



Integration Note

Manufacturer:	GE NetworX
Model Number(s):	NX-4,6,8
Core Module Version:	
Document Revision Date:	01/09/2016

OVERVIEW AND SUPPORTED FEATURES

The **NetworX NX-4,6,8** security panels integrate with the **g!** system using an RS-232 serial connection. The panels require the **NX-584 Home Automation Module** to enable RS-232 communications between the **controller** and the control panel.

THESE PANELS SUPPORT THE FOLLOWING FEATURES:

Arm – Disarm: Arm and disarm from the Viewer interface is supported for any partition. Status information is available for all partitions.

Auto Arm: Arming as a System Command from the Event Mapper is supported for any partition. By default, automatic arming is disabled in the Configurator.

Zone Status: Zone status information for all zones is properly shown in the Viewer.

History View: The history view is properly supported on any Viewer.

Bypassable Zones: You can bypass a zone in the Viewer interface. In Version 4.0 Build 346 and later, bypassable zones are auto-detected. In earlier version, enable bypass for each zone in the Configurator. For correct bypass operation, the panel and **g!** should both be set to the same bypass option. Discrepancies between the panel's bypass setting and **g!**'s bypass setting can cause unpredictable results.

Auto Zone and Partition Detection: After a zone has been faulted the **g!** system will automatically detect the zone number and partition number but not the name.

IMPORTANT! GE Caddx panels cannot support PIN codes then end in zero over RS-232. See Common Mistakes for more information.

THESE PANELS DO NOT SUPPORT THE FOLLOWING FEATURES:

Any feature not specifically noted as supported should be assumed to be unsupported.

INSTALLATION OVEVIEW

1. Install the security system and program the panel for the RS-232 interface.
2. Run a Cat5 wire from the **g!** system to the security panel and test the cable.
3. Test the security panel, zone sensors and keypads for functionality.
4. Connect the **g!** system to the panel electrically.

5. Configure the **controller** communication device and security panel and confirm communication between the panel and the **controller**.

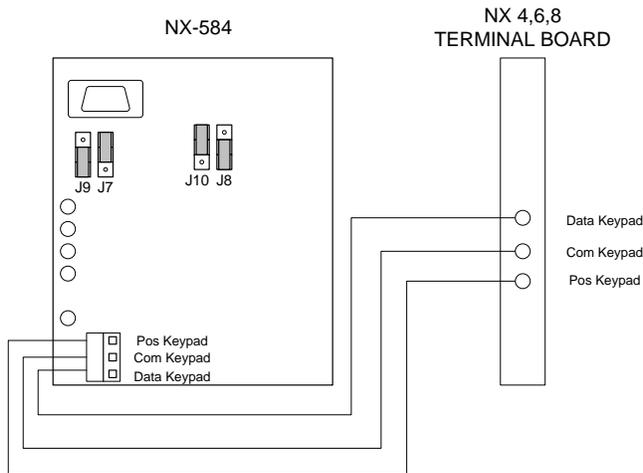
6. Fault all the zones in the system. Faulting the zone sends a message to the **g!** system which then automatically adds the zone in the Configurator. Zones that can't be easily faulted must be added by hand. Confirm that all zones are visible in the Configurator, and then provide names for each zone and partition with the Configurator

7. Test the arming and disarming capability from a computer or touch screen and confirm history function.

DIAGRAM 1: NX-584 HOME AUTOMATION JUMPER SETTINGS AND WIRING DIAGRAM

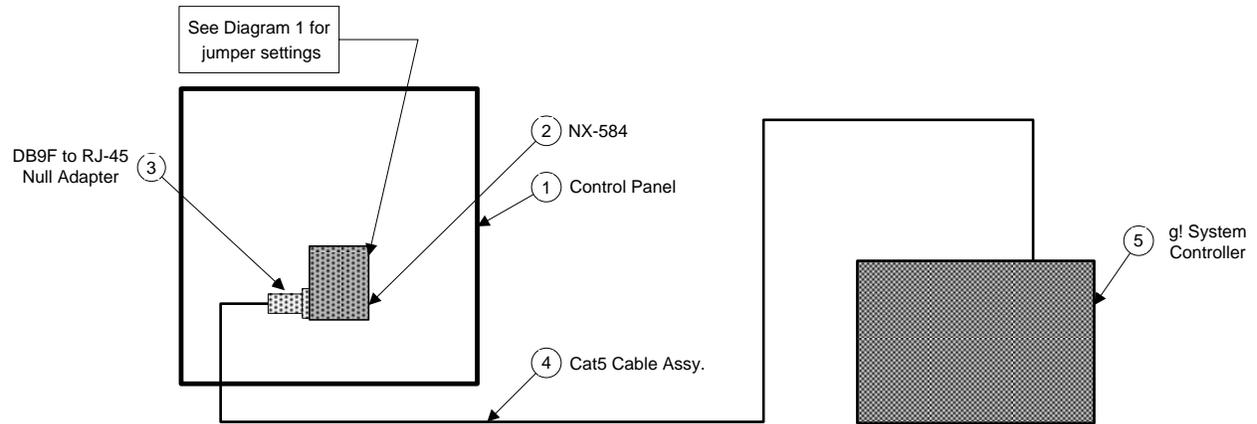
The following diagram shows the jumpers and how to wire the NX-584 to the panel. The jumper settings and wiring is the same for Option 1, Option 2 and Option 3. See note below for NX4,6,8 V2 panels.

IMPORTANT NOTE for NX V2 series panels: remove jumper **J7** on the NX-584 board to allow proper communication between the panel and the system controller.



CONNECTION METHODS

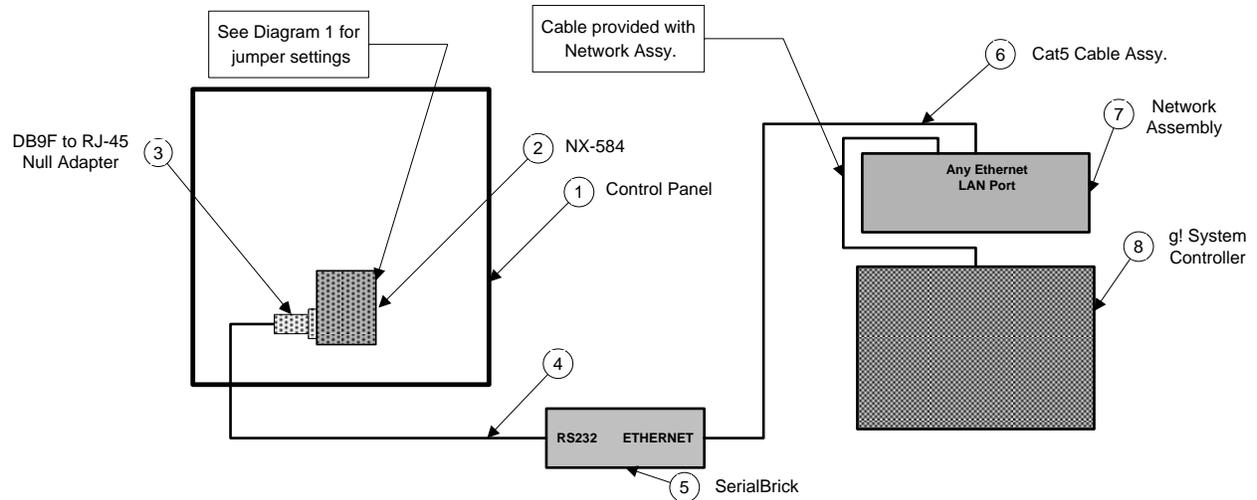
OPTION 1: CONNECT TO A SERIAL PORT ON THE SYSTEM CONTROLLER



BILL OF MATERIALS FOR OPTION 1

#	Device	Manufacturer	Part Number	Protocol	Connector Type	Notes
1	Control Panel	GE NetworX	NX-4,6,8	RS-232	Various	
2	Home Automation Module	GE NetworX	NX-584	RS-232	DB-9 Male	See Diagram 1 for jumper settings
3	DB9F to RJ45 Null Adapter	ELAN	HA-CB-328	RS-232	DB-9 Female X RJ-45 Female	
4	Cat5 Cable	Installer	N/A	RS-232	RJ-45 Male X RJ-45 Male	Must terminate all 8 conductors
5	g! System Controller	ELAN	Various (e.g. HC 12)	RS-232	RJ-45 Female	

OPTION 2: CONNECT TO THE ETHERNET NETWORK WITH A SERIALBRICK



BILL OF MATERIALS FOR OPTION 2

#	Device	Manufacturer	Part Number	Protocol	Connector Type	Notes
1	Control Panel	GE NetworX	NX-4,6,8	RS-232	Various	
2	Home Automation Module	GE NetworX	NX-584	RS-232	DB-9 Male	See Diagram 1 for jumper settings
3	DB9F to RJ45 Null Adapter	ELAN	HA-CB-328	RS-232	DB-9 Female X RJ-45 Female	
4	Cat5 Cable	Installer	N/A	RS-232	RJ-45 Male X RJ-45 Male	Must terminate all 8 conductors
5	SerialBrick	ELAN	HW-EB-100	RS-232 X IP	RJ-45 Female X RJ-45 Female	
6	Cat5 Cable	Installer	N/A	IP	RJ-45 Male X RJ-45 Male	
7	Network Assembly	ELAN	NWA 8	IP	RJ-45 Female X RJ-45 Female	
8	g! System Controller	ELAN	Various (e.g. HC12)	IP	RJ-45 Female	

PANEL PROGRAMMING

You must first install the NX-584 and enroll it in the panel. This process is described in the NX-584 documentation; please refer to Diagram 1 for the proper wiring and jumper settings.

Once the NX-4,6,8 is running properly, you need to make a few changes to the settings to integrate with the **g! system** system. The following steps assume you have the LCD keypad. If not, refer to the NetworX documentation to understand how the values are displayed on the LED keypad.

For clarity, the following instructions use [] brackets around keys that you press and also around settings shown on the keypad.

IMPORTANT NOTE: If the segment values listed in the table below (such as [1 2 - - - - -]) are incorrect, the value can be changed by pushing the corresponding number on the keypad. For example: [- 2 - - - - -] can be changed to [- - - - - - -] by pressing the #2 button, and [- - - - - - -] can be changed to [- - 3 - - - - -] by pressing the #3 button.

Step	Instructions	Comments
1	Press [* 8] + [9713]+[72]+[#]	Enter programming mode for the NX-584, module 72, using the factory default password
2	Press [0 #]	Sets the location to 0. Change the value to [- - - - - - -], enabling the Home Automation Protocol
3	Press [*]	Stores the data into location 0
4	Press [1 #]	Sets the location to 1. Confirm the value is 4 , enabling the Baud rate of 9600
5	Press [*]	Stores the data into location 1
6	Press [2 #]	Sets the location to 2 segment 1. Confirm that the value is set to [- 2 - - - - 7 -], enabling Interface Configuration at Power Up and Partition Status Message
7	Press [*]	Sets the location to 2 segment 2. Confirm that the value is set to [1 2 - - - - -], enabling System Status Message and X10 Message Received
8	Press [*]	Stores the data into location 2 segment 2
9	Press [3 #]	Sets the location to 3 segment 1. Confirm that the value is set to [- 2 - 4 5 6 7 8], enabling Interface Configuration Request, Zone Name Request, Zone Status Request, Zones Snapshot Request, Partition Status Request, Partitions Snapshot Request
10	Press [*]	Sets the location to 3 segment 2. Change the value to [1 2 3 4 5 - - -], enabling System Status Request, Send X-10 Message, Log Event Request, Send Keypad Text Message, Keypad Terminal Mode Request

Step	Instructions	Comments
11	Press [*]	Sets the location to 3 segment 3. Change the value to [1 2 3 - 5 - 7 -] , enabling Program Data Request, Program Data Command, User Information Request with PIN, Set User Code Command with PIN, Set User Authorization Command with Pin
12	Press [*]	Sets the location to 3 segment 4. Change the value to [- - - 4 5 - 7 8] , enabling Set Clock/Calender Command, Primary Keypad Function with Pin, Secondary Keypad Function, Zone Bypass Toggle
13	Press[*]	Stores the data into location 3 segment 4
14	Press [4 #]	Sets the location to 4 segment 1. Confirm the value is 192 , setting the LCD Keypad Address to 192
15	Press[*]	Stores the data into location 4
16	Press[Exit]	Exits device setup
17	Press[Exit]	Exits device setup

g! CONFIGURATION DETAILS

The following table provides settings used in the **g!** Configurator when connecting to the NetworX control panel. Please refer to the *Configurator Reference Guide* for more details.

In the table below:

- “<Select>” Select the appropriate item from the list (or drop-down) in the Configurator.
- “<User Defined>”, etc. Type in the desired name for the item.
- “<Auto Detect>”, etc. The system will auto detect this variable.
- “<Defined in Security System>” The security installer must provide the information to you.

Devices	Variable Name	Option 1	Option 2	Option 3																																															
Communication Devices	Name	<User Defined> (Default: Security)	<User Defined> (Default: Security)	<Auto-Detect> (See Note 1)																																															
	Type	Serial Port	Serial Port	(IP to Serial) SerialBrick																																															
	SerialBrick Name	N/A	N/A	<Select from list>																																															
	Communication Type	Standard Connection	Standard Connection	Standard Connection																																															
	Location	<User Defined> (Not Required)	<User Defined> (Not Required)	<User Defined> (Not Required)																																															
	Com Port	<Select>	<Select>	<Select>																																															
Security Panels	Name	<User Defined> (Default: GE NetworX NX-4,6,8,8E)	<User Defined> (Default: GE NetworX NX-4,6,8,8E)	<User Defined> (Default: GE NetworX NX-4,6,8,8E)																																															
	Device Type	GE NetworX NX-4,6,8,8E	GE NetworX NX-4,6,8,8E	GE NetworX NX-4,6,8,8E																																															
	Location	<User Defined> (Not Required)	<User Defined> (Not Required)	<User Defined> (Not Required)																																															
	Comm Device	<Select> (Default: Security)	<Select> (Default: Security)	<Select Auto Detect SerialBrick name above>																																															
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Zones	Name	<User Defined>	<User Defined>	<User Defined>																																															
	Enable Bypass	<Defined in Security System> (See Note 2)	<Defined in Security System> (See Note 2)	<Defined in Security System> (See Note 2)																																															

Notes:

1. The **Communication Devices Name** is set to **Security** by default. After you select the SerialBrick, the name will change to that specified by the SerialBrick.
2. The **Enable Bypass** variable must set to **Yes** in order to enable this feature for a zone. The zone must also be bypassable in the security panel for this feature to function.

COMMON MISTAKES

1. Failing to test the Cat5 cable assembly. It is easy to make a mistake when terminating the Cat5 cable with the RJ-45 connectors. Always use a LAN tester to check for continuity and shorts.
2. Using a Cat5 patch cable without all 8 conductors. Some Ethernet patch cables only have the 4 conductors (1,2,3,6) needed for Ethernet communications. These cables will not work as patch cables for RS-232 communications. Visually inspect the clear plastic connectors to determine if all 8 wires are present.
3. Failing to set the jumpers on the NX-584 correctly. Refer to diagram 1 for the correct settings. Incorrect jumper settings will cause communication problems with the system controller.
4. Failing to remove jumper J7 for NX4,6,8 V2 series panels. With J7 in place the panel will not communicate with the system controller.
5. Using the incorrect ELAN DB-9 to RJ-45 adapter to connect to the security panel hardware. Use the HA-CB-328, which provides the required NULL modem conversion. Use the HA-CB-308 to connect the Cat5 to the **g!** system (Option 1 only).
6. Failing to plug the Cat5 cable assembly into the correct port. Make sure the RJ-45 connector is plugged into the same port (COM1, 2, 3 or 4) that is specified in the Configurator.
7. Failing to plug the Network Assembly serial cables and USB cables into the correct ports on the **g!** system. Check that the COM port printed on the grey ribbon cables (COM1 and COM2) as well as the USB cables (COM3 and COM4) match the port numbers as printed on the **g!** system label.
8. Using PIN Codes that end in zero. Due to the way the GE control protocol functions, zeroes are used as padding and discarded when they appear at the end of a pin. For example, when a pin of 1010 is sent to the GE over RS-232, the GE will interpret this as receiving PIN 101 and reject the code.
9. "Armed in Away" event maps. Due to limitations with the protocol in these panels, when the system is armed in any mode, the panel will first report that it has been armed in Away mode and then proceed to tell the controller that it has been armed in whichever mode the user has chosen. To accurately base an event map on an "Armed Away" state, the event map should start a Run Once system timer for the duration of the Exit Delay. Additional event maps should then cancel the timer if it is detected that the system is armed in modes other than Away. Any actual events should be based on the expiration of the timer.
10. Bypass Issues: For correct bypass operation, the panel and **g!** should both be set to the same bypass option. Discrepancies between the panel's bypass setting and **g!**'s bypass setting can cause unpredictable results.