Description

The Model 740, 741, and 743 SC Series LED Keypads are the industry's finest sub-control keypads with integrated access control capabilities. The keypads operate as a stand-alone system providing arming and disarming capabilities, local alarm notification, Wiegand input, and access control. When connected to the LX-Bus™ of an XR200 or XR200-485, the keypad's local zones are supervised for alarm annunciation.

Each keypad provides three local zones for burglary and one zone for non-powered fire devices or a panic button. The keypads also provide a 2-button Panic key, three system status LEDs, three armed status LEDs, four zone LEDs, a backlit keyboard with easy to read lettering, and an internal speaker/siren.

The 741 and 743 keypads include a standby battery backup circuit, a Wiegand input, and one Form-C relay. Additionally, the 743 includes an internal Wiegand proximity reader.

Removing the Base

The keypad housing is made up of two parts: the *front*, which contains the circuit board and other components, and the *base*. To remove the base, insert a flat screwdriver into one of the openings on the bottom and gently twist it while pulling the halves apart. Repeat with the other opening.

Wiring the keypad

Each keypad is supplied with one 12-wire Data Bus/Zone harness. The 741 and 743 also include one 5-wire Output/Reader harness. The harness connections and color codes are shown in the keypad harness wiring diagram. Insert the wire harnesses into the back of the keypad. Install the 5-wire harness into the 5-wire harness connector. Install the 12-wire harness below the 5-wire harness in the 12-wire connector in the back of the keypad.

Once all the wire connections are made, refer to **Mounting the Keypad** for installation instructions.

Note: The default User Code is 99.

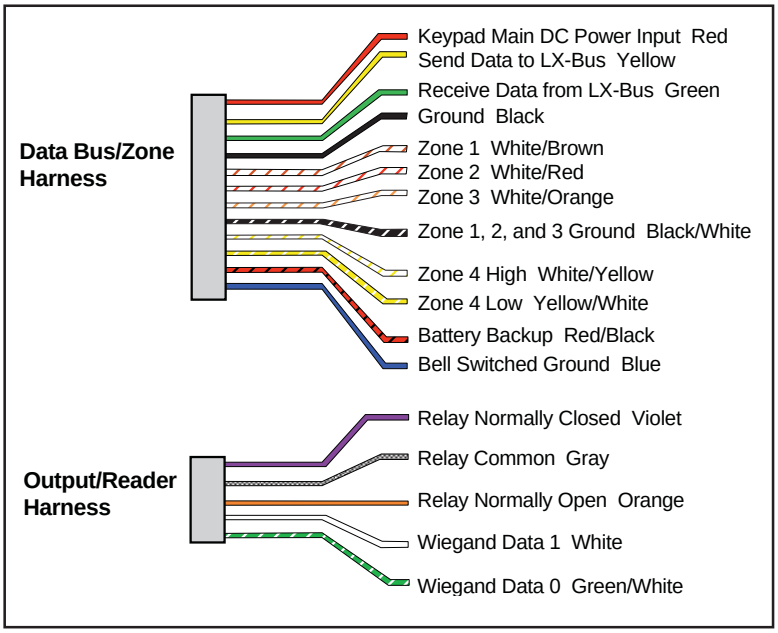


Figure 1: 740 Series Wiring Harnesses

Main DC Power

The SC Series keypads require an external 12 VDC power source to operate. The DC power source must be capable of supporting each keypad based on the following chart. Additional current capacity is required when a backup battery is connected.

Model	Voltage	Current		
		Normal	Alarm	Battery Backup
740	8 to 18 VDC	50 mA	100 mA	N/A
741	8 to 18 VDC	50 mA	130 mA	200 mA
743	8 to 18 VDC	70 mA	160 mA	200 mA

Table 1: Battery Backup

Battery Backup

When using the 741 or 743 keypads, the Red/Black wire provides a maximum 200mA output to charge a backup battery. The 741 and 743 include 14" battery leads for connection to a maximum 4Ah battery. The Red/Black wire on the 740 ***does not*** provide any voltage output. The battery backup output voltage varies based on the Main DC input voltage as shown below.

Main DC Input	Battery Backup Output
16 - 18 VDC	13.8 VDC regulated
15 VDC	13.5 VDC
14 VDC	12.5 VDC
13 VDC	11.5 VDC

Table 2: DC Input and Output

Bell Circuit

A switch ground circuit, rated for 500mA, is provided to switch power for alarm bells or horns. This output turns on steady for burglary alarms and temporal three cadence for fire alarm.

Form C Relay

The 741 and 743 keypads provide one internal Form C (SPDT) relay. This relay may be used for a variety of functions based on programming. It may be used for the following operations:

- Access Control - connect to door strikes or magnetic locks.
- Alarm Relay - connect to an external annunciator.
- Sensor Reset - connect to power of 4-wire smoke detector.

The Form C relay draws up to 30mA of current and its contacts are rated for 1 Amp at 24 VDC.

Wiegand Input

A Wiegand style card reader may be attached to the 741 and 743 SC Series keypads. Connect Black power wire from the reader in parallel to the black ground wire of the keypad. Connect the White data wire from the reader (Data 1) to the White wire on the Output/Reader harness. Connect the Green data wire from the reader (Data 0) to the Green/White wire on the Output/Reader harness.

Reader Operating Current	Current while in Standby	Current while Reading
PP-6005 ProxPoint	35	60
MP-5365 Mini Prox	50	120
PR-5355 ProxPro	100	160
VP-6100 Veriprox	30	300
TL-5395 Thin Line	50	120

Using the Reference Card

A Reference Card has been supplied with the 740 Series keypads. The Reference Card is provided to assist the user when operating their security systems. Write the zone descriptions on the front of the card. Before installation the keypad, slide the card in the back of the base between the two Guide Tabs. Refer to Figure 2 for reference card installation.

Mounting the keypad

The SC Series keypads both use the same plastic housing and easily install on any 4-square box, 3-gang switch box, 695 and 696 backbox, or flat surface. Figure 2 shows the mounting hole location and reference card location on the keypad base. Use this as a guide for mounting the keypad.

Once all of the wiring connections are made, mount the keypad using appropriate size anchors and the enclosed screws.

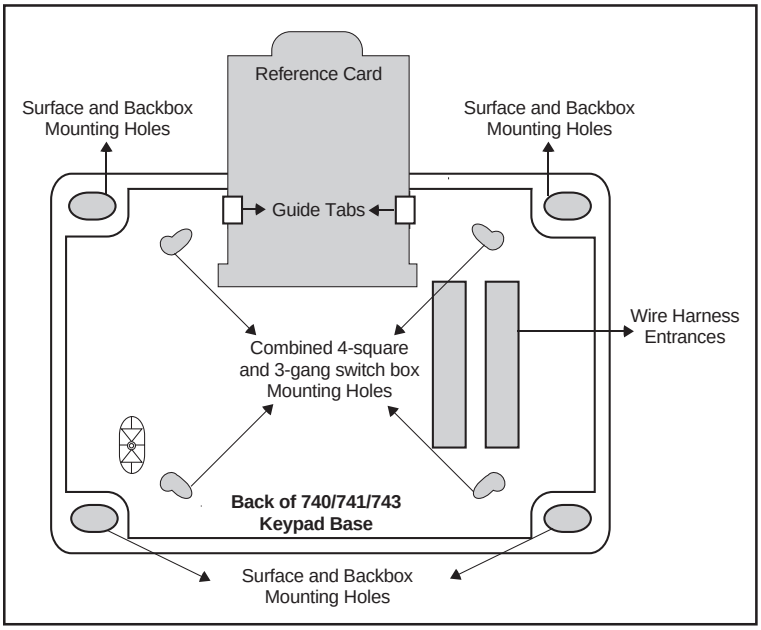


Figure 2: Keypad Mounting Holes

Programming Options

2-Button Panic Keys

The Panic key function of the 740, 741, and 743 keypads allow users to send Panic or Fire reports to the supervising alarm panel. Zone 4 programming determines whether the keypad sends a Panic report or a Fire report.

The Panic key function must be programmed if the Panic keys are to be used. See the "**Programming the keypad"** section for instructions. Cut the icon label for the appropriate function and install the icon label below the top row of Select keys.

The user must press and hold the two SELECT keys for two seconds until a beep from the keypad is heard. At the beep, the keypad simulates a short on zone 4.

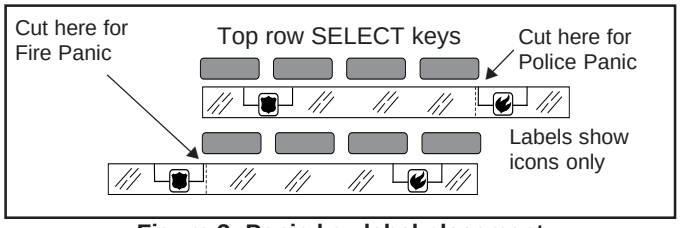


Figure 3: Panic key label placement

Zone Supervision

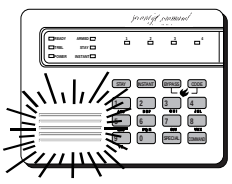
The keypad can only be connected to an LX-Bus for zone supervision. The keypad then reports the open, normal, or short condition of the local keypad zones to the panel. The keypad's programmed address is used as a starting point to report the conditions of local Zone 1 to the corresponding LX-Bus panel zone: For example, address 75 would be LX-Bus Zone 175. Local Zone 2, 3, and 4 conditions are reported on the next three panel zones: Zone 2 would be 176, Zone 3 would be 177, and Zone 4 would be 178. Additionally, the keypads may be programmed to report an alarm from any of the four zones on only one LX-Bus zone.

The corresponding LX-Bus panel zones must be programmed and then armed to create an alarm when the local zone reports a ***short*** to the LX-Bus. When the keypad is disarmed and when a zone is automatically swinger bypassed (three trips during the armed period), a normal zone condition is continuously sent to the LX-Bus. If the panel zone is not armed, the keypad cannot report the status of the keypad to the panel.

Internal Speaker/Siren

When an alarm occurs, the internal speaker can be programmed to emit loud and distinct burglary or fire siren tones. In addition, the keypads emit tones for key presses, entry delay, system alerts, and zone monitor.

After the user performs a successful keypad operation, such as disarming the system, the speaker emits a 1/2-second tone. If the operation is not successful, the speaker emits four short tones. This alerts the user to perform the function again.



Programming the keypad

The SC Series keypads provide a **Program Mode** that allows installers to configure the keypad. The **Program Mode** will be terminated if no key is pressed for one minute.

You access the **Program Mode** by pressing 6653 (PROG) followed by a 4-digit (default = 0000) programming access code. Once you have accessed the Program Mode you are ready to select the various keypad programming options available. During programming the Trouble LED will pulse to indicate Program Mode. To enter a programming option press the SPECIAL key followed by the option number (see the **Programming Option Table**). Enter the selection for that option. After the selection is entered, the keypad will beep once to accept the programming. If an invalid character is entered, the keypad will beep four times and exit the option.

Programming Readout

When a programming option is chosen (SPECIAL XX), the current setting for the option is immediately indicated on the Zone 1 LED. A single programmed digit pulses the Zone 1 LED (1/3 second ON, 1/3 second OFF) the number of times necessary to indicate digit one through nine. For the zero digit, the LED turns on for 1.5 seconds.

For multiple programmed digits, the Zone 1 LED pulses (1/3 second ON, 1/3 second OFF) the number of times to equal the first digit. The LED turns off for two seconds, then the LED pulses (1/3 second ON, 1/3 second OFF) the number of times to equal the second digit. When a programmed option uses two digits but the first digit is zero, only the second digit will be displayed.

Programming Options

Option 1 Program Initialization: This option sets all programming options except Programming Access Code to the factory default values. Press 1 and hold for two seconds until keypad beeps once.

Option 2 Clearing User Codes: To clear all user codes from the memory, press 1 and hold for two seconds until keypad beeps once. All user codes are now cleared and user code 0099 (99 COMMAND) is placed in user number 8.

Option 3 Bus Address: Set the bus address from 00 to 99. It is not necessary to enter a leading zero for addresses 01 to 09.

Option 4 LX-Bus Communication: This option allows communication of local zone conditions to a supervising XR200 or XR200-485. Enter 0 (none) when zone conditions are not sent to the supervising panel. Enter 1 (711 style) when all four local zone conditions are combined as one zone on the LX-Bus. Enter 4 (714 style) when each local zone condition is individually sent on four consecutive addresses of the LX-Bus.

Option 5 and Option 6: These options are reserved for future use.

Option 7 Bell Cutoff Time: This option selects the maximum time in minutes (0-15) that the Bell Output will allow a bell or siren to sound. If the Bell Output is manually silenced or the system is disarmed, the cutoff time is reset. Enter 0 to provide continuous bell output with no cutoff.

Options 8, and 9 Exit and Entry Delays: These options set the delay time (0-99 seconds) for Exit Delay and Entry Delay. When the system is armed, the Exit Delay time starts and any activity on Burglary Zones is ignored until the exit delay expires. For an Entry Delay, the system must be disarmed before the delay expires or an alarm condition will occur. Select the amount of time desired for each delay.

Option 10 Internal Speaker/Siren Annunciation: This option enables the internal speaker to turn on siren tones for an alarm anytime the Bell Output is turned on. Enter 1 to enable internal speaker/siren annunciation.

Options 11 Panic Keys: Select 1 to allow two-button panic key operation. Enter 0 to inhibit panic key operation.

Option 12 Zone 4 Panic or Fire Selection: This option determines Zone 4 operation as either a Panic or Fire zone. Choose either option 1 for a silent Panic zone, or 2 for Panic zone with Bell Circuit and LED alarm status, or 3 to select this zone as a Fire zone. The 2-button panic key follows the programming of this zone.

Option 13 Relay Action: This option is only available in the 741 and 743 keypads and determines the keypad relay output operation. Enter 1 for alarm relay, 2 for door access relay operation, or 3 for sensor reset. When configured as alarm relay, the relay turns on anytime the Bell Output turns on.

Option 14 Battery Test: Enter 1 when installing a 741 or 743 keypad and battery backup voltage monitoring is desired. Low battery is detected at 11.9 VDC.

Option 15: This option is reseerved for future use.

Option 99 Programming Access Code: This option sets the four-digit code (0000-9999) for a programming access code.

Option 00 Exiting the Program Mode: When programming is completed, press the SPECIAL key and 00 to terminate the **Program Mode**. The **Program Mode** will be terminated if no key is pressed for one minute.

PROGRAMMING INFORMATION
For 740, 741, and 743 SC Series Keypad

Name _____ Phone _____

Address _____ City _____ State ___ Zip _____

Bus address _ _ (00 to 99)

LX-Bus Comm. _ (0,1, or 4)

Bell Cutoff _ _ (00 to 15 min.)

Exit Delay _ _ (00 to 99 sec.)

Entry Delay _ _ (00 to 99 sec.)

Alarms on internal speaker ❑ NO ❑ YES

Panic Keys ❑ NO ❑ YES

Zone 4 Operation (Panic or Fire) _ (1, 2, or 3)

Relay Operation (741 & 743 only) _ (1 to 3)

Battery Test ❑ NO ❑ YES

Zone #	Type	Description
Zone 1	Perimeter Entry/Exit	
Zone 2	Perimeter Instant	
Zone 3	Interior Instant	
Zone 4	Fire or Panic	

Programming Access Code Initialization

The 740, 741, and 743 keypads can be initialized to reset the programming access code to the factory default (0000). To reset the programming access code:

- Disconnect the Red wire from the 12 VDC power source and disconnect the Red/Black battery wire.
- Disconnect the Yellow (data transmit) and the Green (data receive) wires from the LX-Bus.
- Twist the Yellow and Green keypad wires together.
- Reconnect the Red wire to the 12 VDC power source.

The keypad programmer code is now reset to 0000. Reconnect wires properly.

Programming Option Table

Option #	740	741	743	Keys Pressed	Description	Range	Default
1	X	X	X	SPECIAL 0 1	Programming Initialization	0 = No, 1= Yes	0
2	X	X	X	SPECIAL 0 2	Clear User Codes	0 = No, 1= Yes	0
3	X	X	X	SPECIAL 0 3	Bus Address	00-99	00
4	X	X	X	SPECIAL 0 4	LX-Bus Communication Style	0 = None, 1 = 711, 4 = 714	1
5				SPECIAL 0 5	For Future Use		
6				SPECIAL 0 6	For Future Use		
7	X	X	X	SPECIAL 0 7	Bell Cutoff Time	00-15	05
8	X	X	X	SPECIAL 0 8	Exit Delay Time	00-99	60
9	X	X	X	SPECIAL 0 9	Entry Delay Time	00-99	30
10	X	X	X	SPECIAL 1 0	Alarms on Internal Speaker	0 = No, 1= Yes	1
11	X	X	X	SPECIAL 1 1	Panic Keys Enabled	0 = No, 1= Yes	0
12	X	X	X	SPECIAL 1 2	Zone 4 Operation (Panic or Fire)	1 = Panic w/out bell or LED, 2 = Panic with Bell and LED, 3 = Fire	1
13	N/A	X	X	SPECIAL 1 3	Relay Operation	1 = Alarm, 2 = Access, 3 = Sensor Reset	1
14	N/A	X	X	SPECIAL 1 4	Battery Test Enabled	0 = No, 1= Yes	0
15				SPECIAL 1 5	For Future Use		
99	X	X	X	SPECIAL 9 9	Set Programming Access Code	0000-9999	0000
00	X	X	X	SPECIAL 0 0	Exit Programmer Mode	00	N/A

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