

NX-580 CELLEMETRY INTERFACE

GENERAL DESCRIPTION

The NX-580 is a microprocessor-controlled Cellemetry interface used to connect the Model 1600 Cellemetry radio from Uplink. This interface allows any or all events from the NX-8 control to be reported over the Cellemetry Network.

NX-580 ADDRESS

The NX-580 has a fixed address of 76. When programming the interface, enter the Program Mode and select the device address as 76. (See "Programming the NX-580", page 3)

ENROLLING THE NX-580 INTERFACE

The NX-8 has the ability to automatically find and store in its memory the presence of all keypads, zone expanders, wireless receivers, 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 of the NX-8 control panel using the procedure outlined in the NX-8 Installation Manual. When the Program Mode is exited, the NX-8 control will automatically enroll all the devices. The enrolling process takes about 12 seconds, during which time the "Service" LED will illuminate. When using the LCD Keypad, the "Service Required" message will be displayed. User codes will not be accepted during the enrolling process. Once a module is enrolled, if it is not detected by the control panel, the "Service" LED will illuminate.

UNDERSTANDING THE LIGHTS

The NX-580 has five (5) red LEDs along the front of the board. These LEDs provide valuable information about the status of the NX-580 and the Cellemetry Network as shown in the following table.

LED	DESCRIPTION
DS1	<i>Flashes</i> each time the NX-580 has an opportunity to speak to the control panel. It should be flashing about two times each second.
DS3	<i>Flashes</i> when it is attempting to establish communication with the 1600 transceiver. This light will be on when the NX-580 is initializing the 1600 transceiver.
DS4	<i>Flashes</i> when the NX-580 is programming the SID into the radio. This light will be on when the radio is sending a verify message to the tower.
DS5	<i>Flashes</i> when the NX-580 is waiting for a verification response from the Cellemetry gateway.
DS6	<i>Flashes</i> when sending a message to the tower. This light is on when waiting for an acknowledge that the message has been received at the monitoring station.
NOTE: DS3 - DS6 will be off if the system is initialized, normal and waiting for a new event to report.	
DS2	The sixth LED is located toward the back of the board. It is used for hardware, and will only glow dimly when connected to the NX-8 control.

WIRING THE NX-580

Wire the 3-position terminal on the NX-580 to the NX-8 control panel keypad interface as follows: Positive to KP POS, COM to KP COM, and DATA to KP DATA. Connect the ribbon cable of the 1600 radio (J1) to the connector labeled J2 on the NX-580.

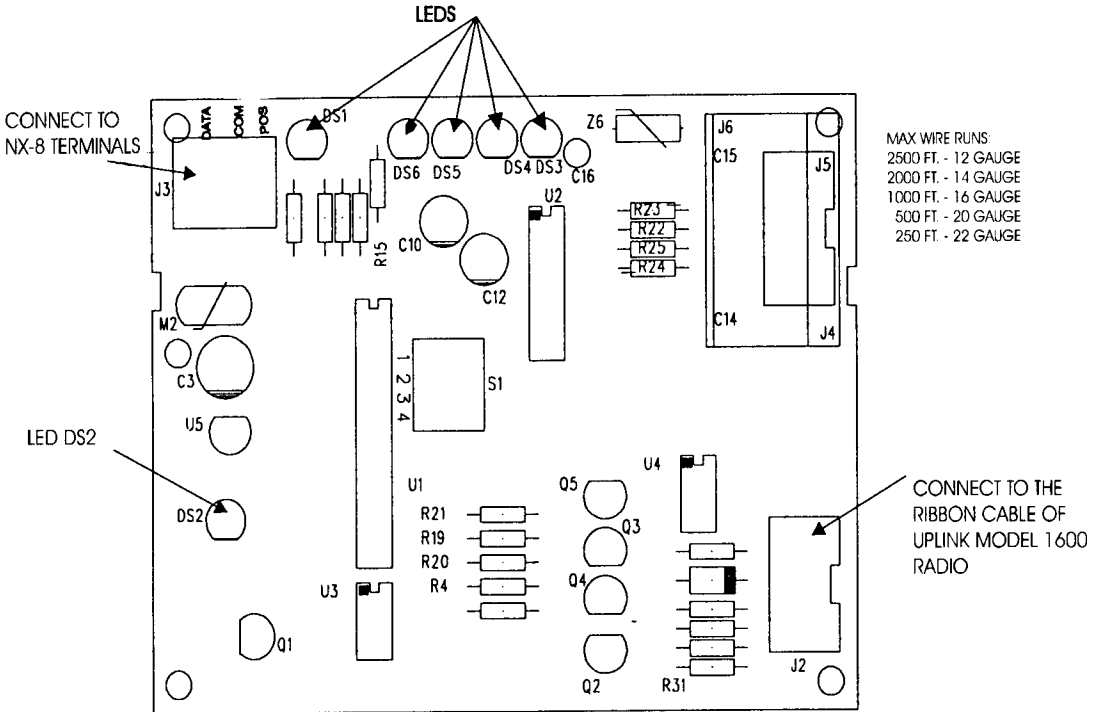
MAXIMUM WIRE RUN

LENGTH (IN FEET)	WIRE GAUGE WHEN CONNECTED TO NX-8	WIRE GAUGE WHEN CONNECTED TO NX-320
250	22	22
500	20	18
1000	16	16
2000	14	12
2500	12	12

TERMINAL DESCRIPTION

TERMINAL	DESCRIPTION
POS	Connect to the KP POS terminal of the NX-8. Current draw is 30 mA for the NX-580, with an additional 120mA standby from the Uplink Model 1600.
COM	Connect to the KP COM terminal of the NX-8.
DATA	Connect to the KP DATA terminal of the NX-8.
J2	Connect to the ribbon cable of the Uplink Model 1600 radio.

CONNECTION DIAGRAM



USING THE LED KEYPAD

Entering the Program Mode:

To enter the Program Mode, press **[*]-[8]**. At this time, the five function LEDs (Stay, Chime, Exit, Bypass, & Cancel) will begin to flash. Next, enter the "Go To Program Code" (Factory Default is **[9]-[7]-[1]-[3]**). If the "Go To Program Code" is valid, the "Service" LED will flash and the five function LEDs will illuminate steady. You are now in the Program Mode and ready to select the module to program.

Selecting the Module to Program:

Next, enter the address of the NX-580, which is **[7]-[6]**, followed by **[#]**. The Armed LED will illuminate while it is waiting for a programming location to be entered.

Programming a Location:

Once the number of the module to be programmed has been entered, the "Armed" LED will illuminate while it is waiting for a programming location to be entered. Enter the desired programming location, followed by the **[#]** key. The Armed LED will begin to flash while a programming location is being entered. If the location entered is a valid location, the "Armed" LED will extinguish, the "Ready" LED will illuminate and the binary data for the first segment of this location will be shown by the zone LED's. To change the data, enter the data followed by **[*]**. While entering new data, the "Ready" LED will begin flashing to indicate a data change in process. The flashing will continue until the new data is stored by pressing the **[*]** key. Upon pressing the **[*]** key, the keypad will advance to the next segment and display its data. This procedure is repeated until the last segment is reached. Pressing the **[#]** key will exit from this location, and the "Armed" LED will illuminate again waiting for a new programming location to be entered. To review the data, repeat the above procedure entering the **[*]** key without entering data first. Each time the **[*]** key is pressed, the next segment is displayed. If the desired location is the next sequential location, press the **[POLICE]** key. If the previous location is desired press the **[FIRE]** key. If the same location is desired press the **[AUXILIARY]** key. To review the data in a location, repeat the above procedure, pressing the **[*]** key without any numeric data entry. Each time the **[*]** key is pressed, the programming data of the next segment will be displayed for review.

Exiting a Location:

After the last segment of a location is programmed, pressing the **[*]** key will exit that location, turn the "Ready" LED off and the "Armed" LED on. As before, you are now ready to enter another programming 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.

Exiting the Program Mode:

When all the desired changes in programming have been made, it is time to exit the Program Mode. Pressing the [Exit] key will exit 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. Refer also to "Programming Data" which follows.

PROGRAMMING DATA

Programming data is always one of two types. One type of data is numerical, which can take on values from 0 -15 or 0 -255 depending on the segment size. The other type of data, feature selection data, is used to turn features on or off. Use the following procedures with these two data types:

Numerical Data:

Numerical data is programmed by entering a number from 0-255 on the numeric keys of the system keypad. To view the data in a location, a binary process is used. With this process, the LED's for zones 1 through 8 are utilized, and the numeric equivalents of their illuminated LED's are added together to determine the data in a programming location. The numeric equivalents of these LED's are as follows:

Zone 1 LED = 1 Zone 3 LED = 4 Zone 5 LED = 16 Zone 7 LED = 64

Zone 2 LED = 2 Zone 4 LED = 8 Zone 6 LED = 32 Zone 8 LED = 128

Example: If the numerical data to be programmed in a location is "66", press [6]-[6] on the keypad. The LED's for Zone 2 and Zone 7 will become illuminated indicating 66 is in that location ($2 + 64 = 66$). Once the data is programmed, press the [*] key to enter the data and advance to the next segment of that location. After the last segment of a location is programmed, pressing the [*] key will exit that location, turn the "Ready" LED off and the "Armed" LED on. As before, you are now ready to enter another programming location. If an attempt is made to program a number too large for a particular segment, the keypad sounder will emit a triple beep, indicating an error, and remain in that segment awaiting a valid entry.

Feature Selection Data:

Feature selection data will display the current condition (on or off) of eight features associated with the programming location and segment selected. Pressing a button on the touchpad (1 thru 8) that corresponds to the "feature number" within a segment will toggle (on/off) that feature. Pressing any numeric key between [1] and [8] for selection of a feature will make the corresponding LED illuminate (feature ON). Press the number again, and the LED will extinguish (feature OFF). You will see that numerous features can be selected from within one segment. For instance, if all eight features of a segment are desired, pressing [1]-[2]-[3]-[4]-[5]-[6]-[7]-[8] will turn on LED's 1 thru 8 as you press the keys, indicating that those features are enabled. **LCD Keypad Users Note: The numbers of the enabled features will be displayed. However, the features not enabled will display a hyphen (-).** After the desired setting of features is selected for this segment, press the [*] key. This will enter the data and automatically advance to the next segment of the location. When you are in the last segment of a location and press the [*] to enter the data, you will exit that location. This will now turn the "Ready" LED off and the "Armed" LED on. As before, you are now ready to enter another programming location.

PROGRAMMING THE LOCATIONS

Location 0 - Programming the System Identification for Your Cellemetry Tower (5 segments of numerical data)

Location 0 (zero) contains the system identification code for the cellular provider in your area. This number is provided in the literature from Uplink. This number must be entered as 5 digits. Any leading zero's must be entered. For example, if the system identification code is 228, the number would be entered as 0-0-2-2-8.

Location 1 - Programming the Partitions That Should Be Reported by Cellemetry (1 segment of feature selection data)

Location 1 contains the partition(s) that should be included when reporting over the Cellemetry Network. If you wish to exclude any partition from reporting, simply turn off the LED corresponding to that particular partition. If the partition LED is not on, NO event from that partition will report via cellular, regardless of what is programmed in locations 4 through 7.

LED	1	2	3	4	5	6	7	8
Partition	1	2	3	4	5	6	7	8

Location 2 - Programming the Transmission Format (1 segment of numerical data)

Location 2 contains the transmission format to be used by the Cellemetry Network.

Number	0	1	2
Format	Contact ID	SIA	4+2

Location 3 - Programming the Number of Days Between Test Signals (1 segment of numerical data)

Location 3 contains the number of days between test signals sent to the Cellemetry Network. This location is independent of the test interval for the communicator in the control panel.

Location 4 - Selecting Events to Be Reported When Phone Fault Is Detected (8 segments of feature selection data)

Location 4 is used to select certain events to be sent over the Cellemetry Network when a phone fault condition is detected. Turn the LED on for the corresponding events to be reported. These events will only be sent if the phone line is bad or faulted. The phone line monitor must be enabled in location 40 of the NX-8 control.

Segment 1		Segment 2		Segment 3	
Event	Description	Event	Description	Event	Description
1	Zone Alarm	1	Sensor Low Battery (wireless)	1	Reserved
2	Zone Restore	2	Sensor Low Battery Restore (wireless)	2	Reserved
3	Zone Bypass	3	Sensor Missing	3	Duress
4	Zone Bypass Restore	4	Sensor Missing Restore	4	Keypad Auxiliary 1
5	Zone Tamper	5	Reserved	5	Keypad Auxiliary 2
6	Zone Tamper Restore	6	Reserved	6	Keypad Panic (Silent)
7	Zone Trouble	7	Reserved	7	Keypad Panic (Audible)
8	Zone Trouble Restore	8	Reserved	8	Keypad Tamper

Segment 4		Segment 5		Segment 6	
Event	Description	Event	Description	Event	Description
1	Box Tamper	1	Siren Tamper	1	Opening
2	Box Tamper Restore	2	Siren Tamper Restore	2	Closing
3	AC Fail	3	Telephone Line Cut	3	Exit Error
4	AC Restore	4	Telephone Line Restore	4	Recent Closing
5	Low Battery	5	Expander Trouble	5	Auto Test
6	Low Battery Restore	6	Expander Trouble Restore	6	Program start
7	Aux Power Over-Current	7	Fail To Communicate	7	Program End
8	Aux Power Over-Current Restore	8	Log Full	8	Download Start

Segment 7		Segment 8	
Event	Description	Event	Description
1	Download End	1	Reserved
2	Cancel	2	Reserved
3	Ground Fault	3	Reserved
4	Ground Fault Restore	4	Reserved
5	Manual Test	5	Reserved
6	Reserved	6	Reserved
7	Reserved	7	Reserved
8	Reserved	8	Reserved

Location 5 - Selecting Events to Be Reported When Phone Fault Is Detected (8 segments of feature selection data)

Location 5 is used to select certain events to be sent over the Cellemetry Network when a phone fault condition is detected. Turn the LED on for the corresponding events to be reported. These events will only be sent if the phone line is bad or faulted. The phone line monitor must be enabled in location 40 of the NX-8 control.

Segments 1 - 7	Segment 8	
All Events Reserved	Event	Description
	1 - 7	Reserved
	8	Fail to Communicate (Data Lost)

Location 6 - Selecting Events to Be Reported When Phone Line Is Good (8 segments of feature selection data)

Location 6 is used to select certain events to be sent over the Cellemetry Network. Turn the LED on for the corresponding events to be reported. These reports will only be sent when the phone line is good. **Note:** If you want the reports sent via Cellular Network regardless of the phone line condition (good or faulted), you must program loc. 4 - 7.

Segment 1		Segment 2		Segment 3	
Event	Description	Event	Description	Event	Description
1	Zone Alarm	1	Sensor Low Battery (wireless)	1	Reserved
2	Zone Restore	2	Sensor Low Battery Restore (wireless)	2	Reserved
3	Zone Bypass	3	Sensor Missing	3	Duress
4	Zone Bypass Restore	4	Sensor Missing Restore	4	Keypad Auxiliary 1
5	Zone Tamper	5	Reserved	5	Keypad Auxiliary 2
6	Zone Tamper Restore	6	Reserved	6	Keypad Panic (Silent)
7	Zone Trouble	7	Reserved	7	Keypad Panic (Audible)
8	Zone Trouble Restore	8	Reserved	8	Keypad Tamper

Segment 4		Segment 5		Segment 6	
Event	Description	Event	Description	Event	Description
1	Box Tamper	1	Siren Tamper	1	Opening
2	Box Tamper Restore	2	Siren Tamper Restore	2	Closing
3	AC Fail	3	Telephone Line Cut	3	Exit Error
4	AC Restore	4	Telephone Line Restore	4	Recent Closing
5	Low Battery	5	Expander Trouble	5	Auto Test
6	Low Battery Restore	6	Expander Trouble Restore	6	Program Start
7	Aux Power Over-Current	7	Fail To Communicate	7	Program End
8	Aux Power Over-Current Restore	8	Log Full	8	Download Start

Segment 7		Segment 8	
Event	Description	Event	Description
1	Download End	1	Reserved
2	Cancel	2	Reserved
3	Ground Fault	3	Reserved
4	Ground Fault Restore	4	Reserved
5	Manual Test	5	Reserved
6	Reserved	6	Reserved
7	Reserved	7	Reserved
8	Reserved	8	Reserved

Location 7- Selecting Events to Be Reported When Phone Line is Good (8 segments of feature selection data)

Location 7 is used to select certain events to be sent over the Cellemetry Network . Turn the LED on for the corresponding events to be reported. These reports will only be sent when the phone line is good. **Note:** If you want the reports sent via Cellular Network regardless of the phone line condition (good or faulted), you must program loc.4 - 7.

Segments 1 - 7	Segment 8	
All Events Reserved	Event	Description
	1 - 7	Reserved
	8	Fail to Communicate (Data Lost)

Network NX-580 Uplink Cellemetry Interface Programming Worksheets

(Defaults are in ***bold italics*** text. Locations 4-7 are defaulted "Off".)

Loc	Description	Defaults	Data
0	SYSTEM ID (from cellular provider)	65535	
1	PARTITION EVENT ENABLES 1= <i>Partition 1</i> 4 = <i>Partition 4</i> 7= <i>Partition 7</i> 2= <i>Partition 2</i> 5= <i>Partition 5</i> 8= <i>Partition 8</i> 3= <i>Partition 3</i> 6= <i>Partition 6</i>		
2	TRANSMISSION FORMAT <i>0=Contact ID, 1=SIA, 2=4+2</i>	0 (Contact ID)	
3	NUMBER OF DAYS BETWEEN TEST SIGNALS	30	

4	EVENTS THAT CAN BE ENABLED DURING PHONE FAULT		
Segment 1			
1= Alarm <input type="checkbox"/>	5= Tamper <input type="checkbox"/>	2= Restore <input type="checkbox"/>	6= Tamper Restore <input type="checkbox"/>
3= Shunt <input type="checkbox"/>	7= Trouble <input type="checkbox"/>	4= Shunt Restore <input type="checkbox"/>	8= Trouble Restore <input type="checkbox"/>
Segment 2			
1= Sensor Low Battery <input type="checkbox"/>	5= Reserved	2= Sensor Low Battery Restore <input type="checkbox"/>	6= Reserved
3= Sensor Missing <input type="checkbox"/>	7= Reserved	4= Sensor Missing Restore <input type="checkbox"/>	8= Reserved
Segment 3			
1= Reserved	5= Auxiliary 2 <input type="checkbox"/>	2= Reserved	6= Keypad Panic (Silent) <input type="checkbox"/>
3= Duress <input type="checkbox"/>	7= Keypad Panic (Audible) <input type="checkbox"/>	4= Auxiliary 1 <input type="checkbox"/>	8= Keypad Tamper <input type="checkbox"/>
Segment 4			
1= Box Tamper <input type="checkbox"/>	5= Low Battery (system) <input type="checkbox"/>	2= Box Tamper Restore <input type="checkbox"/>	6= Low Battery Restore <input type="checkbox"/>
3= AC Fail <input type="checkbox"/>	7= Fuse (over current) <input type="checkbox"/>	4= AC Restore <input type="checkbox"/>	8= Fuse (over current) Restore <input type="checkbox"/>

Segment 5	
1= Siren Tamper <input type="checkbox"/>	5= Expander Trouble <input type="checkbox"/>
2= Siren Tamper Restore <input type="checkbox"/>	6= Expander Trouble Restore <input type="checkbox"/>
3= Telephone Line Monitor <input type="checkbox"/>	7= Fail to Communicate <input type="checkbox"/>
4= Telephone Line Monitor Restore <input type="checkbox"/>	8= Log Full <input type="checkbox"/>
Segment 6	
1= Open <input type="checkbox"/>	5= Autotest <input type="checkbox"/>
2= Close <input type="checkbox"/>	6= Program Start <input type="checkbox"/>
3= Exit Error <input type="checkbox"/>	7= Program End <input type="checkbox"/>
4= Recent Close <input type="checkbox"/>	8= Download Start <input type="checkbox"/>
Segment 7	
1= Download Complete <input type="checkbox"/>	5= Maintenance Test <input type="checkbox"/>
2= Cancel <input type="checkbox"/>	6= Reserved
3= Ground Fault <input type="checkbox"/>	7= Reserved
4= Ground Fault Restore <input type="checkbox"/>	8= Reserved
Segment 8	
All Events Reserved	

5	EVENTS THAT CAN BE ENABLED DURING PHONE FAULT
Segments 1 - 7	
All Events Reserved	
Segment 8	
1= Reserved	5= Reserved
2= Reserved	6= Reserved
3= Reserved	7= Reserved
4= Reserved	8= Fail to Communicate - Data Lost <input type="checkbox"/>

6	EVENTS THAT CAN BE ENABLED DURING PHONE NORMAL
Segment 1	
1= Alarm <input type="checkbox"/>	5= Tamper <input type="checkbox"/>
2= Restore <input type="checkbox"/>	6= Tamper Restore <input type="checkbox"/>
3= Shunt <input type="checkbox"/>	7= Trouble <input type="checkbox"/>
4= Shunt Restore <input type="checkbox"/>	8= Trouble Restore <input type="checkbox"/>

Segment 2	
1= Sensor Low Battery <input type="checkbox"/>	5= Reserved
2= Sensor Low Batt Restore <input type="checkbox"/>	6= Reserved
3= Sensor Missing <input type="checkbox"/>	7= Reserved
4= Sensor Missing Restore <input type="checkbox"/>	8= Reserved
Segment 3	
1= Reserved	5= Auxiliary 2 <input type="checkbox"/>
2= Reserved	6= Keypad Panic (Silent) <input type="checkbox"/>
3= Duress <input type="checkbox"/>	7= Keypad Panic (Audible) <input type="checkbox"/>
4= Auxiliary 1 <input type="checkbox"/>	8= Keypad Tamper <input type="checkbox"/>
Segment 4	
1= Box Tamper <input type="checkbox"/>	5= Low Battery (system) <input type="checkbox"/>
2= Box Tamper Restore <input type="checkbox"/>	6= Low Battery Restore <input type="checkbox"/>
3= AC Fail <input type="checkbox"/>	7= Fuse (over-current) <input type="checkbox"/>
4= AC Restore <input type="checkbox"/>	8= Fuse (over-current) Restore <input type="checkbox"/>
Segment 5	
1= Siren Tamper <input type="checkbox"/>	5= Expander Trouble <input type="checkbox"/>
2= Siren Tamper Restore <input type="checkbox"/>	6= Expander Trouble Restore <input type="checkbox"/>
3= Phone Line Monitor <input type="checkbox"/>	7= Fail to Communicate <input type="checkbox"/>
4= Phone Line Monitor Restore <input type="checkbox"/>	8= Log Full <input type="checkbox"/>
Segment 6	
1= Open <input type="checkbox"/>	5= Autotest <input type="checkbox"/>
2= Close <input type="checkbox"/>	6= Program Start <input type="checkbox"/>
3= Exit Error <input type="checkbox"/>	7= Program End <input type="checkbox"/>
4= Recent Close <input type="checkbox"/>	8= Download Start <input type="checkbox"/>
Segment 7	
1= Download Complete <input type="checkbox"/>	5= Maintenance Test <input type="checkbox"/>
2= Cancel <input type="checkbox"/>	6= Reserved
3= Ground Fault <input type="checkbox"/>	7= Reserved
4= Ground Fault Restore <input type="checkbox"/>	8= Reserved
Segment 8	
All Events Reserved	

7	EVENTS THAT CAN BE ENABLED DURING PHONE NORMAL
Segments 1 - 7	
All Events Reserved	

Segment 8

1= Reserved
2= Reserved
3= Reserved
4= Reserved

5= Reserved
6= Reserved
7= Reserved
8= Fail to Communicate - Data Lost

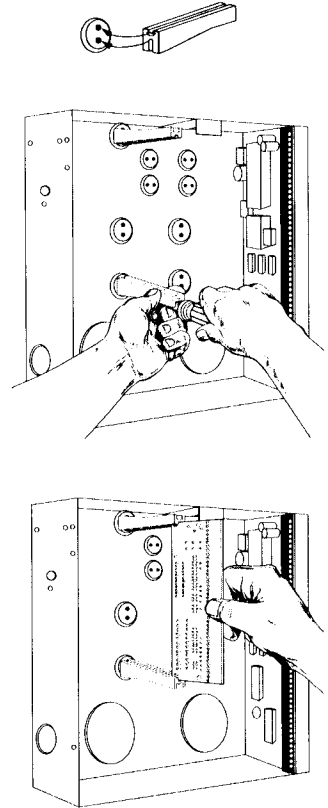
ENCLOSURE INFORMATION

Inside the can, several 2-holed insertion points have been constructed. This allows for either vertical or horizontal placement of the modules. **Notice that the insertion points have two sizes of holes -- a larger hole and a smaller hole.**

Diagram 1: The black plastic PCB guides are grooved on one edge where the PC Board will be seated. The end with the half-moon protrusion fits into the larger hole. The smaller hole is for the screw.

Diagram 2: Place the *first* black plastic PCB guide in the top insertion point, grooved edge downward. The half-moon protrusion will be in the large hole. It does not require force. Insert one of the provided screws into the smaller hole (from inside the can) to secure it in place. A screwdriver should reach through the notch that runs the length of the guide to tighten the screw. The *second* PCB guide should be positioned opposite of the first (grooved edge up) and placed in the lower insertion point, using the same procedures described above. Once mounted, screw it in securely.

Diagram 3: The PC board should slide freely in the grooves of both guides.



SYSTEM NOTES

SPECIFICATIONS

OPERATING POWER	12VDC Supplied from NX-8 or NX-320
AUXILIARY POWER	Supplied from NX-8 or NX-320
CURRENT DRAW	30 mA
OPERATING TEMPERATURE	32 to 120 degrees F
DIMENSIONS	4.0" Wide 3.25" High 1.0" Deep
SHIPPING WEIGHT	1 lbs.

FIVE YEAR LIMITED WARRANTY

CADDX CONTROLS, INC. GUARANTEES THIS PRODUCT AGAINST DEFECTIVE PARTS AND WORKMANSHIP FOR TWENTY-FOUR (24) MONTHS FROM DATE OF MANUFACTURING. IF ANY DEFECT APPEARS DURING THE WARRANTY PERIOD, RETURN IT TO CADDX POSTAGE PREPAID. THE UNIT WILL BE REPAIRED AND RETURNED AT NO CHARGE. FOR THE REMAINING 36 MONTHS OF WARRANTY, THE CHARGE TO REPAIR OR REPLACE THIS MODULE WILL NOT EXCEED \$10.00 PLUS SHIPPING AND HANDLING.

CADDX ASSUMES NO LIABILITY FOR CONSEQUENTIAL OR INDIRECT DAMAGE AND ACCEPTS NO RESPONSIBILITY FOR REPAIRING DAMAGE TO THE PRODUCT CAUSED BY MISUSE, CARELESS HANDLING, OR WHERE REPAIRS HAVE BEEN MADE BY OTHERS.

NO OTHER GUARANTEE, WRITTEN OR VERBAL, IS AUTHORIZED BY OR ON BEHALF OF CADDX CONTROLS, INC., GLADEWATER, TEXAS.

**CADDX CONTROLS, INC.
1420 NORTH MAIN STREET
GLADEWATER, TEXAS 75647
TOLL FREE 800-727-2339
FAX 903-845-6811
www.caddx.com**