera under the **Monitor** menu > **Camera** drop-down menu or click on the title of the screen you wish to view individually. To configure your multiple camera settings, click on the Setup-Multiple link, see Figure 3.13.



Multi-Camera

Registration / Modification

1. 2nd Network Camera ☐ Enable

IP Address or Host Name

Camera Name (1 to 15 Characters)

2. 3rd Network Camera ☐ Enable

IP Address or Host Name

Camera Name (1 to 15 Characters)

3. 4th Network Camera ☐ Enable

IP Address or Host Name

Camera Name (1 to 15 Characters)

Fig. 3.15 *Enter the IP Address or Host Name of each camera, and title your camera*

Before you can setup multiple camera views, you will need to set up your camera for "live streaming." See your camera user manual to configure your camera for live streaming. You may only use up to 15 alphanumeric characters to name your camera. Once you have finished click the **Save** button.

4 Appendixes

4.1 Appendix A — Display Mapping

Port	Address	Display	Description	Set	Clear
99	1	1	Discrete Alarms 1-32	8001-8032	9001-9032
99	1	2	Ping Table	8065-8096	9065-9096
99	1	3	Analog Channel 1**	8129-8132	9129-9132
99	1	4	Analog Channel 2**	8193-8196	9193-9196
99	1	5	Analog Channel 3**	8257-8260	9257-9260
99	1	6	Analog Channel 4**	8321-8324	9321-9324
99	1	7	Analog Channel 5**	8385-8388	9385-9388
99	1	8	Analog Channel 6**	8449-8452	9449-9452
99	1	9	Analog Channel 7**	8513-8516	9513-9516
99	1	10	Analog Channel 8**	8577-8580	9577-9580
99	1	11	Relays/System Alarms (See table below)	8641-8674	9641-9674
99	1	12	NetMediator Expansion 1 Alarms 1-48	6001-6064	7001-7064
99	1	12	NetMediator 480 (as DX) Alarms 1-64	6001-6064	7001-7064
99	1	13	NetMediator Expansion 1 Relays 1-8 or NetMediator 480 (as DX) Relays 1-4	6065-6072	7065-7072
99	1	13	NetMediator 480 (as DX) Alarms 65-80	6081-6096	7081-7096
99	1	14	NetMediator Expansion 2 Alarms 1-48	6129-6177	7129-7177
99	1	15	NetMediator Expansion 2 Relays 1-8	6193-6200	7193-7200
99	1	16	NetMediator Expansion 3 Alarms 1-48	6257-6305	7257-7305
99	1	17	NetMediator Expansion 3 Relays 1-8	6321-6328	7321-7328

Table A.1. *Display descriptions and SNMP Trap numbers for the NetMediator*

* The TRAP number ranges shown correspond to the point range of each display. For example, the SNMP Trap "Set" number for alarm 1 (in Display 1) is 8001, "Set" for alarm 2 is 8002, "Set" for alarm 3 is 8003, etc.

** The TRAP number descriptions for the Analog channels (1-8) are in the following order: minor under, minor over, major under, and major over. For example, for Analog channel 1, the "Set" number for minor under is 8129, minor over is 8130, major under is 8131, and major over is 8132.

		SNMP Trap #s	
Points	**Description**	**Set**	**Clear**
1	Relays	8641	9641
2	Relays	8642	9642
3	Relays	8643	9643
4	Relays	8644	9644
5	Relays	8645	9645
6	Relays	8646	9646
7	Relays	8647	9647
8	Relays	8648	9648
17	Timed Tick	8657	9657
18	Exp. Module Callout	8658	9658
19	Network Time Server	8659	9659
20	Accumulation Event	8660	9660
21	Duplicate IP Address	8661	9661
33	Unit Reset	8673	9673
36	Lost Provisioning	8676	9676
37	DCP Poller Inactive	8677	9677
38	NET1 not active	8678	9678
39	NET2 not active	8679	9679
40	NET Link Down	8680	9680
41	Modem not responding	8681	9681
42	No Dial Tone	8682	9682
43	SNMP Trap not Sent	8683	9683
44	Pager Que Overflow	8684	9684
45	Notification failed	8685	9685
46	Craft RcvQ full	8686	9686
47	Modem RcvQ full	8687	9687
48	Data 1 RcvQ full	8688	9688
49	Data 2 RcvQ full	8689	9689
50	Data 3 RcvQ full	8690	9690
51	Data 4 RcvQ full	8691	9691
52	Data 5 RcvQ full	8692	9692
53	Data 6 RcvQ full	8693	9693
54	Data 7 RcvQ full	8694	9694
55	Data 8 RcvQ full	8695	9695
56	NetMediator DX 1 fail	8696	9696
57	NetMediator DX 2 fail	8697	9697
58	NetMediator DX 3 fail	8698	9698
59	GLD/BSU 1 fail	8699	9699
60	GLD/BSU 2 fail	8700	9700
61	GLD/BSU 3+ fail	8701	9701
62	Chan. Port Timeout	8702	9702
63	Craft Timeout	8703	9703
64	Event Que Full	8704	9704

Table A.2 *Display 11 System Alarms point descriptions*

See Table A.3 for detailed descriptions of the NetMediator's system alarms.

4.1.1 System Alarms Display Map

Display	Points	Alarm Point	Description	Solution
11	17	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.
	18	Exp. Module Callout	Alarm is triggered whenever an alarm point from an Entry Control Unit (ECU) is collected. A notification event may be associated with the alarm to force a call out or trap.	Disable Building Access Control (BAC) by setting the BAC Unit ID to 0. If Building Access is being used, then investigate the ECU alarm source or don't associate notification with the alarm event.
	19	Network Time Server	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.
	20	Accumulation Event	An alarm has been standing for the time configured under Accum. Timer. The Accumulation timer enables you to monitor how long an alarm has been standing despite system reboots. Only the user may reset the accumulated time, a reboot will not.	To turn off the feature, under Accum.Timer, set the display and point reference to 0.
	21	Duplicate IP Address	The unit has detected another node with the same IP Address.	Unplug the LAN cable and contact your network administrator. Your network and the unit will most likely behave incorrectly. After assigning a correct IP Address, reboot the unit to clear the System alarm.
	33	Power Up	The unit has just come-online. The set alarm condition is followed immediately by a clear alarm condition.	Seeing this alarm is normal if the unit is powering up.
	36	Lost Provisioning	The internal NVRAM may be damaged. The unit is using default configuration settings.	Use Web or latest version of NGEdit4 to configure unit. Power cycle to see if alarm goes away. May require RMA.

Table A.3. *System Alarms Descriptions*

Note: Table A.3 continues on following pages.

Display	Points	Alarm Point	Description	Solution
11	37	DCP Poller Inactive	The unit has not seen a poll from the Master for the time specified by the DCP Timer setting.	If DCP responder is not being used, then set the DCP Unit ID to 0. Otherwise, try increasing the DCP timer setting under timers, or check how long it takes to cycle through the current polling chain on the Master system.
	38	NET1 not active	The Net1 LAN port is down.	Check LAN cable. Ping to and from the unit.
	39	NET2 not active	The Net2 LAN port is down.	
	40	LNK Alarm	No network connection detected	
	41	Modem not responding	An error has been detected during modem initialization. The modem did not respond to the initialization string.	Remove configured modem initialization string, then power cycle the unit. If alarm persists, try resetting the Modem port from the TTY interface, or contact DPS for possible RMA.
	42	No Dial Tone	During dial-out attempt, the unit did not detect a dial tone.	Check the integrity of the phone line and cable.
	43	SNMP Trap not Sent	SNMP trap address is not defined and an SNMP trap event occurred.	Define the IP Address where you would like to send SNMP trap events, or configure the event not to trap.
	44	Pager Queue Overflow	Over 250 events are currently queued in the pager queued and are still trying to report.	Check for failed notification events that may be filling up the pager queue. There may be a configuration or communication problem with the notification events.
	45	Notification failed	A notification event, like a page or email, was unsuccessful.	Use RPT filter debug to help diagnose notification problems.
	46	Craft RcvQ full	The Craft port received more data than it was able to process.	Disconnect whatever device is connected to the craft serial port. This alarm should not occur.
	47	Modem RcvQ full	The modem port received more data than it was able to process.	Check what is connecting to the NetMediator. This alarm should not occur.
	48	Serial 1 RcvQ full	Serial port 1 (or appropriate serial port number) receiver filled with 8 K of data (4 K if BAC active).	Check proxy connection. The serial port data may not be getting collected as expected.
	49	Serial 2 RcvQ full		
	50	Serial 3 RcvQ full		
	51	Serial 4 RcvQ full		
	52	Serial 5 RcvQ full		
	53	Serial 6 RcvQ full		
	54	Serial 7 RcvQ full		
	55	Serial 8 RcvQ full		

Table A.3 *System Alarms Descriptions (continued)*

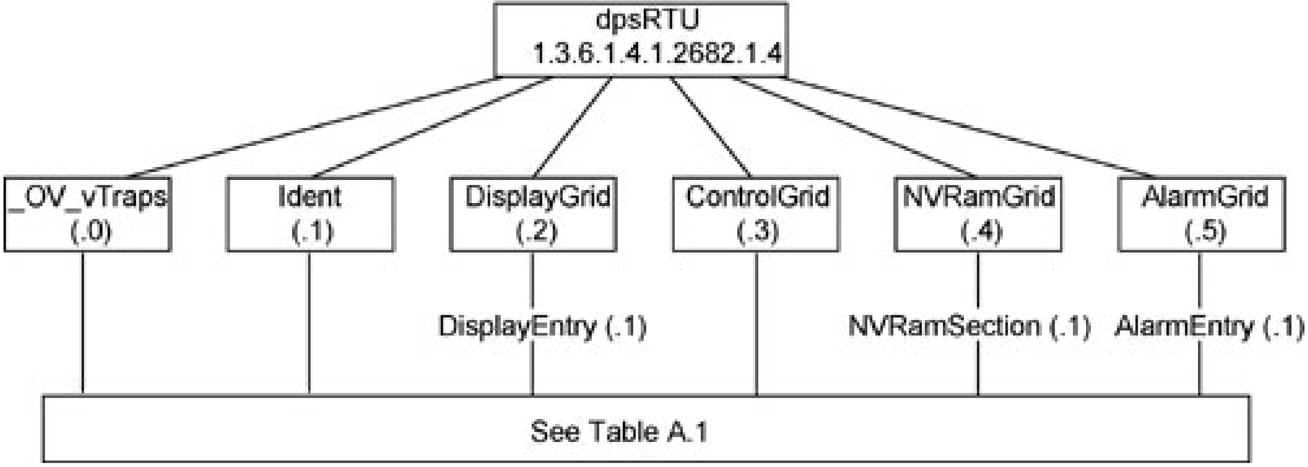
Note: Table A.3 continues on following page.

Display	Points	Alarm Point	Description	Solution
11	56	NetMediator DX 1 fail	NGDdx 1 Fail (Expansion shelf 1 communication link failure)	Under Ports > Options, verify the number of configured NGDdx units. Use EXP filter debug and port LEDs to help diagnose the problem. Use DB9M to DB9M with null crossover for cabling. Verify the DIP addressing on the back of the NGDdx unit.
	57	NetMediator DX 2 fail	NGDdx 2 Fail (Expansion shelf 2 communication link failure)	
	58	NetMediator DX 3 fail	NGDdx 3 Fail (Expansion shelf 3 communication link failure)	
	59	GLD 1 fail	GLD address 1 is failed.	Connect just GLD unit 1 and attempt to poll. Verify GLD is connected to data port 8 and the hardware is RS485, not RS232.
	60	GLD 2 fail	GLD address 2 is failed.	Verify the GLD unit addressing, and test GLD units individually on the GLD communication bus.
	61	GLD 3+ fail	One or more GLD units addressed 3 through 12 may be failed.	Reduce the number of connected GLD units to determine which unit may be causing the link to fail.
	62	Chan. Port Timeout	Chan. Port has not forwarded any traffic in the time specified by the Channel Timeout Timer. The channel feature forwards data between two ports so the NG may be used to analyze serial traffic using CHAN filter debug.	Change the data port type to OFF, or set the Channel Timer to a different setting.
	63	Craft Timeout	The Craft Timeout Timer has not been reset in the specified time. This feature is designed so other machines may keep the TTY link active. If the TTY interface becomes unavailable to the machine, then the Craft Timeout alarm is set.	Change the Craft Timeout Timer to 0 to disable the feature.
	64	Event Que Full	The Event Que is filled with more than 500 uncollected events.	Enable DCP timestamp polling on the master so events are collected, or reboot the system to clear the alarm.

Table A.3 *System Alarms Descriptions (continued)*

4.2 Appendix B — 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

	Description	Port	Address	Display	Points
Disp 1	Discrete Alarms	99	1	1	1-32
	Undefined**	99	1	1	33-64

Disp 2	Ping Targets	99	1	2	1-32
	Undefined**	99	1	2	33-64
Disp 3	Analog 1	99	1	3	1-4
	Undefined**	99	1	3	5-64
Disp 4	Analog 2	99	1	4	1-4
	Undefined**	99	1	4	5-64
Disp 5	Analog 3	99	1	5	1-4
	Undefined**	99	1	5	5-64
Disp 6	Analog 4	99	1	6	1-4
	Undefined**	99	1	6	5-64
Disp 7	Analog 5	99	1	7	1-4
	Undefined**	99	1	7	5-64
Disp 8	Analog 6	99	1	8	1-4
	Undefined**	99	1	8	5-64
Disp 9	Analog 7	99	1	9	1-4
	Undefined**	99	1	9	5-64
Disp 10	Analog 8	99	1	10	1-4
	Undefined**	99	1	10	5-64
Disp 11	Relays 1-8	99	1	11	1-8
	Undefined**	99	1	11	9-16
	Timed Tick	99	1	11	17
	Exp. Module Callout	99	1	11	18
	Network Time Server	99	1	11	19
	Accumulation Event	99	1	11	20
	Duplicate IP Address	99	1	11	21
	Undefined**	99	1	11	22-32
	Unit Reset	99	1	11	33
	Undefined**	99	1	11	34-35
	Lost	99	1	11	36
	DCP poll inactive	99	1	11	37
	NET 1 not active	99	1	11	38
	NET 2 not active	99	1	11	39
	NET link down	99	1	11	40
	Modem not	99	1	11	41
	No dial-tone	99	1	11	42
	SNMP trap not	99	1	11	43
	Pager Que	99	1	11	44
	Notification	99	1	11	45
	Craft RCVQ full	99	1	11	46
	Modem RCVQ	99	1	11	47
	Data 1-8 RCVQ	99	1	11	48-55
	NGDdx 1-3 fail	99	1	11	56-58
	GLD/BSU 1-3 fail	99	1	11	59-61
	CHAN timeout	99	1	11	62
	CRFT timeout	99	1	11	63

Table B.6. *Alarm Point Descriptions*

* "No data" indicates that the alarm point is defined but there is no description entered.
** "Undefined" indicates that the alarm point is not used.

4.3 Appendix C — SNMP Granular Trap Packets

Tables C.1 and C.2 provide a list of the information contained in the SNMP Trap packets sent by the NetMediator.

SNMP Trap managers can use one of two methods to get alarm information:
1. Granular traps (not necessary to define point descriptions for the NetMediator)

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 C.1. *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
NetMediator 216 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 C.2. *SNMP Headers and descriptions*

4.4 Appendix D — ASCII Conversion

The information contained in Table D.1 is a list of ASCII symbols and their meanings. Refer to the bulleted list below to interpret the ASCII data transmitted or received through the data ports. Port transmit and receive activity can be viewed from the Web Browser Interface.

- Printable ASCII characters will appear as ASCII.
- Non-printable ASCII characters will appear as labels surrounded by { } brackets (e.g. **{NUL}**).
- Non-ASCII characters will appear as hexadecimal surrounded by [ ] brackets (e.g. **[IF]**).
- A received BREAK will appear as `<BRK>`.

Abbreviation	Description	Abbreviation	Description
NUL	Null	DLE	Data Link Escape
SOH	Start of Heading	DC	Device Control
STX	Start of Text	NAK	Negative Acknowledge
ETX	End of Text	SYN	Synchronous Idle
EOT	End of Transmission	ETB	End of Transmission Block
ENQ	Enquiry	CAN	Cancel
ACK	Acknowledge	EM	End of Medium
BEL	Bell	SUB	Substitute
BS	Backspace	ESC	Escape
HT	Horizontal Tabulation	FS	File Separator
LF	Line Feed	GS	Group Separator
VT	Vertical Tabulation	RS	Record Separator
FF	Form Feed	US	Unit Separator
CR	Carriage Return	SP	Space (blank)
SO	Shift Out	DEL	Delete
SI	Shift In	BRK	Break Received

Table D.1. *ASCII symbols*

4.5 Appendix E - RADIUS Dictionday File (Available on Resource Disk)

```
# -*- text -*-
#
# dictionary.dps
#
#          DPS Telecom, Inc
#          For assistance or support, please contact support@dpstele.com
#                              v1.0 Released - 1/23/09 (CBH/DPS)

VENDOR                  DPS                         2682

#
# Standard attribute for NetMediator RTU.
# All values are integer with 1 = True, 0 = False.
# If attribure does not exist in Access-Accept packet, default value will be 0.
#
BEGIN-VENDOR       DPS

ATTRIBUTE    dps-admin                              1        integer
ATTRIBUTE    dps-edit                               2        integer
ATTRIBUTE    dps-monitor                            3        integer
ATTRIBUTE    dps-SD-monitor                         4        integer
#To allow monitor of data port buffer/activity
ATTRIBUTE    dps-reach-through                      5        integer
#To allow proxy to serial ports via TTY interface
ATTRIBUTE    dps-telnet                             6        integer
#To allow telnet in and out of NetMediator
ATTRIBUTE    dps-control                            7        integer
#To allow manipulation of dry contact relay outputs
ATTRIBUTE    dps-modem                              8        integer
#To allow dial in and out of NetMediator
ATTRIBUTE    dps-ppp                                9        integer
#To allow this user PPP (inbound) access to the NetMediator

END-VENDOR         DPS
```

5 Frequently Asked Questions

Here are answers to some common questions from NetMediator users. The latest FAQs can be found on the NetMediator support web page, http://www.dpstele.com. If you have a question about the NetMediator, please call us at **(559) 454-1600** or e-mail us at **support@dpstele.com**

5.1 General FAQs

Q. How do I Telnet to the NetMediator?

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

Q. How can I back up the current configuration of my NetMediator?

A. There are two ways. NGEdit can read the configuration of your NetMediator and save the configuration to your PC's hard disk or a floppy disk. With NGEdit you can also make changes to the configuration file and write the changed configuration to the NetMediator's NVRAM. The other way is to use File Transfer Protocol (FTP). You can use FTP to read configuration files from or write files to the NetMediator's NVRAM, but you can't use FTP to edit configuration files.

Q. Can I use my NetMediator as a proxy server to access TTY interfaces on my third-party serial equipment?

A. You can use Data Ports 1–8, located on the back of the NetMediator, to connect to serial devices, as long as your devices support RS-232. To make a proxy connection, you must define the correct TCP port for each serial port. To define TCP ports, you must first connect directly to the NetMediator through its IP address. Once you have connected to the NetMediator, you can define the TCP ports through the NetMediator's TTY or Web Browser Interface configuration interfaces.

Q. What do the terms alarm point, display, port, and address mean?

A. These terms define the exact location of a network alarm, from the most specific (an individual alarm point) to the most general (an entire monitored device). An alarm point is a number representing an actual contact closure that is activated when an alarm condition occurs. For example, an alarm point might represent a low oil sensor in a generator or a open/closed sensor in a door. A display is a logical group of 64 alarm points. A port is traditionally the actual physical serial port through which the monitoring device collects data. The address is a number representing the monitored device. The terms port and address have been extended to refer to logical, or virtual, ports and addresses. For example, the NetMediator reports internal alarms on Port 99, address 1.

Q. What characteristics of an alarm point can I configure through software? For instance, can I configure Point 4 to sense an active-low (normally closed) signal, or Point 5 to sense a level or edge?

A. The NetMediator alarm points are level sensed and can be software-configured to generate an alarm on either a high (normally open) or low (normally closed) level.

Q. When I connect to the NetMediator 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. The standard settings for the craft port are 9600 baud, 8 bits, no parity, and 1 stop bit. 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 NetMediator.

Q. I just changed the port settings for one of my data ports, but the changes did not seem to take effect even after I wrote the NVRAM.

A. In order for data port and craft port changes (including changes to the baud rate and word format) to take effect, the NetMediator must be rebooted. Whenever you make changes, remember to write them to the NetMediator's NVRAM so they will be saved when the unit is rebooted.

Q. How do I get my NetMediator on the network?

A. Before the NetMediator will work on your LAN, the unit address (IP address), the subnet mask, and the default gateway must be set. 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

Always remember to save your changes by writing to the NVRAM. Any modifications of the NetMediator's IP configuration will also require a reboot.

Q. I'm using HyperTerminal to connect to the NetMediator through the craft port, but the unit won't accept input when I get to the first level menu.

A. Make sure you turn off all handshaking in HyperTerminal.

Q. I can't change the craft port baud rate.

A. Once you select a higher baud rate, you must set your terminal emulation to that new baud rate and enter the DPSCFG and press Enter escape sequence. The craft port interprets a break key as an override to 9600 baud. At slower baud rates, normal keys can appear as a break.

Q. The LAN line LED is green on my NetMediator, but I can't poll it from my T/MonXM master.

A. Some routers will not forward to an IP address until the MAC address has been registered with the router. You need to enter the IP address of your T/MonXM system or your gateway in the ping table.

5.2 SNMP FAQs

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

A. SNMP v1 and v2.0C on the NetMediator TNT G5 series.

Q. How do I configure the NetMediator to send traps to an SNMP manager? Is there a separate MIB for the NetMediator? 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 NetMediator begins sending traps as soon as the SNMP managers are defined. The NetMediator MIB is included on the NetMediator Resource CD. The MIB should be compiled on your SNMP manager. (Note: MIB versions may change in the future.) The unit supports a main SNMP manager, which is configured by entering its IP address in the trap address field of Ethernet Port Setup. You can also configure up to eight secondary SNMP managers, which is configured by selecting the secondary SNMP managers as pager recipients. Community strings are configured globally for all SNMP managers. To configure the community strings, choose System from the Edit menu, and enter appropriate values in the Get, Set, and Trap fields.

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

A. The NetMediator supports the bulk of MIB-2.

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

A. The NetMediator SNMP agent manages an embedded MIB that supports only the NetMediator'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, but there are two exception to this rule. Exception 1: the first alarm in an all clear condition generates an additional summary point set trap. Exception 2: the final clear alarm that triggers an all clear condition generates an additional summary point clear 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 NetMediator manual talks about eight 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. For more information about the set commands, see Reference Information, Display Mapping, in any of the NetMediator software configuration guides.

Q. How can I associate descriptive information with a point for the RTU granular traps?
A. The NetMediator alarm point descriptions are individually defined using the Web Browser Interface, TTY, or NGEdit configuration interfaces.

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 NetMediator and the SNMP manager are both on the network. Use the NetMediator's ping command to ping the SNMP manager.

5.3 Pager FAQs

Q. Why won't my alpha pager work?
A. To configure the NetMediator to send alarm notifications to an alpha pager, enter the **data** phone number for your pager in the Phone Number field. This phone number should connect to your pager services modem. Then enter the PIN for your pager in the PIN/Rcpt/Port field. You don't need to enter anything in any of the other fields. If you still don't receive pages, try setting the Dial Modem Init string to ATS37=9. This will limit the NetMediator's connection speed.

Q. Numeric pages don't come in or are cut off in the middle of the message. What's wrong?
A. You need to set a delay between the time the NetMediator dials your pager number and the time the NetMediator begins sending the page message. You can set the delay in the Pager Number field, where you enter your pager number. First enter the pager number, then enter some commas directly after the number. Each comma represents a two-second delay. So, for example, if you wanted an eight-second delay, you would enter 555-1212,,,, in the Pager Number field.

Q. What do I need to do to set up email notifications?
A. You need to assign the NetMediator an email address and list the addresses of email recipients. Let's explain some terminology. An email address consists of two parts, the user name (everything before the @ sign) and the domain (everything after the @ sign). To assign the NetMediator an email address, choose System from the Edit menu. Enter the NetMediator's user name in the Name field (it can't include any spaces) and the domain in the Location field. For example, if the system configuration reads:

Name: NetMediator
Location: proactive.com

Then email notifications from the NetMediator will be sent from the address NetMediator@proactive.com. The next step is to list the email recipients. Choose Pagers from the Edit menu. For each email recipient, enter his or her email domain in the Phone/Domain field and his or her user name in the PIN/Rcpt/Port field. You must also enter the IP address of an SNMP server in the IPA field.

6 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.*

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.

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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.

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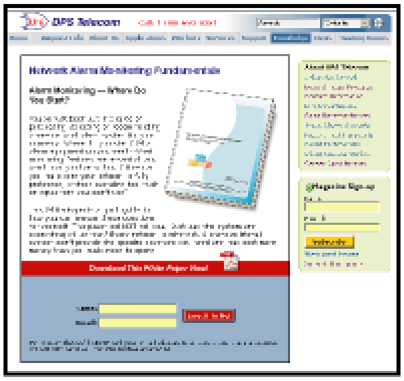

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