

NetGuardian E16 DX G2

USER MANUAL



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Revision History	
March 26, 2019	Updated Specifications
August 31, 2017	Updated shipping list
September 26, 2014	Added note that LAN is for testing or firmware upgrades
March 25, 2014	Initial Release

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1 Overview



Fig. 1. The NetGuardian E16 DX G2

Discrete Alarm and Control Relay Expansion Solution

The NetGuardian E16 DX G2 expands the capacity of the NetGuardian 832A G5 platform (including the 864A) by 16 alarm points and 16 controls.

The E16 DX G2 interfaces to either:

- An RS232 serial ports on the NetGuardian 832A G5 that is configured for point expansion, or
- An RS232 serial port on a NetGuardian 864 DX that is already daisy-chained onto a base NetGuardian.

NOTE: Only a single E16 DX G2 may be connected to a base NetGuardian, and it must be the last expansion in a daisy chain. Because the E16 DX G2 has only an input serial port and no output serial port, it can only attach itself to the end of a chain.

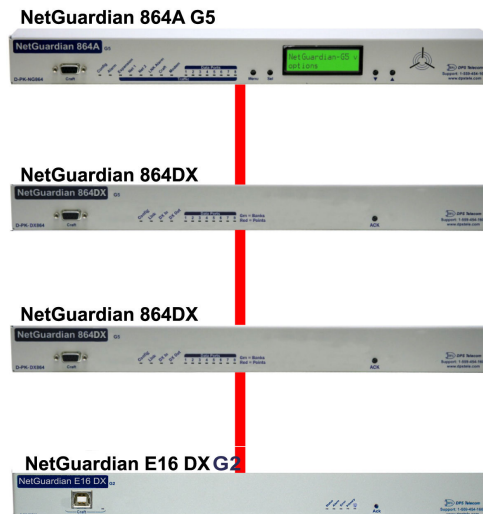


Fig. 2. An expanded RTU. The NetGuardian 864A G5 (top) has been supplemented by 2 NetGuardian 864DX units (middle) and a NetGuardian E16 DX G2 (bottom). This configuration has a total of 208 alarm inputs and 40 control relays. Both of the 864DX units are optional expansions.

Dual, separately fused -48V power

For protection against power failures, the NetGuardian E16 DX features dual redundant -48vdc power supplies.

2 Shipping List

While unpacking the NetGuardian E16, please make sure that all of the following items are included. If some parts are missing, or if you ever need to order new parts, please refer to the part numbers listed and call DPS Telecom at (800) 622-3314.



NetGuardian E16 DX G2
D-PK-X2E16



NetGuardian E16 DX G2 User Manual
D-UM-X2E16



RJ45 to RJ45 connection cable
D-PR-1028-10C-00



USB Cable
D-PR-046-10A-06



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



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



x8
3/8" Ear Screws & Washers
2-000-60375-05



x4
Standard Rack Screws
1-000-12500-06



x4
Metric Rack Screws
2-000-80750-03



Pads
2-015-00030-00



x3
3/4 -Amp GMT Fuse
2-741-00750-00



x2
Locking Power Screw Lug Barrier Plugs
2-820-35102-00



Cable Ties

3 Specifications

Dimensions:	1.7" H x 17.0" W x 6.6" D
Weight:	2.25 lbs.
Mounting:	19" rack, 23" rack, or wall mounting
Power Input:	-48VDC (-18 to -72 VDC)
Current Draw:	250 mA
Fuse:	(2) 3/4 Amp GMT
Operating Temperature:	32° – 140° F (0° – 60° C)
Operating Humidity:	0%–95% non-condensing
Interfaces:	Two 50-pin connectors for discrete alarms and control relays 1 RJ45 Ethernet jack (not used) 1 RJ45 RS-232 jack 1 USB craft port
Protocols:	DCPx, 2400 baud
Discrete Point Inputs:	16 inputs
Control Outputs:	16 relay contacts
Visual Display:	Dual and Mono Color LEDs

4 Front Panel Connections



Fig. 3. The NetGuardian E16 DX G2 Front Panel Controls

The craft port, Ack, and LED displays are accessed via the front panel, as seen in Figure 3.

5 Rear Panel Connections



Fig. 4. NetGuardian E16 DX G2 rear panel connections

Connectors for power feeds, alarm inputs, control outputs, and communication lines are on the back panel of the NetGuardian E16, as shown in Figure 4.

6 LAN Connection

To connect the unit to LAN, insert a standard RJ45 Ethernet cable into the 10/100BaseT Ethernet port on the back of the unit. If the LAN connection is OK, the LNK LED will light **SOLID GREEN**. The LAN connection may be used for upgrading the firmware or testing but is not required for the equipment to function properly.

7 Hardware Installation

Follow this order of steps when installing your NetGuardian E16.

1. Unpack the NetGuardian E16 DX G2 and check parts.

Please see the shipping list to verify that all parts were included in your shipment.

2. Mount the NetGuardian E16 DX G2.

The NetGuardian E16 can be mounted in a 19" or 23" rack.

3. Connect power leads to the NetGuardian E16 DX G2.

4. Connect communication lines to the NetGuardian E16 DX G2.

The NetGuardian E16 has one communication line: a RS232 serial port

5. Connect discrete alarm inputs.

6. Connect control outputs.

7. Connect to the NetGuardian 832 or 864 G5.

You can connect to the NetGuardian E16 **DX G2** through the front panel craft port. Please note that the NetGuardian E16 DXG2 must be the last unit in the chain.

8. Provision the NetGuardian E16 DX G2 and 832A G5.

The NetGuardian E16 DXG2 must be provisioned with a DCP address using the TTY interface via Craft Port connection. You must provision the NetGuardian 832A G5 to specify the "E16" as the DX type.

7.1 Tools Needed

To install the NetGuardian E16, you'll need the following tools:



Phillips No. 2 Screwdriver



Small Standard No. 2 Screwdriver



Wire Strippers/Cutter



Computer with terminal software or web browser

7.2 Mounting



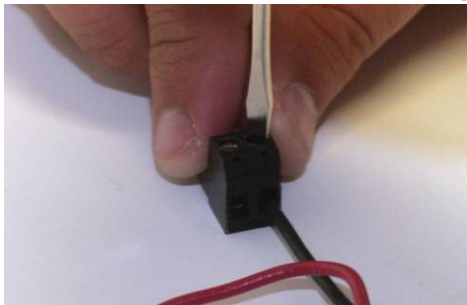
Fig. 5. The NetGuardian E16 DX G2 can be flush or rear-mounted.

The NetGuardian E16 DX G2 can be mounted in a 19" rack or a 23" rack by using the provided rack ears for each size. Two rack ear locations are provided. Attach the appropriate rack ears in the flush-mount or rear-mount locations shown in Figure 5.

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

7.3 Power Connection


To connect the NetGuardian to a power supply:



Battery lead left, and Ground right



Grounding Lug left, dual power inputs right

- 1) Insert a battery *ground* wire into the connector's **right** terminal (Shown above) and battery *lead* into the **left** terminal and tighten the screws. Insert the connector into the power plug. Attach a grounding wire to the grounding lug .
- 2) Ensure the power status LED  is lit up green for correct polarity.
- 3) Insert the local fuse into the fuse holder.
- 4) The front panel status LED should flash RED and GREEN to indicate that the unit is operating.

Note: Always use safe power practices when making power connections. Make sure the power wires are not active before making any power connections

7.4 Communication Lines

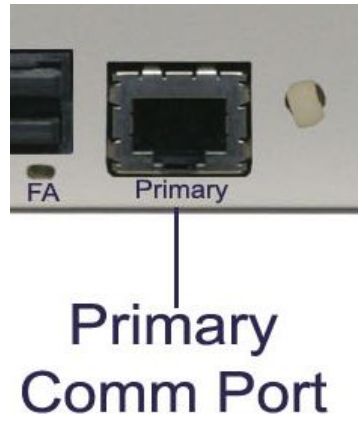


Fig. 7

Serial Port is in the lower right corner of the NetGuardian E16 DX G2's back panel, as shown in Figure 7.

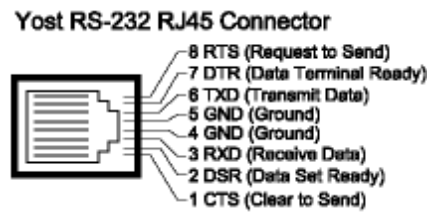


Fig. 8. Serial Port Pinouts

7.5 Alarm and Control Relay Connections



Fig. 9. Alarm and control relay connectors.

Discrete alarms and control relays are connected to the NetGuardian E16 DX G2 using the two 50-pin connectors on the back panel, shown in Figure 9. Pinouts for all connections are shown in Figure 10, and alternately in Table A.

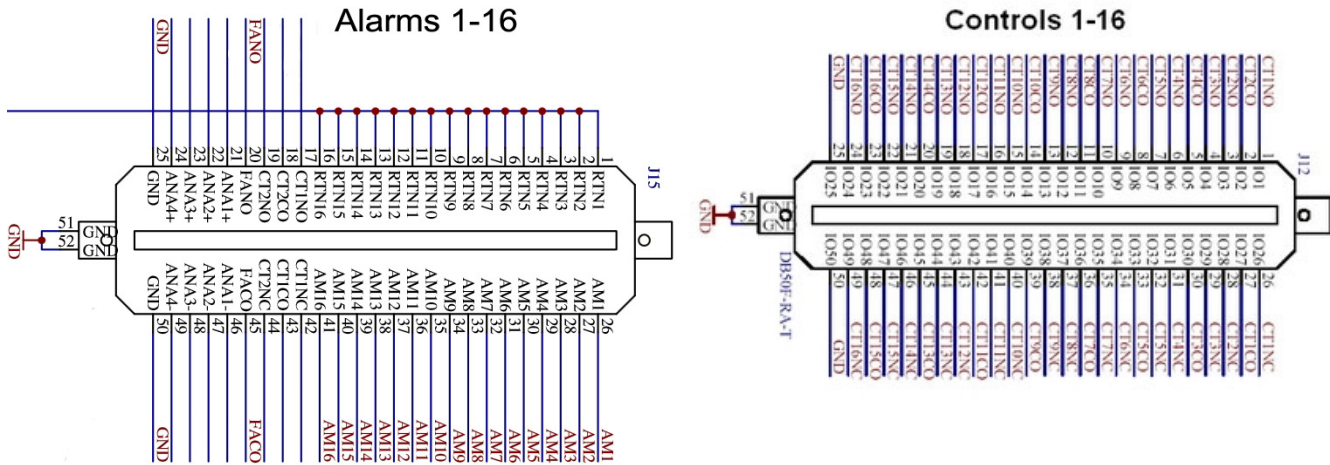


Fig. 10. Alarm and control connection pinouts.

Alarms 1-16				Controls 1 -16			
	Pin #		Pin #		Pin #		Pin #
GND	1	AM1	26	CT 1 NC	26	CT 9 NC	38
GND	2	AM2	27	CT 1 NO	1	CT 9 NO	13
GND	3	AM3	28	CT 1 CO	27	CT 9 CO	39
GND	4	AM4	29	CT 2 CO	2	CT 10 CO	14
GND	5	AM5	30	CT 2 NC	28	CT 10 NC	40
GND	6	AM6	31	CT 2 NO	3	CT 10 NO	15
GND	7	AM7	32	CT 3 NC	29	CT 11 NC	41
GND	8	AM8	33	CT 3 NO	4	CT 11 NO	16
GND	9	AM9	34	CT 3 CO	30	CT 11 CO	42
GND	10	AM10	35	CT 4 CO	5	CT 12 CO	17
GND	11	AM11	36	CT 4 NC	31	CT 12 NC	43
GND	12	AM12	37	CT 4 NO	6	CT 12 NO	18
GND	13	AM13	38	CT 5 NC	32	CT 13 NC	44
GND	14	AM14	39	CT 5 NO	7	CT 13 NO	19
GND	15	AM15	40	CT 5 CO	33	CT 13 CO	45
GND	16	AM16	41	CT 6 CO	8	CT 14 CO	20
	17		42	CT 6 NC	34	CT 14 NC	46
	18		43	CT 6 NO	9	CT 14 NO	21
	19		44	CT 7 NC	35	CT 15 NC	47
Lk DN NO	20	Lk DN CO	45	CT 7 NO	10	CT 15 NO	22
	21		46	CT 7 CO	36	CT 15 CO	48
	22		47	CT 8 CO	11	CT 16 CO	23
	23		48	CT 8 NC	37	CT 16 NC	49
FANO	24	FACO	49	CT 8 NO	12	CT 16 NO	24
GND	25	GND	50	GND	25	GND	50

Table A. Alarm and Control connection pinouts.

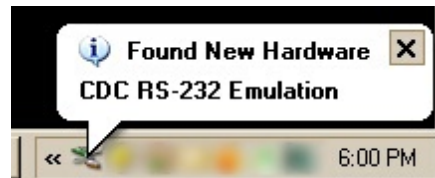
8 Connecting via the USB port



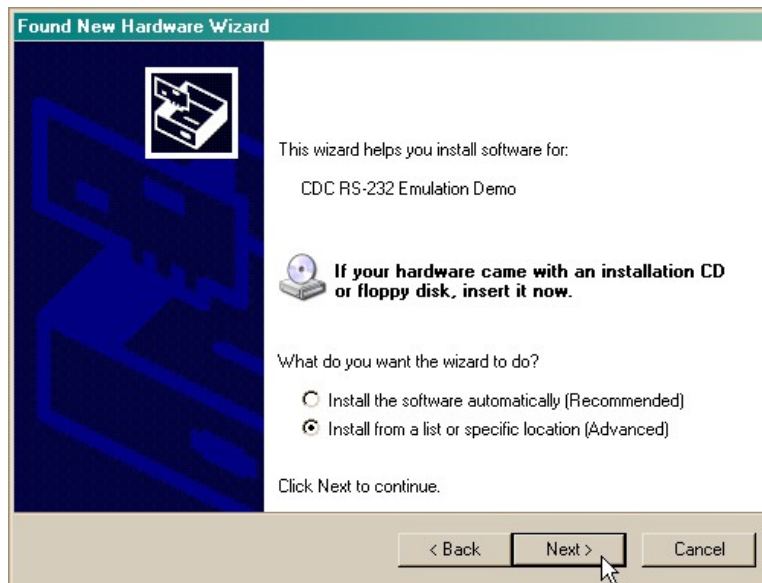
The NetGuardian E16's front panel USB craft port.

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

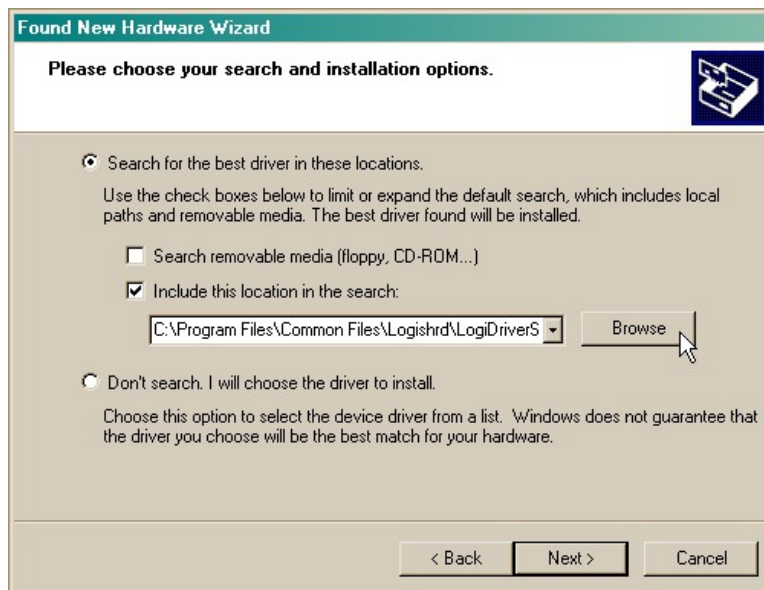
When you first connect the NetGuardian to your PC via USB, a "Found New Hardware" message will appear:



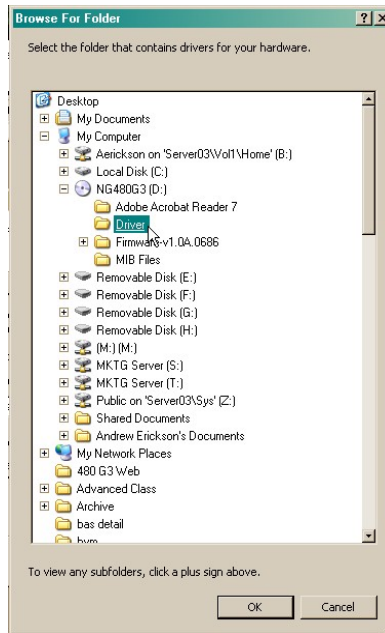
1. Click the "Found New Hardware" message/icon to launch the "Found New Hardware Wizard".



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



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



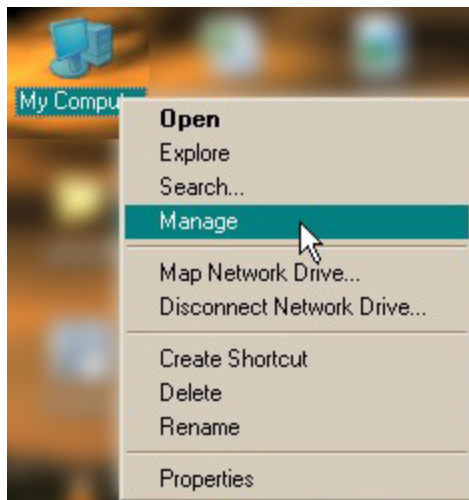
7. Select the "Driver" folder of your NetGuardian Resource Disc (CD) and click "OK"

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

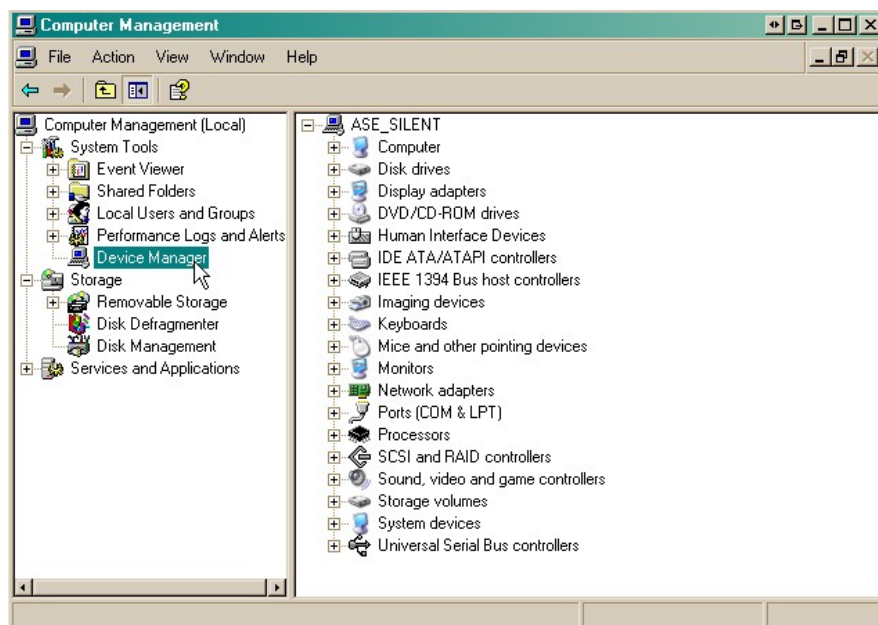


8. Click "Finish" to close the Wizard.

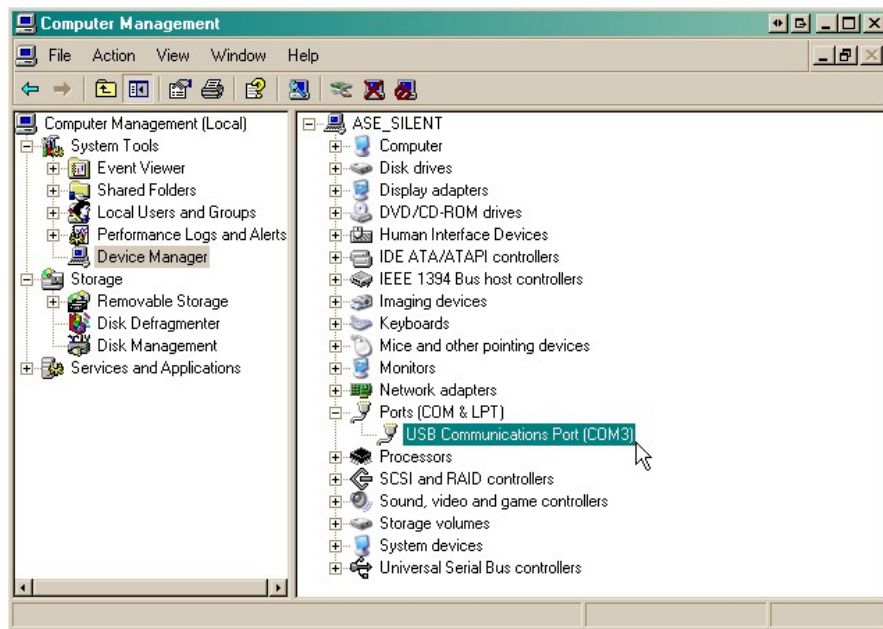
Now that the driver has been installed, a new COM port is being emulated on your PC. Before using hyperterminal, you must confirm the identity of that new COM port (COM1, COM2, COM3...) in the Windows Device Manager.



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



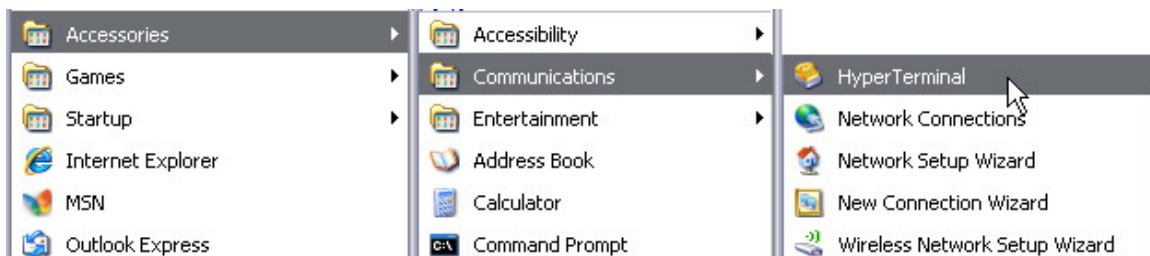
10. Click "Device Manager" in the left pane.



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

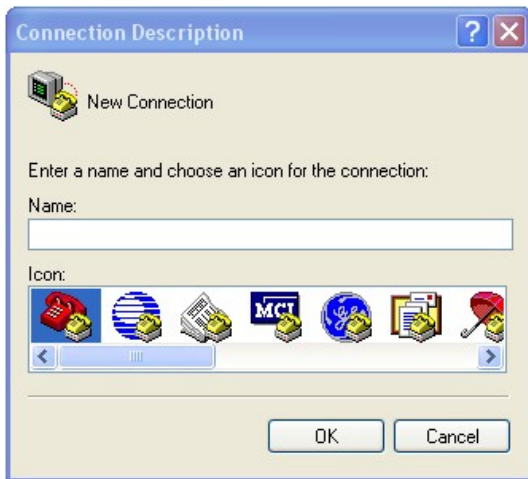
Now that you know which COM port to use, it's time to launch HyperTerminal (or other terminal software):

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



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

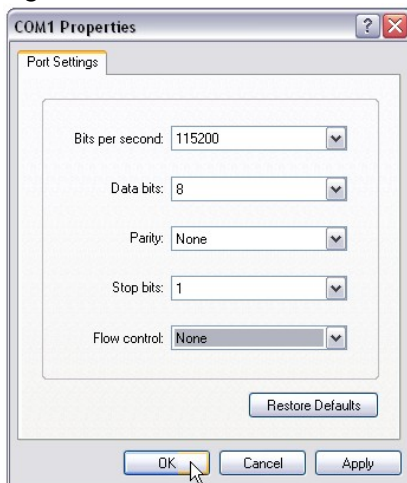
14. At the Connect To screen, use the drop-down menu to select the COM port you found earlier in the Device Manager.



15. Select the following COM port options:

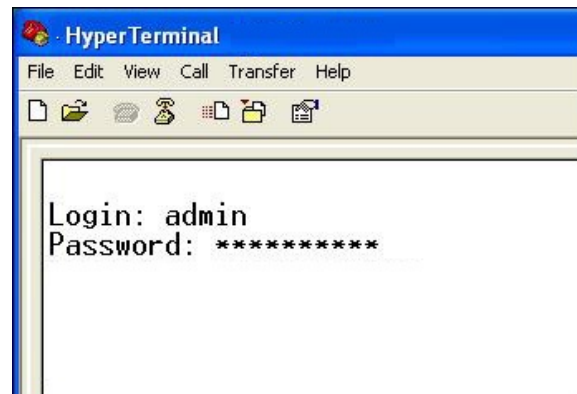
- Bits per second: 9600
- Data bits: 8
- Parity: None
- Stop bits: 1
- Flow control: **None**

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



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

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



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

```

NG 480 G3 - HyperTerminal
File Edit View Call Transfer Help
Login: admin
Password: *****
Logged in successfully.

NetGuardian480 G3 v1.0D.0687
(c)2009 DPS Telecom, Inc.

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

```

```

Linked      : No
DHCP       : Disabled
Host Name  :
Unit IP    : 126.10.230.127 (126.10.230.127)
Subnet Mask : 255.255.192.0 (255.255.192.0)
Gateway    : 126.10.255.23 (255.255.255.255)
Unit MAC   : 00.10.81.00.53.33 (00.10.81.00.53)

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

```

9 Bypass Password

Hold button while unit is booting up to bypass password in the event of a forgotten password.

10 Setting the DCP Address

To set the DCP address on the NetGuardian E16 DX G2, connect to the TTY interface.

Note: The default DCP address is '1'. Most likely you will not need to change this.

To connect to the TTY interface, connect a serial port on your PC to the front craft port on the E16 DX G2 using the included USB cable.

Use terminal software such as Hyperterminal or PuTTY to establish a connection (9600 baud).

```

Pr(T)maryPort re(B)oot (ESC) ? I
Port type : 202      Baud      : 1200
Parity     : no      Stop      : 1
Flow      : None
RTS Head  : 30      RTS Tail  : 10

t(V)pe B)aud P)arity S)top
Flow H)ead T)ail t(U)ne (ESC) ? U

(-)On (4)Mark (3)Space (-)Off
(7)CoarseUp (1)FineUp (2)FineDown (6)CoarseDown

t(V)pe B)aud P)arity S)top
Flow H)ead T)ail t(U)ne (ESC) ? <--

E)thernet D)CP S)tats n(V)ram
Pr(T)maryPort re(B)oot (ESC) ? D

DCP Unit ID : 1
Listen DCP  : OVER SERIAL

U)nitID L)isten (ESC) ?

```

Fig. 13 - The procedure for setting the DCP address on the NetGuardian E16 DX G2 via the TTY interface.

Once the TTY connection has been established,

1. Login using admin; dpstelecom
2. Press 'C' for Configure
3. Press 'D' for DCP
4. Type '1', '2', or '3' to set the DCP address to 1, 2, or 3. The address will be displayed.
5. Reboot the E16 DX to activate the new address

11 Updating Firmware with dsPICLoader

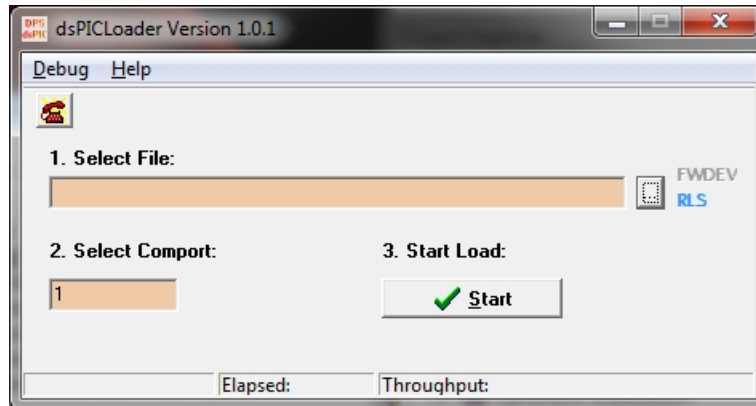


Fig. 14. dsPICLoader screen

To update the NetGuardian E16 DX G2 firmware using dsPICLoader with firmware you have downloaded from dpstele.com, follow these steps:

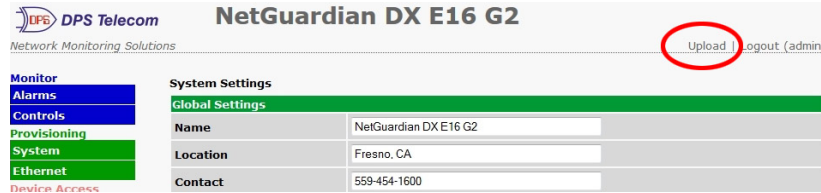
1. Connect to the USB Port (See: Connecting via the USB port)
2. Select a task file by clicking the browser button next to the Select File: box.
3. Click the Start button. The firmware upgrade will be automatically uploaded to the NetGuardian E16 DX G2.

While uploading, the dsPICLoader screen will display the elapsed time and throughput of the upload to the NetGuardian E16 DX G2.

4. Once the firmware upload is finished, click the X to exit dsPICLoader.

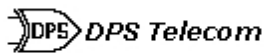
12 Updating Firmware via the web

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

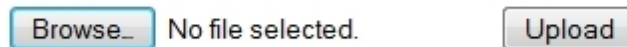


To upload firmware, click on **Upload** on the top right corner of the web interface

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



Upload (config, voice, firmware, web, or bundle)



Browse... for downloaded firmware upgrade

13 Operations

13.1 Front and Rear Panel LEDs

The bicolor LEDs on the front panel of the NetGuardian E16 DX G2 provide visual feedback of communication, configuration, and alarm status.

Refer to Table F for front panel LED status display explanations.

LED	State	Description
Craft	Blink Red	Receiving data on craft port
	Blink Green	Transmitting data on craft port
Status	Blink Green	NetGuardian E16 G2 is monitoring
Alarm	Blink Red	Alarms are active
	Off	No active alarms
Error	Blink Red	For Future Use
	Blink Green	For Future Use
Primary	Blink Red	Receiving data on primary serial port
	Blink Green	Transmitting data on primary serial port
Power	Solid Green	Unit is powered

Table F. Front panel LED status chart.

The **A** and **B LED** will be solid green if power is connected correctly, or be unlit when power is not connected.

The **FA LED** will be solid red on a fuse failure.

14 Provisioning Menu

Configuration is performed from the **Provisioning** menus (the menu options in green on the left-side of the web interface). The following pages provide a brief description of the options available in each menu.

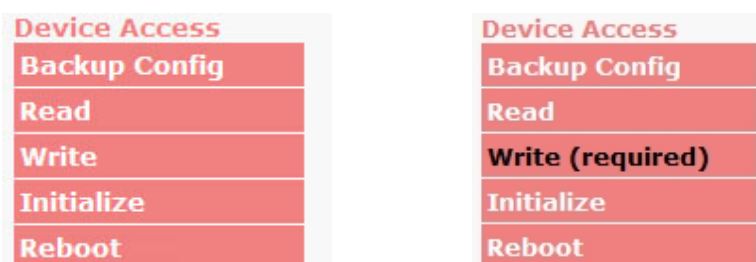
Saving Configuration Changes to the NetGuardian E16 DX G2:

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

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

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

Status messages on the NetGuardian E16 G2 Device Access menu, inform you how to implement your changes



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

14.1 System

From the Provisioning > System menu, you will configure and edit the global system, call, T/Mon and control settings for the NetGuardian E16 DX G2.

System Settings	
Global Settings	
Name	NetGuardian DX E16 G2
Location	Fresno, CA
Contact	559-454-1600
DCP Responder Settings Display Map	
<input checked="" type="radio"/> DCP over Serial	
DCP Address	3
Unit Configuration	
Backup Config	config.bin
Initialize	<input type="button" value="Init"/>
<input type="button" value="Save"/>	

The Provisioning > System menu

Global System Settings	
Name	A name for this NetGuardian E16 DX G2 unit. (Optional field)
Location	The location of this NetGuardian E16 DX G2 unit. (Optional field)
Contact	Contact telephone number for the person responsible for this NetGuardian E16 DX G2 unit. (Optional field)
DCP Responder Settings (For use with T/Mon)	
DCP Address	User-definable DCP Address.
Unit Configuration	
Backup Config	Opens up a dialog box that lets you save the current configuration.
Initialize	Restores configuration to factory settings (requires password).

14.2 Ethernet

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

Ethernet Settings

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

The Provisioning > Ethernet menu

Ethernet Settings	
MAC Address	Hardware address of the NetGuardian E16 DX G2. (Not editable - For reference only.)
Host Name	Used only for web browsing. Example: If you don't want to remember this NetGuardian E16 DX G2's IP address, you can type in a name in this field, such as CV16. Once you save and reboot the unit, you can now browse to it locally by simply typing in "CV16" in the address bar. (no "http://" needed).
Enable DHCP	Used to turn on Dynamic Host Connection Protocol. NOT recommended, because the unit is assigned an IP address from your DHCP server. The IP you've already assigned to the unit becomes inactive. Using DHCP means the unit will NOT operate in a T/Mon environment.
Unit IP	IP address of the NetGuardian E16 DX G2.
Subnet Mask	A road sign to the NetGuardian E16 DX G2, telling it whether your packets should stay on your local network or be forwarded somewhere else on a wide-area network.
Gateway	An important parameter if you are connected to a wide-area network. It tells the NetGuardian E16 DX G2 which machine is the gateway out of your local network. Set to 255.255.255.255 if not using. Contact your network administrator for this info.
DNS Server 1	Primary IP address of the domain name server. Set to 255.255.255.255 if not using.
DNS Server 2	Secondary IP address of the domain name server. Set to 255.255.255.255 if not using.

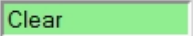
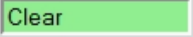

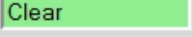
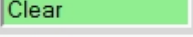
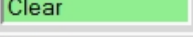
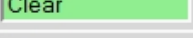
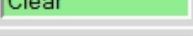





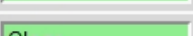

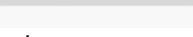
Note: DNS Server settings are required if a hostname is being used for ping targets.

15 Monitoring via Web Browser

15.1 Alarms

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

Alarms

Id	Description Display Map	State
1	ALARM_1	Clear 
2	ALARM_2	Clear 
3	ALARM_3	Clear 
4	ALARM_4	Clear 
5	ALARM_5	Clear 
6	ALARM_6	Clear 
7	ALARM_7	Clear 
8	ALARM_8	Clear 
9	ALARM_9	Clear 
10	ALARM_10	Clear 
11	ALARM_11	Clear 
12	ALARM_12	Clear 
13	ALARM_13	Clear 
14	ALARM_14	Clear 
15	ALARM_15	Clear 
16	ALARM_16	Clear 

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

15.2 Controls

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

Controls

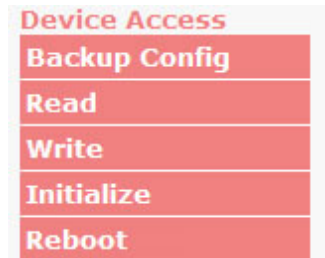
Id	Description Display Map	State	Command
1	CONTROL_1	Released	OPR RLS MOM
2	CONTROL_2	Released	OPR RLS MOM
3	CONTROL_3	Released	OPR RLS MOM
4	CONTROL_4	Released	OPR RLS MOM
5	CONTROL_5	Released	OPR RLS MOM
6	CONTROL_6	Released	OPR RLS MOM
7	CONTROL_7	Released	OPR RLS MOM
8	CONTROL_8	Released	OPR RLS MOM
9	CONTROL_9	Released	OPR RLS MOM
10	CONTROL_10	Released	OPR RLS MOM
11	CONTROL_11	Released	OPR RLS MOM
12	CONTROL_12	Released	OPR RLS MOM
13	CONTROL_13	Released	OPR RLS MOM
14	CONTROL_14	Released	OPR RLS MOM
15	CONTROL_15	Released	OPR RLS MOM
16	CONTROL_16	Released	OPR RLS MOM

View and operate control relays from the Monitor > Controls menu

Control Relay Operation	
ID	ID number for the control relay.
Description	Description for the NetGuardian E16 DX G2's control relay defined in the Provisioning > Controls menu.
State	Status of the control relay. Can either be Released or Latched .
Command	OPR - Latch the relay. RLS - Release the relay. MOM - Momentarily latch the relay, then automatically release the relay. The duration of the latch is defined in the Provisioning > Controls menu.

16 Device Access Descriptions

The **Device Access** options, listed in pink on the left side of the web interface, provide options for generating reports, updating the NetGuardian E16 DX G2's firmware, and rebooting the unit. Click any of the options under **Device Access** to perform the desired action.



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

Device Access Option	Description
Backup Config	Backs up the units configuration settings
Read	Reads a configuration file from the unit
Write	Commits all changes made in the web interface to the NetGuardian E16 DX G2's non-volatile memory
Initialize	Sets the unit's configuration to factory default values
Reboot	Reboots the NetGuardian E16 DX G2.

17 Technical Support

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

1. Check the DPS Telecom website.

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

2. Prepare relevant information.

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

- User Manual
- Hardware Serial Number

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. During these hours Technical Support representatives are on duty in our fully equipped simulation lab. They can simulate your problem and connect to your equipment via modem.

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.*

18 End User License Agreement

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

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

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

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covenant or obligation of End User in connection with this Agreement.

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

Warranty

DPS Telecom warrants, to the original purchaser only, that its products a) substantially conform to DPS' published specifications and b) are substantially free from defects in material and workmanship. This warranty expires two years from the date of product delivery with respect to hardware and ninety days from the date of product delivery with respect to software. If the purchaser discovers within these periods a failure of the product to substantially conform to the specifications or that the product is not substantially free from defects in material and workmanship, the purchaser must promptly 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 responsibility of the purchaser. If DPS is unable to repair the product to conform to the warranty, DPS will provide at its option one of the following: a replacement product or a refund of the purchase price for the non-conforming product. These remedies are the purchaser's only remedies for breach of warranty. Prior to initial use the purchaser shall have determined the suitability of the product for its intended use. DPS does not warrant a) any product, components or parts not manufactured by DPS, b) defects caused by the purchaser's failure to provide a suitable installation environment for the product, c) damage caused by use of the product for purposes other than those for which it was designed, d) damage caused by disasters such as fire, flood, wind or lightning unless and to the extent that the product specification provides for resistance to a defined disaster, e) damage caused by unauthorized attachments or modifications, f) damage during shipment from the purchaser to DPS, or g) any abuse or misuse by the purchaser.

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

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

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

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

Technical Support

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

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your business depends on it."™**



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