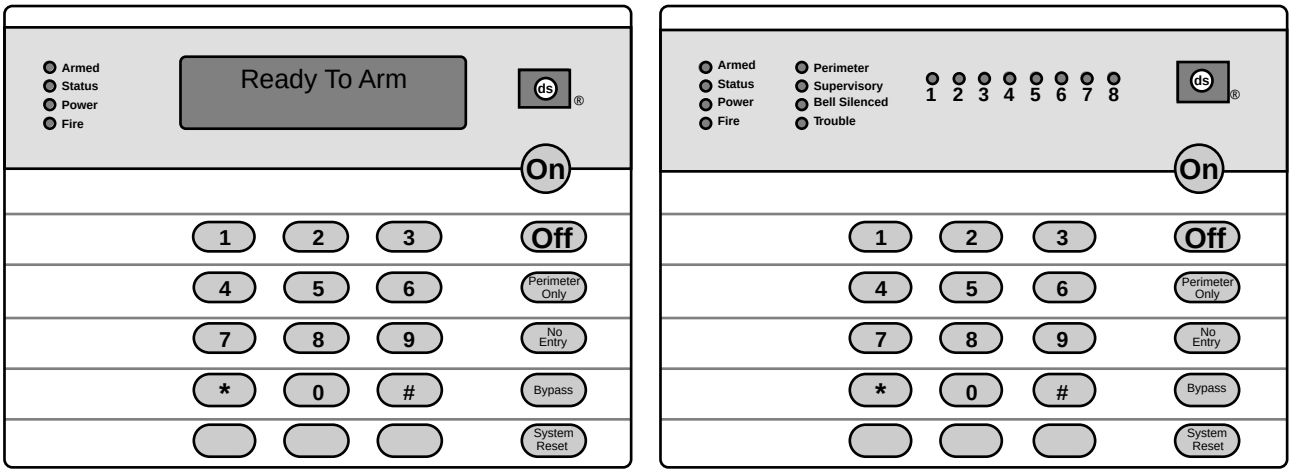
Reference Guide
for the
DS7080i Control/Communicator



Keypad Quick Reference Guide

Turning On (arming) your System

Normal Arming	PIN + [On]
Perimeter Arming, no entry delay	PIN + [No Entry] [Perimeter Only]
Perimeter Arming, with entry delay	PIN + [Perimeter Only]
Maximum Security Arming	PIN + [No Entry] [On]
Custom Arming	PIN + [#] [4]
Force Arming	PIN + Arming Sequence + [Bypass]
Zone Bypass	PIN + [Bypass] followed by the Zone number

Turning Off (disarming) your System

PIN + [Off]

Commands for other System Features

Chime Mode	PIN + [#] [7]
Zone Test	PIN + [#] [8] [1]
Read Event History	PIN + [#] [8] [9]
Battery Test	PIN + [System Reset]
Communicator Test	PIN + [#] [8] [2]
Fire Reset	PIN + [System Reset]
Fire Trouble	PIN + [Off] to silence, PIN + [System Reset] to clear
Remote Program Dial-out	PIN + [#] [8] [3]
Remote Program Answer	PIN + [#] [8] [6]
Local Battery/Sounder Test	PIN + [#] [8] [5]
Error Display	PIN + [#] [8] [7]
Error Display Reset	PIN + [System Reset]
Clear Zone Bypass	PIN + [Bypass] [*] to clear

Access Control

Access Control PIN + [Off]

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1.0 Specifications

1.1 Enclosure Housing

The standard enclosure is manufactured from 20 Ga., cold-rolled steel, and measures 12.5 in. Wide, by 14.5 in. High, by 3 in. Deep. A keyed lock is included, and this enclosure has provision for an optional tamper switch (required for Commercial Burglary applications) for monitoring the door.

1.2 Temperature

- Storage and Operating Temperature: +32° to +120°F (0° to +49°C)

1.3 Power

- Input power: 18 VAC, 50 VA, 50 Hz. or 60 Hz.
- Auxiliary regulated power: 12 -12.5 VDC, 1.0 A.
- Optional Standby battery (P334): 12 V, 7.0 AH
- Control panel current draw: 115 mA
- DS7445 keypad current draw: 75 mA, Standby
75 mA, Alarm
- DS7447 keypad current draw: 100 mA, Standby
100 mA, Alarm

Note: The total current for all auxiliary devices, including keypads and smoke detectors = 1.5 A standby and alarm.

1.4 Outputs

- Alarm Output: Normally Closed, 1.0 Amp contact connected to auxiliary power. Can be programmed for steady or pulsed output.
- Programmable Output 1* Solid state current sink (1 A max.). Can be used for alarm, arming state, or access control.** This output is generally programmable.
- Programmable Output 2* Solid state voltage source (500 mA max.). This is the smoke power re set for Zone 1 when it is used as a fire zone for 2-wire smoke detectors. Can be used for alarm, arming state, or access control.**

* = Current draw should be subtracted from either maximum auxiliary or maximum alarm current draw.

** = Not investigated to the requirements of UL294.

1.5 Zones

- 8 zones, 1 trouble zone.
- Zone Response Time: 300 milli-seconds.

1.6 Keypads

1.6.1 DS7443 Keypad

- Total number of keypads: 4 Keypads
- Maximum wire length each run: 400 feet (122m)
- Maximum wire length total: 1600 feet (488m) in system
- Wire type: 4 conductor, unshielded, #22 AWG (0.8mm) or 18 AWG (1.0mm) "Telephone quad".

Note: Only one keypad is allowed per cable. Each DS7443 must have a "home run" back to the DS7080i. Do not "daisy chain" or place two DS7443 keypads on any cable run.

1.6.2 DS7445/DS7447 Keypads

- Total number of keypads: 4 Keypads
- Maximum wire length each run: 1000 feet (305m)
- Maximum wire length total: 4000 feet (1220m) in system
- Wire type: 4 conductor, unshielded, #22 AWG (0.8mm) or 18 AWG (1.0mm) "Telephone quad".

Note: If using #22 AWG (0.8mm) wiring, there can be no more than two keypads allowed on any 1000 foot (305m) run. Three keypads are allowed on any 1000 foot (305m) run if #18 AWG (1.0mm) wire is used. Keypad wiring can be "daisy-chained" or "home-run," but the cables can NOT be shared with other devices (e.g. telephone or siren wiring).

1.7 Communicator

Will report to two phone numbers with full single, double and back-up reporting. Communicates in SIA, 3/1, 3/1 Ext., 4/1, 4/2, BFSK, Contact ID, High Speed 4/9, and Pager formats.

The ringer equivalence is 0.1B

1.8 Users

The system allows up to 15 individual users. Each user will have his own PIN number (the 4 digit code entered at the keypads) and his own authority level (to determine which functions he may perform).

1.9 Lightning Protection

MOVs and spark gaps provide protection from lightning surges and static discharges.

1.10 Burglar/Fire Zone Inputs

- Number of circuits 8 Circuits
- End-of-line resistor 2.21k ohms

1.11 Fire Signal Initiating Circuit (2-wire mode)

The Fire circuit (zone 1) will work with 2- or 4-wire detectors. It has an optional alarm verification.

- Number of 2-wire circuits: 1 circuit
- Type of circuit: Class B, latching
- End-of-Line resistor: 2.21k ohms
- Supervisory current: 5 mA
- Maximum current for alarm: 13 mA
- Maximum short circuit current 25 mA
- Maximum line resistance: 60 ohms
- Circuit voltage range: 8.5 to 14.0 VDC
- Maximum detectors per zone: 20 detectors (2-wire)
- Total detector standby current: 2.5 mA

1.12 Standby Current Load

- Battery AH - (20% Storage + 0.375 AH's Alarm)
- The following table is the derated battery divided by hours minus the control standby (115 mA):

Rechargeable Battery Size	Derated	Max. Standby for 4 hours	Max. Standby for 8 hours	Max. Standby for 24 hours	Max. Standby for 48 hours	Max. Standby for 60 hours	Max. Standby for 72 hours
4 AH	2.825 AH	590 mA	230 mA	X	X	X	X
7 AH	5.225 AH	1.0 A	530 mA	100 mA	X	X	X
8 AH	6.025 AH	1.0 A	640 mA	130 mA	X	X	X
14 AH	10.825 AH	1.0 A	1.0 A	330 mA	X	X	X
15 AH	11.625 AH	1.0 A	1.0 A	360 mA	120 mA	X	X
17.2 AH	13.385 AH	1.0 A	1.0 A	440 mA	160 mA	100 mA	X
21 AH*	16.425 AH	1.0 A	1.0 A	560 mA	220 mA	160 mA	110 mA

*21 AH requires three 7 AH batteries in parallel

2.0 Enclosure Installation

The DS7080i control/communicator and the enclosure are shipped together. The control, however, still needs to be installed into the enclosure. Hardware for mounting the enclosure to a wall, and the control to the enclosure is located in its own hardware pack.

2.1 Install the Enclosure

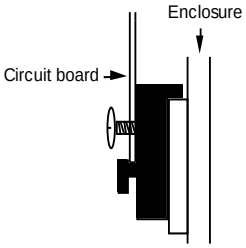
- Use the enclosure as a template and mark the top mounting holes on the mounting surface.
- Pre-start the mounting screws for these two holes. Slide the enclosure onto these mounting screws so that the screws move up into the thinner section of the holes. Tighten the screws.
- Screw in the remaining two screws in either set of bottom mounting holes.
- Knock out the desired wire entrances on the enclosure.
- Use knock out bushings if conduit is not used.

2.2 Install the Control/Communicator

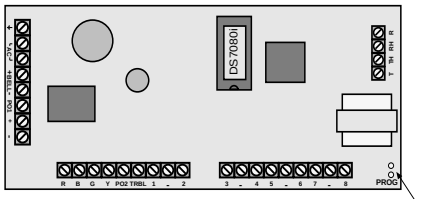
CAUTION: The control is static sensitive. Make sure you touch earth ground before handling the control. This will discharge any static electricity in your body. Example: Run the ground wire to the enclosure before handling the control. Then keep holding the ground wire while installing the control.

- Insert the three support posts into the control retainer holes as shown in the diagram.
- Slide the top of the control into the retainer tabs (the slots under the top frame).
- Once in the retainer tabs, the control will rest on the three support posts.
- Secure the bottom of the enclosure by screwing the bottom three holes through the support posts and through to the control retainer holes.

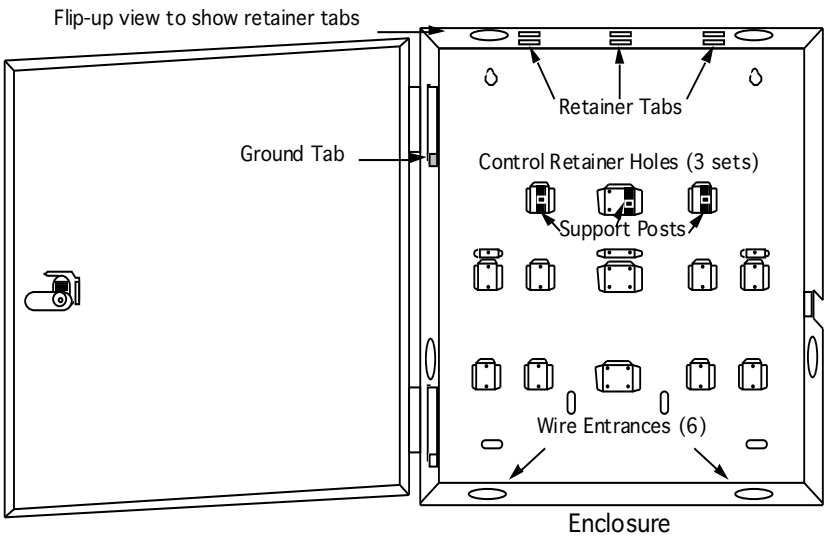
CAUTION: Once the control is installed, be sure to connect its ground wire to the top hinge of the enclosure (the unpainted tab).



Support Post Assembly (side view)



DS7080i Control/Communicator



Enclosure

3.0 Control Terminal Wiring

WARNING: Before servicing this equipment, remove all power including the transformer and battery. Also remove the phone line connection.

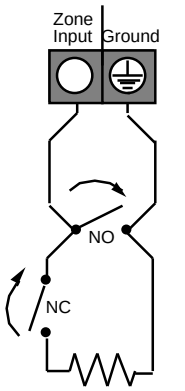
CAUTION: Incorrect connections may result in damage to the unit.

NOTE: Shared cable is not allowed for keypad, telephone, or siren wiring.

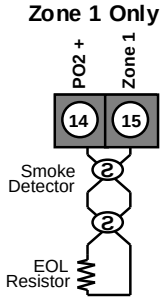
CAUTION: An approprate two pole disconnect device must be installed by qualified service personnel, as part of the building installation.

1	⏚	**EARTH GROUND:** Must be connected to a good earth ground such as a cold water pipe and also connected to the cabinet cover, using the supplied wire jumper.
2 3	A C	**A/C INPUT:** Use a listed Class 2,18 VAC 50 VA transformer such as a Basler Electric BE116350CAA. Transformer must be dedicated to the DS7080i and connected to an unswitched output.
4 5	+ Bell –	**ALARM OUTPUT:** Provides 12 VDC, special application, up to 1 A for powering bells, siren drivers, etc. Function programmed in address 008-1.
6		**PO1:** Shorts to Auxiliary (-) when activated. Can sink up to 1 A. Programmed in Address 008-2
7 8	+ –	**AUXILIARY POWER:** Provides 12 VDC, special application, up to 1 A for powering detectors.

TYPICAL BURGLAR AND FIRE WIRING

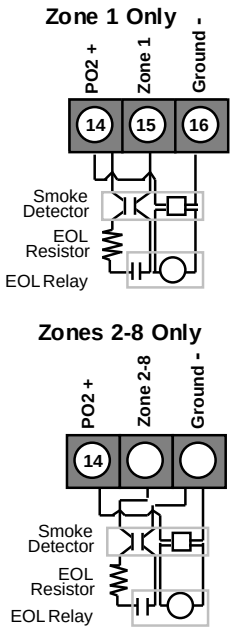


Typical burglar alarm loop wiring



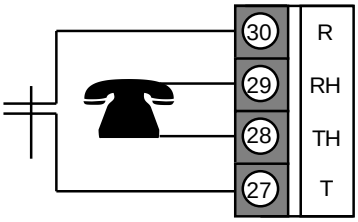
Typical 2-wire smoke detector wiring

(for a list of compatible 2-wire smoke detectors, see Technical Service Note P/N 26568)



Typical 4-wire smoke detector wiring. For example: Detection System's DS250 in an MB4W base.

CAUTION:
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

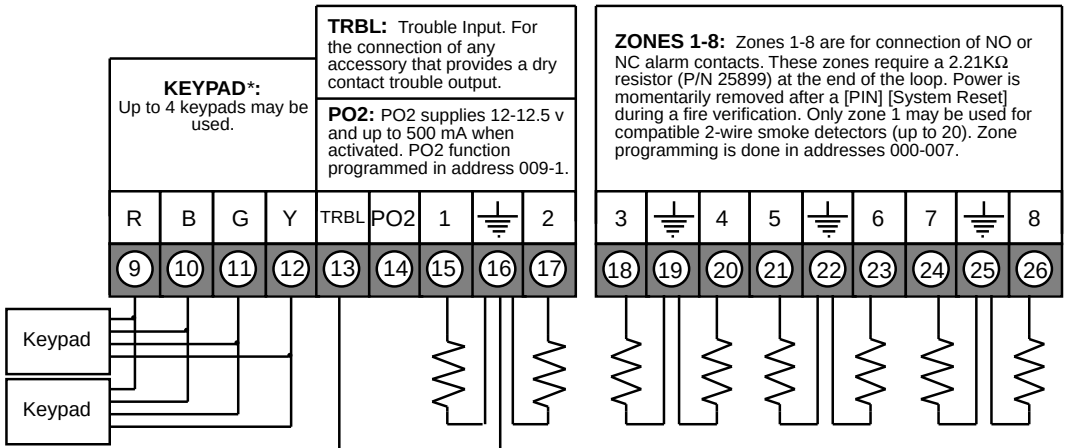


KEYPAD*: Up to 4 keypads may be used.

TRBL: Trouble Input. For the connection of any accessory that provides a dry contact trouble output.

PO2: PO2 supplies 12-12.5 v and up to 500 mA when activated. PO2 function programmed in address 009-1.

ZONES 1-8: Zones 1-8 are for connection of NO or NC alarm contacts. These zones require a 2.21KΩ resistor (P/N 25899) at the end of the loop. Power is momentarily removed after a [PIN] [System Reset] during a fire verification. Only zone 1 may be used for compatible 2-wire smoke detectors (up to 20). Zone programming is done in addresses 000-007.



Trouble input is non-supervised. Do not use an EOL resistor.

***= Maximum Wire lenght each.**
DS7443: 400 ft. (122m) maximum wire lenght. Total in system: 1600 ft. (488M). Each keypad must be a "home run". Do not "daisy chain" keypads.
DS7445/DS7447: 1000ft. (305m) maximum wire length. Total in system: 4000ft. (1220m). Keypads may be "home run" or "daisy chained". Maximum of 2 keypads per run for #22 AWG (.8mm) or 3 keypads for 18 AWG (1.0mm).

4.0 System Worksheet

Account Number _____ Information

Name _____ Contact Person _____

Address _____ Voice Phone Number _____

_____ Panel Phone Number _____

City, State, Zip _____ Panel Answers Phone |__| Armed |__| Disarmed

Equipment Location and Notes

AC Voltage _____ VAC Battery Voltage _____ VDC AUX Current _____ mA

Control Panel _____

Transformer _____

Telephone Jack _____

Telephone On Same Line as Panel _____

Earth Ground Connection _____

Alarm Sounder (s) _____

Misc. Notes

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

4.0 System Worksheet (continued)

Personal Identification Number Information

Example

	PIN Number	Authority Level	Name
User 002	1001	6	Henry M. Jones

	PIN Number	Authority Level	Name
User 001			
User 002			
User 003			
User 004			
User 005			
User 006			
User 007			
User 008			
User 009			
User 010			
User 011			
User 012			
User 013			
User 014			
User 015			

Keypad Location

Location

Keypad # 1 _____

Keypad # 2 _____

Keypad # 3 _____

Keypad # 4 _____

Zone Location and Notes

Example

	Device	Location	Type
Zone 1	PIR	Kitchen	Invisible Alarm, Alarm on Short, Alarm on Open, 24-Hour

	Device	Location	Type
Trouble Zone			
Zone 1			
Zone 2			
Zone 3			
Zone 4			
Zone 5			
Zone 6			
Zone 7			
Zone 8			

5.0 System Overview

- **Description:** The DS7080i Control/Communicator is a fully integrated hard-wire security and residential fire alarm system.

  - It can support up to 8 input zones, 15 individual users, and multiple output options.
  - Up to 4 keypads may be used to provide user interface with the system, as well as programming access for the installer.

- **Zone:** A zone is an input to the DS7080i Control/Communicator. There are 8 hard-wired zones on the main circuit board.

- **Zone 1:** This zone can be programmed as a Fire or Burglar zone. It is the only zone capable of supplying power to 2-wire smoke detectors.
  - When programmed as a Burglar zone, an alarm results on an open or short when the control panel is armed.
  - If trouble is programmed, a trouble report is generated, and the zone is considered "Not Ready" only when the zone is disarmed.
  - For Fire zone operation, see the Fire zone description in the Glossary.

- **Zones 2 - 8:** These zones can be programmed as Fire or Burglar zones.
  - When programmed as a Burglar zone, an alarm results on an open or short when the control panel is armed.
  - If trouble is programmed, a trouble report is generated, and the zone is considered "Not Ready" only when the zone is disarmed.
  - For Fire zone operation, see the Fire zone description in the Glossary.

- **Cross-zoning:** Each zone may be cross-zoned to all the other zones or just to one other zone.

When a pair of zones (A and B or B and A) are cross-zoned, an alarm condition is not generated unless:

1) Both A and B are in alarm simultaneously, or

2) B is in alarm within N seconds of the clearing of A or A is in alarm within N seconds of the clearing of B, where N is the time programmed in address 283. This allows for a one-way trip pattern.

If two zones are cross-zoned to each other (A with B and B with A) an alarm condition is not only generated by conditions 1 and 2 above, but also if:

3) A is in alarm within N seconds of the clearing of B. This allows for a two-way trip pattern.

Note: An alarm condition will be generated any time the above criteria is met.
- Zone overlap is allowed (e.g. A may be cross-zoned with B and B cross-zoned with C, etc.).
- Entry/Exit and Follower zones may not be cross-zoned.

- **Trouble Zone (TRBL):** This non-supervised (requires no End Of Line resistor) zone is intended for the use of simple tamper devices. If tripped, this zone will generate a Control Trouble/System Fault. This trouble will clear when the Trouble Zone loop is unfaulted.

  - Trouble Zone is disabled by default.
  - Trouble Zone has two modes of operation: Normally Open and Normally Closed.

6.0 Glossary

6.1 Zone Programming

- **Invisible Alarms:** This is a zone programmed not to have an alarm output or an alarm display (except when arming) at any keypad when activated. Invisible Alarm zones are recommended for holdup alarms. An alarm signal will be sent, but the keypad display will not indicate an alarm while this zone is violated.

- **Silent Alarms:** This is a zone programmed to activate the visual display at the keypad, but not audible signals.
  - If this zone is also an entry zone, an entry tone will sound when this zone is activated.

- **Bypassing Allowed:** This zone can be bypassed (shunted). This is done using the bypass command or the force arming sequence.

- **Alarm on Short:** This zone will activate an alarm when its loop is shorted.

- **Alarm on Open:** This zone will activate an alarm when its loop is opened.

- **Trouble on Open:** This is a zone programmed to activate a trouble when its loop is opened and the system is disarmed.
  - If the system is armed, this zone will activate an alarm if shorted or opened.
  - For 24-hour zones, regardless of the arming state of the panel, this always remains as a Trouble on Open.

- **Trouble on Short:** Works like Trouble on Open, but activates a trouble when shorted and disarmed.

- **Perimeter Instant:** This is a zone programmed to activate an alarm even during the entry/exit delay period.

- **24-Hour:** This is a zone programmed to activate when its loop is faulted, even if the system is disarmed.

- **Entry/Exit Delay #1:** This zone is ignored during the entry/exit delay period.
  - If it is violated while the system is armed, it will activate a delay for the amount of time programmed in entry delay time #1. The keypad pre-alert sounders will activate and the system may be disarmed during this delay period.
  - If the system is not disarmed during the entry period, this zone will activate an alarm.
  - If, at the end of an Exit delay, an entry/exit delay zone is faulted, an exit error condition will activate.
  - The Entry delay will begin as above and any outputs programmed to follow burglar alarms will activate.
  - If the system is not disarmed during this delay period, the control panel will send an alarm report and an exit error report.
  - If the system is disarmed during this delay period, the alarm outputs will deactivate and no alarm report will be sent.

- **Entry/Exit Delay #2:** Works in the same manner as the Entry/Exit Delay #1 zone, except that it uses entry delay time #2.

Note: If both Entry/Exit delays have been activated, the control will use the shorter delay.

- **Interior Entry/Exit Follower:** This is a zone programmed to be ignored during an entry/exit delay and then become an interior instant zone.

- If this zone is violated while the system is armed and no entry/exit zones have been violated, it will activate an instant alarm.
- If this zone is violated after an entry/exit delay zone is violated, it will follow that entry/exit delay time.
- This zone is bypassed when arming only the perimeter.

• **Interior Home/Away:** This zone becomes an interior instant zone if the system is armed and an entry/exit delay zone is violated during the exit delay time.
- If the system is armed and an entry/exit delay zone is not violated, this zone will be bypassed.
- This zone is bypassed when arming only the perimeter.

• **Interior Instant:** This is an instant zone that does not use entry delays. This zone is bypassed when arming only the perimeter.

• **Day Monitor:** This is a perimeter instant zone that activates alarm outputs when the system is armed, but only activates the keypad sounders when the system is disarmed.
- When the system is disarmed, any violation of this zone will activate the keypad sounders which will sound continuously until a disarming command is entered. The alarm outputs will not operate. A trouble report (if programmed) will be sent to the central station.
- A day monitor violation will be recorded in the alarm history.

• **Keyswitch Input:** This zone allows the system to be armed or disarmed using a Normally Open momentary keyswitch (toggle mode) or an on/off switch wired across the keyswitch zone.
- In toggle mode, each time the keyswitch input is shorted, the arming state of the control panel will toggle.
- In the on/off mode, the control panel will arm when the zone is shorted and will disarm when the zone is supervised.
- May be programmed to allow force arming.
- In the on/off mode, may be bypassed for keypad arming.
- Keyswitch zones should be programmed for trouble on open.
- No alarms will be generated on this zone.
- An output should be used for an LED to indicate armed/disarmed status and for a sounder to indicate entry/exit delays.

• **Fire Zone:** This zone causes a fire alarm when activated, whether the system is armed or disarmed.
- It can be silenced (but not reset) by entering a valid PIN with disarming privileges + [Off].
- A fire alarm will be displayed on all keypads.
- A fire reset command [PIN] + [System Reset] must be entered after silencing the alarm to re-enable this zone.
- If a fire alarm is not reset within 24 hours of the alarm being silenced, “Fire Alarm…Not Reset” will appear on the display with the keypad beeping every 10 seconds.
- If this zone is programmed for trouble and the loop opens, the keypads will indicate a “Fire Trouble” for this zone and the keypad sounders will beep once every ten seconds.
- If the system is a combination fire and burglar alarm, the fire alarm has priority over the burglar alarm.

• **Fire Zone with Verification:** This zone is identical to a fire zone except that after the first alarm, it will perform a fire reset and then wait up to two minutes for a second alarm.
- If a second alarm occurs within this two minute period, the system will instantly signal a fire alarm.
- If there is no second alarm within this two minute period, the control panel will reset back to its normal condition.

Note: Use of this control’s alarm verification feature is not permitted for applications in the state of California.

6.2 Output Programming

• **Latch ON Any Burglar Alarm:** This is an output programmed to activate upon any zone alarm (including invisible and silent zones). It will latch until the system has been disarmed.

• **ON during Entry Pre-Alert:** This is an output programmed to activate when an entry/exit zone is violated while the system is armed. It will remain activated until the system is disarmed, or until the entry delay time has expired.

• **On for 8 seconds after a PIN + [System Reset] is entered:** This is an output programmed to activate only for 8 seconds after a PIN + [System Reset] is entered at a keypad or if a fire zone with verification activates.
- This output is intended to be used to power 4-wire smoke detectors or any other device that requires a power interruption to reset an alarm condition.

Note: When Programmable Output 2 is programmed this way, it will normally supply auxiliary power and will turn OFF for 8 seconds when a PIN + [System Reset] is entered.

• **ON when System is Armed:** This is an output programmed to activate when the system is armed. It will remain activated until the system is disarmed.

• **Ground Start:** This is an output programmed to activate for 3 seconds when the phone line is seized. It is intended for use with ground start phone systems that require a momentary short to ground to obtain a dial tone.
- Connect a separate 12 VDC, DPDT relay. Connect both relay commons to ground, and connect the N/O of each contact to terminal positions 27 and 30 (one to terminal 27, one to 30) of the DS7080i.
- Not intended for U.L. Listed systems.
- Not for use with phone line monitors.

• **System Status (ready to arm):** This is an output programmed to follow the Status Light of the keypad. It will activate when the system is ready to arm with no zones violated.

• **Zone Alarm:** This is an output programmed to activate when a zone is in an alarm condition. It will remain activated until the system is disarmed or the bell cut-off time expires.
- This output is intended to activate bells and sirens.
- This will not activate from Silent or Invisible zones.

• **Zone Alarm Delayed by 20 seconds:** This is an output programmed to wait 20 seconds after a zone enters an alarm condition to activate. It will remain activated until the system is disarmed or the bell cut-off time expires.
- This output is intended to activate alarm bells and sirens, but provides a delay to allow the user to silence the system before it activates.

• **Keypad Sounder Output:** This is an output programmed to follow the keypad sounder. It activates during the entry pre-alert, chime mode and during any day monitor alarm.
- It does not follow momentary keypad beeps such as keystrokes.

• **Access Output:** This is an output programmed to activate for 10 seconds when an access control PIN + [Off] is entered at the keypad.
- Not U.L. Listed for Access Control (UL294).

- **Pulsing Fire Zone:** This is an output programmed to pulse for a fire alarm (one second ON, one second OFF).

- **California March Time:** This is an output programmed to pulse for a fire alarm in the California Time cadence (ten 1/2 second pulses, followed by one second of quiet time).

- **Temporal:** This is an output programmed to pulse for a fire alarm in the Temporal cadence (three 1/2 second pulses, followed by one second of quiet time).

6.3 General Control Programming

- **Normal Arming - [PIN] + [On]:** This command arms the entire system while allowing for entry/exit delays.

- **Perimeter Instant Arming - [PIN] + [No Entry] [Perimeter Only]:** If programmed, this command arms only the perimeter of the system and does not allow entry delays for entry/exit zones.

- **Perimeter Arming - [PIN] + [Perimeter Only]:** If programmed, this command arms only the perimeter of the system while allowing for entry/exit delays.

- **Custom Arming - [PIN] + [#] [4]:** If programmed, this command allows custom arming of the system and bypasses specified zones.

- **Maximum Security Arming - [PIN] + [No Entry] [On]:** If programmed, this command arms the entire system and does not allow entry delays for entry/exit zones.

- **Level 6 Arming:** This is the report left in the history buffer that shows that the system has been force armed using any of the above Arming commands.

- **Closing Ring-Back:** If programmed, the keypad sounders and Bell will activate for 2 seconds after the system is armed and the closing report is successfully sent. This requires Closing Ring-Back and Closing Report to be programmed.
  - If a closing report is not programmed, the control will test for a dial tone when the system is armed. If the test passes, the system will arm normally. If the test fails, the system will arm, but will indicate a trouble condition.
  - This can also be used to perform a Bell test upon Arming.

- **Siren on Comm. Fail for Silent Zone:** If programmed, a silent zone will sound the alarm outputs if the zone is in an alarm condition and the system fails to communicate with the central station.

- **Restore when Sounders Silence:** If programmed, a zone sends a restoral report and is ready to activate again only after the burglary bell cut-off time expires or the bells are silenced.
  - The zone can alarm multiple times per armed period.
  - Fire zones always restore when the system is reset, regardless of this selection.

- **Restore when Zone Restores:** If programmed, a zone sends a restoral report and is ready to activate again as soon as it physically restores.
  - The zone can alarm multiple times per armed period.
  - Fire zones always restore when the system is reset, regardless of this selection.

- **Restore when System is Disarmed:** If programmed, a zone sends a restoral report when the system is disarmed.
  - The zone can only alarm once per armed period.
  - Fire zones always restore when the system is reset, regardless of this selection.

- **Allow Swinger Shunts:** If programmed, a zone can only alarm or trouble up to three times per armed period. After the third alarm or trouble, the zone will be bypassed and a trouble report for this zone will be sent.

6.4 Keypad Assignment Programming

- **Keypad Assignment:** The keypad type (LED or Alpha) and its number (1-4) must be programmed.
  - Program address (011) programs the keypads.
  - Data digit 1 of program address 011 programs keypads 1 and 2; data digit 2 of program address 011 programs keypads 3 and 4.

- **Keypad Language:** The system can be set to display keypad information in English, French or Spanish. See Program Address 157, Data Digit 2.

6.5 Emergency Key Programming

- **Fire Key:** The emergency key at the bottom left of the keypad entry area is the Fire Key. If programmed, the key will activate a fire alarm when pressed for 2 seconds.
  - It may be programmed for a steady or pulsed alarm.

- **Special Emergency Key:** The emergency key at the bottom center of the keypad entry area is the Emergency Key. If programmed, the key will activate a supplementary or an auxiliary type alarm when pressed for 2 seconds.
  - It may be programmed for a silent, steady, or pulsed alarm.

- **Panic Key:** The emergency key at the bottom right of the keypad entry area is the Panic Key. If programmed, the key will activate a panic alarm when pressed for 2 seconds; nothing will display at the keypad to indicate an alarm.
  - It may be programmed for a silent, steady, or pulsed alarm.

Note: These keys are not intended to substitute for Listed manual pull boxes.

6.6 Custom Arming Programming

- **Custom Arming - [PIN] [#] [4]:** If programmed, the [4] key may be used to custom arm the system by arming only certain zones.
  - For example: All Interior zones plus some Perimeter zones may be bypassed while leaving some of the perimeter armed.

6.7 Report Control Programming

- **Open and Close Reports:** If programmed, these reports are sent whenever the system is armed or disarmed.

- **Send Trouble at Close for Bypassed Zones:** If programmed, a trouble report will be sent for each zone bypassed when the system is armed.

- **Alternate between both Phone Numbers:** If programmed, open and close reports will be sent to phone number one first. If phone number one does not pick-up, the control panel will alternate to phone number two. If phone number two does not pick-up, the control panel will alternate back to phone number one. It will alternate between both phone numbers until successful.

6.8 Day Monitor Report Control

Day monitor zones can be programmed to send a trouble report if they are activated while the system is disarmed.

Programming the Day Monitor zone for “Trouble on Open” and programming the Day Monitor Report Control to send troubles will cause a report to be sent each time the Day Monitor zone is activated when the system is disarmed. The zone will cause an alarm when activated when the system is armed.

6.9 Phone Number General Control Programming

- **Enable Remote Programmer Callback:** If programmed, when the remote programmer tries to initiate a session with the panel, the panel will hang up and call the remote programmer phone number.
  - This ensures the correct remote programmer is initiating the call.

- **Dial Pulse on all Phone Numbers:** If programmed, the panel will dial to phone number 1, 2, and the remote programmer phone number 3 using the pulse format.

- **Dial Tone on all Phone Numbers:** If programmed, the panel will dial to phone number 1, 2, and the remote programmer phone number 3 using the tone format.

Note: When dialing through PBX systems, program the phone control as tone dial only.

- **Switch to Pulse:** If programmed, the control panel will try to dial the first digit in tone dial and check to see if the dial tone has been broken. If it has not been broken, it will try to dial again using pulse dial.

Note: Do not use this setting for PBX systems.

- **Dialer Delay:** A Dialer Delay of 15 seconds can be added when reporting burglar alarms, 24-hour burglar alarms, and fire alarms.
  - This delay will help to prevent false alarm reports by giving the user 15 seconds to disarm the system before a report is sent.

6.10 Phone Answering Programming

- **Phone Answering Programming:** The control panel can be programmed to answer the phone after a selected number of rings for remote programming access. It can also be programmed to answer the phone after a different number of rings when in armed or disarmed states. This feature can also be used to call the panel location and determine its arming state.

- **Answering Machine Bypass:** This feature allows the control panel to answer incoming calls when answering machines are used.
  - If the line rings, stops ringing, then rings again within one minute, the panel will seize the phone line on the first ring.
  - To disable this feature, program the control panel to answer on an even number of rings.

6.11 System Timers

- **Entry and Exit delay timers** are programmed in 5 second increments.
  - For example: to obtain an exit delay time of 45 seconds, the program address must be filled-in as a 9 (9 x 5 = 45).

- **Bell Cut-off timers** are programmed from 0 to 99 minutes.
  - Programming a Bell Cut-off timer for 0 minutes will result in no time-out for that output.
  - If the output is activated, it will remain activated until it is silenced from a keypad.

- **The Automatic Test Report Interval** may be set from 1 hour to 28 days.
  - The Hour that this report is sent is programmed in real time (military time, see addresses 284 and 285).

6.12 Force Arming Programming

- **Force Arming:** If programmed, allows violated zones to be force armed.
  - When force arming, the user must enter the usual arming command followed by the [Bypass] key. This automatically bypasses zones that are violated and programmed as bypassable.
  - Fire zones, keyswitch zones, and non-bypassable zones can not be force armed.
  - Not available in U.L. Listed systems.

6.13 Report Programming

- **Reports:** For pulse formats, reports are programmed by entering data in the reporting and extended digits. The report will send the data programmed for each event. For SIA and Contact ID, the report formats are fixed and may be activated by placing a 1 in the reporting digit.
  - To disable a report, enter a 0 in the reporting digit. **Exception:** In Pager Format, 0 may be a valid reporting digit. See Section 12.3 Pager Format.
  - To send the Man Number along with Open and Close reports, program an "F" (enter [*] [5] at the keypad) in the extended digit.

- **Keypad Fire Alarm:** This report is sent when a fire alarm has been activated using the “A” emergency key.

- **Keypad Fire Restoral:** This report is sent when a keypad fire alarm has been restored using the [System Reset] command.

- **Zone Alarm:** An alarm report is sent when a zone alarm occurs. Program this report for any zones you wish to send an alarm report for. For local zones (no reports), do not program an alarm report. The zone number will automatically be sent for this report in SIA or Contact ID format.

- **Keypad Emergency Alarm:** This report is sent when an emergency alarm has been activated using the “B” emergency key.

- **Keypad Panic:** This report is sent when an emergency alarm has been activated using the “C” emergency key.

- **Zone Alarm Restoral:** This report is sent when the zone alarm is cleared. The zone number will automatically be sent for this report in SIA or Contact ID format.

- **Zone Trouble:** This report is sent when a zone trouble condition occurs. The zone number will automatically be sent for this report in SIA or Contact ID format.

- **Zone Trouble Restoral:** This report is sent when the zone trouble condition is cleared. The zone number will automatically be sent for this report in SIA or Contact ID format.

- **Open:** This report is sent when the system has been disarmed. In SIA or Contact ID formats, the user number for the person who disarmed the system will be sent with this report. To send the user number along with an Open report in other formats, program the extended digit of the report as *5. The Open report will only be sent if a Close report was sent previously.

- **Close:** This report is sent when the system has been armed. In SIA or Contact ID formats, the user number for the person who armed the system will be sent with this report. To send the user number along with a Close report in other formats, program the extended digit of the report as *5.

- **Duress:** This report is sent when the system is disarmed using a duress code. The user number will not be sent along with this report.

- **Partial Close:** This report is sent when the system is armed partially, or force armed.

- **First Open After Alarm:** This report is sent when the system is disarmed after an alarm has occurred.

- **Low Battery:** This report is sent when a low battery condition occurs.

- **Low Battery Restoral:** This report is sent when a low battery condition restores.

- **AC Failure:** This report is sent after an AC failure condition occurs. AC failure reports will only be sent along with other reports.

- **AC Failure Restoral:** This report is sent when an AC failure condition restores.

- **Automatic Comm. Test:** This report is sent at the 24-hour check-in time.

- **Manual Comm. Test:** This report is sent at any time using a keypad command sequence.

- **Remote Program Successful:** This report is sent after a Remote Program session, if the session was terminated properly.

- **Remote Program Unsuccessful:** This report is sent after a Remote Program session, if some error has occurred or the session did not terminate properly.

- **Local Program Successful:** This report is sent when local programmer's mode is exited and there is no error associated with the programming.

- **Local Program Unsuccessful:** This report is sent when local programmer's mode is exited and there has been some error associated with the programming.

- **System Trouble:** This report is sent when a control trouble condition occurs.

- **System Trouble Restoral:** This report is sent when all system trouble conditions restore.

- **Exit Error:** This report is sent if an exit error occurs. An exit error occurs when an entry/exit zone is still violated at the end of the exit delay. If this happens, the entry delay will begin. If the system is not disarmed before the entry delay expires, an alarm report for the effected zone will be sent and the Exit Error report will be sent.

- **Recent Closing:** This report is sent, along with any alarm reports, when there is an alarm within the first five minutes after the system has been armed.

- **System Test:** This report is sent when a system test has been started using the #81 key sequence.

- **System Test Restoral:** This report is sent when the system test (#81) has been completed or has timed-out.

6.14 History Event Control

The control can store up to 30 history events by time and date.
- The events stored in history are determined at program address 289.
- You may select to store or not to store: burglar, fire, and keypad alarms; zone troubles and restorals; system troubles and restorals; opens and closes; bypasses; and program accesses.

6.15 FCC Compliance Notice

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:

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

6.16 FCC Phone Connection Notice To Users

This control complies with Part 68 of the FCC rules.

On the inside of the enclosure is a label that contains, among other information, the FCC Registration Number and the Ringer Equivalence Number (REN) for this equipment. You must, upon request, provide this information to your local telephone company.

The REN is useful to determine the quantity of devices that you may connect to your telephone line and still have all of those devices

ring when your telephone number is called. In most, but not all areas, the sum of the REN's of all devices connected to one line should not exceed five (5.0). To be certain of the number of devices that you may connect to your line, you may want to contact your local telephone company to determine the maximum REN for your local calling area.

This equipment may not be used on coin service provided by the telephone company. This control should not be connected to party lines.

Should this equipment cause harm to the telephone network, the telephone company may discontinue your service temporarily. If possible, they will notify you in advance. But if advanced notice isn't practical, you will be notified as soon as possible. You will be informed of your right to file a complaint with the FCC. The telephone company may make changes in its facilities,
equipment, operations, or procedures that could affect the proper functioning of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.

If you experience trouble with this equipment, please contact the manufacturer for information on obtaining service or repairs.

The telephone company may ask that you disconnect this equipment from the network until the problem has been corrected or until you are sure that the equipment is not malfunctioning. The repairs to this equipment must be made by manufacturer and not by the user.

To guard against accidental disconnection, there is ample room to mount the Telco jack to the inside of the Control cabinet.

The operation of this Control may also be affected if events such as accidents or acts of God cause an interruption in telephone service.

6.17 Canadian Dept. of Communications

General Installation Requirements:

Notice: The Canadian Department of Communications label identifies certified equipment. This certification means that the equipment meets certain telecommunications network, protective, operational, and safety requirements. The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring associated with a single line individual service may be extended by means of a certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure, for their own protection, that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Caution: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

Terminal Requirements:

The Load Number (LN) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop which is used by the device, to prevent overloading. The termination on a loop may consist of any combination of devices subject only to the requirement that the total of the Load Numbers of all the devices does not exceed 100. The Load Number of the DS7080i is 2.

RFI Requirements:

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations. [Cet appareil numerique de la classe A respecte toutes les exigences du Reglement sur le material broilleur du Canada.]

6.18 For Installations in New Zealand

Two-wire Connection:

The operation of this equipment on the same line as telephones or other equipment with audible warning devices or automatic ring detectors will give rise to bell tinkle or noise and may cause false tripping of the ring detector. Should such problems occur, the user is not to contact Telecom Faults Service.

"This equipment does not fully meet Telecom's impedance requirements. Performance limitations may occur when used in conjunction with some parts of the network. Telecon will accept no responsibilty should difficulties arise under such circumstances."

7.0 Operating Guide

7.1 Fire Safety

This fire alarm system can provide early warning of a developing fire. Such a system, however, does not ensure protection against property damage or loss of life resulting from a fire. Any fire alarm system may fail to warn for any number of reasons (e.g. smoke not reaching a detector that is behind a closed door).
When considering detectors for residential applications, refer to NFPA Standard 72, "The National Fire Alarm Code." This standard is available at a nominal cost from: The National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

7.1.1 If Installed in Family Residences

Adherence to the NFPA Standard 72 can lead to reasonable fire safety when the following items are practiced:

- **Minimize hazards:** Avoid the three traditional fire killers: smoking in bed, leaving children home alone, and cleaning with flammable liquids.

- **Providing a fire warning system:** Most fire deaths occur in the home, the majority, during sleeping hours. The minimum level of protection requires smoke detectors to be installed outside of each separate sleeping area and on each additional story of the dwelling.

For added early warning protection, it is recommended that detectors be installed in all separated areas including the basement, bedrooms, dining room, utility room, furnace room, and hallways.

7.1.2 Having and Practicing an Escape Plan

A fire warning may be wasted unless the family has planned in advance for a rapid and safe exit from the building.

- Draw a floor plan of the entire house showing two exits from each bedroom and two from the house. Since stairwells and hallways may be blocked during a fire, the plan should provide exits from bedroom windows.

  Make copies of the plan and practice it with all family members.

- Pre-arrange a meeting place outside and away from the residence. Once out of the building, all occupants should immediately go to the pre-selected location to be accounted for.

- Provide a barricade between family members and fire, smoke, and toxic gases (e.g. close all bedroom doors before retiring).

- Children should be instructed on opening their bedroom windows and exiting safely from the building. If exiting is not possible, they should be taught to stay at the open window and shout for help until it arrives.

- In the event of a fire alarm after retiring, wake the children by shouting to them from behind your closed door. Tell them to keep their bedroom doors closed.

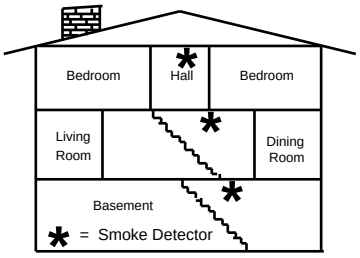
- If the top of your bedroom door is uncomfortably hot, do not open it. There is most likely fire, intolerable heat, or smoke on the other side. Shout to all family members to keep their bedroom doors closed and to exit the building via alternate routes.

- If the top of the door is not uncomfortably hot, brace the bottom of the door with your foot, and the top with one hand, then open the door about one inch. Be prepared to slam the door shut if there is any pressure against the door or if any hot air rushes in.

- If there is no evidence of excessive heat or pressure, leave the room and close the door behind you. Shout appropriate instructions to all family members and immediately leave the building via the pre-planned routes. If heavy smoke is present, drop to your hands and knees, or crawl to remain below the smoke level.

7.1.3 Installation Considerations

Proper location of detection devices is one of the most critical factors in a fire alarm system.



A smoke detector should be located on each story including basements, but excluding crawl spaces and unfinished attics.

The following are some general considerations:

- Smoke detectors should not be installed in "dead air" spaces or close to ventilating or air conditioning outlets because smoke may be circulated away from the detector. Locations near air inlets should be favored.

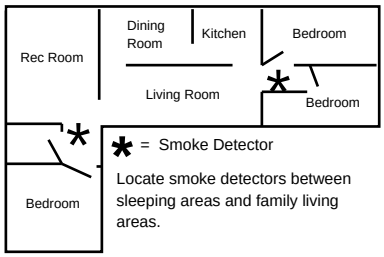
- Avoid areas subject to normal smoke concentrations such as kitchens, garages, or near fireplaces.

- Do not install smoke detectors where normal area temperatures are above 100 degrees F (38 degrees C) or below 32 degrees F (0 degrees C).

- Areas of high humidity and dust concentrations should be avoided.

- The edge of ceiling mounted detectors should be no closer than 4 inches (10 cm) from any wall.

- Place the top edge of wall mounted detectors between 4 and 12 inches (10 to 30 cm) from the ceiling.



Locate smoke detectors between sleeping areas and family living areas.

7.2 Changing the Date

It is recommended that this procedure be performed at a DS7447 Keypad. No visual clues will be given from a DS7445 keypad.

Steps to Change the Date	Command Sequence	If Accepted, the Display Reads
# 1. Enter the Master Code Programming Mode.	[Master Code] + [#] [0]	"2 Change Date" (display will scroll to this)
# 2. Enter a 2.	[2]	"Enter Month" (01...12)
# 3. Enter the Month.	[0] [1] through [1] [2] January December	"Enter Day." (01...31)
# 4. Enter the Day.	[0] [1] through [3] [1]	"Enter Year." (XX) End with [#]
# 5. Enter the Year	The last two digits of the year, followed by the [#] button.	"Month, Day, Year"

Note: Entering the command sequence [Master Code] [#] [0] [2] [#] will cause the DS7447 keypad to read back the date.

The control panel will exit from the Master Code Programming Mode approximately 15 seconds after the last keystroke.

7.3 Changing the Time

It is recommended that this procedure be performed at a DS7447 Keypad. No visual clues will be given from a DS7445 keypad.

Steps to Change the Time	Command Sequence	If Accepted, the Display Reads
# 1. Enter the Master Code Programming Mode.	[Master Code] + [#] [0]	"6 Change Time" (display will scroll to this)
# 2. Enter a 6.	[6]	"Enter Day" (1...7)
# 3. Enter the Day	[1] through [7] Sunday Saturday	"Enter Time" (0100...1259)
# 4. Enter the Time (Hour and minute)	[0] [1] [0] [0] through [1] [2] [5] [9]	"Enter AM/PM" (4/6) End with #
# 5. Enter AM or PM.	[4] [#] or [6] [#] (4=AM, 6=PM)	"Day - Time"

Note: Entering the command sequence [Master Code] [#] [0] [2] [#] will cause the DS7447 keypad to read back the date.

The control panel will exit from the Master Code Programming Mode approximately 15 seconds after the last keystroke.

7.4 Personal Identification Numbers

7.4.1 General Information

When programing Personal Identification Numbers, it is helpful to know the following terms:

- PIN: Personal Identification Number. This is the 4-digit code users enter at the keypad to gain access to the system. A PIN may be assigned to each User Number 001 - 015.
- User Number: This is the number that identifies each person using the system. There are 15 possible User Numbers (001 - 015).
- Authority Level: This number determines which functions each user will be able to perform (see below).

Your system may have up to 15 PINs, each 4 digits long. **Each User Number can have only one PIN.**

Attempting to assign the same PIN to multiple User Numbers will result in the three-beep error tone, and the change will not be made.

User Number 001 is designated as a Master Code. It can be used to add, delete or change other PINs.

User Number 001 is shipped from the factory with the sequence of 1234. This code should be changed to one of your personal preference, and must be programmed as a Master Code. PINs should never be programmed with common sequences such as 1111 or 2468 because they are easily violated.

7.4.2 Removing a PIN

To remove a PIN: enter a [Master Code] [#] [0] [0], the User Number of the PIN to be canceled, and then [#] again.

User Number 001 can not be canceled in this manner.

This chart will guide you through the steps necessary to change a PIN.

It is recommended that this procedure be performed at a DS7447 keypad. No visual cues will be given from a DS7445 keypad.

Steps to Change a PIN	Command Sequence	If Accepted, the Display Reads
# 1. Enter the Master Code Programming Mode.	[Master Code] + [#] [0]	"0 User Change" (display will scroll to this)
# 2. Enter a 0.	[0]	"Enter User No." (001..0XX)
# 3. Enter the User Number.	[0] [0] [1] through [0] [1] [5]	"Enter Authority Level" Level (0-6)
# 4. Enter the Authority Level.	[0] through [6]	"Enter PIN"
# 5. Enter the PIN.	Any 4 digits. Do not press [#].	"Enter PIN Again. End with #"
# 6. Enter the PIN again followed by the [#] key.	PIN (same 4 digits as above) then [#].	A long beep will sound to signify acceptance of the new PIN.

The control panel will exit you from the Master Code Programming Mode after about 15 seconds without a keystroke.

7.4.3 PIN Authority Levels

0 = Master: Can enter all commands, add or change PINs, change time and date, bypass, arm, disarm, perform system tests, system reset, and view history. PIN 001 must be a master code and must have authority 0. Any or all PINs may be master codes.

1 = Unlimited: Can enter all commands, bypass, arm, disarm, system reset, and perform system tests. Can not change PINs.

2 = General: Can bypass, arm, and disarm. Can not change PINs, system reset, or enter the [#] [7] or [#] [8] functions.

3 = Arm Only: Can arm the system with [#] [On] arming only. Can not perform any other functions including disarming.

4 = Temporary: Valid only for a limited time. Can arm and disarm the system, but can not perform any other functions. This code will automatically be deleted after 15 days if you have not already done so.

5 = Duress: When the system is disarmed using a duress code, a silent report is sent to the central station. Duress codes are intended to be used when the user is forced to disarm the system.

6 = Access: When a PIN with Access Code authority is entered, any output programmed for Access Output (e.g. door strikes) will pulse on for 10 seconds (works when the system is armed or disarmed).

7.5 Error Displays

This chart explains the procedure for reading Error messages
when the green Power Light is flashing.

Control panel problems are indicated by a flashing green Power Light.
The DS7447 display will also read "Control Trouble, Enter # 8 7." The DS7445 will only flash the green Power Light.
The Error messages may only be read when the control is disarmed.
Contact your installing company if the problems persist.

1. **DS7447 - "AC Power Failure":**
   DS7445 - LED 1 turns on steady:
   There is a power failure and the panel is operating on backup battery.

2. **DS7447 - "Battery Trouble":**
   DS7445 - LED 2 turns on steady:
   If the system has just been through a power failure, wait at least two hours for the battery to recharge, then enter a PIN + [System Reset] to perform a battery test.

3. **DS7447 - "Communicator Err":**
   DS7445 - LED 3 turns on steady:
   The communicator failed to communicate with the central station.

4. **DS7447 - "System Fault":**
   DS7445 - LED 4 turns on steady:
   Internal error in the control circuitry or optional circuitry. These faults are displayed as follows:

[#] [8] [7] will display	[#] [8] [9] will display
RAM Fault	System Fault 01
ROM Fault	System Fault 02
EEPROM Fault	System Fault 03
Ground Fault	System Fault 04
TRBL Zone Fault	System Fault 05

5. **DS7447 - "Keypad Fault":**
   DS7445 - LED 5 turns on steady:
   One of the keypads is not responding to the control panel.

6. **DS7447 - "Aux Power Fault":**
   DS7445 - LED 8 turns on steady:
   The auxiliary power has been shorted.

7. **DS7447 - "Zone Trouble":**
   DS7445 - LED 6 turns on steady:
   One of the zones is not responding to the control panel. This may also be displayed during power-up (if so, ignore).

Action Desired	Command Sequence*
Read the Error Display when the green Power Light is flashing.	PIN + [#] [8] [7]
Clear Error Display** **Caution:** Clear the error display only on the advice of your installing company or if you are certain the problem has been remedied.	PIN + [System Reset]

* = If in "Residential Mode", a PIN is not required for these commands.

** = Battery Trouble and Communicator Err displays must be cleared by the [System Reset] command sequence even after the problem has been remedied. These displays will not self clear. All the other error displays will self clear from the keypads once the problem has been remedied.

7.6 Remote Program Dial-out and Answer

This chart will help you to call or answer the Remote Programmer.

Type of Function	Command Sequence*	What will Happen
Remote Program Dial-out**	PIN + [#] [8] [3]	The panel will call the remote programmer.
Remote Program Answer	PIN + [#] [8] [6]	The panel will answer a call from the remote programmer.

* = If in "Residential Mode", a PIN is not required for these commands.

** = Phone numbers 1 and 3 must be programmed. Phone #1 Account Code must be programmed.

7.7 Zone Test

This chart explains the procedure for performing a Zone Test.

It is recommended that the system be tested weekly.

The Zone Test is used to confirm that detectors will report alarms.
Zone Test works on all zones, except 24-hour zones and fire zones.
While the keypad is in Zone Test, no control panel alarms will activate an alarm, except 24-hour zone alarms and fire alarms.
These will override the Zone Test function.

Type of Test	Command Sequence*	What will Happen	What to Do
Zone Test	PIN + [#] [8] [1]	DS7447: "**Test Zone**" will display followed by the zone number of any zones that have not been tested. DS7445: The zone LEDs will flash for any zones that have not been tested. DS7447: "**Now Testing**" will be displayed followed by the zone number of the zone that is currently being violated (tested). It returns to "**Test Zone**" after the violation. DS7445: The zone LED will turn on steady for the zone that is currently being violated (tested).	Test each detector one at a time as instructed by the installing company. To exit the Zone Test mode, enter your PIN followed by the [#] key.

* = If in "Residential Mode", a PIN is not required for this command.

7.8 Battery / Sounder Test

This chart explains the procedure for performing a battery test.

If a power failure occurs, your control panel has a built-in battery that will continue to power the control panel for many hours.
The control panel automatically recharges the battery when power is restored.
In addition to an automatic battery test performed every 24 hours, the battery may also be tested manually.
This test also uses the battery to manually activate all the system sounders for 2 seconds, [#] [8] [5] only.
If the battery voltage is low, a battery fault will occur (see Error Displays).

Type of Test	Command Sequence*	What will Happen	What to Do
Local Battery/ Sounder Test	PIN + [#] [8] [5]	• All keypad Lights will turn on. • The keypad sounder and all alarm sounding devices will operate for 2 seconds.	If test fails, the control panel will indicate a control problem. See *Error Displays*, section 7.17. If power in your building has been off recently, wait 2 hours for the battery to recharge and then try again.
Battery Test	PIN + [System Reset]	• The control panel will perform a battery test. • The control panel will report a Low Battery or a Low Battery Restoral.	

* = If in "Residential Mode", a PIN is not required for these commands.

7.9 Communicator Test

This chart explains the procedure for performing a Communicator Test.

This test is available only if your system transmits alarms and system information to a monitoring service, and has been programmed by the security installing company to permit communicator tests.
A long beep will initially sound to acknowledge the start of the test.
If the test is successful, the sounder will again issue one long beep.
If the test fails, the keypad sounder will turn ON continuously.

To silence the sounder, enter you PIN followed by the [#] key or press the [*] key.

Type of Test	Command Sequence**	What will Happen	What to Do
Communicator Test Requires addresses 220, 233, 237, and 296 to be programmed.	PIN + [#] [8] [2]	• A long beep will sound. • A "Test" report is sent to the monitoring service.	If test fails, the keypad sounder will sound continuously. To silence the sounder, enter your PIN followed by the [#] key or the [*] key. **Note:** This test may take several minutes to complete because the control will try 10 attempts before it fails this test.

** = If in “Residential Mode”, a PIN is not required for this command.

7.10 Event History Readback

This chart explains the procedure for performing an Event History Readback.

The History Buffer stores the last 30 events in memory. The DS7447 can display all of these events. The DS7445 will only display those zones (1-8) that have alarmed.

Type of Test	Command Sequence**	What will Happen	What to Do
Event History Readback	PIN + [#] [8] [9]	DS7447: The last event to take place will be displayed. DS7445: The zone LEDs (1-8) will flash for any zones that have alarmed.	DS7447: Scroll through the events by using the [9], [6], and [#] keys. See below. To exit from the Event History Mode, press the [*] key.

** = If in “Residential Mode”, a PIN is not required for this command.

DS7447 Only: Scrolling through the History Events.

To begin scrolling back through the events, press the [#] key. The [#] key will scroll you back through the history line by line. The [9] key will scroll you back in reverse chronological order by event. A [6] will scroll you back up through the events (toward the most recent) by event.

Each event consists of two lines or display screens. The first line/screen will be the event title and user. The second line/screen will be the date of the event or the change being made.

To exit the Event History Mode, press the [*] key or wait 20 seconds and the keypad will exit automatically.

8.0 Programming the DS7080i

8.1 Entering the Programmer's Mode:

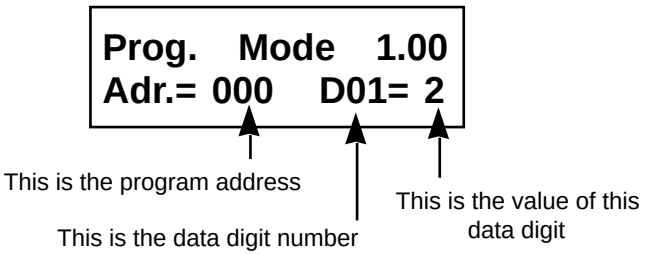
To enter the Programmer's Mode, enter the Programmer's Code followed by [#] [0]. Shorting the program pads (see section 2.0 for location) on the control panel will also activate the Programmer's Mode.

The default Programmer's Code is 9876.

8.2 Reading back a Program Address:

Once you are in the programmer's mode, to read back the value of a Program Address, enter that Program Address followed by [#]. Each data digit is displayed (DS7447 only) one data digit at a time. To view the second data digit, enter the [#] key again.

The display will look like this:



8.3 Entering a value in a Program Address:

To enter a value in the Program Address, enter the Program Address, then enter the value for both Data Digits, then enter [#] to save it and move on to the next Program Address. Entering data digit 1 will increment you to the next data digit.

The display will show the Program Address and will display the value of each Data Digit after you enter them. The data will be programmed (saved) when you press the [#] key. The control panel will automatically increment to the next program address.

- If you wish to program that next address, enter the necessary information.
- If you wish to read back the value of that address, press the [#] key.
- If you wish to program a different address, press the [*] key two times and enter the program address you wish to program.

If you make a mistake at any time, press the [*] key two times (before pressing the [#] key). This will clear the display allowing you to enter the program address you wish to work with.

8.4 HEX values:

Some Data Digit values will be higher than 9. These values must be programmed by pressing the [*] key followed by some other number. These values will display as HEX characters (A through F) when entered. Example: entering [*] [0] at the keypad will display an A.

The HEX character values are as follows:
*0 = A *1 = B *2 = C *3 = D *4 = E *5 = F

8.5 Defaults:

The DS7080i is shipped from the factory as a working, pre-programmed control.

Many of the programming addresses may already be set to the values you need.

The default values are shown in Reverse Print.

If the value you would like is in Reverse Print, you don't need to re-program this address.

In the example below, a "0" is the default value:

	0	1	2	3	4	5	6	7	8	9
Feature 1	●					●				●
Feature 2		●					●			●
Feature 3			●					●		●

If the default value is not shown in reverse print, it will be shown in (parenthesis) and designated as the default value or displayed in a separate table.

8.6 Setting the Control to the Factory Default:

To set the control's programming values back to the default, enter "0 1" for Program Address 326.

Note: Entering "0 1" in Program Address 326 will immediately reset the control to the factory default. Any programming already done by the installer will be erased.

CAUTION: Only enter "0 1" in Program Address 326 when you are completely sure you want to erase all installer programming.

8.7 Exiting the Programmer's Mode:

To exit the Programmer's Mode, press the [*] key for 2 seconds. Also, if no keypad entries are made for 4 minutes, the control will automatically exit you from the Programmer's Mode.

9.0 Understanding the Programming Charts.

The Programming Reference Guide makes use of three types of charts.
Each is described below.

Note: It is recommended that the DS7447 Keypad be used for programming as other keypads will not allow reading back of programming information.

If the chart looks like this:
A combination of features is available to be programmed for that particular address.

	Enter the Data Digit as a:							
Select Options	0	1	2	3	4	5	6	7
Fire Zone	●		●		●		●	
Burglar Zone		●		●		●		●
Ground Start			●	●			●	●
Access Output					●	●	●	●

Enter one of these numbers for the appropriate data digit

The dots represent which options/features are included with each selection

Example:
To select a **Burglar Zone** only, enter the data digit as a 1.
To select a **Burglar Zone** and **Access Output**, enter the data digit as a 5.

Identifies the options/features available for this address

If the chart looks like this:
Only a single feature is available to be programmed for that particular address.

Represents the option/feature available for this address.

Example:
To select **Disabled**, enter the data digit as a 0.
To select **Entry/Exit Delay #2**, enter the data digit as a 4.

Select Option	DD
Disabled	0
Perimeter Instant	1
24-Hour	2
Entry/Exit Delay #1	3
Entry/Exit Delay #2	4

Enter one of these numbers for the appropriate the data digit

Some pages may also include a Default chart that looks like this:

Output	Address	Default
1	008-1	6
2	008-2	3
3	009-1	2

10.0 Programming the DS7080i

10.1 Zone Programming: Programming Addresses (000-007)

Example:
To program Zone 1 as: Steady Alarm Output, Alarm on Short, Trouble on Open, Interior Instant.

Data Digit 1 = [6], Data Digit 2 = [7].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [0] [0] [0]
Enter Data Digit 1: [6]
Enter Data Digit 2: [7]
Enter the Pound button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

The DS7080i has 8 hard-wired zones that may be programmed for your specific needs. Remember that each zone has a pre-programmed default as shown in the default chart below.

See Glossary (Section 6.1) for further details.

Data Digit **1** **2**

Select Options	Enter the Data Digit as a: 0	1	2	3	4	5	6	7	8	9	*0	*1
Invisible Alarm	●				●				●			
Silent Alarm		●				●				●		
Steady Alarm Output			●				●				●	
Pulsing Alarm Output				●				●				●
Alarm on Short	●	●	●	●	●	●	●	●				
Alarm on Open	●	●	●	●					●	●	●	●
Trouble on Open**					●	●	●	●				
Trouble on Short**									●	●	●	●

** = Only when disarmed. When armed, this becomes an Alarm on Short or Open for non 24-hour zones

*0 - *1 are Hex values. They will display as A - B at the keypads.

Value (fill in)	Zone	Address	Default
	1	000	23 = Steady alarm output, alarm on short and open. Entry/Exit delay #1.
	2	001	24 = Steady alarm output, alarm on short and open. Entry/Exit delay #2.
	3	002	21 = Steady alarm output, alarm on short and open. Perimeter Instant.
	4	003	25 = Steady alarm output, alarm on short and open. Interior entry/exit follower.
	5	004	26 = Steady alarm output, alarm on short and open. Interior home/away.
	6	005	27 = Steady alarm output, alarm on short and open. Interior Instant.
	7	006	22 = Steady alarm output, alarm on short and open. 24-Hour.
	8	007	23 = Steady alarm output, alarm on short and open. Entry/Exit delay #1.

Select Option	DD
Disabled	0
Perimeter Instant	1
24-Hour	2
Entry/Exit Delay #1	3
Entry/Exit Delay #2	4
Interior Entry/Exit Follower	5
Interior Home/Away	6
Interior Instant	7
Day Monitor	8
Keyswitch toggle (See Note)	9
Keyswitch on/off (See Note)	*0
Fire Zone with verification	*1
Fire Zone w/out verification	*2

Note: If Digit 2 is 9 or *0 (Keyswitch), use this chart for Digit 1.

Select Option	DD
Keyswitch No Force Arming	0
Keyswitch Can Force Arm	1

10.2 Output Programming: Programming Address (008)

Example:
To program the Alarm Output as a Burglar Zone and Fire Zone delayed by 20 seconds.

Data Digit 1 =[*] [1], Data Digit 2 = [*] [5].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [0] [0] [8]
Enter Data Digit 1: [*] [1]
Enter Data Digit 2: [*] [5]
Enter the Pound button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Output programming defines the event and type of alarm (fire or burglar) that will trigger each of the three physical outputs on the control panel. See Section 3.0 for the location of the physical outputs on the control panel.

See Glossary (Section 6.2) for further details.

Output	Address	Default
Alarm Output	008-1	6
Programmed Output 1	008-2	3

Address 008
Data Digit

1	2

Select Option	DD
Latch ON for any burglar alarm	0
ON during Entry Pre-alert	1
ON for 8 sec. after entering [System Reset]	2
ON when system is armed	3
Ground Start	4
System Status (ready to arm)	5
Burglar Zone	6
Burglar Zone delayed by 20 sec.	7
Fire Zone	8
Fire Zone delayed by 20 sec.	9
Burglar Zone & Fire Zone	*0
Burglar Zone & Fire Zone delayed by 20 sec.	*1
Keypad Sounder Output	*2
Access Output (10 sec. pulse)	*3
Pulse for 2 sec. during Battery Test	*4
Disabled	*5

*0 - *5 are Hex values. They will display as A - F at the keypads.

Select Option	DD
Latch ON for any burglar alarm	0
ON during Entry Pre-alert	1
ON for 8 sec. after entering [System Reset]	2
ON when system is armed	3
Ground Start	4
System Status (ready to arm)	5
Burglar Zone	6
Burglar Zone delayed by 20 sec.	7
Fire Zone	8
Fire Zone delayed by 20 sec.	9
Burglar Zone & Fire Zone	*0
Burglar Zone & Fire Zone delayed by 20 sec.	*1
Keypad Sounder Output	*2
Access Output (10 sec. pulse)	*3
Pulse for 2 sec. during Battery Test	*4
Disabled	*5

*0 - *5 are Hex values. They will display as A - F at the keypads.

10.2 Output Programming: Program Address (009)

Example:
To program Programmed Output 2 as On during Entry Pre-alert with the Pulsing Fire Alarms using Temporal Cadence.

Data Digit 1 =[1], Data Digit 2 = [1].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [0] [0] [9]
Enter Data Digit 1: [1]
Enter Data Digit 2: [1]
Enter the Pound button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Output	Address	Default
Programmed Output 2	009-1	2

Address 009
Data Digit
1 **2**

Select Option	DD
Latch ON for any burglar alarm **	0
ON during Entry Pre-alert	1
OFF for 8 sec. after entering [System Reset]	2
ON when system is armed	3
Ground Start	4
System Status (ready to arm)	5
Burglar Zone	6
Burglar Zone delayed by 20 sec.	7
Fire Zone	8
Fire Zone delayed by 20 sec.	9
Burglar Zone & Fire Zone	*0
Burglar Zone & Fire Zone delayed by 20 sec.	*1
Keypad Sounder Output	*2
Access Output (10 sec. pulse)	*3
Pulse for 2 sec. during Battery Test	*4
Disabled	*5

*0 - *5 are Hex values. They will display as A - F at the keypads.

Note: If using smoke detectors, address 009 Data Digit 1 must be programmed as 2 and PO2 must be used to power the smoke detectors. See Wiring Diagram.

** Includes Silent and Invisible zones

Select Option	DD
Pulsing Fire Alarms are 1 sec. On / 1 sec. Off	**0**
Pulsing Fire Alarms use Temporal Cadence	1
Pulsing Fire Alarms use California March Time	2

10.3 General Control Programming: Program Address (010)

Example:
To program the system-wide General Operating parameters as: allowing Normal and Custom Arming, Operating at 60 Hz., and to Restore when a Zone Restores.

Data Digit 1 = [2], Data Digit 2 = [1].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [0] [1] [0]
Enter Data Digit 1: [2]
Enter Data Digit 2: [1]
Enter the Pound button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

General Control programming defines the system-wide general operating parameters.

See Glossary (Section 6.3) for further details.

Data Digit
1 2

Select Options	Enter the Data Digit as a: 0	1	2	3	4	5	6	7	8	9	*0	*1	*2	*3	*4	*5
Allow Normal and Custom Arming	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Allow Perimeter Instant Arming	●	●			●	●			●	●			●	●		
Allow Perimeter Arming	●	●			●	●			●	●			●	●		
Allow Maximum Security Arming	●	●			●	●			●	●			●	●		
Closing Ring-Back					●	●	●	●					●	●	●	●
Siren on Comm. Fail for Silent Zone									●	●	●	●	●	●	●	●
50 Hz. operation		●		●		●		●		●		●		●		●
60 Hz. operation	●		●		●		●		●		●		●		●	

*0 - *5 are Hex values. They will display as A - F at the keypads.

Select Options	Enter DD as a: 0	1	2	3	4
Restore when Sounders Silence	●			●	
Restore when Zone Restores		●			●
Restore when System is Disarmed			●		
Allow Swinger Shunts				●	●

10.4 Keypad Assignment Programming: Program Address (011)

Data Digit
1 2

Keypad Assignment programming assigns the keypad type for each of up to 4 keypads.

Note: At least one keypad must be programmed as keypad 1.

See Glossary (Section 6.4) for further details.

Select Options	Enter the Data Digit as a: 0	1	2	3	4	5	6	7	8
Disabled	●								
LED Keypad		●		●		●		●	●
Alpha (LCD) Keypad			●		●		●	●	●
Keypad 1		●	●			●	●	●	●
Keypad 2				●	●	●	●	●	●

Note: For Program Address 011 Data Digit 1, when programmed as a 7, Keypad 1 is LED and Keypad 2 is Alpha. When programmed as an 8, Keypad 1 is Alpha, Keypad 2 is LED.

Example:
To assign Keypad 1 and Keypad 2 as Alpha (LCD) keypads and have Keypads 3 and 4 disabled.

Data Digit 1 = [6], Data Digit 2 = [0].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [0] [1] [1]
Enter Data Digit 1: [6]
Enter Data Digit 2: [0]
Enter the Pound button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Select Options	Enter the Data Digit as a: 0	1	2	3	4	5	6	7	8
Disabled	●								
LED Keypad		●		●		●		●	●
Alpha (LCD) Keypad			●		●		●	●	●
Keypad 3		●	●			●	●	●	●
Keypad 4				●	●	●	●	●	●

Note: For Program Address 011 Data Digit 2, when programmed as a 7, Keypad 3 is LED and Keypad 4 is Alpha. When programmed as an 8, Keypad 3 is Alpha, Keypad 4 is LED.

10.5 Alpha Description Programming: Program Addresses (012-155)

The following chart lists the Program Addresses used to program Alpha-Numeric characters for each zone. Each zone may contain up to 16 characters (see chart).

Private Label	Program Addresses **012 - 027**	**Zone 3**	Program Addresses **060 - 075**	**Zone 6**	Program Addresses **108 - 123**
Zone 1	Program Addresses **028 - 043**	**Zone 4**	Program Addresses **076 - 091**	**Zone 7**	Program Addresses **124 - 139**
Zone 2	Program Addresses **044 - 059**	**Zone 5**	Program Addresses **092 - 107**	**Zone 8**	Program Addresses **140 - 155**

Words are created one character at a time. Each character uses two data digits. The values are shown below:

Value	Character	Value	Character	Value	Character	Value	Character
02	blank space	83	8	05	P	86	h
12	!	93	9	15	Q	96	i
22	"	*03	:	25	R	*06	j
32	#	*13	;	35	S	*16	k
42	$	*23	<	45	T	*26	l
52	%	*33	=	55	U	*36	m
62	&	*43	>	65	V	*46	n
72	'	*53	?	75	W	*56	o
82	(	04	@	85	X	07	p
92	)	14	A	95	Y	17	q
*02	*	24	B	*05	Z	27	r
*12	+	34	C	*15	[	37	s
*22	,	44	D	*25	¥	47	t
*32	-	54	E	*35	]	57	u
*42	.	64	F	*45	^	67	v
*52	/	74	G	*55	_	77	w
03	0	84	H	06	'	87	x
13	1	94	I	16	a	97	y
23	2	*04	J	26	b	*07	z
33	3	*14	K	36	c	*17	{
43	4	*24	L	46	d	*27	|
53	5	*34	M	56	e	*37	}
63	6	*44	N	66	f	*47	‘
73	7	*54	O	76	g		

Example

	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6	Character 7	Character 8
Text	C	H	E	M	I	C	A	L
Value	3 4	8 4	5 4	*3 4	9 4	3 4	1 4	*2 4
	012-1 012-2	013-1 013-2	014-1 014-2	015-1 015-2	016-1 016-2	017-1 017-2	018-1 018-2	019-1 019-2

10.5.1 Alpha Description Programming Worksheet

Private Label

	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6	Character 7	Character 8
Text								
Value								
	012-1 012-2	013-1 013-2	014-1 014-2	015-1 015-2	016-1 016-2	017-1 017-2	018-1 018-2	019-1 019-2

	Character 9	Character 10	Character 11	Character 12	Character 13	Character 14	Character 15	Character 16
Text								
Value								
	020-1 020-2	021-1 021-2	022-1 022-2	023-1 023-2	024-1 024-2	025-1 025-2	026-1 026-2	027-1 027-2

Zone 1

	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6	Character 7	Character 8
Text								
Value								
	028-1 028-2	029-1 029-2	030-1 030-2	031-1 031-2	032-1 032-2	033-1 033-2	034-1 034-2	035-1 035-2

	Character 9	Character 10	Character 11	Character 12	Character 13	Character 14	Character 15	Character 16
Text								
Value								
	036-1 036-2	037-1 037-2	038-1 038-2	039-1 039-2	040-1 040-2	041-1 041-2	042-1 042-2	043-1 043-2

Zone 2

	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6	Character 7	Character 8
Text								
Value								
	044-1 044-2	045-1 045-2	046-1 046-2	047-1 047-2	048-1 048-2	049-1 049-2	050-1 050-2	051-1 051-2

	Character 9	Character 10	Character 11	Character 12	Character 13	Character 14	Character 15	Character 16
Text								
Value								
	052-1 052-2	053-1 053-2	054-1 054-2	055-1 055-2	056-1 056-2	057-1 057-2	058-1 058-2	059-1 059-2

Worksheet (Continued)

Zone 3

	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6	Character 7	Character 8
Text								
Value								
	060-1 060-2	061-1 061-2	062-1 062-2	063-1 063-2	064-1 064-2	065-1 065-2	066-1 066-2	067-1 067-2

	Character 9	Character 10	Character 11	Character 12	Character 13	Character 14	Character 15	Character 16
Text								
Value								
	068-1 068-2	069-1 069-2	070-1 070-2	071-1 071-2	072-1 072-2	073-1 073-2	074-1 074-2	075-1 075-2

Zone 4

	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6	Character 7	Character 8
Text								
Value								
	076-1 076-2	077-1 077-2	078-1 078-2	079-1 079-2	080-1 080-2	081-1 081-2	082-1 082-2	083-1 083-2

	Character 9	Character 10	Character 11	Character 12	Character 13	Character 14	Character 15	Character 16
Text								
Value								
	084-1 084-2	085-1 085-2	086-1 086-2	087-1 087-2	088-1 088-2	089-1 089-2	090-1 090-2	091-1 091-2

Zone 5

	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6	Character 7	Character 8
Text								
Value								
	092-1 092-2	093-1 093-2	094-1 094-2	095-1 095-2	096-1 096-2	097-1 097-2	098-1 098-2	099-1 099-2

	Character 9	Character 10	Character 11	Character 12	Character 13	Character 14	Character 15	Character 16
Text								
Value								
	100-1 100-2	101-1 101-2	102-1 102-2	103-1 103-2	104-1 104-2	105-1 105-2	106-1 106-2	107-1 107-2

Worksheet (Continued)

Zone 6

	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6	Character 7	Character 8
Text								
Value	108-1 108-2	109-1 109-2	110-1 110-2	111-1 111-2	112-1 112-2	113-1 113-2	114-1 114-2	115-1 115-2

	Character 9	Character 10	Character 11	Character 12	Character 13	Character 14	Character 15	Character 16
Text								
Value	116-1 116-2	117-1 117-2	118-1 118-2	119-1 119-2	120-1 120-2	121-1 121-2	122-1 122-2	123-1 123-2

Zone 7

	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6	Character 7	Character 8
Text								
Value	124-1 124-2	125-1 125-2	126-1 126-2	127-1 127-2	128-1 128-2	129-1 129-2	130-1 130-2	131-1 131-2

	Character 9	Character 10	Character 11	Character 12	Character 13	Character 14	Character 15	Character 16
Text								
Value	132-1 132-2	133-1 133-2	134-1 134-2	135-1 135-2	136-1 136-2	137-1 137-2	138-1 138-2	139-1 139-2

Zone 8

	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6	Character 7	Character 8
Text								
Value	140-1 140-2	141-1 141-2	142-1 142-2	143-1 143-2	144-1 144-2	145-1 145-2	146-1 146-2	147-1 147-2

	Character 9	Character 10	Character 11	Character 12	Character 13	Character 14	Character 15	Character 16
Text								
Value	148-1 148-2	149-1 149-2	150-1 150-2	151-1 151-2	152-1 152-2	153-1 153-2	154-1 154-2	155-1 155-2

10.6 Emergency Key Programming: Program Address (156)

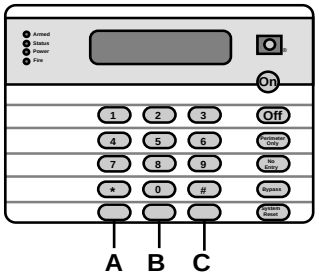
Example:
To program the Fire Key and the Special Emergency Key as both having a Steady Alarm.

Data Digit 1 = [2], Data Digit 2 = [2].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [1] [5] [6]
Enter Data Digit 1: [2]
Enter Data Digit 2: [2]
Enter the Pound button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Fire Key (A), Special Emergency Key (B), and Panic Key (C) (Address 157, Data Digit 1) programming disables or activates these keys located on the keypads. It also determines a silent, pulsed, or steady alarm.

See Glossary (Section 6.5) for further details.



Emergency Key A

Data Digit **1** **2**

Select Option	DD
Fire Key Disabled	**0**
Fire Key = Disabled	1
Fire Key = Steady Alarm	2
Fire Key = Pulsed Alarm	3

Emergency Key B

Select Option	DD
Special Emergency Key Disabled	**0**
Special Emergency Key = Silent Alarm	1
Special Emergency Key = Steady Alarm	2
Special Emergency Key = Pulsed Alarm	3

10.7 Panic Key and Keypad Language Programming: Program Address (157)

Example:
To program the Panic Key as having a Silent Alarm and the Keypad Language as English.

Data Digit 1 = [1], Data Digit 2 = [0].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [1] [5] [7]
Enter Data Digit 1: [1]
Enter Data Digit 2: [0]
Enter the Pound button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Keypad Language programming (Address 157, Data Digit 2) allows English, French, or Spanish to be selected for the keypad display.

Note: Invalid choices (e.g. numbers greater than 2) default the display to English.

Data Digit **1** **2**

Emergency Key C

Select Option	DD
Panic Key Disabled	**0**
Panic Key = Silent Alarm	1
Panic Key = Steady Alarm	2
Panic Key = Pulsed Alarm	3

English	**0**
French	1
Spanish	2

10.8 Custom Arming Programming: Program Address (158)

Example:
To program the [#] [4] key sequence to bypass Zone 1 and Zone 7 only.

Data Digit 1 = [1], Data Digit 2 = [4].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [1] [5] [8]
Enter Data Digit 1: [1]
Enter Data Digit 2: [4]
Enter the Pound button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Custom Arming programming allows the [#] [4] key sequence on the keypad to be used for custom arming. It determines which zones may be by-passed during custom arming.

See Glossary (Section 6.6) for further details.

Data Digit **1** **2**

Select Options	Enter the Data Digit as a: 0	1	2	3	4	5	6	7	8	9	*0	*1	*2	*3	*4	*5
Bypass Zone 1		●		●		●		●		●		●		●		●
Bypass Zone 2			●	●			●	●			●	●			●	●
Bypass Zone 3					●	●	●	●					●	●	●	●
Bypass Zone 4									●	●	●	●	●	●	●	●

*0 - *5 are Hex values. They will display as A - F at the keypads.

Select Options	Enter the Data Digit as a: 0	1	2	3	4	5	6	7	8	9	*0	*1	*2	*3	*4	*5
Bypass Zone 5		●		●		●		●		●		●		●		●
Bypass Zone 6			●	●			●	●			●	●			●	●
Bypass Zone 7					●	●	●	●					●	●	●	●
Bypass Zone 8									●	●	●	●	●	●	●	●

*0 - *5 are Hex values. They will display as A - F at the keypads.

10.9 Report Control Programming: Program Address (159)

Example:
To program to send Opening and Closing reports and to send Trouble reports for Day Monitor zones when they alarm while disarmed.

Data Digit 1 = [1], Data Digit 2 = [1].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [1] [5] [9]
Enter Data Digit 1: [1]
Enter Data Digit 2: [1]
Enter the Pound button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Report Control programming allows you to determine what reports will be sent and which phone number will send them.

See Glossary (Section 6.7) for further details.

PA 159
Data Digit
1 **2**

Select Option	DD
Disabled.	0
Send Opening and Closing reports.	1
Send Opening and Closing reports, and Trouble reports for **each** zone bypassed or force armed.	2
Only send Opening and Closing reports for each of these zones. Send Trouble reports if bypassed or force armed.	3

Select Option	DD
Do not send reports for Day Monitor zones when they are disarmed.	0
Send Trouble reports for Day Monitor zones when they alarm while disarmed.	1

10.10 Report Control Programming: Program Addresses (160-161)

PA 160
Data Digit
1 **2**

Data Digit 1 is for Opening and Closing reports.

Data Digit 2 is for Zone Alarm, Zone Restoral, and Zone Trouble reports.

Select Option	DD
Alternate between both Phone Numbers	**0**
Report to Phone Number 1	1
Report to Phone Number 2	2
Report to Phone Number 1 and 2	3

Select Option	DD
Alternate between both Phone Numbers	**0**
Report to Phone Number 1	1
Report to Phone Number 2	2
Report to Phone Number 1 and 2	3

PA 161
Data Digit
1 **2**

Data Digit 1 is for all other reports.

Select Option	DD
Alternate between both Phone Numbers	**0**
Report to Phone Number 1	1
Report to Phone Number 2	2
Report to Phone Number 1 and 2	3

Data Digit 2 must be a **0**

10.11 Phone Number General Control Programming: Program Address (162)

Example:
To program the parameters to enable the Remote Programmer Callback feature, to dial Pulse on all Phone Numbers, and to have a Dialer Delay of 15 seconds on 24-hour Burglar and Fire Alarms.

Data Digit 1 = [1], Data Digit 2 = [2].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [1] [6] [2]
Enter Data Digit 1: [1]
Enter Data Digit 2: [2]
Enter the Pound button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Phone Number General Control programming allows you to enable the Remote Programmer Callback feature, determine whether to dial Pulse or Tone on all Phone Numbers, and decide if there should be a Dialer Delay.

See Glossary (Section 6.9) for further details.

Data Digit
1 **2**

Select Options	Enter the DD as a: **0**	1	2	3	4	5
Enable Remote Programmer Callback		●		●		●
Dial Pulse on all Phone Numbers	●	●				
Dial Tone on all Phone Numbers*			●	●	●	●
Dial Tone, Switch to Pulse if required			●	●		

* = Required on PBX systems.

Select Options	Enter DD as: **0**	1	2	3
Dialer Delay of 15 sec. on Non-24-hour Burglar Alarms		●		●
Dialer Delay of 15 sec. on 24-hour Burglar and Fire Alarms			●	●
No Dialer Delay	●			

10.12 Phone Answering Programming: Program Address (163)

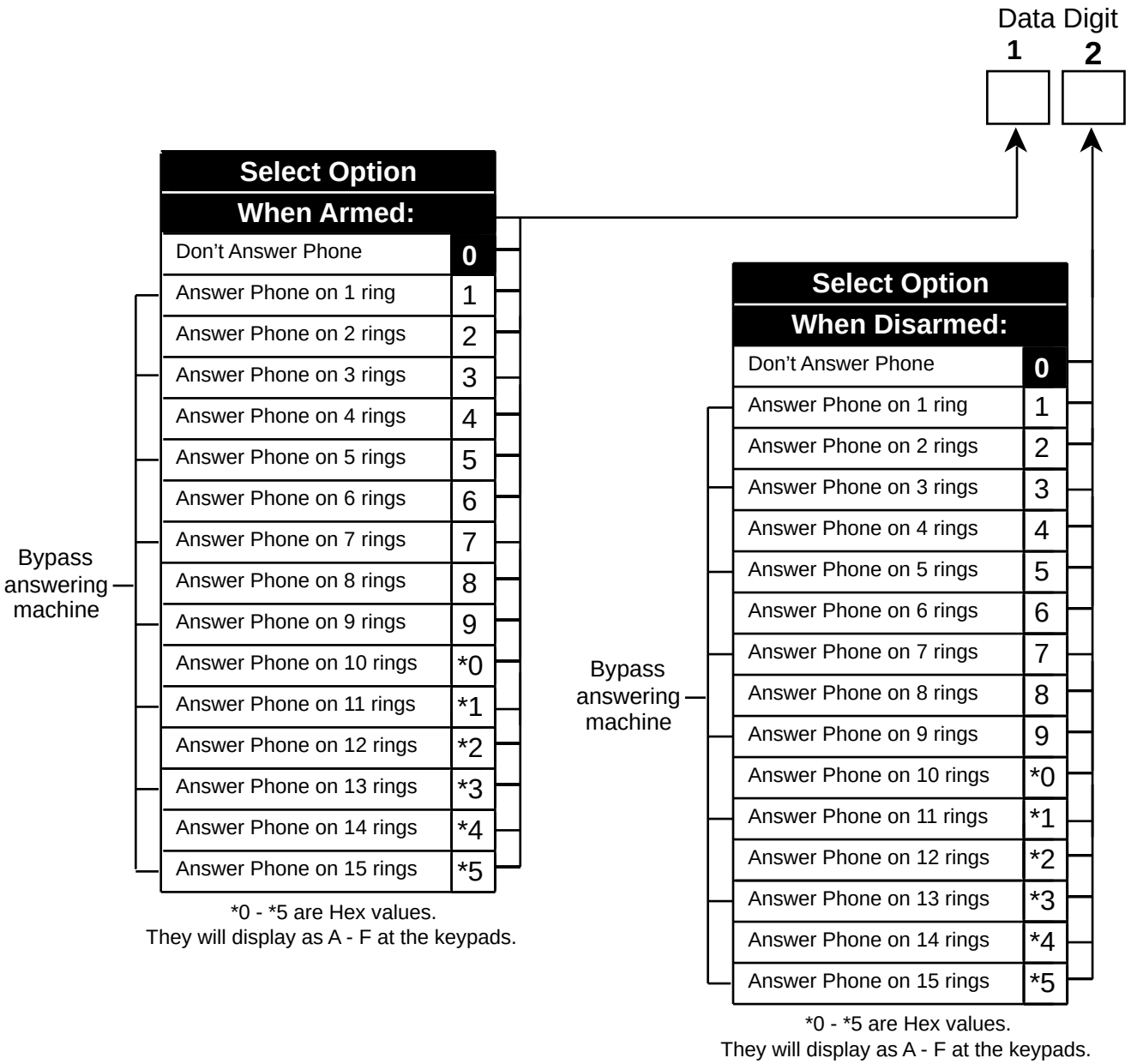
Example:
To program the Control Panel to answer the phone after 2 rings when Armed and after 4 rings when Disarmed.

Data Digit 1 = [2], Data Digit 2 = [4].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [1] [6] [3]
Enter Data Digit 1: [2]
Enter Data Digit 2: [4]
Enter the Pound button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Phone Answering programming defines the number of times the phone will ring before the armed or disarmed Control Panel will answer it.

See Glossary (Section 6.10) for further details.



10.13 Timer Programming: Addresses (164-168)

Example:
To program Entry Delay Time 1 for 60 seconds.

Data Digit 1 = [1], Data Digit 2 = [2].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [1] [6] [4]
Enter Data Digit 1: [1]
Enter Data Digit 2: [2]
Enter the Pound button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

See Glossary (Section 6.11) for further details.

Timer programming defines the length of time for 2 entry delays, an exit delay, the fire bell cutoff, and the burglary bell cutoff.

Entry and Exit Delay Timers are in 5 second intervals (the maximum delay time is 250 seconds).

For example:
5 sec. = 01
15 sec. = 03
20 sec. = 04
30 sec. = 06
45 sec. = 09
60 sec. = 12
250 sec. = 50

Data Digit **1** **2**

Exit Delay Time	
Address 166	
0 to 50 (0 to 250 sec.*)	Default = 12 (60 sec.)

*5 second intervals

Data Digit **1** **2**

Entry Delay Time 1	
Address 164	
0 to 50 (0 to 250 sec.*)	Default = 09 (45 sec.)

*5 second intervals

Data Digit **1** **2**

Fire Bell Cutoff	
Address 167	
0 to 99 minutes*	Default = 04 min.

*1 minute intervals

Data Digit **1** **2**

Entry Delay Time 2	
Address 165	
0 to 50 (0 to 250 sec.*)	Default = 09 (45 sec.)

*5 second intervals

Data Digit **1** **2**

Burglary Bell Cutoff	
Address 168	
0 to 99 minutes*	Default = 04 min.

*1 minute intervals

10.14 Arming Warning Control and Force Arming Programming: Program Address (169)

Example:
To program the keypad to be audible during the exit delay period and to allow up to 4 zones to be Force Armed.

Data Digit 1 = [1], Data Digit 2 = [4].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [1] [6] [9]
Enter Data Digit 1: [1]
Enter Data Digit 2: [4]
Enter the Pound button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Data Digit **1** **2**

Arming Warning Control

Select Options	**Enter the DD as a: 0**	1	2	3
Disable Arming Warning	●			
Keypad Audible during Exit Delay		●		●
2 sec. alarm at manual arming			●	●
2 sec. alarm at end of Exit Delay			●	●

Force Arming

Select Option	**DD**
Do not allow Force Arming	0
Allow up to 1 zone to be Force Armed	**1**
Allow up to 2 zones to be Force Armed	2
Allow up to 3 zones to be Force Armed	3
Allow up to 4 zones to be Force Armed	4
Allow up to 5 zones to be Force Armed	5
Allow up to 6 zones to be Force Armed	6
Allow up to 7 zones to be Force Armed	7
Allow up to 8 zones to be Force Armed	8

10.15 Bypassing Allowed Programming: Program Address (170)

Example:
To program Zones 1 - 7 so that bypassing is allowed and Zone 8 so that bypassing is not allowed.

Data Digit 1 = [*] [5], Data Digit 2 = [7].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [1] [7] [0]
Enter Data Digit 1: [*] [5]
Enter Data Digit 2: [7]
Enter the Pound button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Bypassing Allowed programming determines which zones can be bypassed. Zones that can not be bypassed can not be force armed either. Fire zones can never be manually bypassed, but can be force armed.

Data Digit **1** **2**

Select Options	Enter the Data Digit as a: 0	1	2	3	4	5	6	7	8	9	*0	*1	*2	*3	*4	*5
Bypassing Allowed Zone 1		●		●		●		●		●		●		●		●
Bypassing Allowed Zone 2			●	●			●	●			●	●			●	●
Bypassing Allowed Zone 3					●	●	●	●					●	●	●	●
Bypassing Allowed Zone 4									●	●	●	●	●	●	●	●

*0 - *5 are Hex values. They will display as A - F at the keypads.

Select Options	Enter the Data Digit as a: 0	1	2	3	4	5	6	7	8	9	*0	*1	*2	*3	*4	*5
Bypassing Allowed Zone 5		●		●		●		●		●		●		●		●
Bypassing Allowed Zone 6			●	●			●	●			●	●			●	●
Bypassing Allowed Zone 7					●	●	●	●					●	●	●	●
Bypassing Allowed Zone 8									●	●	●	●	●	●	●	●

*0 - *5 are Hex values. They will display as A - F at the keypads.

10.16 Keypad Control and Trouble Zone Mode Programming: Program Address (171)

Example:
To program the keypad for Residential Mode with the Trouble Zone disabled.

Data Digit 1 = [2], Data Digit 2 = [0].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [1] [7] [1]
Enter Data Digit 1: [2]
Enter Data Digit 2: [0]
Enter the Pound button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Keypad Control programming defines the mode of keypad operation: Normal (a valid code is required for all keypad operations), Quick Arm (a valid code is required for all keypad operations except arming the system), and Residential Mode (a valid code is only required for disarming the system, silencing alarms, resetting fire alarms and troubles, programming, and changing PINs). Trouble Zone Mode programming determines the mode of operation for any tamper device connected to the Trouble Zone.

Data Digit **1** **2**

Keypad Control

Select Option	DD
Commercial	**0**
Quick Arm	1
Residential Mode	2

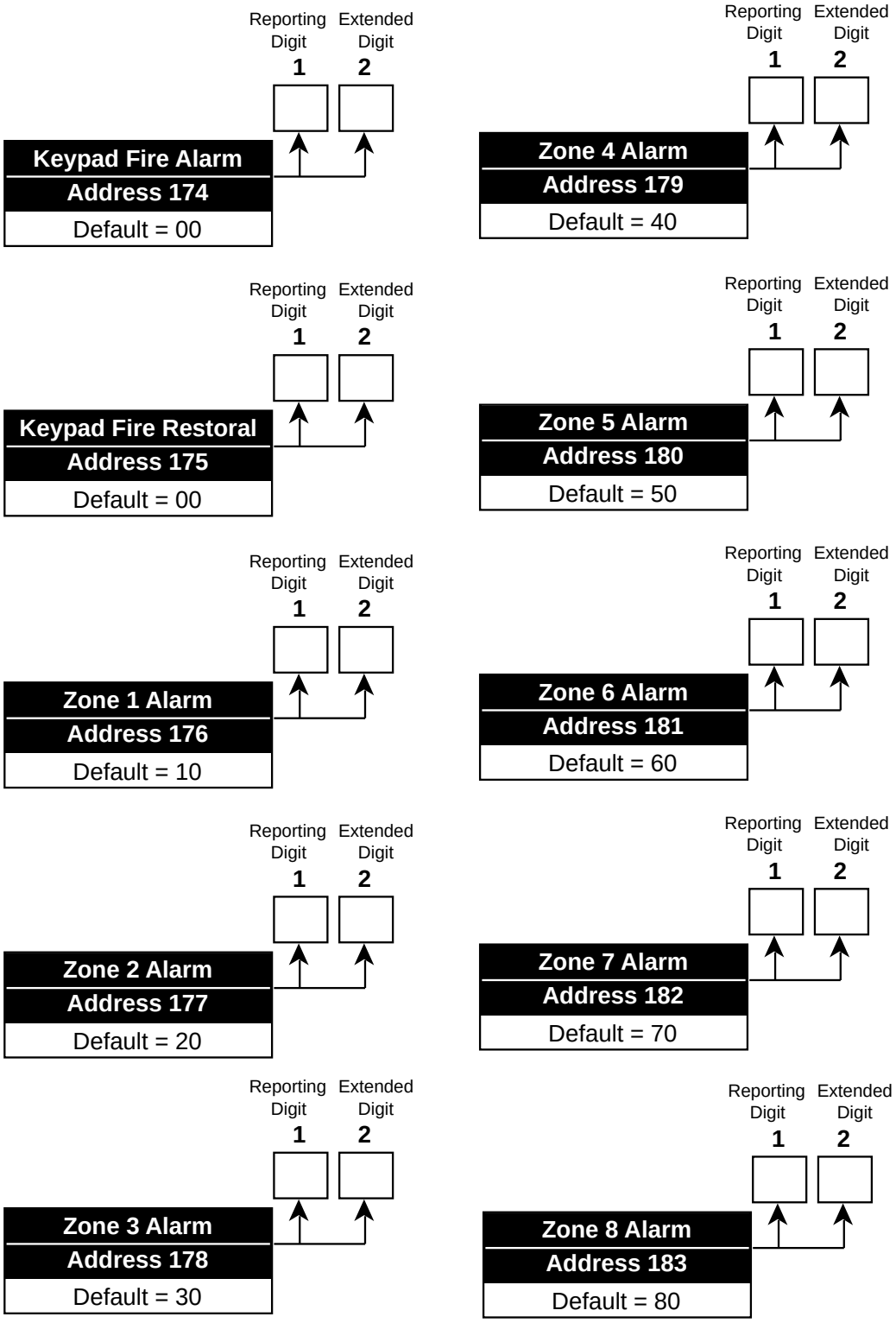
Trouble Zone Mode

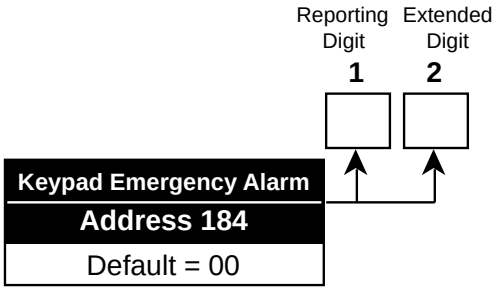
Select Option	DD
Disabled	**0**
Normally Open	1
Normally Closed	2

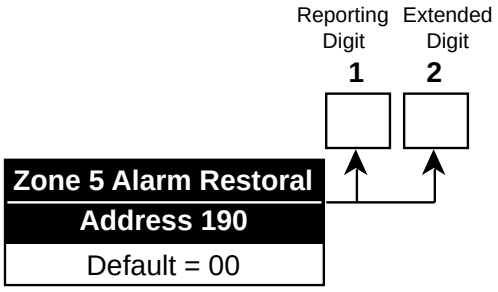
10.17 Report Programing Addresses (174-230)

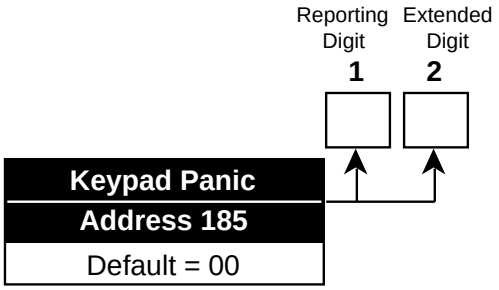
To send the User number along with open, close, or partial close reports, place an 'F' (*5) in the extended digit.
To disable a report, place a '0' in the reporting digit. **Note:** Pager format reports may use '0' as a reporting digit. When using SIA, Contact ID, or High Speed 4/9 formats, place a '1' in the reporting digit of each report you wish to enable. It is not necessary to program the extended digit.
For suggested values for 4/2 and BFSK formats, see Section 12.0. For Programmable SIA Report Types, see section 13. SIA, Contact ID, and High Speed 4/9 values are listed in Section 13.0. For other formats, consult your central station.
HEX values: Some Data Digit values are higher than 9. These values are programmed by pressing the reset (*) key followed by another number. These values will display as HEX characters when entered. The HEX character values are as follows: *0 = A *1 = B *2 = C *3 = D *4 = E *5 = F

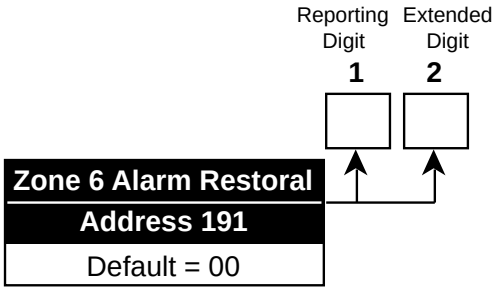
See Glossary (Section 6.13) for further details.

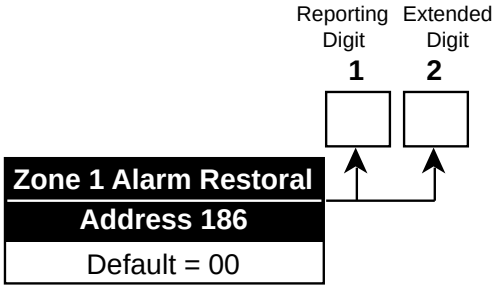


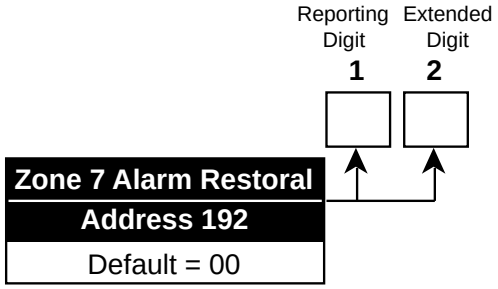


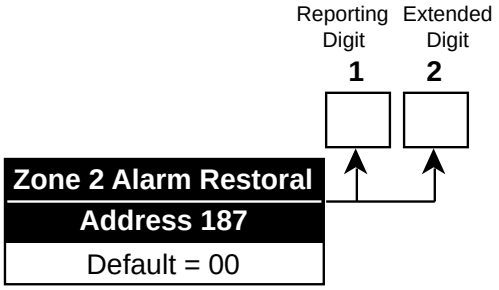


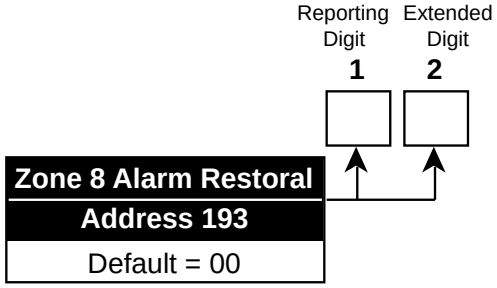


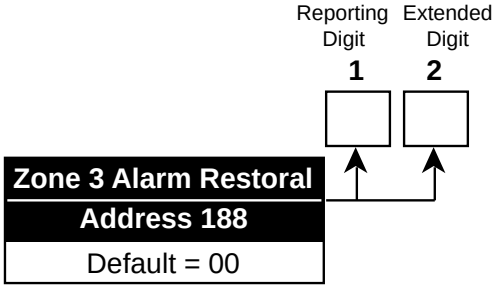


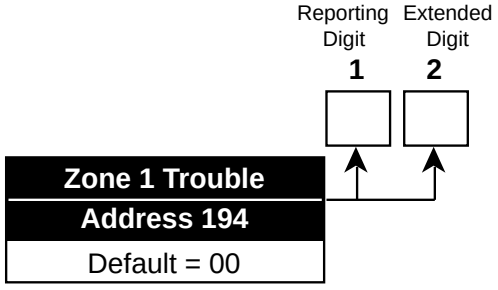


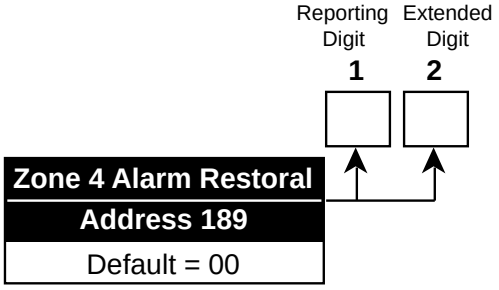


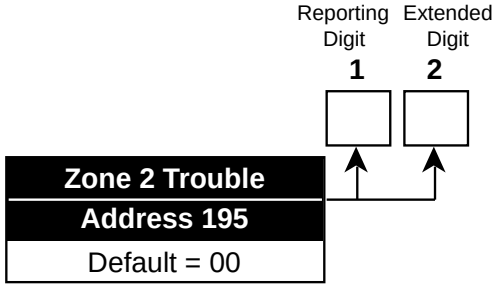


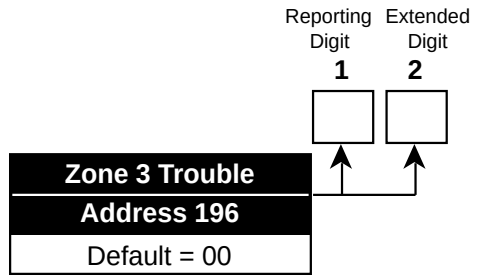


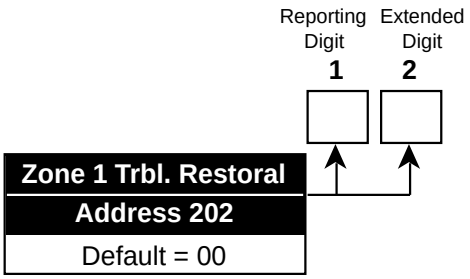


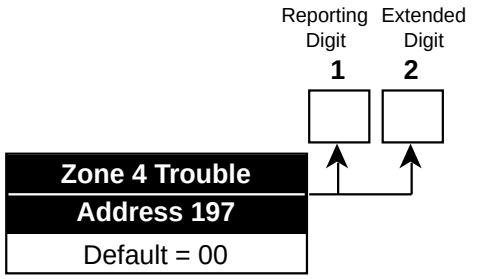


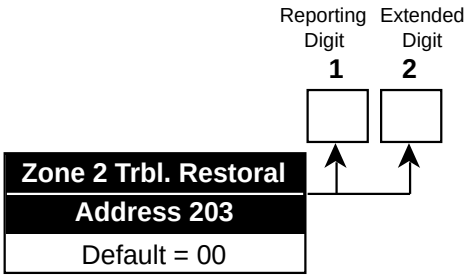


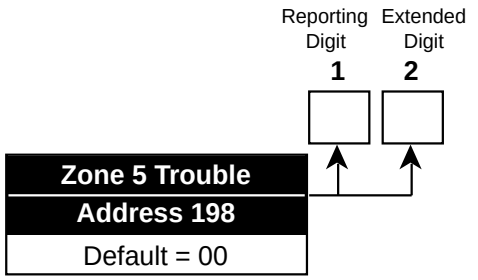


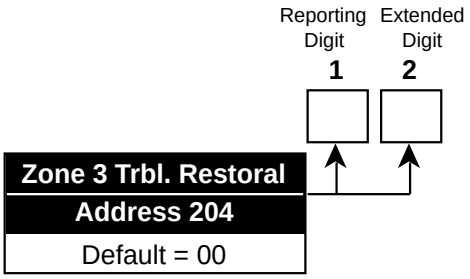


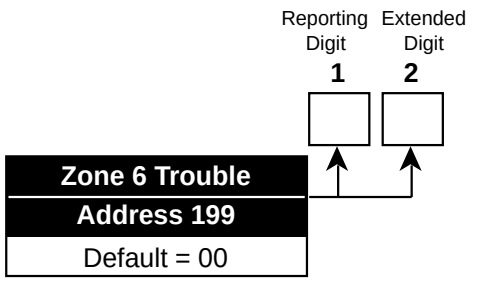


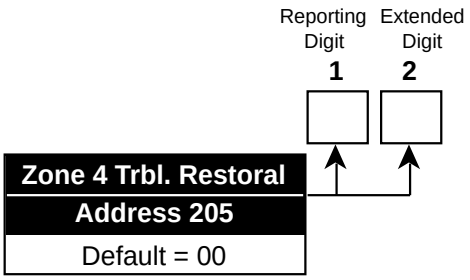


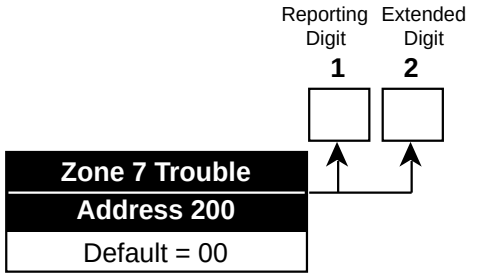


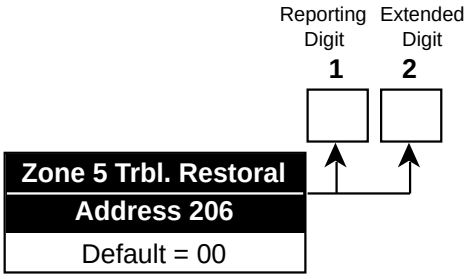


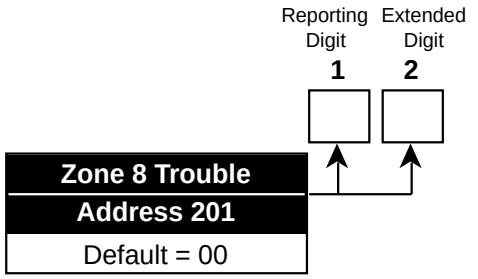


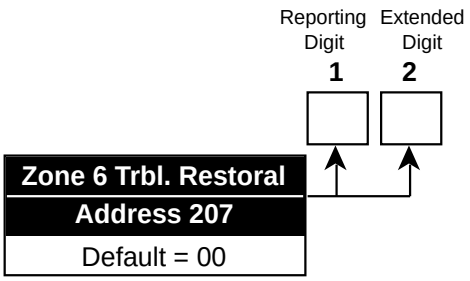


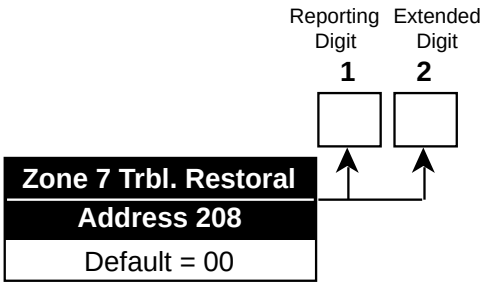


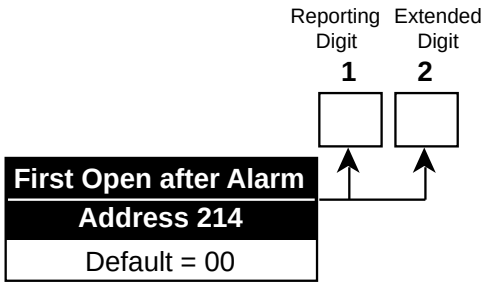


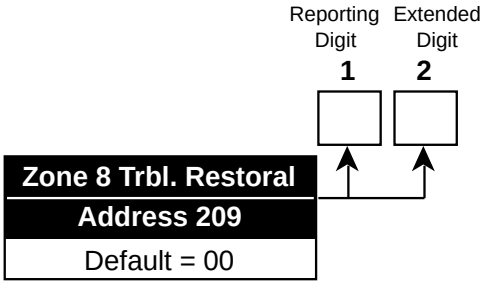


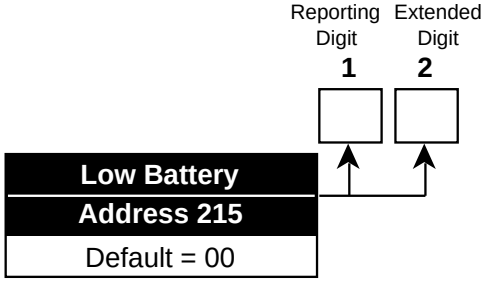


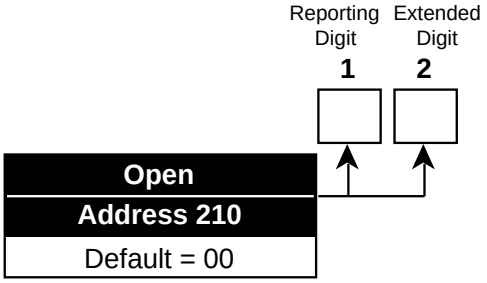


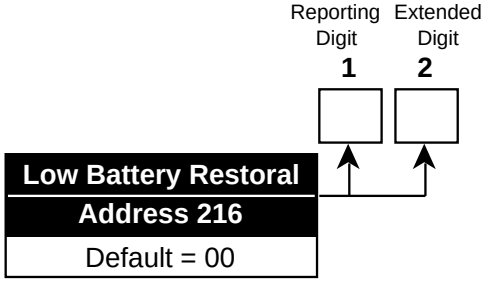


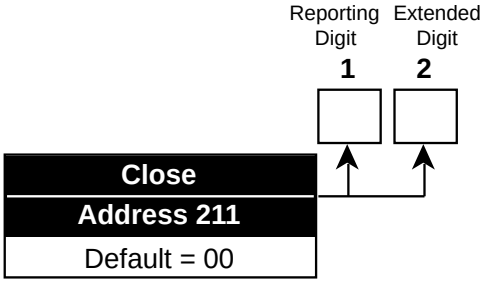


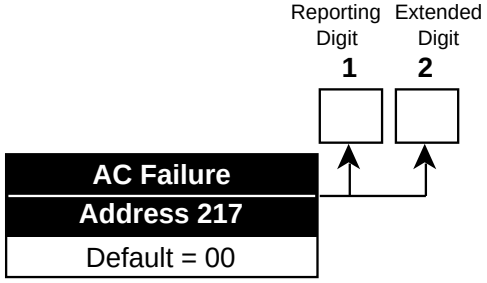


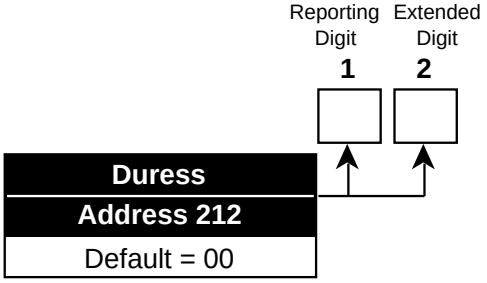


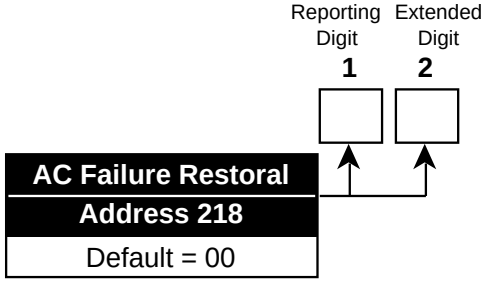


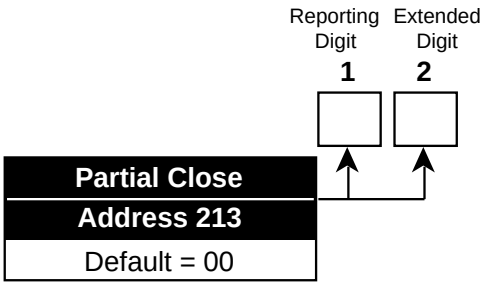


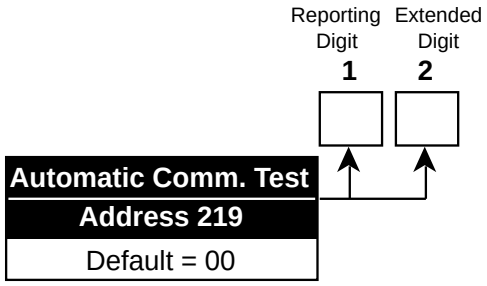




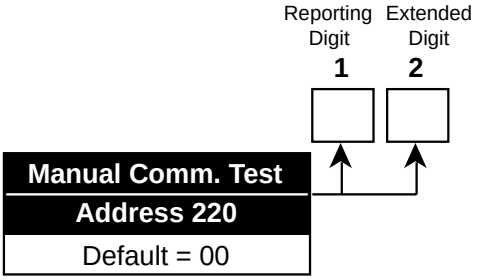


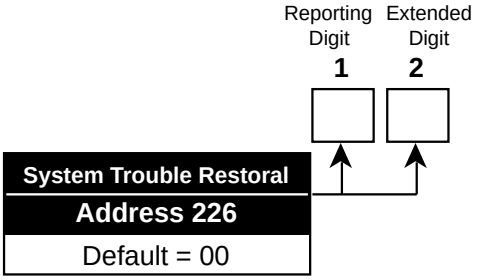


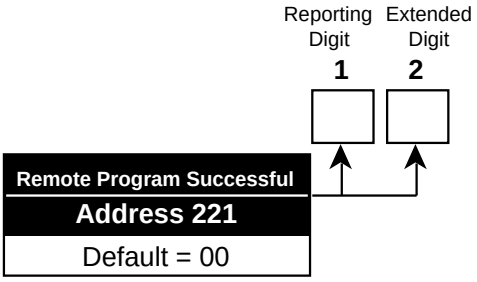


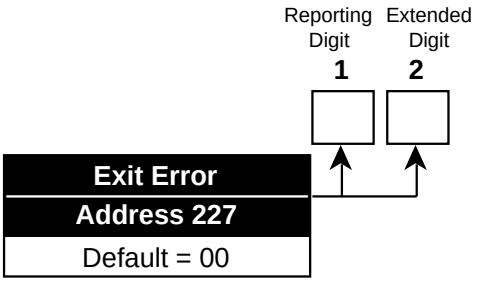


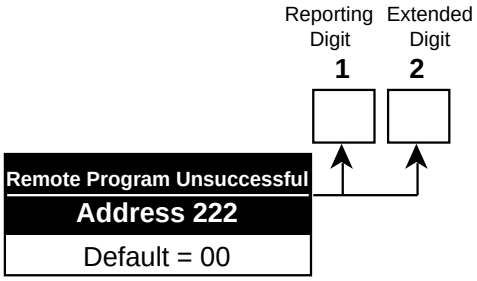
10.17 Report Programming (Continued)

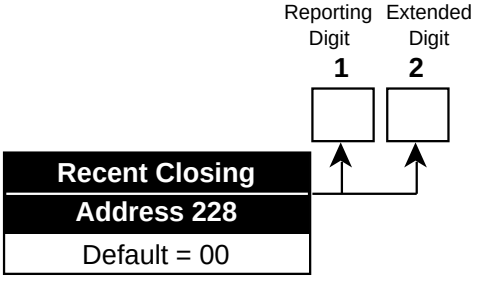


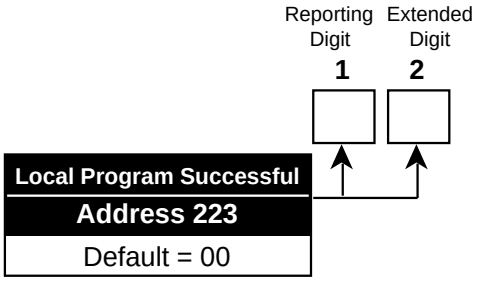


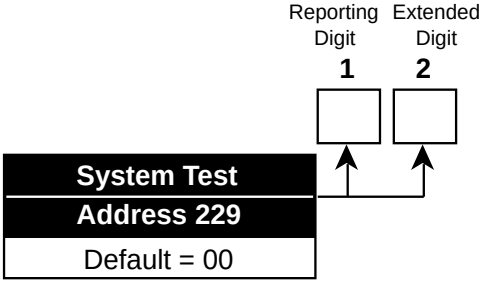


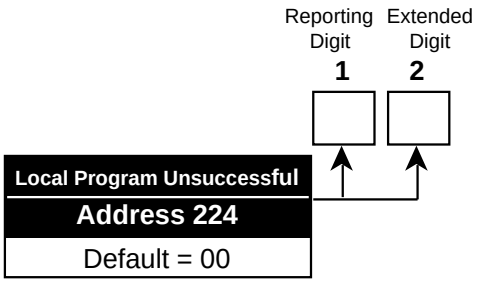


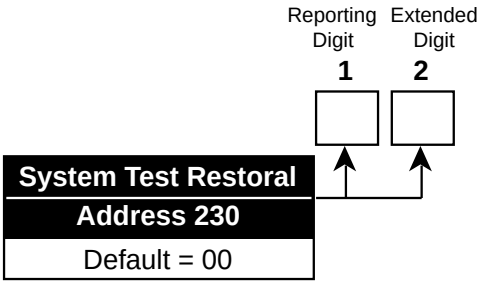


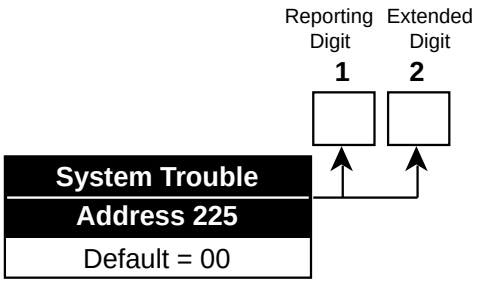












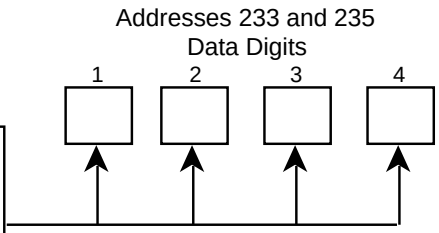
10.18 Account Code Programming: Program Addresses (233 and 235)

Example:
To program Phone #1 Account Code to be 2332.

Data Digit 1 = [2], Data Digit 2 = [3], Data Digit 3 = [3], Data Digit 4 = [2].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [2] [3] [3]
Enter Data Digit 1: [2]
Enter Data Digit 2: [3]
Enter Data Digit 3: [3]
Enter Data Digit 4: [2]
Enter the Pound button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Account Code programming defines the number transmitted to the central station that identifies this panel.



Phone #1 Account Code = Address 233

Phone #2 Account Code = Address 235

The Default for both Account Codes = 0000

Note: Account Codes are programmed from left to right. If programming a 3 digit Account Code, the fourth digit of this address must be "0."

For example: If the Account Code is 121, program 1210 in the programming address.

10.19 Phone Number Format Programming: Program Addresses (237 and 238)

Example:
To program Phone Number 1 to receive reports via Contact ID, sent at 10 Pulses per Second, and at 1800 Hz. Data and 2300 Hz. Acknowledge.

Data Digit 1 = [9], Data Digit 2 = [1].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [2] [3] [7]
Enter Data Digit 1: [9]
Enter Data Digit 2: [1]
Enter the Pound button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Phone Number Format programming defines the type of format being used for each phone number.

Note:
Phone Number 1 Format = Address 237
Phone Number 2 Format = Address 238

Data Digit **1** **2**

Select Option	DD
Phone Number Disabled	**0**
3/1 (no Extended Reporting)	1
3/1E (Extended Reporting)	2
3/1 with Parity	3
3/1E with Parity	4
4/1	5
4/2	6
BFSK	7
SIA (110 Baud)	8
Contact ID	9
SIA (300 Baud)	*0
ROBOFON (**Sweden only**)	*1
Customer (**Sweden only**)	*2
High Speed 4/9 + checksum	*3
Pager (see Section 12.4)	*5

*0 - *3 and *5 are Hex values.
They will display as A - D and F at the keypads.

	Enter the DD as a:					
Select Options	**0**	1	2	3	4	5
1900 Hz. Data/1400 Hz. Acknowledge	●		●		●	
1800 Hz. Data/2300 Hz. Acknowledge		●		●		●
BFSK, SIA, Contact ID, High Speed 4/9, and Pager		●				
10 Pulses per Second (PPS)	●	●				
20 Pulses per Second (PPS)			●	●		
40 Pulses per Second (PPS)					●	●

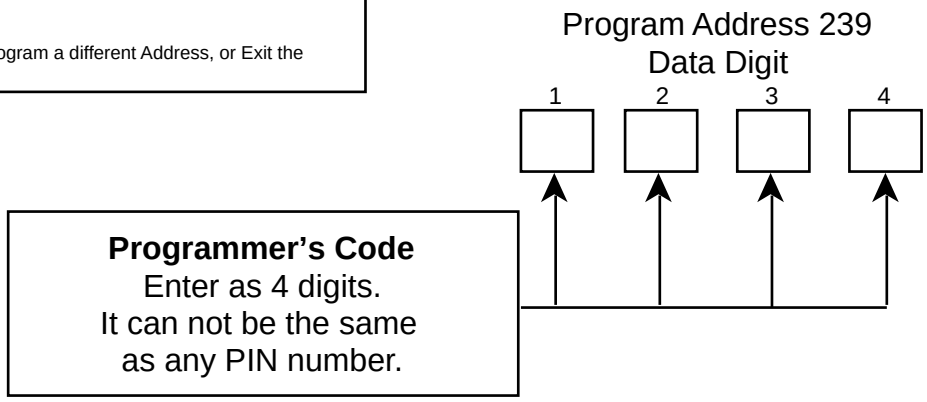
10.20 Programmer's Code Programming: Program Address (239)

Example:
To program the Programmer's Code to be 3443.

Data Digit 1 = [3], Data Digit 2 = [4], Data Digit 3 = [4], Data Digit 4 = [3].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [2] [3] [9]
Enter Data Digit 1: [3]
Enter Data Digit 2: [4]
Enter Data Digit 3: [4]
Enter Data Digit 4: [3]
Enter the Pound button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Programmer's Code programming defines what the Programmer's Code will be. This code is used to access the programming mode from the keypads (see Section 8.0).



The Default for the Programmer's Code = 9876

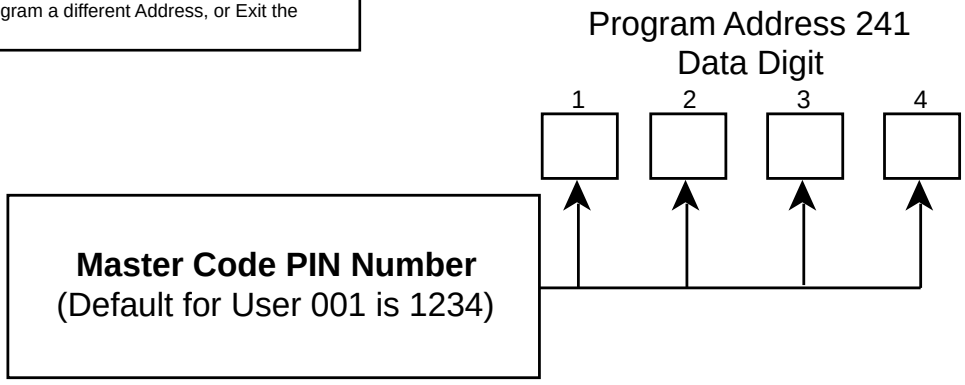
10.21 Master Code Programming: Program Address (241)

Example:
To program the Master Code to be 4554.

Data Digit 1 = [4], Data Digit 2 = [5], Data Digit 3 = [5], Data Digit 4 = [4].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [2] [4] [1]
Enter Data Digit 1: [4]
Enter Data Digit 2: [5]
Enter Data Digit 3: [5]
Enter Data Digit 4: [4]
Enter the Pound button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Master Code programming defines what the Master Code will be. This code is the highest authority level for a PIN (see Section 7.16).



If the Master Code is lost, this address may be used to program a new one. Otherwise, the Master Code Programming Mode should be used to create PINs that have a Master Code authority level.

Master Code for User Number 001 has its authority fixed at level 0.

Note:
User Numbers 002 through 015 must be programmed from the Master Code Programming Mode.

10.22 Cross-Zoning Control Programming: Program Addresses (279-282)

Example:
To program Zone 1 to be cross-zoned with ALL zones and Zone 2 to be cross-zoned with Zone 6.

Data Digit 1 = [1], Data Digit 2 = [6].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [2] [7] [9]
Enter Data Digit 1: [1]
Enter Data Digit 2: [6]
Enter the Pound button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Cross-zoning Control programming determines which zones may be cross-zoned to each other.

PA 279
Data Digit
1 2

Select Option	DD
Zone 1 not Cross-zoned	0
Zone 1 Cross-zoned with ALL zones	1
Zone 1 Cross-zoned with Zone 2	2
Zone 1 Cross-zoned with Zone 3	3
Zone 1 Cross-zoned with Zone 4	4
Zone 1 Cross-zoned with Zone 5	5
Zone 1 Cross-zoned with Zone 6	6
Zone 1 Cross-zoned with Zone 7	7
Zone 1 Cross-zoned with Zone 8	8

Select Option	DD
Zone 2 not Cross-zoned	0
Zone 2 Cross-zoned with Zone 1	1
Zone 2 Cross-zoned with ALL zones	2
Zone 2 Cross-zoned with Zone 3	3
Zone 2 Cross-zoned with Zone 4	4
Zone 2 Cross-zoned with Zone 5	5
Zone 2 Cross-zoned with Zone 6	6
Zone 2 Cross-zoned with Zone 7	7
Zone 2 Cross-zoned with Zone 8	8

PA 280
Data Digit
1 2

Select Option	DD
Zone 3 not Cross-zoned	0
Zone 3 Cross-zoned with Zone 1	1
Zone 3 Cross-zoned with Zone 2	2
Zone 3 Cross-zoned with ALL zones	3
Zone 3 Cross-zoned with Zone 4	4
Zone 3 Cross-zoned with Zone 5	5
Zone 3 Cross-zoned with Zone 6	6
Zone 3 Cross-zoned with Zone 7	7
Zone 3 Cross-zoned with Zone 8	8

Select Option	DD
Zone 4 not Cross-zoned	0
Zone 4 Cross-zoned with Zone 1	1
Zone 4 Cross-zoned with Zone 2	2
Zone 4 Cross-zoned with Zone 3	3
Zone 4 Cross-zoned with ALL zones	4
Zone 4 Cross-zoned with Zone 5	5
Zone 4 Cross-zoned with Zone 6	6
Zone 4 Cross-zoned with Zone 7	7
Zone 4 Cross-zoned with Zone 8	8

PA 281
Data Digit
1 2

Select Option	DD
Zone 5 not Cross-zoned	0
Zone 5 Cross-zoned with Zone 1	1
Zone 5 Cross-zoned with Zone 2	2
Zone 5 Cross-zoned with Zone 3	3
Zone 5 Cross-zoned with Zone 4	4
Zone 5 Cross-zoned with ALL zones	5
Zone 5 Cross-zoned with Zone 6	6
Zone 5 Cross-zoned with Zone 7	7
Zone 5 Cross-zoned with Zone 8	8

Select Option	DD
Zone 6 not Cross-zoned	0
Zone 6 Cross-zoned with Zone 1	1
Zone 6 Cross-zoned with Zone 2	2
Zone 6 Cross-zoned with Zone 3	3
Zone 6 Cross-zoned with Zone 4	4
Zone 6 Cross-zoned with Zone 5	5
Zone 6 Cross-zoned with ALL zones	6
Zone 6 Cross-zoned with Zone 7	7
Zone 6 Cross-zoned with Zone 8	8

10.22 Cross-zoning Control Programming (continued)

PA 282
Data Digit
1 2

Select Option	DD
Zone 7 not Cross-zoned	**0**
Zone 7 Cross-zoned with Zone 1	1
Zone 7 Cross-zoned with Zone 2	2
Zone 7 Cross-zoned with Zone 3	3
Zone 7 Cross-zoned with Zone 4	4
Zone 7 Cross-zoned with Zone 5	5
Zone 7 Cross-zoned with Zone 6	6
Zone 7 Cross-zoned with ALL zones	7
Zone 7 Cross-zoned with Zone 8	8

Select Option	DD
Zone 8 not Cross-zoned	**0**
Zone 8 Cross-zoned with Zone 1	1
Zone 8 Cross-zoned with Zone 2	2
Zone 8 Cross-zoned with Zone 3	3
Zone 8 Cross-zoned with Zone 4	4
Zone 8 Cross-zoned with Zone 5	5
Zone 8 Cross-zoned with Zone 6	6
Zone 8 Cross-zoned with Zone 7	7
Zone 8 Cross-zoned with ALL zones	8

10.23 Cross-zoning Trip Window Time Programming: Program Address (283)

Example:
To program the Cross-zone Window for 45 seconds.

Data Digit 1 = [4], Data Digit 2 = [5].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [2] [8] [3]
Enter Data Digit 1: [4]
Enter Data Digit 2: [5]
Enter the Pound button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Cross-zoning Trip Window Time programming defines the number of seconds for the Cross-zone Window.

Data Digit
1 2

Cross-zone Window Address 283	
0 to 99 seconds	Default = 00 sec.

10.24 Call-out Timer Programming: Program Addresses (284-287)

Example:
To program the Communicator Test Report to be sent at 9:30 pm.

Hour: Data Digit 1 = [2], Data Digit 2 = [1].
Minute: Data Digit 1 = [3], Data Digit 2 = [0].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [2] [8] [4]
Enter Data Digit 1: [2]
Enter Data Digit 2: [1]
Enter the Pound button: [#] (will go to Address 285)
Enter Data Digit 1: [3]
Enter Data Digit 2: [0]
Enter the Pound button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Call-Out Timer programming defines the hour and minute for the Communicator Test Report and the Remote Programmer Call-Out.

The default time for the Communicator Test Report to be sent and for the control to call the Remote Programmer is Midnight.

Data Digit
1 2

Automatic Communicator Test Report Hour Address 284
Default = 00 = Midnight

Data Digit
1 2

Automatic Communicator Test Report Minute Address 285
Default = 00

Data Digit
1 2

Remote Programmer Call-Out Hour Address 286
Default = 00 = Midnight

Data Digit
1 2

Remote Programmer Call-Out Minute Address 287
Default = 00

10.25 Test Report and Remote Programmer Call-out Programming: Program Address (288)

Example:
To program to send Test Reports on Wednesdays and to call the Remote Programmer on Saturdays.

Data Digit 1 = [4], Data Digit 2 = [7].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [2] [8] [8]
Enter Data Digit 1: [4]
Enter Data Digit 2: [7]
Enter the Pound button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Test Report and Remote Programmer Call-Out programming defines the day and frequency for the Communicator Test Report and the Remote Programmer Call-Out.

Data Digit
1 2

Select Option	DD
Do not send a Test Report	0
Send a Test Report on Sunday	1
Send a Test Report on Monday	2
Send a Test Report on Tuesday	3
Send a Test Report on Wednesday	4
Send a Test Report on Thursday	5
Send a Test Report on Friday	6
Send a Test Report on Saturday	7
Send a Test Report every day	8
Send a Test Report every 8 days	9
Send a Test Report every 28 days	*0
Send a Test Report every hour	*1
Send a Test Report every 12 hours	*2

*0 - *2 are Hex values. They will display as A - C at the keypads.

Select Option	DD
Do not call the Remote Programmer	0
Call the Remote Programmer on Sunday	1
Call the Remote Programmer on Monday	2
Call the Remote Programmer on Tuesday	3
Call the Remote Programmer on Wednesday	4
Call the Remote Programmer on Thursday	5
Call the Remote Programmer on Friday	6
Call the Remote Programmer on Saturday	7
Call the Remote Programmer every day	8
Call the Remote Programmer every 8 days	9
Call the Remote Programmer every 28 days	*0

*0 is a Hex value. It will display as an A at the keypads.

10.26 History Event Control Programming: Program Address (289)

Example:
To program to store burglar alarms, fire alarms, open and close events, and local/remote program events.

Data Digit 1 = [3], Data Digit 2 = [*] [0].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [2] [8] [9]
Enter Data Digit 1: [3]
Enter Data Digit 2: [*] [0]
Enter the Pound button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

History Event Control programming determines which events are stored in memory.

See Glossary (Section 6.14) for further details.

Data Digit
1 2

Select Options	Enter the Data Digit as a: 0	1	2	3	4	5	6	7	8	9	*0	*1	*2	*3	*4	*5
Store burglar alarms		●		●		●		●		●		●		●		●
Store fire alarms			●	●			●	●			●	●			●	●
Store keypad alarms					●	●	●	●					●	●	●	●
Store zone troubles and restorals									●	●	●	●	●	●	●	●

*0 - *5 are Hex values. They will display as A - F at the keypads.

Select Options	Enter the Data Digit as a: 0	1	2	3	4	5	6	7	8	9	*0	*1	*2	*3	*4	*5
Store system troubles and restorals		●		●		●		●		●		●		●		●
Store open and close events			●	●			●	●			●	●			●	●
Store bypass and unbypass events					●	●	●	●					●	●	●	●
Store local/remote program events									●	●	●	●	●	●	●	●

*0 - *5 are Hex values. They will display as A - F at the keypads.

10.27AC Failue Report Delay: Program Address (290)

May be used only if AC Failure Reports (Address 217) or AC Restore Reports (Address 218) are selected.

The Report Delay is determined by adding the time programmed into Data Digit 1 and 2 as a Hex number.

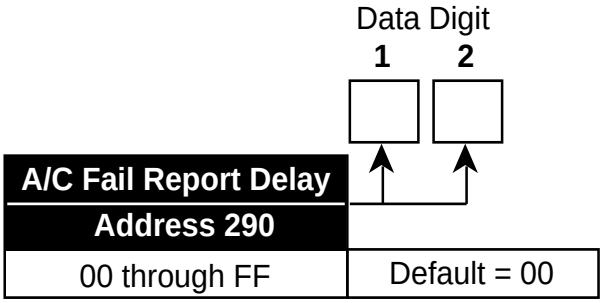
The time of Data Digit 1 is equal to the value x 16 minutes.
Example: If the value of Data Digit 1 is set to 3, the time is 48 minutes. (3 x 16 = 48).

The time of Data Digit 2 is equal to the value x 1 minute.
Example: If the value of Data Digit 2 is set to 7, the time is 7 minutes. (7 x 1 = 7)
Note: Hex numbers *0 thru *5 represent 10 thru 15 minutes.

The total time delay in the example (Data Digit 1 + Data Digit 2) is 55 minutes. (48 + 7 = 55)

Other Examples:

Report Delay	Value of address 290
Send only with next report	00
30 minutes	1*4
60 minutes	3*2
120 minutes	78
240 minutes	*50
Random Delay (at least 15 minutes, but less than 120 minutes)	*5*5



10.28 Phone Number Programming: Program Addresses (296, 306, 316)

Example:
To program Phone Number 1 as 555-1234.

Data Digit 1 = [5], Data Digit 2 = [5], Data Digit 3 = [5], Data Digit 4 = [1], Data Digit 5 = [2], Data Digit 6 = [3], Data Digit 7 = [4].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [2] [9] [6]
Enter Data Digit 1: [5]
Enter Data Digit 2: [5]
Enter Data Digit 3: [5]
Enter Data Digit 4: [1]
Enter Data Digit 5: [2]
Enter Data Digit 6: [3]
Enter Data Digit 7: [4]
Enter the Pound button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Notes:
To dial the "*" character, enter *1 (The "*" character is sent as "1" "1" when pulse dialing).
To dial the "#" character, enter *2 (The "#" character is only valid when tone dialing).
To input a three second delay, enter *3.
To wait for the dial tone, enter *4 in the first digit.
To disable a Phone Number, enter *5 in the first digit.

(*1 - *5 are hex values. They will display as B - F at the keypads.)

10.28.1 Phone Number 1 Programming: Program Address (296)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

10.28.2 Phone Number 2 Programming: Program Address (306)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

10.28.3 Phone Number 3 (Remote Programmer) Programming: Program Address (316)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

Recommendation: The phone line that the control panel is connected to should not have a Call Waiting feature. If it must have call waiting, program the code to disable call waiting and add a three second delay before the phone number. This will prevent incoming calls from interrupting a communication. For example: call waiting can be disabled in many areas by dialing *70 before the phone number for tone dial and 1170 for pulse dial.

11.0 Installation Guide for U.L. Listed Systems

11.1 DS7080i U.L. Listings:

- Household Fire Alarm, U.L. Standard UL985
- Household Burglary Alarm, U.L. Standard UL1023
- Police Station Connection Grades AA and A, U.L. Standard UL365
- Central Station Burglary Alarm Grades AA, A, B, and C; U.L. Standard UL1610

The control panel should be installed in accordance with U.L. Standard UL681, Installation and Classification of Mercantile and Bank Burglar Alarm Systems, or U.L. Standard UL1641, Installation and Classification of Residential Burglar Alarm Systems. It should also be installed in accordance with NFPA 72 for Household installations. This panel has not been investigated to the requirements of UL294 (Access Control).

11.1.1 The following table shows the DS7080i system configuration for the various types of fire and burglar alarm service for which theproducts are U.L. Listed.

Product	U.L. Application					
	CSB-A	CSB-B/C	LB-A	PSCB-D-A	PSCB-DR-A	HF/B
DS7080i	R	R	R	R	R	R
Standard Enclosure	n/a	n/a	n/a	n/a	n/a	1
AE7080CC Attack Enclosure	R	R	R	R	R	1
DS7445	2	2	2	2	2	2
DS7447	2	2	2	2	2	2
Spectrum PAL200	R	n/a	n/a	n/a	R	n/a
AB-12 Bell/Housing	R	R	R	R	R	n/a

Key to Application Codes

CSB-A = Central Station Burglary, grades AA and A
CSB-B/C = Central Station Burglary, grades B and C
LB-A = Local Burglary, grade A
PSCB-D-A = Police Station Connected Burglary w/DACT, grade A
PSCB-DR-A = Police Station Connected Burglary w/Derived Channel, grades AA and A
HF/B = Household (residential) Fire and Burglary

Configuration Codes

R = Required
n/a = Not Applicable
1 = Standard or attack enclosure may be used.
2 = Either keypad may be used, at least one keypad is required.

11.2 INSTALLATION CONSIDERATIONS

- Failure to install and program the control in accordance with the requirements in this section voids the listing mark of Underwriters Laboratories, Inc.
- The standby battery capacity is 7.0 AH @ 12 VDC.
- The total nominal current must not exceed 1.5 A when on standby or in alarm.
- The control must be mounted indoors and within the protected area.
- Enclosure tamper switches (if used) must be connected to a 24-hour zone.
- Grounding must be in accordance with article 250 of the NEC (NFPA 70).
- At least one U.L. Listed keypad with zone display must be connected.
- Zones must be connected to U.L. Listed, compatible devices.
- 50 Hz. AC input cannot be used in U.L. Certificated installations.
- The ground wire provided with the enclosure must be connected between the “Earth GND” connection on the control and the enclosure tab.
- The keypad panic alarm output must follow the corresponding zone’s programming (e.g. fire = pulsing [or steady if not a combination], burglary = steady). In all cases, the special emergency keys must be silent.
- The ground start feature shall not be programmed.
- The Pager report format must not be employed. Alarm outputs must not be delayed.

11.3 PROGRAMMING THE DS7080i

When used in U.L. Certificated installations, the control must conform to certain programming requirements. The following is a list of the required program entries and required accessories for specific U.L. Certificated installations.

11.3.1 Household Fire Alarm

Household Fire Alarm using Digital Alarm Communicator Transmitter with local bell. The control must be installed in accordance with NFPA 72.

Required Accessories:

- At least one Detection Systems’ model DS250 Series smoke detector with an MB Series base, or another Listed compatible smoke detector.

- One Wheelock 46T-G10-12 bell or 34T-12 horn (will provide 85db for UL985 and NFPA 72 requirements; other Listed compatible devices with a voltage range of 10.2 to 14.0 V may be used) is required for this application and must be installed inside the protected area.
- The standard control enclosure can be used.
- At least one DS7447 or DS7445 Keypad must be used.
- Four-wire detectors must be used with Listed power supervision devices. A compatible Listed 4-wire detector is the Detection Systems, Inc. DS250 in an MB4W base. A compatible Listed EOL relay is the Detection Systems, Inc. EOL200.
- All zones must be used with the EOL resistor (P/N 25899), provided.

A. Report Programming:
- Fire Zone Report must be programmed.
- Low Battery Report (Program Address 215) must be programmed.
- AC Failure Report (Program Address 217) must be programmed.

B. Timer Programming:
- Bell Cutoff Times (Program Addresses 167 and 168) must be programmed for not less than 4 minutes.

C. Zone Programming:
- Fire zones must be programmed for alarm on short, trouble on open, not be crossed zoned or be part of custom arming.

D. Alarm Output Programming:
- Program Address 008 must be programmed as: Data Digit 1=*0. For household fire installations only, the output signal (Program Address 009) may be pulsed or steady.

E. General Control Programming:
- Program Address 169 must be programmed as: Data Digit 2=0 (do not allow force arming).

11.3.2 Grade A Household Burglary Alarm.

Grade A Household Burglary Alarm using Digital Alarm Communicator Transmitter with local bell. The control must be installed in accordance with U.L. Standard UL1641.

Required Accessories:
- At least one Wheelock 46T-G10-12 bell or 34T-12 horn (other Listed compatible devices with a voltage range of 10.2 to 14.0 V may be used) is required for this application.
- The standard DS7080i enclosure can be used.

A. Report Programming:
- Burglar Zone Reports must be programmed for those zones used.
- Low Battery Report (Program Address 215) must be programmed.
- AC Failure Report (Program Address 217) must be programmed.

B. Timer Programming:
- Bell Cutoff Times (Program Addresses 167 and 168) must be programmed for not less than 4 minutes.
- Entry Delay Timer (Program Addresses 164 and 165) must be programmed for not longer than 60 seconds.
- Exit Delay Timer (Program Address 166) must be programmed for not longer than 45 seconds.

C. General Control Programming:
- Program Address 010, Data Digit 2 must be programmed for no swinger shunts (enter 0, 1, or 2).
- Program Address 169 must be programmed as: Data Digit 2=0.
- Cross zoning time programming (Program Address 283) must be set to 00.
- Program Address 171 must be programmed for the Commercial mode.

D. Alarm Output Programming:
- Program Address 008 must be programmed as: Data Digit 1=*0.

11.3.3 Local Burglary Alarm

The control must be installed in accordance with U.L. Standards UL681 and UL609 for all grades of service.

A. Grade A Installations using Digital Alarm Communicator Transmitter with local bell

Required Accessories:
- The control must be a Detection Systems' model DS7080iCC with a cover actuated tamper switch installed.
- The Ademco Model AB-12 bell/housing (see Section 11.4).

1. Report Programming:
- Burglar Zone Reports must be programmed for those zones used.
- Low Battery Report (Program Address 215) must be programmed.
- AC Failure Report (Program Address 217) must be programmed.
- Open Report (Program Address 210) must be programmed.
- Close Report (Program Address 211) must be programmed.
- 24-Hour Check-In Reports (Program Addresses 219 and 220) must be programmed.

2. Timer Programming:
- Bell Cutoff Times (Program Addresses 167 and 168) must be programmed for not less than 15 minutes.
- Entry, Exit Delay Times (Program Addresses 164-166) must be programmed for not longer than 60 seconds.

3. General Control Programming:
- Must be programmed for no swinger shunts and closing ring-back. (Program Address 010 Data Digit 2, enter 0, 1, or 2).
- Program Address 169 must be programmed as: Data Digit 2=0.
- Program Address 171 must be set for Commercial mode.

4. Zone Programming:
- The Burglar alarm output signal must be steady.

5. Alarm Output Programming:
- Program Address 008 must be programmed as: Data Digit 1=*0.

11.3.4 Police Station Connection

The control must be installed in accordance with U.L. Standards UL611 and UL681 for all grades of service.

A. Grades AA and A Installations using the Applied Spectrum PAL200 and the DACT

Required Accessories:
- The control must be a Detection Systems' model DS7080iCC with a cover actuated tamper switch installed.
- The Applied Spectrum PAL200.
- The Spectrum PAL200 must be installed within 3 feet of the control and the wiring control must be in conduit.
- The Applied Spectrum PAL200 inputs should be connected to the alarm outputs (the active alarm sounder output may be used).

1. Report Programming:
- Programming shall be enabled to allow all alarm signals to be transmitted via the DACT and PAL200.
- Burglar Zone Reports are not required since the alarms are transmitted over the PAL200.
- Low Battery Report (Program Address 215) must be programmed.
- AC Failure Report (Program Address 217) must be programmed.
- Open Report (Program Address 210) must be programmed.
- Close Report (Program Address 211) must be programmed.
- 24-Hour Check-In Reports (Program Addresses 219 and 220) must be programmed.

2. Timer Programming:
- Entry, Exit Delay Times (Program Addresses 164-166) must be programmed for not longer than 60 seconds.

3. General Control Programming:
- Must be programmed for no swinger shunts and closing ring-back. (Program Address 010 Data Digit 2, enter 0, 1, or 2).
- Program Address 169 must be programmed as: Data Digit 2=0.
- Program Address 171 must be programmed for Commercial Mode.

4. Zone Programming:
- The Burglar alarm output signal must be steady.

5. Alarm Output Programming:
- Program Address 008 must be programmed as: Data Digit 1=*0.

B. Grade A Installations using Digital Alarm Communicator Transmitter with local bell

Required Accessories:
- The control must be a Detection Systems' model DS7080iCC with a cover actuated tamper switch installed.
- The Ademco Model AB-12 bell/housing (see Section 11.4).

1. Report Programming:
- Burglar Zone Reports must be programmed for those zones used.

- Low Battery Report (Program Address 215) must be programmed.
- AC Failure Report (Program Address 217) must be programmed.
- Open Report (Program Address 210) must be programmed.
- Close Report (Program Address 211) must be programmed.
- 24-Hour Check-In Reports (Program Addresses 219 and 220) must be programmed.

2. Timer Programming:
- Bell Cutoff Times (Program Addresses 167 and 168) must be programmed for not less than 15 minutes.
- Entry, Exit Delay Times (Program Addresses 164-166) must be programmed for not longer than 60 seconds.

3. General Control Programming:
- Must be programmed for no swinger shunts and closing ring-back. (Program Address 010 Data Digit 2, enter 0, 1, or 2).
- Program Address 169 must be programmed as: Data Digit 2=0.
- Program Address 171 must be programmed for the Commercial mode.

4. Zone Programming:
- The Burglar alarm output signal (whether pulsed or steady) must be different from the Fire alarm signal.

5. Alarm Output Programming:
- Program Address 008 must be programmed as: Data Digit 1=*0.

11.3.5 Central Station Burglary Alarm

The control must be installed in accordance with U.L. Standards UL611 and UL681 for all grades of service.

A. Grades AA and A Installations using the Applied Spectrum PAL200 and the DACT

Required Accessories:
- The control must be a Detection Systems' model DS7080iCC with a cover actuated tamper switch installed.
- The Applied Spectrum PAL200.
- The Spectrum PAL200 must be installed within 3 feet of the control and the wiring to the control must be in conduit.
- The Applied Spectrum PAL200 inputs should be connected to the alarm outputs (the active alarm sounder output may be used).

1. Report Programming:
- Programming shall be enabled to allow all alarm signals to be transmitted via the DACT and PAL200.
- Burglar Zone Reports are not required since the alarms are transmitted over the PAL200.
- Low Battery Report (Program Address 215) must be programmed.
- AC Failure Report (Program Address 217) must be programmed.
- Open Report (Program Address 210) must be programmed.
- Close Report (Program Address 211) must be programmed.
- 24-Hour Check-In Reports (Program Addresses 219 and 220) must be programmed.

2. Timer Programming:
- Entry, Exit Delay Times (Program Addresses 164-166) must be programmed for not longer than 60 seconds.

3. General Control Programming:
- Must be programmed for no swinger shunts and closing ring-back. (Program Address 010 Data Digit 2, enter 0, 1, or 2).
- Program Address 169 must be programmed as: Data Digit 2=0.
- Program Address 171 must be programmed for the Commercial mode.

4. Zone Programming:
- The Burglar alarm output signal (whether pulsed or steady) must be different from the Fire alarm signal.

5. Alarm Output Programming:
- Program Address 008 must be programmed as: Data Digit 1=*0.

B. Grade B Installations using Digital Alarm Communicator Transmitter with local bell

Required Accessories:
- The control must be a Detection Systems' model DS7080iCC with a cover actuated tamper switch installed.
- The Ademco Model AB-12 bell/housing (see Section 11.4).

1. Report Programming:
- Burglar Zone Reports must be programmed for those zones used.
- Low Battery Report (Program Address 215) must be programmed.
- AC Failure Report (Program Address 217) must be programmed.

- Open Report (Program Address 210) must be programmed.
- Close Report (Program Address 211) must be programmed.
- 24-Hour Check-In Reports (Program Addresses 219 and 220) must be programmed.

2. Timer Programming:
- Bell Cutoff Times (Program Addresses 167 and 168) must be programmed for not less than 15 minutes.
- Entry, Exit Delay Times (Program Addresses 164-166) must be programmed for not longer than 60 seconds.

3. General Control Programming:
- Must be programmed for no swinger shunts and closing ring-back. (Program Address 010 Data Digit 2, enter 0, 1, or 2).
- Program Address 169 must be programmed as: Data Digit 2=0.
- Program Address 171 must be set for the Commercial mode.

4. Zone Programming:
- The Burglar alarm output signal (whether pulsed or steady) must be different from the Fire alarm signal.

5. Alarm Output Programming:
- Program Address 008 must be programmed as: Data Digit 1=*0.

C. Grade C Installations using Digital Alarm Communicator Transmitter only

Required Accessories:
- The control must be a Detection Systems' model DS7080iCC with a cover actuated tamper switch installed.

1. Report Programming:
- Burglar Zone Reports must be programmed for those zones used.
- Low Battery Report (Program Address 215) must be programmed.
- AC Failure Report (Program Address 217) must be programmed.
- Open Report (Program Address 210) must be programmed.
- Close Report (Program Address 211) must be programmed.
- 24-Hour Check-In Reports (Program Addresses 219 and 220) must be programmed.

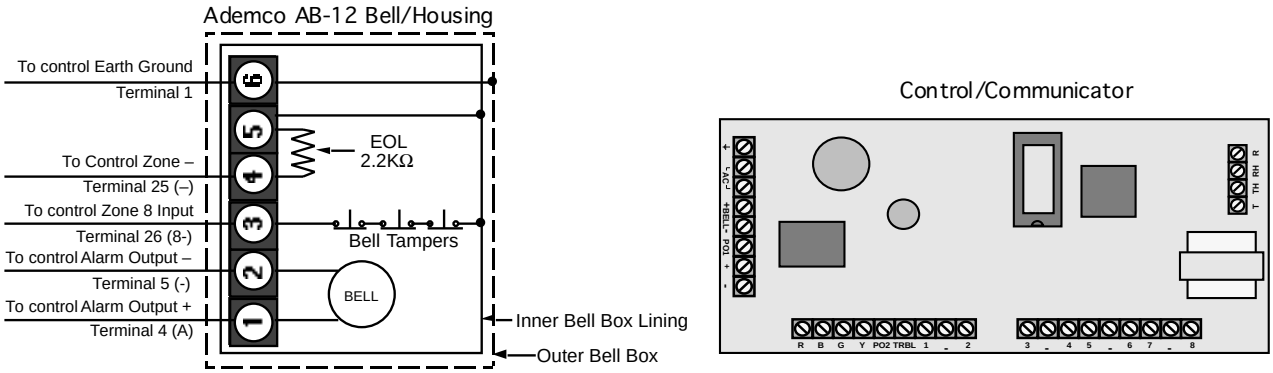
2. Timer Programming:
- Entry, Exit Delay Times (Program Addresses 164-166) must be programmed for not longer than 60 seconds.

3. General Control Programming:
- Must be programmed for no swinger shunts and closing ring-back. (Program Address 010 Data Digit 2, enter 0, 1, or 2).
- Program Address 169 must be programmed as: Data Digit 2=0.
- Program Address 171 must be set for the Commercial mode.

4. Zone Programming:
- The Burglar alarm output signal (whether pulsed or steady) must be different from the Fire alarm signal.

5. Alarm Output Programming:
- Program Address 008 must be programmed as: Data Digit 1=*0.

11.4 Using the Ademco AB-12 Bell/Housing



1) Disconnect the wire jumper from terminal 4 to the inner housing of the Bell Box.
2) Connect wiring between the control and Bell Box as shown above.
3) Program Zone 8 as a 24-hour zone. (Program Address 007 must be programmed as: Data Digit 1=2, Data Digit 2=2).

12.0 Report Programming Suggested Values

12.1 4/2 Format

For Additional Information, see Programming Addresses 174-230

Reports with Restorals

	Report		Restoral		Trouble	
Zone 1	A	1	2	1	6	1
Zone 2	A	2	2	2	6	2
Zone 3	A	3	2	3	6	3
Zone 4	A	4	2	4	6	4
Zone 5	A	5	2	5	6	5
Zone 6	A	6	2	6	6	6
Zone 7	A	7	2	7	6	7
Zone 8	A	8	2	8	6	8
Low Battery	7	9	6	9		
AC Failure	7	A	6	A		
System Trouble	3	9	0	0		
Keypad Fire	1	8	2	8		
Keypad Emergency	1	6	0	0		
Keypad Panic	A	A	0	0		

Reports without Restorals

	Report	
Open	9	F
Close	4	F
Partial Close	4	F
First Open after Alarm	3	F
Automatic Comm. Test	3	A

	Report Successful		Report Unsuccessful	
Remote Program	0	0	0	0
Local Program	0	0	0	0

	Report	
Duress	1	5

12.2 BFSK Format

For Additional Information, see Programming Addresses 174-230

Reports with Restorals

	Report		Restoral		Trouble	
Zone 1	1	0	E	1	F	1
Zone 2	2	0	E	2	F	2
Zone 3	3	0	E	3	F	3
Zone 4	4	0	E	4	F	4
Zone 5	5	0	E	5	F	5
Zone 6	6	0	E	6	F	6
Zone 7	7	0	E	7	F	7
Zone 8	8	0	E	8	F	8
Low Battery	F	9	E	9		
AC Failure	F	A	E	A		
System Trouble	F	D	E	D		
No Keypad Fire	0	0	0	0		
Keypad Emergency	0	0	0	0		
Keypad Panic	9	0	0	0		

With Keypad Fire	1	0	E	1

Reports without Restorals

	Report	
Open	B	F
Close	C	F
Partial Close	C	F
First Open after Alarm	D	F
Automatic Comm. Test	E	E

	Report Successful		Report Unsuccessful	
Remote Program	E	F	F	F
Local Program	E	F	F	F

	Report	
Duress	A	0

12.3 Pager Format

The Pager format allows the control panel to dial a digital pager and leave a numeric message which includes an account ID and report type. The telephone number is dialed when a report is available. At the completion of the telephone dialing, a fixed time delay equal to 10 seconds occurs. This delay allows time to connect with the pager service, while skipping over any voice announcement. When the delay has ended, the numeric message is sent. This message includes the account number followed by up to 5 reports. If a delay time greater than 10 seconds is required, increments of 3 seconds can be added by programming the "*3" character (3 second delay) at the end of the phone number in address 296 or 306.

For example, if you call pager number 123-4567 and it takes 20 seconds after you finished dialing before you are allowed to enter the message, the following digits should be programmed in address 296: 1 2 3 4 5 6 7 *3 *3 *3 *3. This will give you an overall delay of 22 seconds.

Note: Some paging systems do not have a voice announcement and expect data entry within the first three to five seconds. Due to the built in 10 second communicator delay, the paging system may hang up before the reports are sent. If this problem occurs, contact your pager provider about adding a voice announcement or a delay.

Note: For Pager format, it is not advisable to use the HEX character values (*0 = A, *1 = B, *2 = C, *3 = D, *4 = E, *5 = F) in the report programming addresses 174 through 230 or as part of the Account Code (addresses 233 and 235). These characters could cause unpredictable results when sent to a pager system that only expects numeric characters between 0-9. This is the reason that this format will not allow an associated user number with an open and close report. If using a remote programming program, such as WDSRP, do not use 0 as a reporting or account code digit as the remote programmer programs 0 as *0 (A).

Note: The Pager format is an open-loop format which has no acknowledge tone. There is no indication at the control panel that the signal has been sent. Therefore, the Pager format is not recommended as the primary communication method.

For Additional Information, see Programming Addresses 174-230 and 233-235.

The following are recommended programming values for addresses 174 through 230 when using the Pager format.

Warning: If sending reports to both a pager and to a central station, **Do Not** use a 0 as the reporting digit as it will disable the report to the central station.

Reports with Restorals

	Report		Restoral		Trouble	
Zone 1	1	1	2	1	4	1
Zone 2	1	2	2	2	4	2
Zone 3	1	3	2	3	4	3
Zone 4	1	4	2	4	4	4
Zone 5	1	5	2	5	4	5
Zone 6	1	6	2	6	4	6
Zone 7	1	7	2	7	4	7
Zone 8	1	8	2	8	4	8
Low Battery	6	6	7	6		
AC Failure	6	1	7	1		
System Trouble	6	2	7	2		
System Test	6	5	7	5		
Keypad Fire	9	9	9	1		

	Report	
Open	8	1
Close	8	2
Partial Close	8	3
First Open after Alarm	8	4
Automatic Comm. Test	8	5
Manual Comm. Test	8	6
Exit Error	8	7
Recent Closing	8	8

	Report Successful		Report Unsuccessful	
Remote Program	6	3	7	3
Local Program	6	4	7	4

	Report	
Keypad Emergency	9	2
Keypad Panic	9	3
Duress	9	4

13.0 Report Programming Values Sent

13.1 SIA Format

SIA reporting allows the installer to select the type of event each report will send to the central station. For example, if a burglary zone is used as a 24 hour panic zone, it can now report as a PA (panic alarm) when using the SIA format.

The event type is programmed in the extended digit of the report (addresses 174-230). To activate a report when using the SIA format, place a “1” in the first reporting digit. To select the type of event for this report, place one of the following values in the second digit.

Data Digit 2 value	SIA Report	Explanation
1	PA	Panic Alarm
2	PR	Panic Restore
3	QA	Emergency Alarm
4	QR	Emergency Restore
5	TA	Tamper Alarm
6	TR	Tamper Restore
7	UA	Untyped Zone Alarm
8	UR	Untyped Zone Restore
9	UT	Untyped Zone Trouble
*0	UJ	Untyped Trouble Restore
*1	YP	Power Supply Trouble
*2	YQ	Power Supply Restore
*3	YX	Service Required

Reports	SIA event code		SIA data field
Burglary alarm for a zone	B	A	Zone Number
Fire alarm for a zone	F	A	Zone Number
Keypad fire (A)	F	A	000
Keypad fire restoral (A)	F	R	000
Keypad emergency (1, 3, or B)	Q	A	None
Keypad panic (*, #, or C)	P	A	None
Burglary restoral for a zone	B	R	Zone Number
Fire restoral for a zone	F	R	Zone Number
Burglary trouble for a zone	B	T	Zone Number
Fire trouble for a zone	F	T	Zone Number
Burglary trouble restoral for a zone	B	J	Zone Number
Fire trouble restoral for a zone	F	J	Zone Number
Open report	O	P	User #
Close report	C	L	User #
Duress report	H	A	000
Partial close report	C	G	User #
First open after alarm (cancel) report	O	R	None
Low battery	Y	T	None
Low battery restoral	Y	R	None
AC failure	A	T	None
AC failure restoral	A	R	None
Automatic Comm. test report	R	P	None
Manual Comm. test report	R	X	None
Remote programming successful report	R	S	None
Remote programming failure report	R	U	None
Local programming successful report	Y	G	None
Local programming failure report	Y	F	None
EEPROM checksum failure or keypad supervision failure report	E	T	None
EEPROM checksum restoral or keypad supervision restoral	E	R	None
Aux. power fault report	Y	P	None
Aux. power restoral	Y	Q	None
Exit error report	E	E	None
Recent closing report	C	R	None
System test start report	T	S	None
System test end report	T	E	None
Unspecified system trouble	U	T	None
Unspecified system trouble restoral	U	J	None

13.2 Contact ID Format

For Additional Information, see Programming Addresses 174-230

Reports	CID event code	CID data field
Burglary alarm for a zone	130	Zone Number
Fire alarm for a zone	110	Zone Number
Keypad fire (A)	110	000
Keypad fire restoral (A)	110 Restoral	000
Keypad emergency (1, 3, or B)	122	None
Keypad panic (*, #, or C)	123	None
Burglary restoral for a zone	130 Restoral	Zone Number
Fire restoral for a zone	110 Restoral	Zone Number
Burglary trouble for a zone	370	Zone Number
Fire trouble for a zone	373	Zone Number
Burglary trouble restoral for a zone	370 Restoral	Zone Number
Fire trouble restoral for a zone	373 Restoral	Zone Number
Open report	401	User #
Close report	401 Restoral	User #
Duress report	121	000
Partial close report	408 Restoral	User #
First open after alarm (cancel) report	406	None
Low battery	302	None
Low battery restoral	302 Restoral	None
AC failure	301	None
AC failure restoral	301 Restoral	None
Automatic Comm. test report	602	None
Manual Comm. test report	601	None
Remote programming successful report	412	None
Remote programming failure report	413	None
Local programming successful report	306	None
Local programming failure report	306 Restoral	None
EEPROM checksum failure or keypad supervision failure report	330	None
EEPROM checksum restoral or keypad supervision restoral	330 Restoral	None
Aux. power fault report	300	None
Aux. power restoral	300 Restoral	None
Exit error report	134	None
Recent closing report	405	None
System test start report	607	None
System test end report	607 Restoral	None
Unspecified system trouble	300	None
Unspecified system trouble restoral	300 Restoral	None

13.3 High Speed 4/9 Format

For Additional Information, see Programming Addresses 174-230

Reports	Event Data 1 2 3 4 5 6 7 8	Event Type	Note:
Burglary alarm for a zone	1 5 5 5 5 5 5 5	7	Zone 1 has a new alarm.
Fire alarm for a zone	1 5 5 5 5 5 5 5	7	Zone 1 has a new alarm.
Keypad fire (A)	1 5 5 5 5 5 5 5	1	Event data 1 is the only one assigned.
Keypad fire restoral (A)	3 5 5 5 5 5 5 5	1	This may look the same as Duress on some receivers.
Keypad emergency (1, 3, or B)	1 5 5 5 5 5 5 5	1	Event data 1 is the only one assigned.
Keypad panic (*, #, or C)	1 5 5 5 5 5 5 5	1	Event data 1 is the only one assigned.
Burglary restoral for a zone	3 5 5 5 5 5 5 5	7	Zone 1 has been restored.
Fire restoral for a zone	3 5 5 5 5 5 5 5	7	Zone 1 has been restored.
Burglary trouble for a zone	1 5 5 5 5 5 5 5	5	Zone 1 is reporting a trouble condition.
Fire trouble for a zone	1 5 5 5 5 5 5 5	5	Zone 1 is reporting a trouble condition.
Burglary trouble restoral for a zone	3 5 5 5 5 5 5 5	5	Zone 1 is reporting a restoral for a trouble condition.
Fire trouble restoral for a zone	3 5 5 5 5 5 5 5	5	Zone 1 is reporting a restoral for a trouble condition.
Open report	8 2 2 2 2 2 2 2	2	User #8 opened. User # reported at event location 1, all others equal 2.
Close report	8 4 4 4 4 4 4 4	4	User #8 opened. User # reported at event location 1, all others equal 4.
Duress report	1 5 5 5 5 5 5 5	1	Event data 1 is the only one assigned. This report is initiated by opening using a Duress User PIN.
First open after alarm (cancel) report	8 2 2 2 2 2 2 2	2	Same as Open report.
Low battery	5 1 5 5 5 5 5 5	6	System Battery Low, Channel 2 of the System Reports.
Low battery restoral	5 3 5 5 5 5 5 5	6	System Battery Low, Channel 2 of the System Reports.
AC failure	1 5 5 5 5 5 5 5	6	AC Failure, Channel 1 of the System Reports.
AC failure restoral	3 5 5 5 5 5 5 5	6	AC Failure, Channel 1 of the System Reports.
Automatic Comm. test report	5 5 5 5 5 5 5 5	9	Communicator Test with zone alarm information.
Manual Comm. test report	5 5 5 5 5 5 5 5	9	Communicator Test with zone alarm information.

Reports	Event Data 1 2 3 4 5 6 7 8	Event Type	Note:
Remote programming successful report	5 5 5 5 5 5 3 5	6	NOT OFFICIALLY assigned, Channel 7 of the System Reports.
Remote programming failure report	5 5 5 5 5 5 1 5	6	NOT OFFICIALLY assigned, Channel 7 of the System Reports.
Local programming successful report	5 5 5 5 5 5 3 5	6	NOT OFFICIALLY assigned, Channel 7 of the System Reports.
Local programming failure report	5 5 5 5 5 5 1 5	6	NOT OFFICIALLY assigned, Channel 7 of the System Reports.
EEPROM checksum failure or keypad supervision failure report	5 5 1 5 5 5 5 5	6	System failure, Channel 3 of the System Reports.
EEPROM checksum failure or keypad supervision restoral	5 5 3 5 5 5 5 5	6	System failure, Channel 3 of the System Reports.
Aux. power fault report	5 5 1 5 5 5 5 5	6	System failure, Channel 3 of the System Reports.
Aux. power restoral	5 5 3 5 5 5 5 5	6	System failure, Channel 3 of the System Reports.
Exit error report	N/A	N/A	Format does not support this report.
Recent closing report	N/A	N/A	Format does not support this report.
System test start report	5 5 5 5 5 5 5 1	6	Walk Test, Channel 8 of the System Reports.
System test end report	5 5 5 5 5 5 5 3	6	Walk Test, Channel 8 of the System Reports.
Unspecified system trouble	5 5 1 5 5 5 5 5	6	System failure, Channel 3 of the System Reports.
Unspecified system trouble restoral	5 5 3 5 5 5 5 5	6	System failure, Channel 3 of the System Reports.

14.0 Programming Addresses

#	Description
000	Zone 1
001	Zone 2
002	Zone 3
003	Zone 4
004	Zone 5
005	Zone 6
006	Zone 7
007	Zone 8
008	Output
009	Output
010	General Control
011	Keypad Assignment
012	Alpha for Private Label
028	Alpha for Zone 1
044	Alpha for Zone 2
060	Alpha for Zone 3
076	Alpha for Zone 4
092	Alpha for Zone 5
108	Alpha for Zone 6
124	Alpha for Zone 7
140	Alpha for Zone 8
156	Emergency Key
157	Panic Key and Keypad Language
158	Custom Arming
159	Report Control
160	Report Control
161	Report Control
162	Phone Number General Control
163	Phone Answering
164	Entry Delay Time 1
165	Entry Delay Time 2
166	Exit Delay Time
167	Fire Bell Cutoff
168	Burglary Bell Cutoff
169	Arming Warning Control and Force Arming
170	Bypassing Allowed
171	Keypad Control and Trouble Zone Mode
174	Keypad Fire Alarm Report
175	Keypad Fire Restoral Report
176	Zone 1 Alarm Report
177	Zone 2 Alarm Report
178	Zone 3 Alarm Report
179	Zone 4 Alarm Report
180	Zone 5 Alarm Report
181	Zone 6 Alarm Report
182	Zone 7 Alarm Report
183	Zone 8 Alarm Report
184	Keypad Emergency Alarm Report
185	Keypad Panic Report
186	Zone 1 Alarm Restoral Report
187	Zone 2 Alarm Restoral Report
188	Zone 3 Alarm Restoral Report
189	Zone 4 Alarm Restoral Report
190	Zone 5 Alarm Restoral Report
191	Zone 6 Alarm Restoral Report
192	Zone 7 Alarm Restoral Report
193	Zone 8 Alarm Restoral Report
194	Zone 1 Trouble Report
195	Zone 2 Trouble Report
196	Zone 3 Trouble Report
197	Zone 4 Trouble Report
198	Zone 5 Trouble Report
199	Zone 6 Trouble Report

#	Description
200	Zone 7 Trouble Report
201	Zone 8 Trouble Report
202	Zone 1 Trouble Restoral Report
203	Zone 2 Trouble Restoral Report
204	Zone 3 Trouble Restoral Report
205	Zone 4 Trouble Restoral Report
206	Zone 5 Trouble Restoral Report
207	Zone 6 Trouble Restoral Report
208	Zone 7 Trouble Restoral Report
209	Zone 8 Trouble Restoral Report
210	Open Report
211	Close Report
212	Duress Report
213	Partial Close Report
214	First Open After Alarm Report
215	Low Battery Report
216	Low Battery Restoral Report
217	AC Failure Report
218	AC Failure Restoral Report
219	Automatic Comm. Test Report
220	Manual Comm. Test Report
221	Remote Program Successful Report
222	Remote Program Unsuccessful Report
223	Local Program Successful Report
224	Local Program Unsuccessful Report
225	System Trouble Report
226	System Trouble Restoral Report
227	Exit Error Report
228	Recent Closing Report
229	System Test Report
230	System Test Restoral Report
233	Phone #1 Account Code
235	Phone #2 Account Code
237	Phone Number 1 Format
238	Phone Number 2 Format
239	Programmer's Code
241	Master Code
279	Cross-zoning Control
280	Cross-zoning Control
281	Cross-zoning Control
282	Cross-zoning Control
283	Cross-zoning Trip Window Time
284	Automatic Communicator Test Report Call-Out Timer
286	Remote Programmer Call-Out Timer
288	Test Report and Remote Programmer Call-Out
289	History Event Control
290	AC Failure Report Delay
296	Phone Number 1
306	Phone Number 2
316	Phone Number 3

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Notes