GE
Security

NetworX™ Series

NX-1701E Proximity Card Reader

Installation manual

imagination at work

These instructions do not purport to cover all details or variations in equipment nor to provide every possible contingency to be met during installation, operation, and maintenance. If further information is desired or if particular problems arise that are not covered sufficiently for the purchaser's purpose, the matter should be referred to GE Security, Gladewater, Texas, USA.

Symbol Legend

 **Warning**	Indicates a procedure, practice, condition, or statement that, if not strictly observed, could result in personal injury. * This symbol indicates electrical warnings and cautions.
 **Caution**	Indicates a procedure, practice, condition, or statement that, if not strictly observed, could result in damage to or destruction of equipment or property. ** This symbol indicates general warnings and cautions.
 **Note**	Indicates an essential or important procedure, instruction, condition, or statement.
 **Tip**	Indicates a user tip. Provides helpful information that is not normally defined in regular use, but from an experienced user.
 **Enter**	Indicates a key or button should be pressed to enter data.

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GENERAL DESCRIPTION

The NetworX NX-1701E is a proximity card reader / door control module used to expand the capabilities of the NetworX control panels.

- Microprocessor-controlled
- Includes one (1) low current trigger output, which can be used to control a door strike relay
- Up to 15 card readers can be connected to the NX-8E and NX-8, 3 card readers can be connected to the NX-6 and 2 card readers can be connected to the NX-4. (Flash panels only)
- Can be programmed to control access in any or all partitions
- LEDs can be programmed to follow the output and/or the armed or ready status of the system
- Has an optional optical tamper switch

INSTALLATION AND WIRING

To install the card reader, simply wire it into the system. Refer to the following wiring table for details.

	DESCRIPTION
GREEN (**DATA**)	Connect to the NetworX control panel **DATA** terminal. This wire is the data-signaling terminal to all the devices on the buss.
BLACK (**COM**)	Connect to the NetworX control panel **COMMON** terminal. Supplies the common side of the power to the card reader module.
RED (**POS**)	Connect to NetworX control panel **AUX POWER +** terminal. Supplies power to the card reader module.
WHITE (**EGRESS**)	This is an optional **EGRESS** (exit) input. To use this feature, connect the normally open egress switch between this terminal and **COM**. If this feature is not used, there is no need to connect this wire.
BLUE (**OUTPUT**)	This is an optional open-collector (negative trigger) **OUTPUT**. It can be used to drive a relay. To use this feature, connect the coil contacts of a relay between this terminal and **AUX POWER +**. Absolute maximum 14 volts @ 25mA. ✍ **This is a low current output and must not be used to directly energize high current door openers.**

ENROLLING

The NetworX control panels have the ability to automatically find and store in memory the presence of all keypads, zone expanders, wireless receivers, output modules, and any other device on the keypad buss. This allows these devices to be supervised by the control panel. To enroll the devices, enter the Program Mode using the procedure outlined in the control panel Installation Manual. When the Program Mode is exited, the NX-8 control will automatically enroll the devices. The enrolling process takes about 12 seconds, during which time the Service LED will illuminate. User codes will not be accepted during the enrolling process. Once a module is enrolled, if it is not detected by the control, the Service LED will illuminate.

ADDRESSING

Once the reader is wired into the system, the module needs to be addressed. Unlike most NetworX expanders, the address of any particular reader is determined by itself after installation is complete. Follow the procedures outlined under the section "PROGRAMMING". When prompted to enter the module device number, a card must be scanned at the reader to initiate addressing (one short beep). When completed (1-2 seconds), the reader will beep back its address (long beeps). Refer to Table 0-1 that follows for possible addresses.

***Scan**: To "present" or pass a card or FOB within sensing range of the card reader module.*

Table 0-1

Beeps	Address	Beeps	Address
1	113	9	121
2	114	10	122
3	115	11	123
4	116	12	124
5	117	13	125
6	118	14	126
7	119	15	127
8	120		

PROGRAMMING

USING THE LED KEYPAD

Only NX-13xx keypad series allow to program user cards.

ACTION	RESULT
Entering the Program Mode	
☞ ✱ ❽	••••••••• Enters the Program Mode. *Stay*, *Chime*, *Exit*, *Bypass* & *Cancel* LEDS will flash.
☞ [Go To Program Code] Factory Default is ❾❼❶❸	••••••••• If the "Go To Program Code" is valid, the "Service" LED will flash and the 5 function LEDs will illuminate steady. You are now in the Program Mode and ready to select the module address.
Entering the Module Address	
Scan a card.	••••••••• The card reader will address itself.
☞ ❶❷❼ #	••••••••• Enters the module address. Refer to Table 0-1 on page 5 for the address assigned by the card reader module itself. The Armed LED will illuminate while it is waiting for a programming location to be entered.
(example only)	

Programming a Location

If an attempt is made to program an invalid entry for a particular segment, the keypad sounder will emit a triple error beep (beep, beep, beep), and remain in that segment awaiting a valid entry.

To Enter a Location:

☞ [location] # ..... The Armed LED will flash. If the location is valid, the "Armed" LED will extinguish, the "Ready" LED will illuminate, and the zone LED's will show the data for the first segment of this location.

To Change Location Data:

☞ [changed data] ..... The "Ready" LED will flash to indicate a data change in process and will continue until the data is saved.

☞ ✱ ..... The new data is saved.
The keypad will increment and display the next segment's data.

NOTE: Repeat these steps until the last segment is reached.

To Exit a Location:

☞ # ..... Exits from this location. The "Ready" LED will extinguish. The "Armed" LED will illuminate waiting for a new programming location to be entered.

To Review The Data:

☞ [location] # ..... The Armed LED will flash. If the location is valid, the "Armed" LED will extinguish, the "Ready" LED will illuminate, and the zone LED's will show the data for the first segment of this location.

☞ ✱ ..... (Do not enter data.)
The next segment is displayed. Each time ✱ is pressed, the data of the next segment will be displayed for review.

Shortcuts:

☞ 	Previous location.
☞ 	Same location.
☞ 	Next sequential location.

Exiting the Program Mode:

☞ EXIT EXIT ..... Exits this programming level.

USING THE LCD KEYPAD

All steps required for programming are the same as the aforementioned LED keypad. The LCD keypad display will prompt you for the data required. While in the programming mode, and not in a location, the number in parenthesis is the location you were previously changing. For example, if the display reads "Enter location, then # (5)", it is reminding you that location 5 was the last location you programmed. In feature selection data, the numbers of the enabled features will be displayed. The features **not** enabled will display a hyphen (-).

PROGRAMMING DATA TYPES

Numerical Data
Numerical data can take on values from 0-255 or 0-15 depending on the segment size.

Feature Selection
Feature selection data is used to turn features on or off.

USER CARDS

Adding and de-activating users is done through a combination of entering information at the keypad and scanning cards. Before a card can be entered, one reader on the system must be programmed with User Card Programming enabled (Location 242, Segment 1, Option 1, page 11).

It is recommended that only **one** reader on the system be enabled to modify user cards and that this reader be located near a keypad. This reader will transfer information to all other readers in the system once programming is finished.

Once a reader is enabled to modify users, it must be placed into one of the following five modes:

1) *Add One User*
2) *Add Multiple Users w/ Auto-Increment*
3) *Activate One User*
4) *De-Activate One User*
5) *Delete/Reset One User.*

Modifying users on a card reader is similar to modifying user codes at a keypad.

MUST BE A MASTER USER IN ORDER TO MODIFY USER CARD INFORMATION.

ACTION		RESULT
☞ ✱ ❺	•••••••••	Accesses Code Programming
☞ [master code] Factory Default is ❶❷❸❹	•••••••••	If the code is valid, the Ready LED will flash. User Number 2 is used to program user cards, so...
☞ ❶ ❷ if the control is an NX-8 ☞ ❶ ❶ ❷ if the control is an NX-8E	•••••••••	Unit is now ready for you to choose one of the User Card Programming modes (as if user code 2): 1) *Add One User* 2) *Add Multiple Users (w/ Auto-Increment)* 3) *Activate Single User* 4) *De-activate One User* 5) *Delete / Reset One User*

IMPORTANT NOTE

Adding or de-activating user cards from a reader will cause the code for User Number 2 to become invalid. Therefore, it will need to be re-entered after all user cards are programmed into the readers.

Adding One User

ACTION		RESULT
☞ [STAY]	•••••••••	Accesses Activation mode
☞ [3-digit user number] Example: ❶ ❷ ❹ if 4-digit user code or ❶ ❷ ❹ if 6-digit user codes	•••••••••	If a valid user number is entered, LED1 on any enabled readers will begin to flash.
Scan the card designated for the user entered in the previous step.	•••••••••	1) If the user card is not already in the system, it will be added and mapped to the entered user number. 2) If the card is already in the system, the reader will triple beep and LED1 will continue flashing; the user number is not incremented in this case.

Adding Multiple Users with Auto-Increment

ACTION		RESULT
☞ [CANCEL] on NX-148E; use [NIGHT] on NX-1248E	•••••••••	Accesses Activation mode
☞ [3-digit user number] Example: ❶ ❷ ❹ if 4-digit user code or ❶ ❷ ❹ if 6-digit user codes	•••••••••	If a valid user number is entered, LED1 on any enabled readers will begin to flash.
Scan the card designated for the user entered in the previous step.	•••••••••	1) If the user card is not already in the system, it will be added and mapped to the entered user number and LED1 will continue flashing indicating that the next user card can be scanned for the next user number. 2) If the card is already in the system, the reader will triple beep and LED1 will continue flashing; the user number is not incremented in this case.
Continue scanning user cards until the desired number of cards has been added.	•••••••••	After about 30 seconds without a card being scanned, all the readers in the system will be updated with the new user card information.

By default, user cards are <u>added</u> <u>and</u> <u>activated</u>. In order to add a user card and de-activate it at the same time, scan and hold the card to be added until two beeps are sounded at the reader.

Activate One User (Single User)

ACTION		RESULT
☞ [CHIME] (not available on NX-1248E)	.....	Accesses Activation mode
☞ [3-digit user number]	.....	If a valid user number is entered, LED1 on any enabled readers will begin to flash.
Example: ❶ ❷ ❹ if 4-digit user code or ⓿ ⓿ ❶ ❷ ❹ if 6-digit user codes		
Scan any card.	.....	The card information for the user entered in the previous step will be activated, and LED1 will stop flashing. After about 30 seconds, all the readers in the system will be updated.

De-Activate One User

ACTION		RESULT
☞ [BYPASS]	.....	Accesses De-activation mode
☞ [3-digit user number]	.....	If a valid user number is entered, LED1 on any enabled readers will begin to flash.
Example: ❶ ❷ ❹ if 4-digit user code or ⓿ ⓿ ❶ ❷ ❹ if 6-digit user codes		
Scan any card	.....	The card information for the user entered in the previous step will be cleared, and LED1 will stop flashing. After about 30 seconds, all the readers in the system will be updated.

If an individual keeps the card, it can still be deleted.

Delete / Reset One User

ACTION		RESULT
☞ [EXIT]	.....	Accesses De-activation mode
☞ [3-digit user number]	.....	If a valid user number is entered, LED1 on any enabled readers will begin to flash.
Example: ❶ ❷ ❹ if 4-digit user code or ⓿ ⓿ ❶ ❷ ❹ if 6-digit user codes		
Scan any card	.....	The card information for the user entered in the previous step will be cleared, and LED1 will stop flashing. After about 30 seconds, all the readers in the system will be updated.

ACTIVATING / DE-ACTIVATING / RESETTING USERS

If User Number 0 is entered, the desired function will be performed on the user associated with the card scanned.

PROGRAMMING LOCATIONS

SCAN METHODS: Legacy mode is default. Alternative mode is shown below in brackets { }.
Refer to Location 242 Segment 1 on page 11, and the Glossary on page 23 for explanation.

Location 0 Programming the Scan Functions

(3 segments of binary data) Location 0 is used to select the particular function(s) that are activated when a card is scanned. More than one function may be selected. If more than one function is selected, they will execute in order from function 1 to function 8.

- Functions 1-6 will be performed based on the user's authority as programmed by the [✱] [**6**] function (refer to keypad user manual).

Segment 1 Single Scan Function {Single Beep}

Program the functions that are performed when a card is scanned {one beep}.

LED1 - "On" to send Code Entry function to the control panel.
LED2 - "On" to activate the Armed Away mode.
LED3 - "On" to activate the Armed Stay mode.
LED4 - "On" to send the Disarm function to the control panel.
LED5 - "On" to send Auxiliary Function #1 to the control panel.
LED6 - "On" to send Auxiliary Function #2 to the control panel.
LED7 - "On" to broadcast an X-10 function (see Location 241 for programming).
LED8 - ***"On" to send a Request To Exit (RTE); and activate the onboard open collector output. (Default is "On")*** Location 243, Segment 2 must be programmed with a valid zone number for the RTE to be sent.

Segment 2 Double Scan Function {Double Beep}

Program the functions that are performed when a card is scanned twice within the 2 Scan Hold Time {two beeps}. Location 244, Segment 1 programs the length of time between beeps. The descriptions of the options are the same as for Single Beep Scan Function. Default is **1.**

Segment 3 Single Scan Hold Function {Triple Beep}

Program the functions that are performed when a card is scanned and held at the reader for the duration of the 2 Scan Hold Time {three beeps}. Location 244, Segment 1 programs the length of time between beeps. The descriptions of the options are the same as for Single Beep Scan Function. Default is **1.**

Locations 1 - 240 Reserved

Location 241 Programming the X-10 Address for the Scan Functions

(5 segments of numerical data)

Segment 1

Program a number from 0 -15 to represent the corresponding X-10 ***Module Number*** from the following table. Default is **0**.

Module	***1***	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Seg 1	***0***	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

Segment 2
Program a number from 0-15 to represent the corresponding X-10 ***House code*** from the following table. Default is **0**.

X-10 ADDRESS CODES			
0=A	4=E	8=I	12=M
1=B	5=F	9=J	13=N
2=C	6=G	10=K	14=O
3=D	7=H	11=L	15=P

Segment 3 Single Scan Function {Single Beep}

Program the X-10 function that is performed when a card is scanned {one beep}. This location only needs to be programmed if Location 0, Segment 1, Option 7 is set. Use the following table. Default is **2**.

Function #	Function performed	Function #	Function performed
0	All units off	4	Dim
1	All lights on	5	Bright
2	***On***	6	All lights off
3	Off	All others	Reserved

Segment 4 Double Scan Function {Double Beep}

Program the X-10 function that is performed when a card is scanned twice within the 2 Scan Hold Time {two beeps}. Location 244, Segment 1 programs the length of time between beeps. The descriptions of the function codes are the same as for Single Beep Scan Function. This location only needs to be programmed if Location 0, Segment 2, Option 7 is set. Use the above table. Default is **3**.

Segment 5 Single Scan Hold Function {Triple Beep}

Program the X-10 function that is performed when a card is scanned and held at the reader for the duration of the 2 Scan Hold Time {three beeps}. Location 244, Segment 1 programs the length of time between beeps. The descriptions of the function codes are the same as for Single Beep Scan Function. This location only needs to be programmed if Location 0, Segment 3, Option 7 is set. Use the above table. Default is **2.**

Location 242 Programming the Options and Reader Partition

(4 segments of binary data)

Segment 1 System Options:

LED1 - "On" if reader is enabled for User Card Programming.
LED2 - "On" if optical tamper is enabled.
LED3 - ***"On" if reader buzzer is to follow typical keypad buzzing. (Default is "On")***
LED4 - "On" if ding-dong chime enabled (dependent on both Option 3 and chime being enabled).
LED5 - ***"On" if an RTE from a scanned card is to be logged as Code Entry. (Default is "On")***
LED6 - ***"On" if reader is in NX-1701E Legacy Mode (Default is "On")*** Refer to note below.
LED7 - "On" if an RTE from a zone or the Egress input is to be logged as Code Entry.
LED8 - "On" if LEDs to extinguish after 2 minutes without a scan (Note: This option doesn't disable the flashing green LED during card programming.)

The card reader is defaulted to the "Legacy mode". This mode uses the same scan method as previous NX-1701E card readers. However, an ***alternative scan method*** is available by turning **off LED6** in Location 242, Segment 1. Rather than passing the card (scan) within range of the card reader, the card can be held at the reader for a specified number of beeps.
Example of Double Scan: Legacy mode -- Pass the card by the reader's sensor, remove it from the sensor area, then pass the card by the reader's sensor once again. Alternative mode -- Hold the card at the card reader for a total of 2 beeps. Refer also to the Glossary on page 23.

IMPORTANT: If you have older models installed in the system without this enhanced feature, it could result in two different methods of scanning at various readers.

Segment 2 LED1 (Green) Options:

LED1 - ***"On" to follow Ready status of system. (Default is "On")***
LED2 - ***"On" to toggle with the open collector output activation. (Default is "On")***
LED3 - "On" if inverted.
LED4 - Reserved.
LED5 - Reserved.
LED6 - Reserved.
LED7 - Reserved.
LED8 - Reserved.

Segment 3 LED2 (Red) Options:

LED1 - ***"On" to follow Armed status of system. (Default is "On")***
LED2 - "On" to toggle with the open collector output activation.
LED3 - "On" if inverted.
LED4 - Reserved.
LED5 - Reserved.
LED6 - Reserved.
LED7 - Reserved.
LED8 - Reserved.

Segment 4 Reader Partition:

LED1 - ***"On" if reader is in Partition 1. (Default is "On")***
LED2 - ***"On" if reader is in Partition 2. (Default is "On")***
LED3 - ***"On" if reader is in Partition 3. (Default is "On")***
LED4 - ***"On" if reader is in Partition 4. (Default is "On")***
LED5 - ***"On" if reader is in Partition 5. (Default is "On")***
LED6 - ***"On" if reader is in Partition 6. (Default is "On")***
LED7 - ***"On" if reader is in Partition 7. (Default is "On")***
LED8 - ***"On" if reader is in Partition 8. (Default is "On")***

Location 243 Programming the Zones

(2 segments of numerical data)

Segment 1 Door Shunt Zone

Program the zone that will be monitored as a door for access control. This location must be programmed with a valid zone for monitored access control functions to work properly. (Default is **0**)

✍ Additionally, this zone must be configured in the control panel as an "access control" zone by programming an unused Zone Type Characteristic in locations 111-169 (Seg 4, Opt 4).

Segment 2 Request To Exit (RTE) Zone

Program the zone that will be monitored to signal an RTE. If this segment is programmed with a valid zone and the zone is faulted, the reader will activate its onboard open collector output and send the RTE. (Default is **0**)

✍ Additionally, this zone must be configured in the control panel as an RTE zone by programming an unused Zone Type Characteristic in locations 111-169 (Seg 4, Opt 3).

Location 244 Programming the Various Reader Timers

(4 segment of numerical data)

Segment 1 Scan Time

Enter the amount of time required to hold a card between beeps to activate the functions programmed in Location 0, Segments 2 and 3. This timer is timed in 1/100-second increments from 0 to 2.55 seconds. (Default is **100** = 1 second).

Segment 2 Relay Active Time

Enter the amount of time the onboard open collector output is energized once activated. This timer is timed in 1-second increments from 0 to 255 seconds. (Default is **10** = 10 seconds).

Segment 3 Door Fault Warning Time

Enter the amount of time a monitored zone (see Location 243, Segment 1) must be faulted before sounding a warning (local buzzer). The door fault warning is timed in 1-second increments from 0 to 255 seconds. (Default is **30** = 30 seconds).

Segment 4 Door Fault Alarm Time

Enter the amount of time a monitored zone (see Location 243, Segment 1) must be faulted before sending an alarm condition to the control panel. The door fault alarm is timed in 1-second increments from 0 to 255 seconds. (Default is **0** = 0 seconds).

Location 245 Resetting the Reader Address

(1 segment of numerical data) If it is necessary to reset the address of the reader, enter a 0 in this location.

This will cause the reader to cease functioning. If a card is scanned with the system in Program Mode, the reader will again find an available address and set itself, beeping back to the user the address that was found as per the table on page 5. If the system is not in Program Mode and a card is scanned at a reader with a reset address, then it will sound an error beep.

Location 246 Programming the Access Options

(2 segments of binary data)

Segment 1 Door Options

- LED1 - "On" if locking mechanism is a Maglock or Drop Bolt.
- LED2 - "On" if access is allowed regardless of Armed status of the system.
- LED3 - "On" if the door is not to be latched unlocked during an open schedule.
- LED4 - "On" if onboard open collector output only triggers during an open schedule.
- LED5 - "On" if onboard open collector output only triggers during a close schedule.
- LED6 - "On" if Forced Entry Alarm is logged.
- LED7 - ***"On" if access allowed without an RTE.***
- LED8 - "On" if relay operates normally during off-schedule (outside of regular operating hours)

Segment 2 Enabling the Schedules for the Onboard Open Collector Output:

- LED1 - ***"On" if driver follows Schedule 1.***
- LED2 - ***"On" if driver follows Schedule 2.***
- LED3 - ***"On" if driver follows Schedule 3.***
- LED4 - ***"On" if driver follows Schedule 4.***
- LED5 - ***"On" if driver follows Schedule 5.***
- LED6 - ***"On" if driver follows Schedule 6.***
- LED7 - ***"On" if driver follows Schedule 7.***
- LED8 - ***"On" if driver follows Schedule 8.***

Segment 3 More Door Options:

LED1 - "On" if egress input is to be disabled.
LED2 - Reserved
LED3 - Reserved
LED4 - Reserved
LED5 - Reserved
LED6 - Reserved
LED7 - Reserved
LED8 - Reserved

Location 247 Programming the Opening Time for Schedule 1

(2 segments of numerical data)

Segment 1 Program the hour of the opening time in 24-hour format. (Default is **8** = 8:00 AM)
Segment 2 Program the minutes after the hour of the opening time for Schedule 1. (Default is **0**)

Location 248 Programming the Closing Time for Schedule 1

(2 segments of numerical data)
Segment 1 Program the hour of the closing time in 24-hour format. (Default is **20** = 8:00 PM)
Segment 2 Program the minutes after the hour of the closing time for Schedule 1. (Default is **0**)

Location 249 Programming the Days for Schedule 1

(1 segment of binary data)

LED1 = "On" if schedule is active on Sunday.
LED2 = ***"On" if schedule is active on Monday.***
LED3 = ***"On" if schedule is active on Tuesday.***
LED4 = ***"On" if schedule is active on Wednesday.***
LED5 = ***"On" if schedule is active on Thursday.***
LED6 = ***"On" if schedule is active on Friday.***
LED7 = "On" if schedule is active on Saturday.
LED8 = "On" if schedule is disabled on holidays.

Locations 250 - 270 Programming the Schedules 2 - 8

Locations 250 - 270 are used to program the opening times, closing times, and days for Schedules 2 - 8. Each schedule has three locations that are programmed with the same steps as Schedule 1 described previously. Refer to Schedule 1 (Locations 247 - 249 above) for specific instructions.

Location 250 – Opening Time for Schedule 2
Location 251 – Closing Time for Schedule 2
Location 252 – Days for Schedule 2
Location 253 – Opening Time for Schedule 3
Location 254 – Closing Time for Schedule 3
Location 255 – Days for Schedule 3
Location 256 – Opening Time for Schedule 4
Location 257 – Closing Time for Schedule 4
Location 258 – Days for Schedule 4
Location 259 – Opening Time for Schedule 5
Location 260 – Closing Time for Schedule 5
Location 261 – Days for Schedule 5
Location 262 – Opening Time for Schedule 6
Location 263 – Closing Time for Schedule 6
Location 264 – Days for Schedule 6
Location 265 – Opening Time for Schedule 7
Location 266 – Closing Time for Schedule 7
Location 267 – Days for Schedule 7
Location 268 – Opening Time for Schedule 8
Location 269 – Closing Time for Schedule 8
Location 270 – Days for Schedule 8

Location 271 Programming the Date of Holidays in January

(8 segments of numerical data) Program the day of the month in January that the Opening time in a schedule is suppressed. For example, if the opening should not occur on January 1, program a "1" in Segment 1. This feature can be repeated up to a maximum of 8 holidays per location (month). (Default is **No holidays**)

Locations 272 – 282 Programming the Date of Holidays from February to December

(8 segments of numerical data) Locations 272 - 282 are used to program the day of each month, from February to December, in which the Opening time in a schedule is suppressed. Each location will accommodate up to a maximum of 8 holidays, and programmed with the same steps as Location 271 described previously.

Location 272 – February holidays
Location 273 – March holidays
Location 274 – April holidays
Location 275 – May holidays
Location 276 – June holidays
Location 277 – July holidays
Location 278 – August holidays
Location 279 – September holidays
Location 280 – October holidays
Location 281 – November holidays
Location 282 – December holidays

Location 283 Programming Activation Data for User Cards 1 through 120

(15 segments of binary data)

This location is used to select which user cards 1 through 120 are activated. If the LED is "on", the card is active. Each segment has 8 LEDs corresponding to the 8 possible user cards. Example: Segment 4, LED 2 indicates that user card 26 is active.

Segment 1	User Cards 1 - 8	**Segment 9**	User Cards 65 - 72
Segment 2	User Cards 9 - 16	**Segment 10**	User Cards 73 - 80
Segment 3	User Cards 17 - 24	**Segment 11**	User Cards 81 - 88
Segment 4	User Cards 25 - 32	**Segment 12**	User Cards 89 - 96
Segment 5	User Cards 33 - 40	**Segment 13**	User Cards 97 - 104
Segment 6	User Cards 41 - 48	**Segment 14**	User Cards 105 - 112
Segment 7	User Cards 49 - 56	**Segment 15**	User Cards 113 - 120
Segment 8	User Cards 57 - 64		

LED1 = Card 1
LED2 = Card 2
LED3 = Card 3
LED4 = Card 4
LED5 = Card 5
LED6 = Card 6
LED7 = Card 7
LED8 = Card 8

Location 284 Programming Activation Data for User Cards 121 through 240

(15 segments of binary data)

This location is used to select which user cards 121 through 240 are activated. If the LED is "on", the card is active. Each segment has 8 LEDs corresponding to the 8 possible user cards. Example: Segment 15, LED 8 indicates that user card 240 is active.

Segment 1	User Cards 121 - 128	**Segment 9**	User Cards 185 - 192
Segment 2	User Cards 129 - 136	**Segment 10**	User Cards 193 - 200
Segment 3	User Cards 137 - 144	**Segment 11**	User Cards 201 - 208
Segment 4	User Cards 145 - 152	**Segment 12**	User Cards 209 - 216
Segment 5	User Cards 153 - 160	**Segment 13**	User Cards 217 - 224
Segment 6	User Cards 161 - 168	**Segment 14**	User Cards 225 - 232
Segment 7	User Cards 169 – 176	**Segment 15**	User Cards 233 - 240
Segment 8	User Cards 177 - 184		

LED1 = Card 1
LED2 = Card 2
LED3 = Card 3
LED4 = Card 4
LED5 = Card 5
LED6 = Card 6
LED7 = Card 7
LED8 = Card 8

Location 285 Code Entry Logging Partition

(1 segment of numerical data)

This location programs the partition that is logged with the Code Entry message and sent when the following conditions are met:

- An RTE scan function is selected (Location 0, Segment 1/2/3, Option 8); and
- "RTE from a scanned card is to be logged as Code Entry" is enabled (Location 242, Segment 1, Option 5).

Entering a 0 (zero) will send the lowest valid partition of the reader. Entering 1-16 will send the entered value as the partition. (Default is **0**.)

PROGRAMMING WORKSHEETS

LOC	PG	DESCRIPTION	DEFAULT	YOUR DATA
0	10	SCAN FUNCTIONS		
		Seg 1 SINGLE SCAN FUNCTION (1 Beep)	***8***	
		1 = "On" to send Code Entry function to the control panel. 2 = "On" to activate the Armed Away mode. 3 = "On" to activate the Armed Stay mode. 4 = "On" to send the Disarm function to the control panel. 5 = "On" to send Auxiliary Function #1 to the control panel. 6 = "On" to send Auxiliary Function #2 to the control panel. 7 = "On" to broadcast an X-10 function (Loc 241 for programming). 8 = ***"On" to send an RTE; and activate the onboard open collector output.***		
		Seg 2 DOUBLE SCAN FUNCTION (2 Beep)	***1***	
		1 = ***"On" to send Code Entry function to the control panel.*** 2 = "On" to activate the Armed Away mode. 3 = "On" to activate the Armed Stay mode. 4 = "On" to send the Disarm function to the control panel. 5 = "On" to send Auxiliary Function #1 to the control panel. 6 = "On" to send Auxiliary Function #2 to the control panel. 7 = "On" to broadcast an X-10 function (Loc 241 for programming). 8 = "On" to send an RTE; and activate the onboard open collector output.		
		Seg 3 SINGLE SCAN HOLD FUNCTION(3beep)	***1***	
		1 = ***"On" to send Code Entry function to the control panel.*** 2 = "On" to activate the Armed Away mode. 3 = "On" to activate the Armed Stay mode. 4 = "On" to send the Disarm function to the control panel. 5 = "On" to send Auxiliary Function #1 to the control panel. 6 = "On" to send Auxiliary Function #2 to the control panel. 7 = "On" to broadcast an X-10 function (Loc 241 for programming). 8 = "On" to send an RTE; and activate the onboard open collector output.		
1-240	10	RESERVED		
241	10	X-10 ADDRESS		
		Seg 1 MODULE NUMBER	***0***	
		Seg 2 HOUSE CODE (see chart)	***0***	

X-10 ADDRESS CODES			
0=A	4=E	8=I	12=M
1=B	5=F	9=J	13=N
2=C	6=G	10=K	14=O
3=D	7=H	11=L	15=P

	Seg 3 SINGLE SCAN FUNCTION (1Beep)	***2***	
	0 = All units off 1 = All lights on 2 = ***On*** 3 = Off 4 = Dim 5 = Bright 6 = All lights off		

LOC	PG	DESCRIPTION	DEFAULT	YOUR DATA
241	10	Seg 4 DOUBLE SCAN FUNCTION (2 Beep) 0 = All units off 1 = All lights on 2 = On 3 = ***Off*** 4 = Dim 5 = Bright 6 = All lights off	***3***	
		Seg 5 SINGLE SCAN HOLD FUNCTION (3 Beep) 0 = All units off 1 = All lights on 2 = ***On*** 3 = Off 4 = Dim 5 = Bright 6 = All lights off	***2***	
242	11	OPTIONS AND READER PARTITION		
		Seg 1 SYSTEM OPTIONS 1 = "On" if enabled for User Card Programming 2 = "On" if optical tamper enabled 3 = ***"On" if buzzer follows keypad buzzing*** 4 = "On" if ding-dong chime enabled (Opt 3 & chime must be enabled) 5 = ***"On" if an RTE from a scanned card is to be logged as Code Entry*** 6 = ***"On" if reader is in NX-1701E Legacy Mode*** 7 = "On" if an RTE from a zone or the Egress input is to be logged as Code Entry. 8 = "On" if LEDs to extinguish after 2 minutes without a scan	***3, 5, 6***	
		Seg 2 LED1 (GREEN) OPTIONS 1 = ***"On" follows system Ready status*** 2 = ***"On" to toggle with the Open Collector output*** 3 = "On" if inverted 4 = Reserved 5 = Reserved 6 = Reserved 7 = Reserved 8 = Reserved	***1,2***	
		Seg 3 LED2 (RED) OPTIONS 1 = ***"On" follows system Armed status*** 2 = "On" to toggle with the Open Collector output 3 = "On" if inverted 4 = Reserved 5 = Reserved 6 = Reserved 7 = Reserved Reserved	***1***	
		Seg 4 READER PARTITION 1 = ***"On" if reader is in Partition 1*** 2 = ***"On" if reader is in Partition 2*** 3 = ***"On" if reader is in Partition 3*** 4 = ***"On" if reader is in Partition 4*** 5 = ***"On" if reader is in Partition 5*** 6 = ***"On" if reader is in Partition 6*** 7 = ***"On" if reader is in Partition 7*** 8 = ***"On" if reader is in Partition 8***	***1,2,3,4,5,6,7,8***	

LOC	PG	DESCRIPTION	DEFAULT	YOUR DATA
243	12	PROGRAMMING THE ZONES		
		Seg 1 Door Shunt Zone	***0 = Disabled***	
		Seg 2 Request to Exit (RTE)	***0 = Disabled***	
244	13	READER TIMES		
		Seg 1 Scan Time (1/100 seconds)	***100 = 1 second***	
		Seg 2 Relay Active Time (seconds)	***10 = 10 seconds***	
		Seg 3 Door Fault Warning Time (seconds)	***30 = 30 seconds***	
		Seg 4 Door Fault Alarm Time (seconds)	***0 = 0 seconds***	
245	13	RESET THE READER ADDRESS ⚠ Entering a "0" will reset and cause the reader to cease functioning.		
246	13	PROGRAMMING THE ACCESS OPTIONS Seg 1 DOOR OPTIONS 1 = "On" if locking mechanism is a Maglock or Drop Bolt. 2 = "On" if access is allowed regardless of Armed status of the system. 3 = "On" if the door is not to be latched unlocked during an open schedule. 4 = "On" if onboard open collector output only triggers during an open schedule. 5 = "On" if onboard open collector output only triggers during a close schedule. 6 = "On" if Forced Entry Alarm is logged. 7 = ***"On" if access allowed without an RTE.*** 8 = "On" if relay operates normally during off-schedule Seg 2 SCHEDULES FOR ONBOARD OPEN COLLECTOR OUTPUT 1 = ***"On" if driver follows Schedule 1.*** 2 = ***"On" if driver follows Schedule 2.*** 3 = ***"On" if driver follows Schedule 3.*** 4 = ***"On" if driver follows Schedule 4.*** 5 = ***"On" if driver follows Schedule 5.*** 6 = ***"On" if driver follows Schedule 6.*** 7 = ***"On" if driver follows Schedule 7.*** 8 = ***"On" if driver follows Schedule 8.*** Seg 3 MORE DOOR OPTIONS 1 = "On" if egress input is to be disabled 2 = Reserved 3 = Reserved 4 = Reserved 5 = Reserved 6 = Reserved 7 = Reserved 8 = Reserved		
247	14	OPENING TIME FOR SCHEDULE 1		
		Seg 1 Hour of Opening Time (24-hr format)	***8 = 8 AM***	
		Seg 2 Minutes after Hour of Opening	***0***	
248	14	CLOSING TIME FOR SCHEDULE 1		
		Seg 1 Hour of Closing Time (24-hr format)	***20 = 8 PM***	
		Seg 2 Minutes after Hour of Closing	***0***	

LOC	PG	DESCRIPTION	DEFAULT	YOUR DATA
249	14	DAYS FOR SCHEDULE 1 1 = "On" if schedule is active on Sunday. 2 = **"On" if schedule is active on Monday.** 3 = **"On" if schedule is active on Tuesday.** 4 = **"On" if schedule is active on Wednesday.** 5 = **"On" if schedule is active on Thursday.** 6 = **"On" if schedule is active on Friday.** 7 = "On" if schedule is active on Saturday. 8 = "On" if schedule is disabled on holidays.		
250	14	OPENING TIME FOR SCHEDULE 2 Seg 1 Hour of Opening Time (24-hr format) Seg 2 Minutes after Hour of Opening	***8 = 8 AM*** ***0***	
251	14	CLOSING TIME FOR SCHEDULE 2 Seg 1 Hour of Closing Time (24-hr format) Seg 2 Minutes after Hour of Closing	***20 = 8 PM*** ***0***	
252	14	DAYS FOR SCHEDULE 2 1 = "On" if schedule is active on Sunday. 2 = **"On" if schedule is active on Monday.** 3 = **"On" if schedule is active on Tuesday.** 4 = **"On" if schedule is active on Wednesday.** 5 = **"On" if schedule is active on Thursday.** 6 = **"On" if schedule is active on Friday.** 7 = "On" if schedule is active on Saturday. 8 = "On" if schedule is disabled on holidays.		
253	14	OPENING TIME FOR SCHEDULE 3 Seg 1 Hour of Opening Time (24-hr format) Seg 2 Minutes after Hour of Opening	***8 = 8 AM*** ***0***	
254	14	CLOSING TIME FOR SCHEDULE 3 Seg 1 Hour of Closing Time (24-hr format) Seg 2 Minutes after Hour of Closing	***20 = 8 PM*** ***0***	
255	14	DAYS FOR SCHEDULE 3 1 = "On" if schedule is active on Sunday. 2 = **"On" if schedule is active on Monday.** 3 = **"On" if schedule is active on Tuesday.** 4 = **"On" if schedule is active on Wednesday.** 5 = **"On" if schedule is active on Thursday.** 6 = **"On" if schedule is active on Friday.** 7 = "On" if schedule is active on Saturday. 8 = "On" if schedule is disabled on holidays.		
256	14	OPENING TIME FOR SCHEDULE 4 Seg 1 Hour of Opening Time (24-hr format) Seg 2 Minutes after Hour of Opening	***8 = 8 AM*** ***0***	
257	14	CLOSING TIME FOR SCHEDULE 4 Seg 1 Hour of Closing Time (24-hr format) Seg 2 Minutes after Hour of Closing	***20 = 8 PM*** ***0***	

LOC	PG	DESCRIPTION	DEFAULT	YOUR DATA
258	14	DAYS FOR SCHEDULE 4 1 = "On" if schedule is active on Sunday. 2 = **"On" if schedule is active on Monday.** 3 = **"On" if schedule is active on Tuesday.** 4 = **"On" if schedule is active on Wednesday.** 5 = **"On" if schedule is active on Thursday.** 6 = **"On" if schedule is active on Friday.** 7 = "On" if schedule is active on Saturday. 8 = "On" if schedule is disabled on holidays.		
259	14	OPENING TIME FOR SCHEDULE 5		
		Seg 1 Hour of Opening Time (24-hr format)	***8 = 8 AM***	
		Seg 2 Minutes after Hour of Opening	***0***	
260	14	CLOSING TIME FOR SCHEDULE 5		
		Seg 1 Hour of Closing Time (24-hr format)	***20 = 8 PM***	
		Seg 2 Minutes after Hour of Closing	***0***	
261	14	DAYS FOR SCHEDULE 5 1 = "On" if schedule is active on Sunday. 2 = **"On" if schedule is active on Monday.** 3 = **"On" if schedule is active on Tuesday.** 4 = **"On" if schedule is active on Wednesday.** 5 = **"On" if schedule is active on Thursday.** 6 = **"On" if schedule is active on Friday.** 7 = "On" if schedule is active on Saturday. 8 = "On" if schedule is disabled on holidays.		
262	14	OPENING TIME FOR SCHEDULE 6		
		Seg 1 Hour of Opening Time (24-hr format)	***8 = 8 AM***	
		Seg 2 Minutes after Hour of Opening	***0***	
263	14	CLOSING TIME FOR SCHEDULE 6		
		Seg 1 Hour of Closing Time (24-hr format)	***20 = 8 PM***	
		Seg 2 Minutes after Hour of Closing	***0***	
264	14	DAYS FOR SCHEDULE 6 1 = "On" if schedule is active on Sunday. 2 = **"On" if schedule is active on Monday.** 3 = **"On" if schedule is active on Tuesday.** 4 = **"On" if schedule is active on Wednesday.** 5 = **"On" if schedule is active on Thursday.** 6 = **"On" if schedule is active on Friday.** 7 = "On" if schedule is active on Saturday. 8 = "On" if schedule is disabled on holidays.		
265	14	OPENING TIME FOR SCHEDULE 7		
		Seg 1 Hour of Opening Time (24-hr format)	***8 = 8 AM***	
		Seg 2 Minutes after Hour of Opening	***0***	
266	14	CLOSING TIME FOR SCHEDULE 7		
		Seg 1 Hour of Closing Time (24-hr format)	***20 = 8 PM***	
		Seg 2 Minutes after Hour of Closing	***0***	

LOC	PG	DESCRIPTION	DEFAULT	YOUR DATA
267	14	DAYS FOR SCHEDULE 7 1 = "On" if schedule is active on Sunday. 2 = **"On" if schedule is active on Monday.** 3 = **"On" if schedule is active on Tuesday.** 4 = **"On" if schedule is active on Wednesday.** 5 = **"On" if schedule is active on Thursday.** 6 = **"On" if schedule is active on Friday.** 7 = "On" if schedule is active on Saturday. 8 = "On" if schedule is disabled on holidays.		
268	14	OPENING TIME FOR SCHEDULE 8 Seg 1 Hour of Opening Time (24-hr format) Seg 2 Minutes after Hour of Opening	***8 = 8 AM*** ***0***	
269	14	CLOSING TIME FOR SCHEDULE 8 Seg 1 Hour of Closing Time (24-hr format) Seg 2 Minutes after Hour of Closing	***20 = 8 PM*** ***0***	
270	14	DAYS FOR SCHEDULE 8 1 = "On" if schedule is active on Sunday. 2 = **"On" if schedule is active on Monday.** 3 = **"On" if schedule is active on Tuesday.** 4 = **"On" if schedule is active on Wednesday.** 5 = **"On" if schedule is active on Thursday.** 6 = **"On" if schedule is active on Friday.** 7 = "On" if schedule is active on Saturday. 8 = "On" if schedule is disabled on holidays.		
271	15	HOLIDAYS IN JANUARY (8 max)	***No holidays***	_ _ _ _ _ _ _ _
272	15	HOLIDAYS IN FEBRUARY (8 max)	***No holidays***	_ _ _ _ _ _ _ _
273	15	HOLIDAYS IN MARCH (8 max)	***No holidays***	_ _ _ _ _ _ _ _
274	15	HOLIDAYS IN APRIL (8 max)	***No holidays***	_ _ _ _ _ _ _ _
275	15	HOLIDAYS IN MAY (8 max)	***No holidays***	_ _ _ _ _ _ _ _
276	15	HOLIDAYS IN JUNE (8 max)	***No holidays***	_ _ _ _ _ _ _ _
277	15	HOLIDAYS IN JULY (8 max)	***No holidays***	_ _ _ _ _ _ _ _
278	15	HOLIDAYS IN AUGUST (8 max)	***No holidays***	_ _ _ _ _ _ _ _
279	15	HOLIDAYS IN SEPTEMBER (8 max)	***No holidays***	_ _ _ _ _ _ _ _
280	15	HOLIDAYS IN OCTOBER (8 max)	***No holidays***	_ _ _ _ _ _ _ _
281	15	HOLIDAYS IN NOVEMBER (8 max)	***No holidays***	_ _ _ _ _ _ _ _
282	15	HOLIDAYS IN DECEMBER (8 max)	***No holidays***	_ _ _ _ _ _ _ _
283	15	ACTIVATION DATA FOR USER CARDS 1 - 120 1 = User Cards 1 – 8 2 = User Cards 9 – 16 3 = User Cards 17 – 24 4 = User Cards 25 – 32 5 = User Cards 33 – 40 6 = User Cards 41 – 48 7 = User Cards 49 – 56 8 = User Cards 57 – 64 9 = User Cards 65 – 72 10 = User Cards 73 – 80 11 = User Cards 81 – 88 12 = User Cards 89 – 96 13 = User Cards 97 – 104 14 = User Cards 105 – 112 15 = User Cards 113 – 120	LED1 = Card 1 LED2 = Card 2 LED3 = Card 3 LED4 = Card 4 LED5 = Card 5 LED6 = Card 6 LED7 = Card 7 LED8 = Card 8	

LOC	PG	DESCRIPTION	DEFAULT	YOUR DATA
284	15	ACTIVATION DATA FOR USER CARDS 121 - 240		
		1 = User Cards 121 – 128 2 = User Cards 129 – 136 3 = User Cards 137 – 144 4 = User Cards 145 – 152 5 = User Cards 153 – 160 6 = User Cards 161 – 168 7 = User Cards 169 – 176 8 = User Cards 177 – 184 9 = User Cards 185 – 192 10 = User Cards 193 – 200 11 = User Cards 201 – 208 12 = User Cards 209 – 216 13 = User Cards 217 – 224 14 = User Cards 225 – 232 15 = User Cards 233 – 240	LED1 = Card 1 LED2 = Card 2 LED3 = Card 3 LED4 = Card 4 LED5 = Card 5 LED6 = Card 6 LED7 = Card 7 LED8 = Card 8	
285	15	CODE ENTRY LOGGING PARTITION	***0***	

GLOSSARY

TERM	DESCRIPTION
Alternative Mode.....	Alternative mode is an optional scan method, as opposed to the default Legacy mode (see below). The card is to be continuously held at the reader for a specified number of beeps. Example: Hold the card at the card reader's sensor for a total of 2 beeps. This is a "double beep" in the alternative mode". This method becomes available when Location 272, Segment 1, Option 6 is disabled.
Double Beep.....	An audible indicator (beep, beep).
Double Beep Scan.....	When a user card is scanned and held at the reader for 2 beeps, the reader will perform the functions as programmed in Location 241, Segment 4.
Legacy Mode.....	Legacy mode is used to describe the default operation of the card reader's scanning method. This mode uses the same scan methods as prior versions of the card reader modules. Example: Pass a user card by the reader's sensor, remove it from the field, then pass the card by the reader's sensor once again during the time programmed in Location 244, Segment 1. This is a "double scan" in the legacy mode.
Request To Exit (RTE).....	A zone can be programmed to monitor an open door. The RTE activates the onboard open collector output and sends a message on the buss.
Scan.....	To "present" or pass a card or FOB within sensing range of the card reader module.
Single Beep.....	An audible indicator (beep).
Single Beep Scan.....	When a user card is scanned and held at the reader for 1 beep, the reader will perform the functions as programmed in Location 241, Segment 3.
Triple Beep.....	An audible indicator (beep, beep, beep).
Triple Beep Scan.....	When a user card is scanned and held at the reader for 3 beeps, the reader will perform the functions as programmed in Location 241, Segment 5.

SPECIFICATIONS

DIMENSIONS	Approx. 38mm W x 114mm L x 25mm D with 150mm cable
OPERATING POWER	12 VDC, Supplied by panel or NX-320E
CURRENT DRAW	40mA Standby with Green LED 110mA Maximum
OPERATING TEMPERATURE	-31 to +151 degrees F -35 to +66 degrees C

DECLARATION OF CONFORMITY

GE Interlogix

SECURITY LIFESAFETY COMMUNICATIONS

CE

MANUFACTURERS DECLARATION OF CONFORMITY

For

Product identification:

Model/type	: NX-1701E	BOM revision level	: 11 June 2003, 5157D
Category (description)	: Smart card reader		
Brand	: GE-InterlogiX/Caddx		

Manufacturer:
GE Interlogix PTY, LTD.
646 Whitehorse Road
Mitcham 3132
Australia

EU Representative:
GE Interlogix B.V.
Kelvinstraat 7
6003 DH Weert
The Netherlands

Concerning	RTTE		
	EMC	**Safety**	**Radio**
A sample of the product has been tested by:	Underwriters Laboratories Inc.		
Test report reference	GE-ILX CE_qualification_plan: CEQP_NXCS-1700		
	Report: NC4364-081403 Project No: 03CA26086	BP9453-A2	Report: NC4364-081403 Project No: 03CA26086
Applied standards	EN50130-4(1995) +A1(1998)	EN60950(2000) IEC60950(1999), 3 rd Ed.	EN300330-2 v1.1.1 (06-2001)

Equipment class identifier *(RF products falling under the scope of R&TTE)*

☐ Not Applicable ☐ None (class 1 product) ☒ (class 2 product)

Means of conformity
We declare under our sole responsibility that this product is in conformity with Directive 93/68/EEC (Marking) and/or complies to the essential requirements and all other relevant provisions of the 1999/5/EC (R&TTE) based on test results using harmonized standards in accordance with the Directives mentioned.

Approved in / Permis en / Toegestaan in / Permesso in					
	Austria	X	Iceland	X	Norway
X	Belgium	X	Ireland	X	Portugal
X	Denmark	X	Italy	X	Spain
X	Finland		Liechtenstein	X	Sweden
X	France	X	Luxembourg		Switzerland
X	Germany	X	Netherlands	X	United Kingdom
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