

# NX-535N Voice Module Installation Manual

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## General information

The NX-535N is a microprocessor-controlled voice module that allows you to report a recorded voice message to a specific phone number in case of an event.

A maximum of 15 different alarm messages can be recorded. The voice messages can be recorded using a standard DTMF telephone set.

When answering an alarm call, the module will send a leader message to announce an incoming report. The call taker can acknowledge the incoming call to receive the alarm messages by entering a key on his telephone set (handshake by means of DTMF tone). The module will transmit the recorded alarm message(s) according to the type of event(s) that has occurred. The alarm message(s) will be followed with an address message to identify the premise that is reporting the alarm. The alarm call can be “kissed-off” by means of a DTMF tone from the telephone set.

# Programming the NX-535N voice module

## Programming the NX-535N via the LED keypad

### Entering the program mode

To enter the program mode, press [\*]-[8]. At this time, the five functions LED's (Stay, Chime, Exit, Bypass and 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 LED's will illuminate steady. You are now in the program mode and ready to select the module to program.

**Note:** it is impossible to enter program mode if any partition or the system is armed.

### Selecting the module to program

Since all modules connected to the NetworX are programmed through the keypad, the module you are programming should be the first entry. To program the NX-535N module, enter [7]-[7]-[#]. The [7]-[7] is the module number of the NX-535N and the [#] is the entry key.

### Programming a location

Once the number of the module to be programmed has been entered, the "Armed" LED will illuminate, indicating it is waiting for a programming location to be entered. Any location can be accessed by directly entering the desired programming location followed by the pound [#] key. If the location entered is a valid location, the "Armed" LED will extinguish, the "Ready" LED will illuminate, and the zone LED's will show the binary data for the first segment of this location. 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. 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 [Medic] 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 and then return to the “Select a Module to Program” level. If no additional modules are to be programmed, pressing the [Exit] key again will exit the program mode. If there is a module to be programmed, it may be selected by entering its address followed by the [#] key (see “Selecting the Module To Program” above). The procedure for programming these devices is the same as for the control panel, except the locations will be for the module selected.

**Note:** The timeout for the program mode is 15 minutes.

## Programming the NX-535N via 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 have 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 using the numeric keys of the system keypad to enter a number from 0-255. 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 2 LED = 2	Zone 3 LED = 4	Zone 4 LED = 8
Zone 5 LED = 16	Zone 6 LED = 32	Zone 7 LED = 64	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.

**Note:** On the LCD keypad, the number in the location will be displayed. For locations with a maximum of 15, the hexadecimal equivalent will be displayed in parenthesis. Example: 11 (B) or 14 (E).

**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 keypad (1 through 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 through 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

## Recording / Playing back messages

### LOCATION 0 – Recording / playback selector (3 segments, numerical data)

#### Segment 1 – Recording / Playback selector

Segment 1 contains the selector whether you want to record, playback or cancel the operation. Programming any value other than 0, 1 or 2 will be ignored.

#### Selectors:

0	Cancel the operation
1	Recording mode
2	Playback mode

#### Segment 2 – Event message selector

Segment 2 contains the individual event message selector. Herewith you can select the message you want to record/playback. The leader message allows you to indicate who is calling, in this case the alarm panel. The event message(s) will be followed with an address message to identify the premise that is reporting the event (alarm). You can record up to 15 event (alarm) messages. The event message can be “kissed-off” by means of a DTMF tone from the telephone set.

#### Selectors:

0	Record / Playback leader message
1	Record / Playback 1st event message
2	Record / Playback 2nd event message
...	.....
15	Record / Playback 15th event message
16	Record / Playback kiss-off message
17	Record / Playback address message
18	Reserved

While in record or play mode the user should only exit system programming mode when finished recording/playing mode.

## Configuring Handshake and Kiss-off

### LOCATION 1 – Configuring handshake and Kiss-off (2 segments, numerical data)

When the NX-535N module reports an event and the call is answered, the system plays the leader message until the call taker acknowledges the call by means of pressing a specific phone key. This option is called the handshake digit.

The Kiss-off digit is the specific key that the call taker presses on the phone to end the communication. It signals a successful report. The voice module will acknowledge receipt of the correct DTMF kiss-off digit by playing the kiss-off message (=message 17)

#### Segment 1 – Handshake DTMF digit

Segment 1 contains the Handshake DTMF digit to acknowledge the message. Values can be as listed below:

Phone digit	Description
0-9	Sets a digit between 0 and 9
10	Sets the * button
11	Sets the # button
12	No Handshake is required
15	Any digit will be accepted as Handshake

#### Segment 2 – Kiss-off DTMF digit

Segment 2 represents the Kiss-off DTMF digit to end the communication. Values can be as listed below:

Phone digit	Description
0-9	Sets a digit between 0 and 9
10	Sets the * button
11	Sets the # button
12	No kiss-off is required
15	Any digit will be accepted as Kiss-off

If both Handshake and Kiss-Off are disabled then the sequence of leader, event messages and address message are played 5 times before the report is concluded.

## Examples

### Recording leader message

1. Go to program mode of Voice module (Module 77).
2. Select Location 0.
  - Segment 1 = 1 (= record mode)
  - Segment 2 = 0 (= leader message)
3. Connect a telephone handset into the RJ11 phone jack connector on NX-535N module.
4. Press the button on the NX-535N module and record your message through the handset. Example: "This is your alarm system calling, press any key to continue" (\*).
5. Press the button again to stop recording. Your message is automatically played back.

### Recording event message #1

1. Go to program mode of Voice module (Module 77).
2. Select Location 0.
  - Segment 1 = 1 (= record mode)
  - Segment 2 = 1 (= event message 1)
3. Connect a telephone handset into the RJ11 phone jack connector on NX-535N module.
4. Press the button on the NX-535N module and record your message through the handset. Example: "Intrusion alarm".
5. Press the button again to stop recording. Your message is automatically played back.

### Recording address message

1. Go to program mode of Voice module (Module 77).
2. Select Location 0.
  - Segment 1 = 1 (= record mode)
  - Segment 2 = 17 (= address message)
3. Connect a telephone handset into the RJ11 phone jack connector on NX-535N module.

4. Press the button on the NX-535N module and record your message through the handset. Example: “1420 North Main Street Gladewater, press any key to continue”(\*).
5. Press the button again to stop recording. Your message is automatically played back.

### Recording kiss-off message

1. Go to program mode of Voice module (Module 77).
2. Select Location 0.
  - Segment 1 = 1 (= record mode)
  - Segment 2 = 16 (= kiss-off message)
3. Connect a telephone handset into the RJ11 phone jack connector on NX-535N module.
4. Press the button on the NX-535N module and record your message through the handset. Example : “The Alarm message has been confirmed”.
5. Press the button again to stop recording. Your message is automatically played back.

(\* ) Only if Handshake and Kiss-Off are enabled on location 1.

**Note:** The voice protocol can NOT generate a ‘fail to communicate’ signal.

**Note:** All alarm reports will be cancelled and the voice module will stop dialing when a valid user code is entered on a keypad.

## Message table and lengths

The table below indicates the message types and the maximum length of each individual message.

Message number	Description	Max. duration
Leader Message	Start message played back until acknowledge by means of DTMF code	20 sec
Event message #1	Played back after acknowledgement of leader message	8.5 sec
Event message #2	Idem Event message #1	8.5 sec
Event message #3	Idem Event message #1	8.5 sec
Event message #4	Idem Event message #1	8.5 sec

Event message #5	Idem Event message #1	8.5 sec
Event message #6	Idem Event message #1	8.5 sec
Event message #7	Idem Event message #1	8.5 sec
Event message #8	Idem Event message #1	8.5 sec
Event message #9	Idem Event message #1	8.5 sec
Event message #10	Idem Event message #1	8.5 sec
Event message #11	Idem Event message #1	8.5 sec
Event message #12	Idem Event message #1	8.5 sec
Event message #13	Idem Event message #1	8.5 sec
Event message #14	Idem Event message #1	8.5 sec
Event message #15	Idem Event message #1	8.5 sec
Kiss-off message	Played back after sending kiss-off by means of DTMF code	10 sec
Address message	Played back together with event message	20 sec

## Programming the control panel

### Format (protocol)

The format used for voice reporting with the NX-535N is format 16.

This is programmed in the control panel on location 2 (for phone #1)

### Assigning messages to alarm events

Once you have configured the phone and recorded the messages into the NX-535N, you need to assign each event you want to report to a recorded message.

Each event can have one of the 15 pre-recorded voice messages assigned to it. The control panel has a communicator code for each event. Having a record of your voice messages is useful here.

### Assigning messages to a zone configuration group

Assigning messages to a zone configuration group will be done in the location for the "ALARM EVENT CODES FOR THE CONFIGURATION GROUPS". These locations start at location 110 (for zone configuration group 1) till location 168 (for zone configuration group 30). In these locations you just have to fill in a value between 1 and 15, which means selecting 1 of the 15 messages you have pre-recorded.

## Assigning messages to an event

Assigning messages to an event is programmed in the locations for the slow format report codes starting on location 56.

Please find below a table where to find back each individual report.

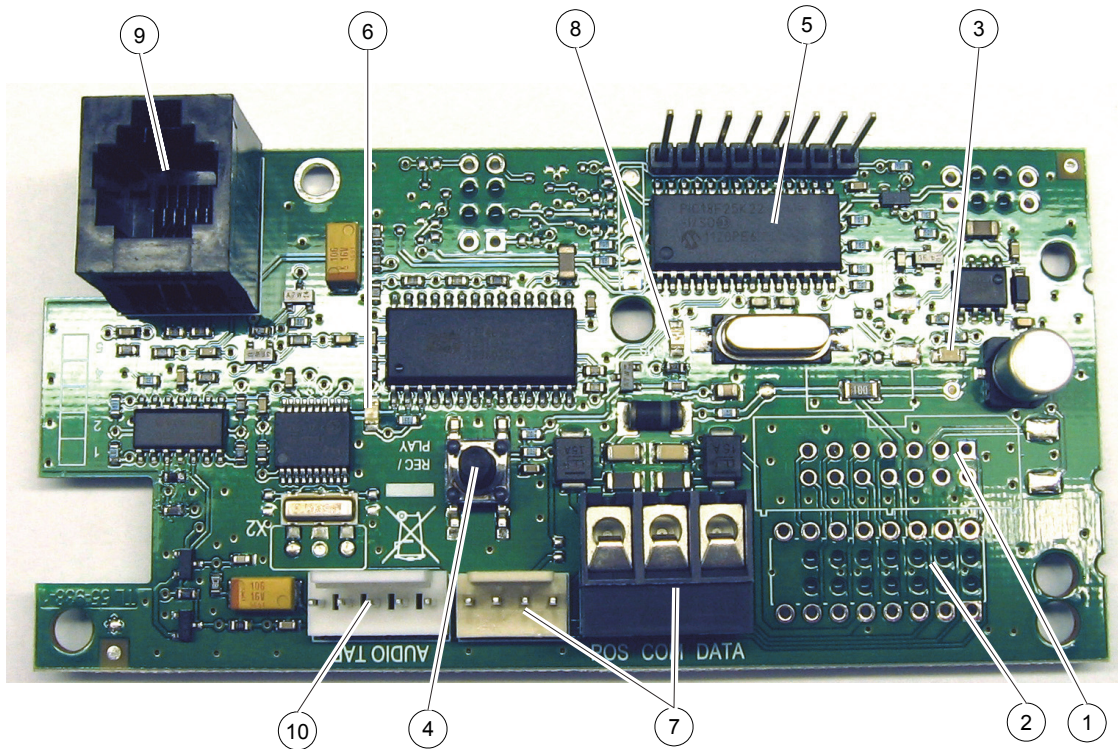
Location	Event report	Location	Event report
56	Restore	70	Power short
57	Bypass	71	Bell tamper
58	Tamper	72	Telephone line cut
59	Trouble	73	B-alarm
60	Sensor "Low battery"	74	Expander trouble
61	Sensor "Missing"	75	Fail to communicate
62	Duress	76	Log full
63	Manual Fire alarm	77	Opening
64	Manual Medical alarm	78	Closing
65	Keypad panic	79	Auto test
66	Keypad tamper (multiple key press)	80	Recent closing
67	Box tamper	81	Start programming
68	AC fail	82	End download
69	Low battery	83	Cancel

# NX-535N programming worksheets

(Defaults are in ***bold italic*** text)

Location	Description	Default
0	RECORDING / PLAYBACK SETTINGS	
	Segment 1	
0	Cancel operation	
1	Recording mode	
2	Playback mode	
	Segment 2	
0	Record / playback leader message	
1	Record / playback event message 1	
2	Record / playback event message 2	
3	Record / playback event message 3	
4	Record / playback event message 4	
5	Record / playback event message 5	
6	Record / playback event message 6	
7	Record / playback event message 7	
8	Record / playback event message 8	
9	Record / playback event message 9	
10	Record / playback event message 10	
11	Record / playback event message 11	
12	Record / playback event message 12	
13	Record / playback event message 13	
14	Record / playback event message 14	
15	Record / playback event message 15	
16	Record / playback kiss-off message	
17	Record / playback address message	
18	Reserved	
1	CONFIGURING HANDSHAKE AND KISS-OFF	
	Segment 1 Handshake DTMF digit	<b><i>15</i></b>
	Segment 2 Kiss-off DTMF digit	<b><i>15</i></b>

## NX-535N print layout



### Description

1	Not used
2	Not used
3	Not used
4	Record / Playback button
5	Processor
6	LED ON during Record / Playback
7	NetworX bus terminals
8	Bus activity LED
9	Connection for telephone handset
10	Audio tap



## Connection diagram vs control panel

Connect the voice module NX-535N to the bus of the control panel. This can be done by using the screw terminal or the 4 wired bus cable.

A special audio cable (included with the NX-535N) needs to be stuffed between the control panel and the voice module NX-535N. If an NX-534E (listen-in) is used in the system, also this should be connected by means of this cable.

Connect 1 lead of the audio cable between the “Audio tap” connector on the control panel (connect white wire on the audio tap PIN 1 of the control panel – see note below) and the connector on the NX-535N.

Connect the other lead to the “Audio tap” on the NX-534E if applicable (connect the white wire towards the border side of the PCB).

**Note:** For the correct pin layout of the Audio Tap on the control panel, check the corresponding installation manual. Improper connections will cause the dialer of the control panel or the NX-535N to malfunction.

## Technical specifications

Operating power	13.8 VDC supplied by the panel
Operating current	30 mA
Operating temperature	0 to 40°C / Relative humidity max. 93%
Dimensions (PCB)	50 mm wide x 102 mm high x 20 mm deep
Weight (PCB)	36 g
Compatibility	NX-8E-BEL with software 942D or higher NX-8E-FR with software 89C7 or higher NX-8, NX-6, NX-4 (v2) NX-11, NX-10, NX-9, NX-7

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