NX-587E VIRTUAL KEYPAD

GENERAL DESCRIPTION

This device will fully support the emulation of a bilingual (English and American Spanish) **NX-148E** or **NX-1192E** LCD keypad over a serial link to a host computer or automation with the exception functions unique to the LCD and sounder.

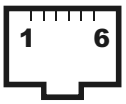
PROGRAMMING

Please refer to the NX-148E keypad instruction manuals for all normal and programming operations including Master and Temporary Partition modes. The functions not supported are ✱⓪ (Set Tone Pitch), ✱⑨① (Set Backlight Level and LCD Contrast) and ✱⑨④ (Set Keypad Number and Partition). This unit uses a fixed address of 248 and normally operates in Partition 1.

WIRING

The serial port is configured to communicate at 9600 baud, 8 data bits, 1 stop bit and no parity. There is no hardware or software flow control; therefore the handshake lines should be ignored.

The NX buss should be connected to the pins using the proper connector as follows:
2 = NX COM **3**=NX POS **4**=NX DATA *Pins 1,5 and 6 should not be connected.*



RJ-11 Connector as viewed from back of the NX-587E module.

CHARACTER DEFINITION

- The ***characters*** used to emulate the keys found on a real LCD keypad are ASCII 1-9, ✱ and **#**.
- The ***function*** keys are emulated as the following:

  S = STAY **C** = CHIME **E** = EXIT **B** = BYPASS **K** = CANCEL
  F = FIRE **M** = MEDICAL **H** = HOLDUP (Panic) **U** = Up Arrow **D** = Down Arrow

- ***Other*** characters are used to turn on and off a variety of messages and events that can be sent from this module. The upper case letter toggles the feature ON while the lower case letter toggles the feature OFF as follows:

TIP: These flags are not stored if power is lost. You may refresh them periodically to maintain.

T = Turn on	**t** = turn off	.....	LCD text strings ("Text Enabled" LED is illuminated on NX-587E when text is enabled)
A = Turn on	**a** = turn off	.....	Adding text attributes to strings (above) (e.g. flashing or normal)
L = Turn on	**l** = turn off	.....	LED and buzzer condition messages
I = Turn on	**i** = turn off	.....	Individual LED annunciation (Refer to Message Configurations, section 3 below)
P = Turn on	**p** = turn off	.....	Partition status information (transitions only)
Z = Turn on	**z** = turn off	.....	Zone status information (transitions only)
N = Turn on	**n** = turn off	.....	Adding zone name to zone status (above)
Qxxx		.....	Query (or poll) for a previously enabled message

- The NX-587E will transmit a ***Line Feed (0Ah) character*** at the beginning of the string, and a ***Carriage Return (0Dh) character*** at the end. The characters within the message will use normal printable ASCII (English) characters with the exception of the following values, which should be translated into the appropriate printable character as shown below:

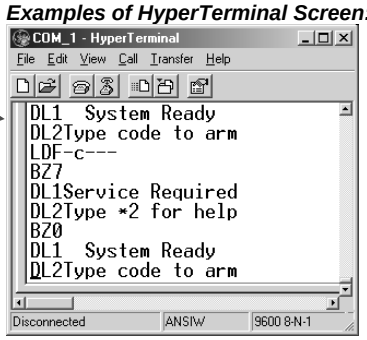
  00h = **á** 01h = **é** 02h = **í** 03h = **ó** 04h = **ú** 05h = **ñ**
  06h = **Ñ** 1Fh = ▮ 5Ch = ↕ 7Eh = → 7Fh = ←

MESSAGE CONFIGURATIONS

(Excluding the Line Feed at the beginning and Carriage Return at the end)

SECTION 1 - LCD Text strings – The LCD display will be identified by "DL1" and "DL2". DL1 indicates the top line and DL2 indicates the bottom line of the display, followed by 16 ASCII (or previously defined) characters that would be displayed on an LCD keypad.

Examples of HyperTerminal Screen:



SECTION 2 - LCD Text strings with Attributes turned on – The LCD display will be identified by "DL1" and "DL2". DL1 indicates the top line and DL2 indicates the bottom line of the display, followed by 16 2-character ASCII (or previously defined) pairs that would be displayed on an LCD keypad. If a hyphen (-) follows a character, it would not be flashing. If an underscore (_) follows, the character would be flashing.

```
DL1S-y-s-t-e-m— -N-o-t— -R-e-a-d-y-
DL2F-o-r- -h-e-l-p-,- -p_r_e_s_s_→_
```

- **Status LED message** – The Status LED message will be sent when the state of any of the displayed LED's change. The message will consist of "LDS", followed by 4 characters that represent the **A**(rmed), **R**(eady), **F**(ire), and **P**(ower) LED's. If the character position contains a hyphen (-), the corresponding LED is off. If the character is in lower case, the LED is on and if the character is in upper case, the LED is flashing.

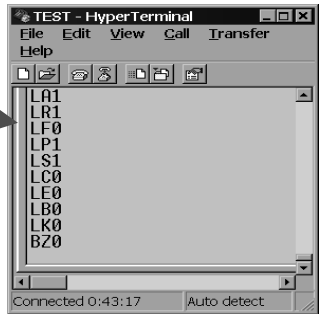
Example (ARMED=Flashing, READY=On, FIRE=Off, POWER=On)

```
LDSAr-p
```

❑ **Function LED message** – The Function LED message will be sent when the state of any of the displayed LED's change. The message will consist of "LDF", followed by 5 characters that represent the **S**(tay), **C**(hime), **E**(xit), **B**(ypass), and **C**(ancel) LED's. If the character position contains a hyphen (-), the corresponding LED is off. If the character is in lower case, the LED is on and if the character is in upper case, the LED is flashing.

Example (STAY=On, CHIME=on, EXIT=Flashing, BYPASS=On, CANCEL=Off) `LDFscEb-`

SECTION 3 - Individual LED strings – Each individual LED will be reflected on the LCD display as "L" followed by one of 9 characters: **A**(rmed), **R**(eady), **F**(ire), **P**(ower), **S**(tay), **C**(hime), **E**(xit), **B**(ypass), or **K**(Cancel). Refer to "Character Definition" instructions above. The final number of each line represents the flash condition: **0** = Off, **1** = On, **2** = Flashing. The buzzer will be reflected on the LCD display as "BZ" followed by the condition.



❑ **Buzzer message** – The Buzzer message will be sent when the state of keypad sounder changes. The message will consist of "BZ", followed by 1 number digit that indicates which type of sound in being produced.

0 = No Sound
1 = Steady Tone
2 = Alarm Beep (continuous)
3 = Exit Beep (slow rate)
4 = Exit Beep (fast rate)
5-6 are not defined
7 = Chime Tone (ding-dong)
8 = Error Beep (3 short beeps)

Example (Producing a chime sound): `BZ7`

❑ **Partition Status message** – The Partition Status message will be sent when any of the represented conditions of a given partition change. The message will consist of "PA", followed by the number or the partition the message represents. Then there will be 8 characters that represent the **R**(eady), **A**(rmed), **S**(tay), **C**(hime Mode), **E**(ntry Delay), **E**(xit Period (any)), **P**(revious Alarm) and **S**(iren On) conditions. If the character is in upper case, the condition is TRUE; if the character is in lower case, the condition is NOT TRUE. (*Note*: Each character represents a unique status condition, so review the "E"s carefully as they are positioned in sequence.)

Example (Partition 1 is Ready, Armed, in Chime Mode, and in Exit Delay): `PA1RasCeEps`

❑ **Zone Status message** – The Zone Status message will be sent when any of the represented conditions of a given zone change. The message will consist of "ZN", followed by a 3-digit number of the zone the message represents. Then there will be 9 characters that represent the **F**(ault), **T**(amper), **T**(rouble), **B**(ypass), **A**(larm Memory), **I**(nhibit), **L**(ow Battery), **L**(ost) and **B**(ypass Memory) conditions. If the character is in upper case, the condition is TRUE; if the character is in lower case, the condition is NOT TRUE. (*Note*: Each character represents a unique status condition, so review the "T"s and "L"s carefully as they are positioned in sequence.)

Example (Zone 17 is Faulted and Bypassed) `ZN017FttBaillb`

❑ **Zone Status message with zone name enabled** – The Zone Status message will be sent when any of the represented conditions of a given zone change. The message will consist of "ZN", followed by a 3-digit number of the zone the message represents. The 16 character zone name will follow, then there will be 9 characters that represent the **F**(ault), **T**(amper), **T**(rouble), **B**(ypass), **A**(larm Memory), **I**(nhibit), **L**(ow Battery), **L**(ost) and **B**(ypass Memory) conditions. If the character is in upper case, the condition is TRUE; if the character is in lower case, the condition is NOT TRUE. (*Note*: Each character represents a unique status condition, so review the "T"s and "L"s carefully as they are positioned in sequence.)

Example (Zone 3 is Tampered): `ZN003LIVING ROOM PIR fTtbaillb`

❑ **Query** – The status of LEDs, buzzer, zones, and partitions can be obtained by entering a "Q" command. This is especially helpful when a system is initially powered up and the status is unknown.

Q000	Provides current display text	**Q193 – Q200**	Provides info for Partitions 1 to 8
Q001 – Q192	Provides info for Zones 001 to 192	**Q201**	Provides info for all LEDs and buzzers

NETWORX COMPATIBLE CONTROL PANELS: NX-4, NX-4V2, NX-6, NX-6V2, NX-8, NX-8V2, NX-8E

**** THIS NX-587E PRODUCT IS NOT UL APPROVED ****

(Can be cut out and used near computer monitor for quick reference.)

NX-587E VIRTUAL LCD KEYPAD QUICK REFERENCE

KEYSTROKES	LEDS	LEDS (cont'd)	OTHER FEATURES	PARTITION STATUS	ZONE STATUS
1 – 9 (numeric)	***LDS***= LED Status	***Lxz***=Individual LED	***T*** = Text on / ***t*** = Text off	***R*** = Ready	***F*** = Fault
S = Stay	***A*** = Armed	***x***=status/function / ***z***=condition	***A*** = Attributes on / ***a*** = Attributes off	***A*** = Armed	***T*** = Tamper
C = Chime	***R*** = Ready	***A*** = Armed / ***0***=Off, ***1***=On	***L*** = LED on / ***l*** = LED off	***C*** = Chime	***T*** = Trouble
E = Exit	***F*** = Fire	***R*** = Ready / ***2***=Flashing	***I*** = Individual LED on / ***i*** = Individual LED off	***E*** = Entry delay	***B*** = Bypass
B = Bypass	***P*** = Power	***F*** = Fire	***P*** = Partition status on / ***p*** = Partition status off	***E*** = Exit period	***A*** = Alarm Memory
K = Cancel	***LDF***= LED Function	***P*** = Power	***Z*** = Zone status on / ***z*** = Zone status off	***P*** = Previous alarm	***I*** = Inhibit
F = Fire	***S*** = Stay	***S*** = Stay	***N*** = Name on / ***n*** = name off	***S*** = Siren on	***L*** = Low Battery
M = Medical	***C*** = Chime	***C*** = Chime	***Qxxx*** = Query for previously enabled message		***L*** = Lost
H = Hold-up	***E*** = Exit	***E*** = Exit	***BZ*** = Buzzer		***B*** = Bypass memory
U = Up arrow	***B*** = Bypass	***B*** = Bypass	**0** = No Sound; **1** = Steady Tone; **2** = Alarm Beep (continuous); **3** = Exit Beep (slow rate); **4** = Exit Beep (fast rate); **5-6** are not defined; **7** = Chime Tone (ding-dong); **8** = Error Beep (3 short beeps)		
D = Down arrow	***C*** = Cancel	***K*** = Cancel			
	Upper case = LED flashing				
	Lower case = LED on				

TEXT DISPLAY

DL1 = Display Line 1	***Hyphen (-)*** = character not flashing
DL2 = Display Line 2	***Underscore (_)*** = character flashing