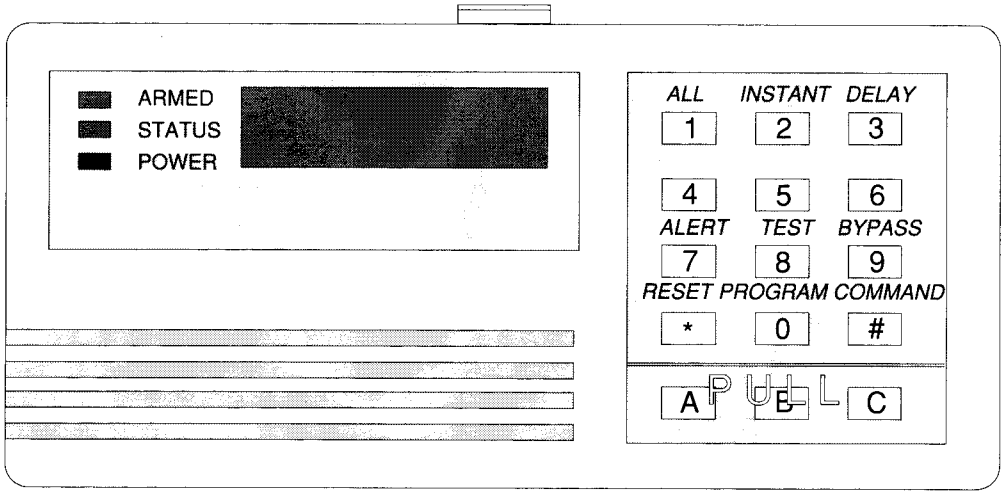
Reference Guide for the DS7400 and DS7400X Control/Communicators



Keypad Quick Reference Guide

Turning On (arming) your System

Turn on all protection	PIN + COMMAND 1
Occupied, no re-entry allowed	PIN + COMMAND 2
Occupied, entry allowed	PIN + COMMAND 3
Turn on all protection, no entry allowed	PIN + COMMAND 5
Custom Arming	PIN + COMMAND 4 for _____
Force Arming	Enter an arming command above followed by 9
Zone Bypass	PIN + COMMAND 9 followed by the Zone number

Turning Off (disarming) your System

Enter your **PIN** followed by COMMAND

Commands for other System Features

Chime Mode	PIN + COMMAND 7
Zone Test	PIN + COMMAND 8 1
Read Event History	PIN + COMMAND 8 9
Battery Test	PIN + COMMAND 8 7 *
Communicator Test	PIN + COMMAND 8 2
Fire Reset	PIN + COMMAND 8 0
Remote Program Dial out	PIN + COMMAND 8 3
Remote Program Answer	PIN + COMMAND 8 6
Local Battery/Sounder Test	PIN + COMMAND 8 5
Error Display	PIN + COMMAND 8 7
Error Display Reset	PIN + COMMAND 8 7 *

Access Control

Enter your **Access Control PIN** followed by COMMAND

Detection Systems, Inc., Fairport, New York 14450
Technical Service: (800) DSI-7454
Sales: (800) 289-0096 and (716) 223-4060
Fax: (716) 223-9180

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, 60 Hz.
• Auxiliary regulated power	12 VDC, 1.5 A.
• UL Listed Auxiliary power	12 VDC, 1.5 A.
• UL Listed Alarm Power Output	12 VDC, 1.0 A.
• Auxiliary power voltage range	12 V special application
• Optional Standby battery (P334)	12 V, 7.0 AH
• Control panel current draw	125 mA, Standby 200 mA, Alarm
• 7440/7440F keypad current draw	50 mA, Standby 60 mA, Alarm

NOTE: The total current for all auxiliary devices, including keypads and smoke detectors =1.5 A standby, 2.5 A alarm.

1.4 Outputs

• Alarm Output	12 VDC, 1.0 A output. Can be programmed for steady or pulsed output.
• Programmable Output 1*	Solid state current sink (40 mA 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.). Can be used for alarm, arming state, or access control.** This output is generally programmable. For use with such compatible devices as the Listed DS250 with a 4-wire base.

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

** = Not investigated to the requirements of UL 294.

1.5 Zones

- DS7400: 8 on-board zones.
  Up to 64 total zones with expansion modules.
- DS7400X: 8 on-board zones.
  Up to 128 total zones with expansion modules.
- Zone Response Time: 300 ms.

1.6 Keypads

• Maximum # of keypads	8 Keypads
• Maximum wire length each	1000 feet
• Maximum wire length total in system	6000 feet
• Wire type	4 conductor, unshielded, #22 AWG "Telephone quad"

NOTE: No more than 3 keypads allowed on any 1000 foot run.

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, and Contact ID.

FCC Registration Number is ESVUSA-75333-AL-E

The ringer equivalence is 0.1B

CSFM Listing Number is 7165-1062:111

1.8 Users

Both the DS7400 and DS7400X systems allow up to 60 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 on board
• End of line resistor	2.2 K Ω (P/N 25899, provided)

1.11 Fire Signal Initiating Circuit (2 wire mode)

Fire circuit will work with 2 or 4-wire detectors and has optional alarm verification.

• Number of circuits	8 Circuits on board
• Type of circuit	Class B, latching
• End of line resistor	2.2 K Ω P/N 25899, provided
• Supervisory current	5 mA.
• Maximum short circuit current	22 mA.
• Maximum line resistance	60 ohms
• Circuit voltage range	9.4 to 13.5 VDC
• Maximum detectors per circuit	20 detectors (2-wire)
• Total detector standby current	2.5 mA.

1.12 Multiplex Bus Wiring Requirements

- #22 AWG. Up to 2000 feet (600m) per system.
- #18 AWG. Up to 5000 feet (1500m) per system.

1.0 Specifications (continued)

1.13 Options

- DS7416: Communications Module (1 per system).
  The DS7416 provides a means of communicating alarm and supervision signals using the ARDIS radio network. It can be a replacement for or a compliment to the standard digital communicator. A DS7416F is available with a red enclosure.
  - Current Draw = 127 mA, Standby.
    127 mA, Alarm.

- DS7420: Dual Phone Line / Bell Supervision Module (1 per system).
  The DS7420 allows the control to be used in NFPA 72 installations. It provides two supervised 12.0 VDC signaling outputs, one Class A (Style D) input zone, and dual phone line transmission and supervision.
  - Current Draw = 20 mA, Standby.
    140 mA, Alarm.

- DS7430: Multiplex Expansion Module (1 per system).
  The DS7430 provides a two wire multiplex bus for the connection of additional remote zones. It also supplies up to 250mA for 4-wire multiplex devices such as the DS7432.
  - Current Draw = 65 mA, Standby.
    65 mA, Alarm.

- DS7432: 8 Input Remote Module (up to 7 per DS7400 system, and up to 15 per DS7400X system).
  The DS7432 provides a means of adding up to eight input loops of conventional contacts to the multiplex bus of the control panel. Each zone can support up to twenty 2-wire smoke detectors.
  - Current Draw = 10 mA, Standby.
    10 mA, Alarm.

- DS7433: 8 Input Direct Module (1 per system. Can not be used with the DS7430).
  The DS7433 provides a means of expanding the system to include eight additional hard-wired zones. Each zone can support up to twenty 2-wire smoke detectors
  - Current Draw = 65 mA, Standby.
    80 mA, Alarm. Add 15 mA for each additional zone in alarm.

- DS7460: Dual Zone Module (up to 28 per DS7400 system, up to 60 per DS7400X system).
  The DS7460 provides a means of monitoring conventional normally open or normally closed contacts. It reports their status to the control panel as multiplex addresses. It occupies two multiplex zones on the system and can monitor up to two separate loops.
  - Current Draw = 1 mA, Standby.
    1 mA, Alarm.

- DS7465: Input/Output Module (DS7400X only. Up to 20 per system).
  The DS7465 provides a Form "C" relay that may be programmed to activate on system events, and an input loop to monitor conventional normally open or closed contacts. It reports their status to the control panel as multiplex addresses.
  - Current Draw = 1 mA, Standby.
    1 mA, with relay energized.

- DS7480: Bell Supervision Module (1 per system).
  The DS7480 provides a means of monitoring bells. It may be powered from either 12 or 24 volts. It provides a supervised (polarity reversing) output relay to activate the bell. It also provides a form "C" Bell Fault Output to be connected to the control panel.
  - Current Draw = 20 mA, Standby.
    20 mA, Alarm.

- DS7481: Single Phone Line Monitor (1 per system).
  The DS7481 provides a means of monitoring a single phone line for fault conditions. When a fault is detected, the DS7481 automatically closes its N/O relay contacts to provide a means of signaling the fault.
  - Current Draw = 20 mA, Standby.
    20 mA, Alarm.

- DS7488: Octal Relay Module (1 per DS7400 system, and 2 per DS7400X system).
  The DS7488 provides 8 form "C" relay outputs for addition to the system. The outputs are fully programmable and can be activated by system events. Each output operates individually of the other 7 outputs for complete flexibility.
  - Current Draw = 10 mA + 40 mA for each relay when energized.

The control/communicator is also available in two package formats. The packages include the following:

- DS7400XF: DS7400X in large red enclosure (manufactured from 18 Ga., cold-rolled steel, and measures 15.00 in. Wide, by 20.75 in. High, by 4.25 in. Deep).
- DS7400FCP: DS7400XF package
  DS7420
  DS7440
  AE-TR16

When installing a U.L. Listed system,
refer to the Installation Guide for U.L. Listed Systems.

2.0 Enclosure Installation

The DS7400 (X) 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

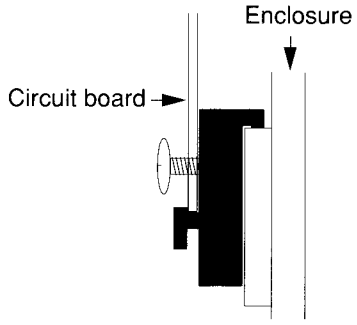
- Use the enclosure as a template and mark the top mounting holes on the mounting surface.
- Pre-start the mounting screws for these two holes. Slide the enclosure onto these mounting screws so that the screws move up into the thinner section of the holes. Tighten the screws.
- Screw in the remaining two screws in either set of bottom mounting holes.
- Knock out the desired wire entrances on the enclosure.

2.2 Install the Control/Communicator

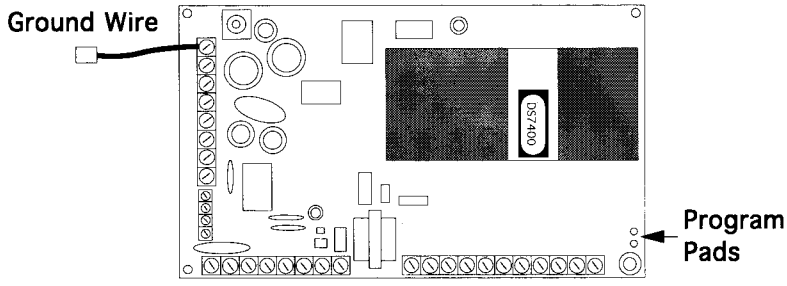
CAUTION: The control is static sensitive. Make sure you touch earth ground before handling the control. This will discharge any static electricity in your body. Example: Run the ground wire to the enclosure before handling the control. Then keep holding the ground wire while installing the control.

- 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.

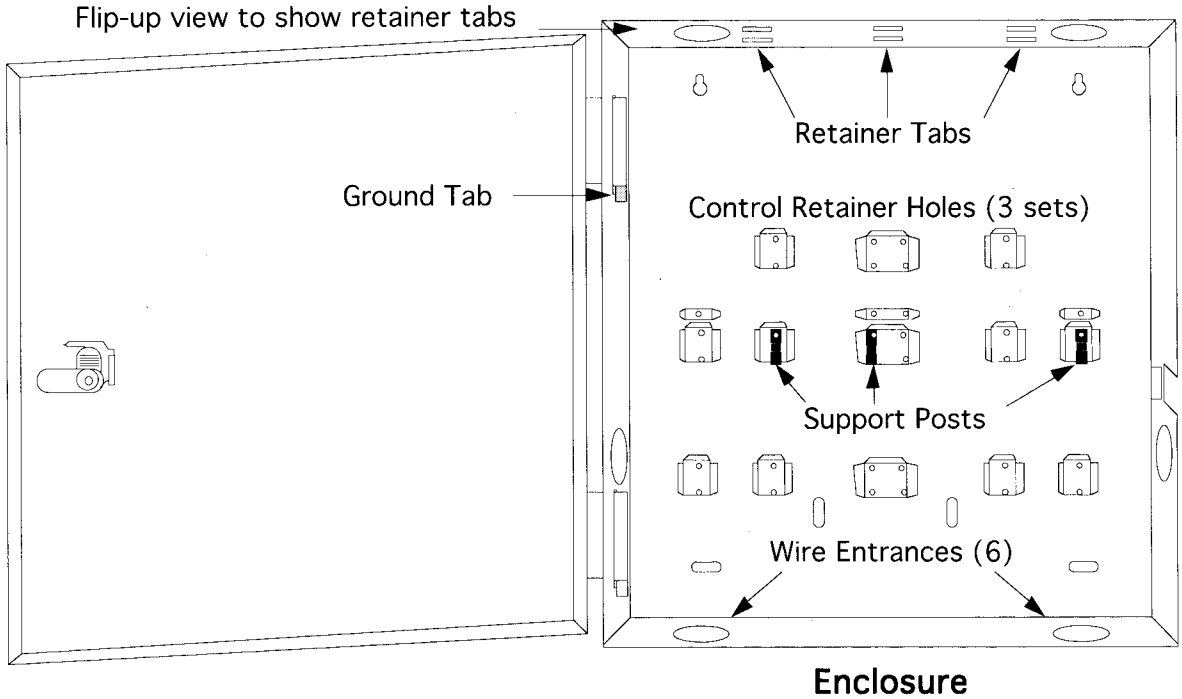
CAUTION: Once the control is installed, be sure to connect its ground wire to the top hinge of the enclosure (the unpainted tab).



Support Post Assembly



Control/Communicator



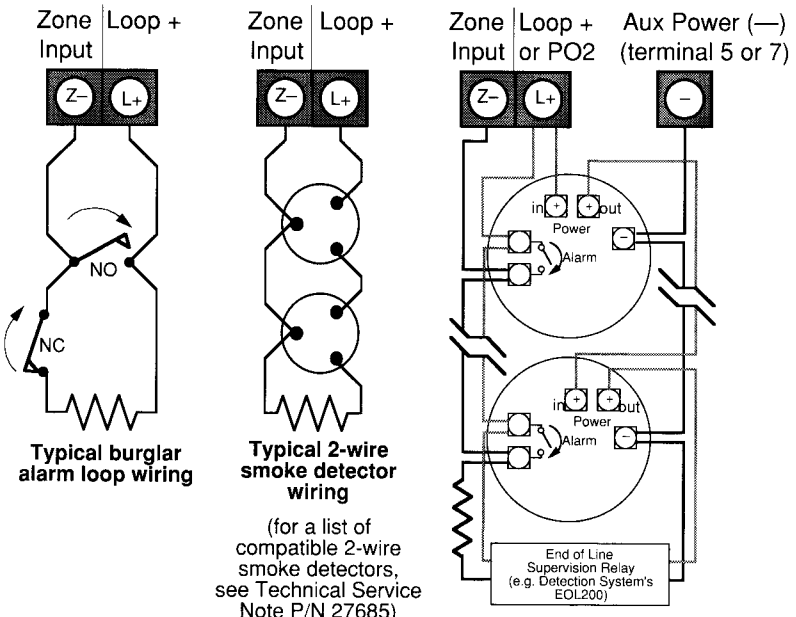
Enclosure

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.

TYPICAL BURGLAR AND FIRE WIRING



A/CPower Indication LED

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 2,18VAC 50VA transformer such as a Basler Electric BE116350CAA. Transformer must be dedicated to the DS7400(X) and connected to an un-switched output.
4		
5	–	**ALARM OUTPUT:** Provides 12VDC, special application, up to 1A for powering bells, siren drivers, etc. Function programmed in address 0008
6	A	
7	–	**AUXILIARY POWER:** Provides 12VDC, special application, up to 1.5A for powering detectors.
8	+	

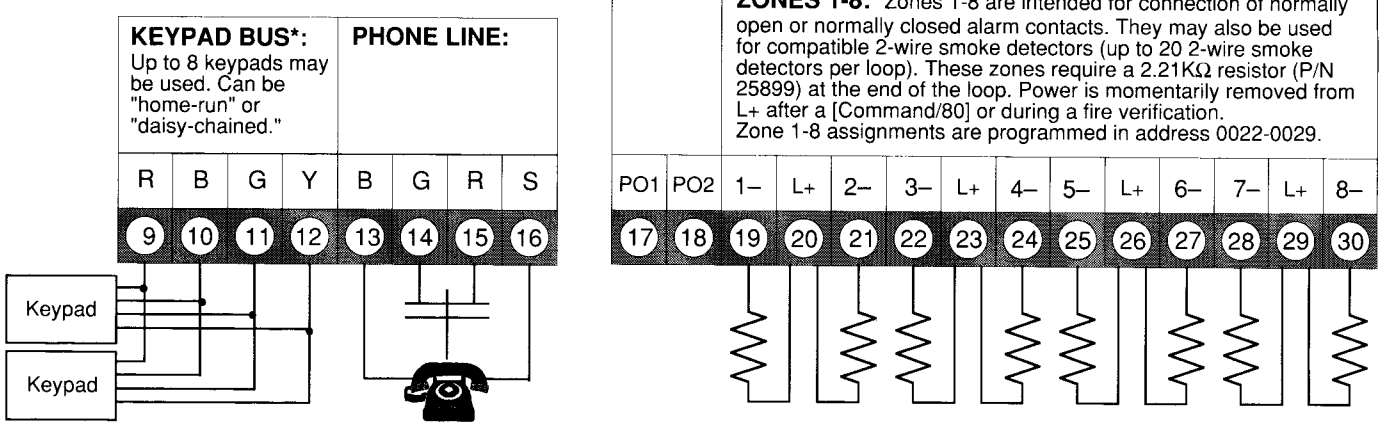
R B G Y — OPTION

OPTION BUS:
Used for options such as the DS7416 ARDIS communications module, the DS7420 Dual Phone LIne module, etc.
Also for keypad #8 when using multiple keypads in Comm. Fire Mode.
For Comm. Fire Mode: Option Bus wiring should be in conduit if run ouside the enclosure.

PROGRAMMABLE OUTPUTS:
PO1 shorts to ground when activated, PO1 can sink up to 40mA.
PO1 function programmed in address 0009.

PO2 supplies 12V and up to 500mA when activated.
PO2 function programmed in address 0010.

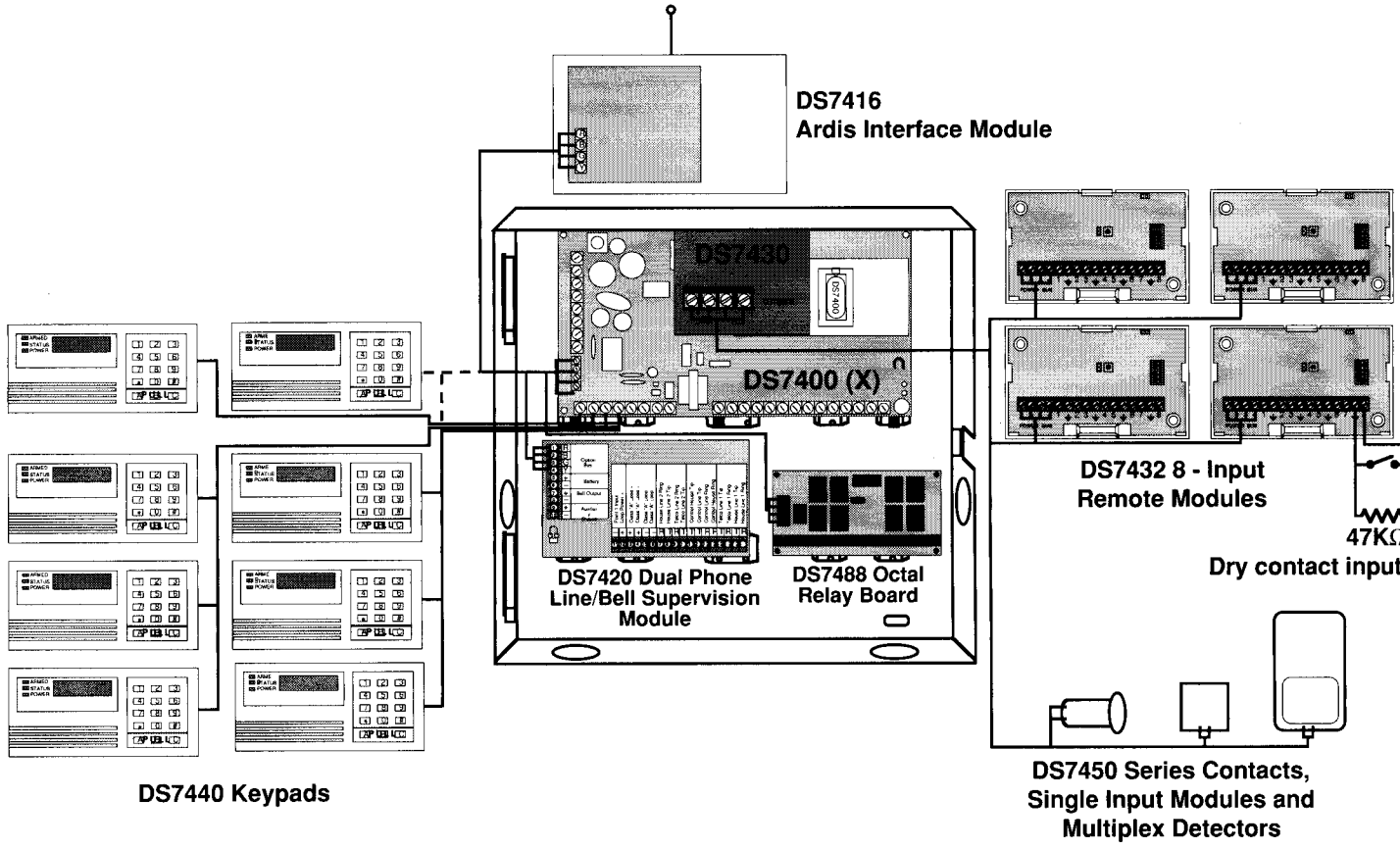
ZONES 1-8: Zones 1-8 are intended for connection of normally open or normally closed alarm contacts. They may also be used for compatible 2-wire smoke detectors (up to 20 2-wire smoke detectors per loop). These zones require a 2.21KΩ resistor (P/N 25899) at the end of the loop. Power is momentarily removed from L+ after a [Command/80] or during a fire verification.
Zone 1-8 assignments are programmed in address 0022-0029.



* = Maximum wire length each: 1000ft. Maximum wire length total in system: 6000ft.

Note: Shared cable is not allowed for keypad, multiplex, options bus, telephone, or siren wiring.

4.0 Hardware Layout Example



- Up to 8 keypads may be used. One keypad must be designated as keypad #1 and connected to the Keypad Bus. See the DS7440/DS7440F Installation Instruction for further details.

- A DS7420 (Dual Phone Line/Bell Supervision Module) may be connected to the control panel, and placed within the enclosure. Connect to the Options Bus of the control panel. See the DS7420 Installation Instruction for further details.

- A DS7488 (Octal Relay Module) may be connected to the control panel, and placed within the enclosure. Connect to the Options Bus of the control panel. This provides an additional 8 form "C" relay outputs for the control panel. See the DS7488 Installation Instructions for further details.

- A DS7430 (Multiplex Expansion Module) may be connected to the control panel via the expansion port. This will allow for the connection of additional zones via the Options Bus. See the DS7430 Installation Instruction for further details.

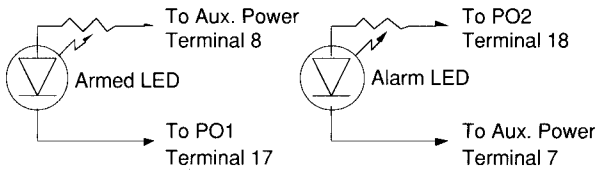
- Up to 7 or 15 (DS7400 and DS7400X respectively) DS7432s (8 Input Remote Module) may be connected to the DS7430. Connect to the Power and Bus terminals of the DS7430. This allows for a means of addressing up to 56 or 120 input loops of conventional contacts to the control panel. See the DS7432 Installation Instructions for further details.

- A DS7416 (Communications Module) may be connected to the control panel via the Options Bus. This allows for connection to the ARDIS radio network. See the DS7416 Installation Instructions for further details.

- Up to 64 zones (with the DS7400) or up to 128 zones (with the DS7400X) are available for the connection of Single, Multiple, Input/Output, and Multiplex devices.

5.0 Quick Start Installation Guide and Sample System (continued)

- The 2-LED wall plate will be viewed in the common area, but will respond the the Armed or Alarm state of Partition 3. It will be activated via the DS7400's programmable outputs (see below).



5.3.1 Programming the Program Addresses.

- Fill out the separate Programming Address Work Sheet. This allows you to fill in the Data Digit values for each Program Address before you begin programming at a keypad.
- Zone Function Programming (section 14.1).
  - Address 0007: Zone Function 8. This is the default value pre-set for zone 8. No programming needs to be done at this address.
    Data Digit 1 = *5: Pulsing alarm output, alarm on short, trouble on open.
    Data Digit 2 = *0: Fire zone with verification.
  - Address 1000: Zone Function 9. This is the custom made zone function we have chosen for zone 1.
    Data Digit 1 = *0: Steady alarm, alarm on short, trouble on open.
    Data Digit 2 = 3: Entry/exit delay #1.
  - Address 1001: Zone Function 10. This is the custom made zone function we have chosen for zone 2.
    Data Digit 1 = *0: Steady alarm, alarm on short, trouble on open.
    Data Digit 2 = 7: Interior instant.
  - Address 1002: Zone Function 11. This is the custom made zone function we have chosen for zone 3.
    Data Digit 1 = *0: Steady alarm, alarm on short, trouble on open.
    Data Digit 2 = 4: Entry/exit delay #2.
- Zone Programming (section 14.2).
  - Address 0022: Zone 1. This is the PIR in partition 1.
    Data Digit 1 = 0: Single zone device belonging to partition 1.
    Data Digit 2 = 9: Follow zone function 9.
  - Address 0023: Zone 2. This is the PIR in partition 2.
    Data Digit 1 = 1: Single zone device belonging to partition 2.
    Data Digit 2 = *0: Follow zone function 10.
  - Address 0024: Zone 3. This is the PIR in partition 3.
    Data Digit 1 = 2: Single zone device belonging to partition 3.
    Data Digit 2 = *1: Follow zone function 11.
  - Address 0029: Zone 8. This is the Smoke Detector in partition 1. No programming needs to be done at this address as the default value will be used.
    Data Digit 1 = 0: Single zone device belonging to partition 1.
    Data Digit 2 = 8: Follow zone function 8.
- Output Programming (section 14.3).
  - Address 0008: Alarm Output. This is the output we have chosen for the Bell. No programming needs to be done at this address as the default value will be used.
    Data Digit 1 = 6: Zone alarm.
    Data Digit 2 = *5: Partitions 1, 2, 3, and 4. Burg and fire alarms.
  - Address 0009: Programmable Output 1. This is the output we have chosen for the partition 3 Armed LED.
    Data Digit 1 = 3: On when system is armed.
    Data Digit 2 = 7: Zone alarm delayed by 20 seconds.
  - Address 0010: Programmable Output 2. This is the output we have chosen for the partition 3 Alarm LED.
    Data Digit 1 = 6: Zone alarm.
    Data Digit 2 = 7: Zone alarm delayed by 20 seconds.
- General Control Programming (section 14.4).
  - Address 0011: Here we are choosing to allow level 1 and 4 arming, and choosing Restore when zones restore.
    Data Digit 1 = 2: Allow level 1 and 4 arming. 60Hz operation.
    Data Digit 2 = 1: Restore when zone restores.
- Partition Control Programming (section 14.5).
  - Address 0012: Here we are choosing the number of partitions in use and defining the common area.
    Data Digit 1 = 4: Use 3 partitions (1, 2, and 3). Partition 1 is common to partitions 2 and 3.
    Data Digit 2 = 0: Default.
- Keypad Assignment Programming (section 14.6).
  - Address 0016 (data digit 1): Here we are choosing and defining keypad 1.
    Data Digit 1 = 6: Alpha keypad. Belongs to partition 3
    Data Digit 2 = 0: Disabled.
  - Address 0019 (data digit 2): Here we are choosing and defining keypad 8.
    Data Digit 1 = 0: Disabled.
    Data Digit 2 = 9: Alpha Master keypad. Belongs to partition 1.
- Commercial Fire Mode Programming (section 14.9).
  - Address 0629: Here we are selecting Commercial Fire Mode and some of its operating parameters.
    Data Digit 1 = 7: Cental station commercial fire mode enabled.
    Data Digit 2 = 3: Bell and Aux. activate on fire or burg. California march time.
- Emergency Keys and Panic Key Programming (section 14.10 and 11).
  - Address 0630: Here we are selecting the A and B keys and their operating parameters.
    Data Digit 1 = 3: Fire Key. Steady alarm.
    Data Digit 2 = 2: Special emergency key. Steady alarm.
  - Address 0631: Here we are selecting the C key and its operating parameters.
    Data Digit 1 = 1: Panic key. Silent alarm.
    Data Digit 2 = 0: Default.
- Custom Arming Programming (section 14.12).
  - Address 0632 and 1028: Here we are creating a Custom Arming command to Bypass zone functions 9, 10, and 11, but do not Bypass zone function 8.
    PA 0632 Data Digit 1 = 0: Do not bypass zone functions 1 through 4.
    Data Digit 2 = 0: Do not bypass zone functions 5 through 8.
    PA 1028 Data Digit 1 = 7: Bypass zone functions 9, 10 and 11. Do not bypass zone function 12.
    Data Digit 2 = 0: Do not bypass zone functions 13 through 15.
- Open/Close Report Programming (section 14.13).
  - Address 0633: Here we are defining open/close reports for partitions and the phone number those reports will be sent.
    Data Digit 1 = 3: Send open and close reports for partitions 1, 2, and 3.
    Data Digit 2 = 2: Report to phone number 2.
- Report Control Programming (section 14.14).
  - Address 0634: Here we are defining which reports are sent to which phone numbers.
    Data Digit 1 = 1: Report to phone number 1.
    Data Digit 2 = 2: Report to phone number 2.
- Phone Number General Control Programming (section 14.15).
  - Address 0635: Here we are choosing pulse and/or tone dialing, and whether or not to enable the remote programmer call-back.
    Data Digit 1 = 5: Enable remote programmer call-back. Dial tone on all phone numbers.
    Data Digit 2 = 0: Send alarm reports via either ARDIS or digital.

5.0 DS7400 Quick Start Installation Guide (continued)

- Phone Answering Programming (section 14.16).
  - Address 0636: Here we are choosing when the control panel will answer the phone during armed and disarmed states.
    Data Digit 1 = 0: When armed, don't answer the phone.
    Data Digit 2 = 1: When disarmed, answer the phone on 1 ring.
- Force Arming Programming (section 14.17).
  - Address 0637: Here we are choosing the number of zones that may be force armed.
    Data Digit 1 = 2: Allow up to 2 zones to be forced armed.
    Data Digit 2 = 0: Default.
- Timer Programming (section 14.18).
  - Address 0638: Here we are defining entry delay time 1 as 60 seconds.
    Data Digit 1 = 6: 60 seconds.
    Data Digit 2 = 0: 0 additional seconds.
  - Address 0639: Here we are defining entry delay time 2 as 90 seconds.
    Data Digit 1 = 9: 90 seconds.
    Data Digit 2 = 0: 0 additional seconds.
  - Address 0640: Here we are defining the exit delay time as 90 seconds.
    Data Digit 1 = 9: 90 seconds.
    Data Digit 2 = 0: 0 additional seconds.
  - Address 0641 and 0642: It is here where we define the Fire and Burglar Bell cut-off times. No programming needs to be done at this address as the default values will be used.
    Data Digit 1 = 0: 0 minutes.
    Data Digit 2 = 4: 4 additional minutes.
- Report Programming (section 14.21).
  - The following reports will use the Contact ID format.
  - Address 0654 and 0655: Keypad Fire Alarm and Restoral reports. No programming needs to be done at these addresses as the default values will be used.
    Data Digit 1 = 0: Default.
    Data Digit 2 = 0: Default.
  - Address 0656 - 0663 and 1007 - 1013: Zone Function Alarm reports. If the reporting digit is anything except a "0," it will be sent if they have been assigned to a zone.
    Example: Data Digit 1 = 1: Send a zone function alarm report.
    Data Digit 1 = 1: Default.
  - Address 0666 - 0673 and 1014 - 1020: Zone Function Restoral reports. If the reporting digit is anything except a "0," it will be sent if they have been assigned to a zone.
  - Address 0674 - 0681 and 1021 - 1027: Zone Function Trouble reports. If the reporting digit is anything except a "0," it will be sent if they have been assigned to a zone.
  - The remaining reports are self explanatory. They also require something besides a "0" to be in the reporting digit in order for them to be sent.
- Account Code Programming (section 14.22).
  - Address 0704: Here we are defining Account Code 1 as 2112.
    Data Digit 1 = 2
    Data Digit 2 = 1
    Data Digit 3 = 1
    Data Digit 4 = 2
  - Address 0706: Here we are defining Account Code 2 as 1221.
    Data Digit 1 = 1
    Data Digit 2 = 2
    Data Digit 3 = 2
    Data Digit 4 = 1
  - Address 0708: Here we are defining Account Code 3 as 1212.
    Data Digit 1 = 1
    Data Digit 2 = 2
    Data Digit 3 = 1
    Data Digit 4 = 2
- Phone Number Format Programming (section 14.23).
  - Address 0712 and 0713: Here we are choosing the Contact ID format and its parameters for phone number 1 and 2.
    PA 0712 Data Digit 1 = 9: Contact ID.
    Data Digit 2 = 1: 1800Hz/2300Hz acknowledge. BFSK, SIA, Contact ID. 10 pulses per second.
    PA 0713 Data Digit 1 = 9: Contact ID.
    Data Digit 2 = 1: 1800Hz/2300Hz acknowledge. BFSK, SIA, Contact ID. 10 pulses per second.
- Programmer's Code Programming (section 14.24).
  - Address 0714: Here we are defining the Programmer's Code as 1210.
    Data Digit 1 = 1
    Data Digit 2 = 2
    Data Digit 3 = 1
    Data Digit 4 = 0
- Master Code Programming (section 14.25).
  - Address 0716: Here we are defining the Master Code as 1010.
    Data Digit 1 = 1
    Data Digit 2 = 0
    Data Digit 3 = 1
    Data Digit 4 = 0
- DS7488 Output Programming (section 14.26).
  - Address 0866: Here we are defining that the Octal Relay 1 will follow a burglar zone alarm in partition 2.
    Data Digit 1 = 6: Zone alarm.
    Data Digit 2 = 4: Partition 2. Burglar alarm.
- DS7420 Output Programming (section 14.28).
  - Address 0929: Here we are defining that the DS7420 output will be a bell monitor and a phone line 1 and 2 monitor.
    Data Digit 1 = 5: Bell monitor. Phone line 1 and 2 monitor.
    Data Digit 2 = 0: Default.
- Call-Out Timer Programming (section 14.29).
  - Address 1975: Here we are defining the Automatic Communicator Test Report hour as 2:43am.
    Data Digit 1 = 0: AM hour.
    Data Digit 2 = 2: Two A.M.
  - Address 1976: Here we are defining the Automatic Communicator Test Report minute as 2:43am.
    Data Digit 1 = 4: Forty minutes.
    Data Digit 2 = 3: Three additional minutes.
- Test Report/Remote Programming Call-Out Programming (section 14.30).
  - Address 1979: Here we are choosing to send a Test Report on Sundays and not to call the Remote Programmer.
    Data Digit 1 = 1: Send a test report on Sunday.
    Data Digit 2 = 0: Do not call the remote programmer.
- Phone Number Programming (section 14.31).
  - Address 1980: Here we are defining Phone Number 1's number as 1-800-555-1212. Program this address as:
    Data Digit 1 = 1
    Data Digit 2 = 8
    Data Digit 3 = 0
    Data Digit 4 = 0
    Data Digit 5 = 5
    Data Digit 6 = 5
    Data Digit 7 = 5
    Data Digit 8 = 1
    Data Digit 9 = 2
    Data Digit 10 = 1
    Data Digit 11 = 2
  - Phone Numbers 2 and 3 are programmed the same way.

9.16 Personal Identification Numbers

9.16.1 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.
- **User Number:** This is the number that identifies each person using the system. There are 60 possible User numbers (001-060).
- **Authority Level:** This number determines which functions each user will be able to perform (see below).

Your system may have up to 60 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 being a **Master Code**. It can be used to add, delete, or change other PINs. It will always have access to all partitions regardless of how it is programmed.

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.

9.16.2 Removing a Pin

To remove a PIN: enter at the Master Code, [Command/#] - [Program/0] - [Program/0], the User Number of the PIN to be cancelled, and then [Command/#] again. For example: removing a PIN with User Number 023, enter: 1 2 3 4 # 0 0 0 2 3 #).

User Number 001 can not be cancelled in this manner.

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

Steps to Change a PIN	Enter	If Accepted, Display Reads
# 1. Enter the Master Code Programming Mode.	1234 #0 Master Code	"0 User Change" (display will scroll to this)
# 2. Enter a 0.	0	"Enter User No." (001..0XX)
# 3. Enter the User Number.	001 through 060	"Enter Authority Level" Level (0-6)
# 4. Enter the Authority Level.	0 through 6	"Enter Area(s) or # for all"
# 5. Enter the Area(s) (partition(s)) this user has access to.	1, 2, 3, and/or 4 then #	"Enter Next Area, End with #" or "Enter PIN"
# 6. Enter the PIN.	Any 4 digits. Do not press #	"Enter PIN Again. End with #" A long beep will sound to signify acceptance of the new code.
# 7. Enter the PIN again followed by the # key.	PIN (same 4 digits as above) then #	

9.16.3 Authority Levels

0 = **Master:** Can enter all commands, add or change PINs in all partitions, change time and date, bypass, arm, disarm, perform system tests, and view history. Any or all PINs can behave as a Master code.

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

2 = **General**: Can bypass, arm and disarm. Can not change PINs or enter Command 7 or any of the Command 8 functions.

3 = **Arm Only:** Can arm the system with command 1 arming only. Can not perform any other functions including disarming.

4 = **Temporary:** Valid only for a specified time (PIN will disappear upon expiration date). Can arm and disarm the system, but can not perform any other functions. If this function is performed from a Master Keypad, you must be in Single Partition Mode.

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

6 = **Access:** When a PIN with an Access code 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).

9.17 Error Displays

This chart explains the procedure for reading Error displays when the green Power Light is flashing on the DS7440 keypad.

Control panel problems are indicated by a flashing green Power Light and a display reading **"Control Trouble, Enter #87."**

The Error displays may only be read when the control is disarmed. Contact your installing company if the problems persist.

1. **AC Power Failure:** There is a power failure and the panel is operating on backup battery.
2. **Battery Trouble:** If the system has just been through a power failure, wait at least two hours for the battery to recharge, then enter #87* to perform a battery test.
3. **Communicator Err:** The communicator failed to communicate with the central station.
4. **System Fault:** Internal error in the control circuitry or optional circuitry. These faults are designated as follows:
5. **Keypad Fault:** One of the keypads is not responding to the control panel.
6. **Multiplex Bus:** The multiplex bus is defective or has been shorted.
7. **Aux Power Fault:** The auxiliary power has been shorted.
8. **Zone Trouble:** One of the zones is not responding to the control panel. This may also be displayed during power-up (if so, ignore).

#87 will display	#89 will display
RAM Fault	System fault 01
ROM Fault	System fault 02
EEPROM Fault	System fault 03
Ground Fault	System fault 04
2Ph/Bell Fault = loss of communication to DS7420	System fault 10
Line 1 Fault = DS7420 phone line 1 fault	System fault 11
Line 2 Fault = DS7420 phone line 2 fault	System fault 12
Bell Fault = DS7420 bell circuit fault	System fault 13
Aux. Relay Fault = DS7420 aux. relay fault	System fault 14
Oct. Relay Fault = loss of communication to DS7488	System fault 20
Ar Fault = loss of communication	System fault 50
Ar Net Fault = loss of network	System fault 50
Ar Modem Fault = modem fault	System fault 50

Action Desired	Enter a PIN followed by:
Read Error display when green Power light is flashing.	# 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.	# 8 7 *

* = **Battery Trouble** and **Communicator Err** displays must be cleared by the [# 8 7 *] command 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.

14.0 Programming

14.1 Zone Function Programming: Program Addresses (0000-0007, 1000-1006)

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

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

Enter the Programmer's Mode: [9 8 7 6 # 0]
Enter the Program Address: 1000
Enter Data Digit 1: [* 4]
Enter Data Digit 2: [7]
Enter the Command button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

A Zone Function is the description of how a zone will behave. Up to 15 different Zone Functions may be programmed. Each zone must be assigned a zone function. Multiple zones can be programmed to follow the same zone function.

See section 7.4 and 8.1 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	*2	*3	*4	*5
Invisible Alarm	●				●				●				●			
Silent Alarm		●				●				●				●		
Steady Alarm Output			●				●				●				●	
Pulsing Alarm Output				●				●				●				●
Bypassing Allowed	●	●	●	●	●	●	●	●								
Alarm on Short	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Alarm on Open	●	●	●	●					●	●	●	●				
Trouble on Open¥					●	●	●	●					●	●	●	●

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

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

Value (fill in)	Zone Funct.	Address	Default (Will be forced to different values when in Commercial Fire Mode. See section 14.9.3)
	1	0000	2 = Steady alarm output, bypassing, alarm on short and open. 3 = Entry/exit delay 1.
	2	0001	2 = Steady alarm output, bypassing, alarm on short and open. 4 = Entry/exit delay 2.
	3	0002	2 = Steady alarm output, bypassing, alarm on short and open. 1 = Perimeter Instant.
	4	0003	2 = Steady alarm output, bypassing, alarm on short and open. 5 = Interior entry/exit follower.
	5	0004	2 = Steady alarm output, bypassing, alarm on short and open. 6 = Interior home/away.
	6	0005	2 = Steady alarm output, bypassing, alarm on short and open. 7 = Interior Instant.
	7	0006	2 = Steady alarm output, bypassing, alarm on short and open. 2 = 24 hour.
	8	0007	*5 = Pulsing alarm output, alarm on short, trouble on open. *0 = Fire zone with verification.
	9	1000	0 = _____ 0 = Disabled _____
	10	1001	0 = _____ 0 = Disabled _____
	11	1002	0 = _____ 0 = Disabled _____
	12	1003	0 = _____ 0 = Disabled _____
	13	1004	0 = _____ 0 = Disabled _____
	14	1005	0 = _____ 0 = Disabled _____
	15	1006	0 = _____ 0 = Disabled _____

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 Input	9
Fire Zone with verification	*0
Fire Zone w/out verification	*1
Waterflow	*2
Supervisory	*3
Entry/Exit Delay Cancel 1	*4
Entry/Exit Delay Cancel 2	*5

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

***4 and *5 entries are for the DS7400X only.**

14.2 Zone Programming: Program Addresses (0022-0149)

Example:
To program a Zone (Zone 1) as: a Single Zone Input (PIR), that belongs to Partition 1, and follows Zone Function 1.

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

Enter the Programmer's Mode: [9 8 7 6 # 0]
Enter the Program Address: 0022
Enter Data Digit 1: [0]
Enter Data Digit 2: [1]
Enter the Command button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

It is here where each zone is defined according to:

- Input (single or multiple zone input, or a DS7465),
- Partition (1-4), and
- Zone/Output function (1-15).

The DS7465's relay is the only device that will follow the output functions; its input loop will follow a zone function. All single and multiple zone inputs will follow a zone function.

See section 7.3 and 8.6 for further details.

Data Digit 1 2

Select Options	Enter Data Digit as a: Single Zone Input (zones 1-8 on the control, multiplex contacts, sensors, or a DS7457)				Multiple Zone Input (any zone that is on a DS7432, DS7433, or DS7460)				DS7465 Connections (the input zone or the output relay on a DS7465)			
	0	1	2	3	4	5	6	7	8	9	*0	*1
Belongs to Partition 1	●				●				●			
Belongs to Partition 2		●				●				●		
Belongs to Partition 3			●				●				●	
Belongs to Partition 4				●				●				●

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

Zone Number	Address	Default
1	0022	01
2	0023	02
3	0024	03
4	0025	04
5	0026	05
6	0027	06
7	0028	07
8	0029	08
9-64	0030-0085	00
65-128¥	0086-0149¥	00¥

¥ = For the DS7400X only.

Select Option	DD
Disabled	0
Follow Zone (or Output) Function 1	1
Follow Zone (or Output) Function 2	2
Follow Zone (or Output) Function 3	3
Follow Zone (or Output) Function 4	4
Follow Zone (or Output) Function 5	5
Follow Zone (or Output) Function 6	6
Follow Zone (or Output) Function 7	7
Follow Zone (or Output) Function 8	8
Follow Zone (or Output) Function 9	9
Follow Zone (or Output) Function 10	*0
Follow Zone (or Output) Function 11	*1
Follow Zone (or Output) Function 12	*2
Follow Zone (or Output) Function 13	*3
Follow Zone (or Output) Function 14	*4
Follow Zone (or Output) Function 15	*5

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

Output Functions are for the DS7400X only.
To program Output Functions, see section 14.27.

14.3 Output Programming: Program Addresses (0008-0010)

Example:
To program the Programmable Output 1 as: following a Burglar Zone Alarm that is in Partition 1.

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

Enter the Programmer's Mode: [9 8 7 6 # 0]
Enter the Program Address: 0009
Enter Data Digit 1: [6]
Enter Data Digit 2: [1]
Enter the Command button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Output programming defines the event, partition, and type of alarm (burg or fire) 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 8.2) for further details.

Output	Address	Default
Alarm	0008	6 *5
Programmable Output 1	0009	3 *5
Programmable Output 2	0010	2 *5

Data Digit 1 2

Programmable Output 1 will be ON for 10 seconds after entering #80.

Programmable Output 2 will be OFF for 10 seconds after entering #80.

Select Option	DD
Latch on ANY Zone Alarm ¥, Δ	0
ON during Entry Pre-Alert	1
ON for 10 s after entering #80	2
ON when system is Armed	3
Ground Start	4
System Status (ready to arm)	5
Zone Alarm Δ	6
Zone Alarm delayed by 20 sec	7
Keypad Sounder Output Δ	8
Access Output (10 sec. pulse)	9

¥ = This includes Invisible Zones
Δ = See glossary for further details

	Enter the Data Digit as a:															
Options	0	1	2	3	4	5	6	7	8	9	*0	*1	*2	*3	*4	*5
Disabled	●															
Partition 1		●	●	●										●	●	●
Partition 2					●	●	●							●	●	●
Partition 3								●	●	●				●	●	●
Partition 4											●	●	●	●	●	●
Burg Alarm		●		●	●		●	●		●	●		●	●		●
Fire Alarm			●	●		●	●		●	●		●	●		●	●

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

14.4 General Control Programming: Program Address (0011)

Example:
To program the system-wide General Operating parameters as: allowing Level 1 and 4 Arming, Operating at 60Hz, 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: 0011
Enter Data Digit 1: [2]
Enter Data Digit 2: [1]
Enter the Command 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 8.3) 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 level 1 and 4 Arming¥	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Allow level 2 Arming¥	●	●			●	●			●	●			●	●		
Allow level 3 Arming¥	●	●			●	●			●	●			●	●		
Allow level 5 Arming¥	●	●			●	●			●	●			●	●		
Closing Ring-Back					●	●	●	●					●	●	●	●
Siren on Comm. Fail for Silent Zone									●	●	●	●	●	●	●	●
50 Hz operationΔ		●		●		●		●		●		●		●		●
60 Hz operation	●		●		●		●		●		●		●		●	

Δ = For installations in North America, select 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 zone when Sounders Silence	●			●	
Restore zone when Zone Restores		●			●
Restore zone when System is Disarmed			●		
Allow Swinger Shunts				●	●

¥ =

- **Level 1 (#1) Arming:** If programmed, Level 1 Arming arms the entire system while allowing entry delays for entry/exit zones.
- **Level 2 (#2) Arming:** If programmed, Level 2 Arming arms only the perimeter of the system and does **not** allow entry delays for entry/exit zones.
- **Level 3 (#3) Arming:** If programmed, Level 3 Arming arms only the perimeter of the system while allowing entry delays for entry/exit zones.
- **Level 4 (#4) Arming:** If programmed, Level 4 Arming allows custom arming of the system and bypasses the zone functions specified in data address 0632.
- **Level 5 (#5) Arming:** If programmed, Level 5 Arming arms the entire system and does **not** allow entry delays for entry/exit zones.

14.5 Partition Control Programming: Program Address (0012)

Example:
To program the Partition Control as: the System will use 3 Partitions, and Partition 1 is common to Partitions 2 and 3.

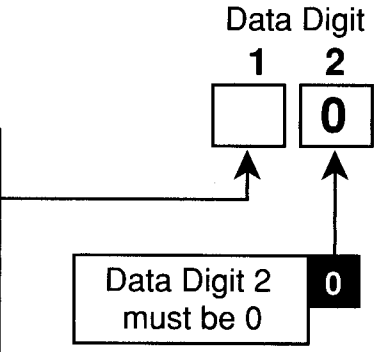
Data Digit 1 = [4], Data Digit 2 = [0].

Enter the Programmer's Mode: [9 8 7 6 # 0]
Enter the Program Address: 0012
Enter Data Digit 1: [4]
Enter Data Digit 2: [0]
Enter the Command button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Partition Control programming defines the number of partitions in use and the common area (common area can only be partition 1).

See Glossary (section 8.4) for further details.

Select Options	Enter Data Digit as a: 0	1	2	3	4	5	6
Use 1 Partition	●						
Use 2 Partitions		●					
Use 3 Partitions			●		●		
Use 4 Partitions				●		●	●
Partition 1 common to Partition 2					●	●	●
Partition 1 common to Partition 3					●	●	●
Partition 1 common to Partition 4							●



14.6 Keypad Assignment Programming: Program Addresses (0016-0019)

Example:
To program Keypad 1 as an Alpha Keypad that is assigned to Partition 1.

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

Enter the Programmer's Mode: [9 8 7 6 # 0]
Enter the Program Address: 0016 (Data Digit 1)
Enter Data Digit 1: [2]
Enter Data Digit 2: [0]
Enter the Command button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Keypad Assignment Programming is where you assign the keypad type and the partition it belongs to.

See Glossary (sections 8.5 and 8.14) for further details.

Program Address 0016

Data Digit 1 ☐ Keypad 1¥
Data Digit 2 ☐ Keypad 2

Program Address 0017

Data Digit 1 ☐ Keypad 3
Data Digit 2 ☐ Keypad 4

Program Address 0018

Data Digit 1 ☐ Keypad 5
Data Digit 2 ☐ Keypad 6

Program Address 0019

Data Digit 1 ☐ Keypad 7
Data Digit 2 ☐ Keypad 8¥

Note: Each keypad must have its own Bus address. This must also be selected on the keypad via its address pins. See In Guide P/N 25902. At least one keypad must be selected as keypad 1.

Defaults: The default, if using only one keypad, is an Alpha keypad belonging to partition one.

¥ = When in Commercial Fire Mode, these keypads (1 and 8) must have specific assignments. See Glossary (section 8.14) 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
Disabled	●												
LED Keypad		●		●		●		●					
Alpha (LCD) Keypad			●		●		●		●	●	●	●	●
Belongs to Partition 1		●	●							●			
Belongs to Partition 2				●	●						●		
Belongs to Partition 3						●	●					●	
Belongs to Partition 4								●	●				●
Master Keypad¥										●	●	●	●

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

¥ = If only using one partition, do not program keypads as master keypads.
Only program for a Master Keypad if you need to view multiple partitions from a single keypad.

14.7 Alpha Programming: Program Addresses (0150-0341 and 0534-0545)

Example:
To program the words "WEST" "ENTRANCE" "CAFETERIA" to describe Zone 1.

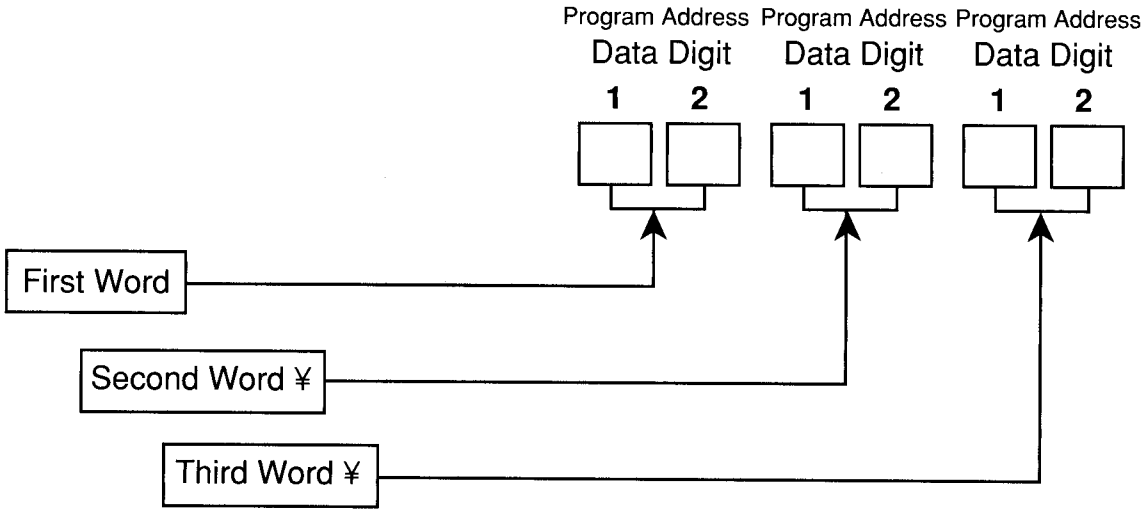
Word 1: Data Digit 1 = [*5], Data Digit 2 = [*1].
Word 2: Data Digit 1 = [8], Data Digit 2 = [3].
Word 3: Data Digit 1 = [9], Data Digit 2 = [1].

Enter the Programmer's Mode: [9 8 7 6 # 0]
Enter the Program Address: 0150
Enter Data Digit 1: [*5]
Enter Data Digit 2: [*1]
Enter the Command button: [#] (will go to Program Address 0151)
Enter Data Digit 1: [8]
Enter Data Digit 2: [3]
Enter the Command button: [#] (will go to Program Address 0152)
Enter Data Digit 1: [9]
Enter Data Digit 2: [1]
Enter the Command button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Alpha programming allows up to three words (for a total of 16 characters) to be programmed for the description of each zone or partition (e.g. "Joe Mac's Office"). If only using one or two word descriptions, leave the remaining word address(es) blank. Once programmed, the words will be displayed on the alpha keypads.

The words can be chosen from the chart on the following page. In addition, ten custom words may be created and used if necessary (see section 14.8).

The Program Addresses for each word to be programmed for zone and partition descriptions are listed in the *Alpha: Programming Addresses Worksheet* (P/N 28687).



¥ = If the second and third words are not used, leave them blank; there are no defaults.

14.7.1 Example of How to Program Alpha Descriptions for Zones and Partitions

1. Begin by deciding which zone or partition you need an alpha description for.
   For this example, we will use zone 1.

2. Refer to the *Alpha: Programming Addresses Worksheet* to locate the addresses needed for an alpha description of zone 1.
   Word 1 for zone 1 is address 0150. Word 2 for zone 1 is address 0151. Word 3 for zone 1 is address 0152.

3. Choose the three words from the table on the next page or create your own custom word (see section 14.8).
   For this example we will choose three words from the table on the next page: FOURTH, FLOOR, SAFE.

4. Enter [4 4] at address 0150 for the word FOURTH.
   Enter [1 4] at address 0151 for the word FLOOR.
   Enter [7 9] at address 0152 for the word SAFE.

14.7.2 Alpha Word Programming Values:

Value	Word
10	1st
20	2nd
30	3rd
40	4th
50	5th
60	6th
70	ACCOUNTING
80	AID
90	ALARM
∗00	AREA
∗10	ATTIC
∗20	AUDIT
∗30	AUDITORIUM
∗40	BACK
∗50	BALCONY
01	BASEMENT
11	BATHROOM
21	BEDROOM
31	BOILER
41	BOYS
51	BREAK
61	BREAKFAST
71	BUTTON
81	CABINET
91	CAFETERIA
∗01	CARPORT
∗11	CASE
∗21	CASH
∗31	CEILING
∗41	CELLAR
∗51	CLOSET
02	COMPUTER
12	CONFERENCE
22	CONTROL
32	COOLING
42	COPIER
52	COPY
62	CORRIDOR
72	COURT
82	DECK
92	DEN
∗02	DETECTION
∗12	DETECTOR
∗22	DEVELOPMENT
∗32	DINING
∗42	DOCK
∗52	DOOR
03	DOWNSTAIRS
13	DRAFTING
23	DRAWER
33	DRIVEWAY
43	EAST
53	ELEVATOR

Value	Word
63	EMERGENCY
73	ENGINEERING
83	ENTRANCE
93	EXIT
∗03	EXTERIOR
∗13	FACTORY
∗23	FAMILY
∗33	FENCE
∗43	FIELD
∗53	FIRE
04	FIRST
14	FLOOR
24	FLOW
34	FOIL
44	FOURTH
54	FOYER
64	FREEZER
74	FRONT
84	FUEL
94	FURNACE
∗04	GARAGE
∗14	GATE
∗24	GIRLS
∗34	GLASS
∗44	GUEST
∗54	GUN
05	GYM
15	HALL
25	HATCH
35	HEAT
45	HOLDUP
55	HOUSE
65	INCOMING
75	INSIDE
85	INSPECTION
95	INTERIOR
∗05	JANITOR
∗15	KEYSWITCH
∗25	KITCHEN
∗35	LAB
∗45	LAUNDRY
∗55	LAVATORY
06	LEVEL
16	LIBRARY
26	LIQUOR
36	LIVING
46	LOADING
56	LOBBY
66	LOFT
76	LOUNGE
86	LOWER
96	MAIN
∗06	MAINTENANCE
∗16	MANAGER

Value	Word
∗26	MARKETING
∗36	MASTER
∗46	MAT
∗56	MEDICAL
07	MEZZANINE
17	MONITOR
27	MOTION
37	NORTH
47	NURSERY
57	OFFICE
67	OPERATIONS
77	OUTSIDE
87	OVEN
97	OVERHEAD
∗07	PAINT
∗17	PANIC
∗27	PANTRY
∗37	PARKING
∗47	PARLOR
∗57	PATIO
08	PERIMETER
18	PERSONNEL
28	PHONE
38	PLANT
48	PLAY
58	POLICE
68	POOL
78	PORCH
88	PRESIDENT
98	PRODUCTION
08	PULL
∗18	PUMP
∗28	PURCHASING
∗38	QUALITY
∗48	REAR
∗58	RECEIVING
09	RECEPTION
19	RECREATION
29	REPAIR
39	RESEARCH
49	ROOF
59	ROOM
69	RUMPUS
79	SAFE
89	SALES
99	SCREEN
∗09	SECOND
∗19	SECURITY
∗29	SENSOR
∗39	SERVICE
∗49	SHED
∗59	SHIPPING
0∗0	SHOP
1∗0	SIDE

Value	Word
2∗0	SKYLIGHT
3∗0	SLIDING
4∗0	SMOKE
5∗0	SOUTH
6∗0	SPRINKLER
7∗0	STAGE
8∗0	STAIRS
9∗0	STATION
∗0∗0	STOCK
∗1∗0	STORAGE
∗2∗0	STUDIO
∗3∗0	STUDY
∗4∗0	SWIMMING
∗5∗0	SYSTEM
0∗1	TAMPER
1∗1	TEST
2∗1	TESTING
3∗1	THIRD
4∗1	TOOL
5∗1	TOWER
6∗1	TRAINING
7∗1	TRANSOM
8∗1	TRAP
9∗1	VALVE
∗0∗1	VAULT
∗1∗1	VICE
∗2∗1	WALL
∗3∗1	WAREHOUSE
∗4∗1	WATER
∗5∗1	WEST
0∗2	WINDOW
1∗2	YARD
2∗2	ZONE
0∗4	Custom Word 1
1∗4	Custom Word 2
2∗4	Custom Word 3
3∗4	Custom Word 4
4∗4	Custom Word 5
5∗4	Custom Word 6
6∗4	Custom Word 7
7∗4	Custom Word 8
8∗4	Custom Word 9
9∗4	Custom Word 10

see section 14.8

14.8 Custom Word Programming: Program Addresses (0564-0625)

Custom Word programming allows additional words to be created that are not found in the standard alpha library found in section 14.7.2. Up to ten additional words may be created. See section 14.8.1 for a custom word worksheet.

The words are created one character at a time. Each character uses two data digits. The data digit values for these characters 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		

The ">" character is used to link two words together without a space; the first word of this link must be a custom word. The ">" character must be placed at the end of the first custom word. The second word can be a custom or standard library word.

The Custom Words are programmed at the following addresses:

Custom Word Number	First Program Address
1	0546
2	0554
3	0562
4	0570
5	0578
6	0586
7	0594
8	0602
9	0610
10	0618

14.8.1 Custom Word Programming: A worksheet

It is here where you can fill-in the data digit values for each character of each custom word.

	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6	Character 7	Character 8
Word 1	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
	0546-1 0546-2	0547-1 0547-2	0548-1 0548-2	0549-1 0549-2	0550-1 0550-2	0551-1 0551-2	0552-1 0552-2	0553-1 0553-2

Example

	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6	Character 7	Character 8
Word 1								
Value								
	0546-1 0546-2	0547-1 0547-2	0548-1 0548-2	0549-1 0549-2	0550-1 0550-2	0551-1 0551-2	0552-1 0552-2	0553-1 0553-2
Word 2								
Value								
	0554-1 0554-2	0555-1 0555-2	0556-1 0556-2	0557-1 0557-2	0558-1 0558-2	0559-1 0559-2	0560-1 0560-2	0561-1 0561-2
Word 3								
Value								
	0562-1 0562-2	0563-1 0563-2	0564-1 0564-2	0565-1 0565-2	0566-1 0566-2	0567-1 0567-2	0568-1 0568-2	0569-1 0569-2
Word 4								
Value								
	0570-1 0570-2	0571-1 0571-2	0572-1 0572-2	0573-1 0573-2	0574-1 0574-2	0575-1 0575-2	0576-1 0576-2	0577-1 0577-2
Word 5								
Value								
	0578-1 0578-2	0579-1 0579-2	0580-1 0580-2	0581-1 0581-2	0582-1 0582-2	0583-1 0583-2	0584-1 0584-2	0585-1 0585-2

14.8.1 Custom Word Programming: A worksheet (continued)

It is here where you can fill-in the data digit values for each character of each custom word.

	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6	Character 7	Character 8
Word 6								
Value	0586-1 0586-2	0587-1 0587-2	0588-1 0588-2	0589-1 0589-2	0590-1 0590-2	0591-1 0591-2	0592-1 0592-2	0593-1 0593-2
Word 7								
Value	0594-1 0594-2	0595-1 0595-2	0596-1 0596-2	0597-1 0597-2	0598-1 0598-2	0599-1 0599-2	0600-1 0600-2	0601-1 0601-2
Word 8								
Value	0602-1 0602-2	0603-1 0603-2	0604-1 0604-2	0605-1 0605-2	0606-1 0606-2	0607-1 0607-2	0608-1 0608-2	0609-1 0609-2
Word 9								
Value	0610-1 0610-2	0611-1 0611-2	0612-1 0612-2	0613-1 0613-2	0614-1 0614-2	0615-1 0615-2	0616-1 0616-2	0617-1 0617-2
Word 10								
Value	0618-1 0618-2	0619-1 0619-2	0620-1 0620-2	0621-1 0621-2	0622-1 0622-2	0623-1 0623-2	0624-1 0624-2	0625-1 0625-2

14.9 Commercial Fire Mode Programming: Program Address (0629)

Example:
To program the Commercial Fire Mode parameters as: Central Station Commercial Fire Mode enabled, with a 10 second delay on Waterflow Zones, having the Bell and Aux. activate on Fire Alarms, and using California March Time.

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

Enter the Programmer's Mode: [9 8 7 6 # 0]
Enter the Program Address: 0629
Enter Data Digit 1: [2]
Enter Data Digit 2: [1]
Enter the Command button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

It is here where the Commercial Fire Mode parameters are defined.

See Glossary (section 8.14) 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
Commercial Fire Mode disabled	●												
Local Comm. Fire Mode enabled		●	●	●	●	●	●						
Central Station Comm. Fire Mode enabled								●	●	●	●	●	●
10 sec delay on waterflow zone			●						●				
20 sec delay on waterflow zone				●						●			
30 sec delay on waterflow zone					●						●		
40 sec delay on waterflow zone						●						●	
50 sec delay on waterflow zone							●						●

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

Zones 1-4 may only have waterflow delays.

Select Options	Enter the DD as a: 0	1	2	3	4	5
Bell and Aux activate on Fire	●	●	●	●	●	●
Bell and Aux activate on Burg				●	●	●
Pulsing on Fire zone	●			●		
California March Time		●			●	
Temporal Cadence			●			●

When programming Fire zones, it is recommended that they be zone functions 12 and 13 (see sections 14.1 and 14.9.3).

Additional information on the following page.

14.9 Commercial Fire Mode Programming (continued): Program Address (0629)

14.9.1 When Central Station Commercial Fire Mode is chosen,

address 0927 (DS7420: Dual Phone Line/Bell Supervision Module Output Programming), will be forced to a value of 5.

14.9.2 When Local Commercial Fire Mode is chosen,

address 0927 (DS7420: Dual Phone Line/Bell Supervision Module Output Programming), will be forced to a value of 3, 4, or 5.
(Turns the Bell Monitor feature ON and the Alarm Output on Line Fault feature OFF)

14.9.3 Regardless of which Commercial Fire Mode is chosen,

the following parameters will be forced when exiting local programmer's mode:

- Zone Functions 1 through 11: Fire Zone Outputs will pulse. Loud Burglar Zone Outputs will be steady. Silent or Invisible Zone Outputs will remain the same.
- Zone Function 12, address 1003, will be a *5 *0.
- Zone Function 13, address 1004, will be a *5 *1.
- Zone Function 14, address 1005, will be a *5 *2.
- Zone Function 15, address 1006, will be a *5 *3.
- Emergency Key, address 0630, data digit 1, will become a 3 if programmed previously as a 2. Data digit 2 will become a 2 if programmed previously as a 3.
- Panic Key, address 0631, data digit 1, will become a 2 if programmed previously as a 3.
- Fire Bell Cutoff: If less than 5, set to 5, otherwise untouched.

14.9.4 In Central Station Commercial Fire Mode,

the following communication parameters will be forced:

Report Codes: If 0, the following defaults will be set, otherwise they will be unchanged.

Address	Default	Address	Default	Address	Default	Address	Default	Address	Default
0654	*0 1	1013	*0 6	0687	6 9	0688	7 9	0693	6 *5
0655	7 1	1017	7 3	1024	6 3	0689	6 *0	0696	3 9
1010	*0 3	1018	7 4	1025	6 4	0690	7 *0	0697	3 *0
1011	*0 4	1019	7 5	1026	6 5	0691	8 3	0698	3 9
1012	*0 5	1020	7 6	1027	6 6	0692	7 *5		

- Phone Control: If 0, set to 6 1, 4/2 @ 18/23, 10pps, otherwise untouched.
- Test Report: Set to 8, call out every day.

14.10 Emergency Key Programming: Program Address (0630)

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

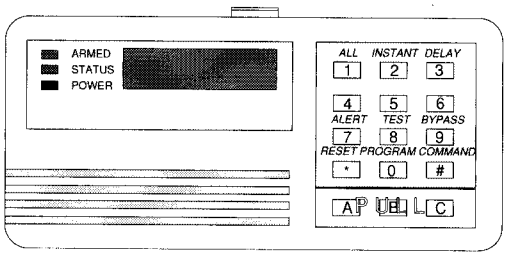
Data Digit 1 = [2], Data Digit 2 = [2].

Enter the Programmer's Mode: [9 8 7 6 # 0]
Enter the Program Address: 0630
Enter Data Digit 1: [2]
Enter Data Digit 2: [2]
Enter the Command button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Emergency Key and Panic Key programming disables or activates these keys (the A, B, and C keys) located on the keypads.

It also determines a silent, pulsed, or steady alarm.

See Glossary (section 8.7) for further details.



Fire Key

A

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

May be forced to a different value when in Commercial Fire Mode. See section 14.9.3.

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

Data Digit 1 2

14.11 Panic Key Programming: Program Address (0631)

See Glossary (section 8.7) for further details.

Example:
To program the Panic Key as having a Silent Alarm.

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

Enter the Programmer's Mode: [9 8 7 6 # 0]
Enter the Program Address: 0631
Enter Data Digit 1: [1]
Enter Data Digit 2: [0]
Enter the Command button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Panic Key

C

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

Data Digit 1 2

Data Digit 2 must be 0

May be forced to a different value when in Commercial Fire Mode. See section 14.9.3.

14.12 Custom Arming Programming: Program Addresses (0632 and 1028)

Example:
To program Key 4 to Bypass Zone Function 1 only.

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

Enter the Programmer's Mode: [9 8 7 6 # 0]
Enter the Program Address: 0632
Enter Data Digit 1: [1]
Enter Data Digit 2: [0]
Enter the Command button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Custom Arming programming allows the number 4 button on the keypads to be used for custom arming. It determines which zone functions (not individual zones) can be bypassed. **The Default of [0] means those zones will not be Bypassed.**

See Glossary (section 8.8) for further details.

PA 0632
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 Function 1		●		●		●		●		●		●		●		●
Bypass Zone Function 2			●	●			●	●			●	●			●	●
Bypass Zone Function 3					●	●	●	●					●	●	●	●
Bypass Zone Function 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 Function 5		●		●		●		●		●		●		●		●
Bypass Zone Function 6			●	●			●	●			●	●			●	●
Bypass Zone Function 7					●	●	●	●					●	●	●	●
Bypass Zone Function 8									●	●	●	●	●	●	●	●

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

PA 1028
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 Function 9		●		●		●		●		●		●		●		●
Bypass Zone Function 10			●	●			●	●			●	●			●	●
Bypass Zone Function 11					●	●	●	●					●	●	●	●
Bypass Zone Function 12									●	●	●	●	●	●	●	●

*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
Bypass Zone Function 13		●		●		●		●
Bypass Zone Function 14			●	●			●	●
Bypass Zone Function 15					●	●	●	●

14.13 Open/Close Report Control Programming: Program Address (0633)

See Glossary (section 8.9) 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
Do not report opens or closes	●						●					
Report opens and closes in Partition 1		●	●	●	●			●	●	●	●	
Report opens and closes in Partition 2			●	●	●				●	●	●	
Report opens and closes in Partition 3				●	●					●	●	
Report opens and closes in Partition 4					●						●	
Report first Partition to open and last Partition to close¥						●						●
Send Trouble at close for Bypassed Zones							●	●	●	●	●	●

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

¥ = When using this option, all partitions should have the same account code.

Example:
To program to send Open/Close Reports from Parition 1, to send Trouble Reports on Closings for all Bypassed Zones, and to report to Phone Number 1.

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

Enter the Programmer's Mode: [9 8 7 6 # 0]
Enter the Program Address: 0633
Enter Data Digit 1: [7]
Enter Data Digit 2: [1]
Enter the Command button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

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

14.14 Report Control Programming: Program Address (0634)

Example:
To program Zone Alarms, Zone Restorals, and Zone Trouble Reports to Phone Number 1; and all other Reports to Phone Number 2.

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

Enter the Programmer's Mode: [9 8 7 6 # 0]
Enter the Program Address: 0634
Enter Data Digit 1: [1]
Enter Data Digit 2: [2]
Enter the Command button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

It is here where it is decided which phone number will receive reports other than opening and closing 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 1 2

Data Digit 1 is for Zone Alarm, Zone Restoral, and Zone Trouble Reports.

Data Digit 2 is for all other Reports (see addresses 068 through 0698.

Note: Data Di 2 does not include openin and closing reports (see section 14.13).

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

14.15 Phone Number General Control Programming: Program Address (0635)

Example:
To program the Phone Number General Control parameters to enable the Remote Programmer Call-back feature, to dial Pulse on all Phone Numbers, and to send Alarm Reports via either ARDIS or Digital.

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

Enter the Programmer's Mode: [9 8 7 6 # 0]
Enter the Program Address: 0635
Enter Data Digit 1: [1]
Enter Data Digit 2: [0]
Enter the Command button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

See Glossary (section 8.10) for further details.

Data Digit 1 2

	0	1	2	3	4	5	6	7	8	9	*0	*1
Enable remote programmer call-back		●		●		●		●		●		●
Dial pulse on all phone numbers	●	●					●	●				
Dial tone on all phone numbers ¥					●	●					●	●
Dial tone, switch to pulse if required			●	●					●	●		
Try ARDIS network first							●	●	●	●	●	●

¥ = Required on PBX systems

This selection must be chosen for U.L. Certificated installations when using the ARDIS module.

Send alarm reports via **either** ARDIS **or** digital	0
Send alarm reports via **both** ARDIS **and** digital	4

14.16 Phone Answering Programming: Program Address (0636)

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: 0636
Enter Data Digit 1: [2]
Enter Data Digit 2: [4]
Enter the Command button: [#]

Program the next Address, Program a different Address, or Exit the Programmer's Mode.

See Glossary (section 8.11) for further details.

Data Digit 1 2

Select Option When Armed:	
Don't Answer Phone	0
Answer Phone on 1 ring	1
Answer Phone on 2 rings	2
Answer Phone on 3 rings	3
Answer Phone on 4 rings	4
Answer Phone on 5 rings	5
Answer Phone on 6 rings	6
Answer Phone on 7 rings	7
Answer Phone on 8 rings	8
Answer Phone on 9 rings	9
Answer Phone on 10 rings	*0
Answer Phone on 11 rings	*1
Answer on 12 rings: Disable answering machine Bypass	*2
Answer Phone on 13 rings	*3
Answer Phone on 14 rings	*4
Answer Phone on 15 rings	*5

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

Select Option When Disarmed:	
Don't Answer Phone	0
Answer Phone on 1 ring	1
Answer Phone on 2 rings	2
Answer Phone on 3 rings	3
Answer Phone on 4 rings	4
Answer Phone on 5 rings	5
Answer Phone on 6 rings	6
Answer Phone on 7 rings	7
Answer Phone on 8 rings	8
Answer Phone on 9 rings	9
Answer Phone on 10 rings	*0
Answer Phone on 11 rings	*1
Answer on 12 rings: Disable answering machine Bypass	*2
Answer Phone on 13 rings	*3
Answer Phone on 14 rings	*4
Answer Phone on 15 rings	*5

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

14.17 Force Arming Programming: Program Address (0637)

Force Arming programming defines how many zones may be Force Armed with the [Command] - [1,2,3,4, or 5] - [9] key-stroke entry. With this entry, all violated zones (up the programmed limit) will automatically be Force Armed (bypassed).

See Glossary (section 8.12) for further details.

Example: To be able to Force Arm up to 5 Zones.
Data Digit 1 = [5], Data Digit 2 = [0].
Enter the Programmer's Mode: [9 8 7 6 # 0] Enter the Program Address: 0637 Enter Data Digit 1: [5] Enter Data Digit 2: [0] Enter the Command button: [#] Program the next Address, Program a different Address, or Exit the Programmer's Mode.

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
Allow up to 9 zones to be Force Armed	9

Data Digit

1 2

[ ] [0]

Data Digit 2 must be 0

14.18 Timer Programming: Program Addresses (0638-0642)

Example: To program the Entry Delay Time 1 for 60 seconds.
Data Digit 1 = [6], Data Digit 2 = [0].
Enter the Programmer's Mode: [9 8 7 6 # 0] Enter the Program Address: 0638 Enter Data Digit 1: [6] Enter Data Digit 2: [0] Enter the Command button: [#] Program the next Address, Program a different Address, or Exit the Programmer's Mode.

See Glossary (section 8.1) for further details.

Data Digit 1 2

Exit Delay Time Address 0640	Default = 60 sec
00 to 99 seconds	

Data Digit 1 2

Entry Delay Time 1 Address 0638	Default = 45 sec
00 to 99 seconds	

May be forced to a different value when in Commercial Fire Mode. See section 14.9.3.

Data Digit 1 2

Fire Bell Cutoff Address 0641	Default =04 min.
00 to 99 min.	

Data Digit 1 2

Entry Delay Time 2 Address 0639	Default = 45 sec
00 to 99 seconds	

Data Digit 1 2

Burglary Bell Cutoff Address 0642	Default =04 min.
00 to 99 min.	

14.19 A/C Fail Report Delay Programming (DS7400X only): Program Address (0645)

Example:
To program the A/C Fail Report Delay Time to be 30 minutes.

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

Enter the Programmer's Mode: [9 8 7 6 # 0]
Enter the Program Address: 0645
Enter Data Digit 1: [1]
Enter Data Digit 2: [*5]
Enter the Command button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Some of the A/C Fail Delay Times are programmed as Hexadecimal values.
For example:

00 = Send only with next report
1 *4 = 30 minute delay
3 *3 = 60 minute delay
78 = 120 minute delay
*5 0 = 240 minute delay
*5 *5 = Random delay (at least 15 minutes, but less than 120 minutes)

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

See System Overview (section 7.2.2) for further details.

Data Digit
1 2

A/C Fail Report Delay Address 0645	
00 through FF	Default = 00

14.20 General Auth. "Arm Only" Programming (DS7400X only): Program Addresses (0646 and 0647)

Example:
To program a General Authority level to be able to Arm and Bypass zones he is not able to Disarm in Partition 1.

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

Enter the Programmer's Mode: [9 8 7 6 # 0]
Enter the Program Address: 0646 (Data Digit 1)
Enter Data Digit 1: [1]
Enter Data Digit 2: [0]
Enter the Command button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

This allows for a user with a General Authority level to Arm and Bypass zones he is not able to Disarm.

See System Overview (section 7.2.4) for further details.

PA 0646
Data Digit
1 2

PA 0647
Data Digit
1 2

Partition 1	DD
Gen. Code can Arm, Disarm, and Bypass	1
Gen. Code can only Arm and Bypass	0

Partition 3	DD
Gen. Code can Arm, Disarm, and Bypass	1
Gen. Code can only Arm and Bypass	0

Partition 2	DD
Gen. Code can Arm, Disarm, and Bypass	1
Gen. Code can only Arm and Bypass	0

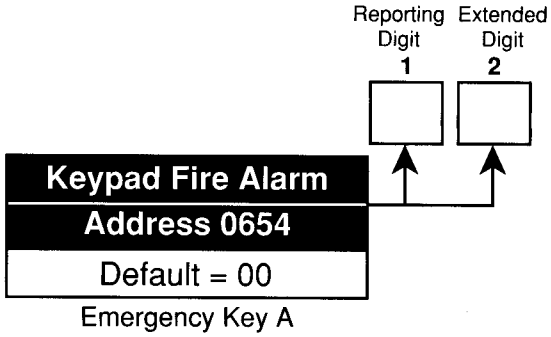
Partition 4	DD
Gen. Code can Arm, Disarm, and Bypass	1
Gen. Code can only Arm and Bypass	0

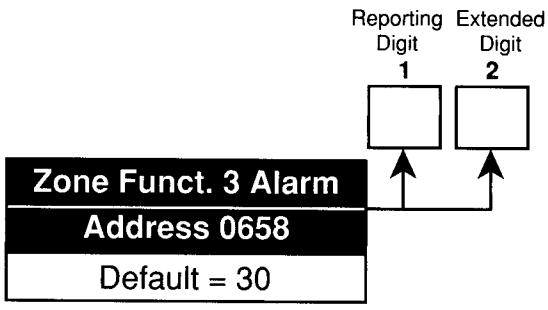
14.21 Report Programming: Program Addresses (0654-0697 and 1007-1027)

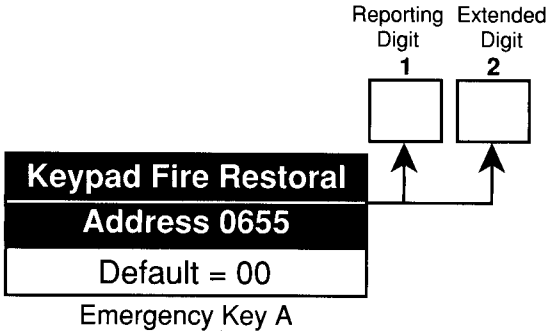
- To send the User number along with open, close, or partial close reports: place an 'F' (*5) in the extended digit.
- To disable a report **(meaning: nothing will be sent):** place a 0 in the reporting digit.
- When using SIA or Contact ID format, place a '1' in the reporting digit of each report you wish to enable. It is not necessary to program the extended digit.
- For suggested values for 4/2 and BFSK format, see section 16.1-16.3. For SIA and Contact ID, the values sent are listed in section 17.0. 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:

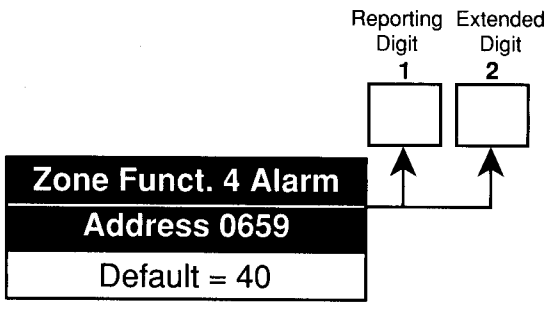
*0 = A *1 = B *2 = C *3 = D *4 = E *5 = F

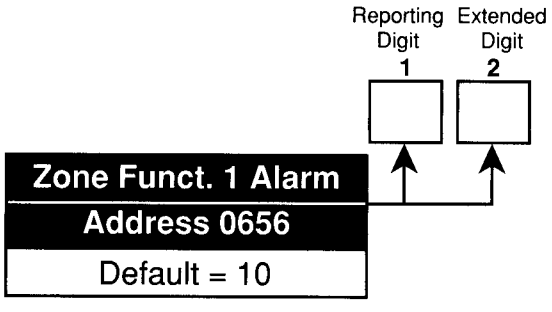
See Glossary (section 8.13) for further details.

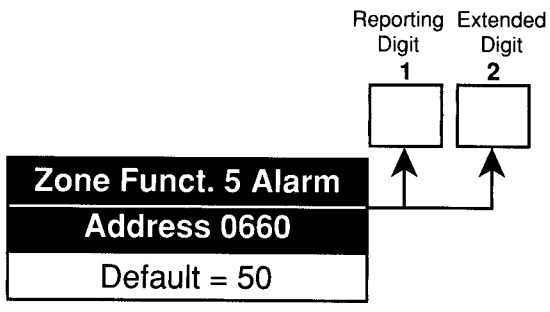


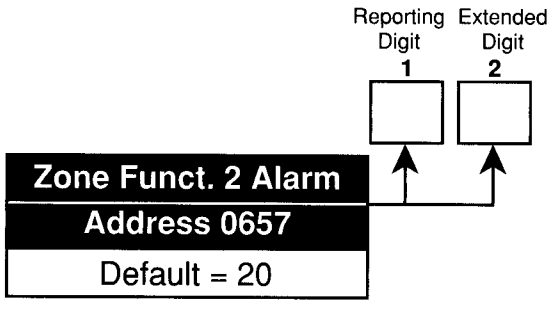


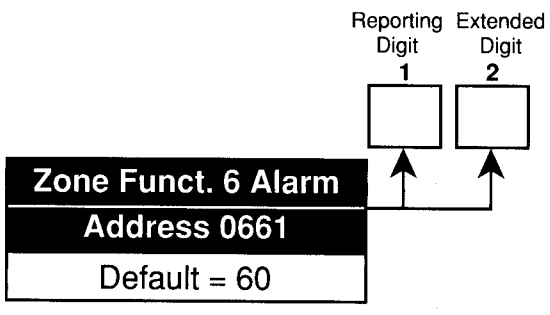




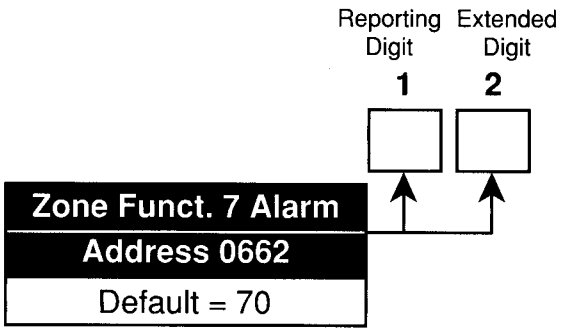


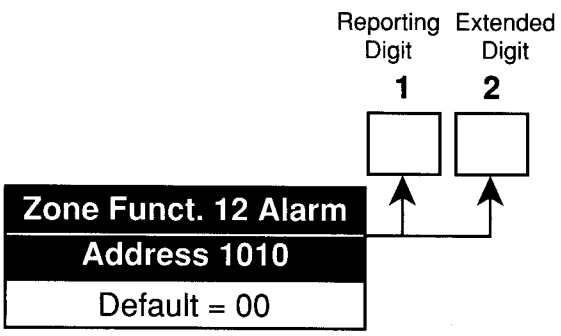


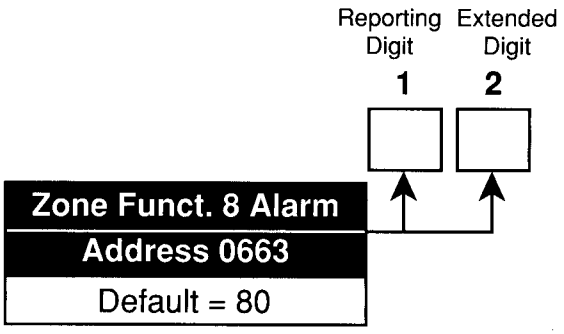


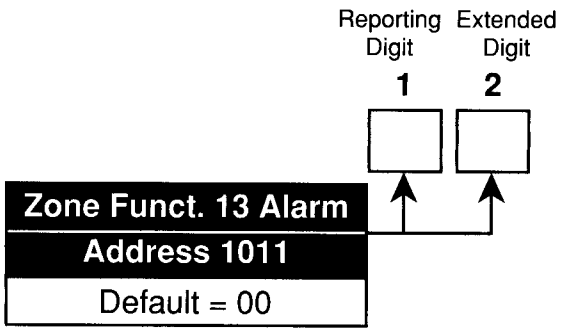


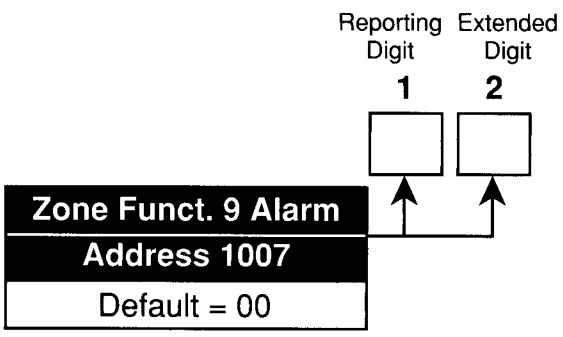
14.21 Report Programming (continued)

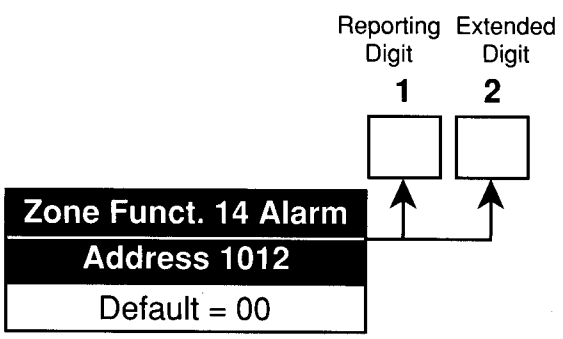


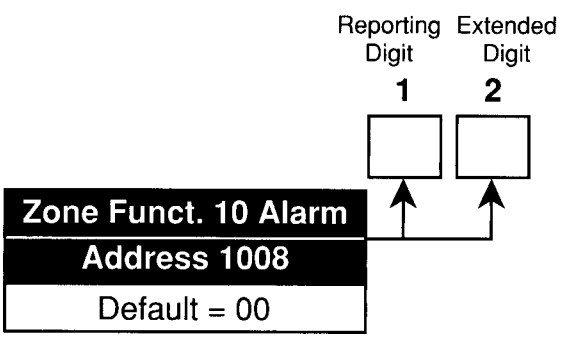


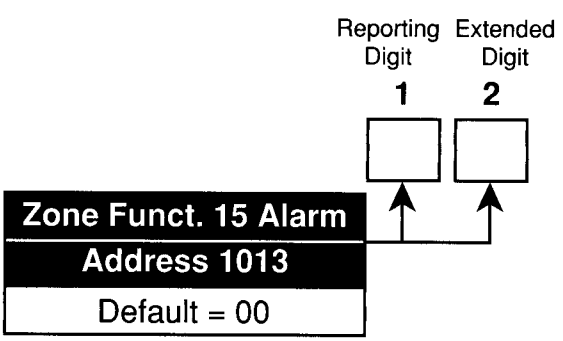


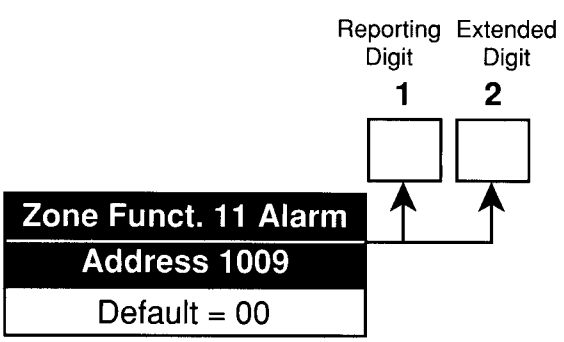




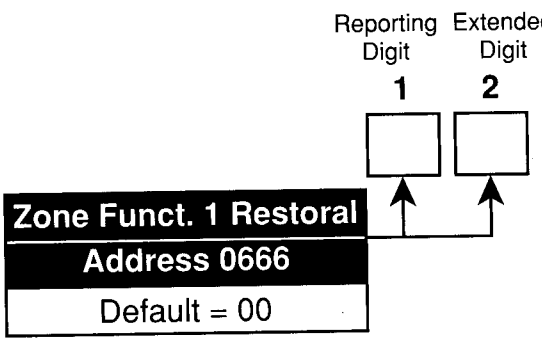


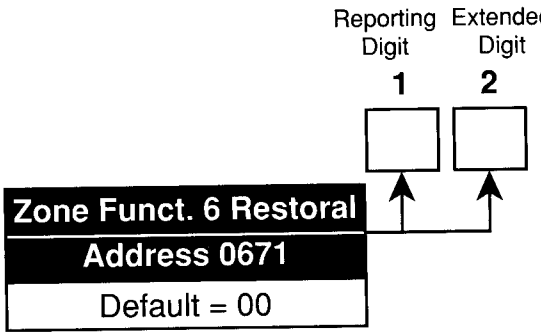


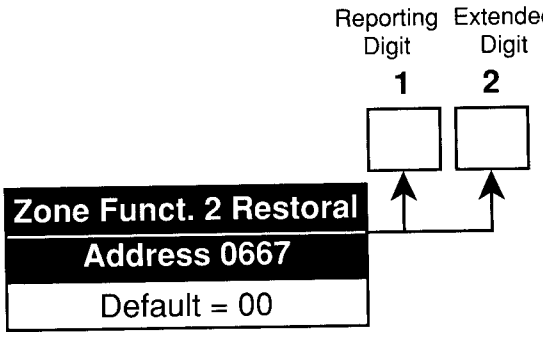


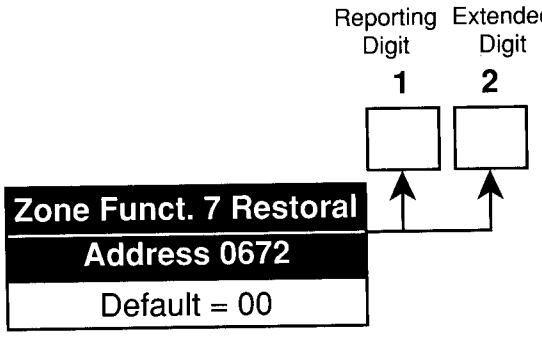


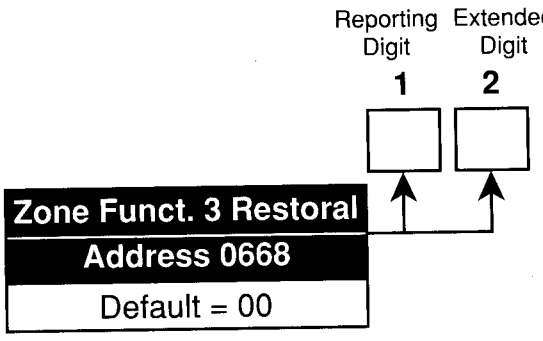
14.21 Report Programming (continued)

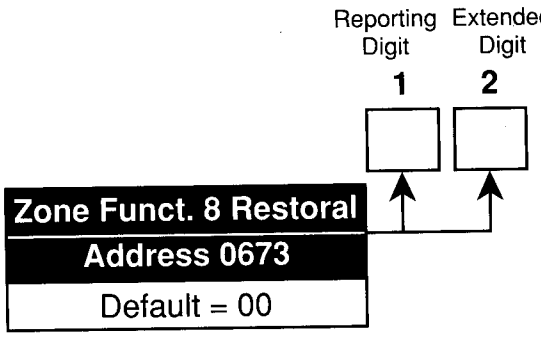


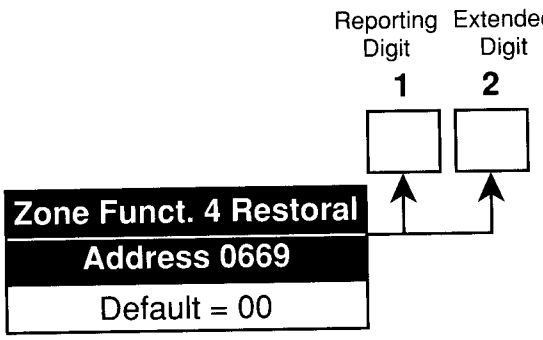


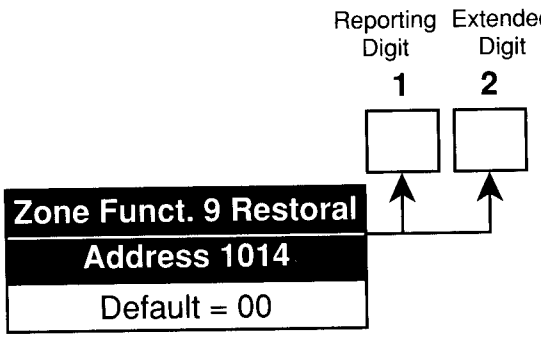


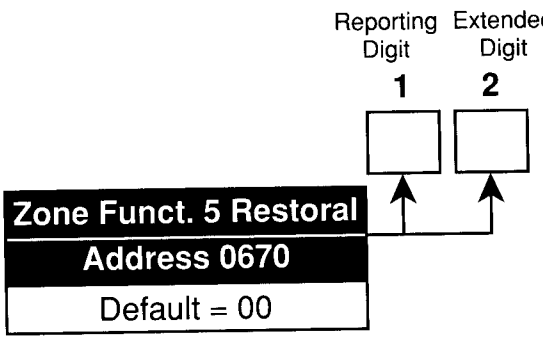


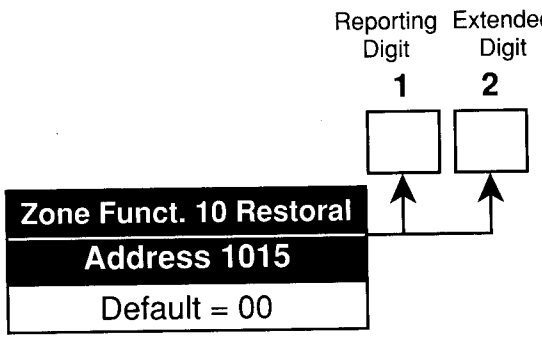




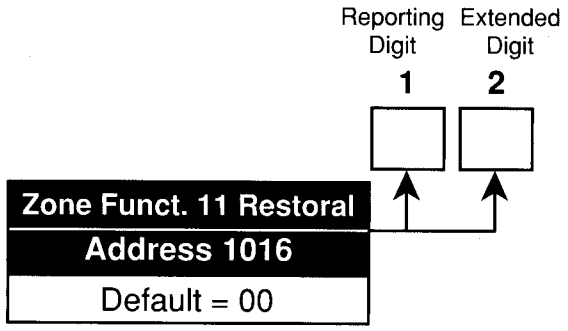


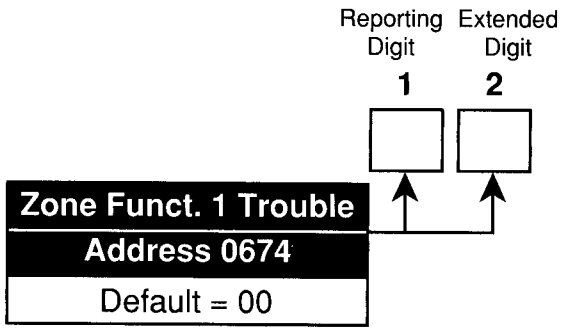


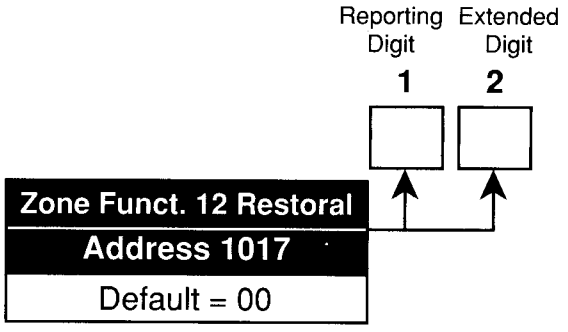


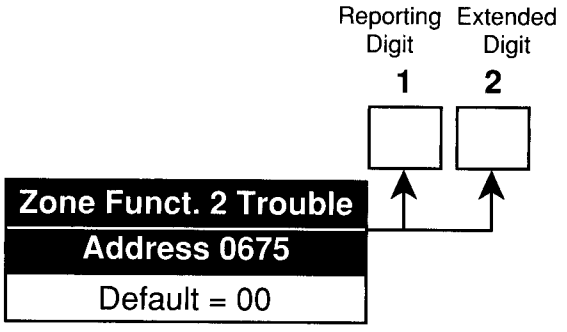


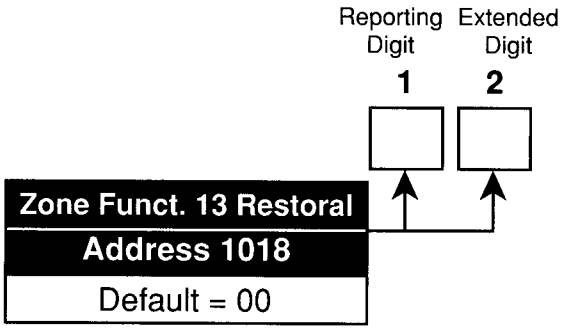
14.21 Report Programming (continued)

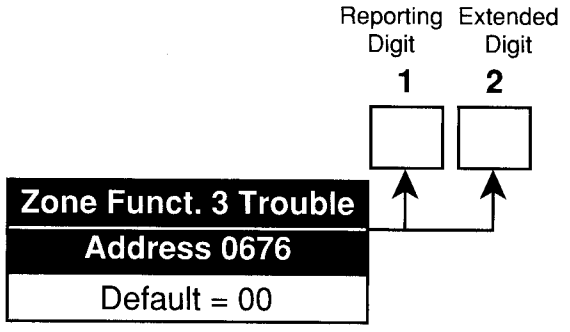


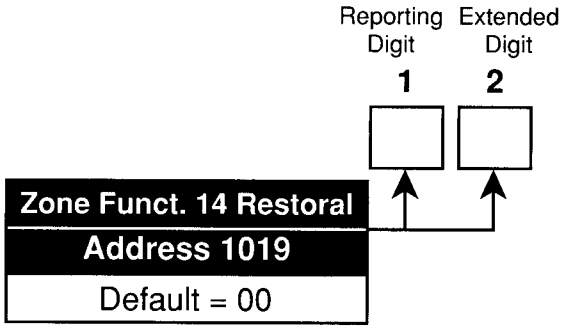


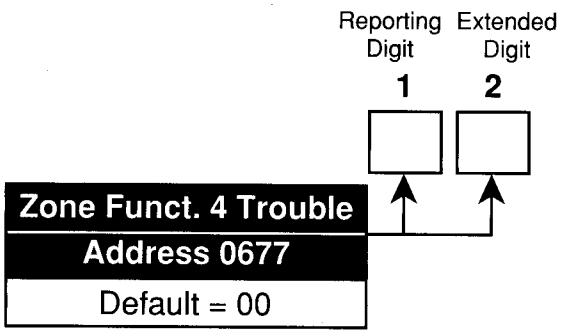


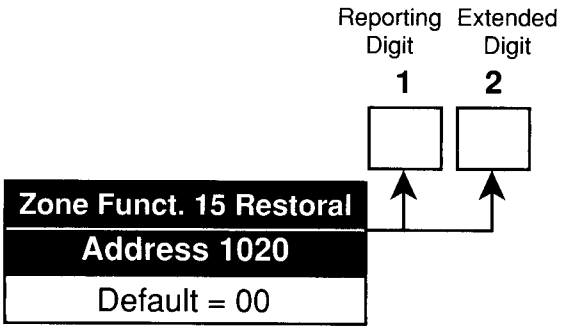


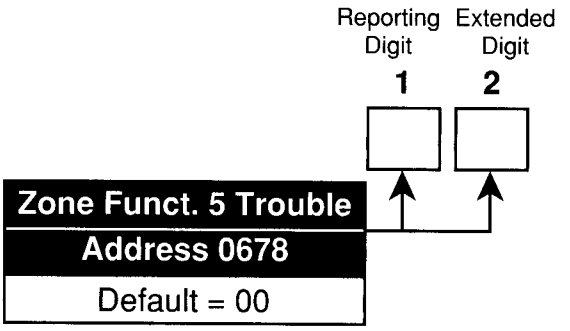


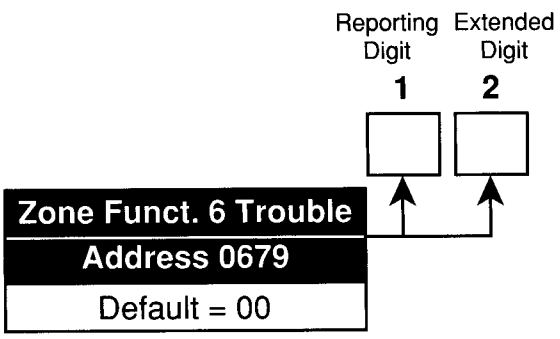


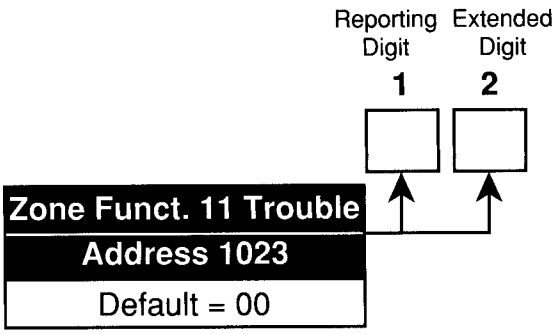


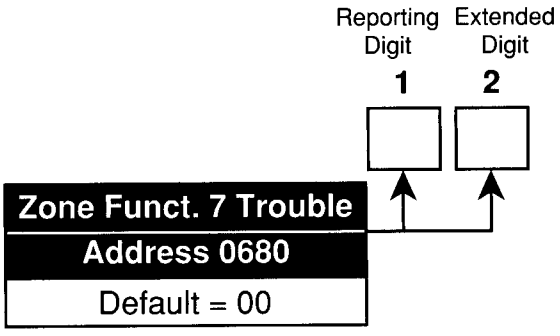


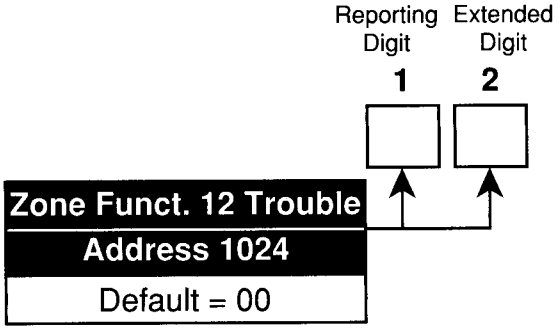


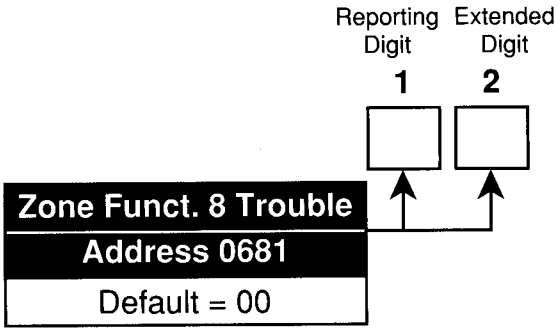


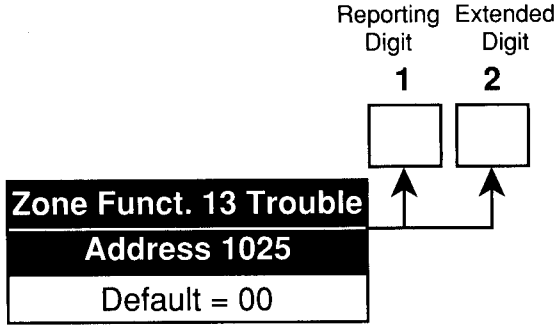


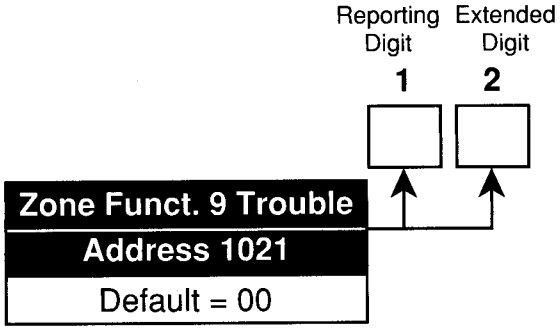


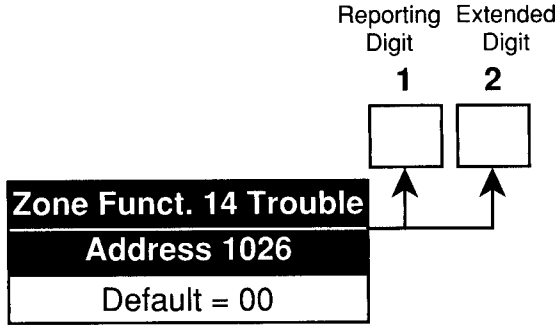


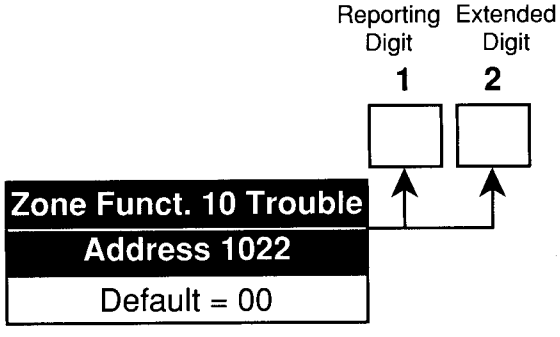


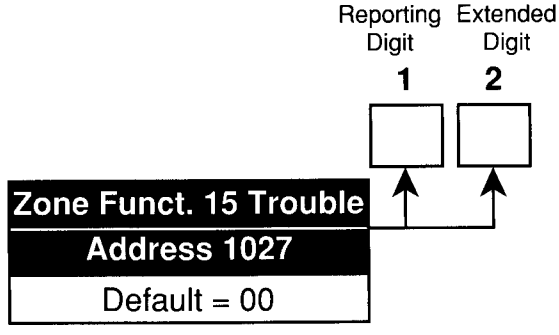




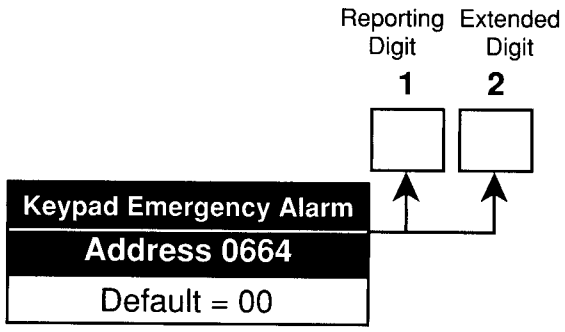




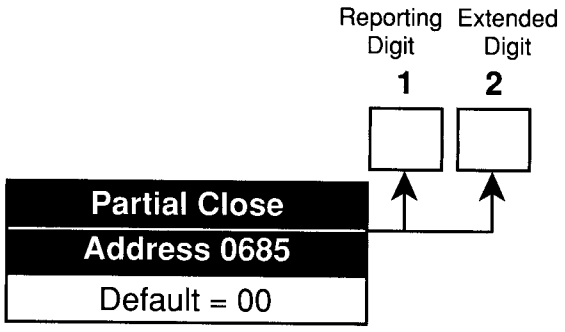




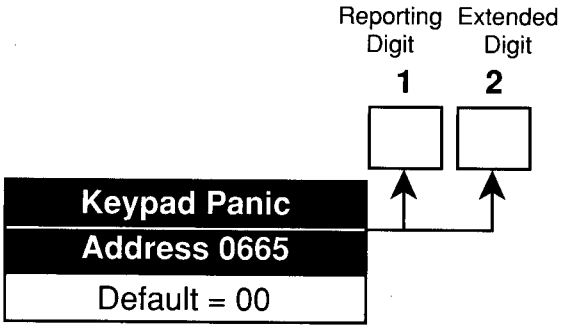
14.21 Report Programming (continued)



Keypad Emergency Alarm
Address 0664
Default = 00



Partial Close
Address 0685
Default = 00



Keypad Panic
Address 0665
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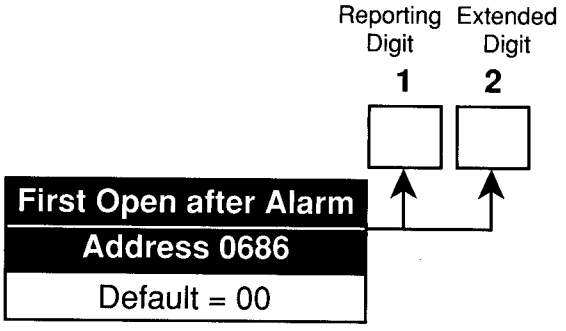
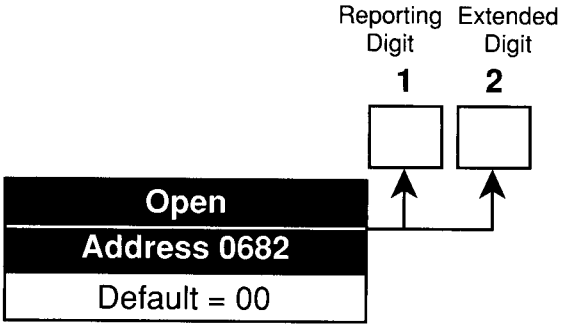


First Open after Alarm
Address 0686
Default = 00



Open
Address 0682
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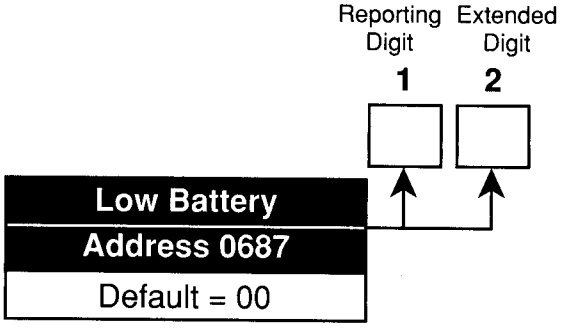
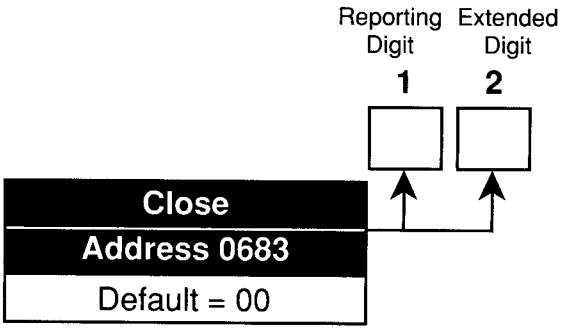
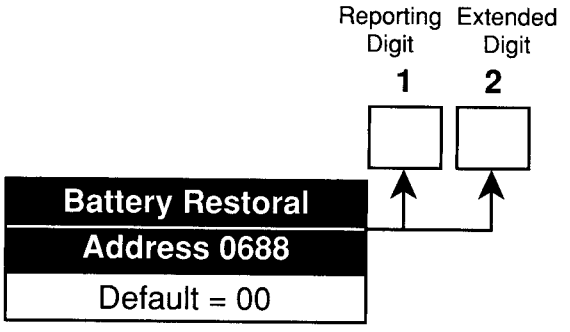


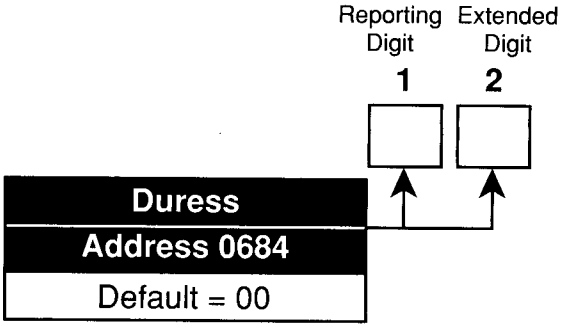
Low Battery
Address 0687
Default = 00



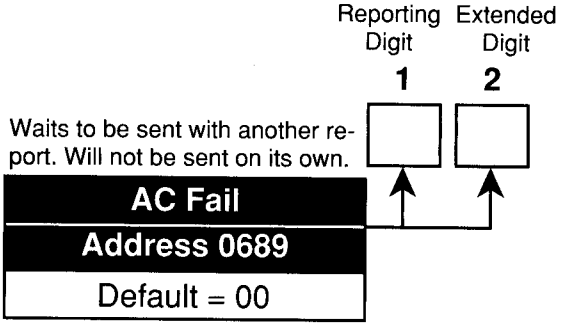
Close
Address 0683
Default = 00



Battery Restoral
Address 0688
Default = 00

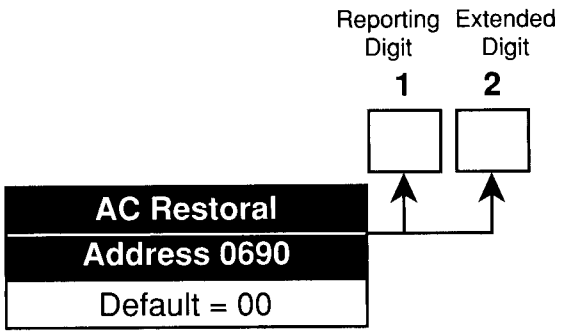


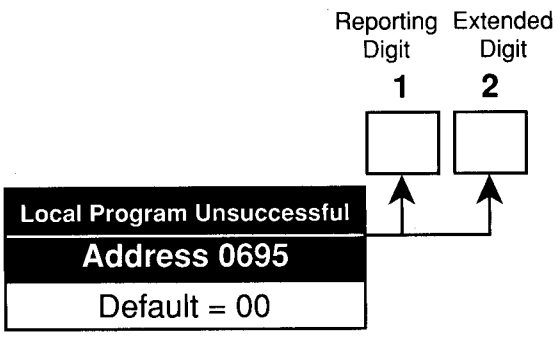
Duress
Address 0684
Default = 00

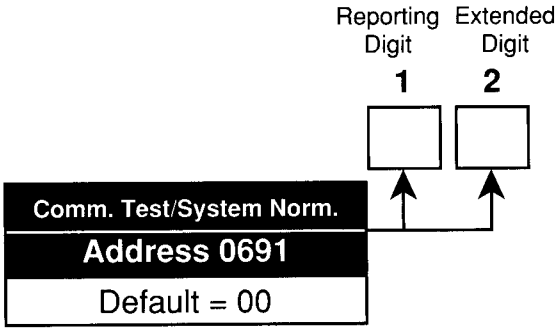


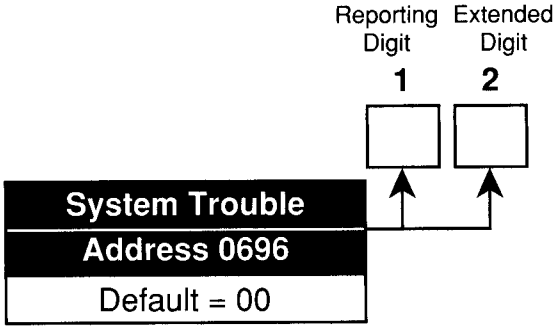
Waits to be sent with another report. Will not be sent on its own.

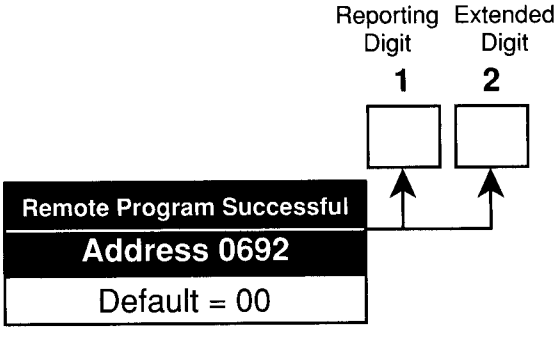
AC Fail
Address 0689
Default = 00

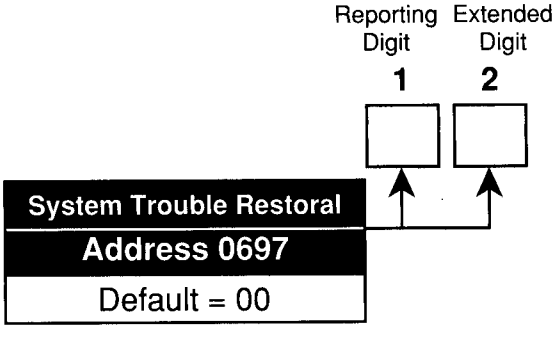


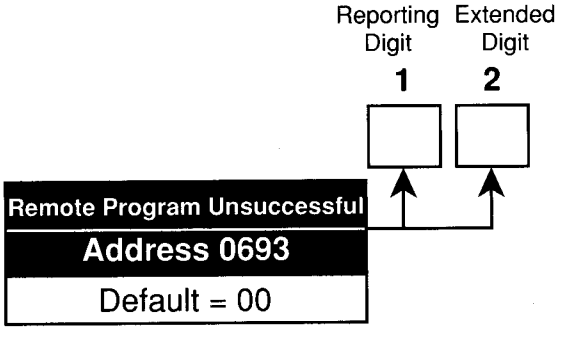


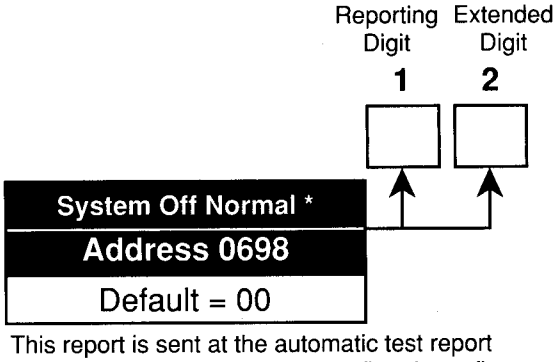




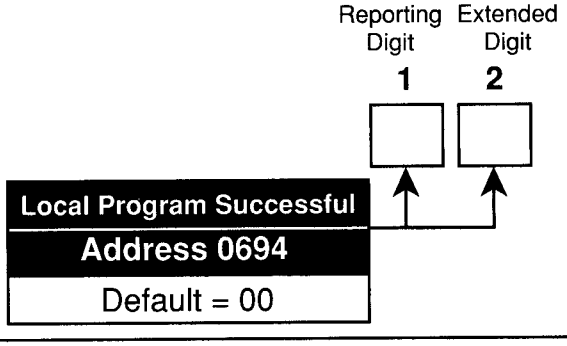








This report is sent at the automatic test report time whenever there is an active fire alarm, fire trouble, control trouble, or supervisory condition.



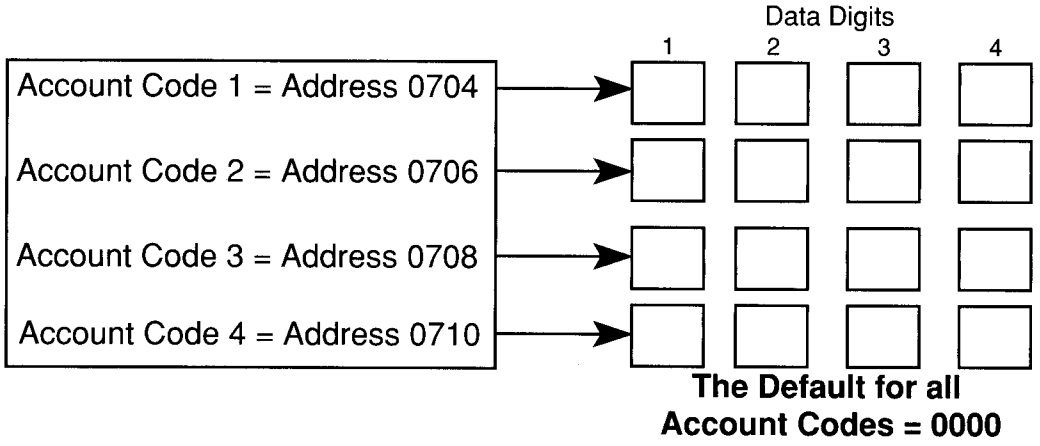
14.22 Account Code Programming: Program Addresses (0704-0710)

Account Code programming defines the number transmitted to the central station that identifies this panel. It also identifies which partition is reporting from this panel.

Example:
To program Account Code 1 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: 0704
Enter Data Digit 1: [2]
Enter Data Digit 2: [3]
Enter Data Digit 1: [3]
Enter Data Digit 2: [2]
Enter the Command button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.



The Default for all Account Codes = 0000

Notes:

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

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

2. If you wish to send a zero "0," enter it as *0 (this does not apply to the added zero in a three digit Account Code).

   For example: If the Account Code is 101, program 1*010 in the programming address. If the Account Code is 3050, program 3*05*0 in the programming address.

3. When using multiple partitions, the Account Codes have special relationships to the partitions used.

   The chart below explains these relationships:

	If using 1 partition	If using 2 partitions*	If using 3 partitions	If using 4 partitions
Account Code 1	Reports to phone # 1.	Partition 1 reports to phone # 1.	Partition 1 reports to phone # 1 and/or 2 (determined at address 0634).	Partition 1 reports to phone # 1 and/or 2 (determined at address 0634).
Account Code 2	Reports to phone # 2.	Partition 1 reports to phone # 2.	Partition 2 reports to phone # 1 and/or 2 (determined at address 0634).	Partition 2 reports to phone # 1 and/or 2 (determined at address 0634).
Account Code 3		Partition 2 reports to phone # 1.	Partition 3 reports to phone # 1 and/or 2 (determined at address 0634).	Partition 3 reports to phone # 1 and/or 2 (determined at address 0634).
Account Code 4		Partition 2 reports to phone # 2.		Partition 4 reports to phone # 1 and/or 2 (determined at address 0634).

* = Remember, when using only 2 partitions, you must program Account Codes 1 and 2 in order to send reports from partition 1 **and** Account Codes 3 and 4 in order to send reports from partition 2.

14.23 Phone Number Format Programming: Program Addesses (0712-0713)

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

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

Enter the Programmer's Mode: [9 8 7 6 # 0]
Enter the Program Address: 0712
Enter Data Digit 1: [9]
Enter Data Digit 2: [1]
Enter the Command button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Note:
Phone Number 1 Format = Address 0712
Phone Number 2 Format = Address 0713

When using the DS7416 communications module,
program address 0712 as: data digit 1 = 9, data digit 2 = 1.
Program address 0713 as: data digit 1 = 9, data digit 2 = 1.

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	8
Contact ID	9

Data Digit
1 2

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

14.23.1 The following table lists those Digital Alarm Communicator Receivers and Formats that are compatible with the DS7400 and the DS740X.

Receiver	Format: 3/1	3/1 E (extended)	3/1 w/Parity	3/1 E w/Parity	4/1	4/2	BFSK	Contact ID	SIA
ADEMCO: Model 685	●	●	●	●	●	●	●	●	
F.B.I.: Model CP-220	●	●	●	●	●	●	●	●	
I.T.I.: Model CS-4000	●	●			●	●	●		
Osborne-Hoffman: Model II	●	●	●	●	●	●	●	●	●
Radionics: Model 6000	●	●	●	●			●		
Radionics: Model 6500	●	●	●	●	●	●	●		
Silent Knight: Model 9000	●	●	●	●	●	●	●		●
Varitech: Model V-300	●	●	●	●	●	●	●		

Note: Contact your central station regarding which format to use.

● = The Format type the DS7400 and DS7400X support and the Digital Alarm Communicator Receiver accepts.

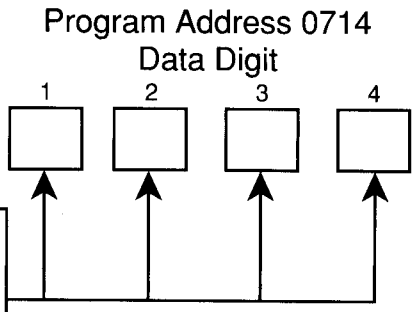
14.24 Programmer's Code Programming: Program Address (0714)

Example:
To program the Programmer's Code to be 3 4 4 3.

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: 0714
Enter Data Digit 1: [3]
Enter Data Digit 2: [4]
Enter Data Digit 3: [4]
Enter Data Digit 4: [3]
Enter the Command 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 enter the programming mode from the keypads (see section 12.0.



Programmer's Code
Enter as 4 digits.
It can not be the same as any PIN number.

The Default for the Programmer's Code = 9876

14.25 Master Code Programming: Program Address (0716)

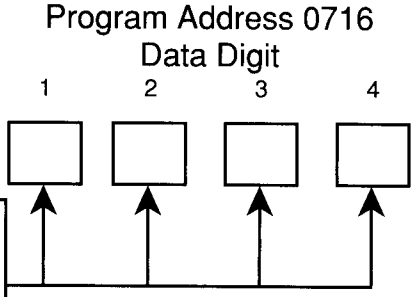
Example:
To program the Master Code to be 5 4 4 5.

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

Enter the Programmer's Mode: [9 8 7 6 # 0]
Enter the Program Address: 0716
Enter Data Digit 1: [5]
Enter Data Digit 2: [4]
Enter Data Digit 3: [4]
Enter Data Digit 4: [5]
Enter the Command 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 9.16).

See section 9.16 for further details.



Master Code #1 PIN Number
(Default for User #1 is 1234)

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 #1 authority is fixed at level 0.
It will always have access to all partitions.

Note:
PINs 2 through 60 must be programmed from the Master Code Programming Mode.

14.26 Octal Relay Module Output Programming: Program Addresses (0866-088

The Octal Relay Module is the DS7488. See section 1.13 and 7.2.7 for further details.

Example:
To program the Octal Relay Module's Output # 1 to follow Burglar Zone Alarms in Partition 1.

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

Enter the Programmer's Mode: [9 8 7 6 # 0]
Enter the Program Address: 0866
Enter Data Digit 1: [6]
Enter Data Digit 2: [1]
Enter the Command button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Octal Relay #	DS7488-1 Addresses
1	0866
2	0867
3	0868
4	0869
5	0870
6	0871
7	0872
8	0873

Octal Relay #	DS7488-2 Addresses
9	0874
10	0875
11	0876
12	0877
13	0878
14	0879
15	0880
16	0881

DS7488-2 for DS7400X only

Select Option	DD
Latch ON after Zone Alarm	0
ON during Entry Pre-Alert	1
ON for 10 sec. after #80 in entered	2
ON when System is Armed	3
Ground Start	4
System Status (Ready to Arm)	5
Zone Alarm	6
Zone Alarm delayed by 20 sec.	7
Keypad Sounder Output	8
Access Output (10 sec. pulse)	9

Data Digit 1 2

These two charts are for programming the Octal Relay Module to follow events by partition.

Follows	Enter the Data Digit as a: 0	1	2	3	4	5	6	7	8	9	*0	*1	*2	*3	*4	*5
Partition 1		●	●	●										●	●	●
Partition 2					●	●	●							●	●	●
Partition 3								●	●	●				●	●	●
Partition 4											●	●	●	●	●	●
Burglar Alarm		●		●	●		●	●		●	●		●	●		●
Fire Alarm			●	●		●	●		●	●		●	●		●	●

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

OR

Select Option	DD
Disabled	0
AC Power Fail	1
Low Battery	2
Communicator Failure	3
System Fault (Any)	4
Keypad Supervision Fault	5
Multiplex Bus Fault	6
Aux Power Fault	8
Fire Zone Trouble	9
Supervisory	*0
Zone Trouble	*1
Duress	*2
Battery Test	*3

* 2 = Follow System-wide Events

Data Digit 1 2

*2

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

This chart is for programming the Octal Relay Module to follow system-wide events.

14.26 Octal Relay Module Output Programming (continued): Program Addresses (0866-0881)

Example:
To program the Octal Relay Module's Output # 1 to follow Output Function 1.

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

Enter the Programmer's Mode: [9 8 7 6 # 0]
Enter the Program Address: 0866
Enter Data Digit 1: [*3]
Enter Data Digit 2: [1]
Enter the Command button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Addresses 0874-0881 are for the DS7400X only.

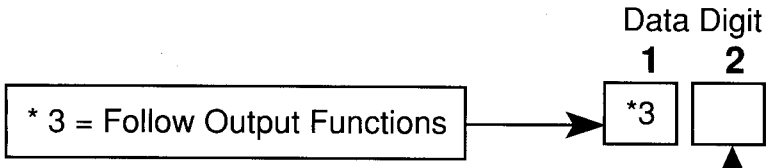
The Octal Relay Module is the DS7488.

See section 1.13 for further details.

To have the DS7488's relays follow the Output Functions, program Data Digit 1 of this address as a *3, then program data digit 2 as shown below.

See System Overview (section 7.2.7) for further details.

To program the Output Functions, see section 14.27. Up to 15 Output Functions may be programmed.



Select Option	DD
Disabled	0
Follow Output Function 1	1
Follow Output Function 2	2
Follow Output Function 3	3
Follow Output Function 4	4
Follow Output Function 5	5
Follow Output Function 6	6
Follow Output Function 7	7
Follow Output Function 8	8
Follow Output Function 9	9
Follow Output Function 10	*0
Follow Output Function 11	*1
Follow Output Function 12	*2
Follow Output Function 13	*3
Follow Output Function 14	*4
Follow Output Function 15	*5

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

14.27 Output Function Programming (DS7400X only): Program Addresses (0882-0926

Example:
To program the Output Function 1 to follow a Zone Burg Alarm from Partition 1.

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

Enter the Programmer's Mode: [9 8 7 6 # 0]
Enter the Program Address: 0882
Enter Data Digit 1: [6]
Enter Data Digit 2: [1]
Enter the Command button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Addresses 0882-0926 are for the DS7400X only.

Output programming allows you to have the Outputs follow status events by partition or system-wide, or follow zone outputs in an Input/Output Cross Matrix.

See the Programming Address Worksheet for a description of what each address 0882-0926 is for. See System Overview (section 7.2.8) for further details.

Data Digit 1 2

Select Option	DD
Latch ON after Zone Alarm	0
ON during Entry Pre-Alert	1
ON when system is armed	3
Zone alarm	6
Zone Alarm delayed by 20 s	7
Keypad Sounder output	8
Access output (10 sec. pulse)	9

Options Follows:	Enter the Data Digit as a: 0	1	2	3	4	5	6	7	8	9	*0	*1	*2	*3	*4	*5
Partition 1		●	●	●										●	●	●
Partition 2					●	●	●							●	●	●
Partition 3								●	●	●				●	●	●
Partition 4											●	●	●	●	●	●
Burg Alarm		●		●	●		●	●		●	●		●	●		●
Fire Alarm			●	●		●	●		●	●		●	●		●	●

These charts are used to program an Output Function to follow status events for individual partitions.

Data Digit 1 2

Follow System Status Event	*2	→	*2	

These charts are used to program an Output Function to follow status events system-wide.

Select Option	DD	DD	Select Option
AC Power Failure	1	7	Radio Receiver Fault
Low Battery	2	8	Aux Power Fault
Communication Failure	3	9	Fire Trouble
System Fault (any)	4	*0	Supervisory
Keypad Supervision Fault	5	*1	Zone Trouble
Multiplex Bus Fault	6	*2	Duress

Select Option	DD
Follow a single zone	*3
Follow two zones - When EITHER zone changes state	*4
Follow two zones - When BOTH zones change state	*5

These charts are used to program an Output Function to follow a zone or two zones in an Input/Output Cross Matrix.

Data Digit 1 2 | Data Digit 1 2 | Data Digit 1 2

Enter the Zone Number of First Zone to Follow (01 - 99)

Enter the Zone Number of Second Zone to Follow (01 - 99)

Activate:	Enter Data Digit as a: 0	1	2	3	4	5	6	7	8	9	*0	*1	*2
Disabled	●												
When zone is shorted		●	●	●	●	●	●	●	●	●	●	●	●
When Zone is opened			●		●		●		●		●		●
When panel is Armed		●	●			●	●	●	●			●	●
When panel is not Armed				●	●	●	●			●	●	●	●
Latch when activated¥								●	●	●	●	●	●

¥ = This is only for DS7465 Outputs. DS7488 Outputs will not latch when this is selected.

14.28 Dual Phone Line/Bell Supervision Module Output Programming: Program Address (0927)

Example:
To program the Dual Phone Line/Bell Supervision Module to supervise Phone Line 1 and Phone Line 2.

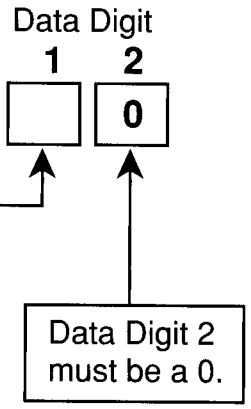
Data Digit 1 = [2], Data Digit 2 = [0].

Enter the Programmer's Mode: [9 8 7 6 # 0]
Enter the Program Address: 0927
Enter Data Digit 1: [2]
Enter Data Digit 2: [0]
Enter the Command button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

The Dual Phone Line/Bell Supervision Module is the DS7420.

See section 1.13 for further details.

When in Central Station or Local Commercial Fire Mode, this address will be forced to specific values (see section 14.9.1 and 14.9.2).



Options	Enter the Data Digit as a: 0	1	2	3	4	5	6	7	8	9
Disabled	●									
Bell Monitor				●	●	●			●	●
Phone Line 1 Monitor		●	●		●	●	●	●	●	●
Phone Line 2 Monitor			●			●		●		●
Alarm Output on line fault							●	●	●	●

14.29 Call-Out Timer Programming: Program Addresses (1975-1978)

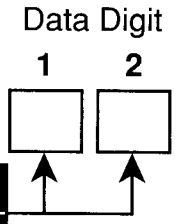
Example:
To program the Remote Programmer Call-Out hour and minute as 2:30pm.

Hour: Data Digit 1 = [1], Data Digit 2 = [4].
Minute: Data Digit 1 = [3], Data Digit 2 = [0].

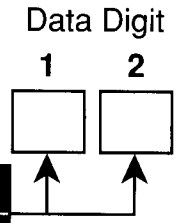
Enter the Programmer's Mode: [9 8 7 6 # 0]
Enter the Program Address: 1977
Enter Data Digit 1: [1]
Enter Data Digit 2: [4]
Enter the Command button: [#] (will go to Address 1978)
Enter Data Digit 1: [3]
Enter Data Digit 2: [0]
Enter the Command button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

It is here where the Hour and Minute is defined for the Automatic Communicator Test Report and the Remote Programmer Call-Out.

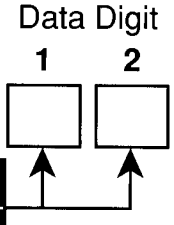
If these values are not defined, these will not activate.



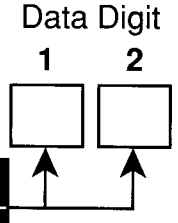
Automatic Communicator Test Report Hour
Address 1975
Default = 00 = Midnight



Remote Programmer Call-Out Hour
Address 1977
Default = 00 = Midnight



Automatic Communicator Test Report Minute
Address 1976
Default = 00



Remote Programmer Call-Out Minute
Address 1978
Default = 00

14.30 Test Report and Remote Programmer Call-Out Programming: Program Address (1979

Example:
To send Test Reports on Sundays, and to call the Remote Programmer on Saturdays.

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

Enter the Programmer's Mode: [9 8 7 6 # 0]
Enter the Program Address: 1979
Enter Data Digit 1: [1]
Enter Data Digit 2: [7]
Enter the Command button: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

It is here where the Day and Frequency is defined for the Automatic Communicator Test Report and the Remote Programmer Call-Out.

If this address is not programmed, the Automatic Communicator Test Report will not be sent and the control will not call the Remote Programmer.

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

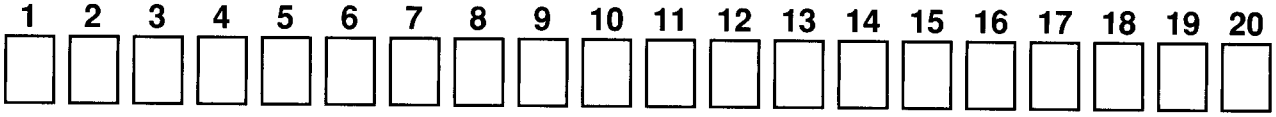
*0 is a Hex value.
It will display as an A at the keypads.

14.31 Phone Number Programming: Program Addresses (1980, 1990, and 2000)

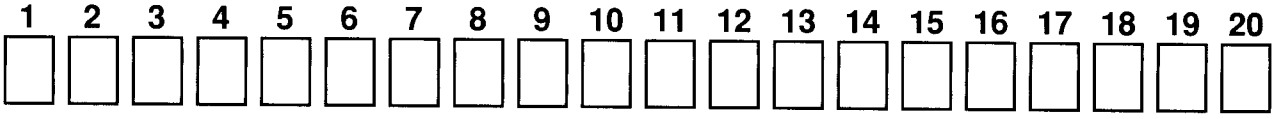
It is here where the phone numbers 1, 2, and 3 are defined.

Example: To program Phone Number 1 as 555-1212.
Data Digit 1 = [5], Data Digit 2 = [5], Data Digit 3 = [5], Data Digit 4 = [1], Data Digit 5 = [2], Data Digit 6 = [1], Data Digit 7 = [2]
Enter the Programmer's Mode: [9 8 7 6 # 0] Enter the Program Address: 1980 Enter Data Digit 1 = [5], Data Digit 2 = [5], Data Digit 3 = [5], Data Digit 4 = [1], Data Digit 5 = [2], Data Digit 6 = [1], Data Digit 7 = [2] Enter the Command button: [#] Program the next Address, Program a different Address, or Exit the Programmer's Mode.

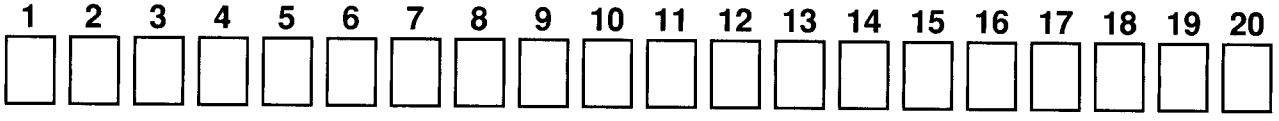
14.31.1 Phone Number 1 Programming: Program Address (1980)



14.31.2 Phone Number 2 Programming: Program Address (1990)



14.31.3 Phone Number 3 (Remote Programmer) Programming: Program Address (2000)



Enter the Phone Number digits just as they would be entered when dialing the phone.

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.)

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.

15.0 Installation Guide for U.L. Listed Systems

15.1 The DS7400 / DS7400X is U.L. Listed for the following:

- Household Fire Alarm, U.L. Standard UL985
- Commercial Fire Alarm (Type Service: Local, Central Station; Type Initiating: Automatic, Manual, Sprinkler Supervisory, and Waterflow), U.L. Standard UL864
- Household Burglary Alarm, U.L. Standard UL1023
- Police Station Connection Grade A, U.L. Standard UL365
- Central Station Burglary Alarm Grades A, B, 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 and Commercial Fire installations.

15.1.1 The following table shows the DS7400 / DS7400X system configuration for the various types of fire and burglar alarm service for which the products are U.L. Listed.

Product	U.L. Application								
	CSF-D	CSF-D/RF	LF	CSB-A	CSB-B/C	LB-A	PSCB-D-A	PSCB-RF-A	HF/B
DS7400 / DS7400X	R	R	R	R	R	R	R	R	R
Standard Enclosure	1	1	1	n/a	n/a	n/a	n/a	n/a	1
Attack Enclosure	1	1	1	R	R	R	R	R	1
AE-TR16 Enclosure	R	R	R	n/a	n/a	n/a	n/a	n/a	n/a
DS7416	n/a	R	n/a	R	n/a	n/a	n/a	R	n/a
DS7420	R	0	R	n/a	n/a	n/a	n/a	n/a	n/a
DS7430	0	0	0	0	0	0	0	0	0
DS7432	0	0	0	0	0	0	0	0	0
DS7433	0	0	0	0	0	0	0	0	0
DS7440	2	2	2	3	3	3	3	3	3
DS7460	0	0	0	0	0	0	0	0	0
DS7481	n/a	R	n/a	R	n/a	n/a	n/a	R	n/a
DS7488	0	0	0	0	0	0	0	0	0
AB12 Bell w/Housing	n/a	n/a	n/a	R	R	R	R	R	n/a

Key to Application Codes

CSF-D = Central Station Fire w/ DACT (Digital Alarm Communications Transmitter/dialer)
CSF-D/RF = Central Station Fire w/ DACT and Radio (ARDIS System - National Guardian only)
LF = Local Fire
CSB-A = Central Station Burglary, grade 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-RF-A = Police Station Connected Burglary w/ Radio (AAGARD System - DS7416), grade A
HF/B = Household (residential) Fire and Burglary

Configuration Codes

R = Required
0 = Optional
n/a = Not Applicable
1 = Standard or attack enclosure may be used.
2 = Either enclosure may be used. Device must be mounted to the enclosure cover, or within 20 ft. w/wiring in conduit.
3 = Either enclosure may be used.

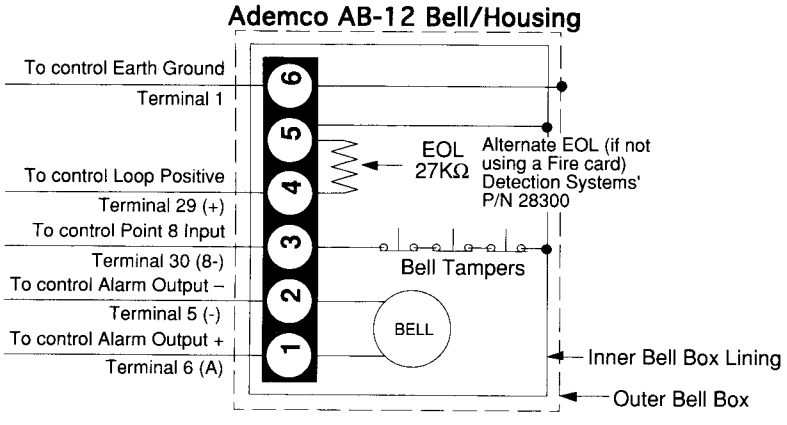
15.0 Installation Guide for U.L. Listed Systems (continued)

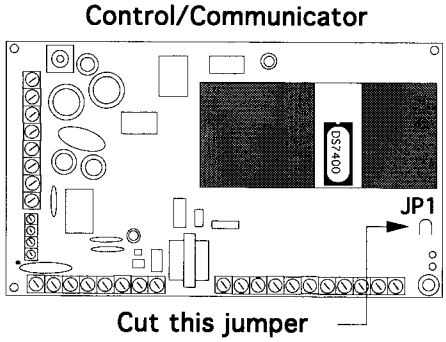
Required Accessories:

- DS7420 Dual Phone Line/Bell Supervision Module.
- For Local Commercial Fire Alarm: A Listed notification appliance such as a Wheelock 46T-G10-12 bell or 34T-12 horn.
- If not using the phone line supervision, it must be disabled.
- AE-TR16 Transformer Housing
- At least one DS7440 must be used and assigned as keypad 1. If only one is used, it may be connected to the keypad bus if the keypad is mounted to the front of the box or within the same room as the control equipment and the wire is run in conduit (or equivalently protected against mechanical injury) within 20 ft. of the control equipment. If multiple keypads are used, one must be used on the options bus and assigned as keypad 8 and meet the same requirements as in single keypad use.
- 50Hz op. and grnd start are auto. forced to the disabled state when central station fire mode is selected.

1. Report Programming:
   - Burglar Zone Reports must be programmed for those zones used.
   - Fire Zone Reports must be programmed for those zones used.
   - Low Battery Report (Program Address 0687) must be programmed.
   - AC Failure Report (Program Address 0689) must be programmed.
   - Open Report (Program Address 0682) must be programmed.
   - Close Report (Program Address 0683) must be programmed.
   - 24 Hour Check-In Reports (Program Addresses 0691 and 0698) must be programmed.
2. Timer Programming:
   - Bell Cutoff Times (Program Addresses 0641 and 0642) must be programmed for not less than 5 minutes.
   - Exit/Entry Delay Times (Program Addresses 0638 and 0640) must be programmed for less than 60 sec.
3. General Control Programming:
   - Must be programmed for no swinger shunts (Program Address 0011 data digit 2, enter 1, or 3).
   - Program Address 0637 must be programmed as: Data Digit 1=0, Data Digit 2=0.
4. Commercial Fire Mode Programming:
   - Local (Program Address 0629, data digit 1, enter as a 1 through 6).
   - Central Station (Program Address 0629, data digit 1, enter as a 7 through *2).
   - The keypad panic functions are not intended to be a substitute for Listed manual pull boxes.

15.4 Wiring and Programming information for installations using the Ademco AB-12 Bell/Housing





1) Disconnect the wire jumper from terminal 4 to the inner housing of the Bell Box (prevents a ground fault condition).
2) Connect wiring between the control and Bell Box as shown above. To use the AB-12 Bell/Housing, cut the jumper wire "JP1" on the control. The EOL used in the AB-12 Bell/Housing must be 27K ohms.
3) Program Zone 8 as a 24 hour zone by programming it to follow zone function 7. (PA 0029 = 07).
4) Do not change the default programming of zone function 7. (Program address 0006 should be 22).

17.0 Report Programming: Values Sent: 17.2 Contact ID Format

Reports	CID event code	CID data field
Burglary alarm for a zone	130	Zone Number
Fire alarm for a zone	110	Zone Number
Waterflow alarm for a zone	113	Zone Number
Supervisory for a zone	200	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
Waterflow restoral for a zone	113 Restoral	Zone Number
Supervisory restoral for a zone	200 Restoral	Zone Number
Burglary trouble for a zone	370	Zone Number
Fire trouble for a zone	373	Zone Number
Low battery on a radio zone	384	Zone Number
Low battery restoral on a radio zone	384 Restoral	Zone Number
Open report	401	PIN
Close report	401 Restoral	PIN
Duress report	121	000
Partial close report for all PINs when level 2-6 arming is used	408 Restoral	PIN
First open after alarm (cancel) report	406	PIN
Low battery	302	None
Low battery restoral	302 Restoral	None
AC failure	301	None
AC failure restoral	301 Restoral	None
Auto. test report (system normal) and communicator test report	602	None
Remote programming successful report	412	None

17.2 Contact ID Format (continued)

Reports	CID event code	CID data field
Remote programming failure report	413	None
Local programming successful report	306	None
Local programming failure report	306 Restoral	None
Communication failure report	354	None
Communication restoral	354 Restoral	None
EEPROM checksum failure or keypad supervision failure report	300	None
EEPROM checksum restoral or keypad supervision restoral	300 Restoral	None
Multiplex bus fault	333	None
Multiplex bus restoral	333 Restoral	None
Radio receiver tamper	137	None
Radio receiver tamper restoral	137 Restoral	None
Aux. power fault report	300	None
Aux. power restoral	300 Restoral	None
Ground fault report	310	None
Ground fault restoral	310 Restoral	None
Automatic test report (system off normal)	601	None