690/690F, 790/790F and 693/793 Security Command™ Keypads

Description

The DMP 690/690F, 790/790F and 693/793 Security Command™ LCD Keypads are the industry's first burglary/fire keypads with integrated access control capability. Each keypad provides four 2-button Panic keys, an AC power LED, an Armed LED, 32-character display, backlit keyboard with easy-to-read lettering and an internal speaker. In addition, the Models 790/790F and 793 keypads also provide four fully programmable Class B, Style A protection zones you can program for a variety of burglary, fire, and access control applications.

The 693 and 793 keypads provide a built-in proximity card reader designed to read HID 1300 Series proximity credentials. The Model 793 keypad also provides a door strike relay and allows Wiegand input from HID, DMP, or other external card readers. When presenting a DMP credential use the keypad built-in card reader. HID credentials can be read at either the keypad or the external card reader.

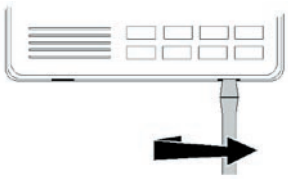
Note: The 690F and 790F Security Command LCD keypads do not provide an Armed LED. These keypads may be installed in fire only applications.

Installing the Keypad

The keypads each use the same plastic housing. They are all designed to easily install on any 4" square box, 3-gang switch box, 695 and 696 backbox, or flat surface. Figure 1 shows the keypad housing base mounting hole locations.

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 mount the keypad, remove the base from the front by inserting a flat screwdriver into one of the openings on the bottom. Twist the screwdriver while pulling the halves apart. Repeat with the other opening.



Harness Wiring

Figure 1 shows wiring harness assignments. Observe wire colors when connecting the red, yellow, green, and black wires to the keypad bus. When wiring directly to the panel terminals, connect red to panel terminal 7, yellow to terminal 8, green to 9, and black to panel terminal 10. Use 1k Ohm EOL resistors, DMP Model 311, on keypad zones 1 through 4.

The 690, 690F, and 693 keypads are supplied with a 4-wire harness for panel keypad bus connection.

The 790, 790F, and 793 keypads are supplied with a 12-wire data bus/zone harness. Four wires connect to the keypad bus, the same way the 690 and 690F keypad harness connects. The remaining eight wires are for the four zone inputs: two wires for each zone.

The 793 keypad is also supplied with one 5-wire output/reader harness.

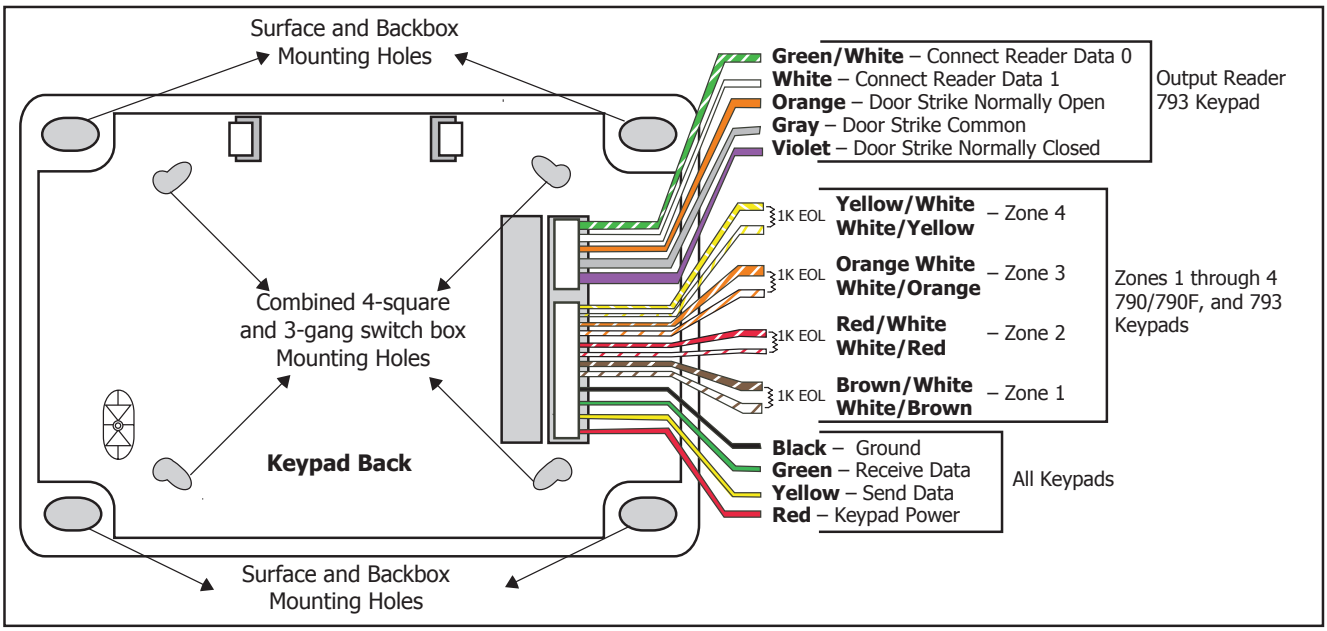


Figure 1: Keypad Back Showing Wiring Harness Assignments

Additional Power Supply

If the current draw for all keypads exceeds the panel output, you can provide additional current by adding a Model 505-12 auxiliary power supply. Connect all keypad common wires to the power supply negative terminal. Run a jumper wire from the power supply negative terminal to the panel common terminal. Connect all keypad power (+12 VDC) wires to the power supply positive terminal. Do NOT connect the power supply positive terminal to any panel terminal. Refer to the 504-24 and 505-12 Power Supply Installation Guide (LT-0453) for more information.

Wiring a 12 VDC Access Control Reader on 793 keypads

To use 12 VDC readers with the 793 keypad, connect the Red and Black power wires from the reader to the power wires from the panel. These connect in parallel with the keypad power wires. Connect the White data wire from the reader (Data 1) to the White wire on the 5-wire keypad harness. Connect the Green data wire from the reader (Data 0) to the Green/White wire on the 5-wire keypad harness.

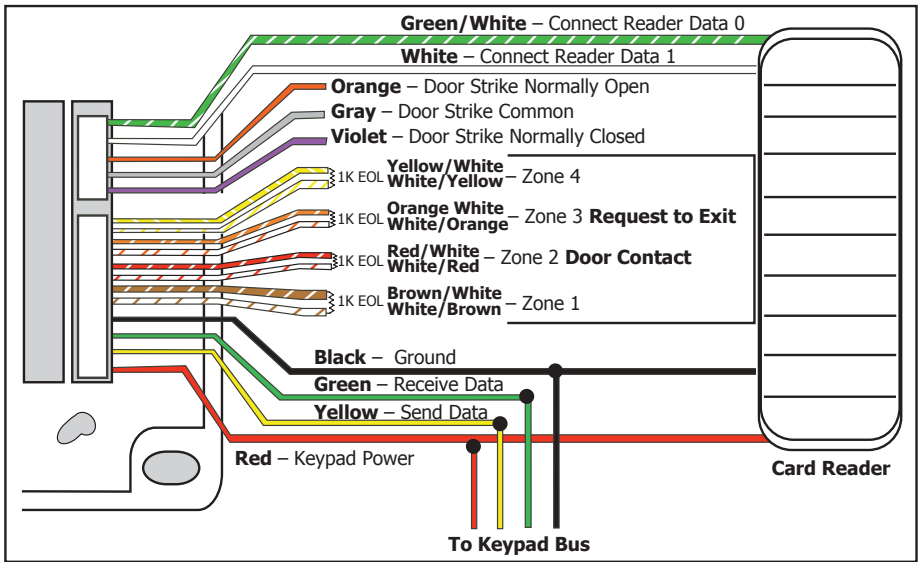


Figure 2: 12 VDC Reader Wiring for 793 Keypads

793 Door Strike Relay Specifications

The 793 keypad provides one internal Form C single pole, double throw (SPDT) relay for controlling door strikes or magnetic locks. Three wires on the 5-wire harness, Violet (N/C), Gray (Com), and Orange (N/O), allow you to connect devices to the relay. The Form C relay draws up to 30mA of current and its contacts are rated for 1 Amp at 30 VDC maximum.

Note: For UL installations, the door strike relay must be connected to devices within the same room.

Wiring the 333 Suppressor

One Model 333 Suppressor is included with the 793 Keypad. Refer to Figure 3 and install the suppressor across the 5-wire output/reader harness Common (C) and Normally Open (N/O) or Normally Closed (N/C).

If the device being controlled by the relay is connected to the N/O and C wires, install the suppressor on the N/O and C wires. If the device is connected to the N/C and C wires, install the 333 Suppressor on N/C and C wires.

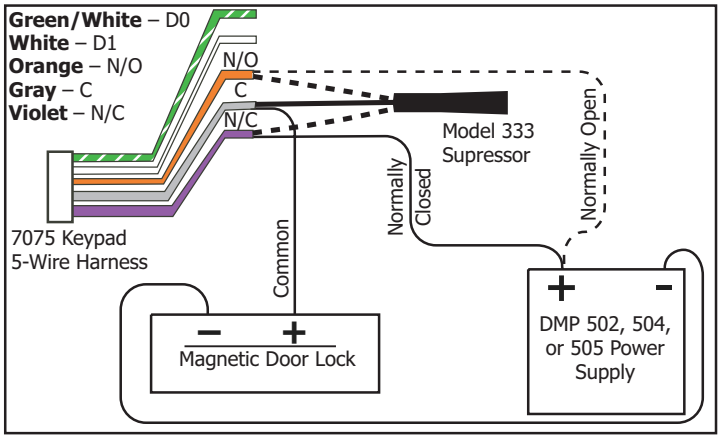


Figure 3: 793 5-wire Harness and Suppressor Installation

793 Door Strike Relay Operation

As soon as the user code sent from the reader is verified by the panel, the keypad Door Strike relay activates for five seconds. During this time, the access door connected to Zone 2 must be opened to start the programmed entry/exit timer and zone soft shunt.

Note: The 5-second delay length is programmable in the panel when the keypad is used on an XR500 Series, XR2500F, or XR200-485 panels. Refer to the XR500 Series Programming Guide (LT-0679) or the XR200-485 Programming Guide (LT-0197).

793 Zone 2 Door Contact with Soft-Shunt™

If the door being released by the keypad is protected, you can provide a programmed shunt time by connecting its contact to Zone 2 (White/Red pair) on the keypad and enabling the Soft-Shunt feature. See ZONE 2 SHUNT later in this document. Door contacts may be N/C or N/O.

Note: The Door Strike time is programmable when the keypad is used on an XR500 Series, XR2500F, or XR200-485 panel. Refer to the XR500 Series Programming Guide (LT-0679) or the XR200-485 Programming Guide (LT-0196).

793 Zone 3 Request to Exit

You can also connect a normally open PIR (or other motion sensing device) or a mechanical switch to Zone 3 (White/Orange pair) on the keypad to provide a request to exit capability to the system. See ZONE 3 EXIT later in this document. This feature is not available on 690/690F, 693, or 790/790F keypads.

Note: A Zone 3 Request to Exit is inhibited for 3 seconds after the keypad reads a card and a door strike occurs. This is to allow entry to the area and pass under a Request-to-Exit PIR.

Panic Key Options

2-Button Panic Keys

All 690/690F and 790/790F Security Command keypads and 693/793 keypads offer a Panic key function that allows users to send Panic, Emergency, or Fire reports to the central station. In order to use the Panic keys, you must enable the Panic key function in the keypad user menu. See Programming Instructions later in this document when enabled. The Panic key function activates as soon as you apply power to the keypad. Install the supplied icon labels below the top row of Select keys as shown in Figure 4.

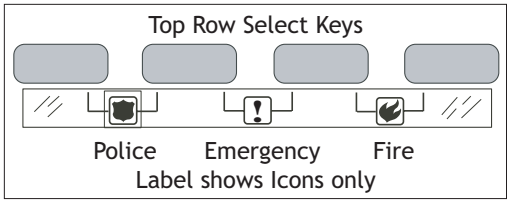


Figure 4: Panic key label placement

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 panel sends the following zone alarm reports to the central station:

Panic (left two Select keys) - Zone 19
Emergency - non-medical (center two Select keys) - Zone 29
Fire (right two Select keys) - Zone 39

7/0 Panic Keys

The LCD keypads also allow the user to initiate an optional Panic alarm by pressing the 7 and 0 (zero) keys simultaneously for one-half (1/2) second. When enabled, all LCD keypads send a Zone Short message to the panel for the first zone of this keypad address. When the keys are released a Zone Restore message is sent from 790/790F and 793 keypads.

To produce a panic alarm, program the first keypad zone as a panic type in panel programming. Place a 1k Ohm End-of-Line resistor, DMP Model 311, across the White/Brown pair of zone wires (Zone 1) for the 790/790F and 793 keypads. The 1k Ohm resistor is not required on 690 or 690F keypads, but a Zone Restore message is not sent when the keys are released.

Internal Speaker Operation

The LCD keypads emit standard tones for key presses, entry delay, and system alerts. The speaker also provides distinct burglary, fire, zone monitor, and early delay tones. The keypads provide an alternate entry delay audible early delay cadence that occurs when a zone alarm displays in the status list.

Keyboard Backlighting

The keyboard lights when a key is pressed or the speaker sounds. During an alarm condition, the keyboard turns Red. The Red backlighting turns off when all areas in the system are disarmed or when the Sensor Reset function is used. The keypad backlighting dims to medium brightness whenever the speaker is on.

End-User Options

The LCD Keypads provide three keypad adjustments the end-user can make through a User Options Menu. The user can also view the keypad model number and address in User Options.

On all keypads press and hold the Back Arrow (<—) and CMD (COMMAND) keys for two seconds to access User Options. The keypad display changes to SET BRIGHTNESS. Use the CMD key to display the next option or press the <— key to exit the User Options function.

SET BRIGHTNESS < ▮▮▮▮▮▮▮ >	**Backlighting Brightness** Set the keypad LCD Display brightness level, AC LED, and the Green keyboard backlighting. Use the left Select key to lower the keypad brightness and the right Select key to raise the brightness. If the brightness level is lowered, it reverts to maximum intensity whenever a key is pressed. If no keys are pressed, and the speaker has not sounded for 30 seconds, the user-selected brightness level restores.
SET TONE < ▮▮▮▮▮▮▮ >	**Internal Speaker Tone** Set the keypad internal speaker tone. At the SET TONE display, use the left Select key to lower the tone and the right Select key to raise the tone.
SET VOLUME LEVEL < ▮▮▮▮▮▮▮ >	**Internal Volume Level** Set the keypad internal speaker volume level for key presses and entry delay tone conditions. During alarm and trouble conditions, the volume is always at maximum level. Use the left Select key to decrease the keypad volume and the right Select key to increase the volume. Press the CMD key to display the Model Number.
MODEL NUMBER 793 V303 102504	**Model Number** The LCD displays the keypad model number and the keypad firmware version and date. The user cannot change this information in User Options.
KEYPAD ADDRESS 01	**Keypad Address** The LCD displays the current keypad address. While in User Options, the user cannot change the keypad address. Press the <— key to exit the User Options function.

Entering Alpha Characters

To enter an alpha character, press the key that has the desired letter written below it. The keypad display shows the number on that key. To change the number to a letter, press the top row Select key that corresponds to the letter location under the key. For example, if you press key number 1, the letters for that key are A, B, and C. Press the first Select key for A, the second Select key for B, and the third Select key for C.

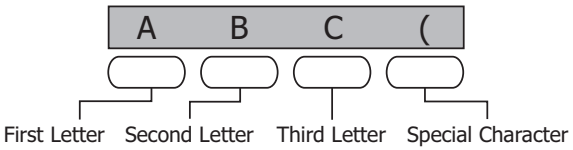


Figure 5: Entering Alpha Characters

Entering Non-Alphanumeric Characters

When in the Installer Options Menu, each key also has a special, non-alpha character you may use. These characters are not shown on the keypad. Enter a space by pressing 9 then the third Select key. The following non-alpha characters are available: ( ) ! ? / & $, (space) ’ starting with the left bracket on the 1 digit key to the blank space and apostrophe on the 9 digit key. Use the 0 digit key to enter - . * # (dash, period, asterisk, or number sign). See Figure 6.

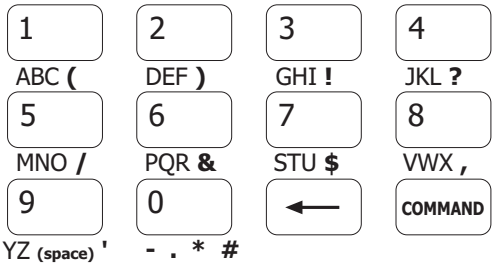


Figure 6: Keys with Non-Alpha Characters

Installer Options Menu

The LCD keypads provide Keypad Option and Keypad Diagnostic menus to allow installers and service technicians to configure and test keypad operation.

Accessing Installer Options

You can only access the Installer Options Menu through the User Options function. Hold down the <— and CMD keys for two seconds to display SET BRIGHTNESS. Enter the code 3577 (INST) and press CMD. The display changes to KPD OPT (keypad options) KPD DIAG (keypad diagnostics) and STOP.

The Keypad Options menu allows you to set the keypad address, select Supervised or Unsupervised mode, change the default keypad message, selectively enable the 2-button Panic keys, Soft-Shunt, Request-to-Exit, and set entry card options.

Note: All programming options display on all keypads, however, actual operation for some programming options is restricted to the listed keypads.

Programming Keypad Options

KPD KPD OPT DIAG STOP	**Keypad Options (KPD OPT)** To program keypad options, press the left Select key under KPD OPT. The display changes to CURRENT KEYPAD ADDRESS: # #.
CURRENT KEYPAD ADDRESS: 01	**Keypad Address** Set the keypad address from 01 to 05 with the XRSuper6 and XR20, from 01 to 08 with the XR40, XR200, and 01 to 16 with the XR200-485 and XR500 Series. The factory default address is set at 01. To change the current address, press any Select key and then enter the new address using the appropriate number keys on the keyboard. It is not necessary to enter a leading zero for addresses 01 to 09.
KEYPAD MODE: *SUP UNSUP	**Keypad Mode** Configure the keypad for either Supervised or Unsupervised operation. Keypads with zones connected to them must be supervised. Supervised keypads cannot share addresses with other keypads. Unsupervised keypads can operate with other unsupervised keypads sharing the same address. Zones cannot be used on unsupervised keypads. To change the current setting, press the Select key under SUP or UNSUP. An asterisk appears next to the selected option. **Note**: Unsupervised addresses cannot be used when Device Fail Output has a programmed value other than zero.
DEFAULT KEYPAD MSG:	**Default Keypad Message** Enter a custom message of up to 16 characters to appear on the keypad display top line whenever that line is not used for any other purpose. Press any Select key to clear the current display and use the data entry keys to enter a new custom display.
ARM PANIC KEYS: *PN *EM *F1	**Arm Panic Keys** Use this option to configure the top row Select keys as 2-button Panic keys. To enable or disable a Panic, press the Select key under the appropriate display: PN (Panic), EM (Emergency), and FI (Fire). Once the panic is enabled, an asterisk displays next to the description. Refer to the Panic Key Options section earlier in this document.
7/0 PANIC ENABLE: **NO** YES	**7/0 Panic** Use this option to configure the 7 and 0 keys as a 2-button Panic feature. To enable the 7/0 Panic, select YES. To disable the option, select NO. Default is NO. In a panic situation simply press and hold the 7 and 0 keys for one-half (1/2) second. Refer to the Panic Key Options section earlier in this document.
ACTIVATE ZONE 2 SHUNT: **NO** YES	**Zone 2 Shunt (793 only)** Select YES to enable the Soft-Shunt™ option on zone 2 as described earlier in this document. This zone provides the Soft-Shunt™ for door contacts. This zone must be programmed into the panel.

ZONE 2 SOFTSHUNT
TIME: **40**

Zone 2 Soft-Shunt Time (793 only)
Enter the number of Soft-Shunt seconds to elapse before the Soft-Shunt timer expires. Range is from 20 to 250 seconds. Press any top row select key to enter the number of seconds. Once the door strike relay is activated, the user has 5 seconds to open the door connected to zone 2. The zone is then shunted for the programmed time or until the contact restores to normal. Ten seconds after the Soft-Shunt entry/exit time begins, the keypad beeps if the door is still open. If the door remains open when the timer expires a zone open/short is sent to the panel for Zone 2. The default is 40 seconds.

Figure 7 shows how the Soft-Shunt works using the default 40 second timer.

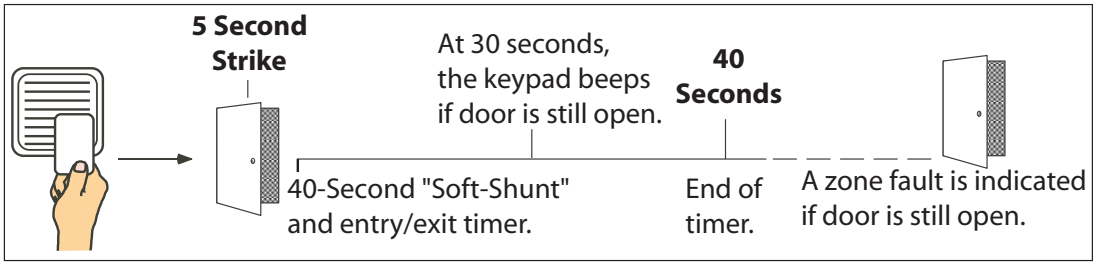


Figure 7: Door Strike Relay Operation Time Line

RELOCK ZONE 2
FAULT: **NO** YES

Relock on Zone 2 Fault? (793 only)
Selecting NO leaves the relay on when Zone 2 faults to an open or short condition during door access. Selecting YES turns the relay off when Zone 2 faults open or short during door access. The default is NO.

ACTIVATE ZONE 3
EXIT: **NO** YES

Zone 3 Exit (793 only)
Select YES to enable the Request to Exit feature on zone 3. When zone 3 shorts, the keypad relay activates for 3 seconds. During this time, the user can open the protected door to start the 40-second Soft-Shunt entry/exit timer. If the door is not opened within 3 seconds, the relay restores the door to its locked state. When shorted, this zone activates the keypad relay. No panel programming is required.

ZN 3 REX STRIKE
TIME: **5**

Zone 3 REX Strike Time (793 only)
Enter the number of REX seconds to elapse before the door relay turns off. Range is from 5 to 250 seconds. Press any select key to enter the number of seconds. The default is 5 seconds.

ALL?: **NO** YES
DELAY: 2

Arming/Disarming Wait Time (693 and 793 only)
Select the number of seconds the keypad should wait when an area system displays ALL? NO YES during arming/disarming or a HOME/SLEEP/AWAY system waits during arming only. If NO or YES, or HOME, SLEEP, or AWAY is not manually selected before the delay expires, the keypad automatically selects the YES or the AWAY key. Select zero (0) to disable this feature. The delay can be one to nine (1-9) seconds. The delay also occurs when any credential is presented for arming the Home/Sleep/Away system. After a card is presented, HOME SLEEP AWAY displays. The keypad waits the programmed number of seconds before automatically selecting AWAY.

CARD OPTIONS
DMP CUSTOM

Card Options (693 and 793 only)
Select DMP to indicate the reader sends a 26-bit DMP data string. To save the DMP option, press the left top row Select key under DMP. Default is DMP.

Select CUSTOM if using a non-DMP credential. To select CUSTOM press the right top row Select key.

WIEGAND CODE
LENGTH: **45**

Custom Card Definitions (693 and 793 only)
When using a custom credential, enter the total number of bits to be received in Wiegand code including parity bits. Press any top row Select key to enter a number between 0-255 to equal the number of bits. Default is 45 bits.

Typically, an access card contains data bits for a site code, a user code, and start/stop/parity bits. The starting position location and code length must be determined and programmed into the keypad.

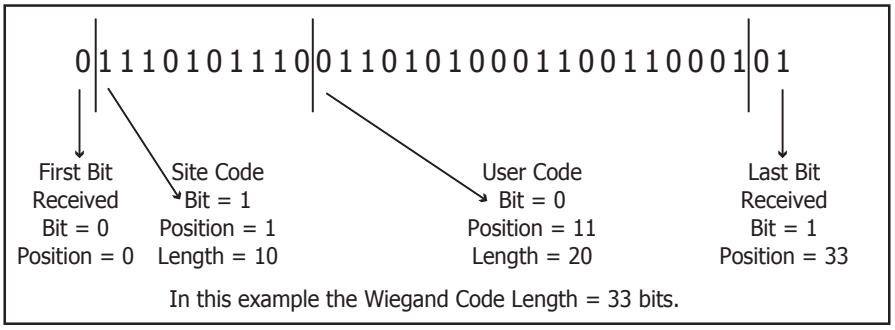


Figure 8: Data Stream Bit Location Example

SITE CODE
POSITION: **1**

Site Code Position (693 and 793 only)
When using a custom credential, enter the site code start position in the data string. Press any Select key to enter a number between 0-255. Default is 1. Press CMD to save the entry.

SITE CODE
LENGTH: **1**

Site Code Length (693 and 793 only)
When using a custom credential, enter the number of characters the site code contains. Press any Select key to enter a number between 1-16. Default is 1. Press CMD to save the entry.

USER CODE
POSITION: **1**

User Code Position (693 and 793 only)
When using a custom credential, define the User Code start bit position. Press any Select key to enter a number between 0-255. Default is 1. Press CMD to save the entry.

USER CODE
LENGTH: **45**

User Code Length (693 and 793 only)
When using a custom credential, define the number of User Code bits. Press the fourth Select key to enter a custom number. Custom numbers can only be a number between 16-32. Press CMD to save the entry. The default is the DMP value of 45.

REQUIRE SITE
CODE: **NO** YES

Require Site Code (693 and 793 only)
Press the top row Select key under YES to use a site code and press CMD to view the site code entry display. Default is NO.

In addition to User Code verification, door access is only granted when any one site code programmed at the SITE CODES entry option matches the site code received in the Wiegand string. You can program up to eight **three-digit site codes**.

Note: A card with a site code greater than three digits cannot be used. Use only cards with three-digit site codes.

SITE CODES 1-4
> > > >

Site Codes 1-4 (693 and 793 only)
Enter site codes 1-4 (left to right separated by > sign). Press the Select key below the > sign to add, delete, or change the site code and press CMD. Site code range is 0-999. Press the CMD key to display SITE CODES 5-8.

SITE CODES 5-8
> > > >

Site Codes 5-8 (693 and 793 only)
Enter site codes 5-8 (left to right separated by > sign). Press the Select key below the > sign to add, delete, or change the site code and press CMD. Site code range is 0-999.

NO. OF USER CODE DIGITS: **5**

Number of User Code Digits (693 and 793 only)

The keypad recognizes user codes from four to six digits in length. Press any Select key to enter the user code digit length being used by the panel. Default is 5.

When searching the bit string from the reader for the user code, the digits are identified and read from left to right. When a four-digit user code is selected only the first four digits of the string are read.

The table below identifies the panel types, the required operating modes for the arming/disarming feature, and the appropriate code configuration (4, 5, or 6 digits) for each panel.

Operation	XR500 Series/ XR2500F	XRSuper6	XR20/XR40	XR200	XR200-485
Arms H/A Disarms H/A	— —	4-digit 4-digit	4-digit 4-digit	4-digit 4-digit	— —
Arms A/P Disarms A/P	— —	— 4-digit	— 4-digit	— 5-digit	— —
Arms Area(s) Disarms Area(s)	— 4, 5, or 6-digits	— —	— 4-digit*	— 5-digit*	— 5-digit

***** During entry delay only. — Not available on this panel type.

Note: XR200-485 and XR200 Command Processor™ Panels recognize a user code with a maximum of five digits.
As of March 2005, XR500 Series and XR2500F Command Processor™ Panels recognize a user code with a maximum of six digits.

DEGRADED MODE RELAY ALWAYS OFF

Degraded Mode (693 and 793 only)

This option defines the relay action when communication with the panel has not occurred for five seconds. Press any top row Select key to display CHOOSE ACTION. The default is Relay Always Off.

CHOOSE ACTION OFF SITE ANY ON

Choose the Degraded Mode Action required.
Press the first Select key to choose OFF [Default] (Relay Always Off)
- The relay does not turn on when any Wiegand string is received. Off does not affect any REX operation.

Press the second Select key to choose SITE (Accept Site Code)
- Door access is granted when the Wiegand site code string received matches any site code programmed at SITE CODE ENTRY. For details refer back to the REQUIRE SITE CODE option.

Press the third Select key to choose ANY (Any Wiegand Read)
- Door access is granted when **any** Wiegand string is received.

Press the fourth Select key to choose ON (Relay Always On)
- The relay is always on.

CHOOSE ACTION LAST

Press the CMD key to display the next action.
Press the first Select key to choose LAST (Keep Last State)
- The relay remains in the same state and does not change when communication is lost.

After choosing the action, DEGRADED MODE and the newly defined action display. Programming is now complete.

Accessing Keypad Diagnostics
If necessary, refer to Access the User Menu on the previous page.

KPD KPD OPT DIAG STOP

Keypad Diagnostics (KPD DIAG)
The Keypad Diagnostic option allows you to check the display segments, check the keyboard backlighting, and test individual keys.

Press the Select key under KPD DIAG. The keypad lights all display segments and illuminates the keyboard in green. A few seconds later the keypad turns the display off and illuminates the keyboard in red. The keypad then alternates between these two states for approximately two minutes. Press CMD at any time to continue.

PRESS KEY TO TEST

Test Individual Keys
The display changes to PRESS KEY TO TEST. This option allows you to test each key on the keyboard to ensure it is operating properly. Press and hold each key for about two seconds. The key number being held appears in the display. Verify the correct number displays before testing the next key.

Z1 OPEN Z2 OPEN Z3 OPEN Z4 OPEN

Zone Test (790/790F and 793 only)
This option allows the keypads to display the current electrical status of the four protection zones. The status is shown as OPEN, SHRT, or OKAY.

Note: The Zone Test displays on 690, 690F, and 693 keypads, but is not operational.

INPUT WIEGAND

Input Wiegand (693 and 793 only)
This option tests the reader input from proximity cards. The display shows OKAY each time a good card is read.

Exiting the Installer Options
When done, press the CMD key once to return to the Installer Options screen. Press the Select key under STOP to exit the Installer Options function.

693/793 Keypad Additional Programming

The 693/793 keypads allow users to present a proximity credential to an access control reader that in turn sends their user code to the keypad. Users can also manually enter their user code into the keypad. The keypad reads the user code and verifies its authority with the panel. Additionally the 793 activates its on-board Form C relay releasing a door strike or magnetic lock.

Programming Cards into the System
The programming feature operates on 693/793 keypads only. Access the User Menu in one of two ways. When MENU? NO YES displays, choose YES and present your proximity credential to the reader or manually enter your user code into the keypad.

From the User Menu, select USER CODES?. Choose ADD. At the ENTER CODE: - display, present the credential to the reader. The keypad works by reading the 4, 5, or 6-digit user code from the data sent by the access control reader. For more information, refer to Entry Cards in the programming section of this document and the following User's Guide section on adding, deleting, and changing user codes.

There are three different sections: Keypad Arming and Disarming, Keypad Door Strike, and Keypad Entry Delay. All of the examples below assume that CLOSING CODE is YES in panel programming.

Keypad Arming and Disarming

Area System Arming and Disarming

Press CMD, the keypad displays ARM DISARM. Press the Select key under either option. The keypad displays ENTER CODE: -. Present your card to the keypad reader. Once validated by the system, all areas assigned to your code arm or disarm automatically and the 793 keypad Door Strike relay activates.

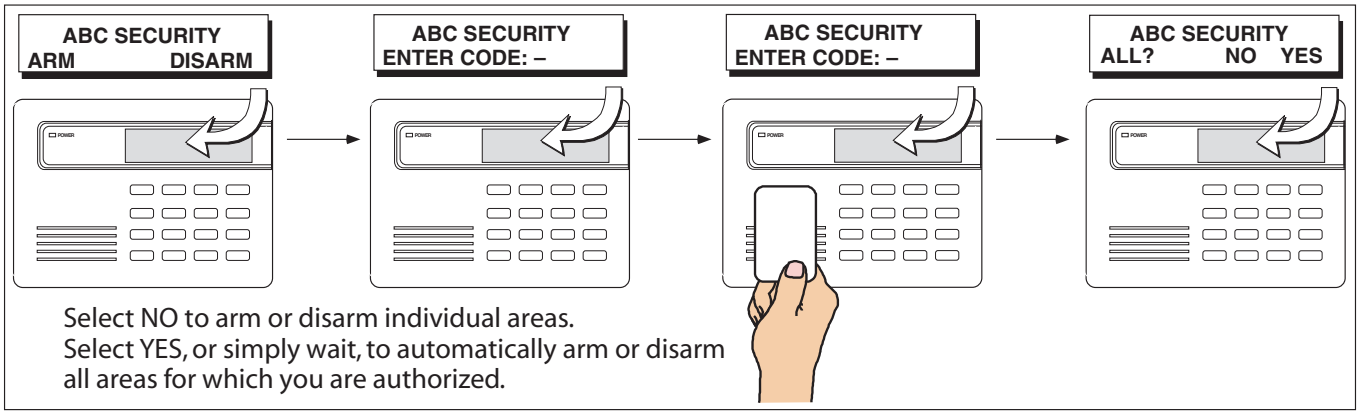


Figure 9: Area Arming and Disarming

All/Perimeter System Arming and Disarming

Press CMD, the keypad displays PERIM ALL (when arming) or DISARM? Press the select key under the desired option. The keypad displays ENTER CODE: -. Present your card to the reader. Once validated by the system, the selected areas arm or disarm automatically. On 793 keypads, the Door Strike relay then activates.

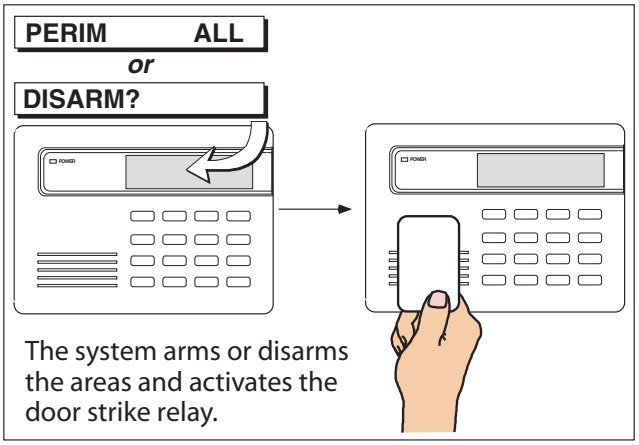


Figure 10: All/Perimeter Arming and Disarming

Home/Away System Arming and Disarming

Present your card to the reader. If the system is armed, once the card is validated, all areas are disarmed. If the system is disarmed when you present your card, once the card is validated, all areas are armed in the AWAY mode.

Keypad Door Strike

Area and All/Perimeter Door Strike

From the Status List, present your card to the reader. Once validated by the system, all areas assigned to your code arm or disarm automatically and the 793 keypad Door Strike relay activates. Home/Away systems only activate the 793 Door Strike relay when arming and disarming.

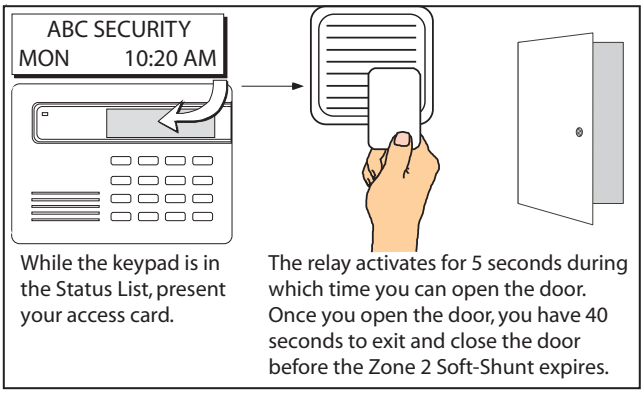


Figure 11: Present Access Card

Keypad Entry Delay

All Systems

Once the protected door is opened and the entry delay starts, the keypad displays ENTER CODE: - . Present your card to the reader. Once validated by the system, all areas assigned to your code arm or disarm automatically and the 793 keypad Door Strike relay activates. Area systems provide a delay to allow selected areas only to be disarmed. See Keypad Arming and Disarming.

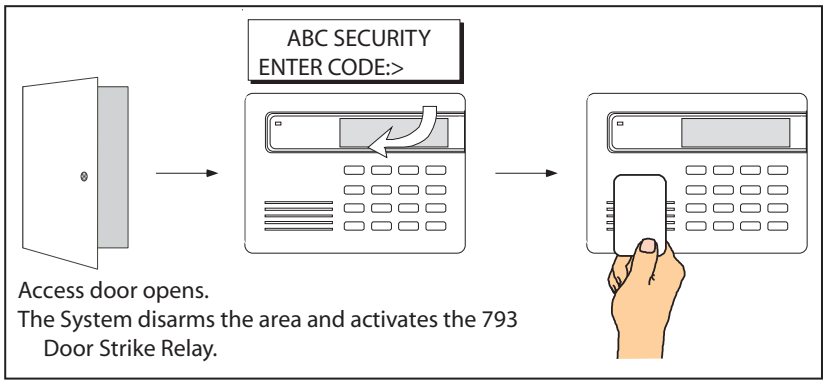


Figure 12: Entry Delay

Wiring Specifications

When planning a keypad bus installation, keep in mind the following specifications:

1. DMP recommends using 18 or 22-gauge **unshielded** wire for all keypad and LX-Bus circuits. **Do Not** use twisted pair or shielded wire for LX-Bus and keypad bus data circuits. To maintain auxiliary power integrity when using 22-gauge wire do not exceed 500 feet. When using 18-gauge wire do not exceed 1,000 feet. Install an additional power supply to increase the wire length or add devices.
2. Maximum distance for any one circuit (length of wire) is 2,500 feet regardless of the wire gauge. This distance can be in the form of one long wire run or multiple branches with all wiring totaling no more than 2,500 feet. As wire distance from the panel increases, DC voltage on the wire decreases.
3. Maximum number of devices per 2,500 feet circuit is 40. On XR500 Series and XR2500F panels, the maximum number of LX-Bus devices per 2,500 foot circuit is 25.
   Note: Each panel allows a specific number of supervised keypads. Add additional keypads in the unsupervised mode. Refer to the panel installation guide for the specific number of supervised keypads allowed.
4. Maximum voltage drop between the panel (or auxiliary power supply) and any device is 2.0 VDC. If the voltage at any device is less than the required level, add an auxiliary power supply at the end of the circuit. When voltage is too low, the devices cannot operate properly.

Refer to the LX-Bus/Keypad Bus Wiring Application Note (LT-2031) for more information. Also see the 710/710F Module Installation Sheet (LT-0310).

FCC Information

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications made by the user and not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Specifications

Operating Voltage 12 VDC Nominal

Current Draw

690/690F		
	Standby	77mA
	Alarm	84mA
790/790F		
	Standby	77mA + 1.6mA per active zone
	Alarm	84mA + 2mA per active zone
693/793		
	Standby	92mA +1.6mA per active zone
	Alarm	120mA +2mA per active zone

Dimensions 6.5" W x 5" H x 1" D

Listings and Approvals

Underwriters Laboratories (UL) Listed

UL	365	Police Connected Burglar
UL	609	Local Burglar
UL	1023	Household Burglar
UL	1076	Proprietary Burglar
UL	1610	Central Station Burglar
UL	1635	Digital Burglar
UL	985	Household Fire Warning
UL	864	Fire Protective Signaling

California State Fire Marshal (CSFM)

FCC Part 15

FCC Part 68 RFID Reader FCC ID:CCK793

Panel Compatibility

DMP Command Processor™ panels
XR500 Series, XR2500F, XRSuper6, XR20, XR40, XR200, XR200-485

Accessories

Backboxes
695 or 696 4" square mounting box
777 protective keypad cover

Keypad Wiring Harness
300 4-wire harness
300-5 5-wire harness
300-12 12-wire harness
300-512 12-wire harness, 5 ft. long

Proximity Readers for 793 keypads

PP-6005B ProxPoint® Plus	30mA Standby	75mA Peak
MP-5365 MiniProx™	20mA Standby	110mA Peak
PR-5455 ProxPro II®	25mA Standby	125mA Peak
MX-5375 MaxiProx®	200mA Standby	700mA Peak
TL-5395 Thinline II®	20mA Standby	115mA Peak

Proximity Credentials for 693/793 keypads
1306P Prox Patch™
1306PW Prox Patch™ 26-Bit
1326 HID ProxCard II® Card
1346 HID ProxKey II® Access Device
1386 HID ISOProx II® Card

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