NX 248 Inovonics Wireless Receiver

General Description - The NX 248 is a microprocessor controlled 48 zone wireless receiver for the NX16 control panel. Up to four NX 248 wireless receivers can be added to the NX 8 allowing maximum wireless coverage (adding more than 1 receiver does not increase the maximum number of transmitters above 48).

Installing the NX 248 - The first thing that must be decided is the receiver address. To set the receiver set the dip switch 1 and 2 according to the table below:

Receiver Address	Dip switch 2	Dip switch 1
32	off	on
33`	on	off
34	on	on
35	off	off

Dip Switch 3 is not used

Dip switch 4 - Dip switch 4 is used to disable and enable the transmitter "AUTO PROGRAM" mode. If dip switch 4 is off transmitter information must be programmed from the receiver to the transmitter using the supplied programming cable. If dip switch 4 is on either method can be used to program the transmitters. If the cable is attached to the transmitter the information will be programmed from the receiver into the transmitter. If the programming cable is not attached the information in the transmitter will be transferred into the receiver.

Terminal Description

POS - Connect to control panel AUX POWER + terminal. This terminal supplies power to the expander board.

COM - Connect to the control panel COMMON terminal. This terminal supplies the common side of the power to the expander board.

DATA - Connect to the control panel Data terminal. This terminal is the data signaling terminal to all the devices on the buss.

Enrolling the NX 248 Wireless Receiver

The NX-16 has the ability to automatically find and store in its memory the presence of all codepads, zone expanders, wireless receivers and any other device on the codepad bus. This allows these devices to be supervised by the control panel and light the service light if one is not detected. To enroll the devices, enter the program mode using the procedure outlined in the installation manual and enter 915#. The codepad will beep 3 times indicating it will enroll all devices when the program mode is exited. Once the program mode is exited the service light will illuminate indicating that enrolling is in progress. Enrolling takes about 12 seconds.

Programming the NX 248

The program mode is accessed by entering *8 (all the function key lights will begin to flash). Enter the go to program code (default is 9713). If the code was valid, the service light will flash and the function lights will light steady, indicating the device to program should be entered. Next enter the address of the receiver you wish to program (see dip switch chart above) followed by #. At this point the armed light will illuminate indicating it is waiting for a programming location to be entered. Enter the desired programming location. The armed light will begin to flash indicating a programming location is being entered. Enter the # key. If this is a valid location, the armed light will extinguish, the ready light will illuminate, and the binary data for the first segment of this location will be shown on the zone LEDS. To change the data enter the data followed by *. The data will be entered and the location automatically increment to the next segment. The data for that segment will be displayed. This procedure is repeated until the last segment is reached. Pressing the # key will exit from this location. To review the data repeat the above procedure entering the * key without entering data first. Each time the star key is pressed the next segment is displayed. Programming data is always one of two types of data. The first type is numerical and can take on values from 0-255 or 0-15 depending on the segment size. The second type is a feature selection type. Feature selection data is used to turn features on or off.

ORGANIZING YOUR ZONES

The NX 248 can work in conjunction with other wireless and hardwire zone expanders. The only limiting factor is a device cannot share a zone in the same group of 8 zones. For example you cannot assign zone 9-12 to an NX248 wireless receiver and zones 13-16 to an NX 216 zone expander. Once a zone in a group of 8 zones has been assigned to a device all zones in that group (9-16 in the above example) must be assigned to that device or they must not be used. The groups that must not share expanders are 1-8, 9-16, 17-24, 25-32, 33-40, 41-48.

Programming Locations

Location 0 Programming the Receiver House Code (4 segments of numerical data)- Enter the four digit house code for this receiver. Each digit can take on a value from 0-15. This code should be unique for each installation and should not be changed once the system has been installed. When this is changed, the receiver will automatically reprogram the stored transmitter ID for each transmitter not currently installed in the system, and will default the transmitter check in time to the factory default of 60 seconds. Transmitters that are currently installed will not change. If it is desired to change these transmitters, follow the transmitter programming procedure found in location 98.

Location 1 Programming the Transmitter ID for the Zone 1 Transmitter (6 segments of numerical data) - Enter the transmitter ID for the zone 1 transmitter. When using the auto program mode this location will be stored from the transmitter into this location. When programming manually the ID will be programmed from this location into the transmitter. In the factory default this number will match the house code found in location 0.

Location 2 Programming the Transmitter features for the Zone 1 Transmitter (2 segments of feature selection data)

Segment 1

If the transmitter is a remote arming type segment 1 is used to select the partition or partitions this transmitter will arm and disarm.

If the transmitter is **NOT** a remote arming station the first segment is used to program the following into the transmitter:

Lights 1-3 are used to program the transmitter check in time. This time will only be programmed if the manual programming mode is used. If it is not used the check in time will be the factory default of 60 seconds. Use the following table to program the transmitter check in time

Check in time	Feature 3	Feature 2	Feature 1
None (not supervised)	off	off	off
10 seconds	off	off	on
30 seconds	off	on	off
60 seconds	off	on	on
5 minutes	on	off	off
30 minutes	on	off	on
60 minutes	on	on	off
18 hours	on	on	on

Light 4 = reserved
Light 5 = reserved

Light 6 = on if internal contact is used
Light 7 = on if external switch is normally open off if external switch is normally closed
Light 8 = On if external End of Line resistor is used

Segment 2

Lights 1-4 are read only lights and are an indication of the received signal strength.

Light 5 - The receiver will turn this light on after it has sucessfully added this transmitter to the system.. To remove this transmitter turn this light off.

Light 6 - Turn this light on to tell the receiver this is a remote arming device transmitter.

Light 7 - This is a read only location telling the current status of the receiver supervision. On means transmitter is currently present, off means it is missing.

Light 8 - This light is a read only location telling the method that was used to program this transmitter. On means this transmitter was auto programmed, off means it was manually programmed.

Location 3 Programming the Transmitter ID for the Zone 2 Transmitter (6 segments of numerical data.

Location 4 Programming the Transmitter Features for the Zone 2 Transmitter (2 segments of feature selection data)
Location 5 Programming the Transmitter ID for the Zone 3 Transmitter (6 segments of numerical data.
Location 6 Programming the Transmitter Features for the Zone 3 Transmitter (2 segments of feature selection data)

Locations 7-96 repeat the above information for zones 4-48.

Location 97 Programming the Supervision window (1 segment of numerical data)

Program the number of minutes (1-255) that must elapse, without a transmitter check in, before that transmitter is reported missing.

Location 98 Programming transmitter activation (1 numerical segment) - Location 98 is used to select a transmitter to program. After the correct information has been programmed into the transmitter locations above program the transmitter number (1-48) into location 98. Then perform one of the following procedures:

MANUAL PROGRAMMING

Connect the transmitter to the programming cable on the receiver. Press the reset button on the transmitter. You should hear a "DING DONG" on the keypad indicating that the programming is complete. When you return to the keypad the data in location 98 will have changed to a 0. Repeat this process until all transmitters are programmed. If the keypad beeps 3 times programming was unsucessful repeat the above process.

AUTO PROGRAM

Open the transmitter being programmed and press the reset button. You should hear a "DING DONG" on the keypad indicating that the programming is complete. When you return to the keypad the data in location 98 will have changed to a 0. Repeat this process until all transmitters are programmed. If the keypad beeps 3 times programming was unsucessful repeat the above process.

ABORTING THE PROGRAMMING PROCESS

To abort the above step simply return to location 98 and program a zero.

NetworX NX-248 Inovonics Wireless Receiver Programming Worksheet

Loc	Description	Type	Defaults	Data
0	House Code	Hex	1234	
1	Zone 1 Transmitter ID	Hex	123401	
2	Zone 1 Transmitter Features	Bin	12------ --------	

1	2	3	Check In Time
off	off	off	None
on	off	off	10 Seconds
off	on	off	30 Seconds
on	on	off	60 Seconds
off	off	on	5 Minutes
on	off	on	30 Minutes
off	on	on	60 Minutes
on	on	on	18 Hours

4=not used
5=not used
6=internal contact used, on=yes
7=external switch, off=n/c on=n/o
8=external EOL resistor, on=yes
(the above segment is used as partition enables when the transmitter is a remote arming type)

1=signal margin, see special note *
2= " " " " "
3= " " " " "
4= " " " " "
5=transmitter installed, on=yes
6=remote arming device, on=yes
7=transmitter present, on=yes *
8=transmitter was learned, on=yes *
* locations are read only information

3	Zone 2 Transmitter ID	Hex	123402	
4	Zone 2 Transmitter Features	Bin	12------ --------	
5	Zone 3 Transmitter ID	Hex	123403	
6	Zone 3 Transmitter Features	Bin	12------ --------	

Loc	Description	Type	Defaults		Data	
7	Zone 4 Transmitter ID	Hex	123404			
8	Zone 4 Transmitter Features	Bin	12------	--------		
9	Zone 5 Transmitter ID	Hex	123405			
10	Zone 5 Transmitter Features	Bin	12------	--------		
11	Zone 6 Transmitter ID	Hex	123406			
12	Zone 6 Transmitter Features	Bin	12------	--------		
13	Zone 7 Transmitter ID	Hex	123407			
14	Zone 7 Transmitter Features	Bin	12------	--------		
15	Zone 8 Transmitter ID	Hex	123408			
16	Zone 8 Transmitter Features	Bin	12------	--------		
17	Zone 9 Transmitter ID	Hex	123409			
18	Zone 9 Transmitter Features	Bin	12------	--------		
19	Zone 10 Transmitter ID	Hex	12340A			
20	Zone 10 Transmitter Features	Bin	12------	--------		
21	Zone 11 Transmitter ID	Hex	12340B			
22	Zone 11 Transmitter Features	Bin	12------	--------		
23	Zone 12 Transmitter ID	Hex	12340C			
24	Zone 12 Transmitter Features	Bin	12------	--------		
25	Zone 13 Transmitter ID	Hex	12340D			
26	Zone 13 Transmitter Features	Bin	12------	--------		
27	Zone 14 Transmitter ID	Hex	12340E			
28	Zone 14 Transmitter Features	Bin	12------	--------		
29	Zone 15 Transmitter ID	Hex	12340F			
30	Zone 15 Transmitter Features	Bin	12------	--------		
31	Zone 16 Transmitter ID	Hex	123410			
32	Zone 16 Transmitter Features	Bin	12------	--------		
33	Zone 17 Transmitter ID	Hex	123411			
34	Zone 17 Transmitter Features	Bin	12------	--------		
35	Zone 18 Transmitter ID	Hex	123412			

Loc	Description	Type	Defaults		Data	
36	Zone 18 Transmitter Features	Bin	12------	--------		
37	Zone 19 Transmitter ID	Hex	123413			
38	Zone 19 Transmitter Features	Bin	12------	--------		
39	Zone 20 Transmitter ID	Hex	123414			
40	Zone 20 Transmitter Features	Bin	12------	--------		
41	Zone 21 Transmitter ID	Hex	123415			
42	Zone 21 Transmitter Features	Bin	12------	--------		
43	Zone 22 Transmitter ID	Hex	123416			
44	Zone 22 Transmitter Features	Bin	12------	--------		
45	Zone 23 Transmitter ID	Hex	123417			
46	Zone 23 Transmitter Features	Bin	12------	--------		
47	Zone 24 Transmitter ID	Hex	123418			
48	Zone 24 Transmitter Features	Bin	12------	--------		
49	Zone 25 Transmitter ID	Hex	123419			
50	Zone 25 Transmitter Features	Bin	12------	--------		
51	Zone 26 Transmitter ID	Hex	12341A			
52	Zone 26 Transmitter Features	Bin	12------	--------		
53	Zone 27 Transmitter ID	Hex	12341B			
54	Zone 27 Transmitter Features	Bin	12------	--------		
55	Zone 28 Transmitter ID	Hex	12341C			
56	Zone 28 Transmitter Features	Bin	12------	--------		
57	Zone 29 Transmitter ID	Hex	12341D			
58	Zone 29 Transmitter Features	Bin	12------	--------		
59	Zone 30 Transmitter ID	Hex	12341E			
60	Zone 30 Transmitter Features	Bin	12------	--------		
61	Zone 31 Transmitter ID	Hex	12341F			
62	Zone 31 Transmitter Features	Bin	12------	--------		
63	Zone 32 Transmitter ID	Hex	123420			
64	Zone 32 Transmitter Features	Bin	12------	--------		

Loc	Description	Type	Defaults		Data	
65	Zone 33 Transmitter ID	Hex	123421			
66	Zone 33 Transmitter Features	Bin	12------	--------		
67	Zone 34 Transmitter ID	Hex	123422			
68	Zone 34 Transmitter Features	Bin	12------	--------		
69	Zone 35 Transmitter ID	Hex	123423			
70	Zone 35 Transmitter Features	Bin	12------	--------		
71	Zone 36 Transmitter ID	Hex	123424			
72	Zone 36 Transmitter Features	Bin	12------	--------		
73	Zone 37 Transmitter ID	Hex	123425			
74	Zone 37 Transmitter Features	Bin	12------	--------		
75	Zone 38 Transmitter ID	Hex	123426			
76	Zone 38 Transmitter Features	Bin	12------	--------		
77	Zone 39 Transmitter ID	Hex	123427			
78	Zone 39 Transmitter Features	Bin	12------	--------		
79	Zone 40 Transmitter ID	Hex	123428			
80	Zone 40 Transmitter Features	Bin	12------	--------		
81	Zone 41 Transmitter ID	Hex	123429			
82	Zone 41 Transmitter Features	Bin	12------	--------		
83	Zone 42 Transmitter ID	Hex	12342A			
84	Zone 42 Transmitter Features	Bin	12------	--------		
85	Zone 43 Transmitter ID	Hex	12342B			
86	Zone 43 Transmitter Features	Bin	12------	--------		
87	Zone 44 Transmitter ID	Hex	12342C			
88	Zone 44 Transmitter Features	Bin	12------	--------		
89	Zone 45 Transmitter ID	Hex	12342D			
90	Zone 45 Transmitter Features	Bin	12------	--------		
91	Zone 46 Transmitter ID	Hex	12342E			
92	Zone 46 Transmitter Features	Bin	12------	--------		
93	Zone 47 Transmitter ID	Hex	12342F			

Loc	Description	Type	Defaults		Data	
94	Zone 47 Transmitter Features	Bin	12------	--------		
95	Zone 48 Transmitter ID	Hex	123430			
96	Zone 48 Transmitter Features	Bin	12------	--------		
97	Supervision Window (hours)	Dec	60			
98	Transmitter to Program	Dec	none			