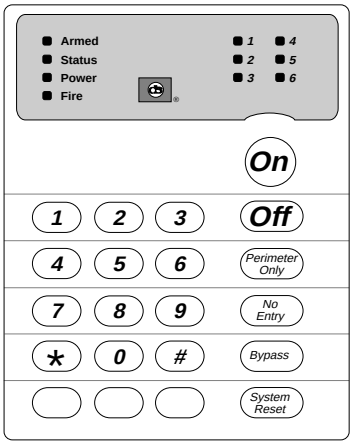

User Guide for the DS7060 Control/Communicator

Keypad Quick Reference Guide

Turning On (arming) your System

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

Turning Off (disarming) your System

PIN + [Off]

Commands for other System Features

Chime Mode	PIN + [#] [7]
Zone Test	PIN + [#] [8] [1]
Read Alarm History	PIN + [#] [8] [9]
Battery Test	PIN + [System Reset]
Communicator Test	PIN + [#] [8] [2]
Fire Reset	PIN + [System Reset]
Fire Trouble	PIN + [Off] to silence PIN + [System Reset] to clear
Remote Program Dial Out	PIN + [#] [8] [3]
Remote Program Answer	PIN + [#] [8] [6]
Local Battery/Sounder Test	PIN + [#] [8] [5]
Error Display	PIN + [#] [8] [7]
Error Display Reset	PIN + [System Reset]
Clear Zone Bypass	PIN + [Bypass] [*] to clear
Guest Code Enable	PIN + [#] [8] [4]

NOTE: Examples are shown in Commercial Mode but are valid for any mode.

Detection Systems PTY Ltd.
Unit 21, 45 Gilby Road
Mount Waverley, Victoria 3149, Australia
61 3 9558 8088
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Detection Systems PTY Ltd.
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Parramatta, NSW 2150, Australia
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19, Rue du 19 Mars-78130
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TABLE OF CONTENTS

1.0 OPERATING GUIDE

1.1 Understanding the DS7443, DS7445, and DS7447 Keypads

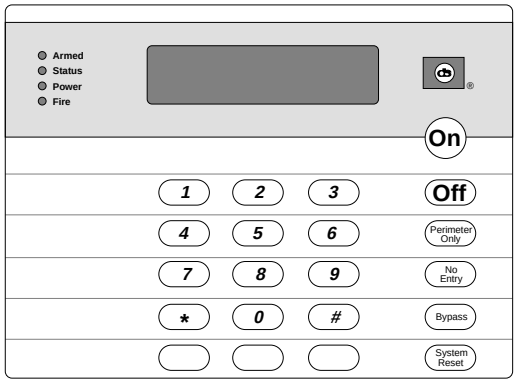
The DS7443 is a 6 zone LED keypad; its LEDs represent the zones of the system.
The DS7445 is an 8 zone LED keypad; its LEDs represent the zones of the system (LEDs for zones 7 and 8 are not used).
The DS7447 is an alpha-numeric LCD keypad.

All three keypads display information on various control panel functions. A built-in sounder is used to annunciate keystroke entries and as an interior warning device.

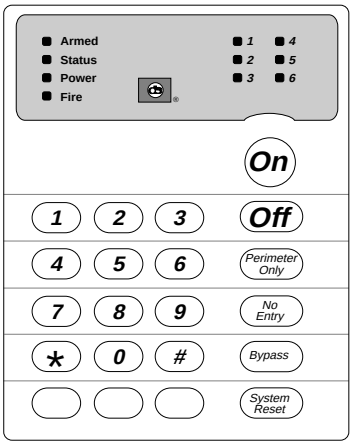
Volume Control (DS7445 and DS7447 only): The keypad sounder volume can be adjusted using the [1] and [4] keys along with the [*] key. Hold the [*] key while pressing the [1] key to increase the volume or the [4] key to decrease the volume. The volume adjustment does not affect the volume during an alarm.

Backlight Control (DS7447 only): The display backlight intensity can be adjusted using the [3] and [6] keys along with the [*] key. Hold the [*] key while pressing the [3] key to increase the brightness or the [6] key to decrease the brightness.

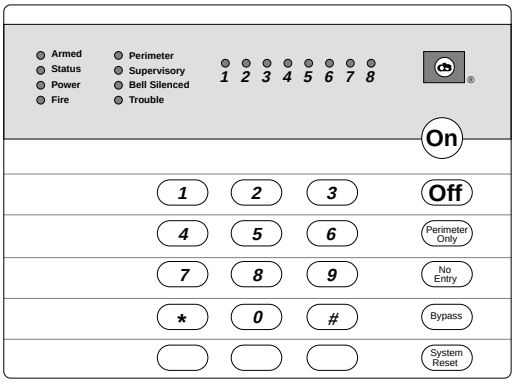
NOTE: After the backlight and volume are adjusted, you must arm, then disarm the system once to store this information in the control panel. If power is disconnected before the panel is armed, the backlight and volume levels will return to the default settings.



DS7447 KEYPAD



DS7443 KEYPAD



DS7445 KEYPAD

This chart will help you understand what each Light/LED represents.

LIGHT	OFF	FLASHING	ON
Armed **(red)**	The control panel is disarmed.	An exit delay is in progress or an alarm has occurred.	The control panel is armed and no alarms have occurred.
Status **(green)**	One or more zones are not ready to arm.	One or more zones are bypassed.	All zones are ready to arm.
Power **(green)**	The control panel has lost power. No AC or battery.	Control panel problems. See Section 5.17, Error Displays.	Normal operation.
Fire **(red)**	There are no fire alarms.	A fire zone is in alarm.	A fire trouble condition exists.
Perimeter* **(yellow)**	The perimeter is not armed.	This light will not flash.	The perimeter is armed.
Supervisory* **(yellow)**	This light will not be used by the DS7060.	Not used.	Not used.
Bell Silenced* **(yellow)**	The bells do not need to be or have not been silenced.	This light will not flash.	The bells have been silenced. To clear, enter the Fire Reset command.
Trouble* **(yellow)**	There are no trouble conditions.	This light will not flash.	A trouble condition exists.
Zone LEDs* **(red)**	There are no zone alarms.	A zone (1-6) is in alarm.	A zone (1-6) is not ready to arm or if a fire zone, a trouble condition exists.

* = This light is present on the DS7445 only. ** = This light is present on the DS7443 and DS7445.

1.2 Personal Identification Numbers

The Personal Identification Number (PIN) is the 4-digit code users enter at the keypad to gain access to the system. A PIN may be assigned to each User Number 001-015. The User Number identifies each person using the system. There are 15 possible User Numbers (001-015).

Your system may have up to 15 different PINs, each 4 digits long. **Each User Number can have only one PIN.** Attempting to assign the same PIN to multiple User Numbers will result in the three-beep error tone, and the change will not be made.

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

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

Adding a PIN

The following chart will guide you through the steps necessary to add or change a PIN. It is recommended that this procedure be performed at a DS7447 keypad. No visual cues will be given from a DS7443 or DS7445 keypad.

STEPS TO CHANGE A PIN	COMMAND SEQUENCE	IF ACCEPTED, THE DISPLAY READS
#1 Enter the Master Code Programming Mode	[Master Code] + [#] [0]	"Enter User No." (001 . . 015)
#2 Enter the User Number	[0] [0] [1] through [0] [1] [5]	"Enter PIN"
#3 Enter the PIN	Any 4 digits (Each user must have a different PIN).	Enter PIN Again End with #
#4 Enter the PIN again followed by the [#] key.	PIN (same 4 digits as above) then [#]	A long beep will sound to signify acceptance of the new PIN.

NOTE: Users 014 and 015 may be used for Duress and Guest Codes. See Sections 5.18 and 5.19, Address 09 - User Control for more information.

NOTE: You cannot read back User PIN numbers. You should keep a separate list for future reference. See Page 22.

Removing a PIN

To remove a PIN enter a [Master Code] [#] [0], the User Number of the PIN to be canceled, and then [#] again. *User Number 001 can not be canceled.* See Section 8.9 for special uses for User Number 14 and 15 PINs.

1.3 Turning ON (arming) the System

The green Status light must be on steady and no zone lights are displayed on the DS7443 or DS7445 keypad. The DS7447 display must read "**Ready To Arm**" in order to arm the system with one of these commands.

If the green Status light is not on, or zone lights are displayed on the DS7443 or DS7445 keypad, or if the DS7447's display is reading **"Not Ready**," then see Section 5.7 Force Arming or Section 5.9 Zone Bypass for other ways to arm the system.

This chart explains the five normal ways of arming the system.

TYPE OF ARMING DESIRED	COMMAND SEQUENCE	WHAT WILL HAPPEN	WHAT TO DO
Normal Arming No one left on the premises. An entry/exit delay is in effect.	***Commercial Mode*** PIN + [On] ***Residential Mode*** [#] + [On]	• The red Armed Light will begin to flash. • The green Status light will turn off. • "Armed" will be displayed (DS7447). • "Exit Now" will display (DS7447) during the exit delay interval. • A single beep will sound. • The red Armed light will turn on steady after the exit delay interval.	Exit during the exit delay interval.
Perimeter Instant Arming Someone still on the premises. There is NO entry delay in effect.	***Commercial Mode*** PIN + [No Entry] + [Perimeter Only] ***Residential Mode*** [#] + [No Entry] + [Perimeter Only]	• The red Armed Light will begin to flash. • "Perimeter Inst." will be displayed (DS7447). • "Exit Now" will display (DS7447) during the exit delay interval. • A single beep will sound. • The red Armed light will turn on steady after the exit delay interval. • The yellow Perimeter light (DS7445) will turn on steady. • Only exterior protection zones will be armed.	Move freely around the interior.
Perimeter Arming Someone still on the premises. An entry/exit delay is in effect.	***Commercial Mode*** PIN + [Perimeter Only] ***Residential Mode*** [#] + [Perimeter Only]	• The red Armed Light will begin to flash. • "Perimeter On" will be displayed (DS7447). • "Exit Now" will display (DS7447) during the exit delay interval. • A single beep will sound. • The red Armed light will turn on steady after the exit delay interval. • The yellow Perimeter light (DS7445) will turn on steady. • Only exterior protection zones will be armed.	Move freely around the interior.
Maximum Security Arming No one left on the premises. There is NO entry delay in effect. An alarm WILL occur upon entry.	***Commercial Mode*** PIN + [No Entry] [On] ***Residential Mode*** [#] + [No Entry] + [On]	• The red Armed Light will begin to flash. • The green Status light will turn off. • "Armed Instant" will be displayed (DS7447). • "Exit Now" will display (DS7447) during the exit delay interval. • A single beep will sound. • The red Armed light will turn on steady after the exit delay interval.	Exit during the exit delay interval. **CAUTION:** Violating any zone after the exit delay interval will cause an instant alarm.

NOTE: In commercial burglar applications for U. L. Certificated systems, a ring-back indication and bell test should be heard after arming (closing). If not heard, call for service.

NOTE: If the system has invisible zones that are not ready, they will be displayed during the arming sequence. The display of invisible zones will remain on until the zone is cleared or bypassed.

1.4 Quick Arming the System

If Quick Arming is not used, a PIN must be entered at the beginning of all arming command sequences. When Quick Arming is used, the following shortcuts are available. Quick Arming is disabled by default. To select the Quick Arming feature, see Section 8.10, Address 10 - General Control.

QUICK ARMING COMMAND SEQUENCE	TYPE OF ARMING
[#] + [On]	Normal Arming
[#] + [No Entry] + [Perimeter Only]	Perimeter Instant Arming - no entry delay
[#] + [Perimeter Only]	Perimeter Arming - entry/exit delay
[#] + [No Entry] + [On]	Maximum Security Arming

1.5 Easy Exit

If the system is armed and there have been no zones violated, then you can reenter a Quick Arm Command without first disarming the system. This allows you to change the arming level or to restart the exit delay so you can exit through an entry/exit zone. Easy Exit is disabled by default. To select the Easy Exit feature, see Section 8.10, Address 10.

1.6 Turning OFF (disarming) the System/Silencing Alarms

Please read Section 5.20 Emergency Procedures prior to being confronted with an emergency event.

If you have entered the building through a perimeter door, you may hear a steady pre-alert tone from the keypads. If so, disarm according to the chart below.

WARNING: If the bells and sirens are on and/or the red Armed light is flashing, then the keypad is signaling that an alarm has occurred sometime before your arrival. The DS7447 will display "Zone Alarm." The DS7443 or DS7445 zone LEDs will be flashing for the corresponding zone that is in alarm.

- The keypad will also issue a pulsed tone during the entry delay instead of the usual steady tone.
- If the alarm has not been previously investigated, do not enter the building unless accompanied by the appropriate Emergency Services' personnel.

This chart explains proper procedures for disarming and/or silencing alarms.

TYPE OF DISARMING	COMMAND SEQUENCE	WHAT WILL HAPPEN
Disarming the System	PIN + [Off]	The red Armed light will turn off. Pre-alert sounders will silence.
Silencing Alarms	PIN + [Off]	The red Armed light will turn off. Zone LEDs on the DS7443 or DS7445 will turn off. Alarms in progress will silence.

Turning Off (disarming) the System under Duress

A duress code is used when someone demands, by threatening your life or well-being, that the system be turned off. When used, the code will both turn off the system and report a silent duress alarm if connected to a monitoring service. User code 14 can be optionally configured as a duress code. User code 14 will not arm the system, or report duress, if the system is not armed. Extreme care should be used when entering your PIN to turn off the system, so a duress code is not inadvertently entered. User Code 14 is not a duress code by default. You must program the control panel that User Code 14 is the duress code. See Section 8.9, Address 09 for more information.

1.7 Force Arming

When one or more zones are faulted, the system may be Force Armed (if programmed at Address 10) by bypassing the faulted zones. The green Status light will be off on all keypads when Force Arming is required to arm the system. The DS7447 display will read "**Not Ready**" or "**Fire Trouble**" (if a fire zone is open) and the DS7443 and DS7445 zone LEDs (1-6) will be on if one of those zones is faulted. See Section 8.10 to enable Force Arming.

Force Arming during an AC power failure: Regular arming of the control panel is not permitted during an AC power failure. Having to Force Arm serves as a warning that the control panel is operating under backup battery.

WARNING: Bypassing or Force Arming removes some of your building's protection because it excludes the faulted zones from arming. Therefore, an intrusion may not be detected or the detection may be delayed. Always attempt to correct any zone problems (close doors and windows, etc.) before using these features. If the problem can not be corrected, contact your installing company.

NOTE: See Section 5.9 Zone Bypass for an alternate method of arming the system when faults exist. Force arming is not available in U. L. Listed systems.

TYPE OF ARMING	WHAT WILL HAPPEN	WHAT TO DO	WHAT WILL HAPPEN	WHAT TO DO
Force Arming Enter any arming sequence.	• A 5 second beep occurs, indicating there are faulted zones and that the control panel needs to be Force Armed.	Press [Bypass] during the 5 second beep.	• The red Armed light will flash during the exit delay interval. • The control panel will arm with the faulted zones bypassed, or a three-beep error tone will occur indicating Force Arming has not been accepted or allowed.	Exit during the exit delay interval if leaving.

1.8 Auto Bypass

The system can be armed and will automatically bypass faulted zones. See Section 8.10 to enable Auto Bypass.

TYPE OF ARMING	WHAT WILL HAPPEN	WHAT WILL HAPPEN	WHAT TO DO
Auto Bypass	• A single beep occurs, indicating that the panel has armed.	• The red Armed light will flash during the exit delay interval. • The control panel will arm with the faulted zones bypassed, or a three-beep error tone will occur indicating Auto Bypass has not been accepted or allowed.	Exit during the exit delay interval if leaving.

1.9 Zone Bypass

There may be occasions when it is desirable or necessary to temporarily bypass one or more zones prior to arming the system. Bypass commands only work when the control panel is disarmed. For instance, an open window may cause the DS7447 display to read "Not Ready" followed by the zone number. The DS7443 or DS7445 may have one of its zone LEDs on steady.

Only one zone may be bypassed each time the command is used. If more than one zone requires bypassing, repeat the command for each zone to be bypassed.

NOTE: See Section 5.7 Force Arming for another method of zone bypassing.

This chart explains the procedure for bypassing a faulted zone prior to arming the system.

TYPE OF BYPASSING DESIRED	COMMAND SEQUENCE*	WHAT WILL HAPPEN
Bypass Faulted Zones	PIN + [Bypass] [Zone #]	• The Status light will begin to flash if no other zones are violated.
Read Bypassed Zones	PIN + [Bypass]	• Bypass will be displayed (DS7447) followed by the zone number of any bypassed zones. The DS7443 or DS7445 will flash the zone LED of the zone being bypassed.
Clear Individual Bypassed Zone(s)	PIN + [Bypass] [Zone #]	• Individual zone bypasses will be cleared.
Clear all Bypasses	PIN + [Bypass] [*]	• All bypasses will be cleared.

* If in “Residential Mode” substitute the [#] key for the PIN.

NOTE: All bypasses are cleared when the system is disarmed, unless they are on 24-hour zones. To clear a bypass on a 24-hour zone, use Clear Individual or Clear All.

1.10 Chime Mode

Chime Mode causes the keypad sounders to beep each time a Perimeter or Entry/Exit zone is violated while the control panel is off (disarmed). The [#] [7] command is used to both turn Chime Mode off and on.

This chart explains the procedure for turning ON and turning OFF Chime Mode.

ACTION DESIRED	COMMAND SEQUENCE*	WHAT WILL HAPPEN
Turn ON Chime Mode	PIN + [#] [7]	• The keypad sounders will beep for 2 seconds each time a perimeter or entry/exit zone is violated. The DS7447 display will read “**Chime Mode On**” for 5 seconds.
Turn OFF Chime Mode	PIN + [#] [7]	• The DS7447 display will read “**Chime Mode Off**” for 5 seconds.

* If in “Residential Mode” substitute the [#] key for the PIN.

1.11 Zone Test

The Zone Test is used to confirm that detectors will report alarms. Zone Test works on all zones, except 24-hour zones and fire zones. While the keypad is in Zone Test, no control panel alarms will activate an alarm, except 24-hour zone alarms and fire alarms. These will override the Zone Test function. *Caution: Be sure not to activate 24 hour or fire zones during the zone test or an alarm signal will be sent.*

The Zone Test will initiate communicator reports only if both “System in Test Report” and “System in Test Restoral Report” are programmed. See Section 8.30, Address 36 - Test Reports, System Test.

WARNING: Make sure that the report value programmed at these locations will be clearly understood at the Central Station. The "System in Test Report" will be sent, followed by the alarm and restoral reports of the zones being tested, providing their corresponding report address is programmed. After completion of the Zone Test, the "System in Test Restoral Report" will be sent. If these two reports are misunderstood, then the zone alarms might be perceived as a real violation.

TYPE OF TEST	COMMAND SEQUENCE	WHAT WILL HAPPEN	WHAT TO DO
Zone Test	***Commercial Mode*** PIN + [#] [8] [1] ***Residential Mode*** [#] + [8] [1]	DS7443/DS7445: The zone LEDs will flash for any zones that have not been tested. DS7447: **"Test Zone"** will display followed by the zone number of any zones that have not been tested. DS7443/DS7445: The zone LED will turn on steady for the zone that is currently being violated (tested). DS7447: **"Now Testing"** will be displayed followed by the zone number of the zone that is currently being voilated (tested). It returns to "Test Zone" after the violation.	Test each detector one at a time as instructed by the installing company. To exit the Zone Test mode, enter your PIN followed by [#] or press the [*] key.

1.12 Local Battery/Sounder Test

This test uses the battery to manually activate all the system sounders for two seconds, [#] [8] [5] only. If the battery voltage is low, a battery fault will occur.

TYPE OF TEST	COMMAND SEQUENCE	WHAT WILL HAPPEN	WHAT TO DO
Local Battery/ Sounder Test	***Commercial Mode*** PIN + [#] [8] [5] ***Residential Mode*** [#] [8] [5]	• All keypad lights will turn on. *NOTE: Zone lights on the DS7443 and DS7445 will not turn on.* • The keypad sounder and all alarm sounding devices will operate for 2 seconds.	If test fails, the control panel will indicate a control problem. If power in your building has been off recently, wait 2 hours for the battery to recharge and then try again.
Battery Test	***Commercial Mode*** PIN + [System Reset] ***Residential Mode*** [#] + [System Reset]	• The control panel will perform a battery test. • If there is a Low Battery condition, the control panel will report a Low Battery. • If the battery is now functional, the control panel will report a battery restoral.	

1.13 Communicator Test

This test is only available if your system transmits alarms and system information to a monitoring service, and has been programmed by the security installing company to permit communicator tests. This test may only be used in the disarm mode.

A long beep will initially sound to acknowledge the start of the test. If the test is successful, the sounder will again issue one long beep. If the test fails, the keypad sounder will turn on continuously. To silence the sounder, enter your PIN followed by the [#] key or press the [*] key.

TYPE OF TEST	COMMAND SEQUENCE	WHAT WILL HAPPEN	WHAT TO DO
Communicator Test NOTE: Requires Addresses 36 "Communicator Test Report," Address 37 "Account Code" (Phone #1), Address 38 "Phone 1 Format" and Address 40-41 "Phone 1" to be programmed.	***Commercial Mode*** PIN + [#] [8] [2] ***Residential Mode*** [#] [8] [2]	• A long beep will sound. • A "Test" report is sent to the monitoring service.	If test fails, the keypad sounder will beep 3 times. NOTE: This test may take several minutes to complete because the control will try several attempts before it fails this test. A retry will occur 30 minutes after failure, and then 24 hours thereafter.

1.14 Read Alarm History

This feature will display which zones were in alarm during the last armed period. The alarm memory will remain from one armed cycle to the next if no new alarms occur. Alarm memory will clear when entering programmers mode.

TYPE OF TEST	COMMAND SEQUENCE	WHAT WILL HAPPEN	WHAT TO DO
Read Alarm History	***Commercial Mode*** PIN + [#] [8] [9] ***Residential Mode*** [#] [8] [9]	DS7447: The last alarm to take place will be displayed. DS7443/DS7445: The zone LEDs will flash for any zones that have alarmed.	To exit from the Alarm History Mode, press the [*] key.

To exit the Alarm History Mode, press the [*] key or wait 5 seconds and the keypad will exit automatically.

1.15 Fire Reset/Fire Trouble

Fire Reset

During a fire alarm, exit the premises immediately. When you have determined there is no fire, you may silence the bells/sirens before you can initiate the [System Reset] command. PIN + [Off] will silence the sounders.

This will allow a determination of which smoke detector has alarmed so the monitoring company may verify its operation.

A PIN followed by the [System Reset] key will reset any smoke detectors after a fire alarm has occurred. See Section 8.8, Address 08 - Outputs.

The System Reset command will perform a fire reset, will perform a battery test, and will clear all system troubles.

Fire Trouble

A Fire Trouble display signifies a problem with the fire system, such as a break in the wiring that monitors smoke detectors.

A Fire Trouble will be indicated by a short beep from the keypad sounders every 10 seconds. The DS7447 will display **"Fire Trouble"** followed by the zones in a trouble condition. The DS7443 will turn the Fire light on steady and will light the corresponding zone LEDs. The DS7445 will turn the Fire and Trouble lights on steady and will light the corresponding zone LEDs.

Notify your installing company immediately if the Fire Trouble message is displayed.

The Fire Trouble beep can be silenced with any PIN followed by the [Off] key. After problems have been remedied, a PIN followed by [System Reset] should be entered to clear the **"Fire Trouble"** display.

1.16 Remote Program Dial-out and Answer

Call for Remote Programming

This command can only be entered when the control is disarmed. Phone numbers 1 and 3 must be programmed, along with account code 1. The panel will call phone number 3 and attempt to connect for downloading. While programming is underway the Status, Armed, and Power LEDs will flash. If the panel is already using the phone line, it will sound the three beep error tone.

Answer for Remote Programming

The panel will automatically pick up the phone line to answer a remote programming call. While programming is underway the Status, Armed, and Power LEDs will flash. If the panel is already using the phone line for a report communication, it will sound the three beep error tone. This command can only be entered when the control is disarmed.

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

TYPE OF FUNCTION	COMMAND SEQUENCE	WHAT WILL HAPPEN
Remote Program Dial-out**	***Commercial Mode*** PIN + [#] [8] [3] ***Residential Mode*** [#] [8] [3]	The panel will call the remote programmer.
Remote Program Answer	***Commercial Mode*** PIN + [#] [8] [6] ***Residential Mode*** [#] [8] [6]	The panel will answer a call from the remote programmer.

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

1.17 Error Displays

Control panel problems are indicated by a flashing green Power light. The DS7447 display will also read "Control Trouble, Enter [#] [8] [7]." The DS7443 and DS7445 will only flash the green Power light. The error messages may only be read when the control is disarmed. Contact your installing company if the problems persist.

ACTION DESIRED	ACTION DESIRED
Read the Error Display when the Green Power light is flashing.	***Commercial Mode*** PIN + [#] [8] [7] ***Residential Mode*** [#] [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.	***Commercial Mode*** PIN + [System Reset] ***Residential Mode*** PIN + [System Reset]

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

1. **DS7447 - “AC Power Failure”**
   DS7443 or DS7445 - LED 1 turns on steady
   There is a power failure and the panel is operating on backup battery.

2. **DS7447 - “Battery Trouble”**
   DS7443 or DS7445 - LED 2 turns on steady
   If the system has just been through a power failure, wait at least two hours for the battery to recharge, then enter a PIN + [System Reset] to perform a battery test.

3. **DS7447 - “Communicator Err”**
   DS7443 or DS7445 - LED 3 turns on steady
   The communicator failed to communicate with the central station.

4. **DS7447 - “System Fault”**
   DS7443 or DS7445 - LED 4 turns on steady
   Internal error in the control circuitry or optional circuitry. These system faults are: Ram Fault, ROM Fault, EEPROM Fault.

5. **DS7447 - “Keypad Fault”**
   DS7443 or DS7445 - LED 5 turns on steady
   One of the keypads is not responding to the control panel.

6. **DS7447 - “Alarm Fuse Fault”**
   DS7443 or DS7445 - LED 6 turns on steady
   The auxiliary power has been shorted.

7. **DS7447 - “Zone Trouble”**
   DS7443 or DS7445 - LED of the zone in trouble will light
   One of the zones is not responding to the control panel. This may also be displayed during power-up (if so, ignore).

1.18 Duress Code

User Code 14 may be used as a duress PIN number. When the system is disarmed using this duress code, a silent report is sent to the central station. Duress codes are intended to be used when a user is forced to disarm the system. There are two program addresses that must be programmed to activate this feature. Program Address 09 - User Control, to duress code digit = 1. Program Address 31 - Open/Close Duress Report, to a value that is understood as duress by the central station.

1.19 Guest Code

User Code 15 may be programmed to be a Guest Code. After the Guest Code has been programmed, it is enabled by depressing [PIN] + [#] [8] [4]. The Guest Code may now be used to arm and disarm the system. It remains active until the panel is disarmed with any other valid code. Refer to Section 8.9, Address 09 to activate the Guest Code option. If PIN 15 is used as a guest code, remember to change PIN 15 according to Section 5.2.

1.20 Emergency Procedures

Identifying Alarm Sounds

Your alarm system may be programmed for a steady alarm sound or a pulsed alarm sound. It is important to learn the difference between a fire alarm sound and an intrusion alarm sound before you are confronted with an actual emergency.

Silencing Alarms

All alarms can be silenced with any PIN that has disarm privileges. Entering your PIN + [Off] will silence the alarm and turn off (disarm) the control.

A Cautionary Note

How you respond to an alarm will depend, mostly, on the type and time of the alarm. You should seek the advice of your installing company as they install your system, **not later** (e.g. after an alarm) to develop a response plan.

Above All Else, Common Sense Should Prevail

If there is any threat or hint of danger to yourself or others on the premises, such as in the event of a fire alarm, everyone should be instructed to leave the premises immediately. Do not enter the premises unless accompanied by the appropriate Emergency Services' personnel, or after they have given the OK to enter.

Caution When Entering A Building

If the bells and sirens are on and/or the red Armed light is flashing (with the DS7447 display reading "**Zone Alarm**" or the DS7443 or DS7445 having its zone LEDs flashing) then the keypad is signaling that an alarm has occurred. The keypad will also issue a pulsed tone during the entry delay instead of the usual steady tone.

If the alarm has not been previously investigated, **do not enter the building unless accompanied by the appropriate Emergency Services' personnel**.

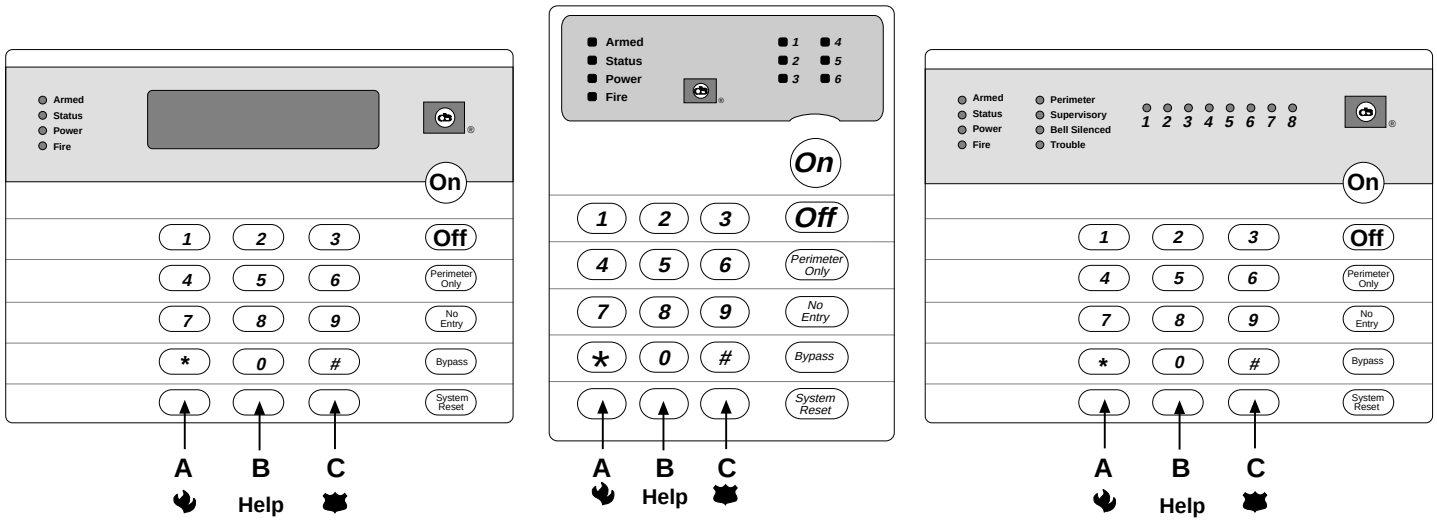
Fire Alarms

Fire Alarms are silenced by using the same procedure as intrusion alarms: a PIN (with disarm privileges) + the [Off] key.

The Fire Alarm system is **not** reset until alarms at smoke detectors are cleared by using the [System Reset] command. The Fire Alarm system will **not** be functional until this procedure has been followed. See the "Fire Reset" section.

1.21 Emergency Keypad Alarms

DS7447 DS7443 DS7445



The Emergency Alarm Keys [A], [B], and [C] may generate Fire, Special Emergency, and Panic Alarms if programmed by the installer. Ask your installing company to explain the function of these keys.

When using the Emergency Alarm Keys, they must be pressed for two seconds to generate an alarm.

NOTE: If the Emergency Alarm keys are to be used, they should be labeled to signify their functions.
The **"A"** key should be labeled as the Fire key. This is the only key that may be designated as the Fire key.
The **"B"** key should be labeled as the Help key.
The **"C"** key should be labeled as the Panic key.

Use the Disarming Command Sequence to cancel or silence these alarms.

1.22 Fire Safety

This fire alarm system can provide early warning of a developing fire. Such a system, however, does not ensure protection against property damage or loss of life resulting from a fire. Any fire alarm system may fail to warn for any number of reasons (e.g. smoke not reaching a detector that is behind a closed door).

When considering detectors for residential applications, refer to NFPA Standard 72, “The National Fire Alarm Code.” This standard is available at a nominal cost from: The National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

If Installed in Family Residences

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

- **Minimize hazards:** Avoid the three traditional fire killers: smoking in bed, leaving children home alone, and cleaning with flammable liquids.
- **Provide a fire warning system:** Most fire deaths occur in the home, the majority, during sleeping hours. The minimum level of protection requires smoke detectors to be installed outside of each separate sleeping area and on each additional story of the dwelling.

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

Having and Practicing an Escape Plan

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

- Draw a floor plan of the entire house showing **two** exits from each bedroom and **two** from the house. Since stairwells and hallways may be blocked during a fire, the plan should provide exits from bedroom windows. Make copies of the plan and practice it with all family members.
- Prearrange a meeting place **outside and away from** the residence. Once out of the building, all occupants should immediately go to the pre-selected location to be accounted for.
- Provide a barricade between family members and fire, smoke, and toxic gases (e.g. close all bedroom doors before retiring).
- Children should be instructed on opening their bedroom windows and exiting safely from the building. If exiting is not possible, they should be taught to stay at the open window and shout for help until it arrives.
- In the event of a fire alarm after retiring, wake the children by shouting to them from behind your closed door. Tell them to keep their bedroom doors closed.
- **If the top of your bedroom door is uncomfortably hot, do not open it.** There is most likely fire, intolerable heat, or smoke on the other side. Shout to all family members to keep their bedroom doors closed and to exit the building via alternate routes.
- If the top of the door is not uncomfortably hot, brace the bottom of the door with your foot, and the top with one hand, then open the door about one inch. Be prepared to slam the door shut if there is any pressure against the door or if any hot air rushes in.
- If there is no evidence of excessive heat or pressure, **leave the room and close the door behind you.** Shout appropriate instructions to all family members and immediately leave the building via the pre-planned routes. If heavy smoke is present, drop to your hands and knees, or crawl to remain below the smoke level.

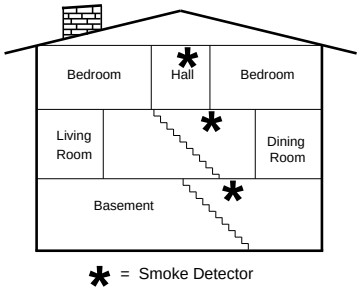
Installation Considerations

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

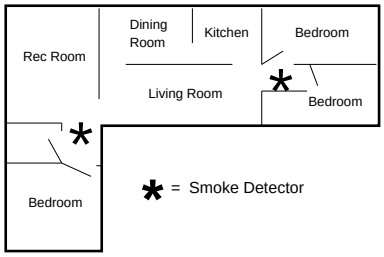
The following are some general considerations:

- Smoke detectors should **not** be installed in “dead air” spaces or close to ventilating or air conditioning outlets because smoke may be circulated away from the detector. Locations near air inlets should be favored.
- Avoid areas subject to normal smoke concentrations such as kitchens, garages, or near fireplaces.
- Do not install smoke detectors where normal area temperatures are above 100 degrees F (38 degrees C) or below 32 degrees F (0 degrees C).
- Areas of high humidity and dust concentrations should be avoided.

- The edge of ceiling mounted detectors should be no closer than 4 inches (10 cm) from any wall.
- Place the top edge of wall mounted detectors between 4 and 12 inches (10 to 30 cm) from the ceiling.



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



Locate smoke detectors between sleeping areas and family living areas.

For exact mounting information, refer to the instructions provided with the smoke detectors.

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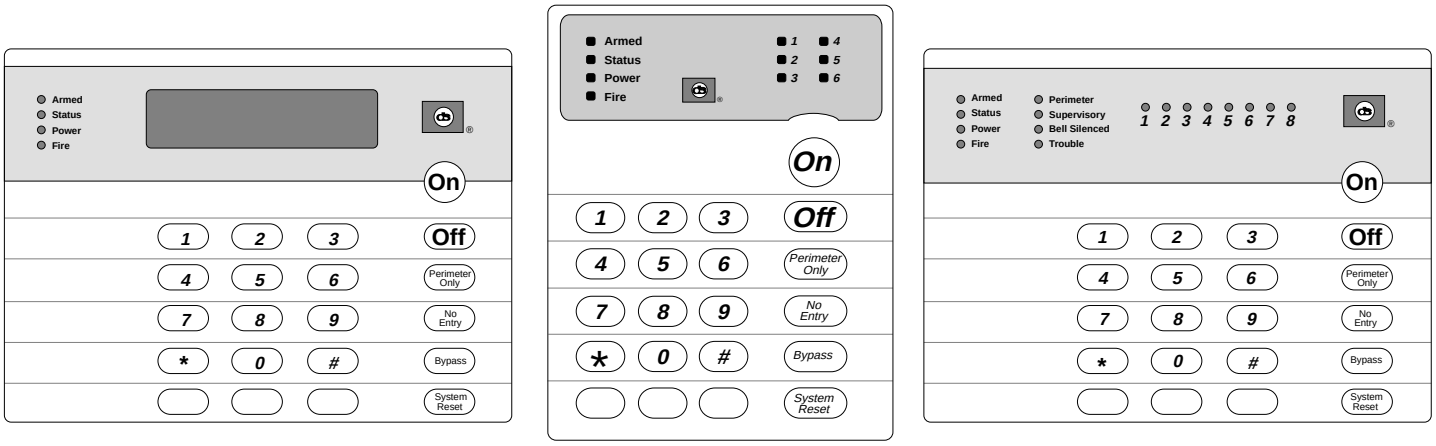
Reference Guide for the DS7060 Control/Communicator



Keypad Quick Reference Guide

Turning On (arming) your System

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

Turning Off (disarming) your System

PIN + [Off]

Commands for other System Features

Chime Mode	PIN + [#] [7]
Zone Test	PIN + [#] [8] [1]
Read Alarm History	PIN + [#] [8] [9]
Battery Test	PIN + [System Reset]
Communicator Test	PIN + [#] [8] [2]
Fire Reset	PIN + [System Reset]
Fire Trouble	PIN + [Off] to silence, PIN + [System Reset] to clear
Remote Program Dial Out	PIN + [#] [8] [3]
Remote Program Answer	PIN + [#] [8] [6]
Local Battery/Sounder Test	PIN + [#] [8] [5]
Error Display	PIN + [#] [8] [7]
Error Display Reset	PIN + [System Reset]
Clear Zone Bypass	PIN + [Bypass] [*] to clear
Guest Code Enable	PIN + [#] [8] [4]

NOTE: Examples are shown in Commercial Mode but are valid for any mode.

Detection Systems PTY Ltd.
Unit 21, 45 Gilby Road
Mount Waverley, Victoria 3149, Australia
61 3 9558 8088
Fax: 61 3 9558 8089

Detection Systems PTY Ltd.
Unit 2, The Riverside Centre
148 James Ruse Drive
Parramatta, NSW 2150, Australia
61 2 891 4944
Fax: 61 2 891 5844

Detection Systems Ltd.
19, Rue du 19 Mars-78130
Les Mureaux, France
Phone/Fax: 33 1 34 74 9576

Detection Systems Ltd.
Unit 13-18, 17/F New Commerce Centre
19 On Sum Street, Shatin, N.T.
Hong Kong
852 2635 2815
Fax: 852 2648 7986

Detection Systems, Inc., 130 Perinton Parkway, Fairport, New York, USA 14450-9199
(716) 223-4060 • (800) 289-0096 • Fax: (716) 223-9180

TABLE OF CONTENTS

1.0 SYSTEM OVERVIEW

The DS7060 Control/Communicator is a fully integrated hard-wire security and residential fire alarm system. It can support up to 6 input zones and 15 individual users. Up to 4 keypads may be used to provide user interface with the system, as well as programming access for the installer.

2.0 SPECIFICATIONS

2.1 Enclosure Housing

The enclosure is manufactured from 22 Ga. (0.65 mm), cold-rolled steel, and measures 9.25" Wide, by 10.25" High, by 3" Deep (23.5 cm Wide, by 26 cm High, by 7.6 cm Deep). The door has a knockout for a standard DS lock (optional). The enclosure has a slot in the back and also has an optional tamper switch mounting bracket with a plunger switch.

2.2 Temperature

- Operating temperature: +32°F to +120°F (0°C to +49°C)
- Storage temperature: -20°F to +150°F (-28°C to +66°C)

2.3 Power

- Input Power: 16.5 VAC (U.S.) 16 VAC (Aust), 20 VA, 50 or 60 Hz
- Auxiliary Regulated Power: 12-12.5 VDC, 0.8 A
- Auxiliary Power Voltage Range: 10 to 13.8 VDC
- Optional Standby battery (P334): 12 V, 7.0 AH
- Control Panel Current Draw: 65 mA
- DS7443 Keypad Current Draw: 45 mA, Standby
45 mA, Alarm
- DS7445 Keypad Current Draw: 75 mA, Standby
75 mA , Alarm
- DS7447 Keypad Current Draw: 100 mA, Standby
100 mA, Alarm
- Fuse 1 & Fuse 2: 1 A, 250 V

2.4 Outputs

- Programmable Output 1* Solid state, switch to ground (500 mA max.).
- Programmable Output 2* Solid state, switch to ground (500 mA max.).
- Programmable Output 3* Form “C” relay contacts available. Typical: Normally Open contacts that switch to 12 V @ 800 mA.

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

Refer to Section 8.8 for detailed Output operation.

2.5 Zones

- 6 zones
- Zone Response Time: All six zones can be programmed to respond at either 300 ±100 ms or a programmable time (common to all zones) that can be configured to be between 10 ms and 2.5 seconds. Zones are ignored for 5 seconds after power up, and for two seconds after a system reset.

Refer to Sections 8.2 - 8.7 for detailed zone operation.

2.6 Keypads

- Total number of keypads: 4 Keypads
- Maximum wire length total in system: 1000 ft. (305 m)
- Wire type: 22 AWG (0.8 mm)

NOTE: Keypads may be up to 1000 ft. (305 m) from the panel when #22 (0.8 mm) wire is used and only one keypad is connected to a particular wire run.

2.7 Communicator

Will report to two phone numbers with full single, double, and backup reporting. Communicated in 3/1, 3/1E, 3/1 with Parity, 3/1E with Parity, 4/1, 4/2, High Speed 4/9, Pager, Contact ID, and Personal Dialing formats.

Refer to Sections 8.14 - 8.33 for communicator operation.

The ringer equivalence is 0.1 B.

2.8 Users

The system allows up to 15 individual users. Each user will have his own PIN number (the 4 digit code entered at the keypads).

Refer to Section 5.2 for PIN programming.

2.9 Lightning Protection

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

2.10 Burglar/Fire Zone Inputs

- Number of Circuits: 6 Circuits on board
- End-of-Line Resistor: 2.21k ohms

NOTE: 4 wire type smoke detectors only.

2.11 Line Seizure Notice

This control panel incorporates a line seizure feature which will disable internal telephone lines when the control panel is sending alarm or supervision reports to the central station.

3.0 ENCLOSURE INSTALLATION

The DS7060 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.

3.1 Install the Enclosure

NOTE: This panel is intended for mounting in a restricted access area and should be wall mounted.

CAUTION: The control panel should only be installed by authorized service personnel.

- Use the enclosure as a template and mark the mounting holes on the mounting surface.
- Pre-start the mounting screws for these holes. Mount the enclosure.
- Knock out the desired wire entrances on the enclosure.

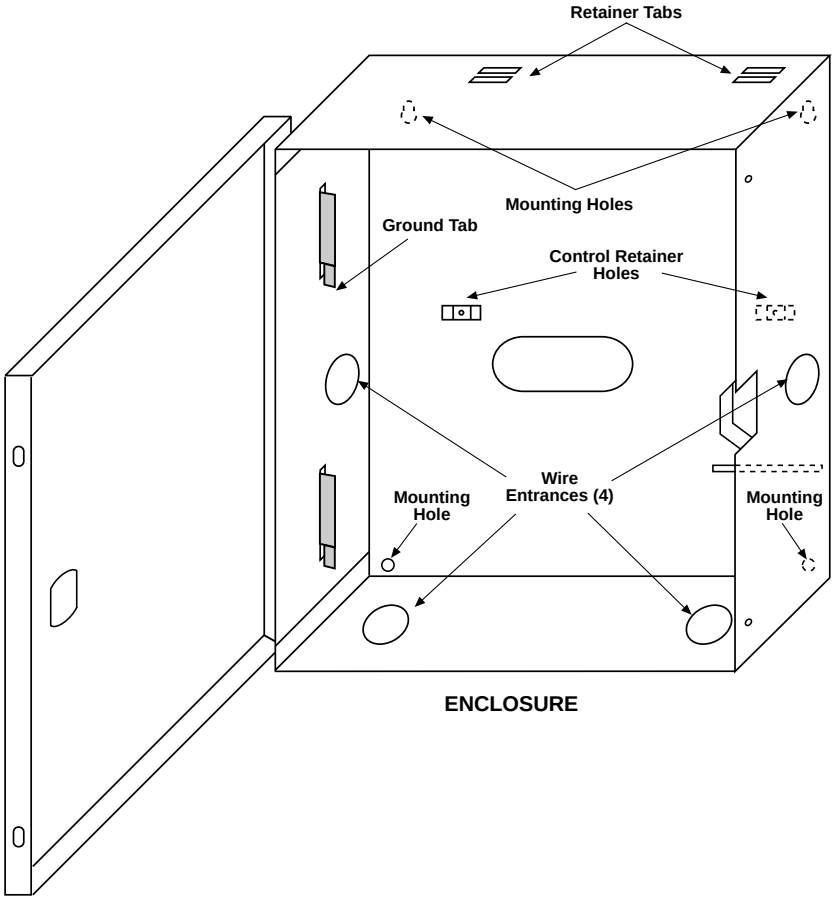
3.2 Install the Control/Communicator

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.

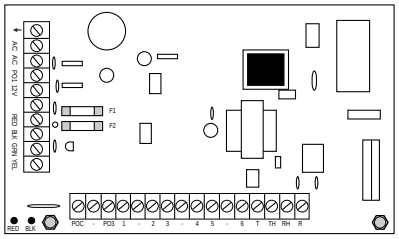
EXAMPLE: Run the ground wire to the enclosure before handling the control. Then, keep holding the ground wire while installing the control.

- Insert the two support posts into the control retainer holes as shown below in the Support Post Assembly diagram.
- Slide the top of the control PCB into the two retainer tabs.
- Once in the retainer tabs, the control will rest on the two support posts.
- Secure the bottom of the enclosure by screwing the bottom two holes through the support posts and through to the control retainer holes.

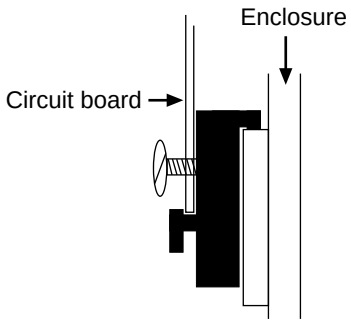
CAUTION: Once the control is installed, be sure to connect its ground wire to the top hinge of the enclosure.



ENCLOSURE



CONTROL/COMMUNICATOR



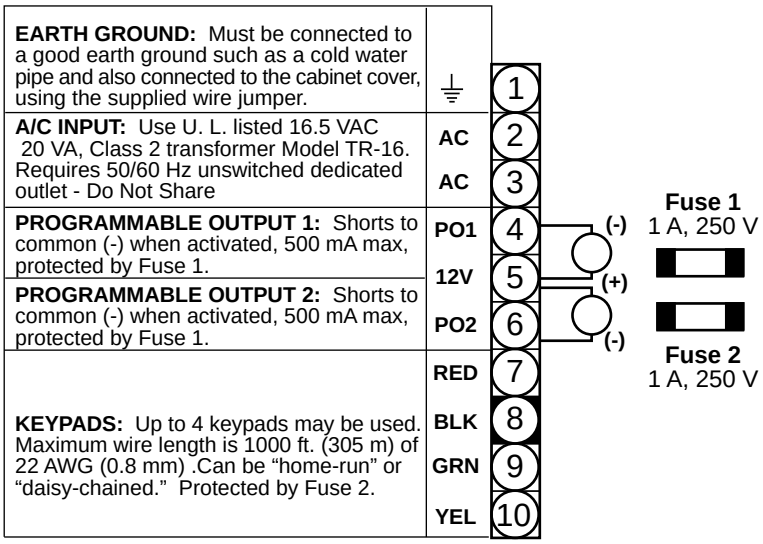
SUPPORT POST ASSEMBLY

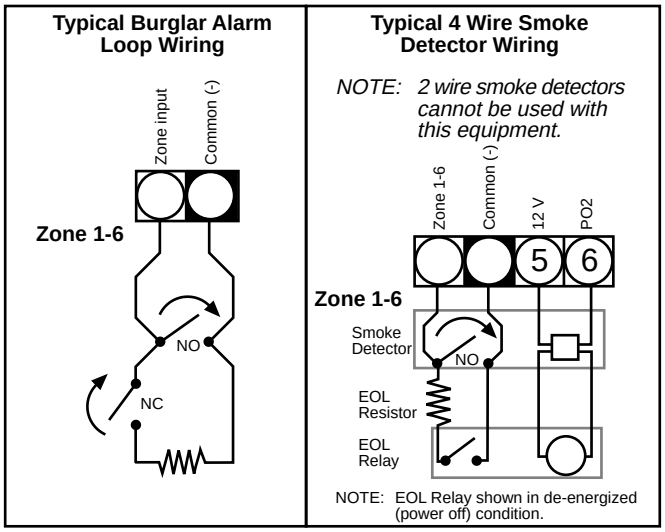
4.0 CONTROL TERMINAL WIRING

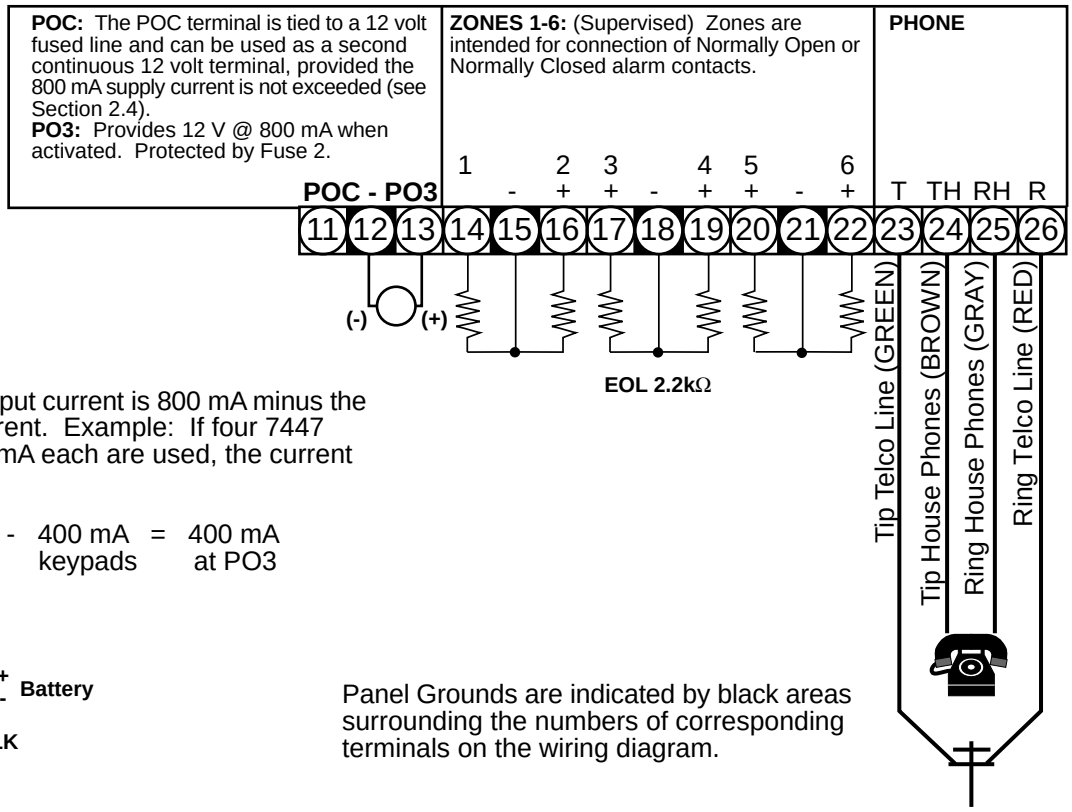
WARNING: Before servicing this equipment, remove all power including the transformer and battery. Also remove the phone line connection. A complete functional test is required after any programming.

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

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







NOTE: PO3 output current is 800 mA minus the total keypad current. Example: If four 7447 keypads at 100 mA each are used, the current is 400 mA.

800 mA	-	400 mA	=	400 mA
available		keypads		at PO3

Panel Grounds are indicated by black areas surrounding the numbers of corresponding terminals on the wiring diagram.

5.0 OPERATING GUIDE

5.1 Understanding the DS7443, DS7445, and DS7447 Keypads

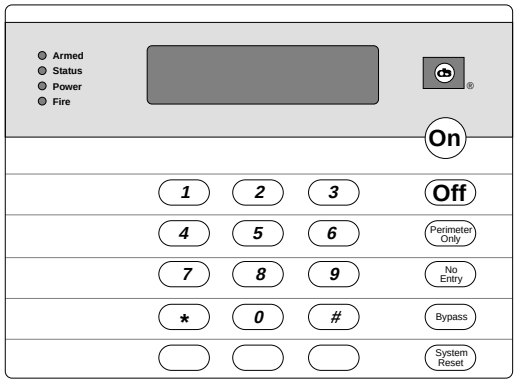
The DS7443 is a 6 zone LED keypad; its LEDs represent the zones of the system.
The DS7445 is an 8 zone LED keypad; its LEDs represent the zones of the system (LEDs for zones 7 and 8 are not used).
The DS7447 is an alpha-numeric LCD keypad.

All three keypads display information on various control panel functions. A built-in sounder is used to annunciate keystroke entries and as an interior warning device.

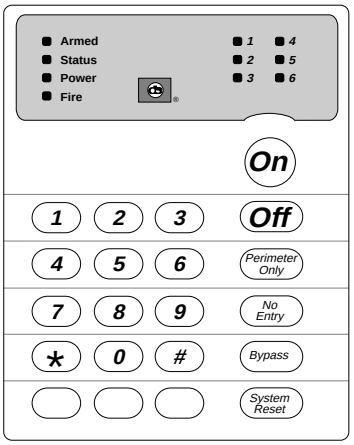
Volume Control (DS7445 and DS7447 only): The keypad sounder volume can be adjusted using the [1] and [4] keys along with the [*] key. Hold the [*] key while pressing the [1] key to increase the volume or the [4] key to decrease the volume. The volume adjustment does not affect the volume during an alarm.

Backlight Control (DS7447 only): The display backlight intensity can be adjusted using the [3] and [6] keys along with the [*] key. Hold the [*] key while pressing the [3] key to increase the brightness or the [6] key to decrease the brightness.

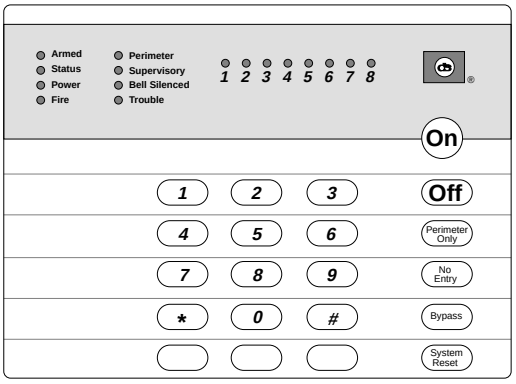
NOTE: After the backlight and volume are adjusted, you must arm, then disarm the system once to store this information in the control panel. If power is disconnected before the panel is armed, the backlight and volume levels will return to the default settings.



DS7447 KEYPAD



DS7443 KEYPAD



DS7445 KEYPAD

This chart will help you understand what each Light/LED represents.

LIGHT	OFF	FLASHING	ON
Armed **(red)**	The control panel is disarmed.	An exit delay is in progress or an alarm has occurred.	The control panel is armed and no alarms have occurred.
Status **(green)**	One or more zones are not ready to arm.	One or more zones are bypassed.	All zones are ready to arm.
Power **(green)**	The control panel has lost power. No AC or battery.	Control panel problems. See Section 5.17, Error Displays.	Normal operation.
Fire **(red)**	There are no fire alarms.	A fire zone is in alarm.	A fire trouble condition exists.
Perimeter* **(yellow)**	The perimeter is not armed.	This light will not flash.	The perimeter is armed.
Supervisory* **(yellow)**	This light will not be used by the DS7060.	Not used.	Not used.
Bell Silenced* **(yellow)**	The bells do not need to be or have not been silenced.	This light will not flash.	The bells have been silenced. To clear, enter the Fire Reset command.
Trouble* **(yellow)**	There are no trouble conditions.	This light will not flash.	A trouble condition exists.
Zone LEDs* **(red)**	There are no zone alarms.	A zone (1-6) is in alarm.	A zone (1-6) is not ready to arm or if a fire zone, a trouble condition exists.

* = This light is present on the DS7445 only. ** = This light is present on the DS7443 and DS7445.

5.2 Personal Identification Numbers

The Personal Identification Number (PIN) is the 4-digit code users enter at the keypad to gain access to the system. A PIN may be assigned to each User Number 001-015. The User Number identifies each person using the system. There are 15 possible User Numbers (001-015).

Your system may have up to 15 different PINs, each 4 digits long. **Each User Number can have only one PIN.** Attempting to assign the same PIN to multiple User Numbers will result in the three-beep error tone, and the change will not be made.

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

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

Adding a PIN

The following chart will guide you through the steps necessary to add or change a PIN. It is recommended that this procedure be performed at a DS7447 keypad. No visual cues will be given from a DS7443 or DS7445 keypad.

STEPS TO CHANGE A PIN	COMMAND SEQUENCE	IF ACCEPTED, THE DISPLAY READS
#1 Enter the Master Code Programming Mode	[Master Code] + [#] [0]	"Enter User No." (001 . . 015)
#2 Enter the User Number	[0] [0] [1] through [0] [1] [5]	"Enter PIN"
#3 Enter the PIN	Any 4 digits (Each user must have a different PIN).	Enter PIN Again End with #
#4 Enter the PIN again followed by the [#] key.	PIN (same 4 digits as above) then [#]	A long beep will sound to signify acceptance of the new PIN.

NOTE: Users 014 and 015 may be used for Duress and Guest Codes. See Sections 5.18 and 5.19, Address 09 - User Control for more information.

NOTE: You cannot read back User PIN numbers. You should keep a separate list for future reference. See Page 22.

Removing a PIN

To remove a PIN enter a [Master Code] [#] [0], the User Number of the PIN to be canceled, and then [#] again. *User Number 001 can not be canceled.* See Section 8.9 for special uses for User Number 14 and 15 PINs.

5.3 Turning ON (arming) the System

The green Status light must be on steady and no zone lights are displayed on the DS7443 or DS7445 keypad. The DS7447 display must read "**Ready To Arm**" in order to arm the system with one of these commands.

If the green Status light is not on, or zone lights are displayed on the DS7443 or DS7445 keypad, or if the DS7447's display is reading **"Not Ready**," then see Section 5.7 Force Arming or Section 5.9 Zone Bypass for other ways to arm the system.

This chart explains the five normal ways of arming the system.

TYPE OF ARMING DESIRED	COMMAND SEQUENCE	WHAT WILL HAPPEN	WHAT TO DO
Normal Arming No one left on the premises. An entry/exit delay is in effect.	***Commercial Mode*** PIN + [On] ***Residential Mode*** [#] + [On]	• The red Armed Light will begin to flash. • The green Status light will turn off. • "Armed" will be displayed (DS7447). • "Exit Now" will display (DS7447) during the exit delay interval. • A single beep will sound. • The red Armed light will turn on steady after the exit delay interval.	Exit during the exit delay interval.
Perimeter Instant Arming Someone still on the premises. There is NO entry delay in effect.	***Commercial Mode*** PIN + [No Entry] + [Perimeter Only] ***Residential Mode*** [#] + [No Entry] + [Perimeter Only]	• The red Armed Light will begin to flash. • "Perimeter Inst." will be displayed (DS7447). • "Exit Now" will display (DS7447) during the exit delay interval. • A single beep will sound. • The red Armed light will turn on steady after the exit delay interval. • The yellow Perimeter light (DS7445) will turn on steady. • Only exterior protection zones will be armed.	Move freely around the interior.
Perimeter Arming Someone still on the premises. An entry/exit delay is in effect.	***Commercial Mode*** PIN + [Perimeter Only] ***Residential Mode*** [#] + [Perimeter Only]	• The red Armed Light will begin to flash. • "Perimeter On" will be displayed (DS7447). • "Exit Now" will display (DS7447) during the exit delay interval. • A single beep will sound. • The red Armed light will turn on steady after the exit delay interval. • The yellow Perimeter light (DS7445) will turn on steady. • Only exterior protection zones will be armed.	Move freely around the interior.
Maximum Security Arming No one left on the premises. There is NO entry delay in effect. An alarm WILL occur upon entry.	***Commercial Mode*** PIN + [No Entry] [On] ***Residential Mode*** [#] + [No Entry] + [On]	• The red Armed Light will begin to flash. • The green Status light will turn off. • "Armed Instant" will be displayed (DS7447). • "Exit Now" will display (DS7447) during the exit delay interval. • A single beep will sound. • The red Armed light will turn on steady after the exit delay interval.	Exit during the exit delay interval. **CAUTION:** Violating any zone after the exit delay interval will cause an instant alarm.

NOTE: In commercial burglar applications for U. L. Certificated systems, a ring-back indication and bell test should be heard after arming (closing). If not heard, call for service.

NOTE: If the system has invisible zones that are not ready, they will be displayed during the arming sequence. The display of invisible zones will remain on until the zone is cleared or bypassed.

5.4 Quick Arming the System

If Quick Arming is not used, a PIN must be entered at the beginning of all arming command sequences. When Quick Arming is used, the following shortcuts are available. Quick Arming is disabled by default. To select the Quick Arming feature, see Section 8.10, Address 10 - General Control.

QUICK ARMING COMMAND SEQUENCE	TYPE OF ARMING
[#] + [On]	Normal Arming
[#] + [No Entry] + [Perimeter Only]	Perimeter Instant Arming - no entry delay
[#] + [Perimeter Only]	Perimeter Arming - entry/exit delay
[#] + [No Entry] + [On]	Maximum Security Arming

5.5 Easy Exit

If the system is armed and there have been no zones violated, then you can reenter a Quick Arm Command without first disarming the system. This allows you to change the arming level or to restart the exit delay so you can exit through an entry/exit zone. Easy Exit is disabled by default. To select the Easy Exit feature, see Section 8.10, Address 10.

5.6 Turning OFF (disarming) the System/Silencing Alarms

Please read Section 5.20 Emergency Procedures prior to being confronted with an emergency event.

If you have entered the building through a perimeter door, you may hear a steady pre-alert tone from the keypads. If so, disarm according to the chart below.

WARNING: If the bells and sirens are on and/or the red Armed light is flashing, then the keypad is signaling that an alarm has occurred sometime before your arrival. The DS7447 will display "Zone Alarm." The DS7443 or DS7445 zone LEDs will be flashing for the corresponding zone that is in alarm.

- The keypad will also issue a pulsed tone during the entry delay instead of the usual steady tone.
- If the alarm has not been previously investigated, do not enter the building unless accompanied by the appropriate Emergency Services' personnel.

This chart explains proper procedures for disarming and/or silencing alarms.

TYPE OF DISARMING	COMMAND SEQUENCE	WHAT WILL HAPPEN
Disarming the System	PIN + [Off]	The red Armed light will turn off. Pre-alert sounders will silence.
Silencing Alarms	PIN + [Off]	The red Armed light will turn off. Zone LEDs on the DS7443 or DS7445 will turn off. Alarms in progress will silence.

Turning Off (disarming) the System under Duress

A duress code is used when someone demands, by threatening your life or well-being, that the system be turned off. When used, the code will both turn off the system and report a silent duress alarm if connected to a monitoring service. User code 14 can be optionally configured as a duress code. User code 14 will not arm the system, or report duress, if the system is not armed. Extreme care should be used when entering your PIN to turn off the system, so a duress code is not inadvertently entered. User Code 14 is not a duress code by default. You must program the control panel that User Code 14 is the duress code. See Section 8.9, Address 09 for more information.

5.7 Force Arming

When one or more zones are faulted, the system may be Force Armed (if programmed at Address 10) by bypassing the faulted zones. The green Status light will be off on all keypads when Force Arming is required to arm the system. The DS7447 display will read "**Not Ready**" or "**Fire Trouble**" (if a fire zone is open) and the DS7443 and DS7445 zone LEDs (1-6) will be on if one of those zones is faulted. See Section 8.10 to enable Force Arming.

Force Arming during an AC power failure: Regular arming of the control panel is not permitted during an AC power failure. Having to Force Arm serves as a warning that the control panel is operating under backup battery.

WARNING: Bypassing or Force Arming removes some of your building's protection because it excludes the faulted zones from arming. Therefore, an intrusion may not be detected or the detection may be delayed. Always attempt to correct any zone problems (close doors and windows, etc.) before using these features. If the problem can not be corrected, contact your installing company.

NOTE: See Section 5.9 Zone Bypass for an alternate method of arming the system when faults exist. Force arming is not available in U. L. Listed systems.

TYPE OF ARMING	WHAT WILL HAPPEN	WHAT TO DO	WHAT WILL HAPPEN	WHAT TO DO
Force Arming Enter any arming sequence.	• A 5 second beep occurs, indicating there are faulted zones and that the control panel needs to be Force Armed.	Press [Bypass] during the 5 second beep.	• The red Armed light will flash during the exit delay interval. • The control panel will arm with the faulted zones bypassed, or a three-beep error tone will occur indicating Force Arming has not been accepted or allowed.	Exit during the exit delay interval if leaving.

5.8 Auto Bypass

The system can be armed and will automatically bypass faulted zones. See Section 8.10 to enable Auto Bypass.

TYPE OF ARMING	WHAT WILL HAPPEN	WHAT WILL HAPPEN	WHAT TO DO
Auto Bypass	• A single beep occurs, indicating that the panel has armed.	• The red Armed light will flash during the exit delay interval. • The control panel will arm with the faulted zones bypassed, or a three-beep error tone will occur indicating Auto Bypass has not been accepted or allowed.	Exit during the exit delay interval if leaving.

5.9 Zone Bypass

There may be occasions when it is desirable or necessary to temporarily bypass one or more zones prior to arming the system. Bypass commands only work when the control panel is disarmed. For instance, an open window may cause the DS7447 display to read "Not Ready" followed by the zone number. The DS7443 or DS7445 may have one of its zone LEDs on steady.

Only one zone may be bypassed each time the command is used. If more than one zone requires bypassing, repeat the command for each zone to be bypassed.

NOTE: See Section 5.7 Force Arming for another method of zone bypassing.

This chart explains the procedure for bypassing a faulted zone prior to arming the system.

TYPE OF BYPASSING DESIRED	COMMAND SEQUENCE*	WHAT WILL HAPPEN
Bypass Faulted Zones	PIN + [Bypass] [Zone #]	• The Status light will begin to flash if no other zones are violated.
Read Bypassed Zones	PIN + [Bypass]	• Bypass will be displayed (DS7447) followed by the zone number of any bypassed zones. The DS7443 or DS7445 will flash the zone LED of the zone being bypassed.
Clear Individual Bypassed Zone(s)	PIN + [Bypass] [Zone #]	• Individual zone bypasses will be cleared.
Clear all Bypasses	PIN + [Bypass] [*]	• All bypasses will be cleared.

* If in “Residential Mode” substitute the [#] key for the PIN.

NOTE: All bypasses are cleared when the system is disarmed, unless they are on 24-hour zones. To clear a bypass on a 24-hour zone, use Clear Individual or Clear All.

5.10 Chime Mode

Chime Mode causes the keypad sounders to beep each time a Perimeter or Entry/Exit zone is violated while the control panel is off (disarmed). The [#] [7] command is used to both turn Chime Mode off and on.

This chart explains the procedure for turning ON and turning OFF Chime Mode.

ACTION DESIRED	COMMAND SEQUENCE*	WHAT WILL HAPPEN
Turn ON Chime Mode	PIN + [#] [7]	• The keypad sounders will beep for 2 seconds each time a perimeter or entry/exit zone is violated. The DS7447 display will read “**Chime Mode On**” for 5 seconds.
Turn OFF Chime Mode	PIN + [#] [7]	• The DS7447 display will read “**Chime Mode Off**” for 5 seconds.

* If in “Residential Mode” substitute the [#] key for the PIN.

5.11 Zone Test

The Zone Test is used to confirm that detectors will report alarms. Zone Test works on all zones, except 24-hour zones and fire zones. While the keypad is in Zone Test, no control panel alarms will activate an alarm, except 24-hour zone alarms and fire alarms. These will override the Zone Test function. *Caution: Be sure not to activate 24 hour or fire zones during the zone test or an alarm signal will be sent.*

The Zone Test will initiate communicator reports only if both “System in Test Report” and “System in Test Restoral Report” are programmed. See Section 8.30, Address 36 - Test Reports, System Test.

WARNING: Make sure that the report value programmed at these locations will be clearly understood at the Central Station. The "System in Test Report" will be sent, followed by the alarm and restoral reports of the zones being tested, providing their corresponding report address is programmed. After completion of the Zone Test, the "System in Test Restoral Report" will be sent. If these two reports are misunderstood, then the zone alarms might be perceived as a real violation.

TYPE OF TEST	COMMAND SEQUENCE	WHAT WILL HAPPEN	WHAT TO DO
Zone Test	***Commercial Mode*** PIN + [#] [8] [1] ***Residential Mode*** [#] + [8] [1]	DS7443/DS7445: The zone LEDs will flash for any zones that have not been tested. DS7447: **"Test Zone"** will display followed by the zone number of any zones that have not been tested. DS7443/DS7445: The zone LED will turn on steady for the zone that is currently being violated (tested). DS7447: **"Now Testing"** will be displayed followed by the zone number of the zone that is currently being voilated (tested). It returns to "Test Zone" after the violation.	Test each detector one at a time as instructed by the installing company. To exit the Zone Test mode, enter your PIN followed by [#] or press the [*] key.

5.12 Local Battery/Sounder Test

This test uses the battery to manually activate all the system sounders for two seconds, [#] [8] [5] only. If the battery voltage is low, a battery fault will occur.

TYPE OF TEST	COMMAND SEQUENCE	WHAT WILL HAPPEN	WHAT TO DO
Local Battery/ Sounder Test	***Commercial Mode*** PIN + [#] [8] [5] ***Residential Mode*** [#] [8] [5]	• All keypad lights will turn on. *NOTE: Zone lights on the DS7443 and DS7445 will not turn on.* • The keypad sounder and all alarm sounding devices will operate for 2 seconds.	If test fails, the control panel will indicate a control problem. If power in your building has been off recently, wait 2 hours for the battery to recharge and then try again.
Battery Test	***Commercial Mode*** PIN + [System Reset] ***Residential Mode*** [#] + [System Reset]	• The control panel will perform a battery test. • If there is a Low Battery condition, the control panel will report a Low Battery. • If the battery is now functional, the control panel will report a battery restoral.	

5.13 Communicator Test

This test is only available if your system transmits alarms and system information to a monitoring service, and has been programmed by the security installing company to permit communicator tests. This test may only be used in the disarm mode.

A long beep will initially sound to acknowledge the start of the test. If the test is successful, the sounder will again issue one long beep. If the test fails, the keypad sounder will turn on continuously. To silence the sounder, enter your PIN followed by the [#] key or press the [*] key.

TYPE OF TEST	COMMAND SEQUENCE	WHAT WILL HAPPEN	WHAT TO DO
Communicator Test NOTE: Requires Addresses 36 "Communicator Test Report," Address 37 "Account Code" (Phone #1), Address 38 "Phone 1 Format" and Address 40-41 "Phone 1" to be programmed.	***Commercial Mode*** PIN + [#] [8] [2] ***Residential Mode*** [#] [8] [2]	• A long beep will sound. • A "Test" report is sent to the monitoring service.	If test fails, the keypad sounder will beep 3 times. NOTE: This test may take several minutes to complete because the control will try several attempts before it fails this test. A retry will occur 30 minutes after failure, and then 24 hours thereafter.

5.14 Read Alarm History

This feature will display which zones were in alarm during the last armed period. The alarm memory will remain from one armed cycle to the next if no new alarms occur. Alarm memory will clear when entering programmers mode.

TYPE OF TEST	COMMAND SEQUENCE	WHAT WILL HAPPEN	WHAT TO DO
Read Alarm History	***Commercial Mode*** PIN + [#] [8] [9] ***Residential Mode*** [#] [8] [9]	DS7447: The last alarm to take place will be displayed. DS7443/DS7445: The zone LEDs will flash for any zones that have alarmed.	To exit from the Alarm History Mode, press the [*] key.

To exit the Alarm History Mode, press the [*] key or wait 5 seconds and the keypad will exit automatically.

5.15 Fire Reset/Fire Trouble

Fire Reset

During a fire alarm, exit the premises immediately. When you have determined there is no fire, you may silence the bells/sirens before you can initiate the [System Reset] command. PIN + [Off] will silence the sounders.

This will allow a determination of which smoke detector has alarmed so the monitoring company may verify its operation.

A PIN followed by the [System Reset] key will reset any smoke detectors after a fire alarm has occurred. See Section 8.8, Address 08 - Outputs.

The System Reset command will perform a fire reset, will perform a battery test, and will clear all system troubles.

Fire Trouble

A Fire Trouble display signifies a problem with the fire system, such as a break in the wiring that monitors smoke detectors.

A Fire Trouble will be indicated by a short beep from the keypad sounders every 10 seconds. The DS7447 will display **"Fire Trouble"** followed by the zones in a trouble condition. The DS7443 will turn the Fire light on steady and will light the corresponding zone LEDs. The DS7445 will turn the Fire and Trouble lights on steady and will light the corresponding zone LEDs.

Notify your installing company immediately if the Fire Trouble message is displayed.

The Fire Trouble beep can be silenced with any PIN followed by the [Off] key. After problems have been remedied, a PIN followed by [System Reset] should be entered to clear the **"Fire Trouble"** display.

5.16 Remote Program Dial-out and Answer

Call for Remote Programming

This command can only be entered when the control is disarmed. Phone numbers 1 and 3 must be programmed, along with account code 1. The panel will call phone number 3 and attempt to connect for downloading. While programming is underway the Status, Armed, and Power LEDs will flash. If the panel is already using the phone line, it will sound the three beep error tone.

Answer for Remote Programming

The panel will automatically pick up the phone line to answer a remote programming call. While programming is underway the Status, Armed, and Power LEDs will flash. If the panel is already using the phone line for a report communication, it will sound the three beep error tone. This command can only be entered when the control is disarmed.

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

TYPE OF FUNCTION	COMMAND SEQUENCE	WHAT WILL HAPPEN
Remote Program Dial-out**	***Commercial Mode*** PIN + [#] [8] [3] ***Residential Mode*** [#] [8] [3]	The panel will call the remote programmer.
Remote Program Answer	***Commercial Mode*** PIN + [#] [8] [6] ***Residential Mode*** [#] [8] [6]	The panel will answer a call from the remote programmer.

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

5.17 Error Displays

Control panel problems are indicated by a flashing green Power light. The DS7447 display will also read "Control Trouble, Enter [#] [8] [7]." The DS7443 and DS7445 will only flash the green Power light. The error messages may only be read when the control is disarmed. Contact your installing company if the problems persist.

ACTION DESIRED	ACTION DESIRED
Read the Error Display when the Green Power light is flashing.	***Commercial Mode*** PIN + [#] [8] [7] ***Residential Mode*** [#] [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.	***Commercial Mode*** PIN + [System Reset] ***Residential Mode*** PIN + [System Reset]

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

1. **DS7447 - "AC Power Failure"**
   DS7443 or DS7445 - LED 1 turns on steady
   There is a power failure and the panel is operating on backup battery.

2. **DS7447 - "Battery Trouble"**
   DS7443 or DS7445 - LED 2 turns on steady
   If the system has just been through a power failure, wait at least two hours for the battery to recharge, then enter a PIN + [System Reset] to perform a battery test.

3. **DS7447 - "Communicator Err"**
   DS7443 or DS7445 - LED 3 turns on steady
   The communicator failed to communicate with the central station.

4. **DS7447 - "System Fault"**
   DS7443 or DS7445 - LED 4 turns on steady
   Internal error in the control circuitry or optional circuitry. These system faults are: Ram Fault, ROM Fault, EEPROM Fault.

5. **DS7447 - "Keypad Fault"**
   DS7443 or DS7445 - LED 5 turns on steady
   One of the keypads is not responding to the control panel.

6. **DS7447 - "Alarm Fuse Fault"**
   DS7443 or DS7445 - LED 6 turns on steady
   The auxiliary power has been shorted.

7. **DS7447 - "Zone Trouble"**
   DS7443 or DS7445 - LED of the zone in trouble will light
   One of the zones is not responding to the control panel. This may also be displayed during power-up (if so, ignore).

5.18 Duress Code

User Code 14 may be used as a duress PIN number. When the system is disarmed using this duress code, a silent report is sent to the central station. Duress codes are intended to be used when a user is forced to disarm the system. There are two program addresses that must be programmed to activate this feature. Program Address 09 - User Control, to duress code digit = 1. Program Address 31 - Open/Close Duress Report, to a value that is understood as duress by the central station.

5.19 Guest Code

User Code 15 may be programmed to be a Guest Code. After the Guest Code has been programmed, it is enabled by depressing [PIN] + [#] [8] [4]. The Guest Code may now be used to arm and disarm the system. It remains active until the panel is disarmed with any other valid code. Refer to Section 8.9, Address 09 to activate the Guest Code option. If PIN 15 is used as a guest code, remember to change PIN 15 according to Section 5.2.

5.20 Emergency Procedures

Identifying Alarm Sounds

Your alarm system may be programmed for a steady alarm sound or a pulsed alarm sound. It is important to learn the difference between a fire alarm sound and an intrusion alarm sound before you are confronted with an actual emergency.

Silencing Alarms

All alarms can be silenced with any PIN that has disarm privileges. Entering your PIN + [Off] will silence the alarm and turn off (disarm) the control.

A Cautionary Note

How you respond to an alarm will depend, mostly, on the type and time of the alarm. You should seek the advice of your installing company as they install your system, **not later** (e.g. after an alarm) to develop a response plan.

Above All Else, Common Sense Should Prevail

If there is any threat or hint of danger to yourself or others on the premises, such as in the event of a fire alarm, everyone should be instructed to leave the premises immediately. Do not enter the premises unless accompanied by the appropriate Emergency Services' personnel, or after they have given the OK to enter.

Caution When Entering A Building

If the bells and sirens are on and/or the red Armed light is flashing (with the DS7447 display reading "**Zone Alarm**" or the DS7443 or DS7445 having its zone LEDs flashing) then the keypad is signaling that an alarm has occurred. The keypad will also issue a pulsed tone during the entry delay instead of the usual steady tone.

If the alarm has not been previously investigated, **do not enter the building unless accompanied by the appropriate Emergency Services' personnel**.

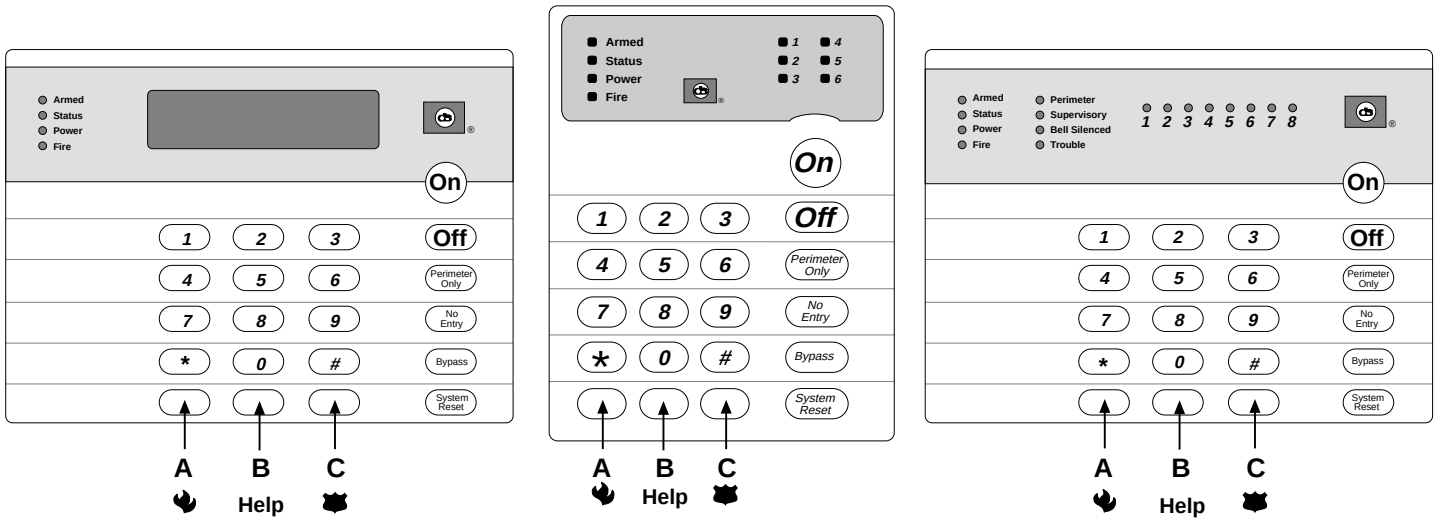
Fire Alarms

Fire Alarms are silenced by using the same procedure as intrusion alarms: a PIN (with disarm privileges) + the [Off] key.

The Fire Alarm system is **not** reset until alarms at smoke detectors are cleared by using the [System Reset] command. The Fire Alarm system will **not** be functional until this procedure has been followed. See the "Fire Reset" section.

5.21 Emergency Keypad Alarms

DS7447 DS7443 DS7445



The Emergency Alarm Keys [A], [B], and [C] may generate Fire, Special Emergency, and Panic Alarms if programmed by the installer. Ask your installing company to explain the function of these keys.

When using the Emergency Alarm Keys, they must be pressed for two seconds to generate an alarm.

NOTE: If the Emergency Alarm keys are to be used, they should be labeled to signify their functions.
The **"A"** key should be labeled as the Fire key. This is the only key that may be designated as the Fire key.
The **"B"** key should be labeled as the Help key.
The **"C"** key should be labeled as the Panic key.

Use the Disarming Command Sequence to cancel or silence these alarms.

5.22 Fire Safety

This fire alarm system can provide early warning of a developing fire. Such a system, however, does not ensure protection against property damage or loss of life resulting from a fire. Any fire alarm system may fail to warn for any number of reasons (e.g. smoke not reaching a detector that is behind a closed door).

When considering detectors for residential applications, refer to NFPA Standard 72, “The National Fire Alarm Code.” This standard is available at a nominal cost from: The National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

If Installed in Family Residences

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

- **Minimize hazards:** Avoid the three traditional fire killers: smoking in bed, leaving children home alone, and cleaning with flammable liquids.
- **Provide a fire warning system:** Most fire deaths occur in the home, the majority, during sleeping hours. The minimum level of protection requires smoke detectors to be installed outside of each separate sleeping area and on each additional story of the dwelling.

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

Having and Practicing an Escape Plan

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

- Draw a floor plan of the entire house showing **two** exits from each bedroom and **two** from the house. Since stairwells and hallways may be blocked during a fire, the plan should provide exits from bedroom windows. Make copies of the plan and practice it with all family members.
- Prearrange a meeting place **outside and away from** the residence. Once out of the building, all occupants should immediately go to the pre-selected location to be accounted for.
- Provide a barricade between family members and fire, smoke, and toxic gases (e.g. close all bedroom doors before retiring).
- Children should be instructed on opening their bedroom windows and exiting safely from the building. If exiting is not possible, they should be taught to stay at the open window and shout for help until it arrives.
- In the event of a fire alarm after retiring, wake the children by shouting to them from behind your closed door. Tell them to keep their bedroom doors closed.
- **If the top of your bedroom door is uncomfortably hot, do not open it.** There is most likely fire, intolerable heat, or smoke on the other side. Shout to all family members to keep their bedroom doors closed and to exit the building via alternate routes.
- If the top of the door is not uncomfortably hot, brace the bottom of the door with your foot, and the top with one hand, then open the door about one inch. Be prepared to slam the door shut if there is any pressure against the door or if any hot air rushes in.
- If there is no evidence of excessive heat or pressure, **leave the room and close the door behind you.** Shout appropriate instructions to all family members and immediately leave the building via the pre-planned routes. If heavy smoke is present, drop to your hands and knees, or crawl to remain below the smoke level.

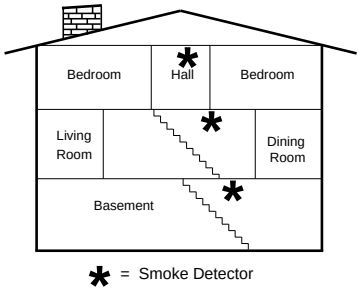
Installation Considerations

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

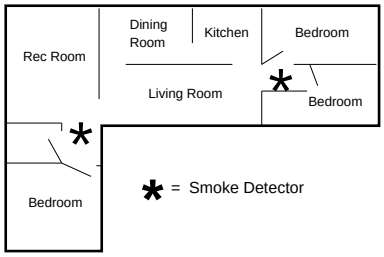
The following are some general considerations:

- Smoke detectors should **not** be installed in “dead air” spaces or close to ventilating or air conditioning outlets because smoke may be circulated away from the detector. Locations near air inlets should be favored.
- Avoid areas subject to normal smoke concentrations such as kitchens, garages, or near fireplaces.
- Do not install smoke detectors where normal area temperatures are above 100 degrees F (38 degrees C) or below 32 degrees F (0 degrees C).
- Areas of high humidity and dust concentrations should be avoided.

- The edge of ceiling mounted detectors should be no closer than 4 inches (10 cm) from any wall.
- Place the top edge of wall mounted detectors between 4 and 12 inches (10 to 30 cm) from the ceiling.



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



Locate smoke detectors between sleeping areas and family living areas.

For exact mounting information, refer to the instructions provided with the smoke detectors.

6.0 SYSTEM WORKSHEETS

Account Number _____ **Information**

Name _____ Contact Person _____

Address _____ Voice Phone Number _____

_____ Panel Phone Number _____

City, State, Zip _____ Panel Answers Phone ☐ Armed ☐ Disarmed

Equipment Location and Notes

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

Control Panel _____

Transformer _____

Telephone Jack _____

Telephone On Same Line as Panel _____

Earth Ground Connection _____

Alarm Sounder(s) _____

Misc. Notes

_____

_____

_____

_____

_____

_____

_____

Keypad Location

Keypad #1 _____

Keypad #2 _____

Keypad #3 _____

Keypad #4 _____

	PIN NUMBER	NAME
Example	*1038*	*Henry M. Jones*
User 001		
User 002		
User 003		
User 004		
User 005		
User 006		
User 007		
User 008		
User 009		
User 010		
User 011		
User 012		
User 013		
User 014		
User 015		

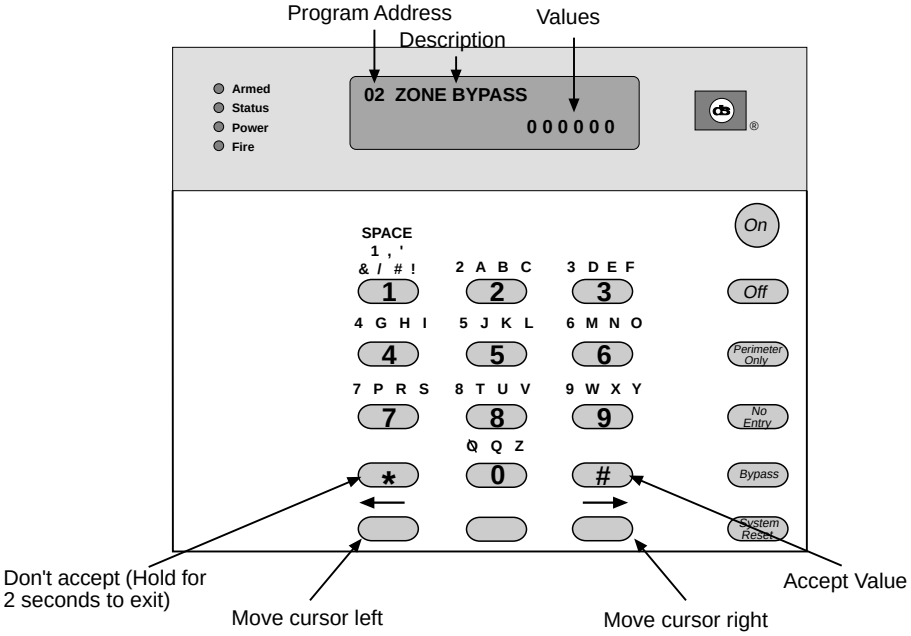
	DEVICE	LOCATION	TYPE
Example	*PIR*	*KITCHEN*	*Invisible alarm, alarm on short, alarm on open, 24-hour*
Zone 1			
Zone 2			
Zone 3			
Zone 4			
Zone 5			
Zone 6			

7.0 HOW TO PROGRAM THE DS7060

To enter the programming mode, the panel must be disarmed. When in the programming mode the control is disabled and no alarms will be processed, including 24-hour zones and fire zones.

To enter the Programmer's Mode, enter the Programmer's Code followed by [#] [0]. The default Programmer's Code is 9876. Enter the Program Address, i.e. [0] [2]. Press the [#] to change the values. After all values have been changed, press the [#] to accept the changes and return to the Program Address. Repeat the above until all addresses are programmed.

NOTE: 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:
*0 = A, *1 = B , *2 = C, *3 = D, *4 = E, *5 = F.



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

8.0 PROGRAMMING THE DS7060

Most control panel functions are controlled using a single program address. Some functions are grouped into one address. For example: The keypad emergency keys are programmed in Address 19. The first data digit of this address is for the Fire Key, the second is for the Help Key, and the third is for the Panic Key. Other addresses are configured this way also, with the address representing a group of functions and each data digit controlling a specific function.

Example: To program the Fire Key as Pulsing Audible, the Help Key as Steady Audible and the Panic Key as Invisible.

Use the following chart for each Address to record your selections before programming.

0 = Disabled
1 = Invisible
2 = Steady Audible
3 = Pulsing Audible

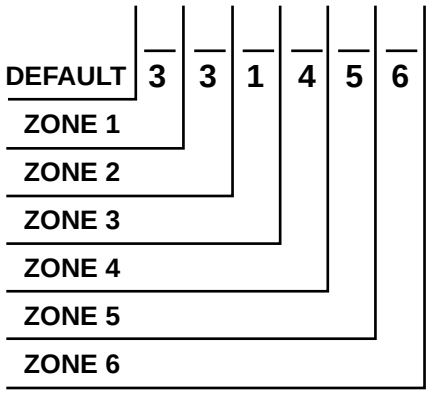
	3	2	1
DEFAULT	**0**	**0**	**0**
FIRE KEY [A]			
HELP KEY [B]			
PANIC KEY [C]			

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [1] [9]
Enter: [#] to change the values
Enter: [3] in the first data field to change the Fire Key to Pulsing Audible
Enter: [2] in the second data field to change the Help Key to Steady Audible
Enter: [1] in the third data field to change the Panic Key to Invisible
Enter the Pound button: [#]
Program the next Address, a different Address, or exit the Programmer's Mode.

8.1 Address 01 - Zone Programming

A zone is an input to the DS7060 Control/Communicator. There are 6 hard-wired zones on the main circuit board.

0 = Disabled
1 = Perimeter Instant
2 = 24 Hour
3 = Perimeter Delayed
4 = Interior Follower
5 = Interior Home/Away
6 = Interior Instant
7 = Perimeter Homeguard
8 = Perimeter Follower Homeguard
9 = Silence Audible
A = Keyswitch Toggle
B = Keyswitch On/Off
C = 24 Hour Fire w/Verify
D = Fire



- **Disabled:** These zones are not monitored, and will not generate alarm or trouble conditions.

- **Perimeter Instant:** These zones arm and disarm with the panel, and never have entry or exit delays. Violation of this type of zone will cause an intrusion alarm.

- **24-Hour Auxiliary:** This zone type will cause an auxiliary alarm. It is always active. An alarm on a 24-hour zone (fire or aux.) will be silenced by entering a disarm code whether the control is armed or not. If the 24-hour zone restores and alarms again the alarm will sound again. 24-hour zones may generate trouble conditions during armed or disarmed periods. All 24-hour zones that have alarmed and are not restored will show as “Not Ready.” They will prevent arming unless the panel is force armed. 24-hour zones that have been bypassed manually will remain so until manually unbypassed, even if the control is armed and disarmed. Bypasses of these zones will be displayed on the keypad.

- **Perimeter Delayed:** These zones have entry or exit delays unless the panel is armed in the “No Entry” mode.

  A delayed zone is ignored during the programmed times immediately following arming during the exit delay. If the zone is faulted while the control is armed and not in exit delay then an entry delay cycle will be started, and a continuous entry tone will be sounded at the keypads. If the control is not disarmed by the end of the entry delay, an alarm will result. There are no keypad tones during the exit delay unless the feature “Keypad Audible During Exit Delay” is selected. Refer to Section 8.9, Address 09. If an entry delay is running and another entry delay zone is faulted, the entry delay timer is unaffected and will continue timing from the first entry. The entry delay time and exit delay time can be set independently.

  If a delayed zone remains faulted at the end of an exit delay, the panel will optionally signal an exit error condition. The entry delay will be begin as above, and the alarm output will activate with the pattern selected for that zone. If the control is not disarmed by the end of the entry delay, an alarm will result, and an exit error report will be sent to the central station (following the alarm report if programmed). The alarm output will deactivate. If the control is disarmed during the delay period started by the exit error condition, no reports will be sent to the central station and any outputs on during the exit error will deactivate. The exit error report does not follow the dialer delay option.

- **Interior Follower:** This zone is not active when the panel is disarmed, or is armed in the perimeter only mode. When the zone is active, if a delayed zone is violated first, this zone is also delayed. If an instant zone or this zone type is violated first, this zone is not delayed. This zone is not active during the exit delay.

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

- **Interior Instant:** These zones arm and disarm with the panel. They are not active if the panel is armed in the “perimeter only” mode. They never have entry or exit delays. Violation of this type of zone will cause an intrusion alarm.

- **Perimeter Homeguard:** This zone type is active when the panel is armed. When the panel is armed perimeter only, this is a delayed zone. When armed full, this is an instant zone.

- **Perimeter Follower Homeguard:** These zones are always delayed when the panel is armed in the perimeter only mode. When the panel is fully armed, these zones are delayed if a delayed zone is violated first, or instant if this zone or an instant zone is violated first.

- **Silence Audible:** A zone configured as Silence Audible will, when activated, cause the panel to shut off output PO3 and keypad sounders. When this zone restores, the sounders will reactivate (if the timeout has not expired). It is used to facilitate voice communication for listen-in modules.

- **Keyswitch Toggle:** Each time this zone is closed, it will toggle the armed state of the panel. It has a 300 ms response time. No alarms or trouble conditions are generated by a zone of this type. Optionally, to support this feature, the panel will generate a single siren beep for arm actions and a double beep for disarm actions.

- **Keyswitch On/Off:** When this zone is closed, it will arm the panel. When it is shunted by an EOL (supervised), the panel will be disarmed. No alarms or trouble conditions will be generated by a zone of this type. Opening the zone will not affect the arming state of the control.

- **24-Hour Fire with Verification:** If a fire zone alarms and it is programmed for verification, the control will interrupt the programmable output(s) set as a switched power return for 10 seconds. During the 10 second power interruption, and for 5 seconds after power restoral, it will ignore all zone status on all fire zones (to ignore inrush currents). After five seconds, it will monitor all fire zones for two minutes. If any fire zone returns to alarm within the two minute window it will create a fire alarm condition. If a fire zone does not go into alarm within the two minute window it will disregard the initial trip. If another alarm occurs on a fire zone with verification after the two minutes, it will start the process over. After any fire zone is in alarm, all subsequent fire zones are treated as instant (no verification) until the next fire reset. This same procedure will be performed when a [SYSTEM RESET] is entered, except that the two minute instant alarm monitoring period is not observed.

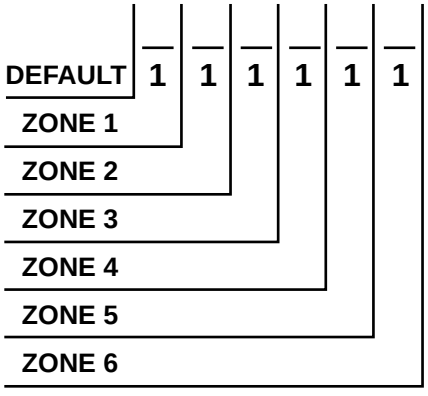
  Since alarm and trouble reporting to the central station for fire zones is the same as for burg zones (i.e. it is based on the state of the zone) it is possible for Fire, and Fire Trouble restoral signals to be transmitted even though the panel may still be displaying these zone conditions. This is because the displays are latched until cleared by an operator action.

- **Fire:** This zone is active and will alarm all 24 hours of the day regardless of the arming state of the control. An alarm on a fire zone will be silenced by entering a disarm code whether the control is armed or not. If the fire zone restores and alarms again the alarm will sound again. An open during the armed or disarmed period will send a trouble report and not an alarm. Fire zones are never silent, invisible, or swinger shunted. All fire zones that have alarmed will continue to show on all keypads until a fire reset is performed, even if they have physically restored. During this time they will prevent arming and they cannot be force bypassed. Fire zones may not be bypassed using BYPASS.

8.2 Address 02 - Zone Bypass

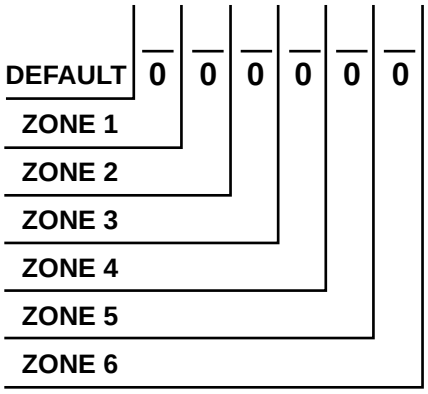
This determines whether the user can bypass the zone. Zones programmed for bypassing can be bypassed even when in alarm. Fire zones will not be bypassable, even if programmed as bypass allowed.

0 = Bypass Not Allowed
1 = Bypass Allowed



8.3 Address 03 - Zone Action

0 = Alarm on Short, Alarm on Open
1 = Alarm on Short, Trouble on Open
2 = Alarm on Open, Trouble on Short

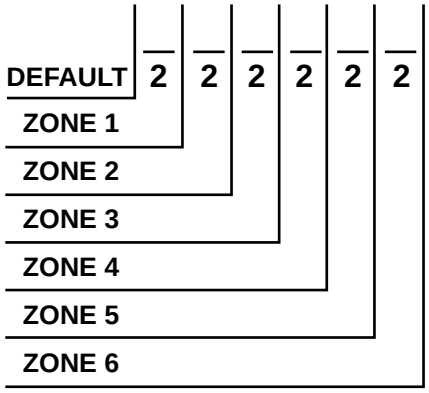


- **Alarm on Short:** This zone will alarm when the loop is shorted and the system is armed. It will generate a "Not Ready" while unarmed and prevent arming unless the problem is cleared, Forced Armed, or Bypassed.
- **Alarm on Open:** Works like Alarm on Short, but alarms when loop is opened.
- **Trouble on Short:** This zone will alarm when the loop is shorted and the system is armed. It will generate a "Trouble" while unarmed and prevent arming unless the problem is cleared, Forced Armed, or Bypassed.
- **Trouble on Open:** Works like Trouble on Short, but alarms when loop is opened.

NOTE: Fire zones will always be trouble on open (even if programmed otherwise).

8.4 Address 04 - Output Type

0 = Invisible (not valid for fire zone)
1 = Silent (not valid for fire zone)
2 = Steady
3 = Pulsing (PO3 only)

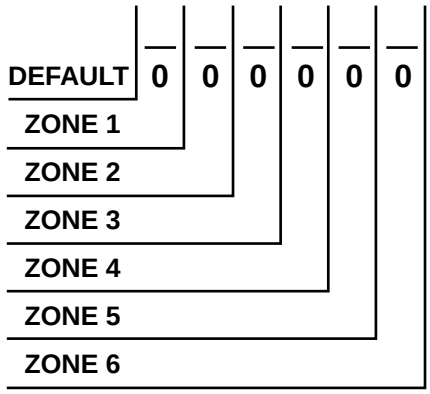


- **Invisible:** This is a zone programmed **not** to have an alarm output or an alarm display at any keypad when activated. An alarm signal will be sent, but the keypad display will not indicate an alarm while this zone is violated. Invisible alarm zones are recommended for holdup alarms.
- **Silent:** This is a zone programmed to activate the visual display at the keypad, but **not** audible signals. If this zone is also an entry zone, an entry tone will sound when this zone is activated.
- **Steady:** When this zone alarms all programmed outputs (prog1/prog2/prog3) will come on steady, unless they are already pulsing, in which case they will remain pulsing.
- **Pulsing:** The pattern for the pulsing audible output will be 0.5 sec on, 0.5 sec off repeated three times, with an additional 1 second delay between repeats. When zones are tripped which could cause both pulsing and steady outputs, the pulsing output will prevail. The alarm outputs will continue to be activated until the bell cutoff timer times out or is reset and then they will silence. Only programmable output 3 and the keypad sounders will pulse, regardless of the programming.

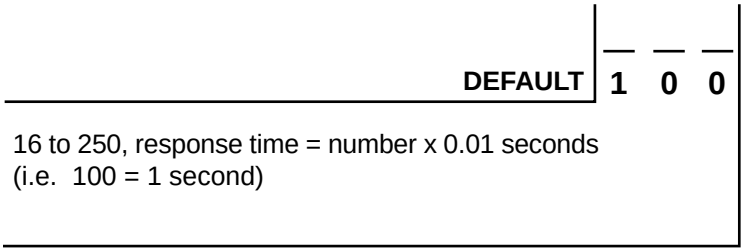
8.5 Address 05 - Zone Response Time

All six zones can be programmed to respond at either 300 ms (±100 ms) or a programmable time (common to all zones) that can be configured to be between 10 ms and 2.5 seconds.

0 = Use the Default ResponseTime (300 ms)
1 = Use the Response Time Programmed in Address 06

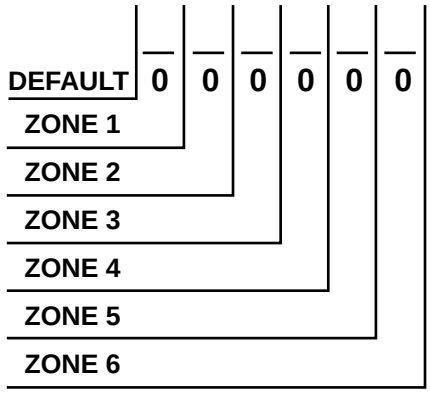


8.6 Address 06 - Programmed Response Time



8.7 Address 07 - Zone Restoral Options

0 = Restore when Sounders Silence
1 = Restore with Zone
2 = Restore when Disarmed (or Reset)



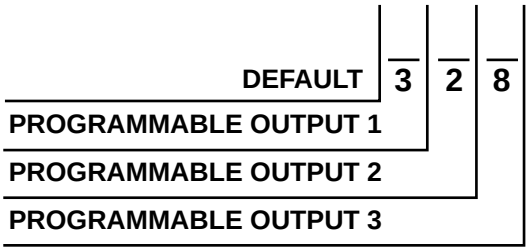
- **Restore when Sounders Silence:** If programmed, a zone sends a restoral report and is ready to activate again only after the burglary bell cutoff time expires or the bells are silenced. The zone can alarm multiple times per armed period.

- **Restore with Zone:** If programmed, a zone sends a restoral report and is ready to activate again as soon as it physically restores. The zone can alarm multiple times per armed period.

- **Restore when Disarmed (or Reset):** If the zone returns to normal before the bell timer elapses, the alarm display will continue and no restoral will be reported. When the bell timer then elapses, whether or not the zone has restored, the bell will shut down (if selected) but the alarm display will continue and no restoral will be reported. When the system is disarmed (or reset) the bell will silence, the displays will clear and restoral will be reported along with the open/reset event (if programmed). If the zone is a 24 hour zone and has not restored to normal, will not report zone restoral until the zone restores. Unrestored 24 hour zones will show as “not ready” and will prevent the system from arming. In this case, the system will reinitiate the sounders and displays for those zones, but will not send any fire alarm transmission to the central station for those zones, unless a previous restoral has been sent. Fire zones always restore when the system is reset, regardless of this selection.

8.8 Address 08 - Outputs

0 = Intrusion
1 = On During Entry Pre-Alert
2 = System Reset
3 = Armed
4 = Ground Start
5 = Ready to Arm
6 = Follow Burg Alarm
7 = Follow Fire Alarm
8 = Follow Burg and Fire Alarm
9 = Follow Keypad Sounder
A = Duress
B = Trouble



- **Intrusion:** This is an output programmed to latch with any Burg zone alarm, including invisible and silent zones. It will remain latched until the system is disarmed regardless of the restore setting for the zone.

- **On During Entry Pre-Alert:** This is an output programmed to activate when a perimeter delayed type zone is violated while the system is armed. It will remain activated until the system is disarmed, or until the entry delay time has expired.

- **System Reset:** This is an output programmed to activate only for 10 seconds after a PIN + [System Reset] is entered at a keypad or if a fire zone with verification activates. Output 1 turns on for 10 seconds, outputs 2 and 3 turn off for 10 seconds. Outputs 2 and 3 are intended to be used to power 4-wire smoke detectors or any other device that requires a power interruption to reset an alarm condition.

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

- **Ground Start:** This is an output programmed to activate for 3 seconds when the phone line is seized. It is intended for use with ground start phone systems that require a momentary short to ground to obtain a dial tone. Connect a separate 12 VDC, DPDT relay. Connect both relay commons to ground, and connect the N/O of each contact to terminal positions 24 and 25 (one to terminal 24, one to 25) of the DS7060. Not intended for U. L. Listed systems. Not for use with phone line monitors.

- **Ready to Arm (System Status):** This is an output programmed to follow the “Status” light of the keypad. It will activate when the system is ready to arm with no zones violated.

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

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

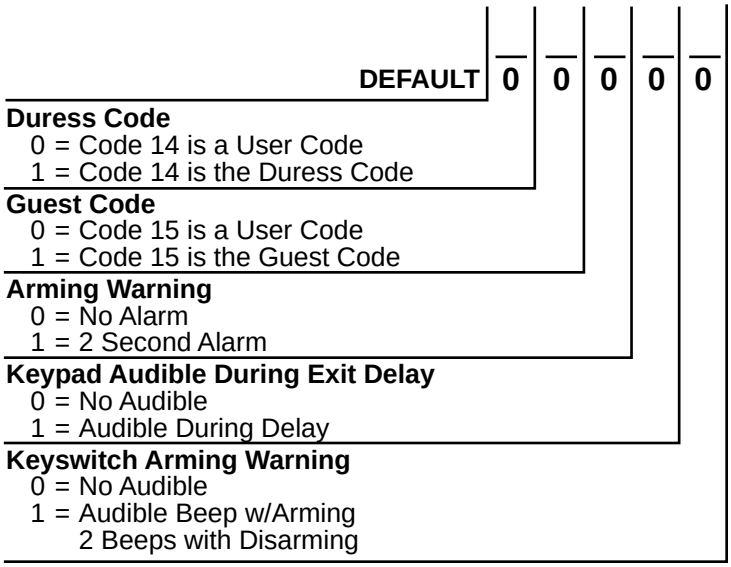
- **Follow Burg and Fire Alarm:** This programs an output to activate when any zone goes into alarm condition.

- **Follow Keypad Sounder:** This is an output programmed to follow the keypad sounder. It activates during the entry pre-alert . It does not follow momentary keypad beeps such as keystrokes.

- **Duress:** This output activates when the duress code is used to disarm the system.

- **Trouble:** This output activates when a trouble condition is present.

8.9 Address 09 - User Control



- **Duress Code:** If this option is selected and Code 14 is used to disarm the system, a duress report will be sent as the system is otherwise disarmed normally. User Code 14 will not arm the system, or report duress, if the system is not armed.

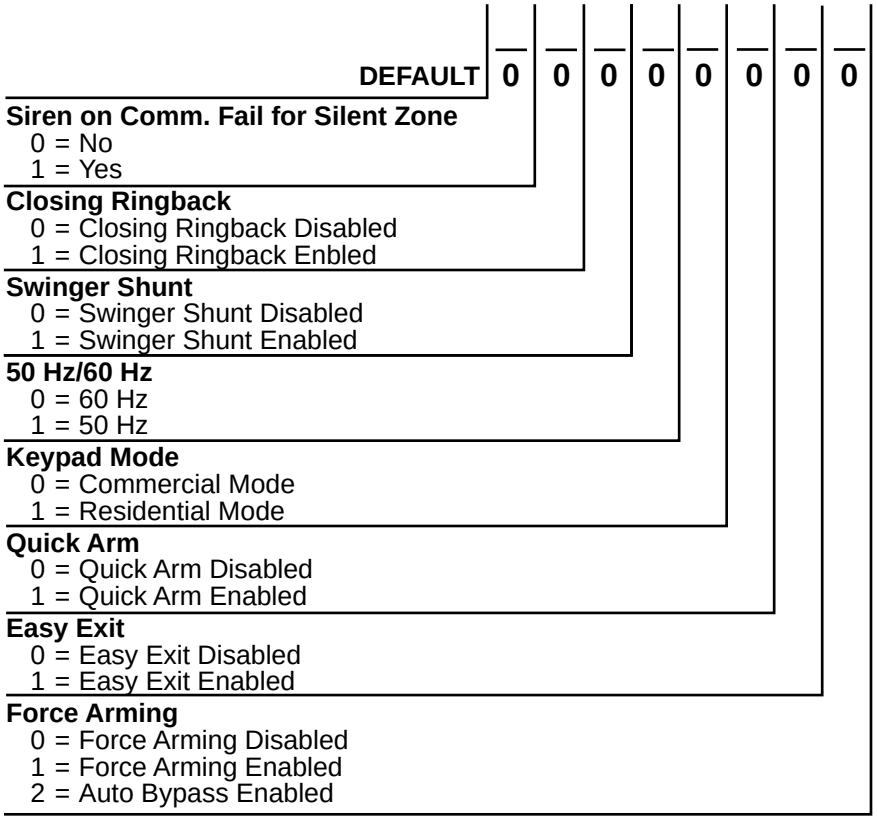
- **Guest Code:** If this option is selected, Code 15 is a guest code. It can be enabled by pressing [PIN] [#] [8] [4]. It will remain active until the panel is disarmed with any other valid code.

- **Arming Warning:** If this option is selected, the alarm output will turn on for 2 seconds when the panel is armed.

- **Keypad Audible During Exit Delay:** Selection of this option will cause the keypad sounders to beep during the exit delay time. A one second beep will sound at 5 second intervals, changing to a 3-beep tone at 10 and 5 seconds prior to the end of the delay.

- **Keyswitch Arming Warning:** Selecting this option will activate any output programmed as Intrusion, Follow Burg Alarm, or Follow Burg Alarm and Fire Alarm. The output will beep once (200 ms ON) when a keyswitch toggle zone arms the system. A double beep will occur (200 ms ON-OFF-ON) when a keyswitch toggle zone disarms the system.

8.10 Address 10 - General Control



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

- **Closing Ringback:** If programmed, the keypad sounders and Output 3 will activate for 2 seconds after the system is armed and the closing report is successfully sent. This requires Closing Ringback and Closing Report to be programmed.

- **Swinger Shunt:** If enabled, a zone can only alarm or trouble up to three times per armed period. After the third alarm or trouble, the zone will be bypassed and a trouble report for this zone will be sent. Fire zones are never swinger shunted.

- **50 Hz/60 Hz:** Set to local power type. The panel clock is synchronized to the power line frequency. 60 Hz required for U. L. Certificated installation.

- **Keypad Mode:** Commercial Mode requires a PIN number for all functions. Residential Mode only requires a PIN number for disarming and silencing alarms.

- **Quick Arm:** If enabled, a PIN is not needed to arm. Note: Used only in conjunction with commercial mode.

- **Easy Exit:** If the system is armed and there have been no zones violated, then you can reenter a Quick Arm Command without first disarming the system. This allows you to change the arming level or to restart the exit delay so you can exit through an entry/exit zone.

- **Force Arming:** If enabled, the system can be armed when zones are violated or if an AC power falure has occurred, by pressing the [Bypass Key] after an arming command. If bypassing is not allowed, a three beep error tone will sound and the panel will return to standby mode.

- **Auto Bypass:** If enabled, the system will automatically bypass faulted zones when an arming command is used. If bypassing is not allowed on the open zone, a three beep error tone will sound, and the panel will return to standby mode.

8.11 Address 11 - Keypad Assignment

The keypad type (LED or Alpha) or no keypad must be programmed.

0 = No Keypad or Keypad Disabled
1 = LED Keypad
2 = Alpha Keypad

DEFAULT	**2**	**0**	**0**	**0**
KEYPAD 1				
KEYPAD 2				
KEYPAD 3				
KEYPAD 4				

8.12 Address 12 thru 18 - Alpha Label

Address 12 - Private Label:

The private label will display when the system is Ready to Arm and when it is Armed.

Address 13 - Zone 1 Alpha Label:

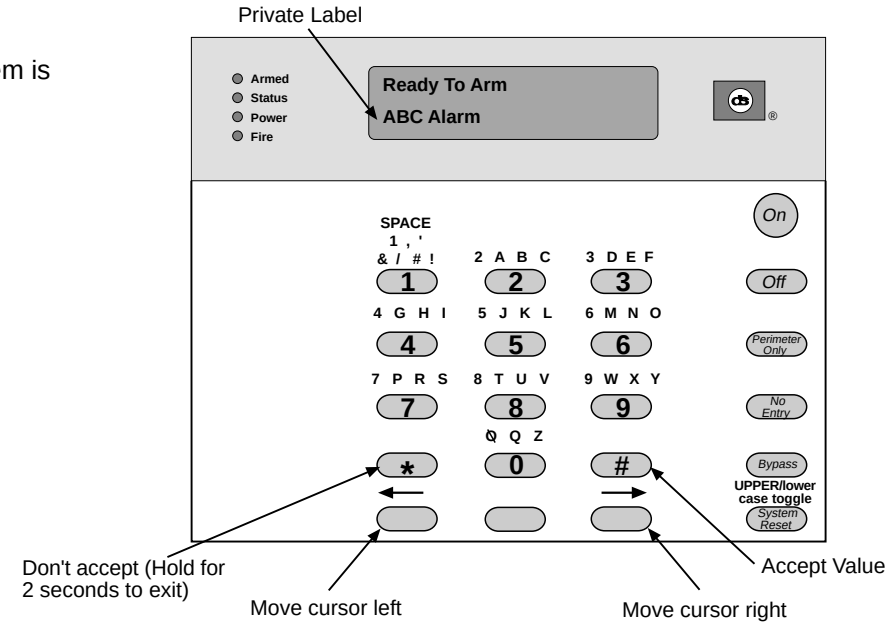
Address 14 - Zone 2 Alpha Label:

Address 15 - Zone 3 Alpha Label:

Address 16 - Zone 4 Alpha Label:

Address 17 - Zone 5 Alpha Label:

Address 18 - Zone 6 Alpha Label:



Example: To program “ABC Alarm” as the Private Label

Enter the Programmer’s Mode:	[9] [8] [7] [6] [#] [0]
Enter the Program Address:	[1] [2] followed by [#]
Enter:	[2] for the letter “A” then press the right arrow key to continue with the next letter
Enter:	[2] twice for the letter “B” then press the right arrow key for the next letter.
Enter:	[2] three times for the letter “C” then press the right arrow key for the next letter.
Enter:	[1] until you have a blank space (Note: Moving the cursor to the left does not create a space. Spaces must be programmed into the Alpha using the [1] key.
Enter:	[2] for the letter “A” then press the right arrow key for the next letter.
Enter:	[System Reset] The “System Reset” key is the UPPER/lower case toggle.
Enter:	[5] three times for the letter “l” then press the right arrow key for the next letter.
Enter:	[2] for the letter “a” then press the right arrow key for the next letter.
Enter:	[7] twice for the letter “r” then press the right arrow key for the next letter.
Enter:	[6] for the letter “m.”
Enter:	[#] Program the next address, program a different address or exit the Programmer’s Mode.

8.13 Address 19 - Special Keys

0 = Disabled
1 = Invisible
2 = Steady Audible
3 = Pulsing Audible

DEFAULT	**0**	**0**	**0**
FIRE KEY [A]			
HELP KEY [B]			
PANIC KEY [C]			

- **Disabled:** Special Key not programmed.
- **Invisible:** Special Key programming for no display of alarm on the keypad or on outputs. Not to be used with the Fire Key.
- **Steady Audible:** Special Key programming for steady alarms on outputs and keypad sounders. Will turn on steady unless alarms are already pulsing.
- **Pulsing Audible:** Special Key programming for pulsing alarms on output and keypad sounders.
- **Fire Key [A]:** The emergency key at the bottom left of the keypad entry area is the Fire Key. If programmed, the key will activate a fire alarm when pressed for 2 seconds. May not be programmed as an invisible alarm.
- **Help Key [B]:** The help key at the bottom center of the keypad entry area is the Help Key. If programmed, the key will activate a supplementary or an auxiliary type alarm when pressed for 2 seconds.
- **Panic Key [C]:** The emergency key at the bottom right of the keypad entry area is the Panic Key. If programmed, the key will activate a panic alarm when pressed for 2 seconds; nothing will display at the keypad to indicate an alarm.

8.14 Address 20 - Report Control

NOTE: Closing Reports (and subsequent Open Reports) are only sent when the system is fully armed [PIN] + [ON] Commercial Mode or [#] + [ON] Residential Mode.

DEFAULT	**1**	**1**	**1**	**1**

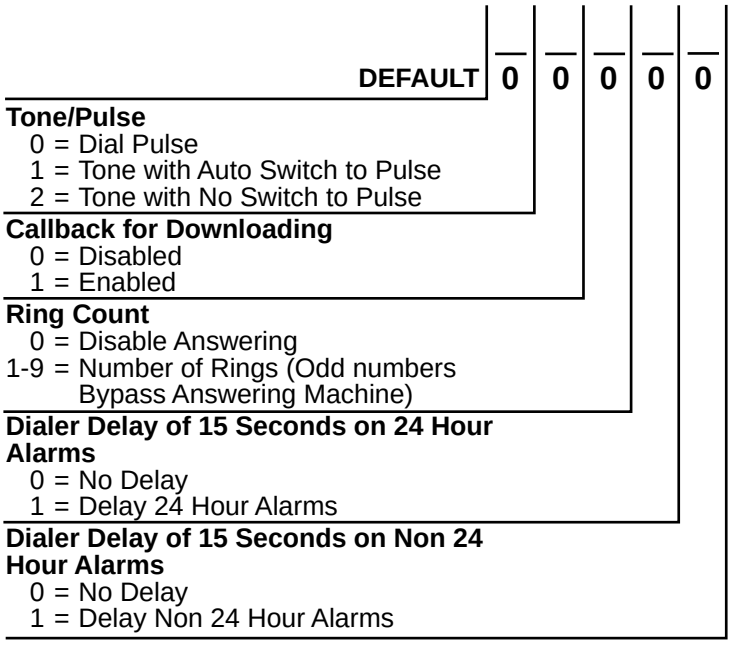
OPENING/CLOSING REPORTS
0 = Disabled, don't send Opening and Closing Reports
1 = Always send Opening & Closing Reports, do not send Bypass Reports for any zone bypassed or force armed.
2 = Always send Opening & Closing Reports and send Bypass Reports for each zone bypassed or forced armed (even if swinger shunted for troubles, but not for interior bypass).
3 = Only Send Opening & Closing Reports if any zones are bypassed or force armed, and send Bypass Reports for each of these zones (even if swinger shunted for troubles, but not for interior bypass).

OPEN/CLOSE REPORT ROUTING
0 = Do Not Report (not allowed for alarm report)
1 = Phone 1 Only
2 = Phone 2 Only
3 = Both Phones 1 and 2
4 = Phone 1, Phone 2 as backup

ZONE ALARM, RESTORAL, BYPASS REPORT ROUTING
0 = Do Not Report (not allowed for alarm report)
1 = Phone 1 Only
2 = Phone 2 Only
3 = Both Phones 1 and 2
4 = Phone 1, Phone 2 as backup

ALL OTHER REPORT ROUTING (SYSTEM ROUTING)
0 = Do Not Report (not allowed for alarm report)
1 = Phone 1 Only
2 = Phone 2 Only
3 = Both Phones 1 and 2
4 = Phone 1, Phone 2 as backup

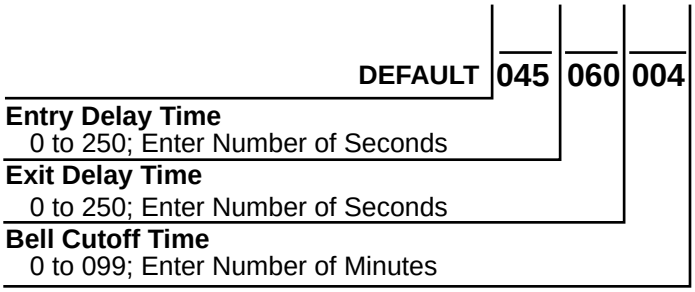
8.15 Address 21 - Phone Number Control



- **Dial Pulse:** If programmed, the panel will dial to phone number 1, 2, or 3 using a pulse format.
- **Dial Tone:** If programmed, the panel will dial to phone number 1, 2, or 3 using a tone format. NOTE: When dialing through PBX systems, program the phone control as tone dial only.
- **Tone with Auto Switch to Pulse:** If programmed, the control panel will try to dial the first digit in tone dial and check to see if the dial tone has been broken. If it has not been broken, it will try to dial again using pulse dial. NOTE: Do not use this setting for PBX systems.
- **Tone with No Switch to Pulse (required for PBX):** This setting will only use Tone dialing.
- **Callback for Downloading:** When enabled, if an attempt is made to connect to the panel for a remote programming session the panel will hang up and callback the number programmed for Phone 3, Address 44 and 45.
- **Ring Count:** The control panel can be programmed to answer the phone after a selected number of rings for remote programming access.
- **Answering Machine Bypass:** This feature allows the control panel to answer incoming calls when answering machines are used. If the line rings, stops ringing, then rings again within one minute, the panel will seize the phone line on the first ring. To disable this feature, program the control panel to answer on an even number of rings.
- **Dialer Delay:** A Dialer Delay of 15 seconds can be added when reporting burglar alarms, 24-hour burglar alarms, and fire alarms. This delay will help to prevent false alarm reports by giving the user 15 seconds to disarm the system before a report is sent.

8.16 Address 22 - Dial Attempts

8.17 Address 23 - Time Delays



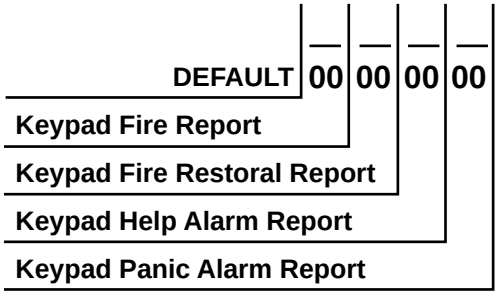
REPORTS

Program locations 24 through 36 are used differently for the particular Phone Format Chosen (see Address 38, 39).

- If a value of 00 is programmed in any of these locations the panel will not send that particular report.
- **Pulsed Formats** (3/1, 3/1E, 3/1 with Parity, 3/1E with Parity, 4/1, and 4/2) will need a unique value placed at each address location. As a recommendation for the pulsed formats, the table in Section 14.1 “Suggested Values” gives a baseline from which to program the various addresses. Please note that each Central Station receiver differs slightly in the report codes that it expects. Therefore, it is best to verify the codes you use with the Central Station. Some of the reports that can be sent, such as OPEN, CLOSE, PARTIAL CLOSE can send an associated User Number as the second digit. To accomplish this, program an F (*5) as the second digit in the program location. When the report is sent the panel will replace the F with the appropriate user number. Pulsed formats 3/1, 3/1 with Parity, and 4/1 need a 0 for the second digit and cannot send user numbers. A non-zero in the second digit location indicates an extended 3/1E or 4/1E format.
- **Fixed Report Formats** (Contact ID, 4/9) have well defined reports that are sent regardless of the value programmed in the report code location. Any non-zero value programmed in the report code location will send the appropriate report. Refer to Section 14.2 “Values Sent” for a list of reports that are possible to send based on the report program locations.
- **Special Formats** (Personal Dialing Format, Pager) are not recommended for primary reporting. If they are used, Personal Dialing Format could use the same report codes as the Pulsed Formats. Pager has a limitation in that it can’t use the Hex values A (*0), B (*1), C (*2), D (*3), E (*4), F (*5). These values can not be passed on to a Numeric Pager. See Section 14.1 “Suggested Values” for some recommended report values for the Pager format.

8.18 Address 24 - Keypad Report

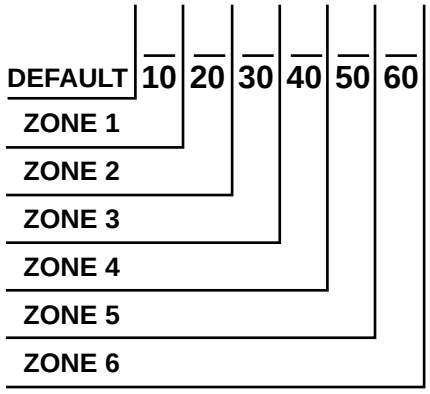
Two Digits, 00 through FF



- **Keypad Fire Report:** This report is sent when a fire alarm has been activated using the “A” emergency key.
- **Keypad Fire Restoral Report:** This report is sent when a keypad fire alarm has been restored using the [System Reset] command.
- **Keypad Help Alarm Report:** This report is sent when an help alarm has been activated using the “B” emergency key.
- **Keypad Panic Report:** This report is sent when an emergency alarm has been activated using the “C” emergency key.

8.19 Address 25 - Zone Alarm Report

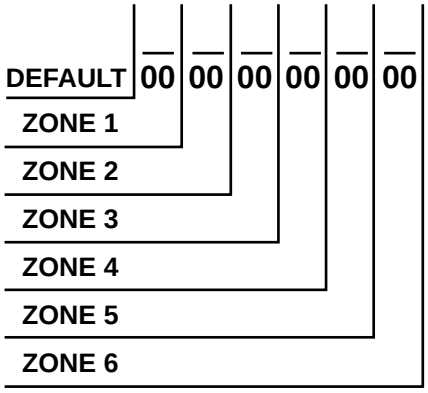
Two Digits, 00 through FF



- **Zone Alarm:** An alarm report is sent when a zone alarm occurs. Program this report for any zones you wish to send an alarm report for. For local zones (no reports), replace default with 00.

8.20 Address 26 - Zone Alarm Restoral Report

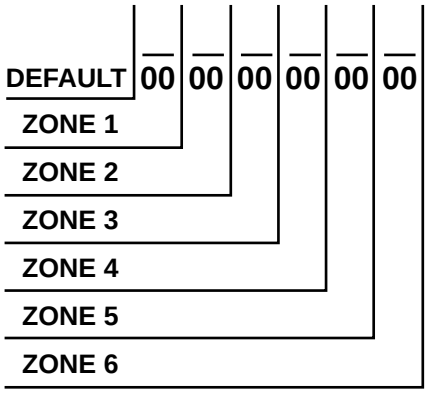
Two Digits, 00 through FF



- **Zone Alarm Restoral:** This report is sent when the zone alarm is cleared. Refer to Address 07 for exact point at which report will be sent.

8.21 Address 27 - Zone Trouble Report

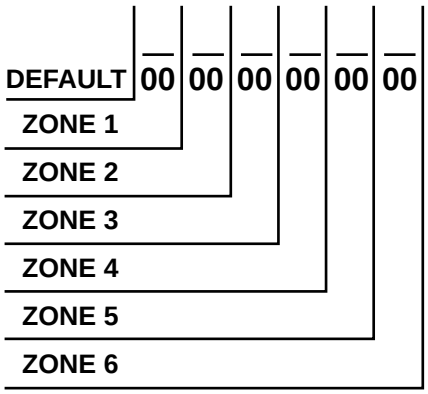
Two Digits, 00 through FF



- **Zone Trouble:** This report is sent when a zone trouble condition occurs.

8.22 Address 28 - Zone Trouble Restoral Report

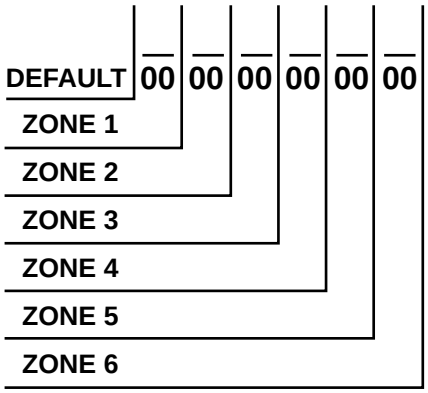
Two Digits, 00 through FF



- **Zone Trouble Restoral:** This report is sent when the zone trouble condition is cleared.

8.23 Address 29 - Zone Bypass Report

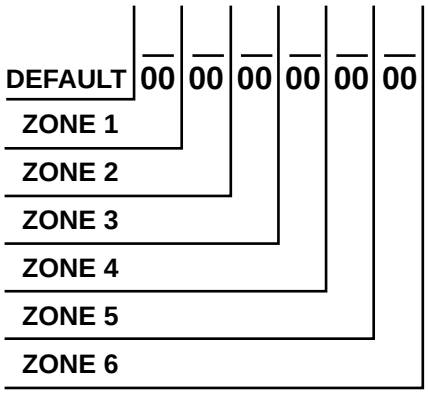
Two Digits, 00 through FF



- Zone Bypass Reports are sent with the Closing Report. Address 20 digit 1 must be set for 2 or 3 for these reports. See Section 8.14 - Report Control.

8.24 Address 30 - Zone Bypass Restoral Report

Two Digits, 00 through FF

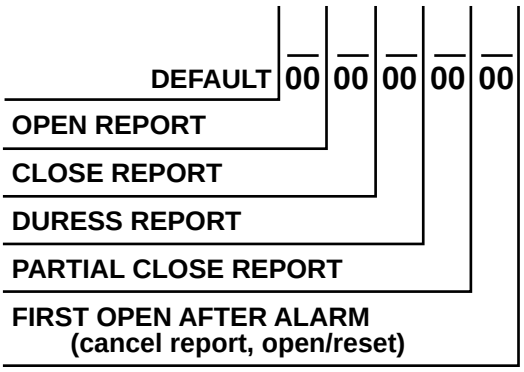


- Zone Bypass Restoral Reports are only sent with an Opening Report. Address 20 digit 1 must be set for 2 or 3 for these reports. See Section 8.14 - Report Control.

8.25 Address 31 - Open/Close Duress Report

Two Digits, 00 through FF (If second digit is F, the user code is substituted) NOTE: 3/1, 3/1 with Parity, and 4/1 will not send a user number.

NOTE: If "Quick Arm" or Residential Mode is used, User #1 will be reported in closing reports.



- **Open:** This report is sent when the system has been disarmed. In Contact ID or 4/9 formats, the user number for the person who disarmed the system will be sent with this report. To send the user number along with an Open Report in other formats, program the extended digit of the report as F ([*] [5]). The Open Report will only be sent if a Close Report was sent previously.

- **Close:** This report is sent when the system has been armed. In Contact ID or 4/9 formats, the user number for the person who armed the system will be sent with this report. To send the user number along with a Close Report in other formats, program the extended digit of the report as F ([*] [5]).

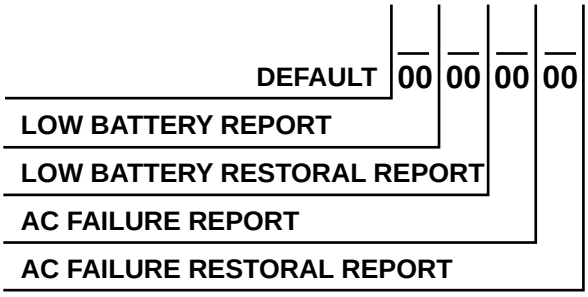
- **Duress:** This report is sent when the system is disarmed using a duress code. The user number will not be sent along with this report.

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

- **First Open After Alarm:** This report is sent when the system is disarmed after an alarm has occurred. It will also be sent if the system is already disarmed and a user number is entered to silence a 24-hour or fire zone.

8.26 Address 32 - Battery, AC Report

Two Digits, 00 through FF



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

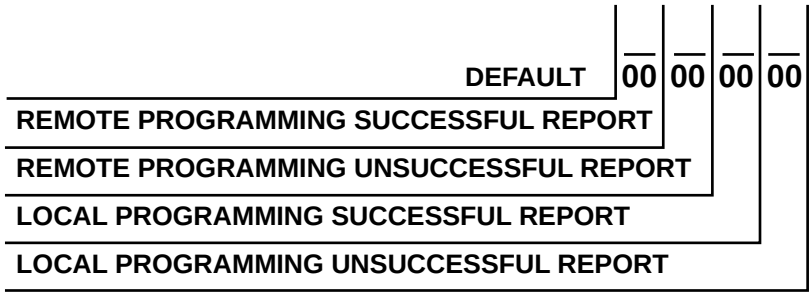
- **Low Battery Restoral Report:** This report is sent when a low battery condition restores.

- **AC Failure Report:** This report is sent after an AC failure condition occurs. AC failure reports will only be sent along with other reports if Address 50 is set to "000." Otherwise reports will be sent after the delay set in Address 50.

- **AC Failure Restoral Report:** This report is only sent along with other reports if Address 50 is set to "000." Otherwise reports will be sent after the delay set in Address 50.

8.27 Address 33 - Programming Report

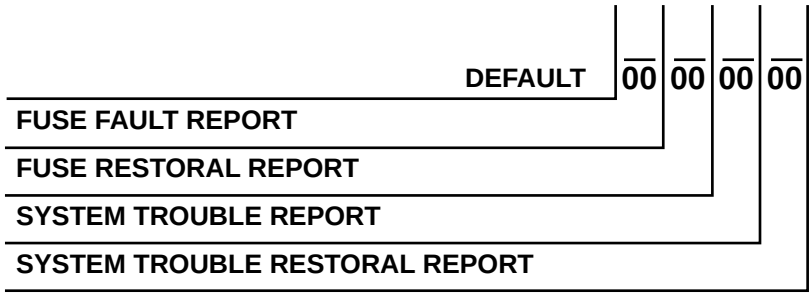
Two Digits, 00 through FF (uses system report routing)



- **Remote Programming Successful:** This report is sent after a Remote Programming session, if the session was terminated properly.
- **Remote Programming Unsuccessful:** This report is sent after a Remote Programming session, if some error has occurred or the session did not terminate properly.
- **Local Programming Successful:** This report is sent when local programmer's mode is exited and there has been no error associated with the programming.
- **Local Programming Unsuccessful:** This report is sent when local programmer's mode is exited and there has been some error associated with the programming.

8.28 Address 34 - System Report

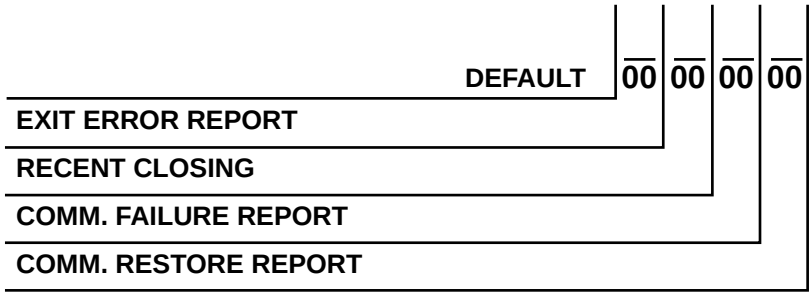
Two Digits, 00 through FF (uses system report routing)



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

8.29 Address 35 - Exit Error, Recent Closing, Comm. Failure Report

Two digits, 00 through FF, (if second digit is F, the user code is substituted except if 3/1, 3/1 with Parity, or 4/1 format is used).



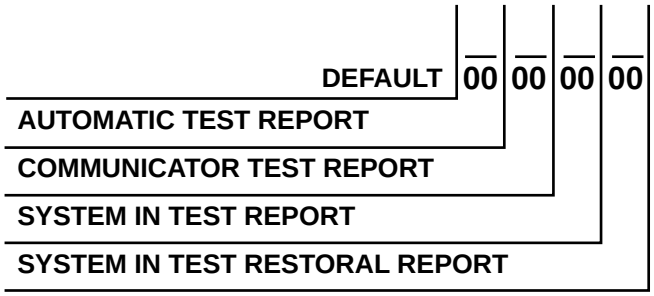
- **Exit Error:** This report is sent if an exit error occurs. An exit error occurs when an entry/exit zone is still violated at the end of the exit delay. If this happens, the entry delay will begin. If the system is not disarmed before the entry delay expires, an alarm report for the effected zone will be sent and the Exit Error Report will be sent.
- **Recent Closing:** This report is sent, along with any alarm reports, when there is an alarm within the first five minutes after the system has been armed.

- **Comm. Failure Report:** This report is sent after the programmed number of communicator attempts. Refer to Address 22 - Dial Attempts.

- **Comm. Restore Report:** This report is sent after there has been a communicator failure. Retries will occur after 30 minutes, then every 24 hours or when a new event occurs. When the next successful communicator attempt occurs, this report will be included.

8.30 Address 36 - Test Reports, System Test

Two Digits, 00 through FF



- **Automatic Test Report:** This report is sent at fixed intervals determined by programming Address 48 - Automatic Test Report Interval. By default, the panel will send the first automatic report 12 hours after the panel has been powered up, and from that point on, it will follow the interval selected by Address 48. The time before the first Automatic test report is sent can be adjusted between 1 and 24 hours after the panel has been powered up by setting Address 49 - Hours to First Auto Test Report.

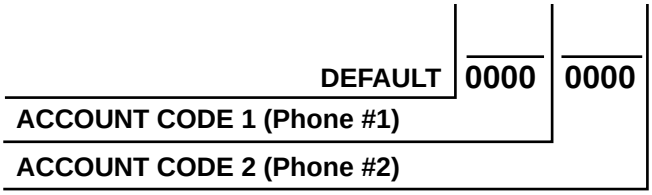
- **Communicator Test Report:** This report is sent as a result of initiating a Communicator Test, a PIN + [#] [8] [2] command sequence.

- **System Test:** This report is sent when a system test has been started using the [#] [8] [1] key sequence.

- **System Test Restoral:** This report is sent when the system test [#] [8] [1] has been completed or has timed-out.

8.31 Address 37 - Account Codes

4 Digits, 0000 through FFFF



NOTE: If the account code is "0000" no reports will be sent.

NOTE: If a 3-digit code is required (when using pulse formats 3/1 and 3/1 with Parity) the fourth digit must be 0. For example: If the account code is 121, program 1210 in the account code address.

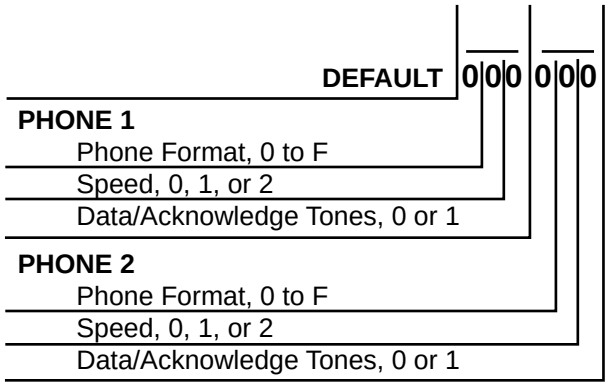
NOTE: If using personal dialing or Pager format an account code is still required, even if the system does not report to a central station. The account code must use digits 0-9. A-F cannot be displayed on a pager.

8.32 Address 38 - Phone #1 Format
Address 39 - Phone #2 Format

PHONE FORMAT
- 0 = Disabled
- 1 = 3/1
- 2 = 3/1E (Extended Reporting)
- 3 = 3/1 with Parity
- 4 = 3/1E with Parity
- 5 = 4/1
- 6 = 4/2
- 9 = Contact ID
- C= Personal Dialing
- D= 4/9
- F = Pager

SPEED
- 0 = 10 pps
- 1 = 20 pps
- 2 = 40 pps

DATA/ACKNOWLEDGE TONES
- 0 = 1900 data - 1400 ack
- 1 = 1800 data - 2300 ack



8.33 Address 40-41 Phone #1 (Reporting)
Address 42-43 Phone #2 (Reporting)
Address 44-45 Phone #3 (Remote Programming)

Address 40 Phone #1 (digits 1-16): _____

Address 41 Phone #1 (digits 17-32): _____

Address 42 Phone #2 (digits 1-16): _____

Address 43 Phone #2 (digits 17-32): _____

Address 44 Phone #3 (digits 1-16): _____

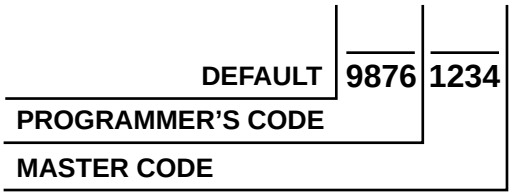
Address 45 Phone #3 (digits 17-32): _____

NOTE: To dial the [*] character, enter *1 (The [*] character is sent as “1” “1” when pulse dialing). The letter “B” will be displayed.
To dial the [#] character, enter *2 (The [#] character is only valid when tone dialing). The letter “C” will be displayed.
To input a three second delay, enter *3. The letter “D” will be displayed.
To wait for the dial tone, enter *4 in the first digit. The letter “E” will be displayed.
To disable a phone number, enter *5 in the first digit. The underscore “_” will be displayed.
To delete the phone number from the display window, enter *5 in all digits.

8.34 Address 46 - Programmer & Master Codes

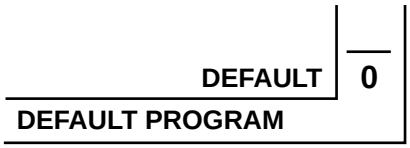
See Section 5.2 Personal Identification Numbers for more information.

Four Digits each code: 0000 through 9999
* User Codes 2 through 15 are programmed from Master Code Programming Mode



8.35 Address 47 - Default EEPROM

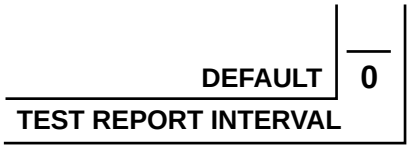
0 = No Action
1 = Load Factory Default



CAUTION: Entering a [1] in Address 47 will erase all prior programming.

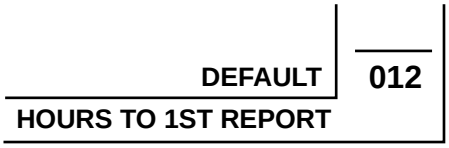
8.36 Address 48 - Automatic Test Report Interval

0 = None
1 = Callout Daily
2 = Callout every 7 days
3 = Callout every 28 days



8.37 Address 49 - Hours to First Auto Test Report

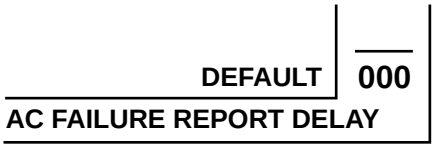
001-023 hours



- Set this value to the number of hours from the present time for the first report. Example: If the present time is 2 PM and you want test reports at 3 AM, set to [0 1 3] (2 PM + 13 hours = 3 AM). If not set, the first report will be sent 12 hours after panel power up.

8.38 Address 50 - AC Failure Report Delay

000 to 250; Enter Number of Minutes



- Address 32 must be programmed for this report.

NOTE: If AC power should restore before the "AC Failure Report" time, no AC Failure Report will be sent.

9.0 INSTALLATION GUIDE FOR U. L. LISTED SYSTEMS

9.1 DS7060 U. L. Listings

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

The control panel has not been investigated to the requirements of UL294.

The control panel should be installed in accordance with U. L. Standard UL681, Installation and Classification of Mercantile and Bank Burglar Alarm Systems, or U. L. Standard UL1641, Installation and Classification of Residential Burglar Alarm Systems. It should also be installed in accordance with NFPA 72 for Household installations.

The following table shows the DS7060 system configuration for the various types of fire and burglar alarm service for which the products are U. L. Listed.

PRODUCT	U. L. APPLICATION					
	CSB-A	CSB-B/C	LB-A	PSCB-D-A	PSCB-RF-A	HF/B
DS7060	R	R	R	R	R	R
Standard Enclosure	n/a	n/a	n/a	n/a	n/a	1
Attack Enclosure	R	R	R	R	R	1
DS7443	2	2	2	2	2	2
DS7445	2	2	2	2	2	2
DS7447	2	2	2	2	2	2
Spectrum PAL200	R	n/a	n/a	n/a	R	n/a
AB-12 Bell/Housing	R	R	R	R	R	n/a

Key to Application Codes

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

Key to Application Codes

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

9.2 Installation Considerations

- Failure to install and program the control in accordance with the requirements in this section voids the listing mark of Underwriters Laboratories, Inc.
- The standby battery capacity is 7 AH @ 12 VDC.
- The total nominal current must not exceed 800 mA when on standby or in alarm.
- The control must be mounted indoors and within the protected area.
- Enclosure tamper switches (if used) must be connected to a 24-hour zone.
- Grounding must be in accordance with article 250 of the NEC (NFPA 70).
- At least one U. L. Listed keypad with zone display must be connected.
- Zones must be connected to U. L. Listed, compatible devices.

- 50 Hz AC input cannot be used in U. L. Certificated installations.
- The ground wire provided with the enclosure must be connected between the “Earth GND” connection on the control and the enclosure tab.
- The keypad panic alarm output must follow the corresponding zone’s programming (e.g. fire = pulsing [or steady if not a combination], burglary = steady). In all cases, the special emergency keys must be silent.
- The ground start feature shall not be programmed.
- Compatible keypads are Detection Systems’ DS7443, DS7445, and DS7447.
- The Pager format must not be employed.
- The alarm output must not be delayed.

9.3 Programming the DS7060

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

Household Fire Alarm (using Digital Alarm Communicator Transmitter with local bell)

The control must be installed in accordance with NFPA 72.

Required Accessories:
- At least one Detection Systems’ model DS250 Series 4 wire smoke detector with an MB4W Series 4 wire base, or another Listed 4 wire smoke detector.
- One Wheelock 46T-G10-12 bell or 34T-12 horn (will provide 85dB for UL985 and NFPA 72 requirements; other Listed compatible devices with a voltage range of 10.2 to 14.0 V may be used) is required for this application and must be installed inside the protected area.
- The standard control enclosure can be used.
- At least one DS7443, DS7445 or DS7447 Keypad must be used.
- Four-wire detectors must be used with Listed power supervision devices. A compatible Listed four-wire detector is the Detection Systems, Inc. DS250 in an MB4W base. A compatible Listed EOL relay is the Detection Systems, Inc. EOL200.
- All zones must be used with the EOL resistor (P/N 25899) provided.

A. Report Programming:
   - Fire Zone Report must be programmed.
   - Low Battery Report (Program Address 32) must be programmed.
   - AC Failure Report (Program Address 32) must be programmed.

B. Timer Programming:
   - Bell Cutoff Time (Program Address 23) must be programmed for not less than 4 minutes.

C. Zone Programming:
   - For household fire installations only, the output signal may be pulsed or steady. For a combination system, see the selection below on alarm output programming. Fire zones must be programmed (Address 03 - Zone Action) for alarm on short, trouble on open (value = 1).

D. Alarm Output Programming:
   - Program fire zone outputs as pulsed, burglar zone outputs as steady (Address 04).

E. General Control Programming:
   - Program Address 10 must be programmed as 0 1 0 X 0 0 0 0. (X = country dependent)
   - Program Address 10 must be programmed for Swinger Shunt disabled.
   - Program Address 10 must be programmed as Force Arming disabled.

Grade A Household Burglary Alarm (using Digital Alarm Communicator Transmitter with local bell)

The control must be installed in accordance with U. L. Standard UL1641.

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

- The standard DS7060 enclosure can be used.

A. Report Programming:
   - Burglar Zone Reports must be programmed for those zones used.
   - Low Battery Report (Program Address 32) must be programmed.
   - AC Failure Report (Program Address 32) must be programmed.

B. Timer Programming:
   - Bell Cutoff Time (Program Address 23) must be programmed for not less than 4 minutes.
   - Entry Delay Timer (Program Address 23) must be programmed for not longer than 60 seconds.
   - Exit Delay Timer (Program Address 23) must be programmed for not longer than 45 seconds.

C. General Control Programming:
   - Program Address 10 must be programmed for Swinger Shunt disabled.
   - Program Address 10 must be programmed as Force Arming disabled.

D. Alarm Output Programming:
   - Program Address 08 must be programmed as [X] [X] [8] (follow burglar and fire alarm).
   - Program Address 04 must be programmed as and burglar zones 2 (steady) and fire zones 3 (pulsing).

NOTE: In a system that includes both fire alarm and burglar alarm devices, the system must produce distinct sounds for fire and burglar alarm conditions either by using different indicating appliances or by using distinct cadences for the same appliance.

Local Burglary Alarm

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

Grade A Installations using Digital Alarm Communicator Transmitter with local bell

Required Accessories:
- The control must be mounted in the Detection Systems' model AE7060CC enclosure with a cover actuated tamper switch installed.
- The Ademco Model AB-12 bell/housing (see Section 9.4).

1. Report Programming:
   - Burglar Zone Reports must be programmed for those zones used.
   - Low Battery Report (Program Address 32) must be programmed.
   - AC Failure Report (Program Address 32) must be programmed.
   - Open Report (Program Address 31) must be programmed.
   - Close Report (Program Address 31) must be programmed.
   - 24-Hour Check-In Reports (Program Address 36) must be programmed.

2. Timer Programming:
   - Bell Cutoff Times (Program Address 23) must be programmed for not less than 15 minutes.
   - Entry, Exit Delay Times (Program Addresses 23) must be programmed for not longer than 60 seconds.

3. General Control Programming:
   - Must be programmed for Swinger Shunts disabled, Closing Ringback disabled, and Force Arming disabled (Program Address 10).

4. Zone Programming:
   - The Burglar alarm output signal, Address 04, (whether pulsed or steady) must be different from the Fire alarm signal.

5. Alarm Output Programming:
   - Program Address 08 must be programmed as [X] [X] [8].

Police Station Connection

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

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

Required Accessories:

- The control must be mounted in the Detection Systems' model AE7060CC enclosure with a cover actuated tamper switch installed.
- The Applied Spectrum PAL200.
- The Applied Spectrum PAL200 must be installed in the same room as the control and the wiring from the Applied Spectrum PAL200 to the control must be in conduit.
- The Applied Spectrum PAL200 inputs should be connected to the alarm outputs (the active alarm sounder output may be used).

1. Report Programming:
   Programming shall be enabled to allow all alarm signals to be transmitted via the DACT and PAL200.
   - Burglar Zone Reports are not required since the alarms are transmitted over the PAL200.
   - Low Battery Report (Program Address 32) must be programmed.
   - AC Failure Report (Program Address 32) must be programmed.
   - Open Report (Program Address 31) must be programmed.
   - Close Report (Program Address 31) must be programmed.
   - 24-Hour Check-In Reports (Program Address 36) must be programmed.

2. Timer Programming:
   - Entry, Exit Delay Times (Program Address 23) must be programmed for not longer than 60 seconds.

3. General Control Programming:
   - Must be programmed for Swinger Shunts disabled, Closing Ringback disabled, and Force Arming disabled (Program Address 10).

4. Zone Programming:
   - The Burglar alarm output signal, Address 04, (whether pulsed or steady) must be different from the Fire alarm signal.

5. Alarm Output Programming:
   - Program Address 08 must be programmed as [X] [X] [8].

Grade A Installations using Digital Alarm Communicator Transmitter with local bell

Required Accessories:

- The control must be mounted in the Detection Systems' model AE7060CC enclosure with a cover actuated tamper switch installed.
- The Ademco Model AB-12 bell/housing (see Section 9.4).

1. Report Programming:
   - Burglar Zone Reports must be programmed for those zones used.
   - Low Battery Report (Program Address 32) must be programmed.
   - AC Failure Report (Program Address 32) must be programmed.
   - Open Report (Program Address 31) must be programmed.
   - Close Report (Program Address 31) must be programmed.
   - Automatic Test Reports (Program Address 36) must be programmed.

2. Timer Programming:
   - Bell Cutoff Times (Program Address 23) must be programmed for not less than 15 minutes.
   - Entry, Exit Delay Times (Program Address 23) must be programmed for not longer than 60 seconds.

3. General Control Programming:
   - Must be programmed for Swinger Shunts disabled, Closing Ring-Back disabled, and Force Arming disabled (Program Address 10).

4. Zone Programming:
   - The Burglar alarm output signal, Address 04, (whether pulsed or steady) must be different from the Fire alarm signal.

5. Alarm Output Programming:
   - Program Address 08 must be programmed as [X] [X] [8].

Central Station Burglary Alarm

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

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

Required Accessories:
- The control must be mounted in the Detection Systems' model AE7060CC enclosure with a cover actuated tamper switch installed.
- The Applied Spectrum PAL200.
- The Applied Spectrum PAL200 must be installed in the same room as the control and the wiring from the Applied Spectrum PAL200 to the control must be in conduit.
- The Applied Spectrum PAL200 inputs should be connected to the alarm outputs (the active alarm sounder output may be used).

1. Report Programming:
   Programming shall be enabled to allow all alarm signals to be transmitted via the DACT and PAL200.
   - Burglar Zone Reports are not required since the alarms are transmitted over the PAL200.
   - Low Battery Report (Program Address 32) must be programmed.
   - AC Failure Report (Program Address 32) must be programmed.
   - Open Report (Program Address 31) must be programmed.
   - Close Report (Program Address 31) must be programmed.
   - Automatic Test Reports (Program Addresses 36) be programmed.

2. Timer Programming:
   - Entry, Exit Delay Times (Program Address 23) must be programmed for not longer than 60 seconds.

3. General Control Programming:
   - Must be programmed for Swinger Shunts disabled, Closing Ringback disabled, and Force Arming disabled (Program Address 10).

4. Zone Programming:
   - The Burglar alarm output signal, Address 04, (whether pulsed or steady) must be different from the Fire alarm signal.

5. Alarm Output Programming:
   - Program Address 08 must be programmed as [X] [X] [8].

Note: Grade AA requires central station polls of the protected premise unit once every 5 minutes during armed periods and randomly during disarmed periods. A central station poll once every 24 hours is acceptable for Grade A installations.

Grade B Installations using Digital Alarm Communicator Transmitter with local bell

Required Accessories:
- The control must be mounted in the Detection Systems' model AE7060CC enclosure with a cover actuated tamper switch installed.
- The Ademco Model AB-12 bell/housing (see Section 9.4).

1. Report Programming:
   - Burglar Zone Reports must be programmed for those zones used.
   - Low Battery Report (Program Address 32) must be programmed.
   - AC Failure Report (Program Address 32) must be programmed.

- Open Report (Program Address 31) must be programmed.
- Close Report (Program Address 31) must be programmed.
- Automatic Test Reports (Program Address 36) must be programmed.

2. Timer Programming:
   - Bell Cutoff Times (Program Address 23) must be programmed for not less than 15 minutes.
   - Entry, Exit Delay Times (Program Address 23) must be programmed for not longer than 60 seconds.

3. General Control Programming:
   - Must be programmed for Swinger Shunts disabled, Closing Ringback disabled, and Force Arming disabled (Program Address 10).

4. Zone Programming:
   - The Burglar alarm output signal, Address 04 (whether pulsed or steady) must be different from the Fire alarm signal.

5. Alarm Output Programming:
   - Program Address 08 must be programmed as [X] [X] [8].

Grade C Installations using Digital Alarm Communicator Transmitter only

Required Accessories:
- The control must be mounted in the Detection Systems' model AE7060CC enclosure with a cover actuated tamper switch installed.

1. Report Programming:
   - Burglar Zone Reports must be programmed for those zones used.
   - Low Battery Report (Program Address 32) must be programmed.
   - AC Failure Report (Program Address 32) must be programmed.
   - Open Report (Program Address 31) must be programmed.
   - Close Report (Program Address 31) must be programmed.
   - Automatic Test Report (Program Address 36) must be programmed.

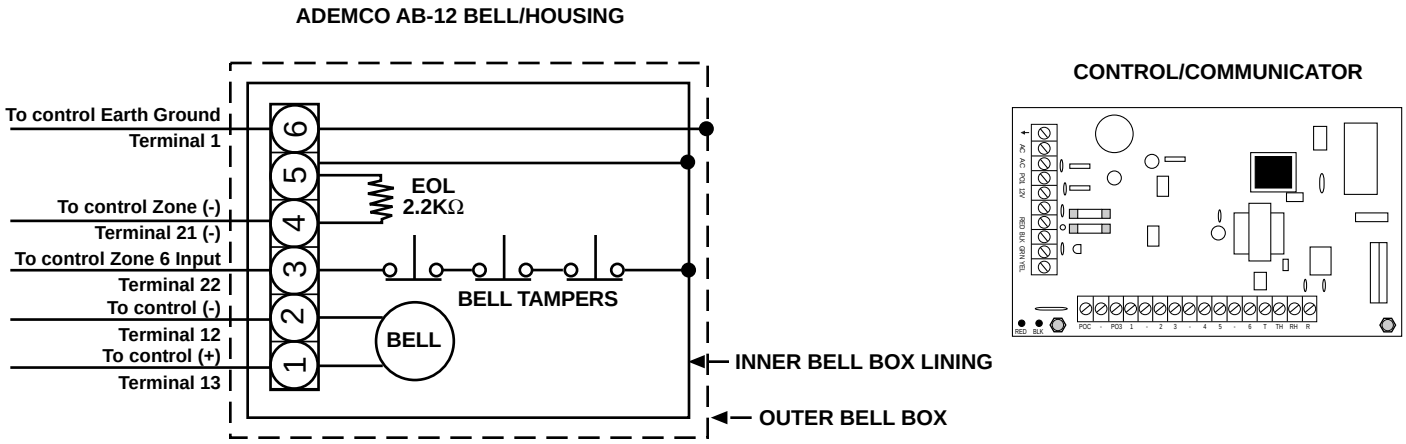
2. Timer Programming:
   - Entry, Exit Delay Times (Program Address 23) must be programmed for not longer than 60 seconds.

3. General Control Programming:
   - Must be programmed for Swinger Shunts disabled, Closing Ringback disabled, and Force Arming disabled (Program Address 10).

4. Zone Programming:
   - The Burglar alarm output signal, Address 04, (whether pulsed or steady) must be different from the Fire alarm signal.

5. Alarm Output Programming:
   - Program Address 08 must be programmed as [X] [X] [8].

9.4 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.
2) Connect wiring between the control and Bell Box as shown above.
3) Program Zone 6 as a 24-hour zone. (Program Address 01 must be programmed as [2]).
4) Programmable Output 3 must be programmed. See Address 08 - Outputs.

10.0 FCC COMPLIANCE NOTICE

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

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

11.0 FCC PHONE CONNECTION NOTICE TO USERS

This control complies with Part 68 of the FCC rules.

On the inside of the enclosure is a label that contains, among other information, the FCC Registration Number and the Ringer Equivalence Number (REN) for this equipment. You must, upon request, provide this information to your local telephone company. The Ringer Equivalence Number of this device 0.1 B.

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

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

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

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

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

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

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

12.0 CANADIAN DEPARTMENT OF COMMUNICATIONS

12.1 General Installation Requirements

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

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

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

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

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

12.2 Terminal Requirements

The Load Number (LN) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop which is used by the device, to prevent overloading. The termination on a loop may consist of any combination of devices subject only to the requirement that the total of the Load Numbers of all the devices does not exceed 100. The Load Number of the DS7060 is 2.

12.3 RFI Requirements

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

13.0 FOR INSTALLATIONS IN NEW ZEALAND

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

14.0 REPORT PROGRAMMING

14.1 Suggested Values

Personal Dialing Format

This is a 2 pulse per second (PPS) 0/2 (account code/2 report event digits) format intended for manual reception, i.e. the panel will call a phone number where a person is expected to answer. After a call is made, the panel will start sending the first report. If the report was a “Communicator Test” and Program Address 33 had a value of 00850000 the person answering the phone will hear 8 pulses followed by a 1 second delay, then 5 pulses followed by a 3 second delay. This sequence will repeat for 60 seconds per call. After 60 seconds the panel will hang up and call again making a total of three calls of 60 seconds duration each. After three calls, the panel considers this a successful transmission of one report. If any reports still remain to be sent, they will be sent in the same manner.

A way to expedite this report process would be to provide an acknowledge to the panel that the report was heard and understood by the receiving party. When an acknowledge is provided, the panel will start sending the next report or hang up if no reports remain. To provide an acknowledge, press the 1 key of the telephone keypad during the 3 second delay of the report transmission. This “Acknowledge Feature” is an enhancement that will allow the panel to send all reports in one call.

It is recommended that the Program Address selections for this format be the same as those for the PAGER format.

Pager Format

The Pager format allows the control panel to dial a digital pager and leave a numeric message which includes an account ID and report type. The following are recommended programming values when using the Pager format. NOTE: The Pager format is an open-loop format which has no acknowledge tone. There is no indication at the control panel that the signal has been received. Therefore, the Pager format is not recommended as the primary communication method.

REPORTS WITH RESTORALS

	REPORT	RESTORAL	TROUBLE	BYPASS	BYPASS RESTORAL
ZONE 1	0 1	2 1	4 1	3 1	5 1
ZONE 2	0 2	2 2	4 2	3 2	5 2
ZONE 3	0 3	2 3	4 3	3 3	5 3
ZONE 4	0 4	2 4	4 4	3 4	5 4
ZONE 5	0 5	2 5	4 5	3 5	5 5
ZONE 6	0 6	2 6	4 6	3 6	5 6
LOW BATTERY	6 0	7 0			
AC FAIL	6 1	7 1			
SYSTEM TROUBLE	6 2	7 2			
SYSTEM TEST	6 5	7 5			
KEYPAD FIRE	9 0	9 1			
FUSE FAULT	6 6	7 6			

REPORTS WITHOUT RESTORALS

	REPORT
OPEN	8 0
CLOSE	8 1
PARTIAL CLOSE	8 2
FIRST OPEN AFTER ALARM	8 3
AUTOMATIC COMM. TEST	8 4
MANUAL COMM. TEST	8 5
EXIT ERROR	8 6
RECENT CLOSING	8 7

	REPORT SUCCESSFUL	REPORT UNSUCCESSFUL
REMOTE PROGRAM	6 3	7 3
LOCAL PROGRAM	6 4	7 4
KEYPAD EMERGENCY	9 2	
KEYPAD PANIC	9 3	
DURESS	9 4	

4/2 Format (suggested values)

REPORTS WITH RESTORALS

	REPORT	RESTORAL	TROUBLE	BYPASS	BYPASS RESTORAL
ZONE 1	A 1	2 1	6 1	D 1	E 1
ZONE 2	A 2	2 2	6 2	D 2	E 2
ZONE 3	A 3	2 3	6 3	D 3	E 3
ZONE 4	A 4	2 4	6 4	D 4	E 4
ZONE 5	A 5	2 5	6 5	D 5	E 5
ZONE 6	A 6	2 6	6 6	D 6	E 6
LOW BATTERY	F 9	E 9			
AC FAIL	F A	E A			
SYSTEM TROUBLE	F D	E D			
SYSTEM TEST	F 1	E 1			
KEYPAD FIRE	A A	2 A			
COMM. TROUBLE	F B	E B			
FUSE FAULT	F 5	E 5			

REPORTS WITHOUT RESTORALS

	REPORT
OPEN	B F
CLOSE	C F
PARTIAL CLOSE	4 F
FIRST OPEN AFTER ALARM	3 8
AUTOMATIC COMM. TEST	3 A
MANUAL COMM. TEST	8 5
EXIT ERROR	8 6
RECENT CLOSING	8 7

	REPORT SUCCESSFUL	REPORT UNSUCCESSFUL
REMOTE PROGRAM	0 0	0 0
LOCAL PROGRAM	0 0	0 0
KEYPAD EMERGENCY	1 6	
KEYPAD PANIC	A A	
DURESS	1 5	

14.2 Values Sent

High Speed 4/9 Format

Event Data codes indicate the following:
1 = new event, 3 = restoral, 5 = normal, 6 = event still exists.
The placement of these codes in the Event Data column indicates the status of the corresponding zone (1-6).

Event Type identifiers indicate the following:
1 = Panic, 2 = Opening, 3 = Bypass, 4 = Closing, 5 = Trouble, 6 = System Info., 7 = Alarm, 9 = Communicator Test

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

REPORTS	EVENT DATA 1 2 3 4 5 6 7 8	EVENT TYPE	NOTE:
Remote programming successful report	5 5 5 5 5 5 3 5	6	NOT OFFICIALLY assigned, Channel 7 of the System Reports.
Remote programming failure report	5 5 5 5 5 5 1 5	6	NOT OFFICIALLY assigned, Channel 7 of the System Reports.
Local programming successful report	5 5 5 5 5 5 3 5	6	NOT OFFICIALLY assigned, Channel 7 of the System Reports.
Local programming failure report	5 5 5 5 5 5 1 5	6	NOT OFFICIALLY assigned, Channel 7 of the System Reports.
Keypad supervision failure report	5 5 1 5 5 5 5 5	6	System failure, Channel 3 of the System Reports.
Keypad supervision restoral	5 5 3 5 5 5 5 5	6	System failure, Channel 3 of the System Reports.
Fuse fault report	5 5 1 5 5 5 5 5	6	System failure, Channel 3 of the System Reports.
Fuse restoral	5 5 3 5 5 5 5 5	6	System failure, Channel 3 of the System Reports.
Exit error report	N/A	N/A	Format does not support this report.
Recent closing report	N/A	N/A	Format does not support this report.
System test start report	5 5 5 5 5 5 5 1	6	Walk Test, Channel 8 of the System Reports.
System test end report	5 5 5 5 5 5 5 3	6	Walk Test, Channel 8 of the System Reports.
Unspecified system trouble	5 5 1 5 5 5 5 5	6	System failure, Channel 3 of the System Reports.
Unspecified system trouble restoral	5 5 3 5 5 5 5 5	6	System failure, Channel 3 of the System Reports.
Bypass for a burglary zone	1 5 5 5 5 5 5 5	3	Zone 1 has been bypassed.
Bypass for a fire zone	1 5 5 5 5 5 5 5	3	Zone 1 has been bypassed.
Bypass restore for a burglary zone	3 5 5 5 5 5 5 5	3	Zone 1 is no longer bypassed.
Bypass restore for a fire zone	3 5 5 5 5 5 5 5	3	Zone 1 is no longer bypassed.
A communicator trouble occurred	5 5 5 5 1 5 5 5	6	Communicator trouble, Channel 5 of the System Reports.
A communicator trouble has restored	5 5 5 5 3 5 5 5	6	Communicator trouble, Channel 5 of the System Reports.

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
Keypad fire	110	000
Keypad fire restoral	110 Restoral	000
Keypad emergency	122	None
Keypad panic	123	None
Burglary restoral for a zone	130 Restoral	Zone Number
Fire restoral for a zone	110 Restoral	Zone Number
Burglary trouble for a zone	370	Zone Number
Fire trouble for a zone	373	Zone Number
Burglary trouble restoral for a zone	370 Restoral	Zone Number
Fire trouble restoral for a zone	373 Restoral	Zone Number
Open report	401	PIN
Close report	401	PIN
Duress report	121	000
Partial close report	456	PIN
First open after alarm (cancel) report	406	None
Low battery	302	None
Low battery restoral	302 Restoral	None
AC failure	301	None
AC failure restoral	301 Restoral	None
System normal test report	602	None
Communicator test report	601	None
Remote programming successful report	412	None
Remote programming failure report	413	None
Local programming successful report	306	None
Local programming failure report	306 Restoral	None

REPORTS	CID EVENT CODE	CID DATA FIELD
Keypad supervision failure report	330	Keypad Number*
Keypad supervision restoral	330 Restoral	None
Fuse fault report	300	None
Fuse restoral	300 Restoral	None
Exit error report	457	None
Recent closing report	459	None
System test start report	607	None
System test end report	607 Restoral	None
Unspecified system trouble	300	None
Unspecified system trouble restoral	300 Restoral	None
Bypass for a burglary zone	573	Zone Number
Bypass for a fire zone	571	Zone Number
Bypass restore for a burglary zone	573 Restoral	Zone Number
Bypass restore for a fire zone	571 Restoral	Zone Number
Communicator trouble	354	None
Communicator trouble restore	354 Restoral	None

NOTE: If one keypad has failed, this value will be 1, 2, 3, or 4 representing the failed keypad. If more than one keypad has failed, this value will be higher than 4.

15.0 PROGRAM ADDRESSES QUICK REFERENCE

DESCRIPTION	ADDRESS	SECTION	PAGE #
AC Failure Report Delay	50	8.38	41
Account Codes	37	8.31	39
Alpha Label	12	8.12	31
Automatic Test Report Interval	48	8.36	41
Battery, AC Report	32	8.26	37
Default EEPROM	47	8.35	41
Dial Attempts	22	8.16	33
Duress Code	9	8.9	29
Easy Exit	10	8.10	30
Exit Error, Recent Closing, Comm. Fail Report	35	8.29	38
Fire Key	19	8.13	32
Force Arming	10	8.10	30
General Control	10	8.10	30
Guest Code	9	8.9	29
Help Key	19	8.13	32
Hours to First Auto Test Report	49	8.37	41
Keypad Assignment	11	8.11	31
Keypad Report	24	8.18	34
Master Code	46	8.34	41
Open, Close, Duress Reports	31	8.25	37
Output Type	4	8.4	26
Outputs	8	8.8	28
Panic Key	19	8.13	32
Phone 1 Format	38	8.32	40
Phone 2 Format	39	8.32	40
Phone Number 1	40	8.33	40
Phone Number 1	41	8.33	40
Phone Number 2	42	8.33	40
Phone Number 2	43	8.33	40
Phone Number 3	44	8.33	40
Phone Number 3	45	8.33	40
Phone Number Control	21	8.15	33
Programmed Response Time	6	8.6	27
Programmer Code	46	8.34	41
Programming Report	33	8.27	38
Quick Arm	10	8.10	30
Report Control	20	8.14	32
Residential Mode	10	8.10	30
Restore With	7	8.7	27
Special Keys	19	8.13	32
Swinger Shunt	10	8.10	30
System Report	34	8.28	38
Test Reports, System Test	36	8.30	39
Time Delays	23	8.17	33
Tone Test	51	8.39	41
User Control	9	8.9	29
Zone 1 Alpha Label	13	8.12	31
Zone 2 Alpha Label	14	8.12	31
Zone 3 Alpha Label	15	8.12	31
Zone 4 Alpha Label	16	8.12	31
Zone 5 Alpha Label	17	8.12	31
Zone 6 Alpha Label	18	8.12	31
Zone Action	3	8.3	26
Zone Alarm Report	25	8.19	35
Zone Alarm Restoral Report	26	8.20	35
Zone Bypass	2	8.2	25
Zone Bypass Report	29	8.23	36
Zone Bypass Restoral Report	30	8.24	36
Zone Programming	1	8.1	24
Zone Response Time	5	8.5	27
Zone Trouble Report	27	8.21	35
Zone Trouble Restoral Report	28	8.22	36

Symbols

A

C

D

E

F

G

H

I

K

L

M

N

O

P

R

S

T

U

W

Z

DS7060 ROM Update Kit
Installation Instructions

DESCRIPTION: This ROM Update Kit is for use with the DS7060 Control/Communicator when an update to the system software has been implemented. The kit consists of one ROM chip for insertion into the DS7060 Control/Communicator.

***CAUTION**: This ROM chip is static sensitive. Be sure to touch the grounded DS7060 enclosure before handling the chip. This will discharge any static electricity within your body that could damage the chip. Do not touch the pins of the chip when handling it.*

INSTALLATION:

1. Remove all power from the DS7060 Control/Communicator by unplugging the transformer and removing the red lead from the battery.

2. Remove the old ROM chip from the DS7060 Control/Communicator (see Figure A).

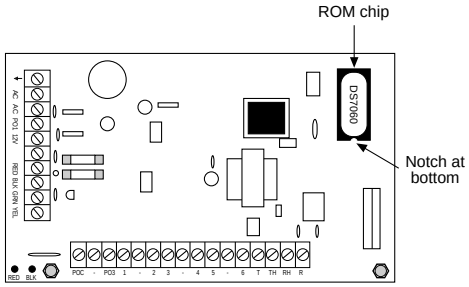


Figure A - Locating the ROM chip

3. Insert the new ROM chip into the vacant socket. The notch in the chip should be facing down when installed. Make sure all the pins are seated correctly in the socket. The pins of the chip may be spread too wide to easily fit into the socket. If so, lay the chip on its side and gently roll it inward to press the pins toward the body of the chip.

4. Restore power to the DS7060 Control/Communicator.

5. Discard the old ROM chip.

Refer to the DS7060 Reference Guide to complete the installation and/or programming.

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Fax: 852 2648 7986

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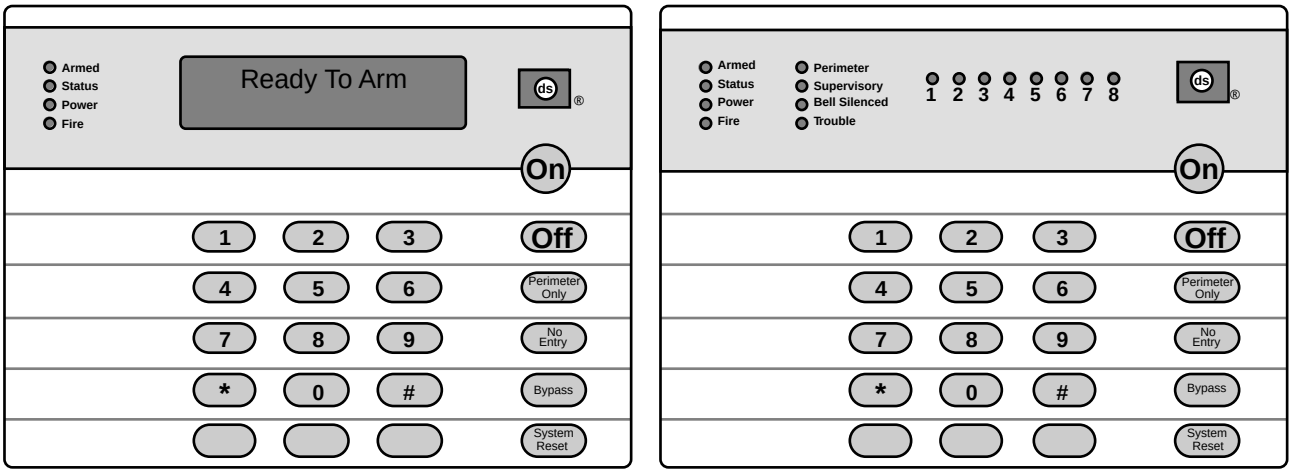
(716) 223-4060 • (800) 289-0096 • Fax: (716) 223-9180

Reference Guide
for the
DS7080i Control/Communicator



Keypad Quick Reference Guide

Turning On (arming) your System

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

Turning Off (disarming) your System

PIN + [Off]

Commands for other System Features

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

Access Control

Access Control PIN + [Off]

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Table of Contents

1.0 Specifications

1.1 Enclosure Housing

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

1.2 Temperature

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

1.3 Power

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

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

1.4 Outputs

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

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

** = Not investigated to the requirements of UL294.

1.5 Zones

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

1.6 Keypads

1.6.1 DS7443 Keypad

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

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

1.6.2 DS7445/DS7447 Keypads

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

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

1.7 Communicator

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

The ringer equivalence is 0.1B

1.8 Users

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

1.9 Lightning Protection

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

1.10 Burglar/Fire Zone Inputs

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

1.11 Fire Signal Initiating Circuit (2-wire mode)

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

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

1.12 Standby Current Load

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

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

*21 AH requires three 7 AH batteries in parallel

2.0 Enclosure Installation

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

2.1 Install the Enclosure

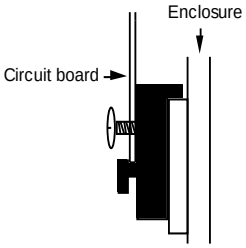
- Use the enclosure as a template and mark the top mounting holes on the mounting surface.
- Pre-start the mounting screws for these two holes. Slide the enclosure onto these mounting screws so that the screws move up into the thinner section of the holes. Tighten the screws.
- Screw in the remaining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

2.2 Install the Control/Communicator

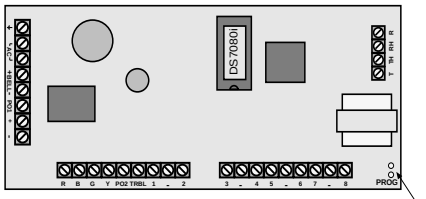
CAUTION: The control is static sensitive. Make sure you touch earth ground before handling the control. This will discharge any static electricity in your body. Example: Run the ground wire to the enclosure before handling the control. Then keep holding the ground wire while installing the control.

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

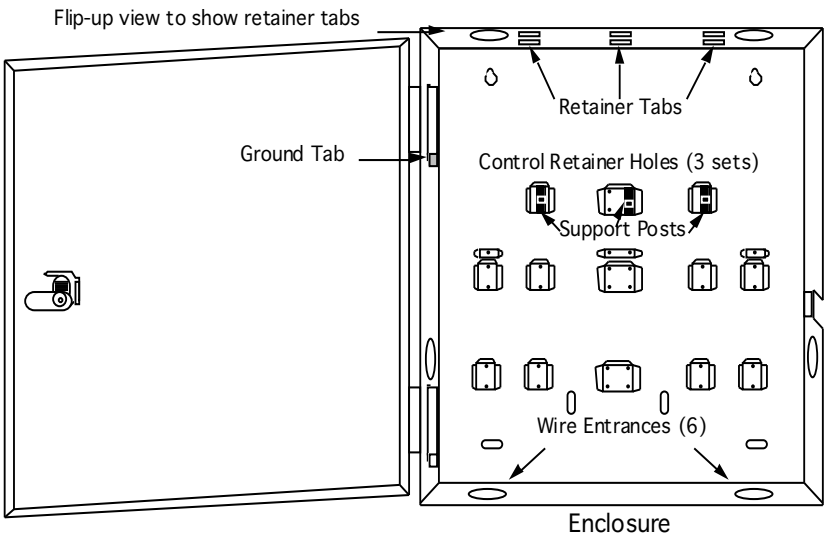
CAUTION: Once the control is installed, be sure to connect its ground wire to the top hinge of the enclosure (the unpainted tab).



Support Post Assembly (side view)



DS7080i Control/Communicator



Enclosure

3.0 Control Terminal Wiring

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

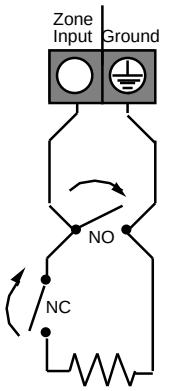
CAUTION: Incorrect connections may result in damage to the unit.

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

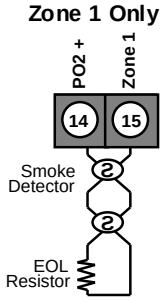
CAUTION: An approprate two pole disconnect device must be installed by qualified service personnel, as part of the building installation.

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

TYPICAL BURGLAR AND FIRE WIRING

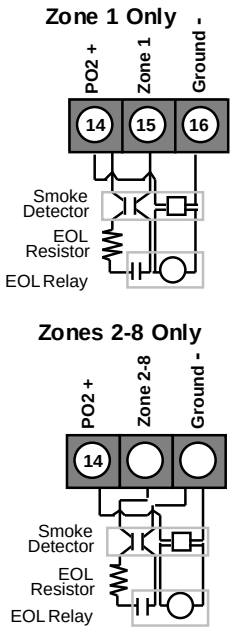


Typical burglar alarm loop wiring



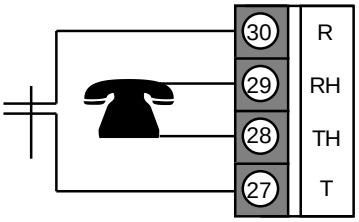
Typical 2-wire smoke detector wiring

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



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

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

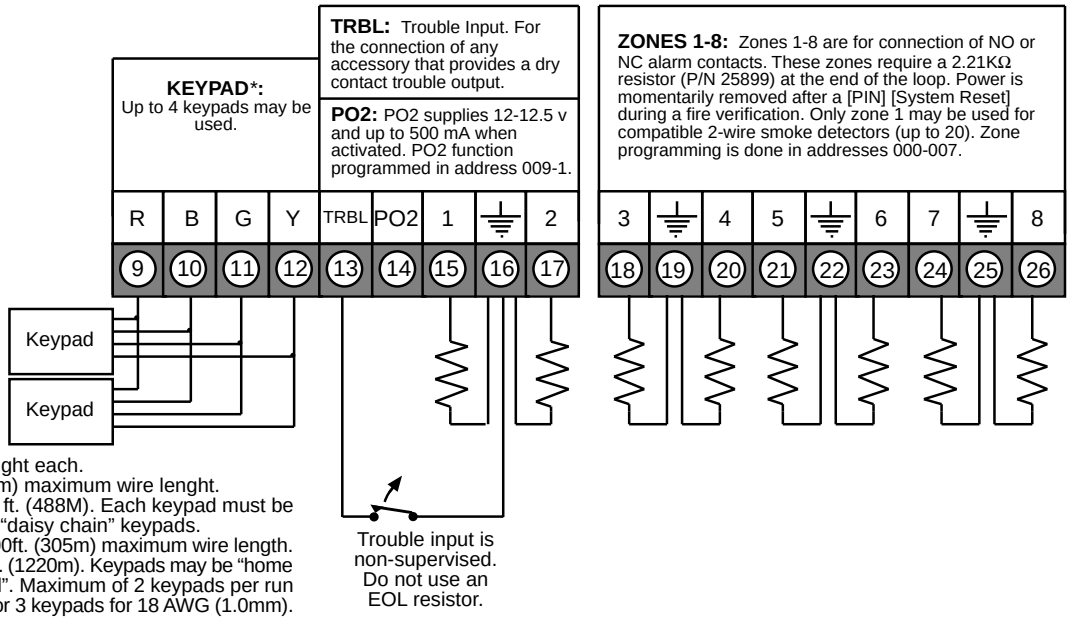


KEYPAD*: Up to 4 keypads may be used.

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

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

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



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

4.0 System Worksheet

Account Number _____ Information

Name _____ Contact Person _____

Address _____ Voice Phone Number _____

_____ Panel Phone Number _____

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

Equipment Location and Notes

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

Control Panel _____

Transformer _____

Telephone Jack _____

Telephone On Same Line as Panel _____

Earth Ground Connection _____

Alarm Sounder (s) _____

Misc. Notes

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

4.0 System Worksheet (continued)

Personal Identification Number Information

Example

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

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

Keypad Location

Location

Keypad # 1 _____

Keypad # 2 _____

Keypad # 3 _____

Keypad # 4 _____

Zone Location and Notes

Example

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

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

5.0 System Overview

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

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

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

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

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

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

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

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

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

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

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

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

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

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

6.0 Glossary

6.1 Zone Programming

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

6.2 Output Programming

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

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

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

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

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

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

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

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

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

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

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

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

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

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

6.3 General Control Programming

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

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

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

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

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

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

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

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

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

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

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

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

6.4 Keypad Assignment Programming

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

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

6.5 Emergency Key Programming

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

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

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

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

6.6 Custom Arming Programming

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

6.7 Report Control Programming

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

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

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

6.8 Day Monitor Report Control

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

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

6.9 Phone Number General Control Programming

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

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

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

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

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

Note: Do not use this setting for PBX systems.

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

6.10 Phone Answering Programming

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

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

6.11 System Timers

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

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

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

6.12 Force Arming Programming

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

6.13 Report Programming

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

6.14 History Event Control

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

6.15 FCC Compliance Notice

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

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

6.16 FCC Phone Connection Notice To Users

This control complies with Part 68 of the FCC rules.

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

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

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

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

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

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

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

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

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

6.17 Canadian Dept. of Communications

General Installation Requirements:

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

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

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

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

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

Terminal Requirements:

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

RFI Requirements:

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

6.18 For Installations in New Zealand

Two-wire Connection:

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

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

7.0 Operating Guide

7.1 Fire Safety

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

7.1.1 If Installed in Family Residences

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

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

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

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

7.1.2 Having and Practicing an Escape Plan

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

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

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

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

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

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

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

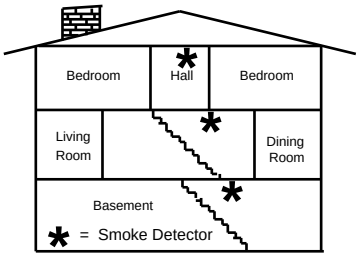
- If the top of your bedroom door is uncomfortably hot, do not open it. There is most likely fire, intolerable heat, or smoke on the other side. Shout to all family members to keep their bedroom doors closed and to exit the building via alternate routes.

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

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

7.1.3 Installation Considerations

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



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

The following are some general considerations:

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

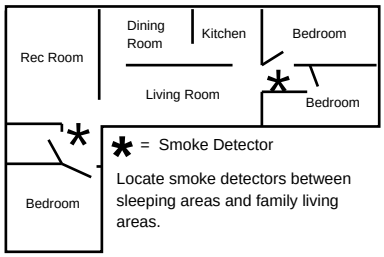
- Avoid areas subject to normal smoke concentrations such as kitchens, garages, or near fireplaces.

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

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

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

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



Locate smoke detectors between sleeping areas and family living areas.

7.2 Changing the Date

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

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

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

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

7.3 Changing the Time

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

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

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

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

7.4 Personal Identification Numbers

7.4.1 General Information

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

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

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

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

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

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

7.4.2 Removing a PIN

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

User Number 001 can not be canceled in this manner.

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

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

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

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

7.4.3 PIN Authority Levels

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

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

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

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

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

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

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

7.5 Error Displays

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

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

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

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

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

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

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

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

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

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

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

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

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

7.6 Remote Program Dial-out and Answer

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

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

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

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

7.7 Zone Test

This chart explains the procedure for performing a Zone Test.

It is recommended that the system be tested weekly.

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

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

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

7.8 Battery / Sounder Test

This chart explains the procedure for performing a battery test.

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

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

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

7.9 Communicator Test

This chart explains the procedure for performing a Communicator Test.

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

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

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

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

7.10 Event History Readback

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

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

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

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

DS7447 Only: Scrolling through the History Events.

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

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

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

8.0 Programming the DS7080i

8.1 Entering the Programmer's Mode:

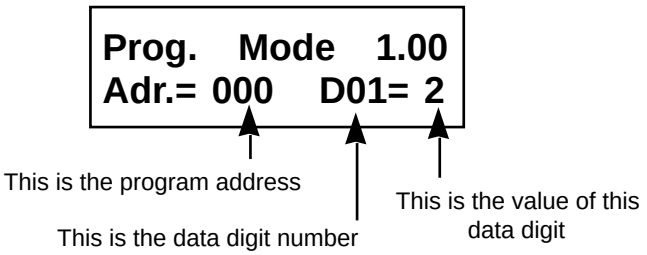
To enter the Programmer's Mode, enter the Programmer's Code followed by [#] [0]. Shorting the program pads (see section 2.0 for location) on the control panel will also activate the Programmer's Mode.

The default Programmer's Code is 9876.

8.2 Reading back a Program Address:

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

The display will look like this:



8.3 Entering a value in a Program Address:

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

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

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

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

8.4 HEX values:

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

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

8.5 Defaults:

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

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

The default values are shown in Reverse Print.

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

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

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

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

8.6 Setting the Control to the Factory Default:

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

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

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

8.7 Exiting the Programmer's Mode:

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

9.0 Understanding the Programming Charts.

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

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

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

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

Enter one of these numbers for the appropriate data digit

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

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

Identifies the options/features available for this address

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

Represents the option/feature available for this address.

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

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

Enter one of these numbers for the appropriate the data digit

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

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

10.0 Programming the DS7080i

10.1 Zone Programming: Programming Addresses (000-007)

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

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

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

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

See Glossary (Section 6.1) for further details.

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

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

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

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

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

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

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

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

10.2 Output Programming: Programming Address (008)

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

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

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

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

See Glossary (Section 6.2) for further details.

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

Address 008
Data Digit

1	2

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

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

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

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

10.2 Output Programming: Program Address (009)

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

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

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

Output	Address	Default
Programmed Output 2	009-1	2

Address 009
Data Digit

1	2

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

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

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

** Includes Silent and Invisible zones

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

10.3 General Control Programming: Program Address (010)

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

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

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

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

See Glossary (Section 6.3) for further details.

Data Digit
1 **2**

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

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

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

10.4 Keypad Assignment Programming: Program Address (011)

Data Digit
1 **2**

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

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

See Glossary (Section 6.4) for further details.

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

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

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

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

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

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

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

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

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

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

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

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

Example

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

10.5.1 Alpha Description Programming Worksheet

Private Label

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

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

Zone 1

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

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

Zone 2

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

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

Worksheet (Continued)

Zone 3

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

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

Zone 4

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

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

Zone 5

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

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

Worksheet (Continued)

Zone 6

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

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

Zone 7

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

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

Zone 8

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

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

10.6 Emergency Key Programming: Program Address (156)

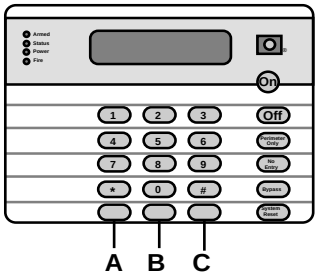
Example:
To program the Fire Key and the Special Emergency Key as both having a Steady Alarm.

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

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

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

See Glossary (Section 6.5) for further details.



Emergency Key A

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

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

Emergency Key B

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

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

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

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

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

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

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

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

Emergency Key C

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

English	**0**
French	1
Spanish	2

10.8 Custom Arming Programming: Program Address (158)

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

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

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

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

See Glossary (Section 6.6) for further details.

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

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

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

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

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

10.9 Report Control Programming: Program Address (159)

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

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

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

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

See Glossary (Section 6.7) for further details.

PA 159
Data Digit
1 **2**

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

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

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

PA 160
Data Digit
1 **2**

Data Digit 1 is for Opening and Closing reports.

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

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

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

PA 161
Data Digit
1 **2**

Data Digit 1 is for all other reports.

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

Data Digit 2 must be a **0**

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

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

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

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

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

See Glossary (Section 6.9) for further details.

Data Digit
1 **2**

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

* = Required on PBX systems.

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

10.12 Phone Answering Programming: Program Address (163)

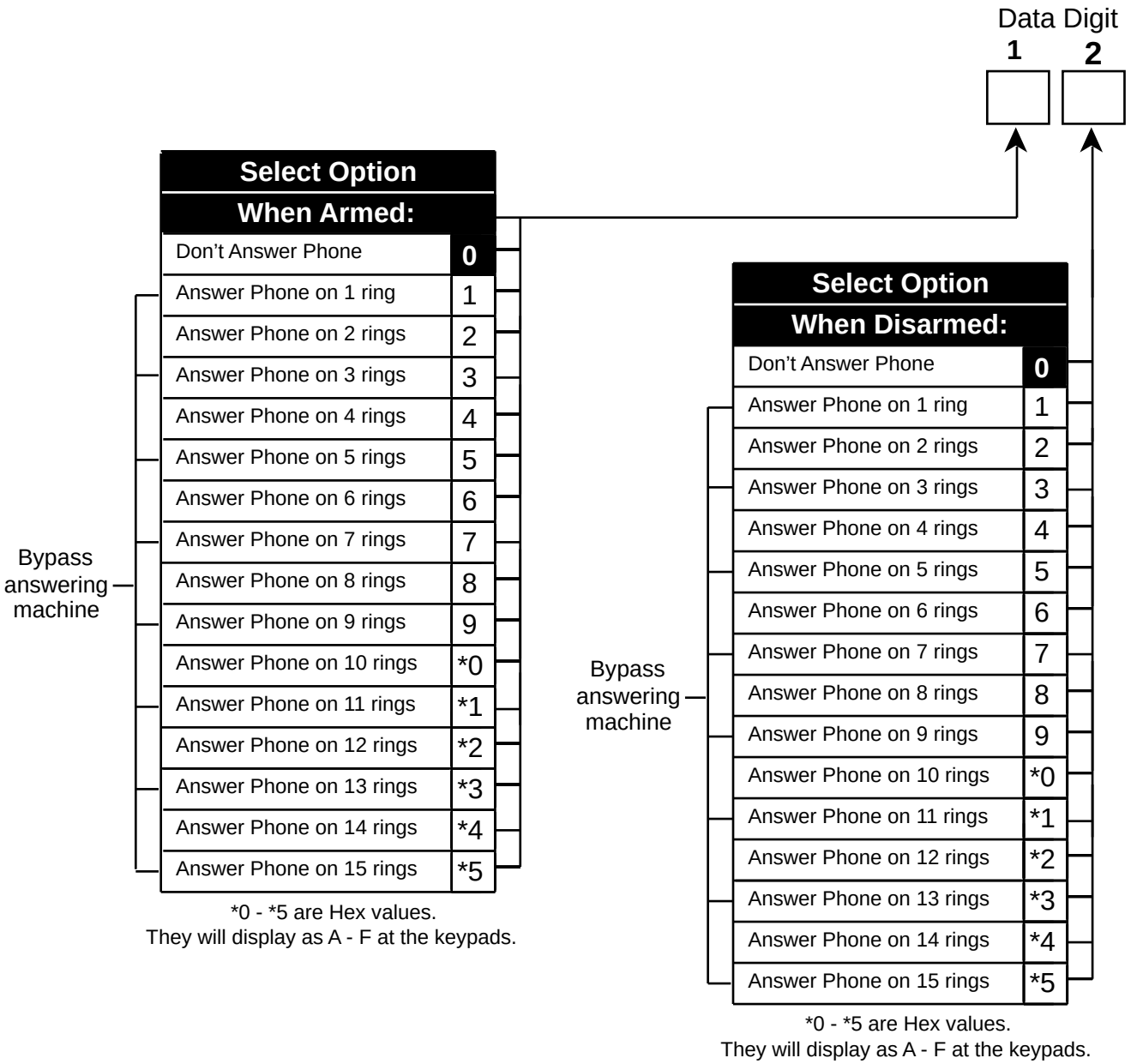
Example:
To program the Control Panel to answer the phone after 2 rings when Armed and after 4 rings when Disarmed.

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

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

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

See Glossary (Section 6.10) for further details.



10.13 Timer Programming: Addresses (164-168)

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

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

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

See Glossary (Section 6.11) for further details.

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

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

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

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

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

*5 second intervals

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

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

*5 second intervals

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

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

*1 minute intervals

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

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

*5 second intervals

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

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

*1 minute intervals

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

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

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

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

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

Arming Warning Control

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

Force Arming

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

10.15 Bypassing Allowed Programming: Program Address (170)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Keypad Control

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

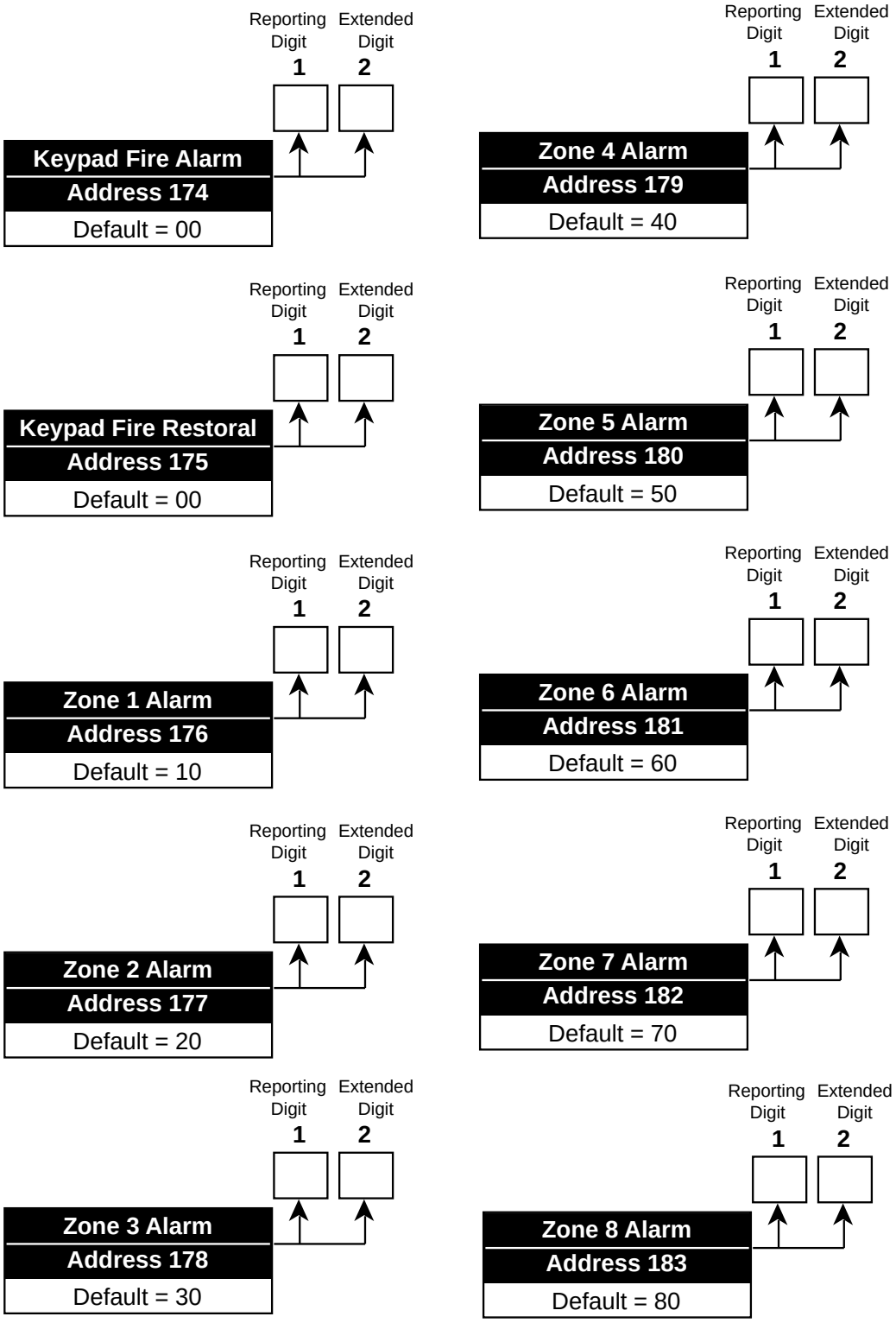
Trouble Zone Mode

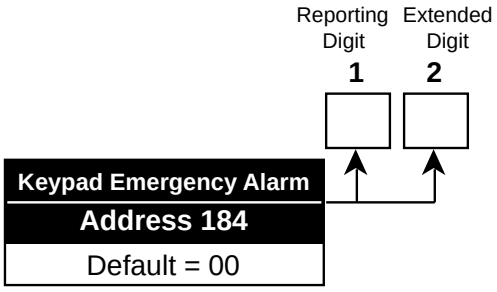
Select Option	DD
Disabled	**0**
Normally Open	1
Normally Closed	2

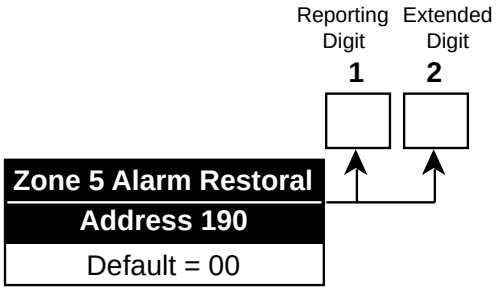
10.17 Report Programing Addresses (174-230)

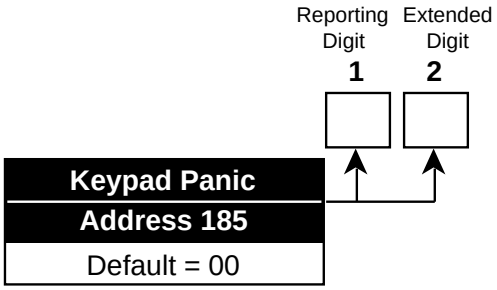
To send the User number along with open, close, or partial close reports, place an 'F' (*5) in the extended digit.
To disable a report, place a '0' in the reporting digit. **Note:** Pager format reports may use '0' as a reporting digit. When using SIA, Contact ID, or High Speed 4/9 formats, place a '1'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

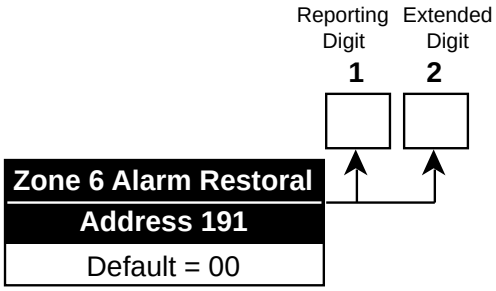
See Glossary (Section 6.13) for further details.

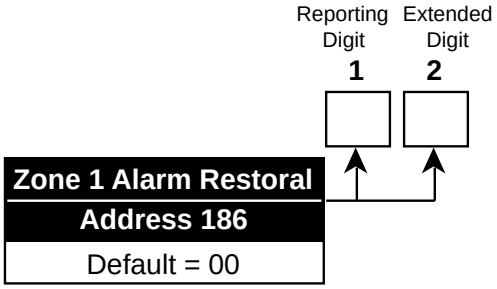


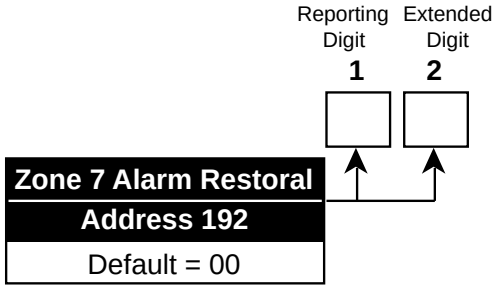


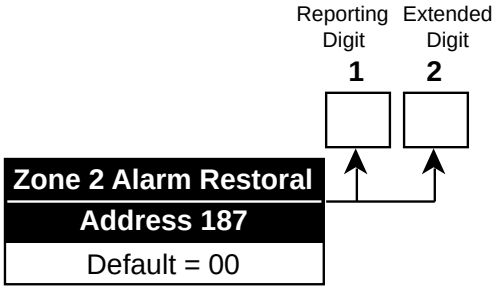


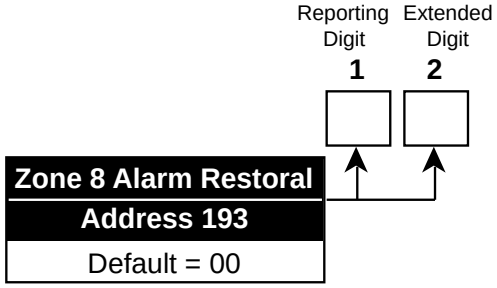


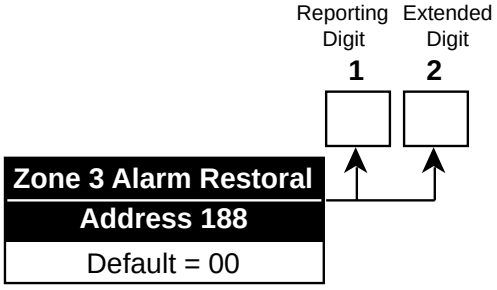


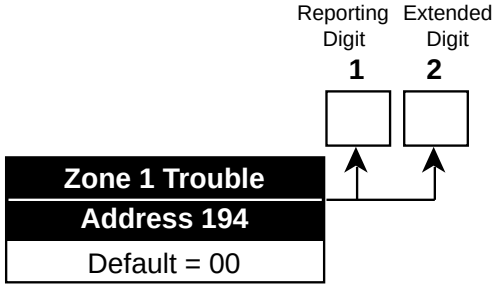


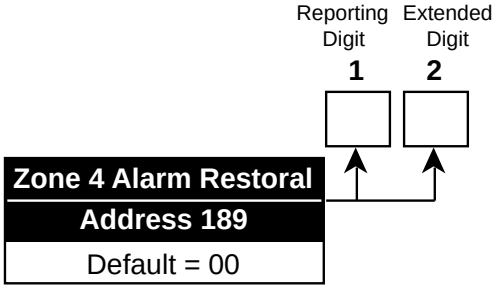


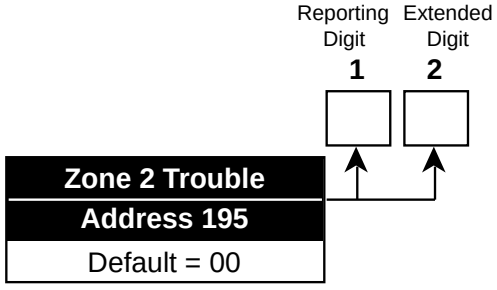


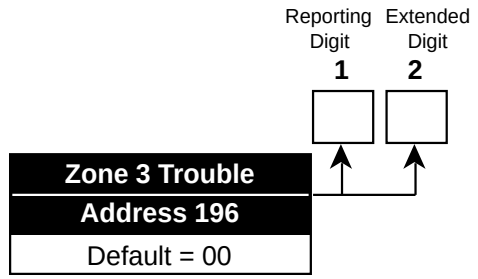


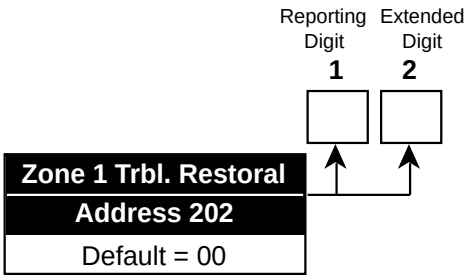


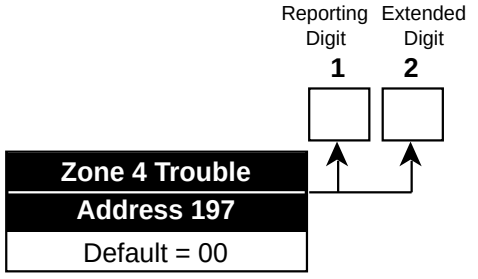


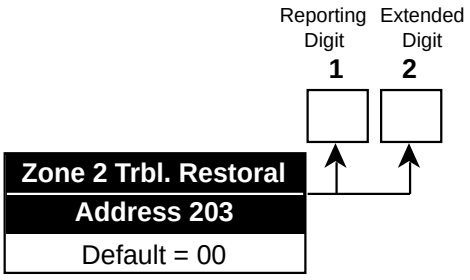


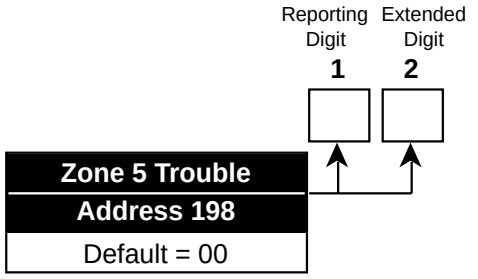


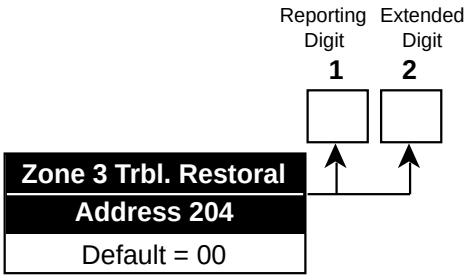


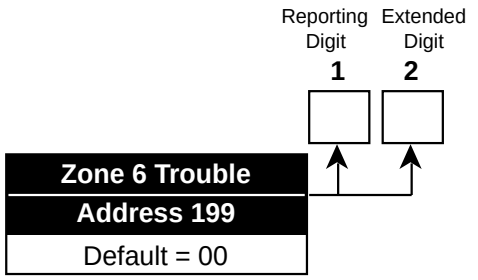


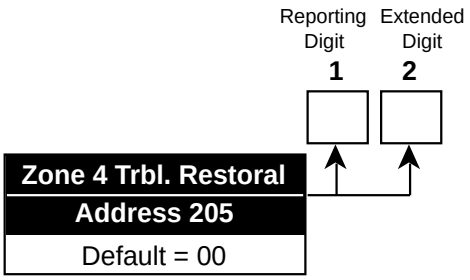


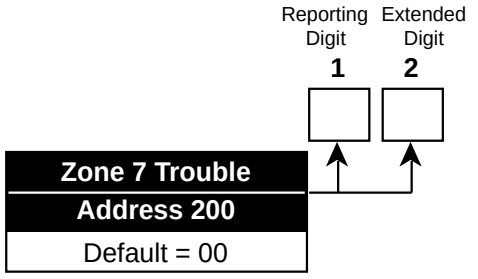


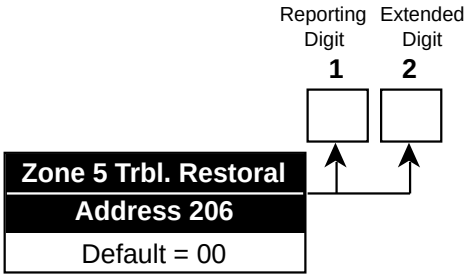


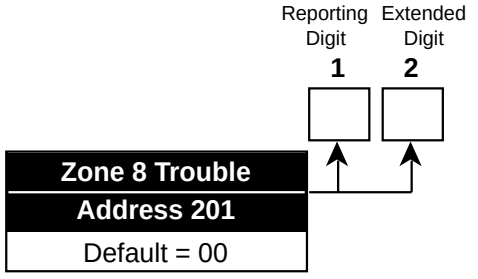


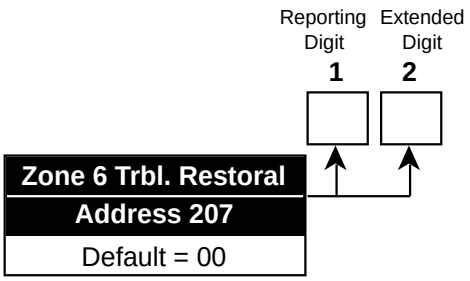


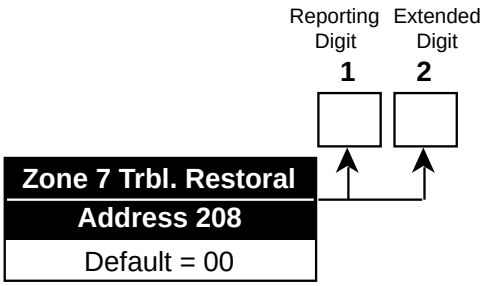


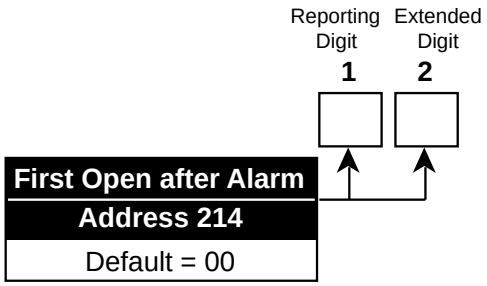


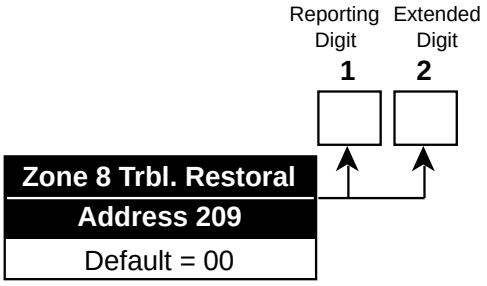


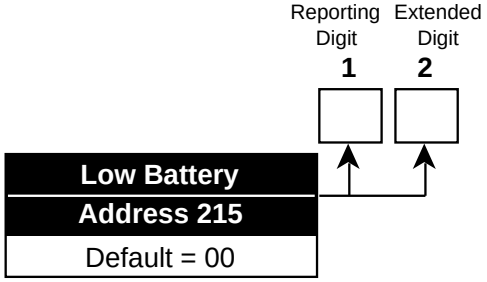


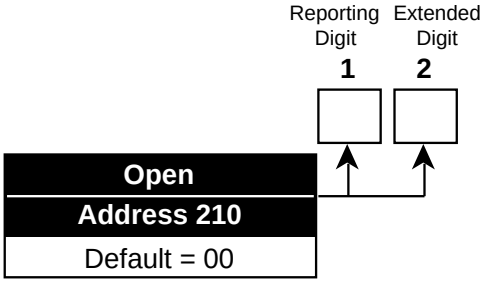


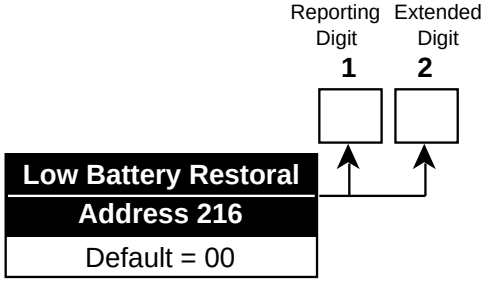


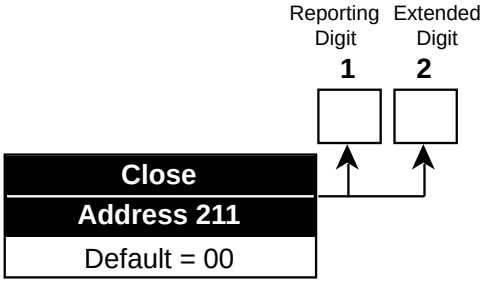


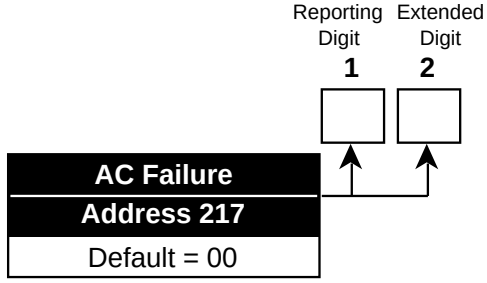


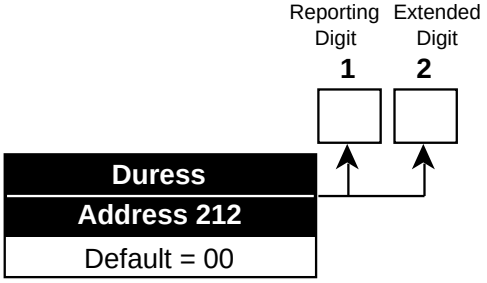


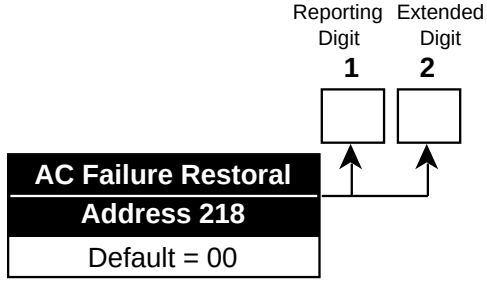


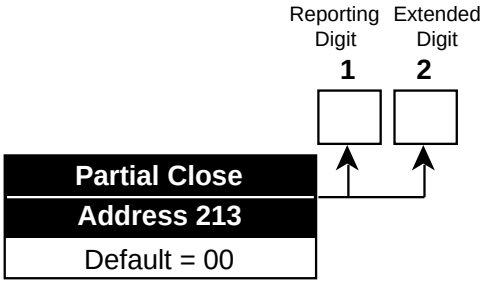


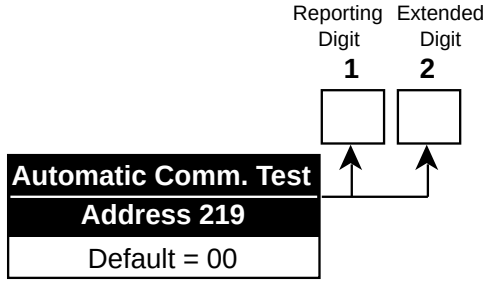




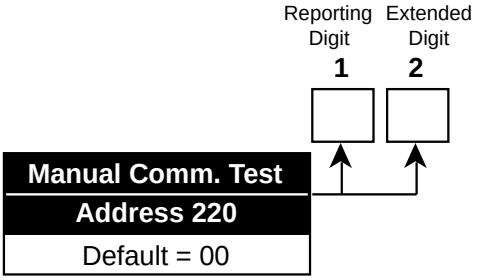


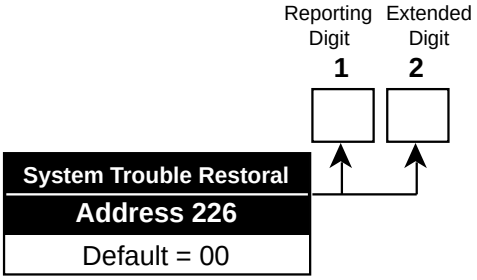


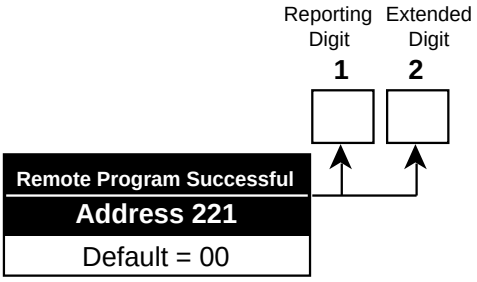


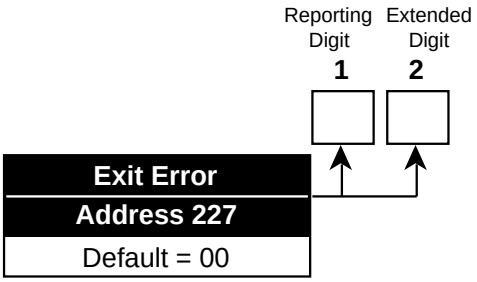


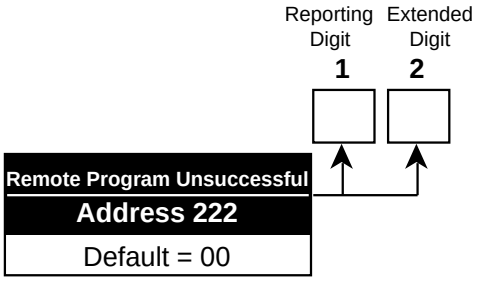
10.17 Report Programming (Continued)

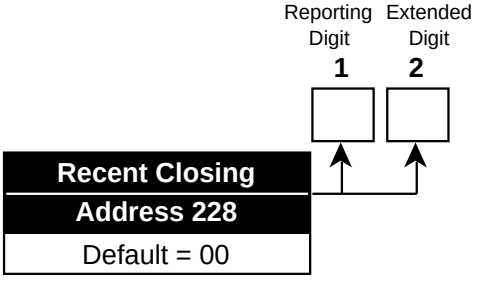


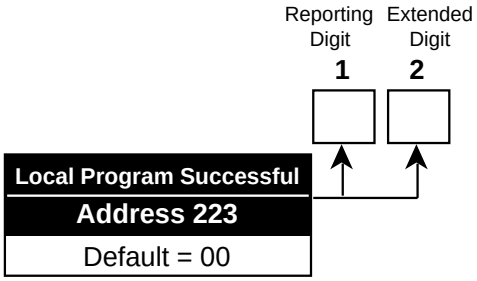


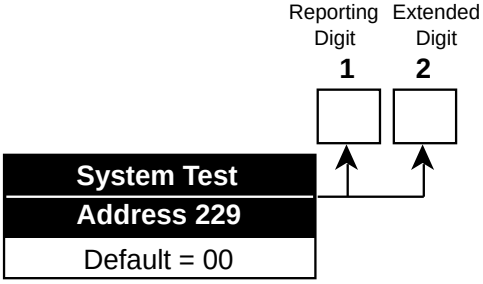


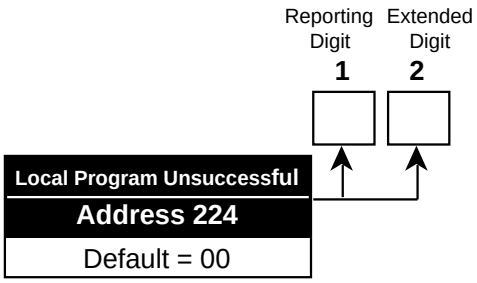


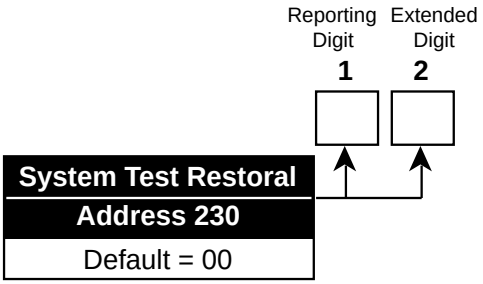


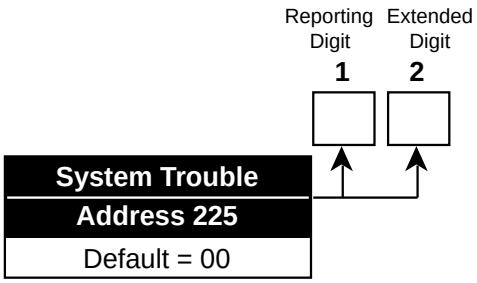












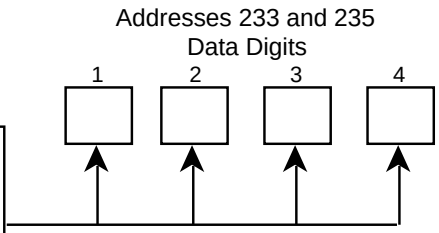
10.18 Account Code Programming: Program Addresses (233 and 235)

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

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

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

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



Phone #1 Account Code = Address 233

Phone #2 Account Code = Address 235

The Default for both Account Codes = 0000

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

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

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

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

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

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

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

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

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

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

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

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

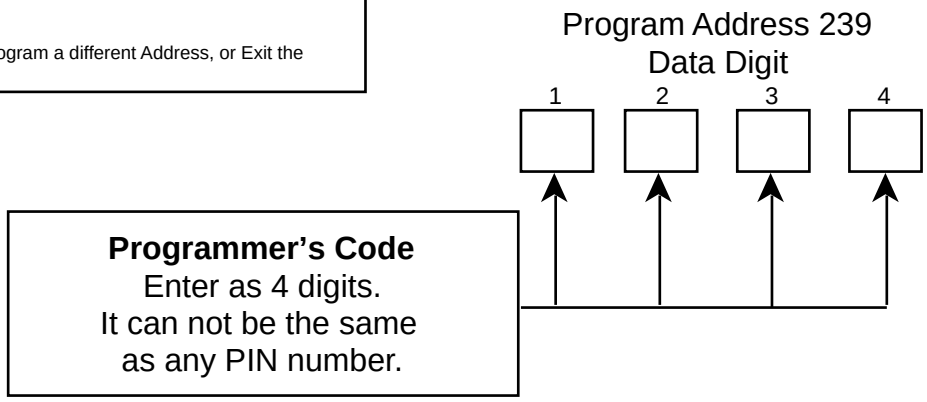
10.20 Programmer's Code Programming: Program Address (239)

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

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

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

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



The Default for the Programmer's Code = 9876

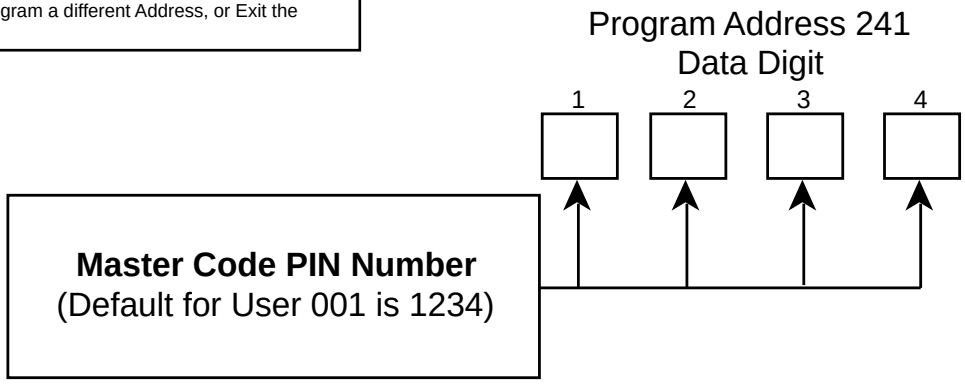
10.21 Master Code Programming: Program Address (241)

Example:
To program the Master Code to be 4554.

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

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

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



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

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

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

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

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

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

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

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

PA 279
Data Digit
1 2

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

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

PA 280
Data Digit
1 2

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

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

PA 281
Data Digit
1 2

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

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

10.22 Cross-zoning Control Programming (continued)

PA 282
Data Digit
1 2

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

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

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

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

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

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

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

Data Digit
1 2

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

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

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

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

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

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

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

Data Digit
1 2

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

Data Digit
1 2

Automatic Communicator Test Report Minute Address 285
Default = 00

Data Digit
1 2

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

Data Digit
1 2

Remote Programmer Call-Out Minute Address 287
Default = 00

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

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

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

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

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

Data Digit
1 2

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

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

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

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

10.26 History Event Control Programming: Program Address (289)

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

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

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

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

See Glossary (Section 6.14) for further details.

Data Digit
1 2

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

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

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

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

10.27AC Failue Report Delay: Program Address (290)

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

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

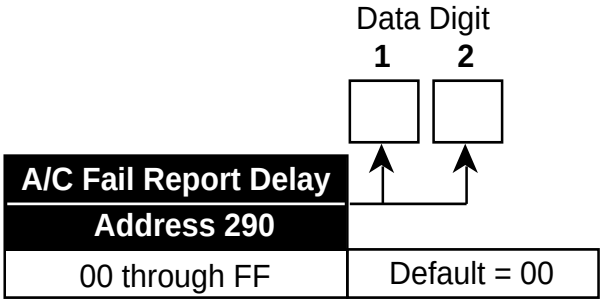
The time of Data Digit 1 is equal to the value x 16 minutes.
Example: If the value of Data Digit 1 is set to 3, the time is 48 minutes. (3 x 16 = 48).

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

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

Other Examples:

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



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

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

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

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

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

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

10.28.1 Phone Number 1 Programming: Program Address (296)

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

10.28.2 Phone Number 2 Programming: Program Address (306)

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

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

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

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

11.0 Installation Guide for U.L. Listed Systems

11.1 DS7080i U.L. Listings:

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

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

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

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

Key to Application Codes

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

Configuration Codes

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

11.2 INSTALLATION CONSIDERATIONS

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

11.3 PROGRAMMING THE DS7080i

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

11.3.1 Household Fire Alarm

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

Required Accessories:

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

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

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

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

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

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

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

11.3.2 Grade A Household Burglary Alarm.

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

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

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

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

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

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

11.3.3 Local Burglary Alarm

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

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

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

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

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

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

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

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

11.3.4 Police Station Connection

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

11.3.5 Central Station Burglary Alarm

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

C. Grade C Installations using Digital Alarm Communicator Transmitter only

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

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

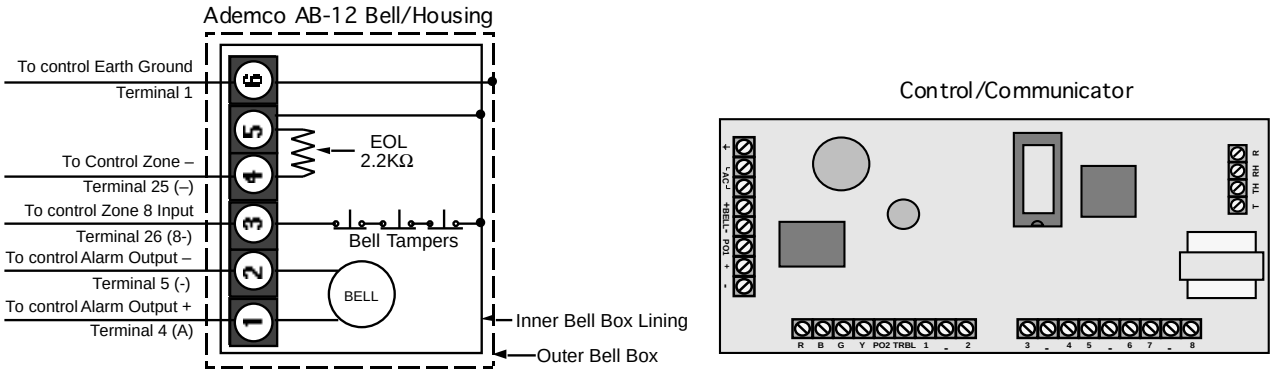
2. Timer Programming:
- Entry, Exit Delay Times (Program Addresses 164-166) must be programmed for not longer than 60 seconds.

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

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

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

11.4 Using the Ademco AB-12 Bell/Housing



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

12.0 Report Programming Suggested Values

12.1 4/2 Format

For Additional Information, see Programming Addresses 174-230

Reports with Restorals

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

Reports without Restorals

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

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

	Report	
Duress	1	5

12.2 BFSK Format

For Additional Information, see Programming Addresses 174-230

Reports with Restorals

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

With Keypad Fire	1	0	E	1

Reports without Restorals

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

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

	Report	
Duress	A	0

12.3 Pager Format

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

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

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

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

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

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

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

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

Reports with Restorals

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

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

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

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

13.0 Report Programming Values Sent

13.1 SIA Format

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

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

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

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

13.2 Contact ID Format

For Additional Information, see Programming Addresses 174-230

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

13.3 High Speed 4/9 Format

For Additional Information, see Programming Addresses 174-230

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

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

14.0 Programming Addresses

#	Description
000	Zone 1
001	Zone 2
002	Zone 3
003	Zone 4
004	Zone 5
005	Zone 6
006	Zone 7
007	Zone 8
008	Output
009	Output
010	General Control
011	Keypad Assignment
012	Alpha for Private Label
028	Alpha for Zone 1
044	Alpha for Zone 2
060	Alpha for Zone 3
076	Alpha for Zone 4
092	Alpha for Zone 5
108	Alpha for Zone 6
124	Alpha for Zone 7
140	Alpha for Zone 8
156	Emergency Key
157	Panic Key and Keypad Language
158	Custom Arming
159	Report Control
160	Report Control
161	Report Control
162	Phone Number General Control
163	Phone Answering
164	Entry Delay Time 1
165	Entry Delay Time 2
166	Exit Delay Time
167	Fire Bell Cutoff
168	Burglary Bell Cutoff
169	Arming Warning Control and Force Arming
170	Bypassing Allowed
171	Keypad Control and Trouble Zone Mode
174	Keypad Fire Alarm Report
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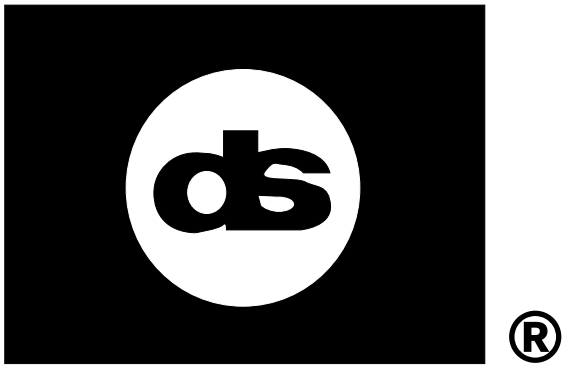
Notes



Technical Service Note

Detection Systems, Inc., Fairport, New York 14450
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Concerns: 2-wire Smoke Detector Compatibility
Affects: DS7080i Control Panel
Dated: December 13, 1995

The following is a list of 2-wire smoke detectors that have proven to be compatible with the DS7080i Control Communicator under the method required by Underwriter's Laboratories.

- 2-wire smoke detectors that are not listed as compatible should **not** be used with the DS7080i.
- When mixing different model number detectors manufactured by Detection Systems, a maximum of 20 detectors may be used per loop.
- 2-wire smoke detectors of different manufacturers or detectors of different model numbers not manufactured by Detection Systems may not be mixed on the same circuit.
- At this time, U.L. does not require compatibility cross listing of smoke detectors when installed in a 4-wire configuration. Listed 4-wire smoke detectors must be rated to operate over the range of the panel's output.

Manufacturer	Detector Model	Detector Identifier	Mounting Base Model	Base Identifier	Detectors Per Zone
Detection Systems	DS200/DS200HD	A	MB200-2W	B	20
Detection Systems	DS250/DS250TH	A or B	MB2W or MB2WL	A	20
Detection Systems	DS260	A	MB2W or MB2WL	A	20
Detection Systems	DS282/DS282TH	B	N/A	N/A	20
Electro Signal Lab	425C	S10	N/A	N/A	20
Electro Signal Lab	425CT	S10	N/A	N/A	20
Electro Signal Lab	611U	S10	601U	S00	20
Electro Signal Lab	611UT	S10	601U	S00	20
Electro Signal Lab	612U	S10	601U	S00	20
System Sensor	1400	A	N/A	N/A	20
System Sensor	2300T	A	N/A	N/A	20
System Sensor	2400	A	N/A	N/A	20
System Sensor	2400TH	A	N/A	N/A	20
System Sensor	1451	A	B401 or B401B	A	20
System Sensor	1451DH	A	DH400	A	20
System Sensor	2451TH	A	B401 or B401B	A	20
System Sensor	2451	A	B401, B401B, or DH400	A	20

Disclaimer Notice: Detection Systems, Inc. makes no claim either written, oral, or implied that any smoke detectors, other than the ones listed here, will work with the DS7080i Control Communicator.

DS7080i ROM Update Kit
Installation Instructions

DESCRIPTION: This ROM Update Kit is for use with the DS7080i Control/Communicator when an update to the system software has been implemented. The kit consists of one ROM chip for insertion into the DS7080i Control/Communicator.

***CAUTION**: This ROM chip is static sensitive. Be sure to touch the grounded DS7080i enclosure before handling the chip. This will discharge any static electricity within your body that could damage the chip. Do not touch the pins of the chip when handling it.*

INSTALLATION:

1. Remove all power from the DS7080i Control/Communicator by unplugging the transformer and removing the red lead from the battery.

2. Remove the old ROM chip from the DS7080i Control/Communicator (see Figure A).

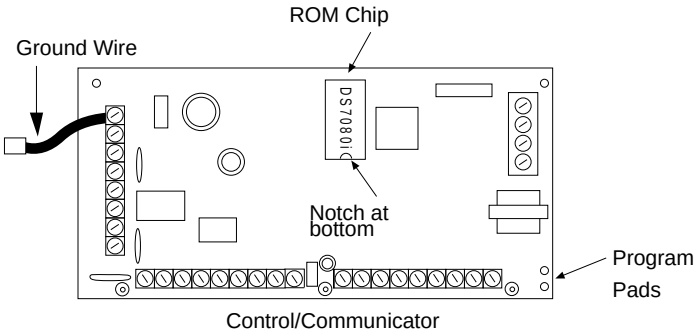

Figure A - Locating the ROM chip

3. Insert the new ROM chip into the vacant socket. The notch in the chip should be facing down when installed. Make sure all the pins are seated correctly in the socket. The pins of the chip may be spread too wide to easily fit into the socket. If so, lay the chip on its side and gently roll it inward to press the pins toward the body of the chip.

4. Restore power to the DS7080i Control/Communicator.

5. Discard the old ROM chip.

Refer to the DS7080i Reference Guide to complete the installation and/or programming.

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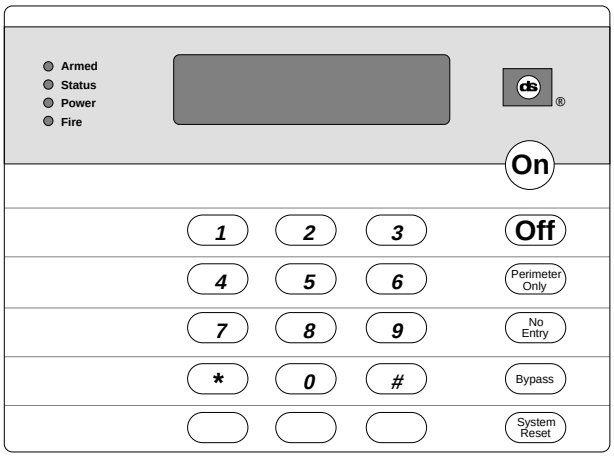
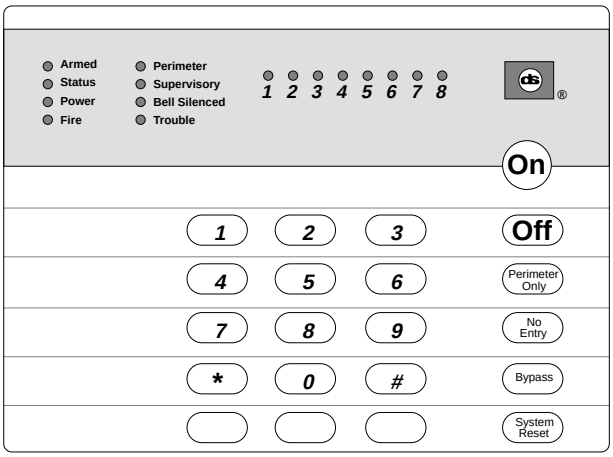
(716) 223-4060 • (800) 289-0096 • Fax: (716) 223-9180

Reference Guide for the DS7400Xi (Version 3+) Control/Communicator





Keypad Quick Reference Guide

Turning On (arming) your System

Normal Arming - [PIN] + [On]

Perimeter Arming, no entry delay -
[PIN] + [No Entry] [Perimeter Only]

Perimeter Arming, with entry delay -
[PIN] + [Perimeter Only]

Maximum Security Arming -
[PIN] + [No Entry] [On]

Custom Arming - [PIN] + [#] [4]

Set Delayed Arming -
[PIN] + [99] and enter number of hours from current time to the desired arming time.

Extend Automatic Arming during pre-arm time -
[PIN] + [OFF]

Force Arming -
Enter an arming command followed by [Bypass]

Zone Bypass -
[PIN] + [Bypass] followed by the Zone number(s)
[PIN] +[Bypass] [*] to clear ALL Bypasses

Turning Off (disarming) your System

Enter your PIN followed by [Off]

Commands for other System Features

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

Access Control

Enter your Access Control PIN followed by [Off]

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Table of Contents

1.0 Specifications

1.1 Enclosure Housing

1. The standard enclosure is manufactured from 20 Ga., cold-rolled steel, and measures 12.5" Wide, by 14.5" High, by 3" Deep (31.8 cm Wide, by 36.8 cm High, by 7.6 cm 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

NOTE: The total current output capacity for all auxiliary devices, including keypads and smoke detectors = 1.5 A standby, 2.5 A alarm. The following ratings are maximum values. The total combined output cannot exceed the max. load current.

- Input power: 18 VAC, 50 VA, 50 Hz./60 Hz.
- Auxiliary regulated power: 12 VDC, 1.0 A max.
- U. L. Listed Auxiliary power: 12 VDC, 1.0 A max.
- U. L. Listed Alarm Power Output: 12 VDC, 1.75 A max.
- Auxiliary power voltage range: 12 V special application
- Optional Standby battery (P334): 12 V, 7.0 AH - 35 AH max.
- Control panel current draw: 175 mA, Standby
  250 mA, Alarm

1.4 Outputs

- Alarm Output: 12 VDC, 1.75 A output. Can be programmed for steady or pulsed output.
- Programmable Output 1* Solid state current sink (1.0 A max.). Shorts to ground when activated. Connect device to Aux. power positive. 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 UL294.

1.5 Zones

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

1.6 Keypads

- Maximum # of keypads: 15 Keypads
- Maximum wire length each: 1000 feet (305 m)
- Maximum wire length total: 6000 feet (1830 m) in system
- Wire type: 4 conductor, unshielded, #22 AWG (0.8 mm) "Telephone quad" or #18 AWG (1.0 mm) quad wiring can be home-run or daisy- chained.

NOTE: No more than 2 keypads (#22 AWG) or 3 keypads (#18 AWG) are recommended on any 1000 foot (305 m) run.

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

1.7 Communicator

Will report to two phone numbers with full single, double and back-up reporting. Communicates in SIA (110 or 300 baud), 3/1, 3/1 Ext., 3/1 with Parity, 3/1 Ext. with Parity, 4/1, 4/2, BFSK, Contact ID, and Pager formats.
FCC Registration Number is ESVUSA-75333-AL-E
The ringer equivalence is 0.1B
Commercial Fire CSFM Listing Number is 7165-1062:111
Residential Fire CSFM Listing Number is 7167-1062:111

1.8 Partitions

The system has the capacity for 8 independant partitions.

1.9 Users

The DS7400Xi system allows up to 90 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).

1.10 Lightning Protection

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

1.11 Burglar/Fire Zone Inputs

- Number of circuits: 8 Circuits on-board
- End-of-line resistor: 2.2 K Ω (P/N 25944, provided)
- Loop resistance tolerance: 60 ohms

1.12 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 25944, provided)
- Supervisory current: 5.5 mA
- Maximum short circuit current: 22 mA
- Maximum line resistance: 60 ohms
- Circuit voltage range: 8.5 to 14.1 VDC
- Total detector standby current: 2.5 mA

1.13 Multiplex Bus Wiring Requirements

- #22 AWG (0.8 mm). Up to 2000 feet (610 m) per system.
- #18 AWG (1.0 mm). Up to 5000 feet (1525 m) per system.

1.14 Option Bus Wiring Requirements

- Maximum wire length 1000 feet (305 m) per home-run.

1.15 Max. Load Currents

Max. Load Currents	Standby	Alarm
U. L. Installations	1.5 A	2.5 A
Non-U. L. Applications	2.0 A	2.5 A
Max. Current By Output: Not to exceed the max. load currents listed above per column.		
Aux. Power & Keypad (Combined)	1.0 A	1.0 A
Option Power	1.0 A	1.0 A
Bell Output	X	1.75 A
Programmable Output 2	500 mA	500 mA
Loop Power +	500 mA	500 mA

1.16 Backup Battery Calculation

- The following table is used to calculate the standby battery capacity required by NFPA when using the DS7400Xi:

Device	Quantity	Standby Current Per Device	Total Standby Current (Quantity x Standby Current Per Device)	Alarm Current Per Device	Total Alarm Current (Quantity x Alarm Current Per Device)
DS7447 Keypad		100 mA		100 mA	
DS7445 Keypad		75 mA		75 mA	
DS7430 - Multiplex Expansion		65 mA		65 mA	
DS7432 - 8 Input Remote		10 mA		10 mA	
DS7433 - 8 Input Direct		50 mA		65 mA	
DS7488 - Octal Relay*		10 mA + 40 mA*		10 mA + 40 mA*	
DS7416 - ARDIS Module		127 mA		127 mA	
DS7457 - Single Zone Multiplex Input		350 µA		350 µA	
DS7460 - Dual Zone		1 mA		1 mA	
DS7465 - Input/Output		1 mA		1 mA	
DS7450 & DS7452 - Contact Points		350 µA		350 µA	
DS7420i - Dual Line/Bell Supervision		20 mA		140 mA	
DS7480 - Bell Supervision		20 mA		20 mA	
DS7481 - Single Line Monitor		20 mA		20 mA	
Smoke Detectors					
Bells, Horns, etc.					
Other sensors					
Other					
		Grand Total		Grand Total	

* = When calculating Standby and Alarm Current for the Octal-Relay Module, use 10 mA plus 40 mA for each activated relay.

1.17 Standby Current Load

- Battery AH - (20% Storage + 0.375 AH's Alarm)
- The following table is the derated battery divided by hours minus the control standby (175 mA):

Rechargeable Battery Size	Max. Standby for 4 hours	Max. Standby for 8 hours	Max. Standby for 24 hours	Max. Standby for 48 hours	Max. Standby for 60 hours	Max. Standby for 72 hours	Max. Standby for 80 hours
7 AH	1.0 A	470 mA	X	X	X	X	X
8 AH	1.2 A	580 mA	X	X	X	X	X
14 AH	1.5 A	1.1 A	270 mA	X	X	X	X
15 AH	1.5 A	1.2 A	300 mA	X	X	X	X
17.2 AH	1.5 A	1.5 A	380 mA	100 mA	X	X	X
21 AH	1.5 A	1.5 A	500 mA	160 mA	100 mA	X	X
28 AH	1.5 A	1.5 A	740 mA	280 mA	190 mA	130 mA	100 mA
30 AH	1.5 A	1.5 A	800 mA	310 mA	210 mA	150 mA	120 mA
35 AH	1.5 A	1.5 A	970 mA	400 mA	280 mA	200 mA	170 mA

1.18 Options

- **DS7412:** RS232 Serial Interface module. The DS7412 module allows the panel to send event information, in an ASCII format, directly to a serial printer or computer. In addition, the interface allows the direct connection of a computer to the panel for programming via the WDSRP programming software.
  - Current Draw= 25 mA, 35 mA with LEDs on.

- **DS7420i:** Dual Phone Line/Bell Supervision Module (1 per system).
  The DS7420i 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 250 mA for 4-wire multiplex devices such as the DS7432.
  - Current Draw = 65 mA, Standby. 65 mA, Alarm.

- **DS7432:** 8 Input Remote Module (up to 15 per system. Requires a DS7430 Multiplex Expansion Module).
  The DS7432 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 eight multiplex zones on the system and can monitor up to eight separate loops. It will support 4-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 Multiplex Expansion Module). 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 (can also support 4-wire smoke detectors).
  • Current Draw = 65 mA, Standby. 80 mA, Alarm. Add 15 mA for each additional zone in alarm.

- **DS7445:** Control Station.
  The DS7445 is an LED keypad which has LEDs representing the first 8 zones of the system. It displays information on various control panel functions. A built in sounder is used as an interior warning device and to annunciate keystroke entries.
  • Current Draw = 75 mA, Standby. 75 mA, Alarm.

- **DS7447:** Control Station.
  The DS7447 is an Alpha-Numeric LCD keypad. It displays information on various control panel functions. A built-in sounder is used as an interior warn ing device and to annunciate keystroke entries.
  • Current Draw = 100 mA, Standby. 100 mA, Alarm.
  • Keypad Access Output: The DS7447 Alpha Key pad will provide a ten (10) second access relay ouput if equipped with the optional K938 Relay. The relay will energize at the keypad if the user has a master, unlimited, general, or access PIN. The output will change only if the user has access to the partition assigned to the keypad. See the DS7447 Keypad Installation Instructions (P/N 22235) for wiring information.

- **DS7450:** Flush Mount Single Multiplex Contact Point (requires a DS7430 Multiplex Expansion Module).
  The DS7450 is intended as a replacement for conventional dry contacts, and to report an actual multiplex address to the control panel.
  • Current Draw = 350 µA, Standby. 350 µA, Alarm.
  • Occupies 1 zone.

- **DS7452:** Surface Mount Single Multiplex Contact Point (requires a DS7430 Multiplex Expansion Module).
  The DS7452 is intended as a replacement for con ventional dry contacts, and to report an actual multi plex address to the control panel.
  • Current Draw = 350 µA, Standby. 350 µA, Alarm.
  • Occupies 1 zone.

- **DS7457:** Single Zone Multiplex Input Module (requires a DS7430 Multiplex Expansion Module).
  The DS7457 provides a means of monitoring conventionally Normally Open or Normally Closed contacts. It reports their status to the control panel as multiplex addresses. It occupies one multiplex zone on the system and can monitor one loop. It also includes a tamper loop.
  • Current Draw = 350 µA, Standby. 350 µA, Alarm.

- **DS7460:** Dual Zone Module (up to 60 per system. Requires a DS7430 Multiplex Expansion Module).
  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 (up to 20 per system. Requires a DS7430 Multiplex Expansion Module).
  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 Normally Closed contacts. It reports their status to the control panel as multiplex addresses.
  • Current Draw = 1 mA, Standby.1 mA, with relay energized.
  • Occupies 2 zones.

- **DS7480:** Bell Supervision Module (1 per system).
  The DS7480 provides a means of monitoring bells. 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 = 7 mA @ 12 VDC, Standby. 50 mA @ 12 VDC, 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 Normally Open relay contacts to provide a means of signaling the fault.
  • Current Draw = 20 mA, Standby. 20 mA, Alarm.

- **DS7488:** Octal Relay Module (2 per 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 three package formats. The packages include the following:

- **DS7400XiF:** DS7400Xi in large red enclosure (manufactured from 18 Ga., cold-rolled steel, and measures 15.0" Wide, by 20.75" High, by 4.25" Deep (38.1 cm Wide, by 52.7 cm High, by 10.8 cm Deep)).

- **DS7400XiFCP:** DS7400XFi package
  DS7420i
  DS7447
  AE-TR16

- **DS7400XiCC:** DS7400Xi in an Attack Enclosure.

When installing a U. L. Listed system,
refer to the Installation Guide for U. L. Listed Systems.
See Section 14.0.

2.0 Enclosure Installation

The DS7400Xi 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

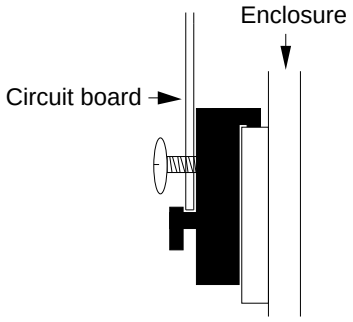
- Use the enclosure as a template and mark the top mounting holes on the mounting surface.
- Pre-start the mounting screws for these two holes. Slide the enclosure onto these mounting screws so that the screws move up into the thinner section of the holes. Tighten the screws.
- Screw in the remaining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

2.2 Install the Control/Communicator

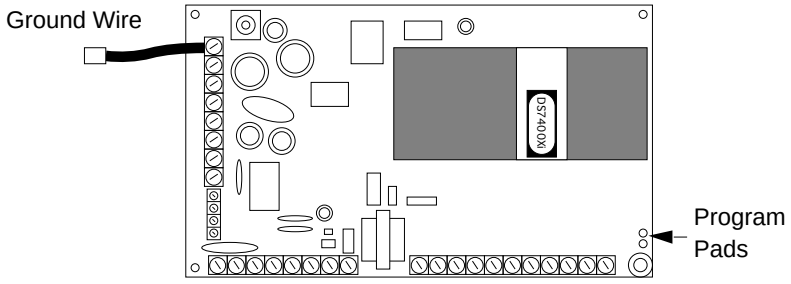
CAUTION: The control is static sensitive. Make sure you touch earth ground before handling the control. This will discharge any static electricity in your body. Example: Run the ground wire to the enclosure before handling the control. Then keep holding the ground wire while installing the control.

- 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.

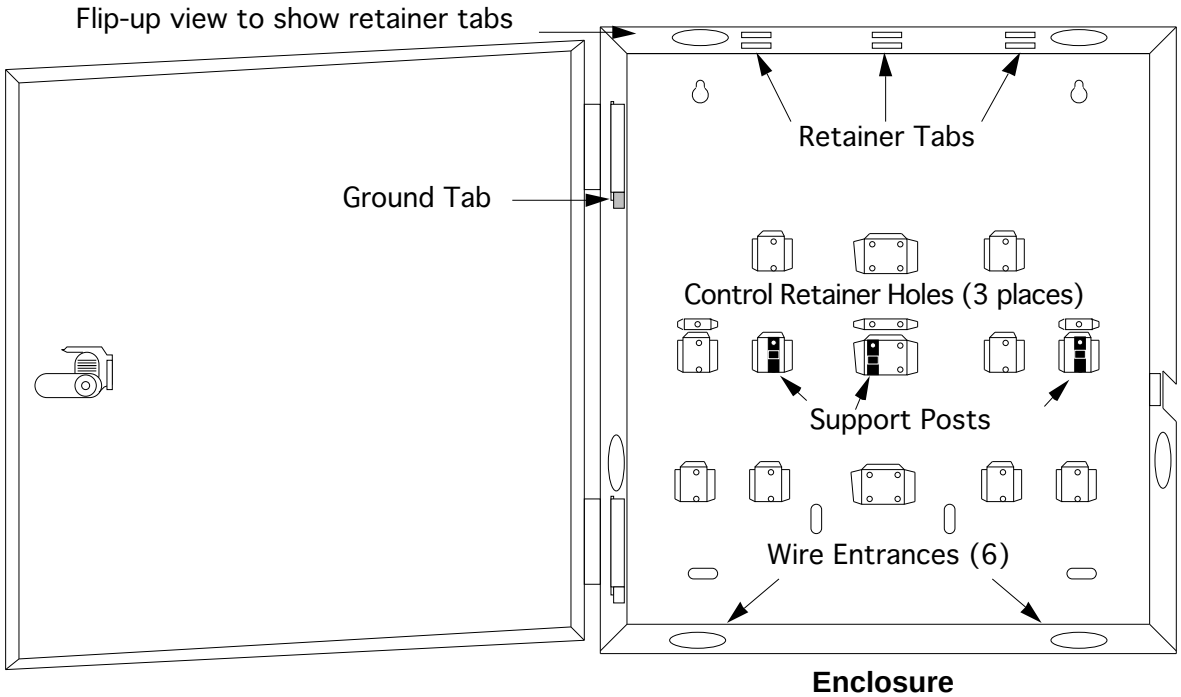
CAUTION: Once the control is installed, be sure to connect its ground wire to the top hinge of the enclosure (the unpainted tab).



Support Post Assembly



Control/Communicator



Enclosure

3.0 Control Terminal Wiring

WARNING: Before servicing, remove all power including the transformer, battery and phone line. A complete functional test is required after any programming.

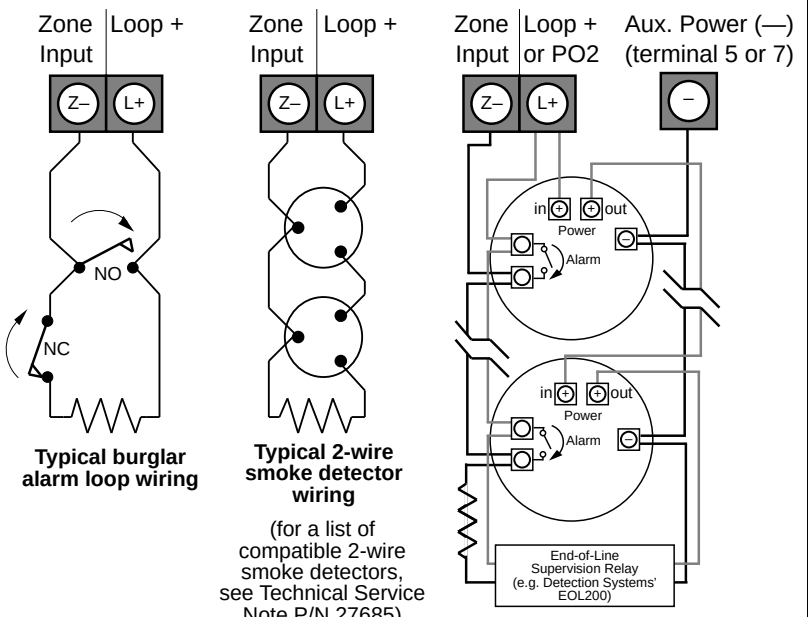
CAUTION: Incorrect connections may result in damage to the unit.

System is Power Limited except for battery terminals. All wiring entering this enclosure must be power limited.

A/C Power 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 U. L. listed, 18 VAC 50 VA, class 2 transformer. Model TR-1850 requires 50/60 Hz. unswitched dedicated outlet - do not share.
4		
5	–	**ALARM OUTPUT:** Provides 12 VDC, special application, up to 1.75 A for powering bells, siren drivers, etc. Function programmed in address 0146.
6	A	
7	–	**AUXILIARY POWER:** Provides 12 VDC, special application, up to 1.0 A for powering detectors.
8	+	

TYPICAL BURGLAR AND FIRE WIRING



Typical burglar alarm loop wiring

Typical 2-wire smoke detector wiring

(for a list of compatible 2-wire smoke detectors, see Technical Service Note P/N 27685)

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

R B G Y	OPTION	**OPTION BUS:** Used for options such as the ARDIS communications module, the DS7420i Dual Phone Line module, etc. Also for keypads #11 - #15. For Commercial Fire Mode: Option Bus wiring should be in conduit if run ouside the enclosure.

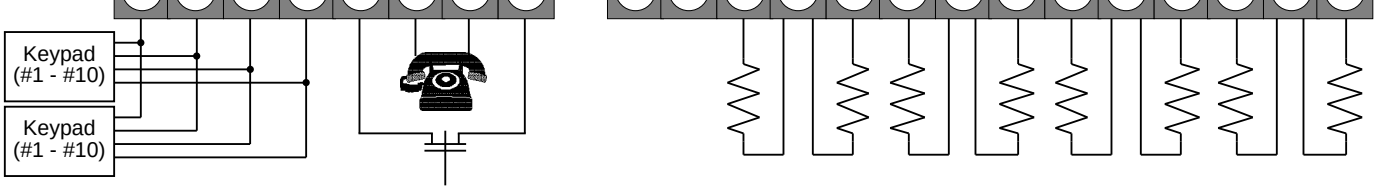
PROGRAMMABLE OUTPUTS:
PO1 shorts to aux. power negative when activated, PO1 can sink up to 1.0 A. PO1 function programmed in address 0147.

PO2 supplies 12 V and up to 500 mA when activated. PO2 function programmed in address 0148.

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. These zones require a 2.21KΩ resistor (P/N 25899) at the end of the loop. Power is momentarily removed from L+ after a [PIN] + [System Reset] or during a fire verification.
Zone 1-8 assignments are programmed in address 0018-0025.

KEYPAD BUS*: Up to 15 keypads** may be used. Can be "home-run" or "daisy-chained."				**PHONE LINE:**			
				T	TH	RH	R
R	B	G	Y	G	B	S	R
9	10	11	12	13	14	15	16

PO1	PO2	1–	L+	2–	3–	L+	4–	5–	L+	6–	7–	L+	8–
17	18	19	20	21	22	23	24	25	26	27	28	29	30

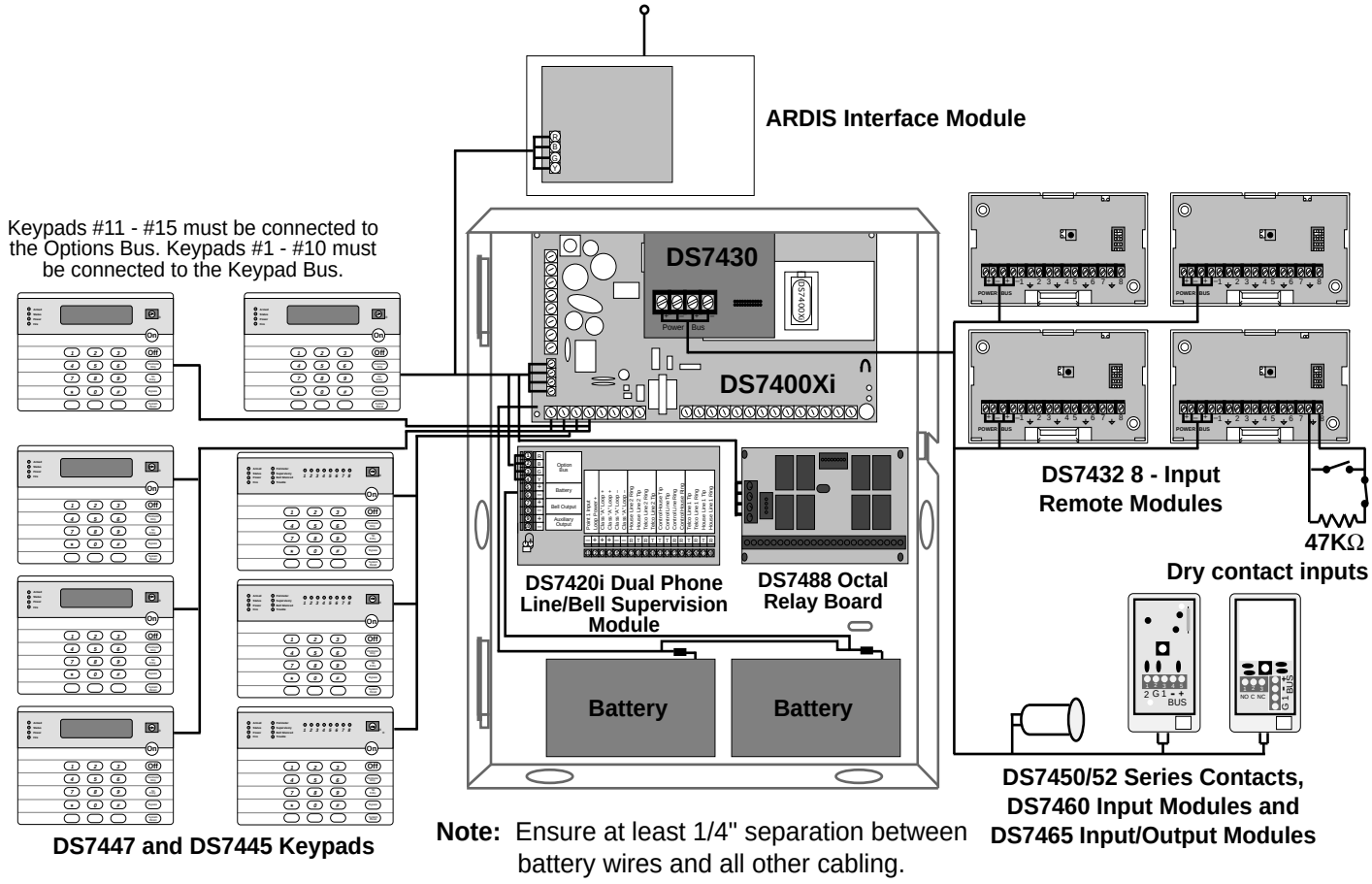


* = Maximum wire length each: 1000 ft. (305 m).
Maximum wire length total in system: 6000 ft. (1830 m) when using #22 AWG (0.8 mm) or #18 AWG (1.0 mm) cable.

** = Keypads #1 - #10 connect to the Keypad Bus and keypads #11 - #15 connect to the Option Bus.

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

4.0 Hardware Layout Example



Note: Ensure at least 1/4" separation between battery wires and all other cabling.

- Up to 15 keypads may be used. Keypads #1 - #10 connect to the Keypad Bus and keypads #11 - #15 connect to the Option Bus. One keypad must be designated as keypad #1 and connected to the Keypad Bus. See the DS7447 and DS7445 Installation Instructions for further details.
- A DS7420i (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 DS7420i Installation Instructions 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 Instructions for further details.
- Up to 15 DS7432s (8 Input Remote Modules) 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 120 input loops of conventional contacts to the control panel. See the DS7432 Installation Instructions for further details.
- A Communications Module may be connected to the control panel via the Options Bus. This allows for connection to the ARDIS radio network.
- Up to 128 zones are available for the connection of Single, Multiple, Input/Output, and Multiplex devices.

5.0 System Worksheet

Account Number _____ Information

Name _____ Contact Person _____

Address _____ Voice Phone Number _____

_____ Panel Phone Number _____

City, State, Zip _____ Panel Answers Phone ☐ Armed ☐ Disarmed

Equipment Location and Notes

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

Battery Standby _____ AH Bell Current _____ A

Control Panel _____

Transformer _____

Telephone Jack _____

Telephone On Same Line as Panel _____

Earth Ground Connection _____

Alarm Sounder (s) _____

Misc. Notes

_____

_____

_____

_____

_____

_____

_____

_____

Keypad Location and Notes

	Example Location	Belongs to Partition	Master/ Standard
Keypad # 1	Kitchen	2	Master

	Location	Belongs to Partition	Master/ Standard		Location	Belongs to Partition	Master/ Standard
Keypad # 1				Keypad # 9			
Keypad # 2				Keypad # 10			
Keypad # 3				Keypad # 11			
Keypad # 4				Keypad # 12			
Keypad # 5				Keypad # 13			
Keypad # 6				Keypad # 14			
Keypad # 7				Keypad # 15			
Keypad # 8							

Personal Identification Number Information

Example

PIN Information

User #	Pin #	Auth. Level	Parti-tions	Name
002	1001	6	1, 2, 4	James L.

PIN Information

User #	Pin #	Auth. Level	Parti-tions	Name
001				
002				
003				
004				
005				
006				
007				
008				
009				
010				
011				
012				
013				
014				
015				
016				
017				
018				
019				
020				
021				
022				
023				
024				
025				
026				
027				
028				
029				
030				

PIN Information

User #	Pin #	Auth. Level	Parti-tions	Name
031				
032				
033				
034				
035				
036				
037				
038				
039				
040				
041				
042				
043				
044				
045				
046				
047				
048				
049				
050				
051				
052				
053				
054				
055				
056				
057				
058				
059				
060				

PIN Information

User #	Pin #	Auth. Level	Parti-tions	Name
061				
062				
063				
064				
065				
066				
067				
068				
069				
070				
071				
072				
073				
074				
075				
076				
077				
078				
079				
080				
081				
082				
083				
084				
085				
086				
087				
088				
089				
090				

5.0 System Worksheet (continued)

Zone Location and Notes

	Example Type *	Zone/Output Function #	Partition & Location
Zone # 1	SZ	Zn Funct. 1	2, Kitchen

* = SZ: Single Zone Input
MZ: Multiple Zone Input
IO: DS7465
(see section 12.3)

	Type *	Zone/Output Function #	Partition & Location
Zone # 1			
Zone # 2			
Zone # 3			
Zone # 4			
Zone # 5			
Zone # 6			
Zone # 7			
Zone # 8			
Zone # 9			
Zone # 10			
Zone # 11			
Zone # 12			
Zone # 13			
Zone # 14			
Zone # 15			
Zone # 16			
Zone # 17			
Zone # 18			
Zone # 19			
Zone # 20			
Zone # 21			
Zone # 22			
Zone # 23			
Zone # 24			
Zone # 25			
Zone # 26			
Zone # 27			
Zone # 28			
Zone # 29			
Zone # 30			
Zone # 40			

	Type *	Zone/Output Function #	Partition & Location
Zone # 31			
Zone # 32			
Zone # 33			
Zone # 34			
Zone # 35			
Zone # 36			
Zone # 37			
Zone # 38			
Zone # 39			
Zone # 40			
Zone # 40			
Zone # 41			
Zone # 42			
Zone # 43			
Zone # 44			
Zone # 45			
Zone # 46			
Zone # 47			
Zone # 48			
Zone # 49			
Zone # 50			
Zone # 51			
Zone # 52			
Zone # 53			
Zone # 54			
Zone # 55			
Zone # 56			
Zone # 57			
Zone # 58			
Zone # 59			
Zone # 60			

Zone Location and Notes (continued)

	Type *	Zone/Output Function #	Partition & Location
Zone # 61			
Zone # 62			
Zone # 63			
Zone # 64			
Zone # 65			
Zone # 66			
Zone # 67			
Zone # 68			
Zone # 69			
Zone # 70			
Zone # 71			
Zone # 72			
Zone # 73			
Zone # 74			
Zone # 75			
Zone # 76			
Zone # 77			
Zone # 78			
Zone # 79			
Zone # 80			
Zone # 81			
Zone # 82			
Zone # 83			
Zone # 84			
Zone # 85			
Zone # 86			
Zone # 87			
Zone # 88			
Zone # 89			
Zone # 90			
Zone # 91			
Zone # 92			
Zone # 93			
Zone # 94			

	Type *	Zone/Output Function #	Partition & Location
Zone # 95			
Zone # 96			
Zone # 97			
Zone # 98			
Zone # 99			
Zone # 100			
Zone # 101			
Zone # 102			
Zone # 103			
Zone # 104			
Zone # 105			
Zone # 106			
Zone # 107			
Zone # 108			
Zone # 109			
Zone # 110			
Zone # 111			
Zone # 112			
Zone # 113			
Zone # 114			
Zone # 115			
Zone # 116			
Zone # 117			
Zone # 118			
Zone # 119			
Zone # 120			
Zone # 121			
Zone # 122			
Zone # 123			
Zone # 124			
Zone # 125			
Zone # 126			
Zone # 127			
Zone # 128			

6.0 System Overview

6.1 DS7400Xi Description

The DS7400Xi Control/Communicator is a fully integrated hardwire/multiplex security/fire alarm system.

- It can support up to 128 input zones, 90 individual users, and multiple output options.
- It can be partitioned into as many as eight separate systems, thus allowing individual control and reports for each partition.
- Up to 15 keypads may be used to provide user interface with the system, as well as programming access for the installer.

6.1.1 A/C Failure Report Delay

The A/C power loss report can be programmed to delay for up to 254 minutes (see address 0197). (The same delay would also apply to the A/C restoral report.)

- If another report is sent during this delay period, the A/C fail report will be sent along with this report.
- If the A/C power restores during this delay period, the A/C loss report will not be sent.
- Programming address 0197 as FF causes the report to be sent at a random interval of at least 15 minutes, but no more than 2 hours after the A/C failure occurs.

6.1.2 Entry/Exit Delay Cancel Zone Functions

Entry/Exit Delay Cancel 1 and Entry/Exit Delay Cancel 2 Zone Functions cause the exit delay to expire as soon as the premises is vacated.

- If a zone is programmed as an Entry/Exit Delay Cancel zone, and it is activated during the exit delay, the exit delay will expire as soon as the zone has been restored.
- Entry/Exit Delay Cancel 1 follows entry delay 1.
- Entry/Exit Delay Cancel 2 follows entry delay 2.
- They are programmed at addresses 0001-0015.

6.1.3 General "Arm-Only" Authority by Partition

A general (level 2) authority can be programmed to have arm-only authority by partition. This is done at addresses 0198 and 0199.

- Arm-only access by partition allows someone with a General Authority to arm and/or bypass zones in a partition he can not disarm.
- This level can still be used to arm, disarm, and bypass zones in the other partitions that it has access to.

6.1.4 Input/Output Cross Matrixing

Input/Output Cross Matrixing allows Output Functions to follow the status of specific input zones (zones 1 through 99 only).

- Outputs can be programmed to follow any combination of one or two zones, open or closed, with the system armed or disarmed.
- If programmed to latch, the output will latch until a valid PIN is entered at the keypad.

6.1.5 Multiplex Bus Outputs

The DS7400Xi supports up to 20 DS7465 Input/Output Modules.

- These modules are connected to the multiplex bus and provide one input loop and one Form "C" output relay.
- The input loop operates the same as all other multiplex inputs.
- The output loop can be programmed to follow Output Functions.
- Multiplex Bus outputs can be bypassed using the bypass function. If an output zone is bypassed while it is ON, it will turn OFF. The bypass will not be removed when the system is armed and then disarmed; it must be cancelled by entering the bypass command again or by cancelling all bypasses.

Note: DS7465 Module outputs will not pulse, even if programmed to do so.

6.1.6 Octal Relay Modules (DS7488)

The DS7400Xi can support two Octal Relay Modules.

- Each relay can be programmed to follow system-wide events or Output Functions as described above.

6.1.7 Output Functions

Output Functions can be programmed to follow system events or to follow one or two specific zones in a "cross-matrix" fashion (see Input/Output Cross-Matrixing).

- These Output Functions can be programmed to control Octal Relay outputs or Multiplex Bus outputs.
- Output Functions are programmed at addresses 1472 through 1516.

6.2 Zone

A Zone is an input to the DS7400Xi Control/Communicator.

- There are 8 hardwired zones on the main circuit board.
- Additional zones may be added by using the DS7433 (8 zone expansion module), the DS7430 (multiplex loop module), and/or other modules.

6.3 Zone Function

A Zone Function is the description of how a particular zone will behave (e.g. steady alarm output, bypassing allowed, alarm on short, trouble on open, perimeter instant).

- Zone functions may be custom made, but 8 default zone functions already exist.
- There are many possible zone functions, but only up to 15 different zone functions are allowed per control.
- Each zone must be programmed as a specific zone function. Any number and combination of zones may be programmed as particular zone functions.

7.0 Glossary

7.1 General Control Programming

- **Normal Arming** - [PIN] + [On]: If programmed, arms the entire system while allowing entry delays for entry/exit zones.

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

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

- **Custom Arming** - [PIN] + [#] [4]: If programmed, allows custom arming of the system and bypasses the zone functions specified in data address 0183.

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

- **Closing Ring-Back**: If programmed, the keypad sounders and Bell will activate for 2 seconds after the system is armed and the closing report is successfully sent. This requires Closing Ring-Back and Closing Report to be programmed.
  - If a closing report is not programmed, the control will test for a dial tone when the system is armed. If the test passes, the sys-

tem will arm normally. If the test fails, the system will arm, but will indicate a trouble condition.
- The DS7447 keypad will display “Communication Err” after [#] [8] [7] is entered.
- This can also be used to perform a bell test on arming.

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

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

- **Restore when Zone Restores**: If programmed, a zone sends a restoral report and is ready to activate again as soon as it physically restores.
  - This zone can alarm multiple times per armed period.

- **Restore when System Disarms**: If programmed, a zone sends a restoral report when the system is disarmed.
  - It can only alarm once per armed period.

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

7.2 Zone Function Programming

- **Invisible Alarms**: This is a zone programmed not to have an alarm output or an alarm display at any keypad when activated. An alarm signal will be sent, but the DS7447 keypad display will read “Not Ready” while this zone is violated.
  - Invisible Alarm zones are recommended for holdup alarms.

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

- **Bypassing Allowed**: This is a zone programmed to allow bypassing (shunting). This is done using the bypass command or the force-arming sequence.

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

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

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

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

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

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

- **Entry/Exit Delay #1:** This is a zone programmed to be ignored during the entry/exit delay period.
  - If it is violated while the system is armed, it will activate a delay for the amount of time programmed for entry delay time #1 (address 0191). The keypad pre-alert sounders will activate and the system may be disarmed during this delay period.
  - If the system is not disarmed during the entry period, this zone will activate an alarm.

- **Entry/Exit Delay #2:** This is a zone programmed to behave identical to the Entry/Exit Delay #1 zone function except that it uses entry delay time #2 (address 0192).

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

- **Interior Entry/Exit Follower**: This is a zone programmed to be ignored during an entry/exit delay and then become an interior instant zone.
  - If this zone is violated while the system is armed and no entry/exit zones have been violated, it will activate an alarm.
  - If this zone is violated after an entry/exit delay zone is violated, it will follow that entry/exit delay time.
  - This zone is bypassed by Perimeter Instant or Perimeter arming.

- **Interior Home/Away:** This is a zone programmed to become an interior instant zone if the system is armed and an entry/exit delay zone is violated during the exit delay time.
  - If the system is armed and an entry/exit delay zone is not violated, this zone will be bypassed.
  - This zone is bypassed by Perimeter Instant or Perimeter arming.

- **Interior Instant**: This is a zone programmed to activate an alarm even during the entry/exit delay periods.
  - It is bypassed by Perimeter Instant or Perimeter arming.

- **Day Monitor**: This is a zone programmed to be a perimeter instant zone when the system is armed.
  - When the system is disarmed, any violation of this zone will activate the keypad sounders which will sound continuously until a disarm command sequence is entered.
  - The alarm outputs for this zone will not activate and there will be no report for this zone when the system is disarmed.

- **Keyswitch Input**: This is a zone programmed to allow the system to be armed or disarmed using a Normally Open momentary keyswitch.
  - Outputs for keyswitch LEDs and sounders are available using the programmable outputs or the Octal relay outputs.
  - An output is needed for each LED and sounder.
  - A keyswitch will only control the partition that these zones are assigned to unless programmed as a master, then they will control all at once. See Program Address 0001, Data Digit 1.
  - Keyswitches and keypads may be used in the same partition, if desired.

- **Fire Zone**: This is a zone programmed to activate if the system is armed or disarmed.

- It can be silenced (not reset) by entering a valid [PIN] + [Off].
- The display will indicate a Fire Alarm for this zone on all keypads in every partition.
- A fire reset command must be entered after silencing the alarm to re-enable this zone.
- If this zone is programmed for trouble and the loop opens, the DS7447 keypad will display "Fire Trouble" for this zone and the keypad sounders will beep once every ten seconds.
- If the system is a combination fire and burglar alarm, the fire alarm has priority over the burglar alarm.

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

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

• **Water Flow Zone**: This is a zone programmed to operate like a Fire Zone, but is specifically intended for water flow switches.
- An optional retard timer can be programmed to compensate for changes in water pressure. If the timer is used, the water flow zone must be activated for the complete time period; an alarm will be initiated at the end of the timer period.
- The maximum combined water flow delay of the control panel and the device must not exceed two minutes.

Note: Any zone can be a water flow zone, but only zones 1 through 4 may be programmed as delayed water flow zones.

• **Supervisory Zone**: This is a zone programmed to accommodate shut-off valves.
- It will indicate a supervisory condition at the keypads when activated.

7.3 Zone Programming

• **Single Zone Input**: This is an individual zone such as the on-board zones and multiplex contact zones.

• **Multiple Zone Input**: This is a zone connected to one of the 8-Input Modules or to a Dual Zone Module.
- The inputs are programmed separately (see the separate Programming Addresses Worksheet, P/N 29802).
- When using the Dual Zone Module, loop A is always programmed as an odd numbered program address (ending in 1, 3, 5, 7, or 9). Loop B is the even numbered program address that follows loop A.

• **DS7465**: This is the input zone or the output relay on a DS7465. The odd numbered zone is programmed for the input zone function and the even numbered zone is programmed for the output function.

7.4 Output Programming

• **Latch on Any Zone Alarm**: This is an output programmed to activate upon any zone alarm (including invisible zones) and will latch until the system has been disarmed.
- If this output responds to a fire zone, it will remain latched until the fire reset command is performed.

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

• **ON for 10 seconds** after [PIN] + [System Reset] is entered: This is an output programmed to activate for 10 seconds after the fire reset command is entered at the keypad or if a Fire Zone with Verification activates.
- This output is intended to be used to power 4-wire smoke detectors or any other device that requires a power interruption to reset an alarm condition.

Note: When Programmable Output 2 is programmed this way, it will normally supply auxiliary power and will turn OFF for 10 seconds when the fire reset command is entered.

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

• **Ground Start**: This is an output programmed to activate for 3 seconds when the phone line is seized. It is intended for use with ground start phone systems that require a momentary short to ground to obtain a dial tone.
- Connect a separate 12 VDC, DPDT relay.
- Connect both relay contact commons to ground, and connect the Normally Open of each contact to terminal positions 13 and 16 (one to terminal 13, the other to 16) of the DS7400Xi.
- This output follows all partitions regardless of how data digit 2 of the output programming address is programmed.
- Not intended for U. L. Listed systems. Not for use with phone line monitors.

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

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

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

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

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

- **Panic/Duress Output**: All outputs, including the three on-board outputs, the Octal Relays, and the Output Functions, support a Panic/Duress function. To assign an output as a Panic/Duress Output, program the first data digit as "*1". Program data digit two for the appropriate partition(s). This output will follow Duress activations, Keypad Emergency Keys B and C, and Invisible and Silent Zone alarms. It will reset after acknowledged by a user or after the burglary bell time-out expires.

7.5 Partition Control Programming

- **Partition Control Programming**: Up to eight partitions may be used. They are assigned (program address 0165) in order.
  - For example: When using only one partition, it is partition one. When using three partitions, they are partitions one, two, and three.
  - Partitioning allows the system to act as up to 8 different systems.
  - Zones, keypads, outputs, and other items may be assigned to particular partitions.
  - Access to partitions may be through each partition's keypad or through a Master keypad (see the operating section for more details).

- **Common Area**: Partition 1 can be programmed as a common area, that is, common to other partitions. This allows it to be used in an installation with one common entry area such as a foyer or vestibule.
  - When Partition 1 is programmed as a common area, it will only arm when all the partitions it is common to are armed.
  - The common area will disarm when any of the partitions it is common to are disarmed - only if the user has access to the common area.
  - When using a common area, a Master keypad should be used and assigned to the common area (see keypad assignment programming).

7.6 Keypad Assignment Programming

- **Keypad Assignment**: The keypad type and the partition it is assigned to must be programmed.
  - Each program address (0173-0180) programs the keypad type for two keypads. For example: data digit 1 of address 0173 is for keypad 1, data digit 2 of address 0173 is for keypad 2.
  - Each program address (0208-0215) programs the partition assignment for two keypads. For example: data digit 1 of address 0208 is for the partition assignment of keypad 1, data digit 2 of address 0208 is for the partition assignment of keypad 2.
  - Users must have access to the partition the keypad is assigned to in order to use the keypad.

- **Master Keypad Programming** : A Master keypad can be used to access all the partitions.
  - It will display the arm/disarm status of all the partitions and can be used to individually control each partition (see the operating section for an explanation of the keypad displays).
  - A Master keypad can be assigned to any of the partitions.
  - Any number of the 15 allowable keypads can be a Master keypad.
  - When using the common area, it is suggested that a Master keypad be used and that it is assigned to the common area.

7.7 Emergency Key Programming

Note: Do not label these keys if they are unprogrammed. Only the A key may be programmed and labeled as the Fire key.

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

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

Note: The Fire Key will generate the fire alarm sounders in the partition that activated the Fire Key. Any other partitions in use will only have their keypad sounders activated. All keypad displays will be the same.

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

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

Note: The Special Emergency Key and the Panic Key will generate the alarm sounders only in the partition of the keypad that activated that Key.

7.8 Custom Arming Programming

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

7.9 Force Arming

- **Force Arming**: If programmed, allows violated zones to be force armed. When force arming, the user must enter the usual arming command followed by the [Bypass] key. This automatically bypasses zones that are violated and programmed as bypassable.
  - Fire zones, supervisory zones, keyswitch zones, and non-bypassable zones can not be force armed.
  - Not available in U. L. Listed systems.
  - See Program Address 0185.

7.10 Ground Fault Detect Programming

- **Ground Fault**: If programmed, this function will allow the system to detect ground faults. This function is required for fire panels and will be forced on when the panel is in the commercial fire mode.
  - See Program Address 0185.

7.11 Commercial Fire Mode Programming

Note: In a system that includes both fire alarm and burglar alarm devices, the system must produce distinct sounds for fire and burglar alarm conditions either by using different indicating appliances or by using distinct cadences for the same appliance.

- **Commercial Fire Mode**: When in Commercial Fire Mode, the control panel will perform some functions (e.g. communications) differently to conform with commercial fire regulations.
  - See Commercial Fire Mode Programming, program address 0186.

- **Water Flow Zone Delay**: This is the amount of time a water flow zone must be violated before the control panel will initiate an alarm.
  - The delay is necessary to accommodate normal changes in water pressure.
  - If the water flow initiating device incorporates its own time delay, do not program the control panel unit to exceed 120 seconds combined time delay.

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

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

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

- **Single Keypad Use**: The keypad should be used on the keypad bus and be mounted to the front of the control enclosure OR if within the same room as the control equipment with the wire run in conduit (or equivalently protected against mechanical injury) within 20 ft. (6.1 m) of the control equipment.
  - This keypad should be assigned as address 1.

- **Multiple Keypad Use**: <u>One keypad only</u> must be used on the option bus, at any address from 11 - 14, and must meet the following requirements:
  - The keypad must be mounted to the front of the control enclosure OR mounted within the same room as the control equipment and the wire is run in conduit (or equivalently protected against mechanical injury) within 20 ft. (6.1 m) of the control equipment.
  - All other keypads should be connected to the keypad bus and may be placed as needed (within the noted wiring limitations in the installation manual).
  - One keypad must be assigned as address 1.

7.12 Open/Close Report Control Programming

- **Open and Close Reports**: If programmed, these reports are sent when the system is armed or disarmed. They may be sent independently for the opening and closing of each partition, or the first partition to open and the last partition to close may send the reports.

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

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

7.13 Report Programming

- **Reports**: For pulse formats, reports are programmed by entering data in the reporting and extended digits. The report will send the data programmed for each event. For SIA and Contact ID, the report formats are fixed and may be activated by placing a 1 in the reporting digit.
  - To disable a report, enter a 0 in the reporting digit.
  - To send the Man No. along with Open and Close reports, program an "F" (enter [*] [5] at the keypad) in the extended digit.

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

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

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

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

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

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

- **Zone Function Trouble**: This report is sent when a zone trouble condition occurs. This can be an open circuit, if the zone is programmed for “trouble on open”, a multiplex tamper switch being activated, or a multiplex zone not communicating with the control panel. The zone number will automatically be sent for this report in SIA or Contact ID format.

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

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

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

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

- **First Open After Alarm**: This report is sent when the system is disarmed after an alarm has occurred. It will also be sent if the system is already disarmed and a user number is entered to si-

lence a 24-hour or fire zone.

- **Low Battery**: This report is sent when a low battery condition occurs.
- **Battery Restoral**: This report is sent when a low battery condition restores.
- **AC Fail**: This report is sent when an AC failure condition occurs. This report may be delayed in address 0197.
- **AC Restoral**: This report is sent when an AC failure condition restores.
- **Communicator Test/System Normal**: This report is sent at the 24-hour check-in time if there is not a control trouble, an active fire alarm that has not been acknowledged, a fire trouble, or a supervisory condition. Note: To send a Communicator Test even if one of these conditions exists, program the Communicator Test/ System Off Normal.
- **Remote Program Successful**: This report is sent after a Remote Program session, if the session was terminated properly.
- **Remote Program Unsuccessful**: This report is sent after a Remote Program session, if some error has occurred or the session did not terminate properly.
- **Local Program Successful**: This report is sent when local programmer's mode is exited and there is no error associated with the programming.
- **Local Program Unsuccessful**: This report is sent when local programmer's mode is exited and there has been some error associated with the programming.
- **System Trouble**: This report is sent when a control trouble condition occurs.
- **System Trouble Restoral**: This report is sent when all system trouble conditions restore.
- **Communicator Test/System Off Normal**: This report is sent at the 24-hour check-in time if there is a control trouble, an active fire alarm that has not been acknowledged, a fire trouble, or a supervisory condition.
- **Exit Error**: This report is sent if an exit error occurs. An exit error occurs when an entry/exit zone is still violated at the end of the exit delay. If this happens, the entry delay will begin. If the system is not disarmed before the entry delay expires, an alarm report for the effected zone will be sent and the Exit Error report will be sent. If this report is not programmed, the control will not sound the exit error warning.
- **Recent Closing**: This report is sent, along with any alarm reports, when there is an alarm within the first five minutes after the system has been armed.
- **System Test**: This report is sent when a system test has been started (#81 key sequence). Zone reports are not sent during a system test.
- **System Test Restoral**: This report is sent when the system test has been completed or has timed-out.

7.14 Phone Number General Control Programming

- **Enable Remote Programmer Callback**: If programmed, when the remote programmer tries to initiate a session with the panel, the panel will hang up and call the remote programmer phone number.
  - This ensures the correct remote programmer is initiating the call.
- **Dial Pulse on all Phone Numbers**: If programmed, the panel will dial phone number 1, 2, and the remote programmer phone number 3 using the pulse format.
- **Dial Tone on all Phone Numbers**: If programmed, the panel will dial phone number 1, 2, and the remote programmer phone number 3 using the tone format.

7.15 Phone Answering Programming

- **Answering Machine Bypass**: This feature allows the panel to answer incoming calls when answering machines are used. If the line rings, stops ringing, then rings again within one minute, the panel will seize the phone line on the first ring.
- **Phone Answering Programming**: The panel can be programmed to answer the phone after a selected number of rings for remote programming access. It can also be programmed to answer the phone after a different number of rings when in armed or disarmed states.
  - This can be used to call the panel location and determine its arming state.

7.16 FCC Compliance Notice

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

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

7.17 FCC Phone Connection Notice To Users

This control complies with Part 68 of the FCC rules.

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

provide this information to your local telephone company.
The REN is useful to determine the quantity of devices that may be connected to your telephone line and still have all of those devices ring when your telephone number is called. In most, but not all areas, the sum of the REN's of all devices connected to one line should not exceed five (5.0). To be certain of the number of devices that you may connect to your line, you may want to contact your local telephone company to determine the max. REN for your local calling area.

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

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

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

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

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

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

7.18 Canadian Dept. of Communications

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

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

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.
Users should ensure, for their own protection, that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

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

Terminal Requirements: The Load Number (LN) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop which is used by the device, to prevent overloading. The termination on a loop may consist of any combination of devices subject only to the requirement that the total of the Load Numbers of all the devices does not exceed 100. The Load Number of the DS7400Xi is 2.

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

7.19 For Installations in New Zealand

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

8.0 Operating Guide

8.1 Personal Identification Numbers

8.1.1 General Information

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

- **PIN:** Personal Identification Number. This is the 4 digit code users must enter at the keypad to gain access to the system. A PIN may be assigned to each User Number 001 through 090.

- **User Number:** This is the number that identifies each person using the system. There are 90 possible User Numbers available for use (001 through 090)

.

- **Authority Level:** This number determines which functions each user will be able to perform.

Your system has the capability to assign up to 90 PINs, each four digits long. Each User Number can have only one PIN assigned to it. Attempting to assign the same PIN to multiple User Numbers will result in the three-beep error tone, and the entry will not be made.

User Number 001 is designated as 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 PIN of 1 2 3 4. This PIN 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 1 2 3 4, 1 1 1 1, or 2 4 6 8 because they are easily violated.

8.1.2 Removing a PIN

To disable (remove) a PIN, enter:
- A Master code, followed by [#] [0].
- [0]
- User number of the PIN to be cancelled, followed by [#]

User Number 001 can not be disabled in this manner.

8.1.3 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, system reset, and view history. Any or all PINs can behave as a Master code.

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

2 = **General:** Can bypass, arm, and disarm. Can not change PINs, system reset, or enter Command 7 or any of the Command 8 functions. Bypass and disarm are programmable by partition.

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

4 = **Temporary:** Valid only for a 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).

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

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

Steps to Change a PIN	Command Sequence	If Accepted, the Display Reads
# 1. Enter the Master Code Programming Mode.	[Master Code] + [#] [0]	"0 User Change" (display will scroll to this)
# 2. Enter a 0.	[0]	"Enter User No." (001..0XX)
# 3. Enter the User Number.	[0] [0] [1] through [0] [9] [0]	"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], [4], [5], [6], [7], and/or [8] 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 PIN.
# 7. Enter the PIN again followed by the [#] key.	PIN (same 4 digits as above), then [#].	

8.2 Arming/Disarming Commands

For commands to Arm, Disarm, Bypass or set chime mode, see the front cover of this Reference Guide or consult the DS7400Xi Ver. 3+ Users Guide.

8.3 Changing the Date

This chart explains the procedure for changing the date at the keypad.

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

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

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

The control panel will exit you from the master code programming mode after about 15 seconds without a keystroke.

8.4 Changing the Tempoary PIN Expiration Date

This chart explains the procedure for changing the expiration date (for temporary PINs) at the keypad.

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

Steps to Change the Exp. Date for Temp. PINs	Command Sequence	If Accepted, the Display Reads
# 1. Enter the Master Code Programming Mode.	[Master Code] + [#] [0]	"3 Change Date of Code Expiration"* (display will scroll to this)
# 2. Enter a 3.	[3]	"Enter Month" (01...12)
# 3. Enter the expiration Month.	[0] [1] through [1] [2] January December	"Enter Day." (01...31)
# 4. Enter the expiration Day. *The temporary PIN will expire at Midnight on the day selected.*	[0] [1] through [3] [1]	"Enter Year." (XX) End with #
# 5. Enter the expiration Year.	The last two digits of the year, followed by the [#] key.	"Month, Day, Year" A long beep signifies acceptance.

* = This will only display when in Single Partition Mode.

Note:Entering the command sequence [Master Code] [#] [0] [3] [#] will cause the DS7447 keypad to read back the temporary code expiration date.

The control panel will exit you from the master code programming mode after about 15 seconds without a keystroke.

8.5 Changing the Time

This chart explains the procedure for changing the time at the keypad.

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

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

* = This will only display when in Single Partition Mode.

Note: Entering the command sequence [Master Code] [#] [0] [6] [#] will cause the DS7447 keypad to read back the time.

The control panel will exit you from the master code programming mode after about 15 seconds without a keystroke.

8.6 Delayed Arming

This section explains how to cause the system to arm after a specified number of hours.

Delayed arming is simply causing the system to arm after a specified number of hours.

To program the system for delayed arming, perform the following steps:

Delayed Automatic Arming	Notes
Enter a PIN	
Enter [9] [9] to enter the Delayed Arming programming	
The keypad will display the following: Arm in nn Hours # to accept	Enter the number of hours from now that you would like the system to arm. For example: If if is 3:30 now, and you would like the system to arm at 9:30, enter 06.

Additional Notes:

Delayed arming can be used even if there are no automatic arming times programmed.

If delayed arming is used in Master Keypad mode, it will affect all partitions you have access to. If delayed arming is used in single partition mode, or from a single partition keypad, it will affect only the partition you are working in.

Delayed arming will override automatic arming.

Delayed arming will also provide a 15 minute pre-arm period like the one provided with automatic arming.

8.7 Automatic Arming

Each partition can be programmed to automatically arm once per day.

To inform occupants that the system is about to arm, a pre-arming period will begin 15 minutes before the system arms automatically. The keypad sounders, and any outputs programmed to follow the keypad sounders, will pulse five times every minute. During the last five minutes before arming, these sounders will be on steady. Once per minute the keypad will read, “Arm in nn min./PIN + OFF - extend.”

If automatic arming is used in Master Keypad mode, it will affect all partitions you have access to. If used in single partition mode, or from a single partition keypad, it will affect only the partition you are working in.

To extend the Automatic Arming of the system during the automatic arming pre-arming period 15 minutes, enter a valid user code plus OFF [PIN] + [OFF]. For a longer delay, perform the following steps:

Delayed Automatic Arming	Notes
Enter a PIN	
Enter [9] [9] to enter the Delayed Arming programming	
The keypad will display the following: Arm in nn Hours # to accept	Enter the number of hours from now that you would like the system to arm. For example: If if is 3:30 now, and you would like the system to arm at 9:30, enter 06.

* = To extend the Automatic Arming at any time, use the Delayed Arming feature (see section 8.6).

To program the Automatic Arming Time, perform the following steps:

Setting the Automatic Arming Time	Notes
Enter a Master PIN + [#] + [0]	Setting the Automatic Arming Time can only be performed in the Master Programming Mode.
Enter a [1] to enter the Automatic Arm Setup programming	
Enter the partition number. Press [#] to exit.	If programming is done from a Master Keypad that is not in single partition mode, the user will be prompted to enter the partition they wish to program. The user will only be allowed to program the partitions to which they are assigned. If programming from a standard keypad, or from a Master Keypad in single partition mode, this step will be skipped.
Enter a time for each day. Enter in [0] [1] [0] [0] [#] format.	The display will start with Sunday. It will read, “Sunday - nn : nn” Enter the time in 24 hour format then press the [#] key. If you make a mistake, press the [*] key twice to move back to your last entry. Samples of times: 12 noon = 1200# / 12 midnight = 2400# 12:01am = 0001# / 12:01pm = 1201# 1:00am = 0100# / 1:00pm = 1300# Disabled = 0000#

8.8 Turning OFF the System under Duress

This chart explains the proper procedure for disarming under Duress.

Ask your installer if the Duress feature has been activated.

A Duress code is used when someone demands, by threatening your life or well-being, that the system be turned off. When used, the code will both turn off the system and report a silent Duress alarm if connected to a monitoring service.

Extreme care should be used when entering your PIN to turn off the system, so a Duress code is not inadvertently entered.

Type of Disarming	Command Sequence	What will Happen
Disarming System under Duress	Duress Code + [Off]	System will appear to disarm normally. A Duress code will be sent to the central station.

8.9 Emergency Procedures

8.9.1 Identifying Alarm Sounds

Your alarm system may be programmed for a steady alarm sound or a pulsed alarm sound. It is important to learn the difference between a fire alarm sound and an intrusion alarm sound before you are confronted with an actual emergency.

8.9.2 Silencing Alarms

All alarms can be silenced with any PIN that has disarm privileges. Entering your PIN+ [Off] will silence the alarm and turn off (disarm) the control.

8.9.3 A Cautionary Note

How you respond to an alarm will depend, mostly, on the type and time of the alarm. You should seek the advice of your installing company as they install your system, not later (e.g. after an alarm) to develop a response plan.

8.9.4 Use Common Sense

Above all else, common sense should prevail. If there is any threat or hint of danger to yourself or others on the premises, such as in the event of a fire alarm, everyone should be instructed to leave the premises immediately. Do not enter the premises unless accompanied by the appropriate Emergency Services' personnel, or after they have given the OK to enter.

8.9.5 Caution When Entering A Building

If the bells and sirens are on and/or the red Armed Light is flashing with the DS7447 display reading "Zone Alarm" or the DS7445 having its zone LEDs flashing, then the keypad is signaling that an alarm has occurred. The keypad will also issue a pulsed tone during the entry delay instead of the usual steady tone.

If the alarm has not been previously investigated, do not enter the building unless accompanied by the appropriate Emergency Services' personnel.

8.9.6 Fire Alarms

Fire Alarms are silenced using the same procedure as intrusion alarms: a PIN (with disarm privileges) + the [Off] key.

The Fire Alarm system is not reset until alarms at smoke detectors are cleared by using the [System Reset] command. The Fire Alarm system will not be functional until this procedure has been followed. See the "Fire Reset" section, 8.10.1.

8.10 Fire Reset/Fire Trouble

8.10.1 Fire Reset

During a fire alarm, exit the premises immediately. When you have determined there is no fire, you must silence the bells/sirens before you can initiate the [System Reset]
command: PIN + [System Reset].
Before the [System Reset] command is used, determine which smoke detector has alarmed so the monitoring company may verify its operation.
A PIN followed by the [System Reset] key will reset any smoke detectors after a fire alarm has occurred.
Note: To use the System Reset command sequence, your PIN must have disarm privileges.
The System Reset command will perform a fire reset, will perform a battery test, and will clear all system troubles.
Note: If the System Reset command has not been performed after 24 hours of the Fire Alarm, the keypad will sound and it will display "Fire Alarm Not Reset." If the sounders have been silenced and the system has been reset properly, this warning will not occur.

8.10.2 Fire Trouble

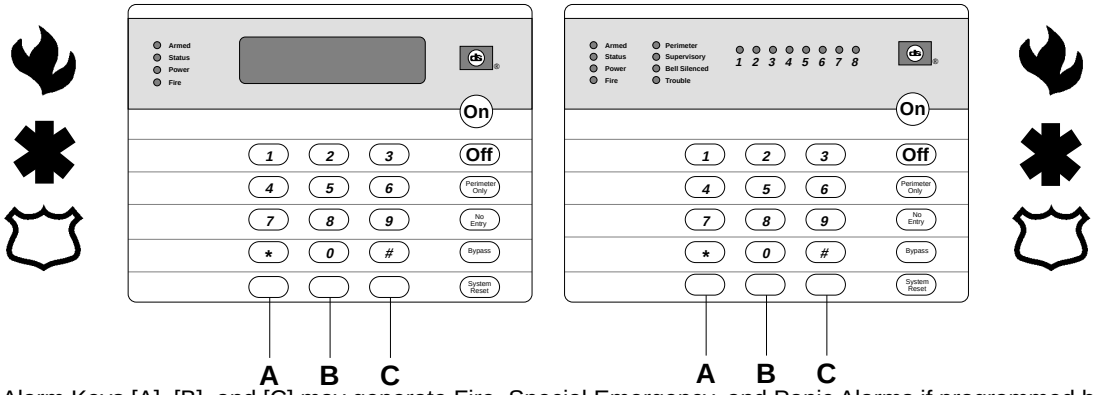
A Fire Trouble message with a zone number signifies a problem with the fire system, such as a break in the wiring that monitors smoke detectors. A Fire Trouble message with no zone number indicates a ground fault if the unit is in the commercial fire mode.

A Fire Trouble will be indicated by a short beep from the keypad sounders every 10 seconds. The DS7447 will display "Fire Trouble" followed by the zones in a trouble condition. The DS7445 will turn the Fire and Trouble Lights on steady and will light the corresponding zone LEDs.

Notify your installing company immediately if the Fire Trouble message is displayed.

The Fire Trouble beep can be silenced with any PIN followed by the [Off] key. After problems have been remedied, a PIN followed by the [Off] key should again be entered to clear the "Fire Trouble" display.

8.11 Emergency Keypad Alarms



The Emergency Alarm Keys [A], [B], and [C] may generate Fire, Special Emergency, and Panic Alarms if programmed by the installer. Ask your installing company to explain the function of these keys.

When using the Emergency Keys, they must be pressed for two seconds to generate an alarm.

Note: If the Emergency Alarm Keys are to be used, they should be labeled to signify their functions.
The A key should be labeled as the Fire key. This is the only key that may be designated as the Fire key.
The B key should be labeled as the Special Emergency key.
The C key should be labeled as the Panic key.

Use the Disarming Command Sequence to cancel or silence these alarms.

8.12 Fire Safety

WARNING: No fire detection device or system should be considered 100% foolproof.

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

8.12.1 If Installed in Family Residences

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

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

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

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

8.12.2 Having and Practicing an Escape Plan

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

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

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

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

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

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

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

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

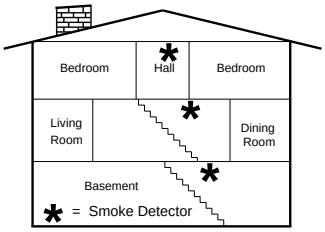
- If the top of the door is not uncomfortably hot, brace the bottom of the door with your foot, and the top with one hand, then open the door about one inch. Be prepared to slam the door shut if there is any pressure against the door or if any hot air rushes in.

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

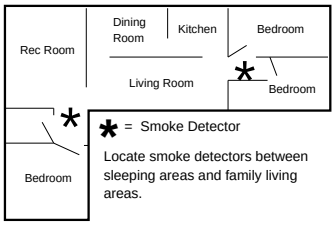
8.12.3 Installation Considerations

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

The following are some general considerations:



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



Locate smoke detectors between sleeping areas and family living areas.

- Smoke detectors should not be installed in "dead air" spaces or close to ventilating or air conditioning outlets because smoke may be circulated away from the detector. Locations near air inlets should be favored.
- Avoid areas subject to normal smoke concentrations such as kitchens, garages, or near fireplaces.
- Do not install smoke detectors where normal area temperatures are above 100 degrees F (38 degrees C) or below 32 degrees F (0 degrees C).
- Areas of high humidity and dust concentrations should be avoided.
- The edge of ceiling mounted detectors should be no closer than 4 inches (10 cm) from any wall.
- Place the top edge of wall mounted detectors between 4 and 12 inches (10 to 30 cm) from the ceiling.

8.13 Testing

8.13.1 Zone Test

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

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

Note: This test can not be performed from a Master Keypad.

8.13.2 Battery/Sounder Test

If a power failure occurs, your control panel has a built-in battery that will continue to power the control panel for several hours. The control panel automatically recharges the battery when power is restored. In addition to an automatic battery test performed every 4 hours, the battery may also be tested manually. This test also uses the battery to manually activate all the system sounders for 2 seconds (# 8 5 only). If the battery voltage is low, a battery fault will occur (see Error Display).

Type of Test	Command Sequence	What will Happen	What to Do
Local Battery/ Sounder Test *	PIN + [#] [8] [5]	• All keypad Lights will turn on. • The keypad sounder and all alarm sounding devices will operate for 2 seconds.	If test fails, the control will indicate a Control Problem. See Error displays, section 9.20. If power in your building has been off recently, wait 2 hours for the battery to recharge and then try again.
Battery Test	PIN + [System Reset]	• The control will perform a Battery Test. • The control will report a Low Battery or a Low Battery Restoral if necessary.	

*** = Note**: If this test is performed from a Master Keypad, it must be in Single Partition Mode.

8.13.3 Communicator Test

This test is available only if your system transmits alarms and system information to a monitoring service, and has been programmed by the security installing company to permit communicator tests. A long beep will initially sound to acknowledge the start of the test. If the test is successful, the sounder will again issue one long beep. If the test fails, the keypad sounder will turn ON continuously. To silence the sounder, enter you PIN followed by the [#] key or press the [*] key.

Type of Test	Command Sequence	What will Happen	What to Do
Communicator Test Requires addresses 0329, 0504, 0529, and 1521 to be programmed.	PIN + [#] [8] [2]	• A long beep will sound. • A "Test" report is sent to the monitoring service.	If test fails, the keypad sounder will sound continuously. To silence the sounder, press the [System Reset] key. **Note:** This test may take several minutes to complete as the control will try 10 attempts (not programmable) before it fails this test.

8.13.4 Event History Readback

The History Buffer stores the last 400 events in memory, the last 100 in non-volitile memory (will be kept even if total power loss). The DS7447 can display all of these events. The DS7445 will only display those zones that have alarmed since the last Event History Read-back.

Type of Test	Command Sequence	What will Happen	What to Do
Event History Readback *	PIN + [#] [8] [9]	DS7447: The last event to take place will be displayed. DS7445: The zone LEDs will flash for any zones that have alarmed since the last Event History Readback done on a DS7445 keypad in that partition. For System Fault displays, see section 9.20.	DS7447: Scroll through the events by using the [9], [6], and [#] keys. See below. To exit from the Event History Mode, press the [*] key.

*** = Note**: If this is performed from a Master Keypad, it must be in Single Partition Mode.

DS7447 Only: Scrolling through the History Events.
To begin scrolling back through the events, press the [#] key. The [#] key will scroll you back through the history line by line. The [9] key will scroll you back in reverse chronological order by event. The [6] key will scroll you back up through the events (toward the most recent) by event.
Each event consists of two or three lines or display screens. The first line/screen will be the event title and user. The second line/screen will be the date of the event or the change being made. If there is a third line/screen, it will be the date of the change.
To exit the Event History Mode, press the [*] key or wait 20 seconds and the keypad will exit automatically.
When performing this from a Master Keypad, each partition will display its own history.

8.13.5 Remote Program Dial-out and Answer

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

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

8.13.6 Error Displays

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

Control panel problems are indicated by a flashing green Power Light. The DS7447 display will also read **"Control Trouble, Enter #87."** The DS7445 will only flash the green Power Light.

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

1. DS7447 - "**AC Power Failure"** / DS7445 - LED 1 turns on steady**:** There is a power failure and the panel is operating on backup battery.
2. DS7447 - "**Battery Trouble"** / DS7445 - LED 2 turns on steady**:** If the system has just been through a power failure, wait at least two hours for the battery to recharge, then enter a PIN + [System Reset] to perform a battery test.
3. DS7447 - "**Communicator Err"** / DS7445 - LED 3 turns on steady**:** The communicator failed to communicate with the central station.
4. DS7447 - "**System Fault"** / DS7445 - LED 4 turns on steady**:** Internal error in the control circuitry or optional circuitry. These faults are designated as follows:
5. DS7447 - "**Keypad Fault"** / DS7445 - LED 5 turns on steady**:** One of the keypads is not responding to the control panel.
6. DS7447 - "**Multiplex Bus"** / DS7445 - LED 7 turns on steady**:** The multiplex bus is defective or has been shorted.
7. DS7447 - "**Aux Power Fault"** / DS7445 - LED 8 turns on steady**:** The auxiliary power has been shorted.
8. DS7447 - "**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 DS7420i	System fault 10
Line 1 Fault = DS7420i phone line 1 fault	System fault 11
Line 2 Fault = DS7420i phone line 2 fault	System fault 12
Bell Fault = DS7420i bell circuit fault	System fault 13
Aux. Relay Fault = DS7420i aux. relay fault	System fault 14
Oct. Relay Fault = loss of communication to DS7488	System fault 20
Reserved for older panels	System fault 50
AR IB Queue Full = modem buffer full	System fault 51
AR Host Down = network data switch down	System fault 52
AR Unreg. Modem = modem not registered	System fault 53
AR Power Fail = power source below defined threshold	System fault 54
AR Network Lost = loss of network	System fault 55
AR Modem HW Err = modem hardware error	System fault 56
AR Modem SW Err = modem software error	System fault 57
AR Opt. Bus Err = loss of communication to ARDIS module	System fault 58
AR Corrupt MSG = message error	System fault 59

Note: System Faults may be read from any keypad because they are system-wide.

All other Error Displays are limited to the partition the Standard keypad is in. If you are on a Master keypad, you may read Error Displays one partition at a time.

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

* = **Battery Trouble** display will only clear by the [System Reset] command or another automatic battery test even after the problem has been remedied. **Comm Error** display willonly clear by the [System Reset] command or the next successful automatic system off normal report even after the problem has been remedied. All the other error displays will self clear from the keypads once the problem has been remedied.

9.0 The Master Keypad

Your system may include a Master keypad.

A Master keypad is a DS7447 keypad programmed to give a user access to all the partitions he has access to, not just the partition the Master keypad is in. This is different from a Standard keypad, in that Standard keypads only give access to the single partition they are in. Commands entered at the Master keypad will affect all the partitions the user has access to. If this is not desirable, the Master keypad can be used to control partitions individually; this is called Single Partition Mode. Single Partition Mode allows a user to control the partitions he has access to on an individual (one by one) basis (see section 11.4 for more information on Single Partition Mode).

9.1 Master Keypad Displays

Master keypad displays will differ slightly from Standard keypads.

The Master keypad display will scroll the Status of each partition, followed by the partition number.
For example, if all partitions are armed, the Master keypad will scroll through the following displays:

Armed area 1	**Armed area 2**	**Armed area 3**	**Armed area 4**	**Armed area 5**	**Armed area 6**	**Armed area 7**	**Armed area 8**

If only partitions 1, 2, 3, 4, 6, and 8 are armed, the Master keypad will scroll through the following displays:

Armed area 1	**Armed area 2**	**Armed area 3**	**Armed area 4**	**Ready to Arm area 5**	**Armed area 6**	**Ready to Arm area 7**	**Armed area 8**

Displays for partitions that are Not Ready will display in the same manner.

Light	Off	Flashing	On
Armed (red)	All partitions are disarmed.	One or more partitions are armed, or an alarm has occurred.	All partitions are armed, and no alarms have occurred.
Status (green)	Not ready to arm (if the Armed Light is on, all partitions are armed).	One or more zones are bypassed.	All partitions are ready to arm.
Power (green)	The control panel has lost all power; no AC or battery.	Control panel problems exist. See *Error Displays.*	Normal Operation. The control panel is running on AC power with no problems.
Fire (red)	There are no fire alarms.	A fire zone is in alarm.	A fire trouble condition exists.

9.2 Arming from the Master Keypad

Arming from the Master Keypad	
Arming all the Partitions you have access to.	Enter your PIN followed by one of the arming sequences. This will arm all of your partitions, even if some are already armed.
Arming only some of your Partitions	You must enter Single Partition Mode to arm the necessary partitions one at a time. 1. Enter your PIN, followed by the [#] key twice: [1] [2] [3] [4] [#] [#]. 2. The first partition you have access to will be displayed: "**Ready to Arm. Cafeteria**." 3. Complete the arming command sequence you wish for this partition: [On]. 4. Move to the next partition you have access to by pressing the [#] key twice: [#] [#]. 5. The next partition you have access to will be displayed: "**Ready to Arm. Office**." 6. Complete the arming command sequence you wish for this partition. 7. After you have completed all the arming command sequences for the partitions you have access to, exit Single Partition Mode by pressing the [*] key for 2 seconds.

9.3 Disarming from the Master Keypad

Disarming from the Master Keypad	
Disarming all the Partitions you have access to.	Enter your PIN followed by the [Off] key. This will disarm all of your partitions, even if some are already disarmed.
Disarming only some of your Partitions	You must enter Single Partition Mode to disarm the necessary partitions one at a time. 1. Enter your PIN, followed by the [#] key twice: [1] [2] [3] [4] [#] [#]. 2. The first partition you have access to will be displayed: "**Armed. Cafeteria**." 3. Complete the disarming command sequence for this partition: [Off]. 4. Move to the next partition you have access to by pressing the [#] key twice: [#] [#]. 5. The next partition you have access to will be displayed: "**Armed. Office**." 6. Complete the disarming command sequence for this partition. 7. After you have disarmed all the partitions you have access to, exit Single Partition Mode by pressing the [*] key for 2 seconds.

9.4 Single Partition Mode

Single Partition Mode is used to control partitions on a "one at a time/one by one" basis from the Master keypad.

To enter the Single Partition Mode, enter your PIN, then press the [#] key twice. This will call up the first partition you have access to. Enter the command sequence you wish for this partition. You do not need to use your PIN again. To move on to the next partition you have access to, press the [#] key twice.

To exit the Single Partition Mode, hold the [*] key down for 2 seconds. The system will automatically drop out of Single Partition Mode after 40 seconds without a keypad entry.

10.0 How to Program the Control Panel

10.1 Entering the Programmer's Mode

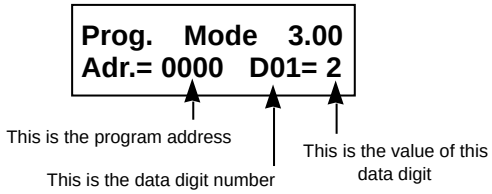
To enter the Programmer's Mode, enter the Programmer's Code followed by [#] [0]. Shorting the program pads (see section 2.0 for location) on the control panel will also activate Programmer's Mode.

The default Programmer's Code is [9] [8] [7] [6].

10.2 Reading back a Program Address

Once you are in the programmer's mode, to read back the value of a Program Address, enter that Program Address followed by [#]. Each data digit is displayed one data digit at a time. To view the second data digit, enter the # button again.

The display will look like this:



10.3 Entering a value in a Program Address

To enter a value in the Program Address, enter the Program Address, then enter the value for each Data Digit, then enter [#] to save it and move on to the next Program Address. Entering data digit 1 will increment you to the next data digit.

The display will show the Program Address and will display the value of each Data Digit after you enter it. The data will be programmed (saved) when you press the [#] key. The control panel will automatically increment to the next program address.

- If you wish to program that next address, enter the necessary information.

- If you wish to read back the value of that address, press the [#] key.
- If you wish to program a different address, press the [*] key two times and enter the program address you wish to program.

If you make a mistake at any time, press the [*] key two times (before pressing the [#] key). This will clear the display, allowing you to enter the program address you wish to work with.

10.4 HEX values

Some Data Digit values will be higher than 9. These values must be programmed by pressing the [*] key followed by some other number. These values will display as HEX characters (A - F) when entered. Example: entering *0 at the keypad will display an A.

The HEX character values are as follows:
*0 = A *1 = B *2 = C *3 = D *4 = E *5 = F

10.5 Defaults

The DS7400Xi is shipped from the factory as a working, pre-programmed control. Many of the programming addresses may already be set to the values you need. The default values are shown in Reverse Print.
If the value you would like is in Reverse Print, you don't need to re-program this address.

In the example below, a "0" is the default value:

	0	1	2	3	4	5	6
Feature 1	●			●	●		●
Feature 2		●		●		●	●
Feature 3			●		●	●	●

If the default value is not shown in reverse print, it will be shown in a separate table.

10.6 Setting the Control to the Factory Default

CAUTION: Only enter [0] [1] [#] in Program Address 4058 when you are completely sure you want to erase all installer programming. Entering [0] [1] [#] in Program Address 4058 will immediately reset the control to the factory default. Any programming already done by the installer will be erased. This action cannot be reversed.

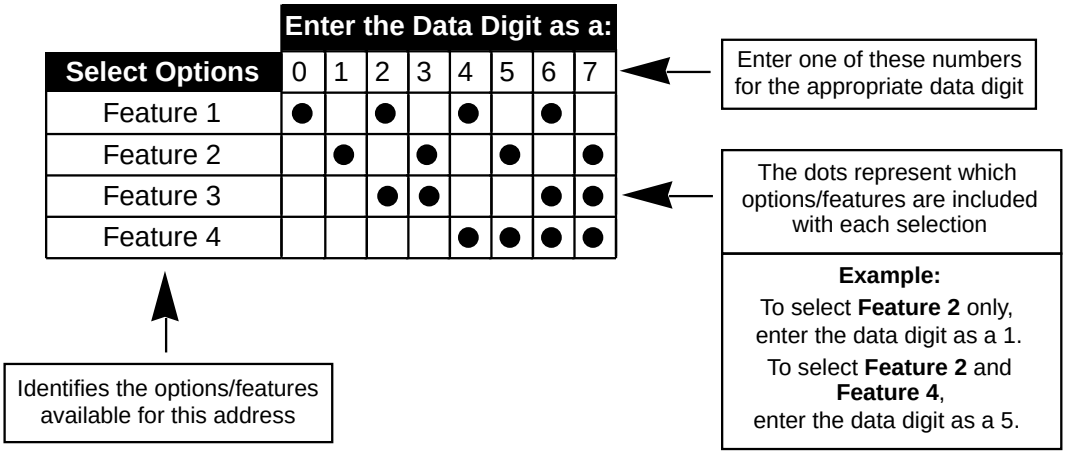
To set the control's programming values back to the default, enter the programming mode, then enter [4][0][5][8][0] [1] [#].

10.7 Exiting the Programmer's Mode

To exit the Programmer's Mode, press the [*] key for a minimum of 2 seconds. If no keypad entries are made for 4 minutes, the control will automatically exit you from the Programmer's Mode.

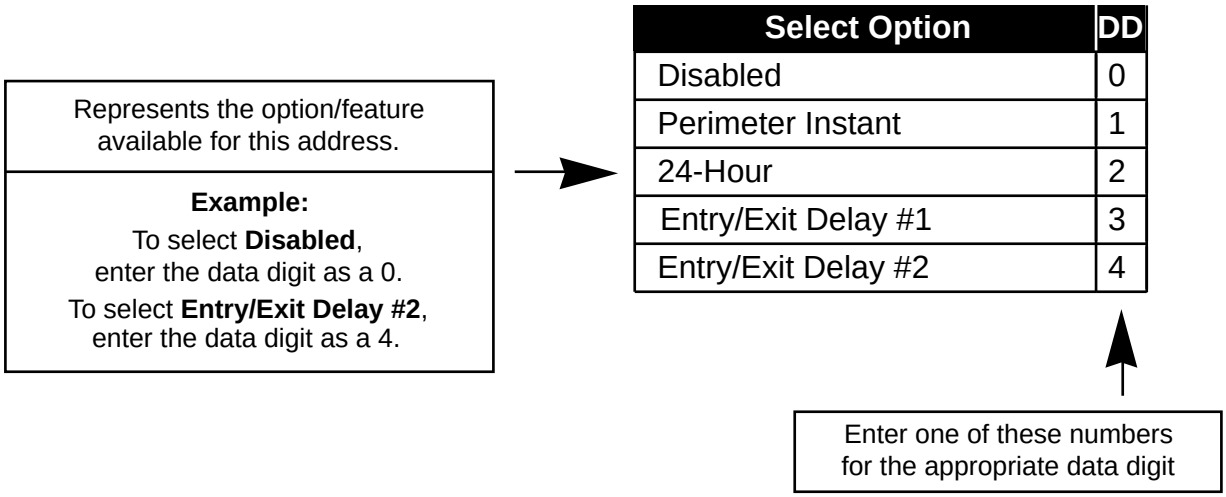
11.0 Understanding the Programming Charts

The Programming Reference Guide makes use of three types of charts. Each is described below.



If the chart looks like this, a combination of features is available to be programmed for that particular address.

If the chart looks like this, only a single feature is available to be programmed for that particular address.



Some pages may also include a Default chart that looks like this:

Zone Function	Address	Default
1	0001	23
2	0002	24
3	0003	21

12.0 Programming

12.1 General Control Programmong: Program Address (0000)

Example:
To program the system-wide General Operating parameters as: allowing Normal and Custom Arming, Operating at 60 Hz., and to Restore when a Zone Restores.

Data Digit 1 = [2], Data Digit 2 = [1].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [0] [0] [0] [0]
Enter Data Digit 1: [2]
Enter Data Digit 2: [1]
Enter the pound key: [#]
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 7.1) 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
Allow Normal and Custom Arming**	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Allow Perimeter Instant Arming**	●	●			●	●			●	●			●	●		
Allow Perimeter Arming**	●	●			●	●			●	●			●	●		
Allow Maximum Security Arming**	●	●			●	●			●	●			●	●		
Closing Ring-Back					●	●	●	●					●	●	●	●
Siren on Comm. Fail for Silent Zone									●	●	●	●	●	●	●	●
50 Hz. operation∆		●		●		●		●		●		●		●		●
60 Hz. operation	●		●		●		●		●		●		●		●	

∆ = 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	5
Restore zone when Sounders Silence	●			●		
Restore zone when Zone Restores		●			●	
Restore zone when System is Disarmed			●			●
Allow Swinger Shunts				●	●	●

**** =**

- Normal Arming = PIN + [On]: If programmed, Normal Arming arms the entire system while allowing entry delays for entry/exit zones.
- Perimeter Instant Arming = [PIN] + [No Entry] [Perimeter Only]: If programmed, Perimeter Instant Arming arms only the perimeter of the system and does not allow entry delays for entry/exit zones.
- Perimeter Arming = [PIN] + [Perimeter Only]: If programmed, Perimeter Arming arms only the perimeter of the system while allowing entry delays for entry/exit zones.
- Custom Arming = [PIN] + [#] [4]: If programmed, Custom Arming allows custom arming of the system and bypasses the zone functions specified in data address 0183.
- Maximum Security Arming = [PIN] + [No Entry] [On]: If programmed, Maximum Security Arming arms the entire system and does not allow entry delays for entry/exit zones.

12.2 Zone Function Programming: Program Addresses (0001-0015)

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 6.3 and 7.2 for further details.

Example:
To program Zone Function 1 as: Steady Alarm Output, Alarm on Short, Trouble on Open, Interior Instant.

Data Digit 1 = [6], Data Digit 2 = [7].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [0] [0] [0] [1]
Enter Data Digit 1: [6]
Enter Data Digit 2: [7]
Enter the pound key: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

** = Only when disarmed. When armed, this becomes an Alarm on Open or Short for non 24-hour zones.
Note: Multiplex contacts (DS7450 and DS7452) should not be programmed for Trouble on Open.

Data Digit

	1	2

Select Options	Enter the Data Digit as a: 0	1	2	3	4	5	6	7	*2	*3	*4	*5
Invisible Alarm	●				●				●			
Silent Alarm		●				●				●		
Steady Alarm Output			●				●				●	
Pulsing Alarm Output				●				●				●
Alarm on Short	●	●	●	●	●	●	●	●				
Alarm on Open	●	●	●	●					●	●	●	●
Trouble on Open**					●	●	●	●				
Trouble on Short									●	●	●	●

*2 - *5 are Hex values. They will display as C - F at the keypads.

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 (See note below)	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

Value (fill in)	Zone Funct.	Address	Default (Will be forced to different values when in Commercial Fire Mode. See section 12.15.3)
	1	0001	2 = Steady alarm output, alarm on short and open. 3 = Entry/exit delay 1.
	2	0002	2 = Steady alarm output, alarm on short and open. 4 = Entry/exit delay 2.
	3	0003	2 = Steady alarm output, alarm on short and open. 1 = Perimeter Instant.
	4	0004	2 = Steady alarm output, alarm on short and open. 5 = Interior entry/exit follower.
	5	0005	2 = Steady alarm output, alarm on short and open. 6 = Interior home/away.
	6	0006	2 = Steady alarm output, alarm on short and open. 7 = Interior Instant.
	7	0007	2 = Steady alarm output, alarm on short and open. 2 = 24-hour.
	8	0008	7 = Pulsing alarm output, alarm on short, trouble on open. *0 = Fire zone with verification.
	9	0009	0 = _____ 0 = Disabled _____
	10	0010	0 = _____ 0 = Disabled _____
	11	0011	0 = _____ 0 = Disabled _____
	12	0012	0 = _____ 0 = Disabled _____
	13	0013	0 = _____ 0 = Disabled _____
	14	0014	0 = _____ 0 = Disabled _____
	15	0015	0 = _____ 0 = Disabled _____

	9

Note: If digit 2 = 9 (keyswitch), use this chart for digit 1.

Select Option	DD
Single Partition-No Force Arm	0
Single Partition-Can Force Arm	1
All Partions-No Force Arm	2
All Partitions-Can Force Arm	3

12.3 Zone Programming: Program Addresses (0018-0145)

Example:
To program a Zone (Zone 1) as: a Single Zone Input (PIR) 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: [0] [0] [1] [8]
Enter Data Digit 1: [0]
Enter Data Digit 2: [1]
Enter the pound key: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

In Zone Programming, each zone is defined according to:
- Input (single or multiple zone input, or a DS7465)
- Zone Function or 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 6.2 and 7.3 for further details.

Data Digit 1 2

Select Option	DD
Single Zone Input (zones 1-8 on the control, multiplex contacts, sensors, or a DS7457)	0
Multiple Zone Input (any zone that is on a DS7432, DS7433, or DS7460)	1
DS7465 Connections (the input zone or the output relay on a DS7465)	2

Zone Number	Address	Default
1	0018	01
2	0019	02
3	0020	03
4	0021	04
5	0022	05
6	0023	06
7	0024	07
8	0025	08
9-128	0026-0145	00

Hint: Address = Zone Number + 17

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

To program Output Functions, see section 12.33.
*0 - *5 are Hex values.
They will display as A - F at the keypads.

12.4 Zone Partition Assignment: Program Addresses (1248-1311)

In Zone Partition Assignment, each zone is assigned to a partition. By default, all zones are assigned to partition 1.

The partition assignment for odd numbered zones is programmed in the first data digit of these addresses. The partition assignment for even numbered zones is programmed in the second data digit of these addresses.

For example, to assign zone 1 to partition 1 and zone 2 to partition 2, program address 1248 as 01.

Partition Assignment Address	
For Zones 1 and 2	1248
For Zones 3 and 4	1249
For Zones 5 and 6	1250
For Zones 7 and 8	1251
Zones 9 through 128	1252-1311

Data Digit 1 2

Select Option	DD
Belongs to Partition 1	0
Belongs to Partition 2	1
Belongs to Partition 3	2
Belongs to Partition 4	3
Belongs to Partition 5	4
Belongs to Partition 6	5
Belongs to Partition 7	6
Belongs to Partition 8	7

Select Option	DD
Belongs to Partition 1	0
Belongs to Partition 2	1
Belongs to Partition 3	2
Belongs to Partition 4	3
Belongs to Partition 5	4
Belongs to Partition 6	5
Belongs to Partition 7	6
Belongs to Partition 8	7

12.5 Zone Bypass Programming: Program Addresses (0016-0017)

Example:
To program zone functions 1 - 7 so they can not be bypassed and zone function 8 so it can be bypassed.

Data Digit 1 = [*] [5], Data Digit 2 = [7].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [0] [0] [1] [6]
Enter Data Digit 1: [*] [5]
Enter Data Digit 2: [7]
Enter the pound key: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Zone Bypass programming determines which zone functions can be bypassed. Zone functions that can not be bypassed can not be force armed either. Fire zones can never be manually bypassed, but can be force armed. The Default of [0] or [8] means those zones can be bypassed.

PA 0016
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
Zone Function 1 Can Be Bypassed	●		●		●		●		●		●		●		●	
Zone Function 2 Can Be Bypassed	●	●			●	●			●	●			●	●		
Zone Function 3 Can Be Bypassed	●	●	●	●					●	●	●	●				
Zone Function 4 Can Be Bypassed	●	●	●	●	●	●	●	●								

*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
Zone Function 5 Can Be Bypassed	●		●		●		●		●		●		●		●	
Zone Function 6 Can Be Bypassed	●	●			●	●			●	●			●	●		
Zone Function 7 Can Be Bypassed	●	●	●	●					●	●	●	●				
Zone Function 8 Can Be Bypassed	●	●	●	●	●	●	●	●								

*0 - *5 are Hex values. They will display as A - F at the keypads.

PA 0017
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
Zone Function 9 Can Be Bypassed	●		●		●		●		●		●		●		●	
Zone Function 10 Can Be Bypassed	●	●			●	●			●	●			●	●		
Zone Function 11 Can Be Bypassed	●	●	●	●					●	●	●	●				
Zone Function 12 Can Be Bypassed	●	●	●	●	●	●	●	●								

*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
Zone Function 13 Can Be Bypassed	●		●		●		●		●		●		●		●	
Zone Function 14 Can Be Bypassed	●	●			●	●			●	●			●	●		
Zone Function 15 Can Be Bypassed	●	●	●	●					●	●	●	●				

*0 - *5 are Hex values. They will display as A - F at the keypads.

12.6 Output Programming: Program Addresses (0146-0148)

Example:
To program the Programmable Output 1 as: following a Burglar Zone Alarm that is in Partition 1.

PA 0147: Data Digit 1 = [6], Data Digit 2 = [1].
PA 0149: Data Digit 1 = [8], Data Digit 2 = [0].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [0] [1] [4] [7]
Enter Data Digit 1: [6]Enter Data Digit 2: [1]Enter the pound key: [#]
Enter the Program Address: [0] [1] [4] [9]
Enter Data Digit 1: [8]Enter Data Digit 2: [0]Enter the pound key: [#]
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 7.4) for further details.

Programmable Output 1 will be ON for 10 seconds after pressing [System Reset].

Programmable Output 2 will be OFF for 10 seconds after pressing [System Reset].

Data Digit 1 2

Select Option	DD
Latch on ANY Zone Alarm**	0
ON during Entry Pre-Alert	1
ON for 10 sec. after pressing [System Reset]	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
Panic Duress Output***	*1

Options	DD
Disabled	0
Burglar Alarm	1
Fire Alarm	2
Burg and Fire Alarm	**3**

** = This includes invisible zones. See glossary for further details.
*** = See section 7.4 for description of this option.

Output	Address	Default
Alarm	0146	6 3
Programmable Output 1	0147	3 3
Programmable Output 2	0148	2 3

12.7 Output Partition Assignment: Program Addresses (0149-0150)

In Output Partition Assignment, each On-board output is assigned to a partition. By default, outputs are assigned to all partitions.

PA 0149 Data Digit 1 2

PA 0150 Data Digit 1 2

PA 0150 Data Digit 2 = **0**

Must Be 0

Output	Address	Default
Alarm	0149-DD1	8
Programmable Output 1	0149-DD2	8
Programmable Output 2	0150-DD1	8

Select Option	DD
Belongs to Partition 1	0
Belongs to Partition 2	1
Belongs to Partition 3	2
Belongs to Partition 4	3
Belongs to Partition 5	4
Belongs to Partition 6	5
Belongs to Partition 7	6
Belongs to Partition 8	7
Follows all Partitions	**8**

12.8 Partition Control Programming: Program Address (0165)

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 = [2], Data Digit 2 = [1].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [0] [1] [6] [5]
Enter Data Digit 1: [2]
Enter Data Digit 2: [1]
Enter the pound key: [#]
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 7.5) for further details.

Data Digit

1	2

Select Option	DD
Use 1 Partition	0
Use 2 Partitions	1
Use 3 Partitions	2
Use 4 Partitions	3
Use 5 Partitions	4
Use 6 Partitions	5
Use 7 Partitions	6
Use 8 Partitions	7

Select Option	DD
No Common Area	0
Partition 1 Common to Partition 2 and 3	1
Partition 1 Common to Partition 2 - 4	2
Partition 1 Common to Partition 2 - 5	3
Partition 1 Common to Partition 2 - 6	4
Partition 1 Common to Partition 2 - 7	5
Partition 1 Common to Partition 2 - 8	6

12.9 Quick Arm Control Programming: Program Address (0169)

Example:
To program so that Partitions 1 and 2 can be quick armed, while Partitions 3 through 8 can not be quick armed.

Data Digit 1 = [3], Data Digit 2 = [0].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [0] [1] [6] [9]
Enter Data Digit 1: [3]
Enter Data Digit 2: [0]
Enter the pound key: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Quick Arm Control programming defines which partitions can be quick armed (armed without requiring a PIN to be entered).

Data Digit

1	2

	Enter the Data Digit as a:															
Select Options	**0**	1	2	3	4	5	6	7	8	9	*0	*1	*2	*3	*4	*5
Partition 1 Quick Arm Enabled		●		●		●		●		●		●		●		●
Partition 2 Quick Arm Enabled			●	●			●	●			●	●			●	●
Partition 3 Quick Arm Enabled					●	●	●	●					●	●	●	●
Partition 4 Quick Arm Enabled									●	●	●	●	●	●	●	●

	Enter the Data Digit as a:															
Select Options	**0**	1	2	3	4	5	6	7	8	9	*0	*1	*2	*3	*4	*5
Partition 5 Quick Arm Enabled		●		●		●		●		●		●		●		●
Partition 6 Quick Arm Enabled			●	●			●	●			●	●			●	●
Partition 7 Quick Arm Enabled					●	●	●	●					●	●	●	●
Partition 8 Quick Arm Enabled									●	●	●	●	●	●	●	●

12.10 Keypad Assignment Programming: Program Addresses (0173-0180)

Example:
To program Keypad 1 as an Alpha Keypad that is assigned to Partition 1.

PA 0173: Data Digit 1 = [1], Data Digit 2 = [0].
PA 0208: Data Digit 1 = [2], Data Digit 2 = [0].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [0] [1] [7] [3] (Data Digit 1)
Enter Data Digit 1: [1]Enter Data Digit 2: [0]Enter the pound key: [#]
Enter the Program Address: [0] [2] [0] [8]
Enter Data Digit 1: [0]Enter Data Digit 2: [0]Enter the pound key: [#]
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 (section 7.6) for further details.

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. One keypad must be selected as keypad 1.

Defaults: The default, if using only one keypad, is an Alpha keypad belonging to partition one.

Program Address 0173
Data Digit 1 | Data Digit 2
Keypad 1* (default = 1) | Keypad 2 (default = 0)

Program Address 0174
Data Digit 1 | Data Digit 2
Keypad 3 (default = 0) | Keypad 4 (default = 0)

Program Address 0175
Data Digit 1 | Data Digit 2
Keypad 5 (default = 0) | Keypad 6 (default = 0)

Program Address 0176
Data Digit 1 | Data Digit 2
Keypad 7 (default = 0) | Keypad 8 (default = 0)

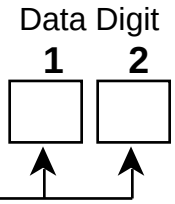
Program Address 0177
Data Digit 1 | Data Digit 2
Keypad 9 (default = 0) | Keypad 10 (default = 0)

Program Address 0178
Data Digit 1 | Data Digit 2
Keypad 11** (default = 0) | Keypad 12** (default = 0)

Program Address 0179
Data Digit 1 | Data Digit 2
Keypad 13** (default = 0) | Keypad 14** (default = 0)

Program Address 0180
Data Digit 1 | Data Digit 2
Keypad 15** (default = 0) | Must Be 0 (**0**)

* = When in Commercial Fire Mode, certain keypads must have specific assignments (see section 8.10).
** = Keypads 11-15 are connected to the Option Bus. If the DS7412 is connected to the Option Bus (at keypad address 13 or 14), keypad 13 or 14 is unavailable. Similarly, if the DS7420i is connected to the Option Bus at keypad address 15, keypad 15 is unavailable; and if the DS7488 is connected to the Option Bus at keypad address 11-15, the corresponding keypad(s) is(are) unavailable.



***** = 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.

Select Options	0	1	2	3
Disabled	●			
Alpha (LCD) Keypad		●		●
LED Keypad			●	
Master Keypad***				●

12.11 Keypad Partition Assignment: Program Addresses (0208-0215)

Program Address 0208
Data Digit 1 | Data Digit 2
Keypad 1 | Keypad 2

Program Address 0209
Data Digit 1 | Data Digit 2
Keypad 3 | Keypad 4

Program Address 0210
Data Digit 1 | Data Digit 2
Keypad 5 | Keypad 6

Program Address 0211
Data Digit 1 | Data Digit 2
Keypad 7 | Keypad 8

Program Address 0212
Data Digit 1 | Data Digit 2
Keypad 9 | Keypad 10

Program Address 0213
Data Digit 1 | Data Digit 2
Keypad 11 | Keypad 12

Program Address 0214
Data Digit 1 | Data Digit 2
Keypad 13 | Keypad 14

Program Address 0215
Data Digit 1 | Data Digit 2
Keypad 15 | Must Be 0 (**0**)

Select Option	DD
Belongs to Partition 1	**0**
Belongs to Partition 2	1
Belongs to Partition 3	2
Belongs to Partition 4	3
Belongs to Partition 5	4
Belongs to Partition 6	5
Belongs to Partition 7	6
Belongs to Partition 8	7

12.12 Emergency Key Programming: Program Addresses (0181-0182)

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: [0] [1] [8] [1]
Enter Data Digit 1: [2]
Enter Data Digit 2: [2]
Enter the pound key: [#]
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 7.7) for further details.

PA 0181

Data Digit **1** **2**

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 12.15.3.

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

PA 0182

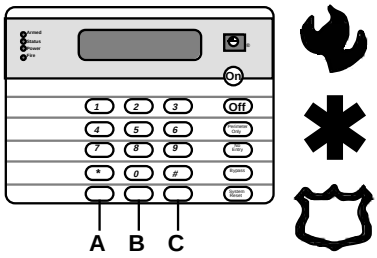
Data Digit **1** **2**

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 2 must be 0 **0**



May be forced to a different value when in Commercial Fire Mode. See section 12.15.3.

12.13 Custom Arming Programming: Program Addresses (0183-0184)

Example:
To program the [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: [0] [1] [8] [3]
Enter Data Digit 1: [1]
Enter Data Digit 2: [0]
Enter the pound key: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

PA 0183

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.

12.13 Custom Arming Programming: Program Addresses (0183-0184) (Continued)

PA 0184
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					●	●	●	●

12.14 Force Arming and Ground Fault Detect Programming: Program Address (0185)

Example:
To be able to Force Arm up to 5 Zones and have Ground Fault Off.

Data Digit 1 = [5], Data Digit 2 = [0].

Enter the Programmer's Mode:
[9] [8] [7] [6] [#] [0]

Enter the Program Address: [0] [1] [8] [5]
Enter Data Digit 1: [5]
Enter Data Digit 2: [0]
Enter the pound key: [#]

Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Force Arming programming defines how many zones may be Force Armed using an Arming sequence followed by the [Bypass] key. With this entry, all violated zones (up the programmed limit) will automatically be Force Armed (bypassed). Ground Fault Detect programming determines whether or not the control will detect a ground fault condition.

See Glossary (section 7.9) for further details.

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**

Select Option	DD
Ground Fault Detect Off	0
Ground Fault Detect On	**1**

12.15 Commercial Fire Mode Programming: Program Address (0186)

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 = [8], Data Digit 2 = [1].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [0] [1] [8] [6]
Enter Data Digit 1: [8]
Enter Data Digit 2: [1]
Enter the pound key: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

This section describes how to define the parameters for the Commercial Fire Mode.

See Glossary (section 7.10) 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 Fire Alarms are 1 sec. On / 1 sec. Off	●			●		
Pulsing Fire Alarms use California March Time		●			●	
Pulsing Fire Alarms use Temporal Cadence			●			●

When programming Fire zones, it is recommended that they be zone functions 12 and 13 (see sections 12.2 and 12.15.3).

12.15.1 When Central Station Commercial Fire Mode is chosen, address 1520 (DS7420i: Dual Phone Line/Bell Supervision Module Output Programming),will be forced to a value of 5.

12.15.2 When Local Commercial Fire Mode is chosen,address 1520 (DS7420i: 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)

12.15.3 Regardless of which Commercial Fire Mode is chosen, the following parameters will be forced when exiting local programmer's mode:

- Zone Function 12, address 0012, will be a 7 *0.
- Zone Function 13, address 0013, will be a 7 *1.
- Zone Function 14, address 0014, will be a 7 *2.
- Zone Function 15, address 0015, will be a 7 *3.
- Zone Bypass address 0017 will not allow zone functions 12 - 15 to be bypassed.
- Emergency Key, address 0181, 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 0182, 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.

12.15.4 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
0256	*0 1	0272	*0 6	0325	6 9	0326	7 9	0331	6 *5
0257	7 1	0286	7 3	0301	6 3	0327	6 *0	0334	3 9
0269	*0 3	0287	7 4	0302	6 4	0328	7 *0	0335	3 *0
0270	*0 4	0288	7 5	0303	6 5	0329	8 3	0336	3 9
0271	*0 5	0289	7 6	0304	6 6	0330	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.

12.16 Open/Close Report Control Programming: Program Address (0187)

Example:
To program to send Open/Close Reports from Partition 1 and to send Trouble Reports on Closings for all Bypassed Zones.

Data Digit 1 = [1], Data Digit 2 = [1].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [0] [1] [8] [7]
Enter Data Digit 1: [1]
Enter Data Digit 2: [1]
Enter the pound key: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

See Glossary (section 7.12) for further details.

Select Options	Enter the Data Digit as a: 0	1	2	3	4	5	6	7	**8**	9
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 opens and closes in Partition 5						●	●	●	●	
Report opens and closes in Partition 6							●	●	●	
Report opens and closes in Partition 7								●	●	
Report opens and closes in Partition 8									●	
Report first Partition to open and last Partition to close**										●

Data Digit **1** **2**

Do Not Send Trouble at Close for Bypassed Zones	**0**
Send Trouble at Close for Bypassed Zones	1

** = When using this option, all partitions should have the same account code.

12.17 Open/Close & Zone Report Control Programming: Program Address (0189)

This section allows you to decide which phone number will send open and close reports, zone alarm, zone restoral, and zone trouble reports.

Example:
To program to send Open and Close Reports to Phone Number 1 and Zone Alarm, Zone Restoral, and Zone Trouble 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: [0] [1] [8] [9]
Enter Data Digit 1: [1]
Enter Data Digit 2: [2]
Enter the pound key: [#]

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

Data Digit **1** **2**

Data Digit 1 is for Open and Close Reports.

Data Digit 2 is for Zone Alarm, Zone Restoral, and Zone Trouble Reports.

Select Option	DD
Alternate between both Phone Numbers	**0**
Report to Phone Number 1	1
Report to Phone Number 2	2
Report to Phone Number 1 and 2	3

12.18 Report Control Programming: Program Address (0190)

This section allows you to decide which phone number will send reports other than open/close reports and zone reports.

Example:
To program all other Reports to Phone Number 2.

Data Digit 1 = [2], Data Digit 2 = [0].

Enter the Programmer's Mode:
[9] [8] [7] [6] [#] [0]

Enter the Program Address: [0] [1] [9] [0]
Enter Data Digit 1: [2]
Enter Data Digit 2: [0]
Enter the pound key: [#]

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

Data Digit **1** **2**

Note: Data Digit 1 does not include open and close reports or zone reports (see sections 12.16 and 12.17).

0 Data Digit 2 must be 0

12.19 Timer Programming: Program Addresses (0191-0196)

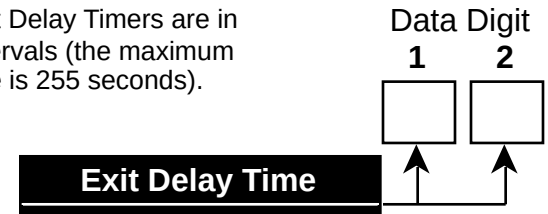
Example:
To program the Entry Delay Time 1 for 60 seconds.

Data Digit 1 = [1], Data Digit 2 = [2].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [0] [1] [9] [1]
Enter Data Digit 1: [1]
Enter Data Digit 2: [2]
Enter the pound key: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

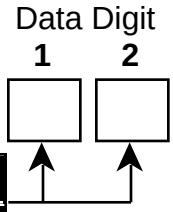
Entry and Exit Delay Timers are in 5 second intervals (the maximum delay time is 255 seconds).

For example:
5 sec. = 01
15 sec. = 03
20 sec. = 04
30 sec. = 06
45 sec. = 09
60 sec. = 12
255 sec. = 51



Exit Delay Time Address 0193	
0 to 51 (0 to 255 sec.*)	Default = 12 (60 sec.)

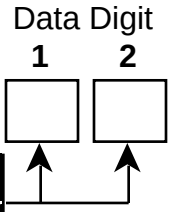
*5 second intervals



Entry Delay Time 1 Address 0191	
0 to 51 (0 to 255 sec.*)	Default = 09 (45 sec.)

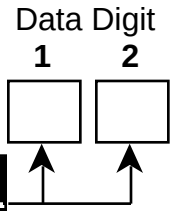
*5 second intervals

May be forced to a different value when in Commercial Fire Mode. See section 14.13.3.



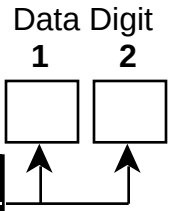
Fire Bell Cutoff Address 0195	
0 to 99 minutes*	Default = 04 minutes

*1 minute intervals



Entry Delay Time 2 Address 0192	
0 to 51 (0 to 255 sec.*)	Default = 09 (45 sec.)

*5 second intervals



Burglary Bell Cutoff Address 0196	
0 to 99 minutes*	Default = 04 minutes

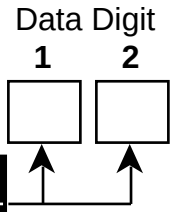
*1 minute intervals

12.20 A/C Fail Report Delay Programming: Program Address (0197)

Example:
To program the A/C Fail Report Delay Time to be 30 minutes.

Data Digit 1 = [1], Data Digit 2 = [*] [4].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [0] [1] [9] [7]
Enter Data Digit 1: [1]
Enter Data Digit 2: [*] [4]
Enter the pound key: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.



A/C Fail Report Delay Address 0197	
00 through FF	Default = 00

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 *2 = 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 through F at the keypads.)

See System Overview (section 6.1.1) for further details.

21.21 General Code "Arm Only" Programming: Program Address (0198-0201)

This allows for a user with a General Authority level to Arm and Bypass zones he is not able to Disarm.

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: [0] [1] [9] [8] (Data Digit 1)
Enter Data Digit 1: [1]
Enter Data Digit 2: [0]
Enter the pound key: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

See System Overview (section 6.1.3) for further details.

Select Option	DD
General Code can Arm, Disarm, and Bypass	**0**
General Code can Arm and Bypass	1
General Code can Arm and Disarm	2
General Code can Arm	3

Program Address 0198

Data Digit 1 Data Digit 2

Partition 1 Partition 2

Program Address 0200

Data Digit 1 Data Digit 2

Partition 5 Partition 6

Program Address 0199

Data Digit 1 Data Digit 2

Partition 3 Partition 4

Program Address 0201

Data Digit 1 Data Digit 2

Partition 7 Partition 8

12.22 Arming Warning Programming: Program Addresses (0202-0205)

Example:
To program the keypads in Partition 1 to be audible during exit delay and the keypads in Partition 2 not to be audible during exit delay.

Data Digit 1 = [4], Data Digit 2 = [0].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [0] [2] [0] [2]
Enter Data Digit 1: [4]
Enter Data Digit 2: [0]
Enter the pound key: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Arming Warning programming defines whether the keypad will be audible during the exit delay period. If programmed, the keypad sounder will activate once every 5 seconds during the exit delay. At 10 seconds and 5 seconds remaining, the keypad sounder will activate 3 times.

PA 0202

Data Digit **1** **2**

Partition 1	DD
No Keypad Sounder during Exit Delay	**0**
Keypad Sounder during Exit Delay	4

Partition 2	DD
No Keypad Sounder during Exit Delay	**0**
Keypad Sounder during Exit Delay	4

PA 0204

Data Digit **1** **2**

Partition 5	DD
No Keypad Sounder during Exit Delay	**0**
Keypad Sounder during Exit Delay	4

Partition 6	DD
No Keypad Sounder during Exit Delay	**0**
Keypad Sounder during Exit Delay	4

PA 0203

Data Digit **1** **2**

Partition 3	DD
No Keypad Sounder during Exit Delay	**0**
Keypad Sounder during Exit Delay	4

Partition 4	DD
No Keypad Sounder during Exit Delay	**0**
Keypad Sounder during Exit Delay	4

PA 0205

Data Digit **1** **2**

Partition 7	DD
No Keypad Sounder during Exit Delay	**0**
Keypad Sounder during Exit Delay	4

Partition 8	DD
No Keypad Sounder during Exit Delay	**0**
Keypad Sounder during Exit Delay	4

12.23 DS7412 RS232 Interface Control Programming: Program Address (0206)

Example:
To program to enable the DS7412 and send Open/Close Reports to the printer.

Data Digit 1 = [1], Data Digit 2 = [2].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [0] [2] [0] [6]
Enter Data Digit 1: [1]
Enter Data Digit 2: [2]
Enter the pound key: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Note: If using the WDSRP Direct Connection option for programming, Address 0206 must be set for 1 0. Address 0207 must be set for 2 5.

DS7412 RS232 Interface Control Programming allows you to enable or disable the DS7412 and to select which history events are sent to the printer as they occur. Selecting "No Events" will cause the history to be printed only on command.
To print the History Buffer starting from the most recent event, enter the Master Code followed by [#] [0] [8]. To stop printing, enter Master Code [#] [0] [8] again.

Data Digit **1** **2**

Select Option	DD
DS7412 Disabled	**0**
DS7412 Enabled	1

Select Options	Enter the Data Digit as a: 0	1	2	3	4	5	6	**7**
No Events	●							
Alarms, Troubles, and Restorals		●		●		●		●
Opens and Closes			●	●			●	●
All Other Events					●	●	●	●

12.24 DS7412 RS232 Interface Configuration Programming: Program Address (0207)

Example:
To program a 1200 Baud printer for No Parity, Software Flow Control, 2 Stop Bits and 8 Data Bits.

Data Digit 1 = [1], Data Digit 2 = [2].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]

Enter the Program Address: [0] [2] [0] [7]
Enter Data Digit 1: [1]
Enter Data Digit 2: [2]
Enter the pound key: [#]

Program the next Address, Program a different Address, or Exit the Programmer's Mode.

DS7412 RS232 Interface Configuration Programming allows you to configure the DS7412 for your printer. Most printers will operate using the default values for the DS7412. Some printers may operate more efficiently using optional program values.

Consult the operating guide provided with your printer to be sure that its configuration matches the one programmed here.

Note: If using the WDSRP Direct Connection option for programming, Address 0206 must be set for 1 0. Address 0207 must be set for 2 5.

Data Digit **1** **2**

Select Option	DD
300 Baud	**0**
1200 Baud	1
2400 Baud	2
4800 Baud	3
9600 Baud	4
14400 Baud	5

Select Options	Enter the Data Digit as a: **0**	1	2	3	4	5	6	7
No Parity	●	●	●	●				
ODD Parity					●	●		
EVEN Parity							●	●
Software Flow Control	●		●		●		●	
Hardware Flow Control		●		●		●		●
1 Stop Bit	●	●			●	●	●	●
2 Stop Bits			●	●				
8 Data Bits	●	●	●	●	●	●	●	●

12.25 Report Programming: Program Addresses (0256-0304 and 0320-0340)

- 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 15.2. For other formats, consult your central station.
- **HEX values:** Some Data Digit values are higher than 9. These values are programmed by pressing the [*] key followed by another number. These values will display as HEX characters when entered. The HEX character values are as follows:

***0 = A *1 = B *2 = C *3 = D *4 = E *5 = F**

See Glossary (section 6.12) for further details.

Report	Address	Default	Reporting Digit 1	Extended Digit 2
Keypad Fire Alarm	0256	00		
Keypad Fire Restoral	0257	00		
Zone Funct. 1 Alarm	0258	10		
Zone Funct. 2 Alarm	0259	20		
Zone Funct. 3 Alarm	0260	30		
Zone Funct. 4 Alarm	0261	40		
Zone Funct. 5 Alarm	0262	50		
Zone Funct. 6 Alarm	0263	60		
Zone Funct. 7 Alarm	0264	70		
Zone Funct. 8 Alarm	0265	80		
Zone Funct. 9 Alarm	0266	00		
Zone Funct 10 Alarm	0267	00		
Zone Funct. 11 Alarm	0268	00		
Zone Funct. 12 Alarm	0269	00		
Zone Funct. 13 Alarm	0270	00		
Zone Funct. 14 Alarm	0271	00		
Zone Funct. 15 Alarm	0272	00		
Keypad Emergency	0273	00		
Keypad Panic	0274	00		
Zone Funct. 1 Restoral	0275	00		
Zone Funct. 2 Restoral	0276	00		
Zone Funct. 3 Restoral	0277	00		
Zone Funct. 4 Restoral	0278	00		
Zone Funct. 5 Restoral	0279	00		

Report	Address	Default	Reporting Digit 1	Extended Digit 2
Zone Funct. 6 Restoral	0280	00		
Zone Funct. 7 Restoral	0281	00		
Zone Funct. 8 Restoral	0282	00		
Zone Funct. 9 Restoral	0283	00		
Zone Funct. 10 Restoral	0284	00		
Zone Funct. 11 Restoral	0285	00		
Zone Funct. 12 Restoral	0286	00		
Zone Funct. 13 Restoral	0287	00		
Zone Funct. 14 Restoral	0288	00		
Zone Funct. 15 Restoral	0289	00		
Zone Funct. 1 Trouble	0290	00		
Zone Funct. 2 Trouble	0291	00		
Zone Funct. 3 Trouble	0292	00		
Zone Funct. 4 Trouble	0293	00		
Zone Funct. 5 Trouble	0294	00		
Zone Funct. 6 Trouble	0295	00		
Zone Funct. 7 Trouble	0296	00		
Zone Funct. 8 Trouble	0297	00		
Zone Funct. 9 Trouble	0298	00		
Zone Funct. 10 Trouble	0299	00		
Zone Funct. 11 Trouble	0300	00		
Zone Funct. 12 Trouble	0301	00		
Zone Funct. 13 Trouble	0302	00		
Zone Funct. 14 Trouble	0303	00		

Report Programming (Continued)

Report	Address	Default	Reporting Digit 1	Extended Digit 2
Zone Funct. 15 Trouble	0304	00		
Open	0320	00		
Close	0321	00		
Duress	0322	00		
Partial Close	0322	00		
First Open After Alarm	0324	00		
Low Battery	0325	00		
Battery Restoral	0326	00		
AC Failure	0327	00		
AC Restoral	0328	00		
Comm. Test/System Normal	0329	00		

Report	Address	Default	Reporting Digit 1	Extended Digit 2
Remote Program Successful	0330	00		
Remote Prog. Unsuccessful	0331	00		
Local Program Successful	0332	00		
Local Program Unsuccessful	0333	00		
System Trouble	0334	00		
System Trouble Restoral	0335	00		
Comm. Test/System off Norm.	0336	00		
Exit Error	0337	00		
Recent Closing	0338	00		
System Test	0339	00		
System Test Restoral	0340	00		

12.26 Phone/ARDIS Routing Control: Program Addresses (0494-0495)

If address 0528 is programmed to “Try ARDIS network first”, the following addresses can be used to control report routing. If address 0528 is set to “Send alarms via both ARDIS and digital”, this will force alarms to go to the phone even if the Phone/ARDIS report routing for alarms does not specify phone usage.

Phone/ARDIS report routing (0494).
First digit: Open and Close Reports.

Data Digit 1 2

Select Options	Enter the DD as a: 1	2	3	7	*1	*5
Use Phone	●		●	●	●	●
Use ARDIS		●	●	●	●	●
Use Either			●		●	
Use Both				●		●
Try Phone First					●	●

Second digit: Zone Alarm, Zone Restoral, and Zone Trouble Reports.

Select Options	Enter the DD as a: 1	2	3	7	*1	*5
Use Phone	●		●	●	●	●
Use ARDIS		●	●	●	●	●
Use Either			●		●	
Use Both				●		●
Try Phone First					●	●

Phone/ARDIS report routing and Phone First count (0495)

First Digit: System Reports.

Data Digit 1 2

Select Options	Enter the DD as a: 1	2	3	7	*1	*5
Use Phone	●		●	●	●	●
Use ARDIS		●	●	●	●	●
Use Either			●		●	
Use Both				●		●
Try Phone First					●	●

Select Option	DD	Select Option	DD	Select Option	DD	Select Option	DD
0 Attempts	0	4 Attempts	4	8 Attempts	8	12 Attempts	*2
1 Attempt	1	5 Attempts	5	9 Attempts	9	13 Attempts	*3
2 Attempts	2	6 Attempts	6	10 Attempts	*0	14 Attempts	*4
3 Attempts	3	7 Attempts	7	11 Attempts	*1	15 Attempts	*5

Second digit: Phone First count. Number of attempts before trying ARDIS:

This value is used to control the number of attempts made on the phone line before switching to the ARDIS network. This value is only referenced if the “Use Phone”, “Use ARDIS”, and “Try Phone First” options are all selected. If the value is less than or equal to 2, or more than 5, two attempts will be made on the phone before trying ARDIS if the Phone First option is selected.

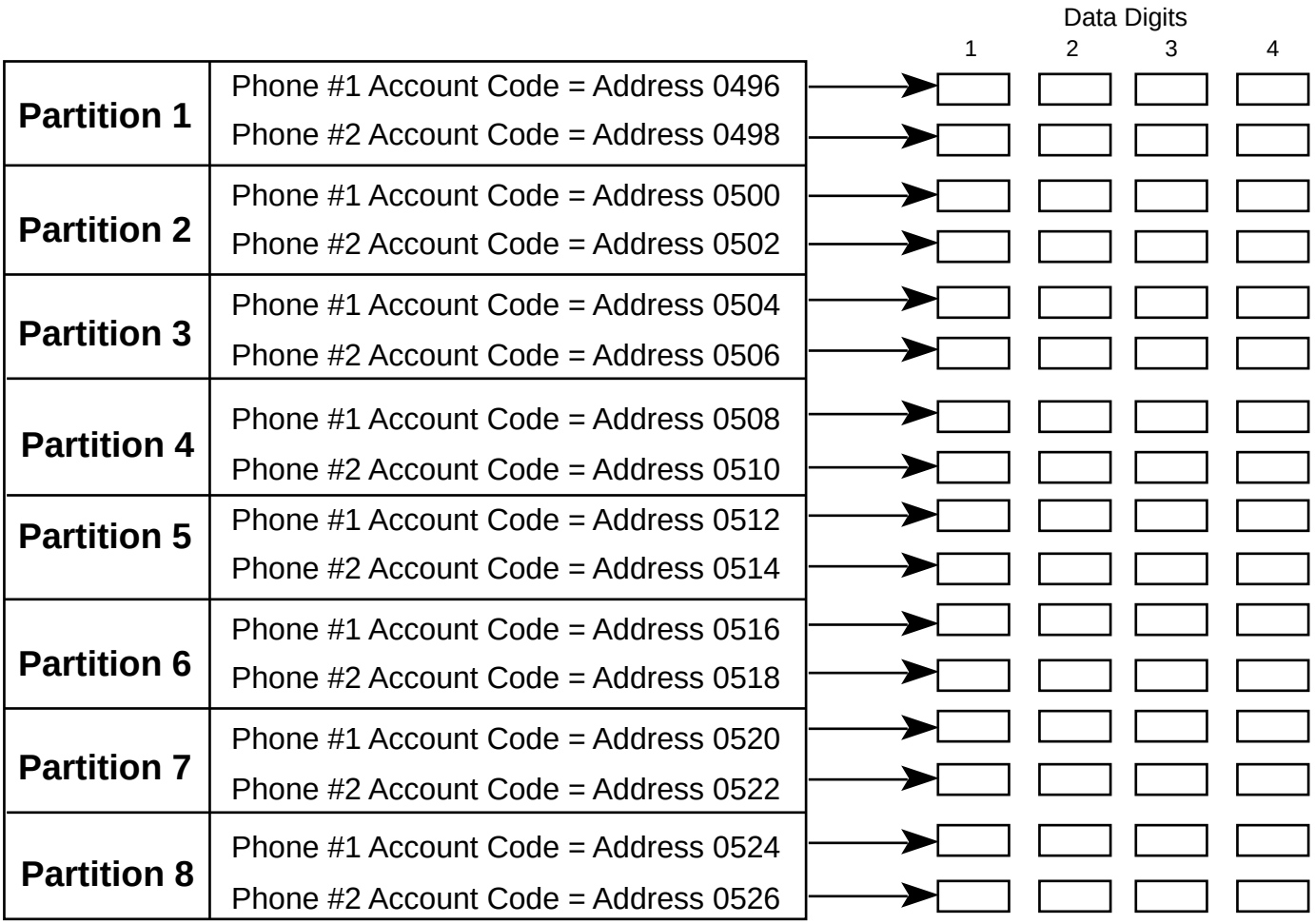
12.27 Account Code Programming: Program Addresses (0496-0526)

Example:
To program Partition 1 Phone #1 Account Code to be 2332.

Data Digit 1 = [2], Data Digit 2 = [3], Data Digit 3 = [3], Data Digit 4 = [2].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [0] [4] [9] [6]
Enter Data Digit 1: [2]
Enter Data Digit 2: [3]
Enter Data Digit 1: [3]
Enter Data Digit 2: [2]
Enter the pound key: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Account Code programming defines the number transmitted to the central station that identifies this panel. It also identifies which partition is reporting from this panel.



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.

12.28 Phone Number General Control Programming: Program Address (0528)

Example:
To program the parameters to enable the Remote Programmer Call-back feature, to dial Pulse on all Phone Numbers, to send Alarm Reports via either ARDIS or Digital, and to use 110 Baud comm. for WDSRP.

Data Digit 1 = [1], Data Digit 2 = [0].

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [0] [5] [2] [8]
Enter Data Digit 1: [1]
Enter Data Digit 2: [0]
Enter the pound key: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

See Glossary (section 7.14) 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
Enable remote programmer call-back		●		●		●		●		●		●
Dial pulse on all phone numbers	●	●					●	●				
Dial tone on all phone numbers**					●	●					●	●
Dial tone, switch to pulse if required			●	●					●	●		
Δ Δ Try ARDIS network first							●	●	●	●	●	●

*0 - *1 are Hex values. They will display as A - B at the keypads.
ΔΔ = If this option is selected, see address 0494-0495.
** = Required on PBX systems

Select Options	Enter the Data Digit as a: 0	1	2	3	4	5	6	7	8	9	*0	*1	*2	*3	*4	*5
Dialer delay of 15 sec. on non-24H burglar alarms only**		●		●		●		●		●		●		●		●
Dialer delay of 15 sec. on 24H burglar & fire alarms only**			●	●			●	●			●	●			●	●
Send alarms via **either** ARDIS **or** digital Δ	●	●	●	●					●	●	●	●				
Δ Δ Send alarms via **both** ARDIS **and** digital Δ***					●	●	●	●					●	●	●	●
Use 110 Baud comm. for WDSRP	●	●	●	●	●	●	●	●								
Use 300 Baud comm. for WDSRP									●	●	●	●	●	●	●	●

*0 - *5 are Hex values. They will display as A - F at the keypads.

Δ = Only applicable when using the ARDIS option.
Δ Δ = If this option is selected, see address 0494-0495.
** = These selections can only be used with systems that have only one partition.
*** = This selection must be chosen for U. L. Certificated installations when using the ARDIS module.

12.29 Phone Number Format Programming: Program Addresses (0529-0530)

Select Option	DD
Phone Number Disabled	**0**
3/1 (no Extended Reporting)	1
3/1E (Extended Reporting)	2
3/1 with Parity	3
3/1E with Parity	4
4/1	5
4/2	6
BFSK	7
SIA 110 Baud	8
Contact ID	9
SIA 300 Baud	*0
Pager	*5

Data Digit **1** **2** ☐ ☐

Select Options	Enter the DD as a: 0	1	2	3	4	5
1900 Hz. Data/1400 Hz. Acknowledge	●		●		●	
1800 Hz. Data/2300 Hz. Acknowledge		●		●		●
BFSK, SIA, Contact ID		●				
10 Pulses per Second (PPS)	●	●				
20 Pulses per Second (PPS)			●	●		
40 Pulses per Second (PPS)					●	●

*0 and *5 are Hex values. They will display as A and F at the keypads.

Note:
Phone Number 1 Format = Address 0529
Phone Number 2 Format = Address 0530

When using the ARDIS communications module:
Program address 0529 as: data digit 1 = 9, data digit 2 = 1.
Program address 0530 as: data digit 1 = 9, data digit 2 = 1.

12.29.1 Compatable Receivers

The following table lists those Digital Alarm Communicator Receivers and Formats that are compatible with the DS7400Xi.

Note: Contact your central station regarding which format to use and if a special line card is required.

● = The Format type the DS7400Xi supports and the Digital Alarm Communicator Receiver accepts.

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	●	●	●	●	●	●	●		

12.30 Phone Answering Programming: Program Address (0531)

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:
[0] [5] [3] [1]

Enter Data Digit 1: [2]
Enter Data Digit 2: [4]
Enter the pound key: [#]

Program the next Address, Program a different Address, or Exit the Programmer's Mode.

See Glossary (section 7.15) 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 Phone on 12 rings	*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.

** = Bypass answering machine.

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 Phone on 12 rings	*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.

** = Bypass answering machine.

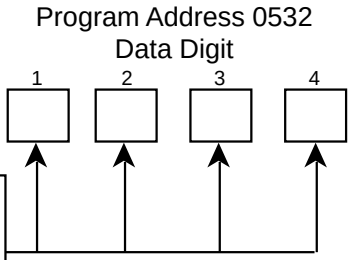
12.31 Programmers and Master Code Programming: Programming Addresses (0532-0534)

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: [0] [5] [3] [2]
Enter Data Digit 1: [3]
Enter Data Digit 2: [4]
Enter Data Digit 3: [4]
Enter Data Digit 4: [3]
Enter the pound key: [#]
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.



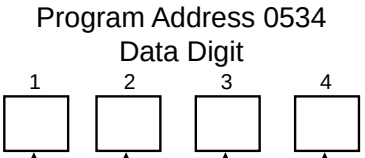
Programmer's Code
Enter as 4 digits.
It can not be the same as any PIN number.

The Default for the Programmer's Code = 9876

Master Code programming defines what the Master Code will be. This code is the highest authority level for a PIN.

If the Master Code is lost, this address may be used to program a new one. Otherwise, the Master Code Programming Mode should be used to create PINs that have a Master Code authority level.

Master Code for User Number 001 has its authority fixed at level 0. It will always have access to all partitions.



Master Code PIN Number
(Default for this User 001 is 1234)

Note:
User Numbers 002 through 090 must be programmed from the Master Code Programming Mode.

12.32 Octal Relay Module Output Programming: Program Addresses (1456-1471)

Example:
To program the Octal Relay Module's Output # 9 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: [1] [4] [6] [4]
Enter Data Digit 1: [*] [3]
Enter Data Digit 2: [1]
Enter the pound key: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

Octal Relay #	DS7488-1 Addresses
1	1456
2	1457
3	1458
4	1459
5	1460
6	1461
7	1462
8	1463

Octal Relay #	DS7488-2 Addresses
9	1464
10	1465
11	1466
12	1467
13	1468
14	1469
15	1470
16	1471

The Octal Relay Module is the DS7488. See section 1.14 and 6.1.6 for further details.

Select Option	DD
Latch ON after Zone Alarm**	0
ON during Entry Pre-Alert	1
ON for 10 sec. after pressing [System Reset]	2
ON when System is Armed	3
Ground Start	4
System Status (Ready to Arm)	5
Zone Alarm	**6**
Zone Alarm delayed by 20 seconds	7
Keypad Sounder Output	8
Access Output (10 sec. pulse)	9
Panic/Duress Output***	*1
Follow System Wide Events	*2
Follow Output Functions	*3

Data Digit
1 **2**

See next page for programming options *2 and *3

** = This includes invisible zones. See glossary for further details.
*** = See section 7.4 for description of this option.

These two charts are for programming the Octal Relay Module to follow events by partition.

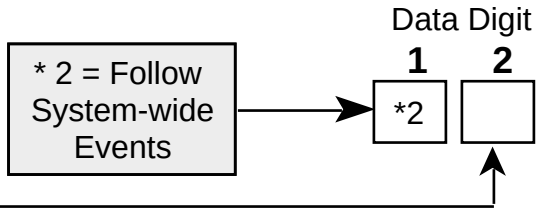
Octal Relay partition assignments are programmed in addresses 3725-2732. See Section 12.32.1

	Data Digit			
Follows	0	1	2	**3**
Disabled	●			
Burglar Alarm		●		●
Fire Alarm			●	●

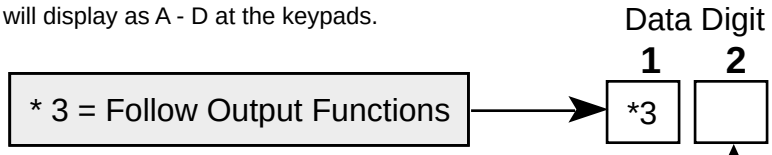
Continued on next page

12.32 Octal Relay Module Output Programming: Program Addresses (1456-1471) (Continued)

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



*0 - *3 are Hex values.
They will display as A - D at the keypads.



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.

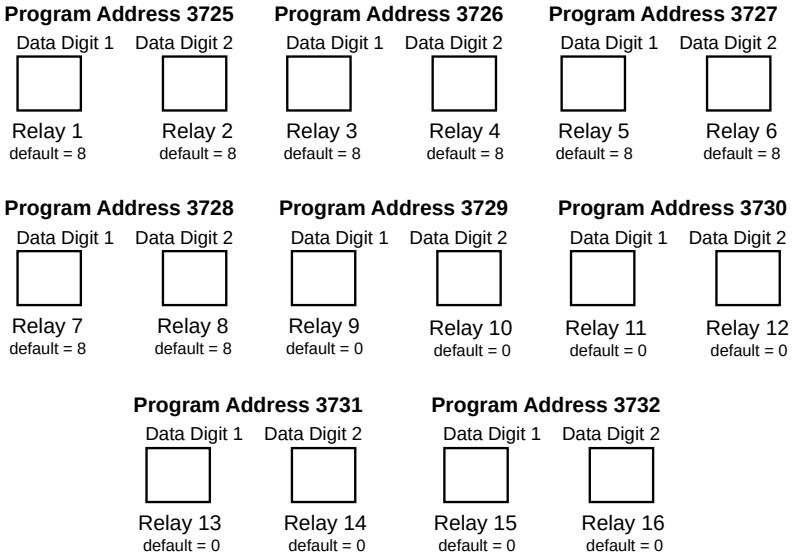
The Octal Relay Module is the DS7488.
See section 1.13 for further details.

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.

See System Overview (section 6.1.6) for further details.

To program the Output Functions, see section 12.33. Up to 15 Output Functions may be programmed.

12.32.1 Octal Relay Module Output Partition Assignment: Program Addresses (3725-3732)



Select Option	DD
Belongs to Partition 1	0
Belongs to Partition 2	1
Belongs to Partition 3	2
Belongs to Partition 4	3
Belongs to Partition 5	4
Belongs to Partition 6	5
Belongs to Partition 7	6
Belongs to Partition 8	7
Follows all Partitions	8

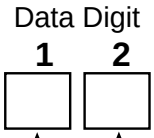
12.33 Output Function Programming: Program Addresses (1472-1516)

Example:
To program the Output Function 1 to follow a Zone Burg Alarm.

Data Digit 1 = [6], Data Digit 2 = [1],

Enter the Programmer's Mode: [9] [8] [7] [6] [#] [0]
Enter the Program Address: [1] [4] [7] [2]
Enter Data Digit 1: [6]
Enter Data Digit 2: [1]
Enter the pound key: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

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 Addresses Worksheet (P/N 29802) for a description of each address. See System Overview (section 6.1.7) for further details.



*0 - *5 are Hex values. They will display as A - F at the keypads.

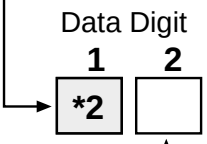
Select Option	DD
Latch ON after Zone Alarm	0
ON during Entry Pre-Alert	1
ON when system is armed	3
Zone alarm	6
Zone Alarm delayed by 20 sec.	7
Keypad Sounder output	8
Access output (10 sec. pulse)	9
Panic/Duress output**	*1
Follow System Status Event	*2
Follow a single zone	*3
Follow two zones-When EITHER zone changes state	*4
Follow two zones-When BOTH zones change state	*5

	Data Digit			
Follows	0	1	2	3
Disabled	●			
Burglar Alarm		●		●
Fire Alarm			●	●

Data Digit 1 Options 1-*1 are used to program an Output Function to follow status events for individual partitions.

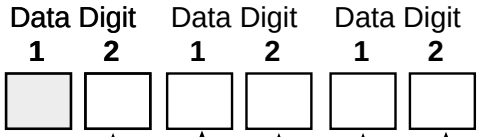
Data Digit 1 Option *2 is used to program an Output Function to follow status events system-wide.

Data Digit 1 Options *3-*5 are used to program an Output Function to follow a zone or two zones in an Input/Output Cross Matrix.



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 PIN

*0 - *2 are Hex values. They will display as A - C at the keypads.



	Enter Data Digit as a:												
Activate:	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**								●	●	●	●	●	●

Enter the Zone Number of First Zone to Follow (01 - 99)

Enter the Zone Number of Second Zone to Follow (01 - 99)

** = This is only for DS7465 Outputs. DS7488 Outputs will not latch when this is selected.

12.33.1 Output Function Partition Assignment: Program Addresses (3733-3740)

Program Address 3733

Data Digit 1	Data Digit 2
Function 1	Function 2

Program Address 3734

Data Digit 1	Data Digit 2
Function 3	Function 4

Program Address 3735

Data Digit 1	Data Digit 2
Function 5	Function 6

Program Address 3736

Data Digit 1	Data Digit 2
Function 7	Function 8

Program Address 3737

Data Digit 1	Data Digit 2
Function 9	Function 10

Program Address 3738

Data Digit 1	Data Digit 2
Function 11	Function 12

Program Address 3739

Data Digit 1	Data Digit 2
Function 13	Function 14

Program Address 3740

Data Digit 1	Data Digit 2
Function 15	Must Be 0

Select Option	DD
Belongs to Partition 1	0
Belongs to Partition 2	1
Belongs to Partition 3	2
Belongs to Partition 4	3
Belongs to Partition 5	4
Belongs to Partition 6	5
Belongs to Partition 7	6
Belongs to Partition 8	7
Follows all Partitions	8

12.34 Dual Phone Line/Bell Supervision Module Output Programming: Program Address (1520)

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: [1] [5] [2] [0]
Enter Data Digit 1: [2]
Enter Data Digit 2: [0]
Enter the pound key: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

The Dual Phone Line/Bell Supervision Module is the DS7420i.
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 12.15.1 and 12.15.2).

Data Digit

1	2
	0

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							●	●	●	●

Data Digit 2 must be a 0.

12.35 Call-Out Timer Programming: Program Addresses (1521-1524)

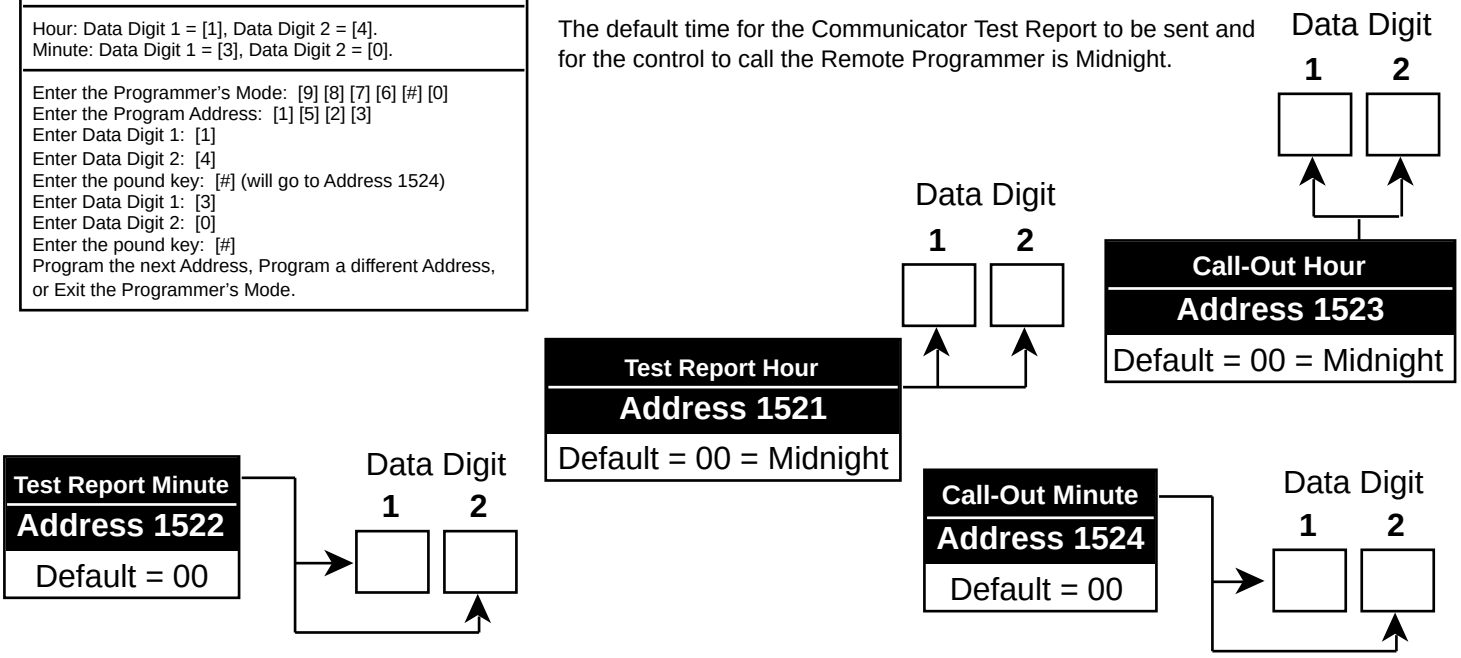
Example:
To program the Remote Programmer Call-Out hour and minute as 2:30 pm.

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: [1] [5] [2] [3]
Enter Data Digit 1: [1]
Enter Data Digit 2: [4]
Enter the pound key: [#] (will go to Address 1524)
Enter Data Digit 1: [3]
Enter Data Digit 2: [0]
Enter the pound key: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.

This section allows you to define the Hour and Minute for the Communicator Test Report and Remote Programmer Call-Out.

The default time for the Communicator Test Report to be sent and for the control to call the Remote Programmer is Midnight.



12.36 Test Report and Remote Programmer Call-Out Programming: Program Address (1525)

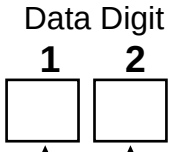
This section allows you to define the Day and Frequency for the Communicator Test Report and the Remote Programmer Call-Out.

If this address is not programmed, the Communicator Test Report will not be sent and the control will not call the Remote Programmer.

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: [1] [5] [2] [5]
Enter Data Digit 1: [1]
Enter Data Digit 2: [7]
Enter the pound key: [#]
Program the next Address, Program a different Address, or Exit the Programmer's Mode.



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

12.37 Alpha Description Programming: Program Addresses (1526-3701)

Alpha Description Programming allows up to 16 characters to be programmed for the description of each partition or zone (e.g. “J. Hill’s Office”). If a description is less than 16 characters, leave the remaining address(es) blank. Once programmed, the descriptions will be displayed on the alpha keypads.

The following chart lists the Program Addresses used to program Alpha-Numeric characters for each partition or zone:

Partition 1 Program Address **1526 - 1541**	**Partition 5** Program Address **1590 - 1605**	**Zone 1** Program Address **1654 - 1669**	**Zone 5** Program Address **1718 - 1733**
Partition 2 Program Address **1542 - 1557**	**Partition 6** Program Address **1606 - 1621**	**Zone 2** Program Address **1670 - 1685**	**Zone 6** Program Address **1734 - 1749**
Partition 3 Program Address **1558 - 1573**	**Partition 7** Program Address **1622 - 1637**	**Zone 3** Program Address **1686 - 1701**	**Zone 7** Program Address **1750 - 1765**
Partition 4 Program Address **1574 - 1589**	**Partition 8** Program Address **1638 - 1653**	**Zone 4** Program Address **1702 - 1717**	**Zone 8** Program Address **1766 - 1781**
	Zones 9 through 128 Program Addresses **1782 through 3701** (16 addresses per zone)		

See Section 12.37.1 for an Alpha Description Programming worksheet for Partitions 1 through 8 and Zones 1 through 8.
See the Programming Addresses Worksheet (P/N 29802) for a complete Alpha Programming Worksheet (covering addresses 1526 through 3701).

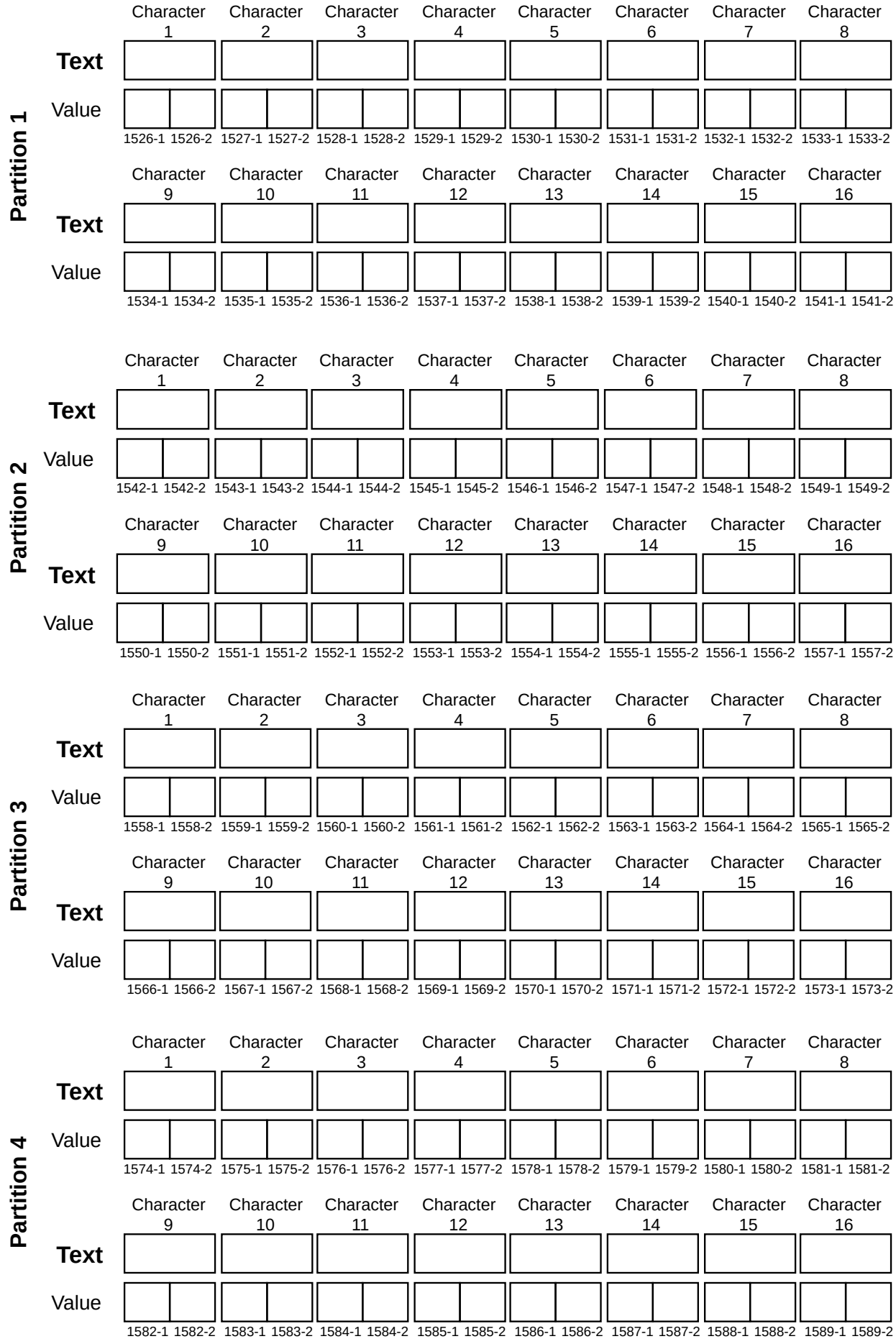
Words are created one character at a time. Each character uses two data digits.
The data digit values for these characters are shown below:

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		

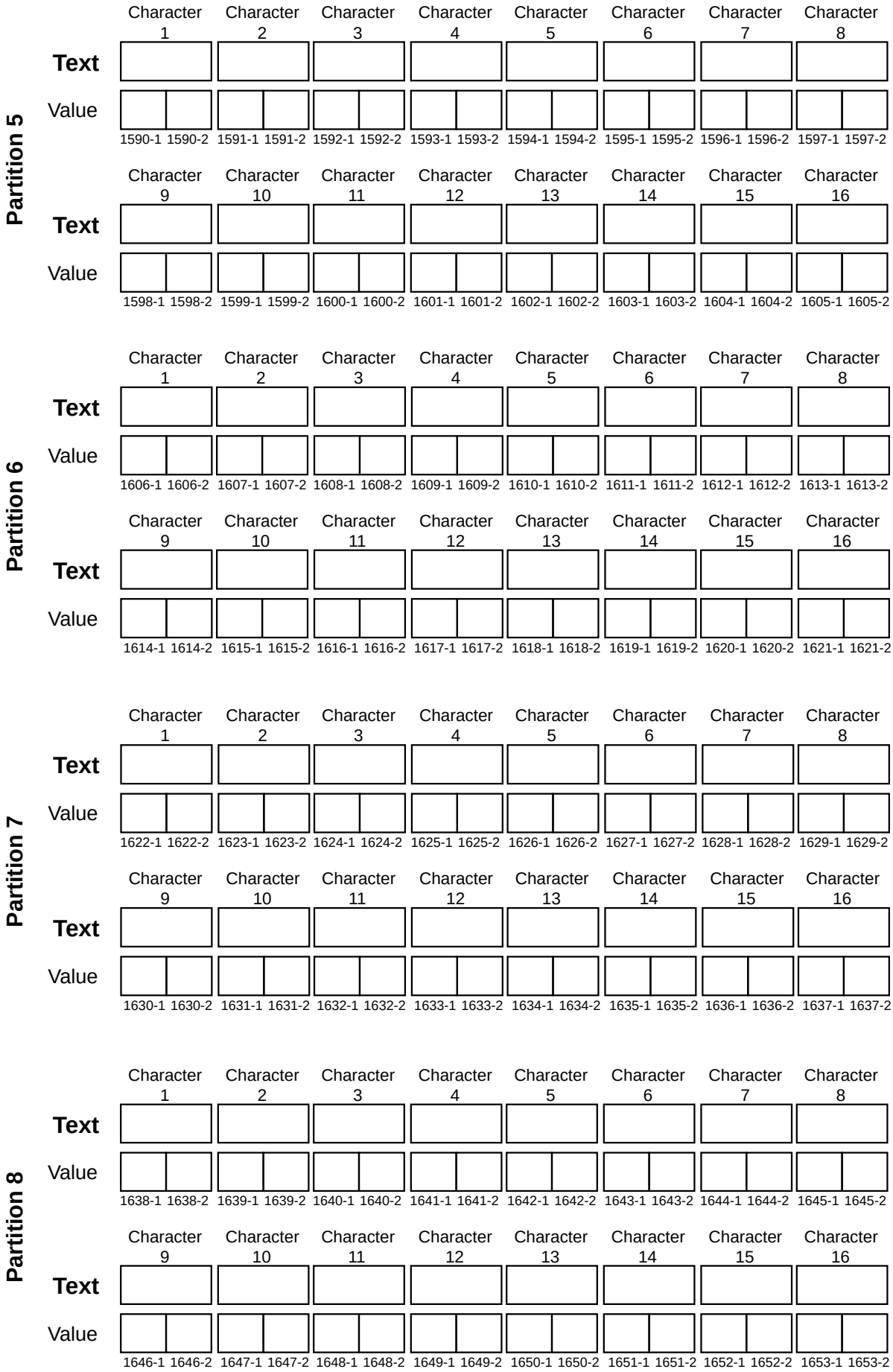
Example

	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6	Character 7	Character 8
Text	C	H	E	M	I	C	A	L
Value	3 4	8 4	5 4	*3 4	9 4	3 4	1 4	*2 4
	1526-1 1526-2	1527-1 1527-2	1528-1 1528-2	1529-1 1529-2	1530-1 1530-2	1531-1 1531-2	1532-1 1532-2	1533-1 1533-2

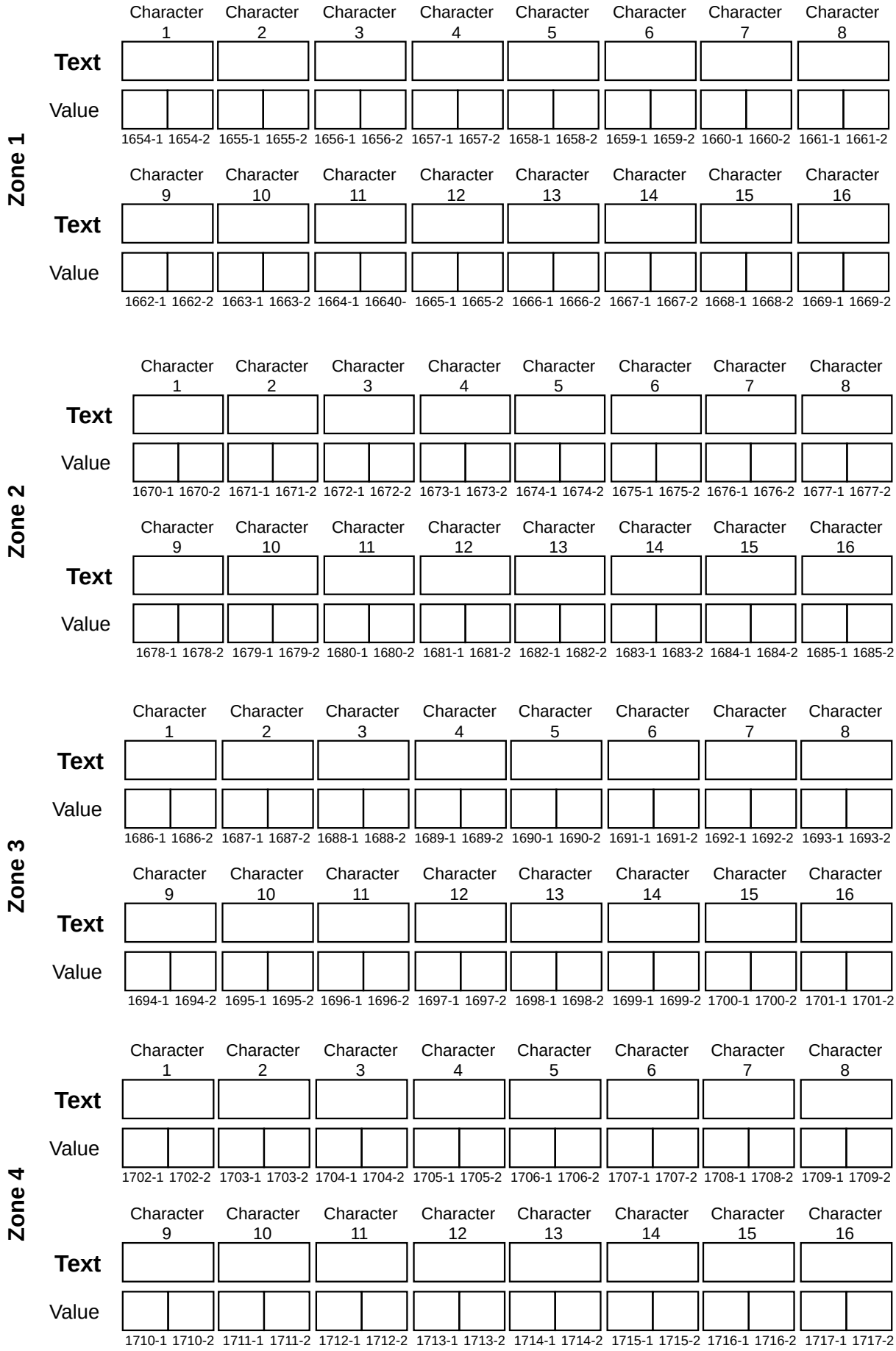
12.37.1 Alpha Description Programming: A Worksheet



12.37.1 Alpha Description Programming: A Worksheet (Continued)



12.37.1 Alpha Description Programming: A Worksheet (Continued)



12.37.1 Alpha Description Programming: A Worksheet (Continued)

Zone 5

	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6	Character 7	Character 8
Text								
Value	1718-1 1718-2	1719-1 1719-2	1720-1 1720-2	1721-1 1721-2	1722-1 1722-2	1723-1 1723-2	1724-1 1724-2	1725-1 1725-2

	Character 9	Character 10	Character 11	Character 12	Character 13	Character 14	Character 15	Character 16
Text								
Value	1726-1 1726-2	1727-1 1727-2	1728-1 1728-2	1729-1 1729-2	1730-1 1730-2	1731-1 1731-2	1732-1 1732-2	1733-1 1733-2

Zone 6

	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6	Character 7	Character 8
Text								
Value	1734-1 1734-2	1735-1 1735-2	1736-1 1736-2	1737-1 1737-2	1738-1 1738-2	1739-1 1739-2	1740-1 1740-2	1741-1 1741-2

	Character 9	Character 10	Character 11	Character 12	Character 13	Character 14	Character 15	Character 16
Text								
Value	1742-1 1742-2	1743-1 1743-2	1744-1 1744-2	1745-1 1745-2	1746-1 1746-2	1747-1 1747-2	1748-1 1748-2	1749-1 1749-2

Zone 7

	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6	Character 7	Character 8
Text								
Value	1750-1 1750-2	1751-1 1751-2	1752-1 1752-2	1753-1 1753-2	1754-1 1754-2	1755-1 1755-2	1756-1 1756-2	1757-1 1757-2

	Character 9	Character 10	Character 11	Character 12	Character 13	Character 14	Character 15	Character 16
Text								
Value	1758-1 1758-2	1759-1 1759-2	1760-1 1760-2	1761-1 1761-2	1762-1 1762-2	1763-1 1763-2	1764-1 1764-2	1765-1 1765-2

Zone 8

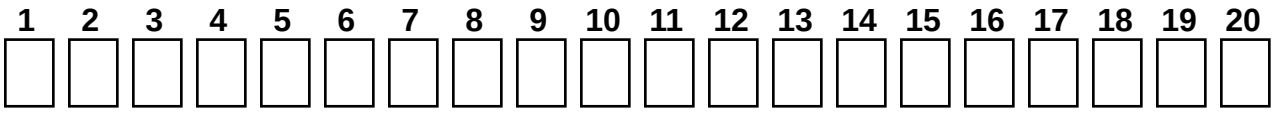
	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6	Character 7	Character 8
Text								
Value	1766-1 1766-2	1767-1 1767-2	1768-1 1768-2	1769-1 1769-2	1770-1 1770-2	1771-1 1771-2	1772-1 1772-2	1773-1 1773-2

	Character 9	Character 10	Character 11	Character 12	Character 13	Character 14	Character 15	Character 16
Text								
Value	1774-1 1774-2	1775-1 1775-2	1776-1 1776-2	1777-1 1777-2	1778-1 1778-2	1779-1 1779-2	1780-1 1780-2	1781-1 1781-2

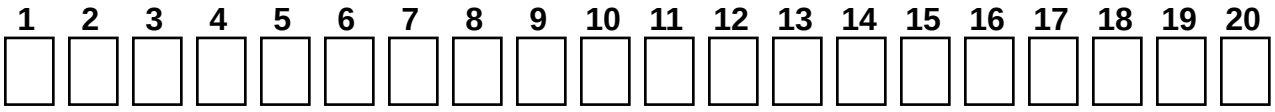
12.38 Phone Number Programming: Program Addresses (4028, 4038, 4048)

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: [4] [0] [2] [8] 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 pound key: [#] Program the next Address, Program a different Address, or Exit the Programmer's Mode.

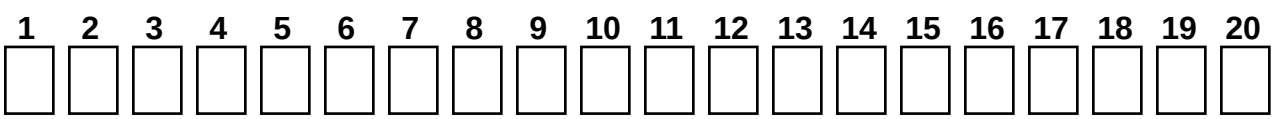
14.34.1 Phone Number 1 Programming: Program Address (4028)



14.34.2 Phone Number 2 Programming: Program Address (4038)



14.34.3 Phone Number 3 (Remote Programmer) Programming: Program Address (4048)



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 - E 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.

13.0 Installation Guide for U.L. Listed Systems

13.1 DS7400Xi U. L. Listings:

- Household Fire Alarm, U. L. Standard UL985
- Commercial Fire Alarm (Type Service: Local, Central Station, Remote Station; Type Initiating: Automatic, Manual, Sprinkler Supervisory, and Waterflow), U. L. Standard UL864
- Household Burglary Alarm, U. L. Standard UL1023
- Police Station Connection Grades AA and A, U. L. Standard UL365
- Central Station Burglary Alarm Grades AA, A, B, and C; U. L. Standard UL1610

The control panel should be installed in accordance with U. L. Standard UL681, Installation and Classification of Mercantile and Bank Burglar Alarm Systems, or U. L. Standard UL1641, Installation and Classification of Residential Burglar Alarm Systems. It should also be installed in accordance with NFPA 72 for Household and Commercial Fire installations.

13.1.1 U.L System Configurations

The following table shows the DS7400Xi system configuration for the various types of fire and burglar alarm service for which the product is 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
DS7400Xi	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
DS7420i	R	4	R	4	n/a	n/a	n/a	4	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
DS7447	2	2	2	3	3	3	3	3	3
DS7460	0	0	0	0	0	0	0	0	0
DS7481	n/a	4	n/a	4	n/a	n/a	n/a	4	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)
LF = Local Fire
CSB-A = Central Station Burglary, grades AA and A
CSB-B/C = Central Station Burglary, grades B and C
LB-A = Local Burglary, grade A
PSCB-D-A = Police Station Connected Burglary w/DACT, grade A
PSCB-RF-A = Police Station Connected Burglary w/Radio (AAGARD System - DS7416), grades AA and 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.
4 = Either the DS7420i or the DS7481 must be used to monitor the phone line input to the control unit.

13.2 INSTALLATION CONSIDERATIONS

- Failure to install and program the control in accordance with the requirements in this section voids the listing mark of Underwriters Laboratories, Inc.
- The standby battery capacity is 35 AH @ 12 VDC.
- The total nominal standby current must not exceed 1.5 A nor 2.5 A when in alarm.
- The control must be mounted indoors and within the protected area.
- Enclosure tamper switches (if used) must be connected to a 24-hour zone.
- Grounding must be in accordance with article 250 of the NEC (NFPA 70).
- At least one U. L. Listed keypad with zone display must be connected.

- Zones must be connected to U. L. Listed, compatible devices.
- 50 Hz. AC input cannot be used in U. L. Listed Requirements.
- The ground wire provided with the enclosure must be connected between the “Earth GND” connection on the control and the enclosure tab.
- The keypad panic alarm output must follow the corresponding zone function’s programming (e.g. fire = pulsing [or steady if not a combination], burglary = steady). In all cases, the special emergency keys must be silent.
- The ground start feature shall not be programmed.

13.3 PROGRAMMING THE DS7400Xi

When used in U. L. Listed Requirements, the control must conform to certain programming requirements. The following is a list of the required program entries and required accessories for specific U. L. Listed Requirements.

13.3.1 Household Fire Alarm using Digital Alarm Communicator Transmitter with local bell

The control must be installed in accordance with NFPA 72.

Required Accessories:

- At least one Detection Systems, Inc. Model DS250 Series smoke detector with an MB Series base, or another Listed compatible smoke detector.
- One Wheelock 46T-G10-12 bell or 34T-12 horn (will provide 85db for UL985 and NFPA 72 requirements; other Listed compatible devices with a voltage range of 10.2 to 14.0 V may be used) is required for this application and must be installed inside the protected area.
- The standard control enclosure can be used.
- At least one DS7447 or DS7445 Keypad must be used.
- Four-wire detectors must be used with Listed power supervision devices. A compatible Listed 4-wire detector is the Detection Systems, Inc. DS250 in an MB4W base. A compatible Listed EOL relay is the Detection Systems, Inc. EOL200.
- All zones must be used with the EOL resistor (P/N 25899), provided.

1. Report Programming:

- Fire Zone Report must be programmed.
- Low Battery Report (Program Address 0325) must be programmed.
- AC Failure Report (Program Address 0327) must be programmed.

2. Timer Programming:

- Bell Cutoff Times (Program Addresses 0195 and 0196) must be programmed for not less than 4 minutes.

3. Zone Function Programming:

- For household fire installations only, the output signal may be pulsed or steady. For a combination system, see the selection below on alarm output programming.

4. Alarm Output Programming:

- Program Address 0146 must be programmed as: Data Digit 1=6, Data Digit 2=3.

5. General Control Programming:

- Program Address 0185 must be programmed as: Data Digit 1=0, Data Digit 2=0.

13.3.2 Grade A Household Burglary Alarm using Digital Alarm Communicator Transmitter with local bell

The control must be installed in accordance with U. L. Standard UL1641.

Required Accessories:

- At least one Wheelock 46T-G10-12 bell or 34T-12 horn (other Listed compatible devices with a voltage range of 10.2 to 14.0 V may be used) is required for this application.
- The standard DS7400 enclosure can be used.

1. Report Programming:

- Burglar Zone Reports must be programmed for those zones used.
- Low Battery Report (Program Address 0325) must be programmed.
- AC Failure Report (Program Address 0327) must be programmed.

2. Timer Programming:

- Bell Cutoff Times (Program Addresses 0195 and 0196) must be programmed for not less than 4 minutes.
- Entry Delay Timer (Program Addresses 0191 and 0192) must be programmed for not longer than 60 seconds.
- Exit Delay Timer (Program Address 0193) must be programmed for not longer than 45 seconds.

3. General Control Programming:

- Program Address 0000, Data Digit 2 must be programmed for NO Swinger Shunts (enter 0, 1, or 2).
- Program Address 0185 must be programmed as: Data Digit 1=0, Data Digit 2=0.

4. Alarm Output Programming:
- Program Address 0146 must be programmed as: Data Digit 1=6, Data Digit 2=3.
- Program Address 0149 must be programmed as: Data Digit 1=8.

NOTE: In a system that includes both fire alarm and burglar alarm devices, the system must produce distinct sounds for fire and burglar alarm conditions either by using different indicating appliances or by using distinct cadences for the same appliance.

13.4 General System Requirements

Applies to the following grades only:

Local Burglary Alarm -	Grade A using Digital Alarm Communicator Transmitter (DACT)
Police Station Connection -	Grades AA and A using DACT and ARDIS interface module. Grade A using DACT and local Bell.
Central Station Burglary Alarm -	Grades AA and A using DACT and ARDIS interface module. Grade B using DACT and local bell. Grade C using using Digital Alarm Communicator Transmitter only.

The controls must be installed in accordance with U. L. Standards UL681 and UL609 for all grades of service.

1. Report Programming:
- Burglar Zone Reports must be programmed for those zones used.
- Low Battery Report (Program Address 0325) must be programmed.
- AC Failure Report (Program Address 0327) must be programmed.
- Open Report (Program Address 0320) must be programmed.
- Close Report (Program Address 0321) must be programmed.
- 24-Hour Check-In Reports (Program Addresses 0329 and 0336) must be programmed.

2. General Control Programming:
- Must be programmed for no swinger shunts and closing ringback. (Program Address 0000 data digit 2, enter 0, 1, or 2).
- Program Address 0185 must be programmed as: Data Digit 1=0, Data Digit 2=0.

3. Zone Function Programming:
- The Burglar alarm signal (whether pulsed or steady) must be different from the Fire alarm signal.

4. Alarm Output Programming:
- Program Address 0146 must be programmed as: Data Digit 1=6, Data Digit 2=3.
- Program Address 0149 must be programmed as: Data Digit 1=8.

13.4.1 Local Burglary Alarm

A. Grade A Installations using Digital Alarm Communicator Transmitter with local bell

Follow General System Requirements as listed in 13.4.

Required Accessories:
- The control must be the Detection System's model DS7400XiCC with a cover actuated tamper switch installed.
- An Ademco Model AB-12 bell/housing* (see section 13.6).

1. Timer Programming:
- Bell Cutoff Times (Program Addresses 0195 and 0196) must be programmed for not less than 15 minutes.
- Entry, Exit Delay Times (Program Addresses 0191-0193) must be programmed for not longer than 60 seconds.

13.4.2 Police Station Connection

Follow General System Requirements as listed in 13.4.

Required Accessories:
- The control must be the Detection Systems' model DS7400XiCC with a cover actuated tamper switch installed.
- An ARDIS (or DataTAC) interface module.
- The ARDIS module and antenna should be mounted within the protected area.
- The Detection Systems' model DS7481 Phone Line Monitor.

1. Timer Programming:
- Entry, Exit Delay Times (Program Addresses 0191-0193) must be programmed for not longer than 60 seconds.

B. Grade A Installations using Digital Alarm Communicator Transmitter with local bell

Follow General System Requirements as listed in 13.4.

Required Accessories:
- The control must be the Detection System's model DS7400XiCC with a cover actuated tamper switch installed.
- The Ademco Model AB-12 bell/housing* (see section 13.6).

1. Timer Programming:
- Bell Cutoff Times (Program Addresses 0195 and 0196) must be programmed for not less than 15 minutes.
- Entry, Exit Delay Times (Program Addresses 0191-0193) must be programmed for not longer than 60 seconds.

13.4.3 Central Station Burglary Alarm

A. Grades AA and A Installations using an ARDIS Interface Module

Follow General System Requirements as listed in 13.4.

Required Accessories:
- The control must be the Detection Systems' model DS7400XiCC with a cover actuated tamper switch installed.
- An ARDIS (or DataTAC) interface module.
- The ARDIS module and antenna should be mounted within the protected area.
- The Detection Systems' model DS7481 Phone Line Monitor.

1. Timer Programming:
- Entry, Exit Delay Times (Program Addresses 0191-0193) must be programmed for not longer than 60 seconds.

B. Grade B Installations using Digital Alarm Communicator Transmitter with local bell

Follow General System Requirements as listed in 13.4.

Required Accessories:
- The control must be the Detection Systems' model DS7400XiCC with a cover actuated tamper switch installed.
- The Ademco Model AB-12 bell/housing* (see section 13.6).

1. Timer Programming:
- Bell Cutoff Times (Program Addresses 0195 and 0196) must be programmed for not less than 15 minutes.
- Entry, Exit Delay Times (Program Addresses 0191-0193) must be programmed for not longer than 60 seconds.

C. Grade C Installations using Digital Alarm Communicator Transmitter only

Follow General System Requirements as listed in 13.4.

Required Accessories:
- The control must be the Detection System's model DS7400XiCC with a cover actuated tamper switch installed.

1. Timer Programming:
- Entry, Exit Delay Times (Program Addresses 0191-0193) must be programmed for not longer than 60 seconds.

13.5 Commercial Fire Alarm

A. Central Station (DACT) and Local
The control must be installed in accordance with NFPA 72.

Required Accessories:
- DS7420i 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 DS7447 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. (6.1 m) of the control equipment. If multiple keypads are used, one keypad only must be used on the options bus and assigned as keypad 11-14 and meet the same requirements as in single keypad use.
- 50 Hz. operation and ground start are automatically forced to the disabled state when central station fire mode is selected.

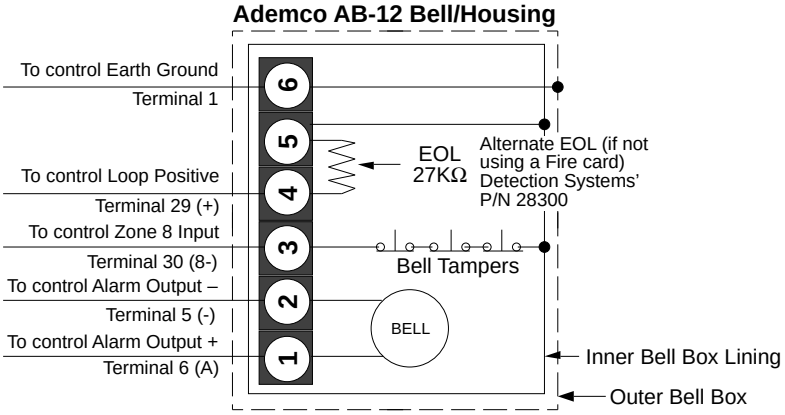
1. Report Programming:
- Burglar Zone Reports must be programmed for those zones used.
- Fire Zone Reports must be programmed for those zones used.
- Low Battery Report (Program Address 0325) must be programmed.
- AC Failure Report (Program Address 0327) must be programmed.
- Open Report (Program Address 0320) must be programmed.
- Close Report (Program Address 0321) must be programmed.
- 24-Hour Check-In Reports (Program Addresses 0329 and 0336) must be programmed.

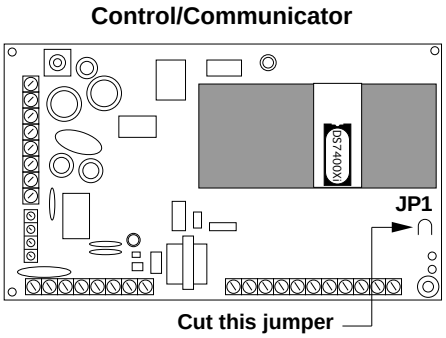
2. Timer Programming:
- Bell Cutoff Times (Program Addresses 0195 and 0196) must be programmed for not less than 5 minutes.
- Entry, Exit Delay Times (Program Addresses 0191-0193) must be programmed for not longer than 60 seconds.

3. General Control Programming:
- Must be programmed for no swinger shunts (Program Address 0000 data digit 2, enter 0, 1, or 2).
- Program Address 0185 must be programmed as: Data Digit 1=0, Data Digit 2=0.

4. Commercial Fire Mode Programming:
- Local (Program Address 0186, data digit 1, enter as a 1 through 6).
- Central Station (Program Address 0186, 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.

13.6 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. (Program address 0025 = 07).
4) Do not change the default programming of zone function 7. (Program address 0007 should be 22).

14.0 Report Programming

14.1 4/2 Format

Reports with Restorals

	Report			Restoral			Trouble		
	Address	Value		Address	Value		Address	Value	
Zone Function 1	0258	A	1	0275	2	1	0290	6	1
Zone Function 2	0259	A	2	0276	2	2	0291	6	2
Zone Function 3	0260	A	3	0277	2	3	0292	6	3
Zone Function 4	0261	A	4	0278	2	4	0293	6	4
Zone Function 5	0262	A	5	0279	2	5	0294	6	5
Zone Function 6	0263	A	6	0280	2	6	0295	6	6
Zone Function 7	0264	A	7	0281	2	7	0296	6	7
Zone Function 8	0265	A	8	0282	2	8	0297	6	8
Zone Function 9	0266	A	9	0283	0	0	0298	6	9
Zone Function 10	0267	1	A	0284	2	A	0299	6	A
Zone Function 11	0268	1	1	0285	2	A	0300	6	B
Zone Function 12	0269	1	2	0286	2	A	0301	6	C
Zone Function 13	0270	1	3	0287	2	A	0302	6	D
Zone Function 14	0271	1	4	0288	2	A	0303	6	E
Zone Function 15	0272	1	5	0289	2	A	0304	6	F
Low Battery	0325	7	9	0326	6	9			
AC Fail	0327	7	A	0328	6	A			
System Trouble	0334	0	0	0335	3	9			
Keypad Fire	0256	1	8	0257	2	8			
Keypad Emergency	0273	1	6						
Keypad Panic	0274	A	A						

Reports without Restorals

	Report		
	Address	Value	
Open	0320	9	F
Close	0321	4	F
Partial Close	0322	4	F
First Open after Alarm	0324	3	8
Comm. Test/System Normal	0329	3	A

	Report Successful			Report Unsuccessful		
	Address	Value		Address	Value	
Remote Program	0330	0	0	0331	0	0
Local Program	0332	0	0	0333	0	0

	Report		
	Address	Value	
Duress	0322	1	5

14.2 BFSK Format

Reports with Restorals

	Report			Restoral			Trouble		
	Address	Value		Address	Value		Address	Value	
Zone Function 1	0258	1	0	0275	E	1	0290	F	1
Zone Function 2	0259	2	0	0276	E	2	0291	F	2
Zone Function 3	0260	3	0	0277	E	3	0292	F	3
Zone Function 4	0261	4	0	0278	E	4	0293	F	4
Zone Function 5	0262	5	0	0279	E	5	0294	F	5
Zone Function 6	0263	6	0	0280	E	6	0295	F	6
Zone Function 7	0264	7	0	0281	E	7	0296	F	7
Zone Function 8	0265	8	0	0282	E	8	0297	F	8
Zone Function 9	0266	8	0	0283	E	8	0298	F	9
Zone Function 10	0267	8	0	0284	E	8	0299	F	8
Zone Function 11	0268	8	0	0285	E	8	0300	F	8
Zone Function 12	0269	8	0	0286	E	8	0301	F	8
Zone Function 13	0270	8	0	0287	E	8	0302	F	8
Zone Function 14	0271	8	0	0288	E	8	0303	F	8
Zone Function 15	0272	8	0	0289	E	8	0304	F	8
Low Battery	0325	F	9	0326	E	9			
AC Fail	0327	F	A	0328	E	A			
System Trouble	0334	F	D	0335	E	D			
Keypad Fire	0256	1	0	0257	E	1			
Keypad Emergency	0273	0	0						
Keypad Panic	0274	9	0						

Reports without Restorals

	Report		
	Address	Value	
Open	0320	B	F
Close	0321	C	F
Partial Close	0322	C	F
First Open after Alarm	0324	D	F
Comm. Test/System Normal	0329	E	E

	Report Successful		
	Address	Value	
Remote Program	0330	E	F
Local Program	0332	E	F

Report Unsuccessful		
Address	Value	
0331	F	F
0333	F	F

	Report		
	Address	Value	
Duress	0322	A	0

14.3 Pager Format

The Pager format allows the control panel to dial a digital pager and leave a numeric message which includes an account ID and report type. The telephone number is dialed when a report is available. At the completion of the telephone dialing, a fixed time delay equal to 10 seconds occurs. This delay allows time to connect with the pager service, while skipping over any voice announcement. When the delay has ended, the numeric message is sent. This message includes the account number followed by up to 5 reports. If a delay time greater than 10 seconds is required, increments of 3 seconds can be added by programming the "*3" character (3 second delay) at the end of the phone number in address 4028 or 4038.

For example, if you call pager number 123-4567 and it takes 20 seconds after you finished dialing before you are allowed to enter the message, the following digits should be programmed in address 4028: 1 2 3 4 5 6 7 *3 *3 *3 *3. This will give you an overall delay of 22 seconds.

NOTE: For Pager format, it is not advisable to use the HEX character values (*0 = A, *1 = B, *2 = C, *3 = D, *4 = E, *5 = F) in the report programming addresses 0256 through 0340. These characters could cause unpredictable results when sent to a pager system that only expects numeric characters between 0-9. This is the reason that this format will not allow an associated user number with an open and close report.

CAUTION: Pager Format allows the use of the digit "0" as the reporting (first) digit. Using a "0" as the reporting digit will disable the reporting in all other formats.

The following are recommended programming values for addresses 0256 through 0340 when using the Pager format.

NOTE: The Pager format is an open-loop format which has no acknowledge tone. There is no indication at the control panel that the signal has been sent. Therefore, the Pager format is not recommended as the primary communication method.

Reports with Restorals

	Report			Restoral			Trouble		
	Address	Value		Address	Value		Address	Value	
Zone Function 1	0258	0	1	0275	2	1	0290	4	1
Zone Function 2	0259	0	2	0276	2	2	0291	4	2
Zone Function 3	0260	0	3	0277	2	3	0292	4	3
Zone Function 4	0261	0	4	0278	2	4	0293	4	4
Zone Function 5	0262	0	5	0279	2	5	0294	4	5
Zone Function 6	0263	0	6	0280	2	6	0295	4	6
Zone Function 7	0264	0	7	0281	2	7	0296	4	7
Zone Function 8	0265	0	8	0282	2	8	0297	4	8
Zone Function 9	0266	0	9	0283	2	9	0298	4	9
Zone Function 10	0267	1	0	0284	3	0	0299	5	0
Zone Function 11	0268	1	1	0285	3	1	0300	5	1
Zone Function 12	0269	1	2	0286	3	2	0301	5	2
Zone Function 13	0270	1	3	0287	3	3	0302	5	3
Zone Function 14	0271	1	4	0288	3	4	0303	5	4
Zone Function 15	0272	1	5	0289	3	5	0304	5	5

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Reports with Restorals

	Report			Restoral		
	Address	**Value**		**Address**	**Value**	
Low Battery	0325	6	0	0326	7	0
AC Fail	0327	6	1	0328	7	1
System Trouble	0334	6	2	0335	7	2
Keypad Fire	0256	9	0	0257	9	1
System Test	0339	6	5	0340	7	5

Reports without Restorals

	Address	Value	
Open	0320	8	0
Close	0321	8	1
Partial Close	0322	8	2
First Open after Alarm	0324	8	3
Exit Error	0337	8	6
Recent Closing	0338	8	7
Keypad Emergency	0273	9	2
Keypad Panic	0274	9	3
Duress	0322	9	4

	Report Successful			**Report Unsuccessful**		
	Address	**Value**		**Address**	**Value**	
Remote Program	0330	E	F	0331	F	F
Local Program	0332	E	F	0333	F	F

15.0 Report Programming - Values Sent

15.1 SIA Format

Reports	SIA event code		SIA data field
Burglary alarm for a zone	B	A	Zone Number
Fire alarm for a zone	F	A	Zone Number
Waterflow alarm for a zone	S	A	Zone Number
Supervisory for a zone	S	S	Zone Number
Keypad fire (A)	F	A	000
Keypad fire restoral (A)	F	R	000
Keypad emergency (1, 3, or B)	Q	A	None
Keypad panic (*, #, or C)	P	A	None
Burglary restoral for a zone	B	R	Zone Number
Fire restoral for a zone	F	R	Zone Number
Waterflow restoral for a zone	S	R	Zone Number
Supervisory restoral for a zone	S	J	Zone Number
Burglary trouble for a zone	B	T	Zone Number
Fire trouble for a zone	F	T	Zone Number
Waterflow trouble for a zone	F	T	Zone Number
Supervisory trouble for a zone	F	T	Zone Number
Low battery on a radio zone	X	T	Zone Number
Low battery restoral on a radio zone	X	R	Zone Number
Open report	O	P	User Number
Close report	C	L	User Number
Duress report	H	A	000
Partial close report	C	G	User Number
First open after alarm (cancel) report	O	R	None
Low battery	Y	T	None
Low battery restoral	Y	R	None
AC failure	A	T	None
AC failure restoral	A	R	None
Octal relay fault report	E	T	None
Octal relay restoral	E	R	None
Exit error report	E	E	None
Recent closing report	C	R	None
System test start report	T	S	None
System test end report	T	E	None

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15.1 SIA Format (Continued)

Reports	SIA event code		SIA data field
System normal test report	R	P	None
Communicator test report	R	X	None
Remote programming successful report	R	S	None
Remote programming failure report	R	U	None
Local programming successful report	Y	G	None
Local programming failure report	Y	F	None
Communication failure report	Y	C	None
Communication restoral	Y	K	None
EEPROM checksum failure or keypad supervision failure report	E	T	None
EEPROM checksum restoral or keypad supervision restoral	E	R	None
Multiplex bus fault	E	T	None
Multiplex bus restoral	E	R	None
Radio receiver tamper	T	A	None
Radio receiver tamper restoral	T	R	None
Aux. power fault report	Y	P	None
Aux. power restoral	Y	Q	None
Ground fault report	U	T	None
Ground fault restoral	U	J	None
System off normal test report	R	P	None
Phone line 1 fault report	L	T	None
Phone line 1 restoral	L	R	None
Phone line 2 fault report	L	T	None
Phone line 2 restoral	L	R	None
AAGARD fault report	Y	S	See 9.18 Error Displays
AAGARD fault restoral	Y	K	See 9.18 Error Displays
Bell fault report	E	T	None
Bell restoral	E	R	None
RAM fault report	E	T	None
RAM restoral	E	R	None
ROM fault report	E	T	None
ROM restoral	E	R	None
Serial interface fault report	V	T	None
Serial interface restoral	V	R	None
Aux. relay fault report	E	T	None
Aux. relay restoral	E	R	None

15.2 Contact I.D 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
Waterflow trouble for a zone	373	Zone Number
Supervisory 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	User Number
Close report	401 Restoral	User Number
Duress report	121	000
Partial close report	408 Restoral	User Number
First open after alarm (cancel) report	406	None
Low battery	302	None
Low battery restoral	302 Restoral	None
AC failure	301	None
AC failure restoral	301 Restoral	None
RAM fault report	303	None
RAM restoral	303 Restoral	None
ROM fault report	304	None
ROM restoral	304 Restoral	None
Serial interface fault report	336	None
Serial interface restoral	336 Restoral	None

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15.2 Contact ID Format (Continued)

Reports	CID event code	CID data field
System normal test report	602	None
Communicator test report	601	None
Remote programming successful report	412	None
Remote programming failure report	413	None
Local programming successful report	306	None
Local programming failure report	306 Restoral	None
Communication failure report	354	None
Communication restoral	354 Restoral	None
EEPROM checksum failure or keypad supervision failure report	330	None
EEPROM checksum restoral or keypad supervision restoral	330 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
System off normal test report	602	None
Phone line 1 fault report	351	None
Phone line 1 restoral	351 Restoral	None
Phone line 2 fault report	352	None
Phone line 2 restoral	352 Restoral	None
AAGARD fault report	353	See 9.18 Error Displays
AAGARD fault restoral	353 Restoral	See 9.18 Error Displays
Bell fault report	321	None
Bell restoral	321 Restoral	None
Aux. relay fault report	320	None
Aux. relay restoral	320 Restoral	None
Octal relay fault report	330	None
Octal relay restoral	330 Restoral	None
Exit error report	134	None
Recent closing report	405	None
System test start report	607	None
System test end report	607 Restoral	None

16.0 Multiplex Zone Addressing Guide

- Before installing a multiplex device, its address and other information must be programmed into the control panel. Perform the following:
- Program the control panel.
  - Refer to section 14.3, Zone Programming.
    This section allows you to define the Multiplex Zone's address (zone number), its type (single or multiple zone input device, or a DS7465), which zone or output function it will follow (1-15) and its partition (1-8).
    For example: Program zone 9 to be a single zone input device (DS7476) that follows zone function 1 and is in partition 1.

    Procedure: Enter the programmer's mode.
    Enter address 0026.
    Enter the data digits as [0] and [1] followed by the [#] button.
    Enter address 1252.
    Enter the data digits as [0] and [0] followed by the [#] button.
    Exit the programmer's mode.

  - Program the BusLoc® feature.

    At this point, you must decide whether or not to use the BusLoc® feature.

    BusLoc® is a proprietary method of tying the multiplex zones to the control panel to prevent the system from being taken over. Using BusLoc® will program an invisible identification code into the multiplex zones.

Note: If using the DS7432 8-Input Remote Module or the DS7433 8-Input Direct Module, the BusLoc® feature can not used.

  - If you choose to use the BusLoc® feature, program a 5 digit code at programming address 9999.
    It is very important to save this code under lock and key. If you need to replace the control panel, you will have to program it with the same BusLoc® code as the previous panel or the multiplex devices will not match codes with the new control panel.

    For example: Program the BusLoc® code to be 54321.

    Procedure: Enter the programmer's mode.
    Enter address 9999.
    Enter the data digits as [5], [4], [3], [2], and [1] followed by the [#] button.
    Exit the programmer's mode.

- Once the pre-programming is done, you are ready to program the multiplex devices. Perform the following:

- Disconnect all multiplex devices from the DS7430.

- Program the multiplex devices through the control panel. Perform the following:

  - Enter the programmer's mode.

  - Enter the multiplex programming mode.
    Do this by entering [9] [9] [9] [5] followed by the [#] button.

  - The control will then take a few seconds to check the multiplex connection to confirm nothing is connected to it. The display will show the following:

Checking
Multiplex Bus

  - The display will then call-up the first zone you have pre-programmed to be a multiplex zone. To access a different zone, press the [Reset/*] key, then enter the three digit value of the zone you want. The display will show the following:

Sens/Contact 009
Press # to Prog

Before you do anything else, re-connect the multiplex device (that coincides with the displayed zone) to the multiplex bus of the DS7430.

For DS7465s and Multiple Input devices, pressing the [#] button now will program these devices to the control panel. Remember, these devices take up two addresses. When address 009 (for example) is a DS7465, pressing the [#] button now will program both addresses 009 and 010.

For Single Input devices, press the [#] button to continue programming. The display asks whether you are programming a sensor or a contact; it will show the following:

Sensor? Press 4
Contact? Press 6

If you are programming a sensor, press the [4] button to program these devices to the control panel. If you are programming a contact, press the [6] button to program these devices to the control panel.

  - If the device is successfully programmed, the keypad will sound a single beep and increment to the next zone (if there is one) pre-programmed as a multiplex zone.

Important: Disconnect the device you just programmed and connect the next device (that belongs to the displayed zone) to the multiplex bus of the DS7430 and press the [#] button. Continue programming.

Caution: 24-hour zones will alarm when you exit the programmer's mode. Alarm reports for these zones will be sent if they have been programmed. If you do not want these reports sent, disconnect power from the system now by unplugging the transformer and removing the red battery lead. Do not reconnect power until all zones have been installed and connected to the multiplex bus.

  - If no other zones have been pre-programmed, the display will show the following:

Mux Zone
Enter Zone

  - You may now exit the Zone Programmer's mode by pressing the [*/Reset] button for 2 seconds. This brings you back to the Programmer's Mode. To exit the Programmer's Mode, press the [*/Reset] button for 2 seconds.

  - If the zone is unsuccessfully programmed, the keypad will sound a three-beep error tone.

17.0 Troubleshooting Guide

17.1 Keypad Problems

Symptom	Probable Cause	Possible Solution
Entry Error: **Please Re-enter** will display on keypad. A three beep error tone will sound continuously.	a) Two or more keypads share the same address. b) The DS7430 or DS7433 is installed in the wrong pins.	a) Install keypad jumper properly in back of keypads. b) Be sure the DS7430 or DS7433 is installed properly.
Keypad displays **Not Programmed, See Instal Guide**, sounder is on and the keypad does not operate.	a) The keypad not addressed properly. b) The keypad is not programmed properly. c) Keypads 11-15 are not properly configured.	a) Install the keypad jumper properly in the back of the keypad. b) Check keypad programming addresses 0173-0180. c) Check keypad addresses 11-15. System will only see keypads on the options bus.
Keypad displays **Ready to arm, partition 1** when using only one partition. Keypad displays **System Fault**, sounder is on, and the keypad does not operate.	The keypad is programmed as a Master keypad. a) Keypad wiring error. b) Keypad(s) assigned to wrong or non-existent partition. c) The microprocessor isn't running.	Master keypads can only be used on multi-partition systems. Program the keypad as a standard keypad. a) Check wiring. b) Assign the keypad(s) to correct partition. If none of the keypads are correctly assigned, re-enable keypad 1 by shorting the program contacts in the lower right corner of the main panel board. This will force program mode and assign keypad 1 as alpha, non-master to partition 1. c) Disconnect battery and any aux. power load. If the microprocessor has shut down, aux. power will read approx. 11.5 VDC. If the EEProm chip has been field-replaced, power down AC and battery, and check for bent or mis-inserted pins; Otherwise, replace the panel.
Keypad alpha display is locked up, but the keys still function.	The keypad is enabled, but as an LED keypad.	Enter the program mode at the keypad and input the correct sequence to re-enable it as an alpha keypad. Care must be taken, since there will be no visual feedback to verify programming until the keypad is properly enabled.
Can't read back history with # 89 input.	a) Entering from Master keypad. b) Not using a PIN with test authority.	a) First enter Single Partition Mode. b) Use a PIN with test authority.
In history, the Read-back for the A, B, and C keys shows: A = Fire B = Emergency C = Panic But, the Central Station transmissions display B as Silent Panic and C as Audible Panic.	Formats display information regarding the B and C keys differently. In Contact ID: A = Fire B = Silent Panic C = Audible Panic In SIA: A = Fire B = Emergency C = Panic	Discrepancy exists in the definition of these keys in the two formats. Whatever the keys are programmed for in the panel, that is what will be sent.
Can not perform a zone test (#81).	a) Entering from a Master keypad. b) Not using a PIN with test authority.	a) Zone test is not available from a Master keypad. b) Use a PIN with test authority.

Keypad Problems (Continued)

Symptom	Probable Cause	Possible Solution
Chime Mode (#7) does not work when a zone is faulted.	a) Not activating for interior zones. b) The keypad is not assigned to the same partition as the zone being activated.	a) Chime mode only activates for perimeter zones - Chime mode must be programmed. Also, if the perimeter zone has trouble enabled (trouble on open), the chime won't work if that zone is opening. b) Chime mode will only activate the sounder on keypads that are assigned to the same partition as the zone.
Some functions won't work on a Master keypad.	Some functions require you to enter single partition mode when using a Master keypad.	The following commands require that you are in Single Partition Mode when entering from a Master keypad: • History read-back • Chime mode • Checking zone status • Checking zone trouble status (after #87 - Master keypad will show only partition name) • Bypassing zones

17.2 Reporting Problems

Symptom	Probable Cause	Possible Solution
Won't send open or close reports.	Not programmed correctly.	Check addresses: 0320, 0321, 0323, and 0187.
Reports for partitions 2-8 are being sent with partition 1's reporting ID.	The account codes for 2-8 are not programmed or are not programmed correctly.	Check addresses: 0496-0526.
Not getting AC power fail reports.	a) AC power fail messages are sent only with other reports, such as low battery. b) Check A/C report offset (0197). If 00, A/C report will work like above, if another number, A/C report will be delayed.	a) Try forcing another report to send when AC is not present. b) Wait until the delay times out or set to a lower number if desired.
Panel never transmits history to WD-SRP.	a) Not programmed to send history. b) Time and date not set.	a) Check programming. b) Verify that the time in the panel is set.
The communicator test report is not being sent.	a) Report not programmed properly. b) There was a control problem at the time the report should have been sent. If this is the case, the communicator test report will not be sent. Instead, the control will send the "System Off Normal" report.	a) Check programming addresses 1521, 1522, 1525, and 0329. b) Program "System Off Normal" report in address 0336.

17.3 Zone Problems

Symptom	Probable Cause	Possible Solution
Fire Alarm displays on keypad but no zone numbers are displayed.	In Commercial Fire Mode, fire alarms must be silenced before the zone number will display.	Enter a valid disarm PIN and press #, then enter a valid disarm PIN and press # again to display the zones.
Every other zone displays **Not Ready.**	Zone Programming is incorrect.	Program as a multiple zone input for DS7432 or DS7460, a single zone input for contacts and sensors, or program as a DS7465.

Zone Problems (Continued)

Symptom	Probable Cause	Possible Solution
Zones 9 and above show **Not Ready, Zone Trouble.**	a) The multiplex expansion module is not installed properly.	a) Make sure the multiplex expansion module is seated properly in the upper pins on the DS7400Xi circuit board.
	b) Multiplex wiring is missing or not installed properly.	b) Check wiring and perform a system reset.
	c) 8-Input remote module DIP switches are not set properly.	c) Correctly set the DIP switches for the 8-Input remote modules.
	d) 8-Input remote module covers are removed.	d) Replace covers or install the tamper bypass jumper.
	e) The BusLoc® code is set incorrectly or has not been programmed into modules.	e) BusLoc® can not be used with 8-Input remote modules. If using 8-Input modules, remove the BusLoc® code. **OR** If using two-input remote modules or the DS7465, be sure to use BusLoc® when programming. If not using BusLoc®, be sure to remove the BusLoc® code from address 9999.
	f) Zone Programming is incorrect.	f) Program as a multiple zone input for DS7432 or DS7460, a single zone input for contacts and sensors, or program as a DS7465.
	g) Multiplex module not programmed.	g) Program the module.
Invisible or silent zone activates alarm output.	The output is programmed as “latch on alarm” (0).	Program the output to follow zone alarms (6).
Keypad displays **Fire Trouble**, but does not indicate any zones.	A ground fault condition exists.	See system trouble: Ground fault.
Keypad displays **Not Ready,** but no zone number is displayed.	An invisible zone is not ready.	Press [PIN] + [OFF] to display the zone number of the invisible zone that is not ready.

17.4 General System Problems

Symptom	Probable Cause	Possible Solution
How to set the programming values to the factory default.	Enter a value of 01 in address 4058.	**Caution:** Only enter a value of 01 in address 4058 when you are sure you want to default the programming. Doing so will immediately erase all programming.
Power LED is flashing, keypad displays **Control Trouble Press #87.**	A control trouble exists.	Press #87 to determine the trouble condition.
#87 display = **Oct. Relay Fault** #89 display = **System Fault 20**	a) The octal relay module (DS7488) is defective or the wiring to the module is defective.	a) Check the wiring to the module.
	b) There is no DS7488 or a DS7488 has been removed from the system.	b) Enter, then exit programming mode. This will rescan the options bus and clear the problem.
#87 display = **Multiplex Bus Fault**	The Multiplex Bus is defective or shorted.	Check wiring for shorts.
Can’t reset to factory default.	Keypad programming access is set to PARTIAL from Remote programmer.	Change setting to FULL from the Remote programmer.

General System Problems (Continued)

Symptom	Probable Cause	Possible Solution
#87 display = **RAM Fault** #89 display = **System Fault 01** or #87 display = **ROM Fault** #89 display = **System Fault 02** or #87 display = **EEProm Fault** #89 display = **System Fault 03**		a) An EEProm fault can be caused by disconnecting power from the control while it is in program mode. In this case, enter then exit program mode to clear. b) Try to clear the error at the keypad by entering a PIN then Reset. c) Remove AC and battery power, then re-apply. Remember that event history will be lost and time/date will have to be re-set. d) If error persists, return the panel to factory default programming by setting program address 4058 to "01". If the error clears, re-program the panel. e) If error still persists, replace the panel.
#87 display = **Communicator Err** #89 display = **Report Failure X**	The control has failed to communicate.	Check history #89 to determine the source: Report Failure 1 = Phone number 1 Report Failure 2 = Phone number 2 Report Failure 3 = Phone number 3 (remote programmer) Report Failure 4 = ARDIS Network
#87 display = **2Ph/Bell Fault** #89 display = **System Fault 10**	a) The dual phone line/bell supervision module (DS7420i) is defective or the wiring to the module is defective. b) There is no DS7420i or a DS7420i has been removed from the system.	a) Check the wiring to the module. b) Enter, then exit programming mode. This will re-scan the options bus and clear the problem.
#87 display = **Line 1 Fault** #89 display = **System Fault 11**	There is a phone line fault on line 1.	Check phone line 1 for proper operation.
#87 display = **Line 2 Fault** #89 display = **System Fault 12**	There is a phone line fault on line 2.	Check phone line 2 for proper operation. If you wish to monitor only one phone line, reprogram address 1520.
#87 display = **Bell Fault** #89 display = **System Fault 13**	The bell circuit on the DS7420i is open or shorted.	Check the bell circuit wiring. Be sure that the end-of-line resistor is in place. If you don't wish to use the bell circuit, place an end-of-line resistor across the bell terminals.
#87 display = **Aux. Output Fault** #89 display = **System Fault 14**	The auxiliary circuit on the DS7420i is open or shorted.	Check the auxiliary circuit wiring. Be sure that the end-of-line resistor is in place. If you don't wish to use the auxiliary circuit, place an end-of-line resistor across the auxiliary terminals. If you wish to use the auxiliary circuit but do not wish to supervise it, cut the auxiliary supervision jumper on the DS7420i.
#87 display = **Aux Power Fault**	The auxiliary power output has been shorted.	Remove wiring from auxiliary power and check for shorts.
#87 display = **Keypad Fault**	a) The keypad wiring is defective. b) A keypad is missing. c) A keypad has been programmed, but is not intended in this system.	a) Check keypad operation and wiring. b) Install a keypad. c) Remove from programming (0173-0180).

General System Problems (Continued)

Symptom	Probable Cause	Possible Solution
#87 display = **Ground Fault** #89 display = **System Fault 04**	There is a short to ground somewhere in the system.	Disconnect field wiring from each terminal while watching the keypad display. When the keypad power LED stops flashing, you have found the wire that is causing the ground fault. **Note:** The LED will not stop flashing if there is another system fault present. If there is no keypad nearby, or another control problem exists, you can use a volt-meter to find the ground fault: 1) Connect the negative lead of a volt-meter to the panel ground terminal. 2) Connect the positive terminal to the Aux Power – terminal. You should read -4.5 to -7.5 Volts DC. A reading considerably higher or lower indicates a ground fault. Disconnect field wiring from each terminal while watching the meter. When the voltage reading returns to between -4.5 and -7.5 VDC, you have found the wire that is causing the ground fault.
#87 display = **AR IB Queue Full** #89 display = **System Fault 51**	The message queue in the RF modem is full and no messages can get out to the radio network.	Check RF coverage of the unit and check for RF noisy environment.
#87 display = **AR Host Down** #89 display = **System Fault 52**	The central station receiver has ceased to be available to the network.	Contract the central station and notify of status.
#87 display = **AR Unreg. Modem** #89 display = **System Fault 53**	The modem is not registered through all parts of the network.	Contact the network administrators or technical service.
#87 display = **AR Power Fail** #89 display = **System Fault 54**	There is a possible problem with the ARDIS Module unit.	Return for service.
#87 display = **AR Network Lost** #89 display = **System Fault 55**	The ARDIS Module has lost contact with the radio network.	Check the location and coverage of the unit.
#87 display = **AR Modem HW Err** #89 display = **System Fault 56**	There is a possible problem with the radio modem.	Replace the unit.
#87 display = **AR Modem SW Err** #89 display = **System Fault 57**	The ARDIS Module is having some trouble communicating with the radio modem.	Check for noisy environment and replace the unit if the problem continues.
#87 display = **AR Opt. Bus Err** #89 display = **System Fault 58**	The panel can no longer communicate with the ARDIS Module.	Check the wiring between the DS7400Xi and the ARDIS Module.
#87 display = **AR Corrupt MSG** #89 display = **System Fault 59**	The communication between the panel and the ARDIS Module is getting corrupted.	Check for noisy environment, and check the wiring between the DS7400Xi and the ARDIS Module.
Unable to arm the system.	a) Zone(s) faulted. b) If an AC failure exists, you must force arm.	a) Determine the cause of the problem and clear the indicated zone(s). b) Enter an arming sequence, then press the Bypass key during a 5 second beep.

General System Problems (Continued)

Symptom	Probable Cause	Possible Solution
#87 display = **Battery Trouble**	a) The battery failed a battery test.	a) If there has just been a power failure, wait at least two hours for the battery to recharge then perform a System Reset to re-test the battery and clear the error.
	b) The battery is defective.	b) Replace the battery.
	c) The wiring to the battery is disconnected.	c) Check wiring.
#87 display = **Zone Trouble**	a) A zone is not responding to the control panel.	a) Check wiring to the zone. **or** If the zone is not to be used, remove from programming.
	b) The zone is programmed for "Trouble on Open" and the loop is open.	b) If using Normally Closed contacts, re-program zone for alarm on open. **or** If using Normally Open contacts and trouble on open is desired, check for opens in the loop. Remove wiring and place an EOL resistor across the zone to eliminate a problem with the control. If the trouble goes away, the problem is in the wiring or in a contact connected to the zone.
	There is a power failure and the panel is operating on battery backup. If there is a general power failure, wait for the power to return. If there is not a general power failure in the building:	
#87 display = **AC Power Failure**	a) The transformer is unplugged.	a) Plug the transformer in.
	b) The wiring from the transformer is defective.	b) Check the wiring.
	c) The circuit to the transformer is off or defective.	c) Check the circuit and circuit breakers.
	d) The transformer is defective.	d) Replace the transformer.
	e) In some cases, the transformer may be connected to a circuit controlled by a switch or a circuit breaker that is periodically turned off.	e) Connect to a circuit that is not controlled this way.
Fire Alarm displays "000".	The Fire Alarm was caused by the "A" key.	Use the System Reset command to clear the display.
Fire Trouble, no zone number.	When in Commercial Fire Mode, a ground fault causes this display.	See #87 Ground Fault display for solution.
Fire Trouble _____ zone number.	Fire zone wiring problems.	If you try to disable the zone by reprogramming it, you need to reset the control by either entering then exiting programmer's mode, or removing then restoring power to the control panel.

18.0 Program Addresses

Address	Description
0000	General Control
0001	Zone Function 1
0002	Zone Function 2
0003	Zone Function 3
0004	Zone Function 4
0005	Zone Function 5
0006	Zone Function 6
0007	Zone Function 7
0008	Zone Function 8
0009	Zone Function 9
0010	Zone Function 10
0011	Zone Function 11
0012	Zone Function 12
0013	Zone Function 13
0014	Zone Function 14
0015	Zone Function 15
0016	Zone Bypass
0017	Zone Bypass
0018	Zone Number 1
0019	Zone Number 2
0020	Zone Number 3
0021	Zone Number 4
0022	Zone Number 5
0023	Zone Number 6
0024	Zone Number 7
0025	Zone Number 8
0026	Zone Number 9
0027	Zone Number 10
0028	Zone Number 11
0029	Zone Number 12
0030	Zone Number 13
0031	Zone Number 14
0032	Zone Number 15
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0034	Zone Number 17
0035	Zone Number 18
0036	Zone Number 19
0037	Zone Number 20
0038	Zone Number 21
0039	Zone Number 22
0040	Zone Number 23
0041	Zone Number 24
0042	Zone Number 25
0043	Zone Number 26
0044	Zone Number 27
0045	Zone Number 28
0046	Zone Number 29
0047	Zone Number 30
0048	Zone Number 31
0049	Zone Number 32
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0051	Zone Number 34
0052	Zone Number 35
0053	Zone Number 36
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0060	Zone Number 43
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0063	Zone Number 46
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0081	Zone Number 64
0082	Zone Number 65
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0085	Zone Number 68
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0089	Zone Number 72
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0091	Zone Number 74
0092	Zone Number 75
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0111	Zone Number 94
0112	Zone Number 95
0113	Zone Number 96
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0116	Zone Number 99
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1281	Zone 67 & 68 Part. Assign.
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1283	Zone 71 & 72 Part. Assign.
1284	Zone 73 & 74 Part. Assign.
1285	Zone 75 & 76 Part. Assign.
1286	Zone 77 & 78 Part. Assign.
1287	Zone 79 & 80 Part. Assign.
1288	Zone 81 & 82 Part. Assign.
1289	Zone 83 & 84 Part. Assign.
1290	Zone 85 & 86 Part. Assign.
1291	Zone 87 & 88 Part. Assign.
1292	Zone 89 & 90 Part. Assign.
1293	Zone 91 & 92 Part. Assign.
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1296	Zone 97 & 98 Part. Assign.
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1300	Zone 105 & 106 Part. Assign.
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1542	Alpha for Partition 2
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1590	Alpha for Partition 5
1606	Alpha for Partition 6
1622	Alpha for Partition 7
1638	Alpha for Partition 8
1654	Alpha for Zone Number 1
1670	Alpha for Zone Number 2
1686	Alpha for Zone Number 3
1702	Alpha for Zone Number 4
1718	Alpha for Zone Number 5
1734	Alpha for Zone Number 6
1750	Alpha for Zone Number 7
1766	Alpha for Zone Number 8
1782	Alpha for Zone Number 9
1798	Alpha for Zone Number 10
1814	Alpha for Zone Number 11
1830	Alpha for Zone Number 12
1846	Alpha for Zone Number 13
1862	Alpha for Zone Number 14
1878	Alpha for Zone Number 15
1894	Alpha for Zone Number 16
1910	Alpha for Zone Number 17
1926	Alpha for Zone Number 18
1942	Alpha for Zone Number 19
1958	Alpha for Zone Number 20
1974	Alpha for Zone Number 21
1990	Alpha for Zone Number 22
2006	Alpha for Zone Number 23
2022	Alpha for Zone Number 24
2038	Alpha for Zone Number 25
2054	Alpha for Zone Number 26
2070	Alpha for Zone Number 27
2086	Alpha for Zone Number 28
2102	Alpha for Zone Number 29
2118	Alpha for Zone Number 30
2134	Alpha for Zone Number 31
2150	Alpha for Zone Number 32
2166	Alpha for Zone Number 33
2182	Alpha for Zone Number 34
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2214	Alpha for Zone Number 36
2230	Alpha for Zone Number 37
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2262	Alpha for Zone Number 39
2278	Alpha for Zone Number 40
2294	Alpha for Zone Number 41
2310	Alpha for Zone Number 42
2326	Alpha for Zone Number 43
2342	Alpha for Zone Number 44
2358	Alpha for Zone Number 45
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2390	Alpha for Zone Number 47
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2438	Alpha for Zone Number 50
2454	Alpha for Zone Number 51
2470	Alpha for Zone Number 52
2486	Alpha for Zone Number 53
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2518	Alpha for Zone Number 55
2534	Alpha for Zone Number 56
2550	Alpha for Zone Number 57
2566	Alpha for Zone Number 58
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2598	Alpha for Zone Number 60
2614	Alpha for Zone Number 61
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2694	Alpha for Zone Number 66
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2966	Alpha for Zone Number 83
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2998	Alpha for Zone Number 85
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3078	Alpha for Zone Number 90
3094	Alpha for Zone Number 91
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3126	Alpha for Zone Number 93
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3158	Alpha for Zone Number 95
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3190	Alpha for Zone Number 97
3206	Alpha for Zone Number 98
3222	Alpha for Zone Number 99
3238	Alpha for Zone Number 100
3254	Alpha for Zone Number 101
3270	Alpha for Zone Number 102
3286	Alpha for Zone Number 103
3302	Alpha for Zone Number 104
3318	Alpha for Zone Number 105
3334	Alpha for Zone Number 106
3350	Alpha for Zone Number 107
3366	Alpha for Zone Number 108
3382	Alpha for Zone Number 109
3398	Alpha for Zone Number 110
3414	Alpha for Zone Number 111
3430	Alpha for Zone Number 112
3446	Alpha for Zone Number 113
3462	Alpha for Zone Number 114
3478	Alpha for Zone Number 115
3494	Alpha for Zone Number 116
3510	Alpha for Zone Number 117
3526	Alpha for Zone Number 118
3542	Alpha for Zone Number 119
3558	Alpha for Zone Number 120
3574	Alpha for Zone Number 121
3590	Alpha for Zone Number 122
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3638	Alpha for Zone Number 125
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3670	Alpha for Zone Number 127
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3725	Octal Relay Partition Assign.
3726	Octal Relay Partition Assign.
3727	Octal Relay Partition Assign.
3728	Octal Relay Partition Assign.
3729	Octal Relay Partition Assign.
3730	Octal Relay Partition Assign.
3731	Octal Relay Partition Assign.
3732	Octal Relay Partition Assign.
3733	Output Func. Part. Assign.
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3735	Output Func. Part. Assign.
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PRODUCT UPDATE

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CONCERNS: U.L.C. Commercial Fire Applications

AFFECTS: DS7400Xi Control Panel

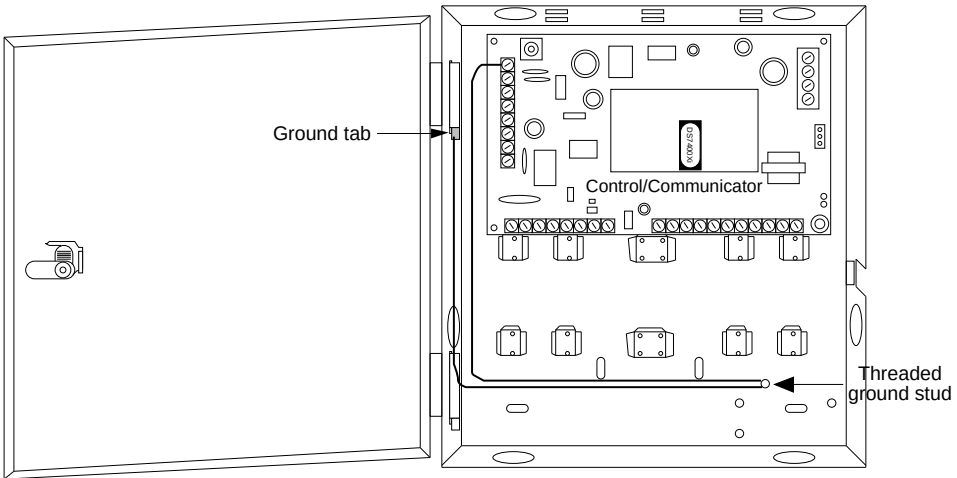
DATED: February 16, 1996

DS7400Xi Reference Guide Addendum

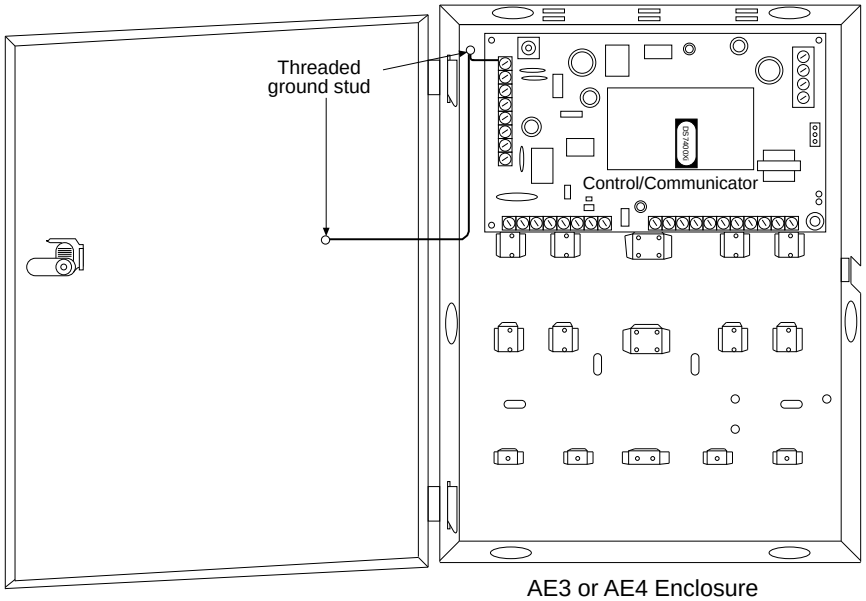
For DS7400Xi Underwriters Laboratories of Canada (U.L.C.) Commercial Fire Applications, the following two modifications are required:

1. Do not use the enclosed transformer, instead use a CSA approved Class 2 transformer that is approved for fire monitoring station applications, such as the Basler S19591-0028.

2. Connect the earth ground terminal of the DS7400Xi control panel and the door and to the threaded ground stud on the base of the enclosure, as shown below. Also connect the earth ground of the transformer to the threaded ground stud on the base of the enclosure.



AE1 or AE2 Enclosure



AE3 or AE4 Enclosure

Installation Instructions for the DS7420i Dual Phone Line/Bell Supervision Module

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1.0 Description

The DS7420i is an accessory board designed for use with the DS7400Xi control/communicator. It allows the control to be used in NFPA 72 installations. The DS7420i provides two supervised 12 VDC signaling outputs, one Class A (Style D) input zone, and dual phone line transmission and supervision.

- System is Power Limited except for battery terminals. All wiring entering this enclosure must be power limited.
- FCC registration number: ESVUSA-20294-KX-N
- DOC number: 1249 5895 A

2.0 Specifications

- **Auxiliary Power Requirements:** Supervisory: 12 VDC, nominal, 20 mA. Alarm: 140 mA.
- **Indicating Appliance Circuit (Bell Output):** 12 VDC, special application supervised output supplies up to 1.75 A for vibrating bells.
- **Auxiliary Output Circuit:** 12 VDC, special application supervised output latches on alarm and resets upon system reset. It is intended for strobes/indicating appliances and supplies up to 1.0 A.
- **Initiating Device Circuit (terminals 13-16):** The Class "A" loop is intended for connection of Normally Open (closed on alarm) dry contact initiating devices such as waterflow switches.

  The Class "A" loop will not support loop powered devices such as two-wire smoke detectors.
- **Maximum Loop Resistance:** Class "A" loop tolerates a maximum loop resistance of 150 ohms total.
- **Operating Temperature:** +32° to +120°F (0° to +49°C)
- **Ringer Equivalence Number (REN)** = 0.1B

3.0 Installation

The DS7420i should be mounted within a DS7400Xi enclosure. For programming information, see the DS7400Xi Reference Guide.

NOTE: The DS7400Xi control must be installed in accordance with NFPA 72 guidelines.

3.1 Hardware Installation

- Disconnect power from the control. Unplug the transformer and remove the red battery lead.

NOTE: For Commercial Fire applications, the TR1850 transformer (Basler Electric BE116250CAA) must be enclosed in the AE-TR16 Transformer Enclosure. The wiring from the AE-TR16 to the control and the wiring to the outlet box in conduit must also be enclosed in the Detection System's AE-TR16.

- Mount the DS7420i Module in the enclosure as shown on page 4. Use the supplied mounting clips and screws.

3.2 Internal Wiring

- Connect internal wiring as shown on page 4.

  - Connect the options bus of the DS7420i (terminals 1-4) to the options bus of the control.

  - Connect the battery input (terminals 5 and 6) to the control battery using the dual battery clips provided.

  - Connect the control line phone input (terminals 21-24) to the phone line output (13-16) of the DS7400Xi.

  - If using the Class "A" zone, connect the zone input terminals (11 and 12) to the zone 1 input (19 and 20) of the control.

Note: The DS7420i is fixed as address 15 on the control options bus. If you are using a DS7400Xi Rev. 3 control/communicator, keypad 15 will not be available for system use. See your DS7400Xi Reference Guide.

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4.0 Operation

4.1 Normal Condition

Under normal conditions, the keypad Power and Status Lights will be on steady.

4.2 Fire Alarm

During a fire alarm, the alarm sounding devices and the keypad sounders will be activated. The keypad display will read “Fire Alarm.”

- **To silence the fire alarm sounders:**

  Enter a valid PIN followed by the [Off] key. "Fire Alarm" and “Sounder Silenced” will then be displayed.

- **To reset the system:**

  Determine the cause of the alarm. Then enter a valid PIN followed by [System Reset]. This command clears the "Fire Alarm" and “Sounder Silenced” displays.

NOTE: The control must be reset after a fire alarm or future alarms will not be detected.

4.3 Fire Trouble

During a fire trouble (e.g. open on a Class A loop, open on any fire loop), the keypad sounders will pulse once every 10 seconds. The keypad display will read “Fire Trouble” with a zone number. A fire trouble with no zone number indicates a ground fault.

- **To silence the sounders:**

  Enter a valid PIN followed by the [Off] key.
  If the cause for the Trouble condition has been eliminated, the sounders will silence and the “Fire Trouble” display will be cleared.

  If the cause for the Trouble condition has not been eliminated, the sounders will silence, but the "Fire Trouble" display will not be cleared. The keypad will also display the zone that is in the Trouble condition.

- **To clear the display:**

  Eliminate the cause of the Trouble condition. Then enter a valid PIN followed by the [Off] key.

4.4 Supervisory Signal

During a Supervisory Signal (e.g. wiring to supervisory zone has been shorted), the keypad sounders will pulse once every 10 seconds. The keypad display will read “Supervisory” with a zone number.

- **To silence the sounders:**

  Enter a valid PIN followed by the [Off] key.
  If the cause for the Supervisory condition has been eliminated, the sounders will silence and the “Supervisory” display will be cleared.

  If the cause for the Supervisory condition has not been eliminated, the sounders will silence, but the “Supervisory” display will not be cleared.

- **To clear the display:**

  Eliminate the cause of the Supervisory condition. Then enter a valid PIN followed by the [Off] key.

4.5 Control Trouble

During a Control Trouble, the Power Light will be flashing and the keypad sounders will pulse every ten seconds. The keypad display will read “Control Trouble/Press #87.”

A Control Trouble can be caused by several conditions.

- **To silence a Control Trouble:**

  Enter a valid PIN followed by the [Off] key.

- **To determine the cause of the Control Trouble:**

  Enter a valid PIN followed by [#] [8] [7]. One of the following will be displayed:

- **AC Failure:** AC power has been lost or has gone below the “Brown Out” level. The Power Light will continue to flash until AC power has been restored. If AC power restores while the Trouble condition has been silenced, the sounders will begin to pulse again.

- **Low Battery:** The battery voltage has dropped below 12 VDC or the battery is missing. The Low Battery condition may be cleared, but will return if the battery fails the next battery test. After clearing a Low Battery condition, the battery should immediately be tested as described in the “Testing Procedure” section below. If the battery restores while the Trouble condition has been silenced, the sounders will begin to pulse again.

- **Bell Trouble:** The bell circuit wiring is open or shorted. The keypad sounders will pulse once every 10 seconds (if in Commercial Fire Mode). The keypad display will read “2Ph/Bell Fault.”

  To silence the sounders, enter a valid PIN followed by the [Off] key. If the cause for the Trouble condition has been eliminated, the sounders will silence and the “2Ph/Bell Fault” display will be cleared.

  If the cause for the Trouble condition has not been eliminated, the sounders will silence, but the “2Ph/Bell Fault” display will not be cleared.

- **To clear a Control Trouble:**

  Eliminate the cause of the Trouble condition. Then enter a valid PIN followed by [System Reset].

4.6 Testing Procedure:

The sounders should be tested (at least weekly) using the keypad activated Sounder Test.

The Sounder Test is activated by entering a PIN followed by [#] [8] [5]. This test activates the sounders using power from the battery, thereby, testing the battery. If the battery is defective, the system will go into a Control Trouble condition. The system sirens and keypad sounders will activate for two seconds.

5.0 FCC Compliance Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

6.0 FCC Phone Connection Notice To Users

This control complies with Part 68 of the FCC rules.
On the top of the PCB is a label that contains, among other information, the FCC Registration Number and the Ringer Equivalence Number (REN) for this equipment. You must, upon request, provide this information to your local telephone company. The REN is useful to determine the quantity of devices that you may connect to your telephone line and still have all of those devices ring when your telephone number is called. In most, but not all areas, the sum of the REN's of all devices connected to one line should not exceed five (5.0). To be certain of the number of devices that you may connect to your line, you may want to contact your local telephone company to determine the maximum REN for your local calling area.

This equipment may not be used on coin service provided by the telephone company. This control should not be connected to party lines.

Should this equipment cause harm to the telephone network, the telephone company may discontinue your service temporarily. If possible, they will notify you in advance. But if advanced notice isn't practical, you will be notified as soon as possible. You will be informed of your right to file a complaint with the FCC. The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the proper functioning of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.

If you experience trouble with this equipment, please contact the manufacturer for information on obtaining service or repairs.
The telephone company may ask that you disconnect this equipment from the network until the problem has been corrected or until you are sure that the equipment is not malfunctioning. The repairs to this equipment must be made by manufacturer and not by the user.

To guard against accidental disconnection, there is ample room to mount the Telco jack to the inside of the Control cabinet.

The operation of this Control may also be affected if events such as accidents or acts of God cause an interruption in telephone service.

7.0 Canadian Department of Communications

General Installation Requirements:

Notice: The Canadian Department of Communications label identifies certified equipment. This certification means that the equipment meets certain telecommunications network, protective, operational, and safety requirements. The Department does not guarantee the equipment will operate to the user's satisfaction. Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring associated with a single line individual service may be extended by means of a certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment. Users should ensure, for their own protection, that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Caution: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

Terminal Requirements:

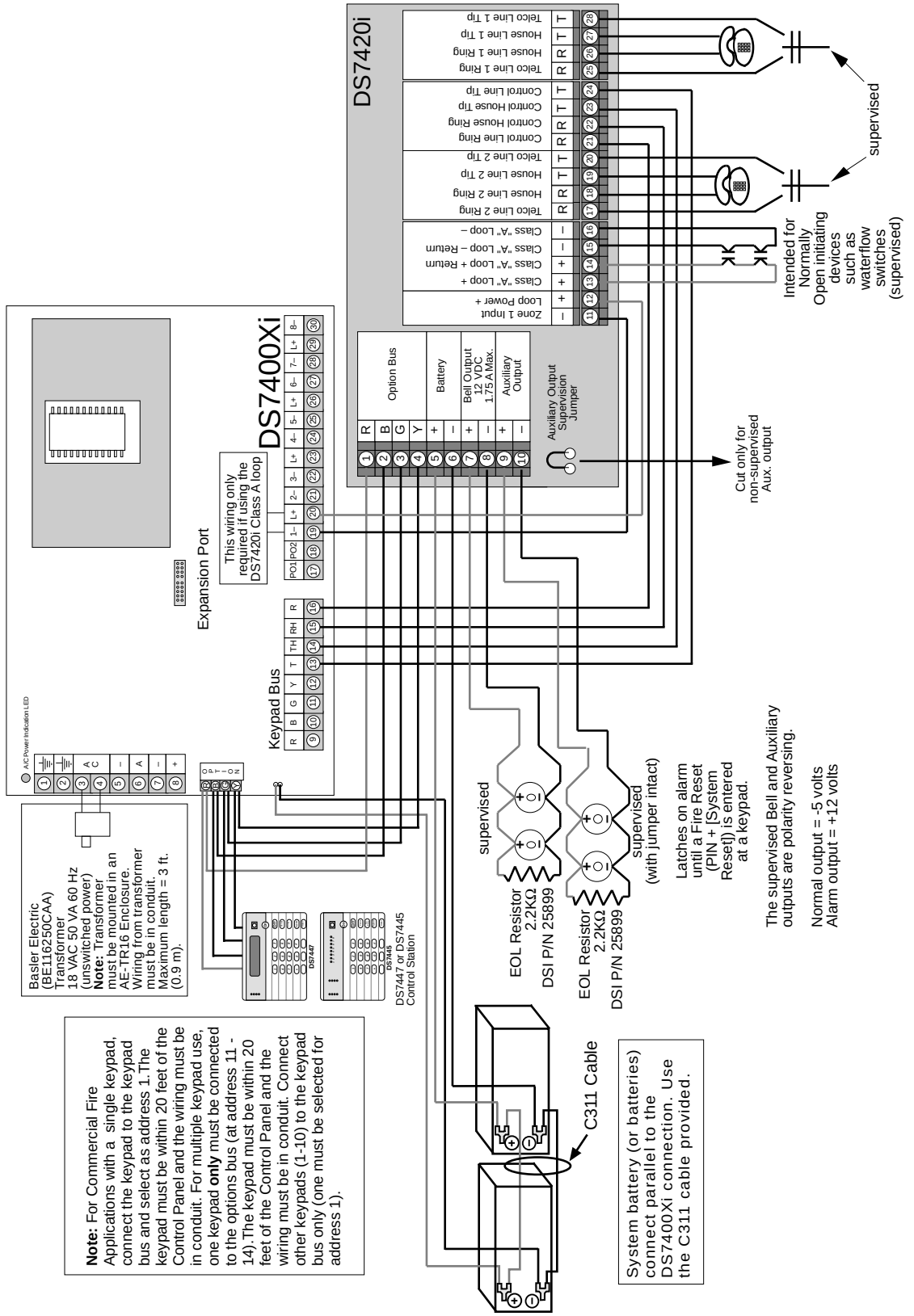
The Load Number (LN) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop which is used by the device, to prevent overloading. The termination on a loop may consist of any combination of devices subject only to the requirement that the total of the Load Numbers of all the devices does not exceed 100. The Load Number of the DS7420i is 2.

RFI Requirements:

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

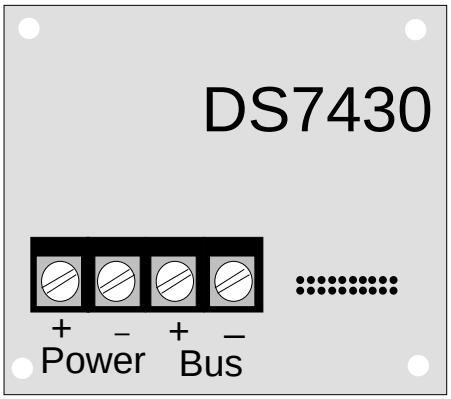
[Cet appareil numerique de la classe A respecte toutes les exigences du Reglement sur le material broilleur du Canada.]

8.0 DS7420i Wiring Diagram



- All input and output connections are inherently low voltage, power limited. Use U.L. Listed power limited cable only.
- This equipment is to be installed in accordance with NFPA Standard 72.
- The control panel compatibilty identifier is C.

Installation Instructions for the DS7430 Multiplex Expansion Module



1.0 General Information

The DS7430 is a Multiplex Expansion Module for use with the DS7400(Xi) Series Control/Communicator. It connects directly to the DS7400(Xi) and provides a two wire multiplex bus for the connection of up to 120 remote points.

- Current Draw: 65 mA-H Standby or Alarm.
- Outputs: DC Bus= 200 mA
  Mux Bus= 75 mA

2.0 Installation

Warning: Failure to follow the mounting instructions in this manual may result in damage to the DS7400(Xi) Control Panel.

Caution: The DS7430 and DS7400(Xi) contain static sensitive components and must be handled with care. Follow anti-static procedures when handling the modules.

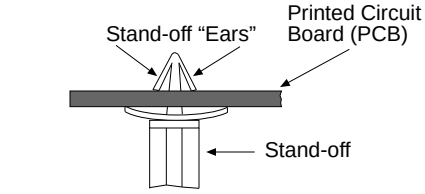
- Install the DS7430 board prior to installing the DS7400(Xi) board into the control enclosure. If the DS7400(Xi) board is already installed in the control enclosure, remove the 7400(Xi) board at this time.

- Place the DS7400(Xi) board on a flat surface with the component side of the board facing up.

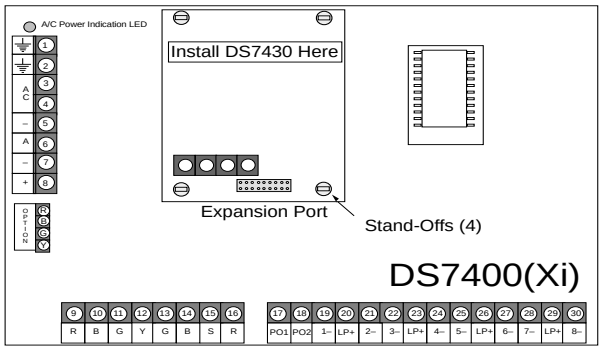
- Install the four plastic standoffs in the holes provided in the DS7400(Xi) board. Avoid bending or flexing the DS7400(Xi) board when inserting the standoffs. Be sure the standoff tabs are aligned so that they do not touch any components on the module. Be sure that the stand-offs are firmly pressed into the board so that the "ears" can expand out. See drawings.

- Install the DS7430 board onto the standoffs, noting that the connector pins from the DS7400(Xi) are properly aligned to install into the connector on the DS7430. Avoid bending or flexing the boards while pressing them onto the standoffs.

- The DS7400(Xi) control board may be installed into the control panel enclosure at this time.



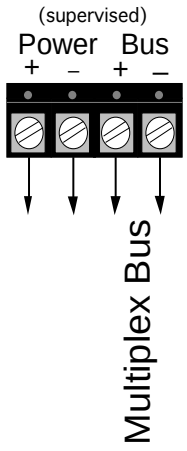
Be sure that the Stand-off is pressed firmly through the Printed Circuit Board, so that the Stand-off ears can expand outward.



3.0 Wiring

Connect the multiplex loop to the DS7430 as shown. Up to 2000 feet (610 m) of #22 AWG (0.8 mm) or 5000 feet (1525 m) of #18 AWG (1.0 mm) wire may be used.

The Bus Power output is for connection of separately powered multiplex devices such as the DS7432 8 Input Remote Module. If using separate powered detectors, they should be powered from the auxiliary power terminals of the DS7400(Xi). The DS7432 may also be powered from the auxiliary terminals.



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Installation Instructions for the DS7432 8 Input Remote Module

1.0 General Information

The DS7432 is an 8-Input Remote Module for use with the DS7400, X, Xi and Xi Rev. 3 series of Control/Communicators. It provides a means of addressing up to eight input loops of conventional contacts to the multiplex bus of the control. Up to seven DS7432s can be used per DS7400 system. Up to 15 DS7432 modules are allowed on DS7400X, Xi and Xi Rev. 3. The recommended wiring to the control is standard #18 or #22 AWG, non-shielded quad (4-wire) cable. One DS7430 Mux Module is required in the system to use the DS7432 Remote Module.

- Current Draw: 10 mA Standby, 10 mA Alarm.
- Multiplex bus wiring requirements: #22 AWG (0.8 mm) up to 2000 ft. (600m) per system, #18 AWG (1.0 mm) up to 5000 ft. (1500m) per system.

2.0 Mounting/Wiring

- P3 of the DS7432 is for European application only. Do not put a jumper here.
- P2 of the DS7432 allows the tamper switch to be bypassed with a jumper when testing or servicing.

NOTE: Remove jumper P2 when testing or servicing is completed.

- Use the mounting holes (upper left and lower right corners) to mount. It can be mounted inside or outside of the control enclosure.
- Route wiring as necessary from the DS7430 in the control enclosure and from the remote devices to the DS7432.

Note: Be sure all wiring is unpowered before routing.

- If the wiring is to enter through the rear of the enclosure, open the DS7432's rear wire entrance OR if the wiring is to run along the surface of the enclosure, open the DS7432's surface wire entrance. See Figure B.
- Connect wiring as shown in figure D, page 2.

NOTE: If using separate powered detectors, the DS7432 can be powered from the control panel Aux. power (terminals 7 and 8). The detector power can be connected to the DS7432 (see figure E). This eliminates the need for home-run power wiring from each detector to the control when the DS7432 is mounted outside of the enclosure.

3.0 DS7400 Series Programming

- Refer to the Zone Assignment Programming section of the DS7400(Xi) Series Reference Guide for Zone programming information.

4.0 Dip Switch Settings

- The dip switches select which zones will be activated by the loop inputs. Set the dip switches as shown in figure A.
  - No two DS7432s should be set the same.
  - The DS7432 occupies 8 zones when connected to the DS7400(Xi) series. The input loops of the DS7432 correspond to the zones of the control as shown in figure C.

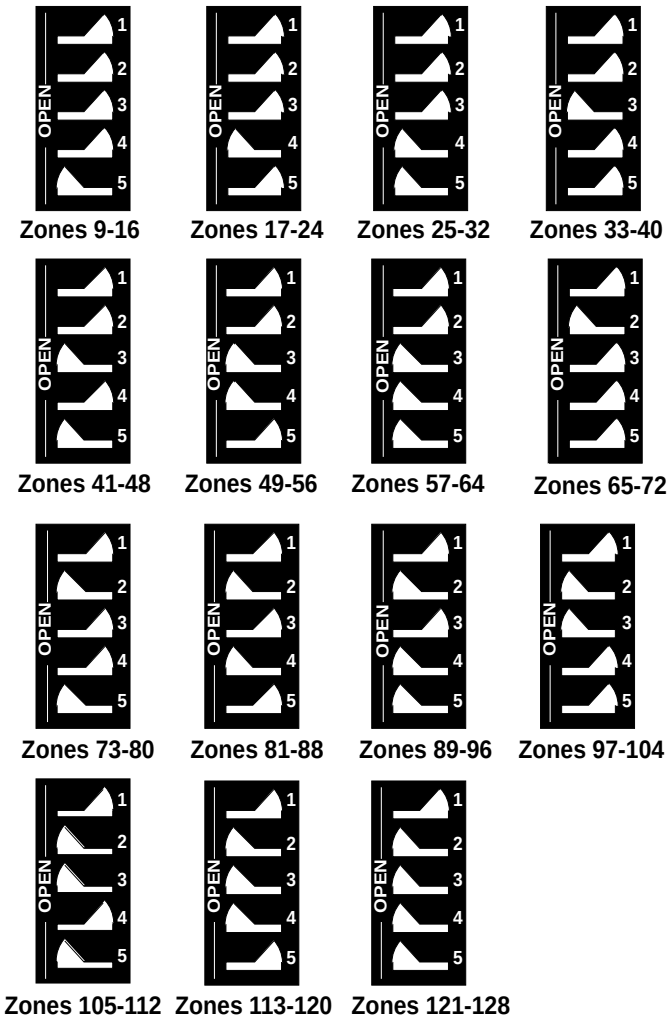

Figure A-Dip Switch Settings

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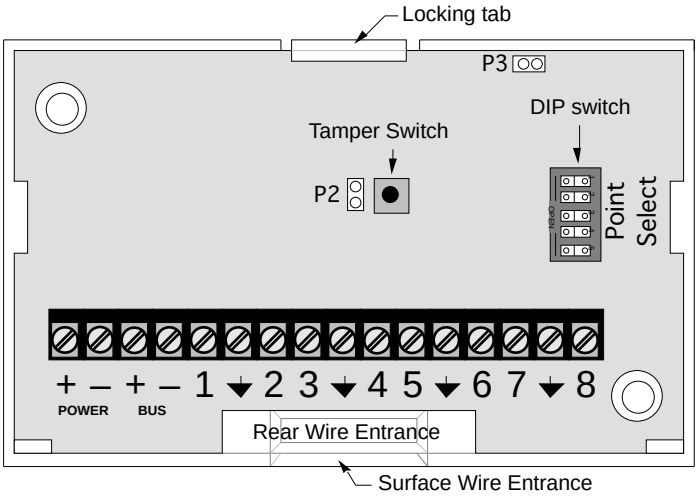


Figure B - DS7432 Front view with cover off

	Zone Number							
DS7432 Input Loop →	1	2	3	4	5	6	7	8
Zones 9-16	9	10	11	12	13	14	15	16
Zones 17-24	17	18	19	20	21	22	23	24
Zones 25-32	25	26	27	28	29	30	31	32
Zones 33-40	33	34	35	36	37	38	39	40
Zones 41-48	41	42	43	44	45	46	47	48
Zones 49-56	49	50	51	52	53	54	55	56
Zones 57-64	57	58	59	60	61	62	63	64
Zones 65-72	65	66	67	68	69	70	71	72
Zones 73-80	73	74	75	76	77	78	79	80
Zones 81-88	81	82	83	84	85	86	87	88
Zones 89-96	89	90	91	92	93	94	95	96
Zones 97-104	97	98	99	100	101	102	103	104
Zones 105-112	105	106	107	108	109	110	111	112
Zones 113-120	113	114	115	116	117	118	119	120
Zones 121-128	121	122	123	124	125	126	127	128

Figure C - Loop/Zone number relationship

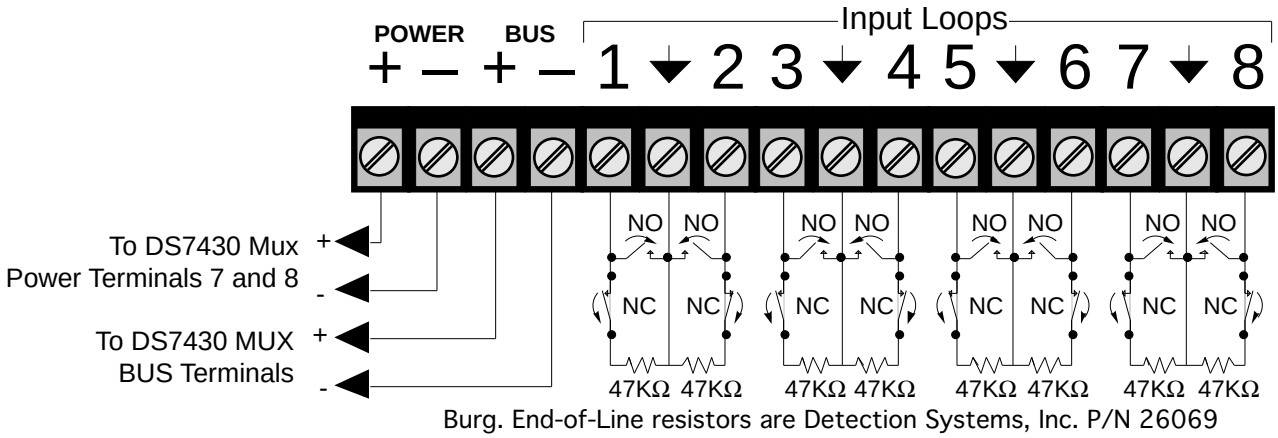


Figure D - DS7432 Wiring Diagram
For fire installations, order Multiplex Fire Loop EOL P/N 28010

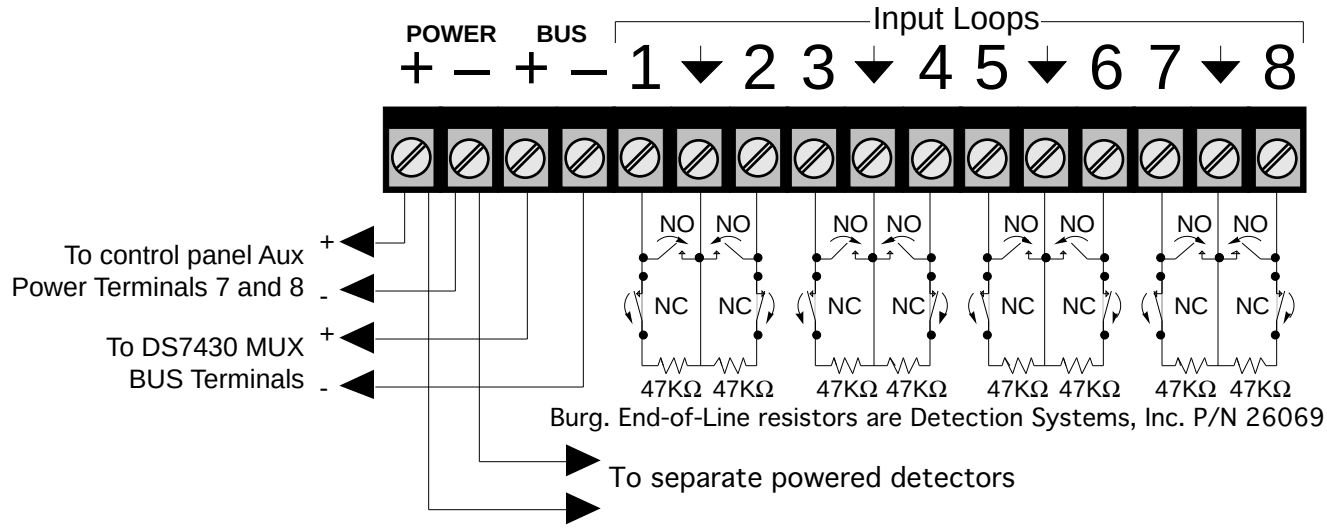


Figure E - DS7432 Wiring Diagram when using separate powered detectors

Installation Instructions for the DS7433 8 Input Module

1.0 General Information

The DS7433 is an 8 input Module for use with the DS7400(Xi) Series Control/Communicator. It connects directly to the DS7400(Xi) and is designed to expand it to 16 hard wired points. One DS7433 may be used per DS7400(Xi) system.

- Current Draw: 65 mA-H Standby. 80 mA-H with one point in alarm. Add 15 mA-H per additional point in alarm.
- Maximum Loop Impedance: 60 ohms.
- End Of Line Resistor: 2.21 K ohm.

2.0 Installation

Warning: Failure to follow the mounting instructions in this manual may result in damage to the DS7400(Xi) Control Panel.

Caution: The DS7433 and DS7400(Xi) contain static sensitive components and must be handled with care. Follow anti-static procedures when handling the boards.

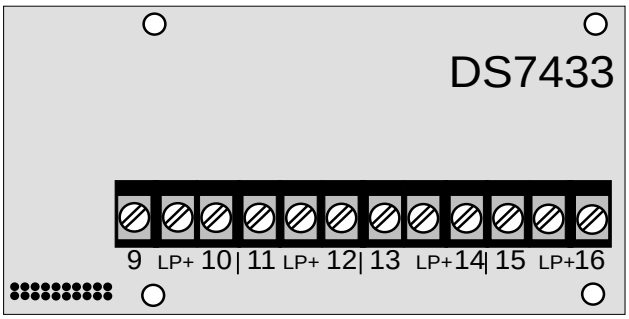
- Install the DS7433 board prior to installing the DS7400(Xi) board into the control enclosure. If the DS7400(Xi) board is already installed in the control panel enclosure, remove the 7400(Xi) board this time.
- Place the DS7400(Xi) board on a flat surface with the component side of the module facing up.
- Install the four plastic standoffs in the holes provided in the DS7400(Xi) module. Avoid bending or flexing the DS7400(Xi) board when inserting the standoffs. Be sure the standoff tabs are aligned so that they do not touch any components on the module. Be sure that the stand-offs are firmly pressed into the board so that the “ears” can expand out. See drawings.
- Install the DS7433 board onto the standoffs, noting that the connector pins from the DS7400(Xi) are properly aligned to install into the connector on the DS7433. Avoid bending or flexing the boards while pressing them onto the standoffs.
- The DS7400(Xi) control board may be installed into the control panel enclosure at this time.

3.0 Wiring

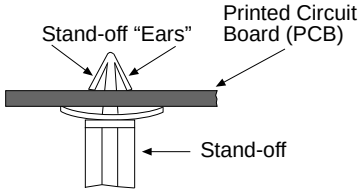
Points 9-16 are intended for the connection of normally open or normally closed alarm contacts. These points may also be used with compatible 2 wire smoke detectors.

4.0 Programming

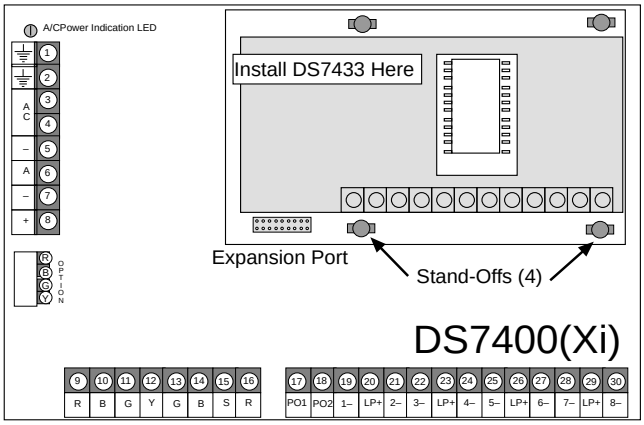
Refer to your control panel Installation Guide for programming information.



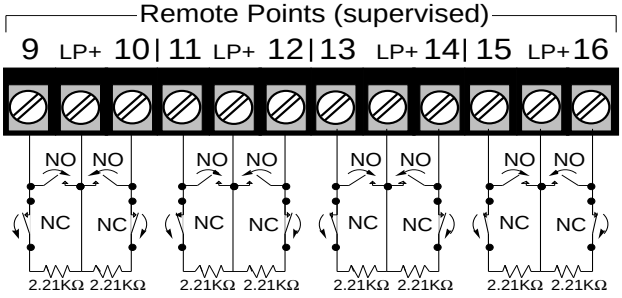
DS7433 Front View



Be sure that the Stand-off is pressed firmly through the Printed Circuit Board, so that the Stand-off ears can expand outward.



Installing the DS7433 on the DS7400(Xi)



DS7433 Wiring

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Installation Instructions for the DS7445 and DS7447 Control Stations

General Information

The DS7447 is a 4-wire Alpha-Numeric LCD keypad. The DS7445 is a 4-wire LED keypad. Both keypads may be used with the DS7460, DS7080i and DS7400Xi series of control/communicators and both support all system functions, including programming. The DS7447 is recommended for programming as visual confirmation is given for each programming entry.

Note: When used with the DS7400Xi, the DS7445 LEDs 1-8 represent the 8 hard-wired zones on the DS7400Xi control panels.

The keypads may be surface mounted, or mounted to standard single or double gang boxes, or 4 inch square boxes.

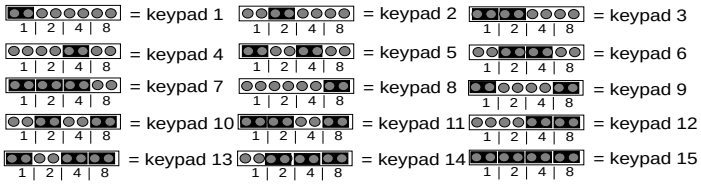
The following is a chart of general wiring guidelines:

Wire Gauge	22 AWG (0.8 mm) minimum
Wire Type	no shield, 4-wire
Max. number of Keypads allowed per System	DS7060, DS7080i = 4 Max. DS7400,X,Xi Ver. 1 & 2 = 8 Max. DS7400Xi Ver. 3+ =15 Max.
Max. distance allowed between the Control and each Keypad	1,000 feet
Max. distance of Keypad Wiring per System	6,000 feet- DS7400 Series 4,000 feet- DS7060, DS7080i

Keypad Addresses

Note: Each keypad must have its address set with its address pins. The keypads must also be programmed at the control panel.

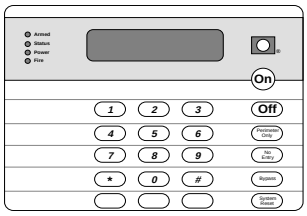
- Select the keypad address (1-15).
  - Place the shorting jumpers over the address pins as shown below:



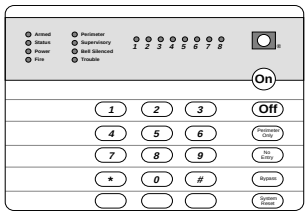
- Each keypad must have a different address.

Location

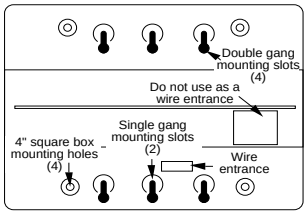
Ideally, one keypad should be located close to the primary entry/exit door of the premises, and must be within 1,000 feet of the control panel. Do not mount outdoors (see page 2 for Commercial Fire restrictions).



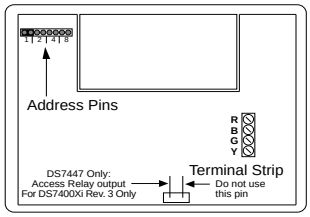
DS7447



DS7445



Keypad Base



Rear View of PCB

Mounting

The keypad should be mounted no higher than shoulder height of the shortest person using the system.

- Remove the keypad's cover.
  Insert a small flat-head screwdriver in each slot at the bottom of the base. Press up, and pull the cover off.

- Surface Mounting:
  - Use the base as a template and mark the location of the mounting holes (use any holes).
  - Provide an opening in the mounting surface for the wiring.
  - Pre-start the mounting screws.
  - Do not secure the base at this point.

- Electrical Box Mounting:
  - See the diagram above to select the mounting holes.
  - Do not secure the base at this point.

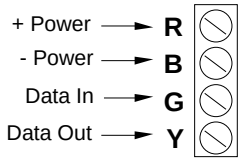
Wiring

Caution: Be sure all wiring is unpowered before routing. Keypad wiring can not be shared with multiplex, options bus, telephone, or siren wiring.

- Route wiring from the control panel to the keypads.

Note: Up to 2 keypads may be placed along any single 1,000 foot run of 22 AWG (.8 mm) wire. Three keypads may be used on any single 1,000 foot run of 18 AWG (1 mm) wire.

- Bring the wiring through the Wire Entrance in the keypad's base.



- Secure the base.

- Connect the wiring to the keypad's terminal strip.

- Place the keypad cover onto the base.
  - While feeding the excess wiring out of the rear of the base, press the cover straight in until it latches on.

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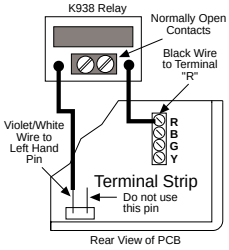
Access Relay Option (DS7400Xi Rev. 3 Only)

Note: The K938 Access Relay does not fit inside the keypad case. It is recommended that a non-metallic electrical box be mounted behind the keypad for the relay.

- Run the two wires from the K938 through the rear cover wiring opening on the keypad. Wire as shown.



Note: The Access Relay Option pin on the keypad can current sink 12 volts at 6 mA for other types of relays.

Volume Control

The keypad sounder volume can be adjusted using the [1] and [4] keys along with the [*] key.

- Hold the [*] key while pressing the [1] key to increase the volume.
- Hold the [*] key while pressing the [4] key to decrease the volume.

Note: This only affects the keypad sounder. It will NOT affect the alarm sounders/bells.

LCD Backlight Control (DS7447 only)

- Hold the [*] key while pressing the [3] key to increase the brightness.
- Hold the [*] key while pressing the [6] key to decrease the brightness.

Note: After the Keypad Sounder Volume or Backlight has been adjusted, you must arm then disarm the system once to store this information in the control panel. If power is disconnected before you arm the system, the settings will be lost.

Special Emergency Key Labeling
(***Do NOT label if unprogrammed)***

If labeling, the unmarked key in the lower left corner of the keypad MUST be labeled as the FIRE key because of its programming values pre-set in the control panel. The unmarked center key should be labeled as the Special Emergency key. The unmarked right key should be labeled as the Panic key.

- See the graphics below:

Fire | Special Emergency | Panic

Commercial Fire Applications (DS7400Xi Controls Only)

- Single Keypad Use in Commercial Fire Systems.
  The keypad must be used on the keypad bus and mounted to the front of the control enclosure OR if within the same room as the control equipment, with the wire run in conduit (or equivalently protected against mechanical injury) within 20 feet of the control equipment. The keypad must be assigned as keypad address 1.
- Multiple Keypad Use in Commercial Fire Systems.

  One keypad only must be used on the options bus and assigned as keypad address 11-14. The keypad must be mounted to the front of the control enclosure OR if within the same room as the control equipment, with the wire run in conduit (or equivalently protected against mechanical injury) within 20 feet of the control equipment.

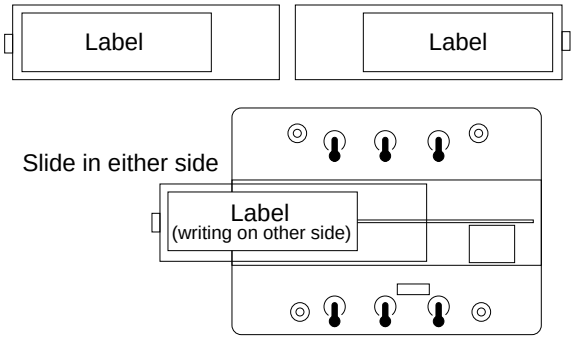
Note: Keypad 15 is not available on Commercial Fire Systems as option bus address 15 is used for the DS7420i module.

Note: On the 7400xi Rev. 3+, a maximum of 11 keypads may be used in Commercial Fire mode. One on the option bus and up to 10 on the keypad bus.

Keypads 1-10 should be connected to the keypad bus and may be placed as needed (within the wiring limits). One of these keypads must be assigned as keypad address 1.

Instruction Label and Slide

An instruction label is provided and needs to be placed onto the pull-out slide. The slide may be installed to pull from the left or the right (slide it into rear of base). Be careful when installing the label; place it as close to the pull-tab as possible.



In Case of Trouble

See the following chart:

Keypad Notification	Possible Causes
DS7445 **Continuous keypad sounder**	• The yellow and green wires have been disconnected. • The keypad has not been programmed properly at the control panel. • The control panel has malfunctioned. Replace the control panel.
DS7447 **Continuous keypad sounder PLUS "System Fault" display**	
DS7445 **Continuous keypad sounder**	• A keypad's address has not been set with its address pins.
DS7447 **Continuous keypad sounder PLUS "Not Programmed. See Instal Guide" display**	
DS7445 **3 beep error tone on all keypads**	• Two or more keypads have the same address. • DS7400 Series only: DS7430 Mux module not installed on main board correctly. Check pin alignment. • DS7400 Series only: Keypad and another device on the option bus have the same address.
DS7447 **3 beep error tone on all keypads PLUS "Entry Error. Please try again." display**	

Installation Instructions
for the
AE3CC Attack Resistant Enclosure Cover

1.0 General Information

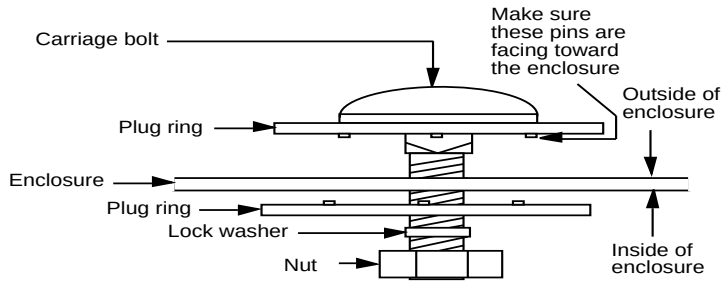
The AE3CC is an Attack Resistant Enclosure Accessory intended to be used with Detection Systems' control panels. Designed to fit over the AE3 or AE4 enclosure, it provides additional physical protection from attack.

2.0 Equipment Included

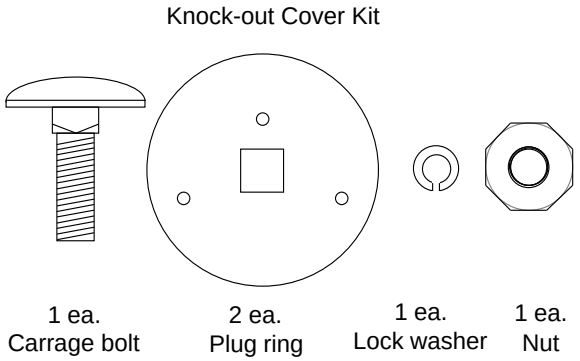
1 - Attack Resistant Enclosure
21 - Enclosure Screws
1 - Knock-out Cover Kit

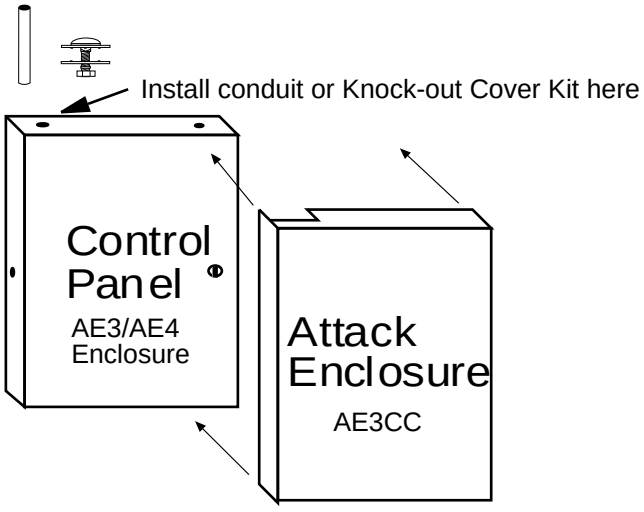
3.0 Installation

Step 1 - Install the control panel and complete all programming and wiring.
Step 2 - If rear entry wiring is used, install the Knock-out Cover Kit in the upper left hand corner knock-out of the control enclosure as shown below. If conduit is installed to the upper left knock-out, the Knock-out Cover Kit is not required.
Step 3 - Place the Attack Enclosure over the existing enclosure.
Step 4 - Insert the Enclosure Screws. **Note:** You must use all 21 screws**.**

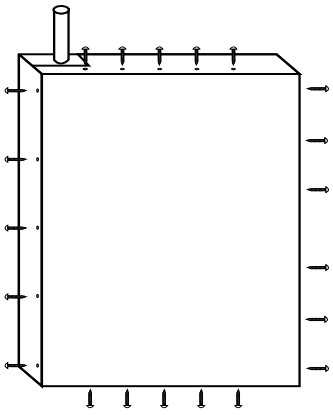


Step 2) Install Conduit or Knock-out Cover Kit (as required)





Step 3) Place Attack Enclosure over Control Panel



Step 4) Insert ALL 21 Enclosure Screws

Detection Systems PTY Ltd.
Unit 21, 45 Gilby Road
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61 3 9558 8088
Fax: 61 3 9558 8089

Detection Systems PTY Ltd.
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Detection Systems, Inc., 130 Perinton Parkway, Fairport, New York, USA 14450-9199
(716) 223-4060 • (800) 289-0096 • Fax: (716) 223-9180

DS7488 Octal Relay Module Installation Instructions

1.0 Description

The DS7488 is an Octal Relay Module that provides 8 form "C" relay outputs for addition to the DS7400 Series Control/Communicators. It connects to the DS7400(Xi) via the options bus. The outputs are fully programmable and can be activated by several system events. Each output operates individually of the other 7 outputs for complete flexibility.

NOTE: Requires DS7400, X, Xi, Xi Rev. 3. The control ROM version must be 1.03 or higher.

- Current Draw: 10mA +40mA for each energized relay.
- Contacts: Rated 5.0A @ 28VDC (maximum for resistive loads).

2.0 Installation

The DS7488 should be mounted within the DS7400(Xi) Enclosure. Install the DS7400(Xi) Enclosure as described in its Reference Guide.

- Disconnect power from the DS7400(Xi) before installing the DS7488. This can be done by unplugging the transformer and removing the red battery lead.
- Mount the DS7488 in the enclosure using the supplied screws (2) and mounting clips (2) (see figure A).

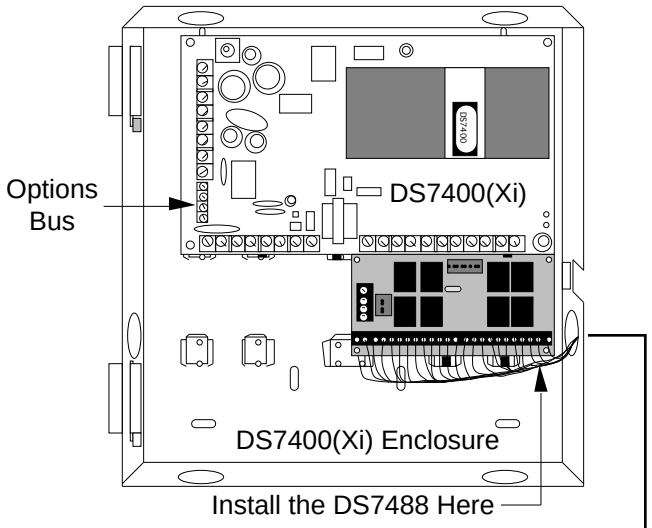

Figure A - Installing the DS7488
Non-Inherently Power Limited wiring must be routed through a knock-out and tied to prevent movement.

3.0 Wiring

To wire the contacts, see figure B.

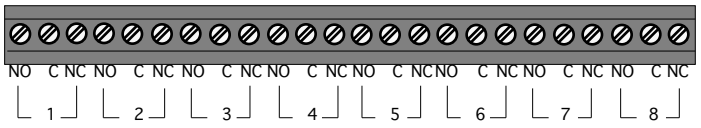

Figure B

The DS7488 is wired to the options bus (see figure C) of the DS7400(Xi).

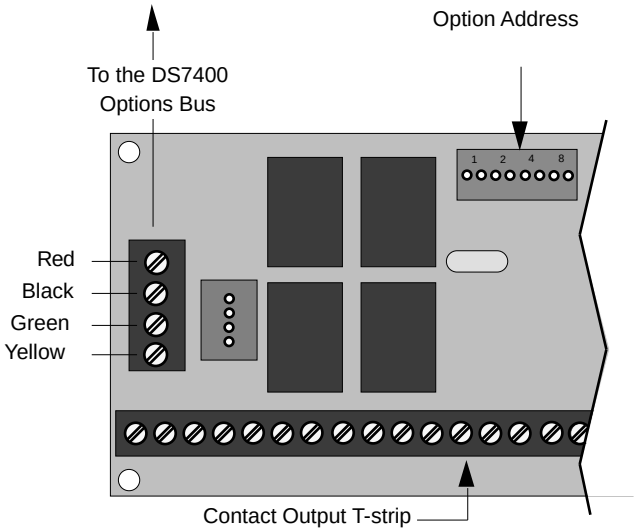

Figure C

4.0 Selecting the Option Address

The DS7488 must be selected as an option address 1-15. Use the Option Address Pins to select an option address with the jumper plugs provided (see figure D).

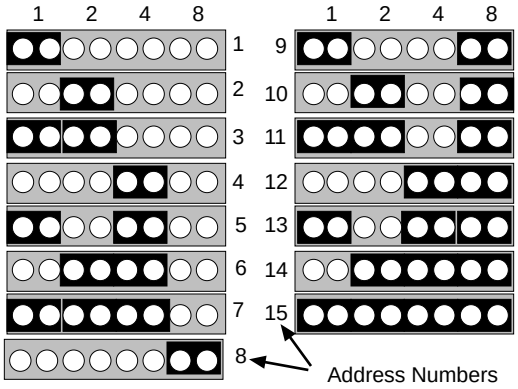

Figure D

Note: Each optional device connected to the options bus must have a different address.

Note: When installing the DS7488 on a DS7400Xi Rev. 3, using any address between 11-15 will not allow the use of keypads with the same address. Addresses 1-10 will not affect keypad operations.

5.0 Programming the DS7488

The DS7488 must be programmed through the DS7400 Series Control/Communicators. See your DS7400(Xi) Reference Guide for output programming information.

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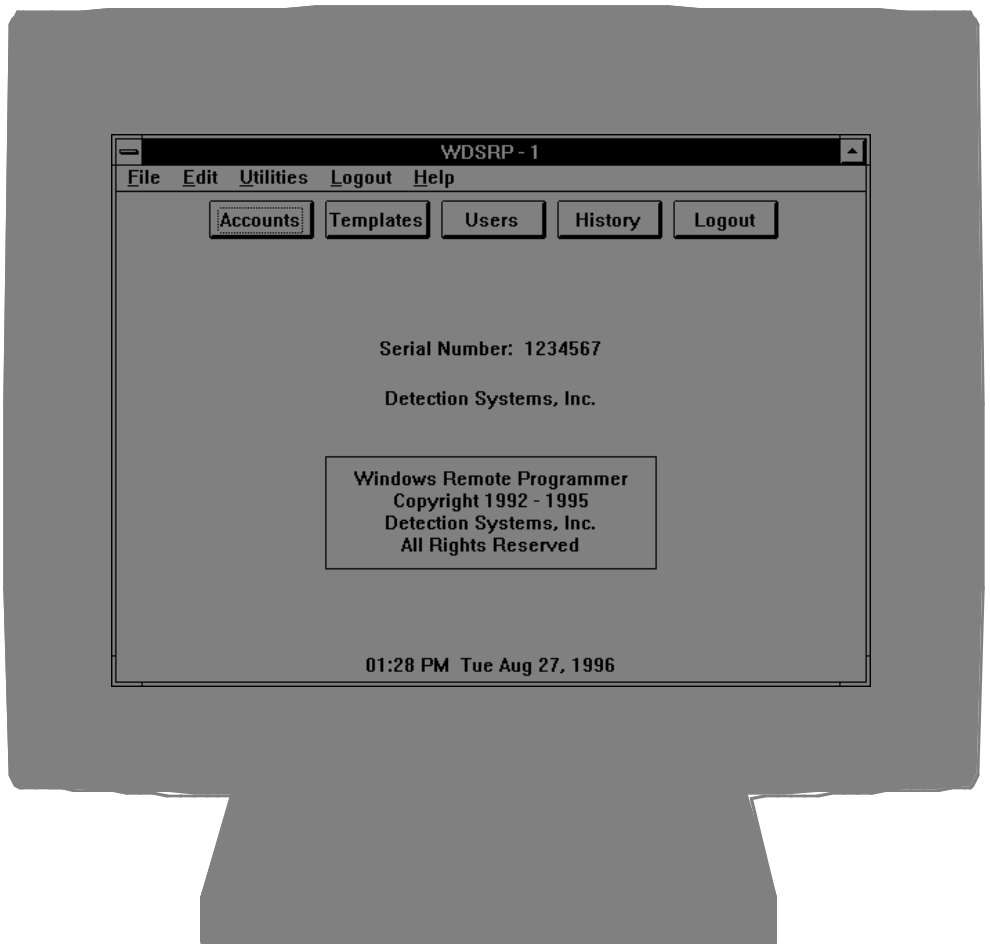
WDSRP
User's Guide

Detection Systems' Remote Programmer for Microsoft Windows®

For use with all Detection Systems' security/fire control panels.



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WDSRP User's Guide P/N 27596C

TABLE OF CONTENTS

SOFTWARE LICENSE AGREEMENT

Detection Systems' Remote Programming Software for Microsoft Windows®.

IMPORTANT: This software relates to security. Access should be limited to authorized individuals. This software contains provisions for setting security passwords. Appropriate security levels should be established and passwords should be set before allowing operating personnel access to this software. The original disk should be safeguarded against unauthorized use. In addition, DS security/fire controls contain passwords to prevent unauthorized access; these passwords must also be set and their identity carefully safeguarded.

Please read the following license agreement prior to installing and operating the software: Part of the software installation procedure consists of entering your company name as an acceptance of this license agreement. Do not complete this procedure unless you agree to the following terms:

You MAY:

- Use the WDSRP program only on a single computer.
- Copy the program into another computer only for backup purposes in support of your use of the program on a single computer.

You may NOT:

- Transfer this program or license to any other party without the express written approval of Detection Systems, Inc.

Limited Warranty: Detection Systems, Inc. (DS) warrants that the program will substantially conform to the published specifications and documentation, provided that it is used on the computer hardware and with the operating system for which it was designed. DS also warrants that the magnetic media on which the program is distributed and the documentation are free of defects in materials and workmanship. No DS dealer, distributor, agent, or employee is authorized to make any modification or addition to this warranty, oral or written. Except as specifically provided above, DS makes no warranty or representation, either express or implied, with respect to this program or documentation, including their quality, performance, merchantability, or fitness for a particular purpose.

Remedy: DS will replace defective media or documentation, or correct substantial program errors at no charge, provided you return the item with proof of purchase to DS within 90 days of the date of delivery. If DS is unable to replace defective media or documentation, or correct substantial program errors, DS will refund the license fee. These are your sole remedies for any breach of warranty.

Because programs are inherently complex and may not be completely free of errors, you are advised to verify your work. In no event will DS be liable for direct, indirect, incidental, or consequential damages arising out of the use of or inability to use the program or documentation, even if advised of the possibility of such damages. Specifically, DS is not responsible for any costs including, but not limited to, those incurred as a result of lost profits or revenue, loss of use of the computer programs or data, the cost of any substitute program, claims by third parties, or for other similar costs. DS does not represent that the licensed programs may not be compromised or circumvented. In no case shall DS's liability exceed the amount of the license.

Some states do not allow the exclusion or limitation of implied warranties, or limitation of liability for incidental or consequential damages, so the above limitation or exclusion may not apply to you.

DS retains all rights not expressly granted. Nothing in this license constitutes a waiver of DS's rights under the U.S. Copyright laws or any other Federal or state law.

Should you have any questions concerning this license, write to: Detection Systems, Inc., 130 Perinton Parkway, Fairport, New York 14450.

INTRODUCTION

Welcome to Detection Systems' WDSRP (Detection Systems' Remote Programming Software for Microsoft Windows®).

The WDSRP program will allow you access to all Detection Systems' fire/security control panels.

This Users Guide is designed for the person performing a first time exploration of WDSRP. This Guide does not assume that you have any knowledge of WDSRP. It does assume, however, that you are familiar with the Microsoft Windows® or OS/2 ® environment and that you are familiar with using menus, icons, clicking and double-clicking.

It is run through Microsoft Windows® (version 3.1 or higher), for its ease of use and accessibility.

This User's Guide is divided into 9 sections:

- **Section 1: Installing the Software**. This section will di cuss how to install the WDSRP software onto your computer.
- **Section 2: Getting Started**. This section will discuss procedures you should do as you first begin to use the WDSRP program.
- **Section 3: Quick Start Guide**. This section will orient you with the most basic operations of the WDSRP program.
- **Section 4: Operating Guide**. This section will take you through the step by step operations of the WDSRP program.
- **Section 5:** History
- **Section 6:** Log-out. This section covers logging out from WDSRP.
- **Section 7:** Utilities. This section describes the various utilities available in WDSRP.
- **Section 8:** Direct Connection. How to program panels directly from your computer without the use of a modem and phone lines.
- **Section 9:** Quitting WDSRP. The ways to exit the program.
- **Section 10:** Troubleshooting. This section covers troubleshooting tips for WDSRP.

Your first task will be to install the WDSRP program onto your computer. For directions on this task, see **Section 1.0 Installing the Software.**

1.0 INSTALLING THE SOFTWARE

The WDSRP Setup program will copy all the necessary files to your hard drive and will configure your system by asking you a few simple questions. A README.TXT file is now included on the installation disks which contains valuable information regarding the latest release of the software and modem compatibility. The README.TXT file is copied into the WDSRP directory during setup. You may use any text editor to read this file.

1.1 Equipment Needs

1.1.1 Recommended Equipment

1. An 80486 DX (33 MHz or faster) PC with at least 10 Meg of hard disk space free and at least 8 Meg of RAM.
2. A working version of Microsoft Windows® 3.1 or higher, Windows 95, or OS/2 Version 2.1 or higher.
3. DOS version 6.0 or higher.
4. A Hayes Smartmodem (300, 1200, 1200B, 2400, or 2400B). Open the README.TXT file for the latest information on modem compatibility.
5. A VGA or better monitor.
6. A mouse or other pointing device.

1.1.2 Minimum Equipment Requirements

NOTE: WDSRP will function with the equipment below; however, the operation may be slower than desired and some loss of functionality may occur such as the inability to use multiple phone lines and print large reports.

Single phone line usage is recommended in this configuration.

1. An 80386 SX (16 MHz) PC with at least 8 Meg of hard disk space free and at least 4 Meg of RAM.
2. A working version of Microsoft Windows® 3.1.
3. DOS Version 3.1 or higher.
4. A Hayes Smartmodem (300, 1200, 1200B, 2400, or 2400B). Open the README.TXT file for the latest information on modem compatibility.
5. An EGA or Hercules monitor.

1.2 Existing DOS DSRP

The WDSRP Setup program will not effect your existing DOS data files. After installing WDSRP, you may incorporate your existing DSRP files into WDSRP by using the Merge function. See **Section 7.0 Utilities.**

CAUTION: Only convert your DOS data files to WDSRP data files when you are ready to stop using DOS DSRP. The new data file created when you convert your old files can not be converted back to DOS DSRP. If you choose to use WDSRP with your existing DOS files on a test basis, you should make a copy of your data files and update the copy.

1.3 Running the Setup Program

Before running the WDSRP Setup Program, you should first disable any anti-virus software that you may have loaded. You can re-enable the anti-virus software after the WDSRP installation.

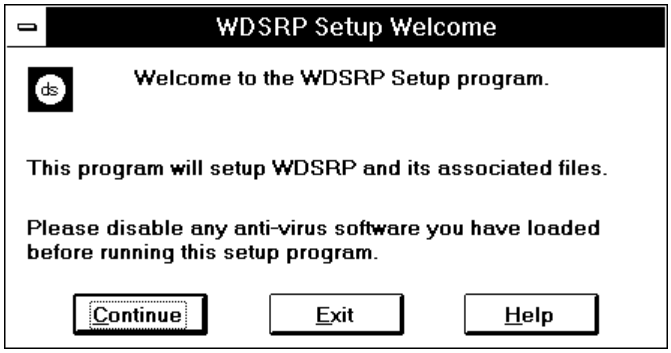
Make a backup copies of the WDSRP disks. Keep the backup copy in a safe and secure area (under lock and key). It is only to be used in the event of your system having software or hardware problems and a reinstallation is needed.

NOTE: When upgrading an existing version of WDSRP, you should install this new version over your old version. The setup program will handle all necessary file conversions.

1. Start Microsoft Windows® (Version 3.1 or higher).
2. Insert WDSRP Disk 1 - Setup into the floppy drive.
3. Open Program Manager (Explorer in Windows 95).
4. Using any text editor, open the README.TXT file to review any last minute additions and changes to the document. Choose [File] [Quit] when finished.
5. From the Program Manager menu, choose [File] [Run].
6. Enter [A:\setup] or [B:\setup] depending on which drive contains the WDSRP Installation diskette.
7. Choose [OK].
8. Insert disks as prompted until installation is complete.

1.3.1 WDSRP Setup Welcome

After the initializing process, the **WDSRP Setup Welcome** window will appear. Choose one of the three options at the bottom of the window.



1.3.2 WDSRP Setup Destination

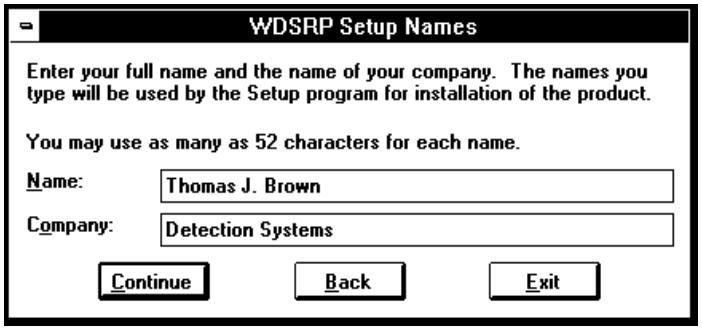
The **WDSRP Setup Destination** window will appear after choosing [Continue].

Enter the drive path where you would like WDSRP installed. Typically, the default path will read [C:\WDSRP].

NOTE: When upgrading an existing version of WDSRP, install the new version over the old version. Do not change the “Install to” path. The setup program will handle all necessary file conversions.

1.3.3 WDSRP Setup Names

The **WDSRP Setup Names** window will appear after choosing [Continue]. Enter your name and company name.

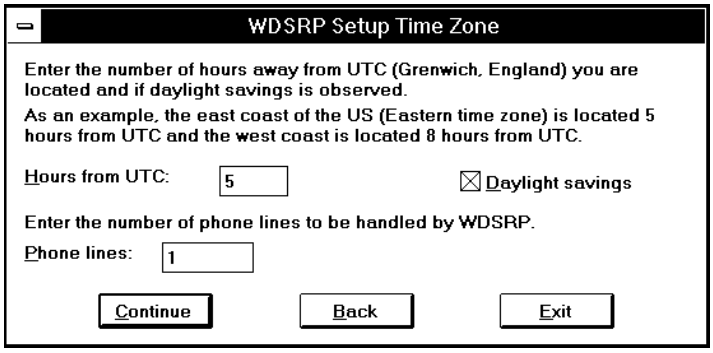


NOTE: These names will appear on all copies of WDSRP installed from this diskette. This window will appear during the initial installation only.

1.3.4 WDSRP Setup Time Zone/Phone Lines

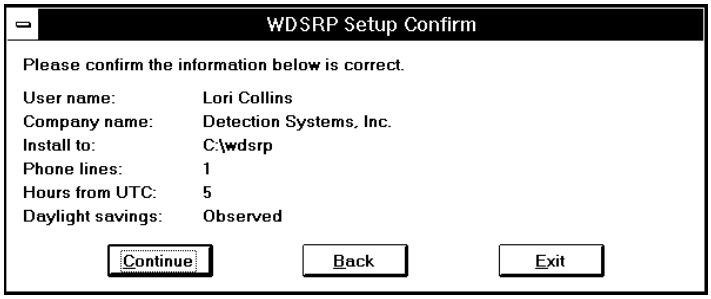
The **WDSRP Setup Time Zone** window will appear after choosing [Continue]. Enter the number of hours away from UTC (Greenwich, England) you are located and if daylight savings is observed. Enter a positive number if you are West of UTC (e.g. United States), and a negative number if you are East of UTC. For example, the East Coast of the United States (Eastern Time Zone) is located 5 hours from UTC and the West Coast is located 8 hours from UTC.

You will also be prompted to enter the number of phone lines that will be connected to WDSRP via modems. If you will be using only one line with one modem, no changes are necessary.

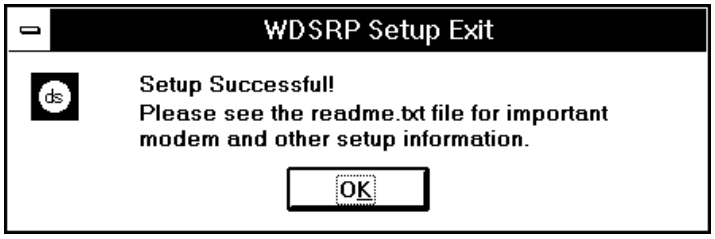


1.3.5 WDSRP Setup Confirm

The **WDSRP Setup Confirm** window will appear after choosing [Continue]. If the information is correct, choose [Continue]. If the information is incorrect, choose [Back] and change the incorrect information. WDSRP Setup will install the program on your hard drive after selecting [Continue]. [Exit] will cancel the installation.



The following window will appear after successful installation.

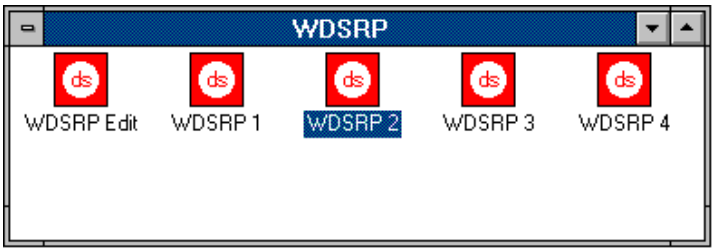


2.0 GETTING STARTED

Now that you have successfully installed the WDSRP software, you are ready to begin the first steps toward successful usage of this software.

When starting the WDSRP program, you have a choice of choosing the [WDSRP Edit] icon or the [WDSRP 1, 2, 3, or 4] icons.

Note: The number of WDSRP Icons appearing will depend on the number of phone lines selected during setup.

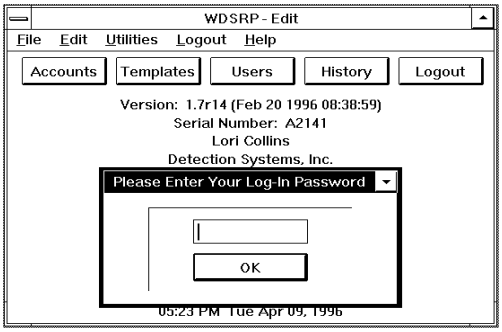


The WDSRP Edit icon is used for editing purposes only. It does not communicate with the control panels. Use this selection when work needs to be done to any of the WDSRP databases, but communication to a control panel is not necessary.

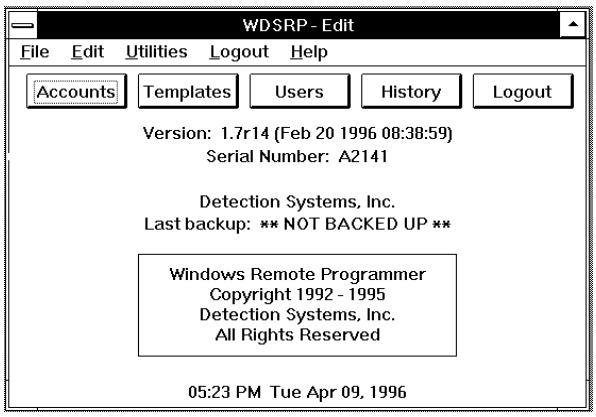
In order to communicate with a control panel, choose one of the WDSRP 1, 2, 3, or 4 icons. This selection will allow you to do all that the WDSRP Edit selection can, but also enables you to communicate with a control panel for the transfer of data. The 1, 2, 3, or 4 selections represent the number of the phone line connected to WDSRP.

2.1 Changing the Default Password

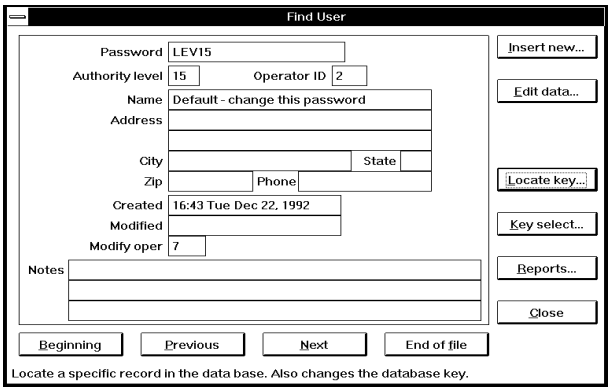
Start up the WDSRP program by double-clicking on the [WDSRP Edit] icon from the **WDSRP** window. You will be prompted to enter your password. The software is shipped with the password **lev15**. Enter [lev15] then select [OK].



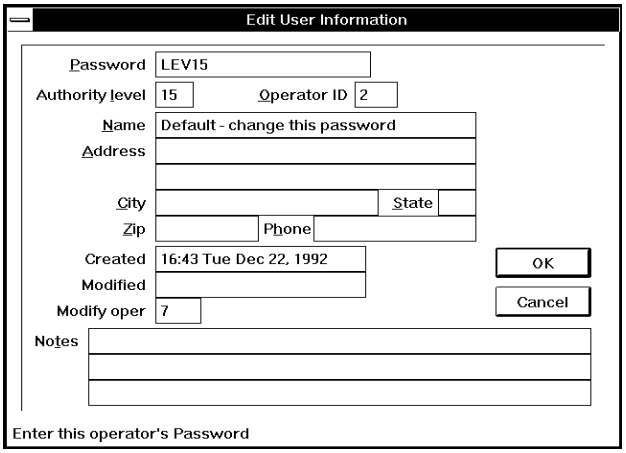
Choose [Users] from the **WDSRP Main** window.



The **Find User** window will appear showing User (lev15) information.



1. Choose the [Edit data] command from the right hand column of command buttons. The **Edit User Information** window will appear with the Password (lev15) highlighted.



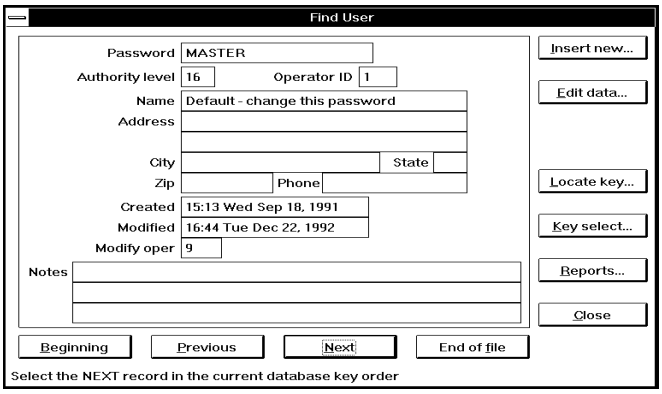
2. Replace all the necessary information in this window with the information for yourself.
3. Create a new password for yourself. The password can be up to 12 characters long. Do not use spaces or non-alpha characters in your password. Keep authority level 15, the highest normal level.
4. Supply the rest of the information as needed. Some fields are automatically filled in by WDSRP; the Operator ID field, Created Field, Modified Field, and the Modify Operator field.
5. Choose the [OK] button to return to the **Find User** window.

2.2 Changing the Master Password

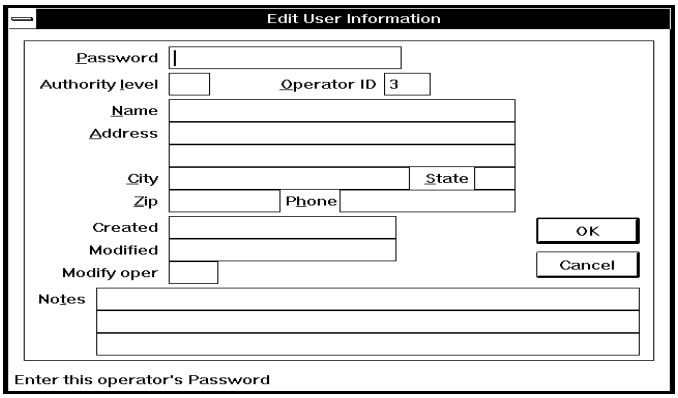
The next task to perform is to change the Master Password. It is a level 16 password that is your safeguard should anything happen to the other passwords. The Master Password can never be deleted and its authority level can never be changed. Once you have changed the Master Password, do not use it as a working password, use the Level 15 Password you just created (see Section 2.1). Write down the Master Password and keep it in a secure place. You will NOT be able to see the Master Password under User Information unless you log in with it.

To change the Master Password:

1. Choose [Log-out] from the **WDSRP Main** window.
2. Enter [Master] for the password as you Log in.
3. Choose [Users] from the **WDSRP Main** window.
4. The **Find User** window will appear.



5. Locate the Master user information by choosing the [Next] command from the command buttons at the bottom of the window.
6. Choose the [Edit data] command from the right hand column command buttons.
7. The **Edit User Information** window will appear with the password "Master" highlighted. From this window you may edit all necessary information.



8. Replace the information in this window with your own information.
9. Give yourself a new Master Password.
10. Supply the rest of the information as needed.

The authority Level and Operator ID fields can not be changed.

Once this task has been completed, log-out and log back in as the level 15 password you previously created.

2.3 Authority Levels

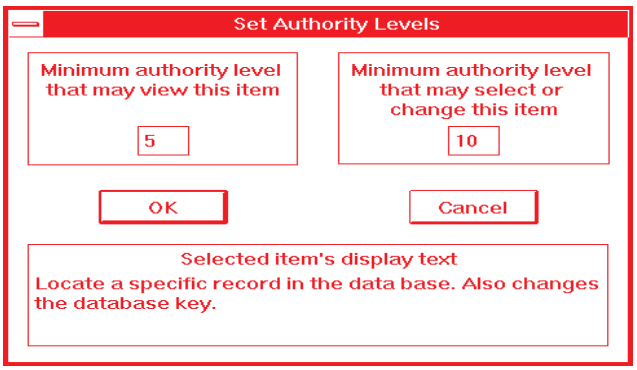
The authority level you give each user is critical. The authority level given to each user will allow certain access privileges throughout the WDSRP program. Each field within WDSRP (any place a user may interact with) has its own authority levels. Authority levels affect the user in two ways. The fields have a minimum authority level that a user must meet just to view that field. They also have a minimum authority level that each user must meet in order to edit that field.

Most fields are preset at authority level 5 for viewing and authority level 10 for editing.

Authority level 15 should be reserved for the one or two individuals that are trusted with all account information. Authority level 15 can change the authority levels of other operators.

NOTE: In order to edit information concerning report codes, control panel users and codes, report phone numbers and remote communication parameters, etc., you must have an authority level of 15.

To change the authority levels for any field or menu in WDSRP, highlight the item and press the [F5] key. The Set Authority Levels window for that particular item will appear. You must have at least a level 15 authority to use the F5 command. After changing select [OK].



To change the Menu Item Authority Levels, select (highlight) the menu item and press the [F5] key. After changing, select [OK].

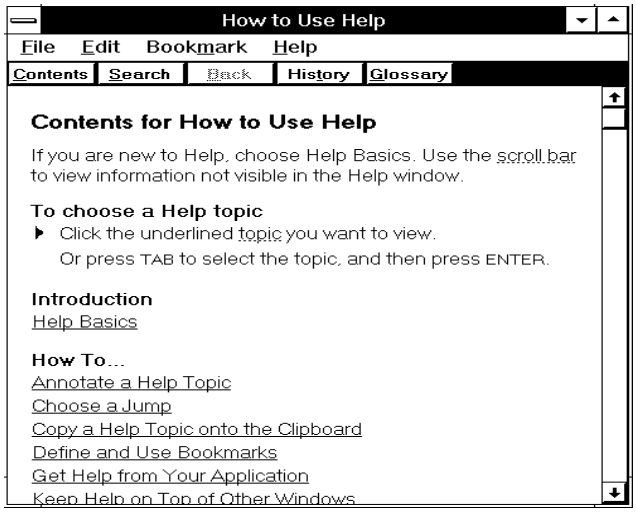
2.4 The HELP File

WDSRP has an extensive and easily accessible HELP file. The HELP file is a user's manual at your fingertips. It can be accessed anywhere within WDSRP.
There are three ways to access the HELP File.

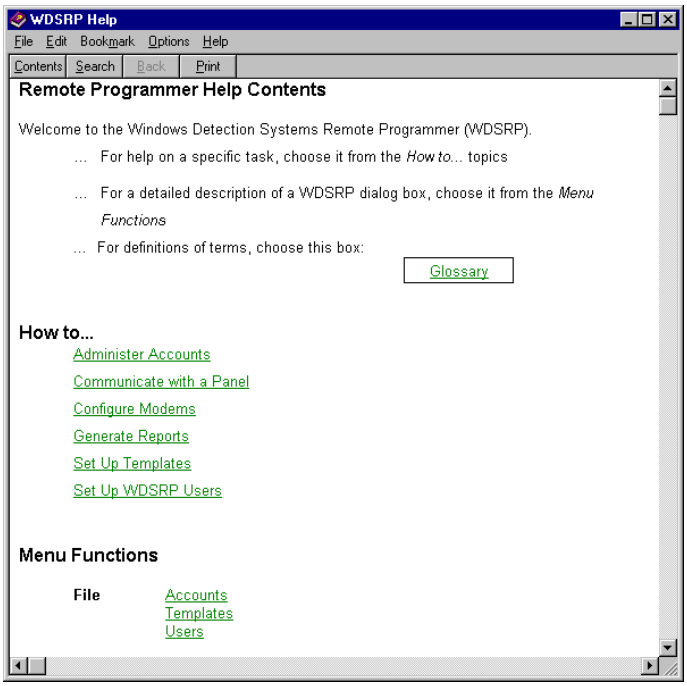
1. The HELP Files are context sensitive. You can highlight any item in the open window and press the [F1] key and the HELP information about that item will appear.

2. **In Windows 3.1 only**, placing the mouse cursor over the item in the open window and pressing the right mouse button will display the HELP information about that item. **Do not attempt this in Windows 95 as it may cause a protection fault.**

3. From the MAIN screen, the HELP File can be opened by selecting the HELP file menu with the mouse and pressing the left mouse button. The style of the files will be different in Windows 3.1 and Windows 95 as shown in the following examples:



Windows 3.1 Help



Windows 95 Help

The HELP file contains both general and very precise, context sensitive information that this User's Guide does not detail. Therefore, the HELP file will be a significant resource regarding WDSRP and its functionality.

When in the HELP file, some of the text will be underlined, green text. Clicking on this text with your mouse will result in further information specific to that selection.

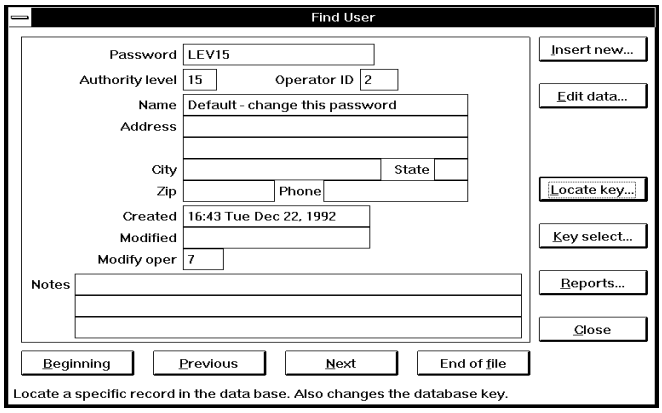
3.0 QUICK START GUIDE

Now that you have completed some preliminary steps, you are ready to begin customizing WDSRP to your specific needs.

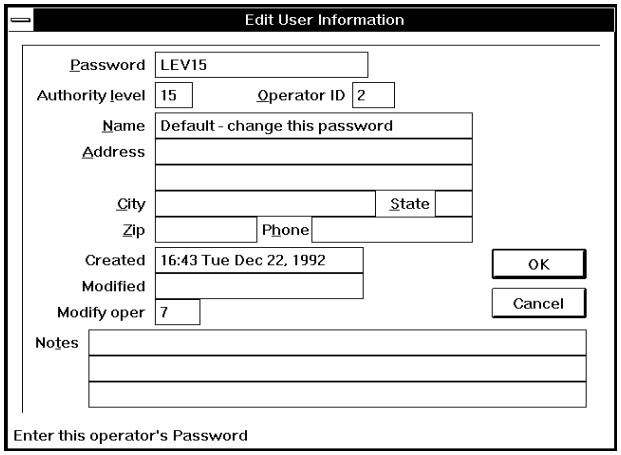
3.1 How to Add Users

The User database is where you keep track of all the users of this WDSRP program. Each individual record will list various information describing each user (for a detailed description of a User record, see Section 4.5, Users).

1. Start up the WDSRP program by double-clicking on a WDSRP icon from the **WDSRP** window.
2. You will be prompted to enter your password. Enter the everyday password you previously created.
3. Choose [OK] to complete the log-in.
4. Choose [Users] from the **WDSRP Main** window.
5. The **Find User** window will appear:



6. Choose the [Insert New] command from the right hand column command buttons.
7. The **Edit User Information** window will appear with the cursor in the Password field.



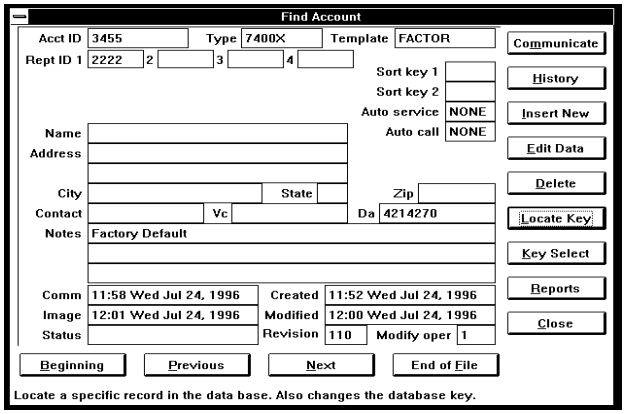
From this window you may enter and edit all necessary information. Some fields are filled-in automatically by WDSRP: the Operator ID field, Created Field, Modified field, and the Modify Operator field.

8. Choose [OK] to include this record in the User database. This will return you to the **Find User** window.
9. Choose [Close] to return to the **Find User** window and delete the record you were working on.

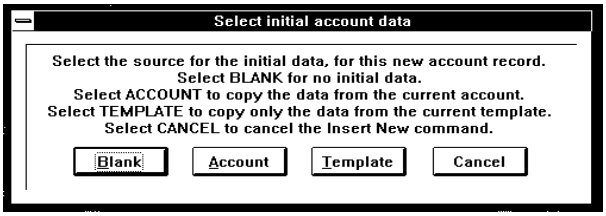
3.2 How to Create an Account

The account database is where you keep track of all the accounts that WDSRP is in contact with. Each individual account record keeps track of various general and programming information specific to the control panel for that account. For a detailed description of an account record, see Section 4.1, Accounts.

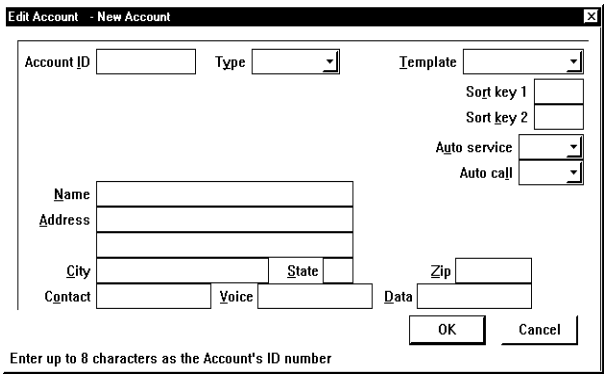
1. Start up the WDSRP program by double-clicking on the [WDSRP Edit] icon from the Program Manager window.
2. You will be prompted to enter your password. Enter the everyday password you previously created.
3. Choose [OK] to complete the log-in.
4. Choose [Accounts] from the **WDSRP Main** window. The **Find Account** window will appear.



5. Choose the [Insert New] command from the right hand column command buttons. The **Select Initial Account Data** window will appear.



6. Choose the source from which you will create the new Account. For now, select the [Blank] command. This command will call-up a blank **Edit Account - New Account** window.



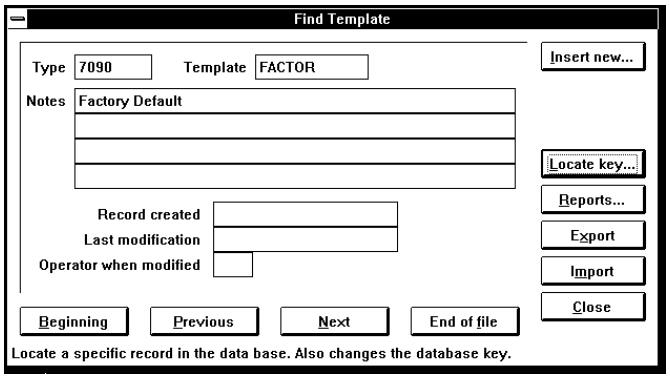
7. Fill in all the necessary general information for this new Account.
8. Choose [OK] after completing. The **Edit Account** window for

this new account will appear. It is here where you complete all the programming information concerning this account. See Section 4.0 for complete details concerning this window.

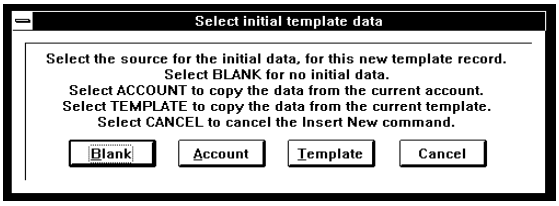
3.3 How to Create a Template

The template database is where you keep track of all the templates that you create. Each individual template record keeps track of various general and programming information specific to that template. For a detailed description of a template record, see Section 4.4.

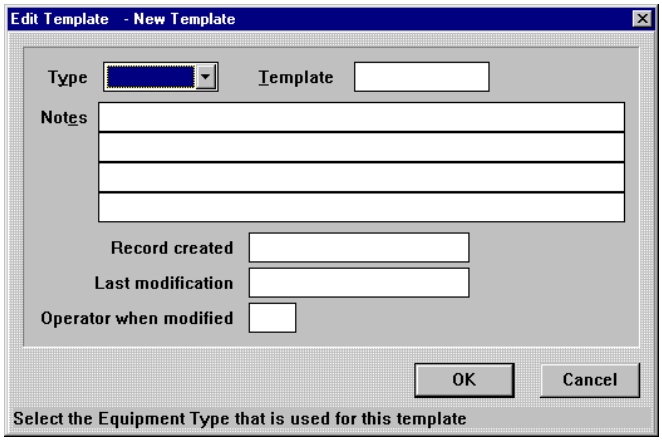
1. Start up the WDSRP program by double-clicking the [WDSRP Edit] icon from the **WDSRP** window.
2. You will be prompted to enter your password. Enter the everyday password you previously created.
3. Choose [OK] to complete the log-in.
4. Choose Template from the **WDSRP Main** window. The **Find Template** window will appear.



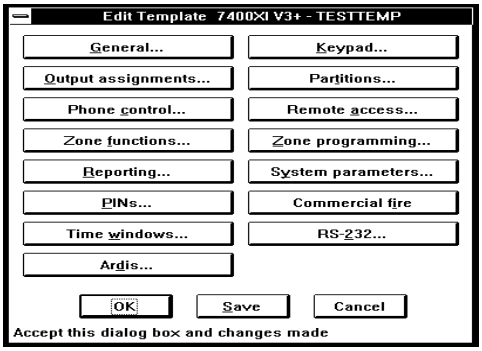
5. Choose the [Insert New] command from the right hand column command buttons. The **Select Initial Template Data** window will appear.



6. Choose the source from which you will create the new template. For now, select the [Blank] command. This command will call-up a blank **Edit Template - New Template** window. From here you will fill in all the necessary general information for this new template.



7. When complete, choose [OK]. The **Edit Template** window for this new template will appear.



It is here where you complete all the programming information concerning this template. See Section 4.0 for complete details concerning this window.

3.4 How to Call a Control Panel

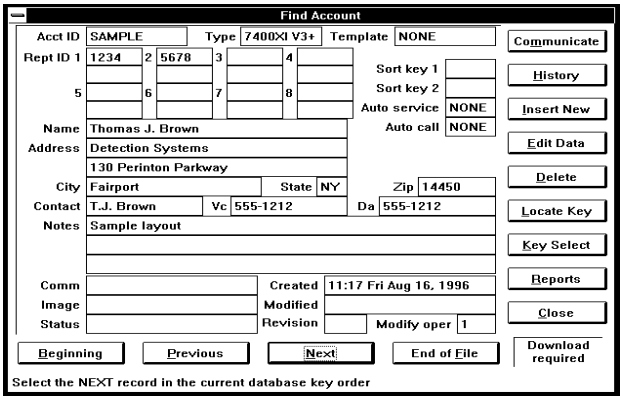
In order to call a control panel, the following requirements must first be met:

- The data phone number field must be filled in for the account you wish to call (unless manual connect is used).
- The control panel must either be programmed to answer the phone, or someone must be on site to cause it to answer from a keypad command.
- If used, you must have the correct agency and remote codes programmed.

Note: If this is the first time the control panel will be contacted from WDSRP, the agency and remote codes in the panel will be blank; therefore, these codes will not be required in the account database for this initial contact.

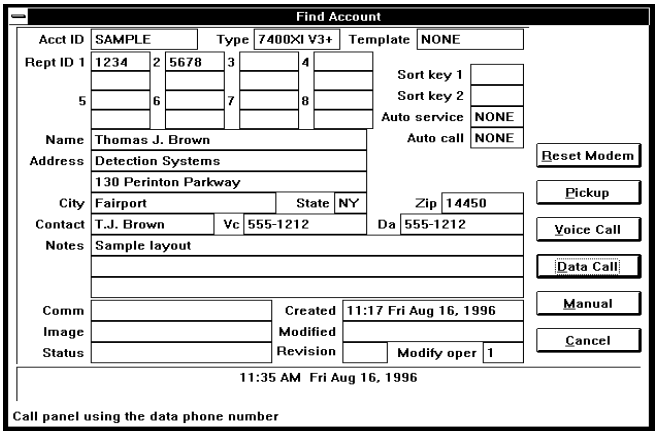
The steps to call a control panel are:

1. Start up the WDSRP program by double-clicking the [WDSRP 1, 2, 3, or 4] icon from the **WDSRP** window.
2. You will be prompted to enter your password. Enter the everyday password you previously created.
3. Choose [OK] to complete the log-in.
4. Choose [Accounts] from the **WDSRP Main** window.
5. Choose the account you wish to communicate with. The **Find Account** window will appear.



6. Choose the [Communicate] command from the right hand column command buttons. The new right-hand column com-

mand buttons will only show those commands necessary for communication.



7. Choose the [Data Call] command from the right hand column command buttons. This command will dial the phone number to reach this account's control panel. This number will call the control panel directly.
8. If the control panel answers your call, you will be on-line with the control panel. From here you may upload or download data as needed.

To end a call to a control panel:

1. Choose the [End Session] command from the right hand column command buttons. This command will end this communications session with the control panel. It will bring you off-line with the control panel. It will call up a verification window asking you if you wish the connection to be dropped.

After this session is complete you will still be in the **Find Account** window with the communications commands. Choose the [Cancel] command to return to the original **Find Account** window.

3.5 How to Answer a Call from a Control Panel

In order to answer a call from a control panel that already has an account created for it, the following requirements must first be met:

1. The Reporting ID 1 and the Reporting Phone number 1 in the account record must match those of the control panel.
2. Phone number 3 programmed in the control panel must be for phone line connected to this WDSRP program.

Note: If an incoming call from a control panel does not have an existing account, it will create its own account; therefore the requirements in item 1 (above) will not have to be met. The new **unknown account** will create an account number starting with a $ (dollar sign) generally followed by an 8 digit number.

To have WDSRP automatically answer an incoming call you must be logged out.

To access the account calling in, perform the following:

1. After the call has gone on-line, Log in.
2. Choose [Accounts] from the **WDSRP Main** window.
3. The **Find Accounts** window will appear showing the account that is on-line with WDSRP.

To manually answer an incoming call:

An incoming call produces a tone through the speaker of your computer. This is your notification that a call is incoming.

When this tone is heard proceed to the [Find Accounts] window and select the [Communicate] command, then select the [Pickup] command. It may take a while for the incoming call to come on-line.

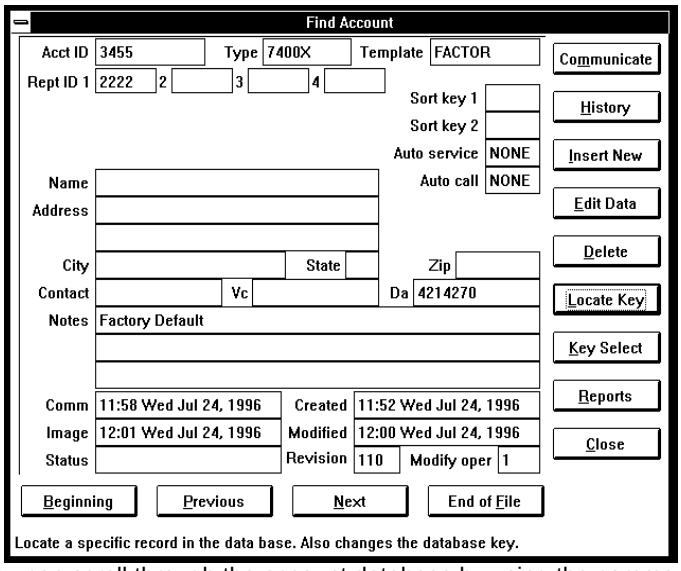
The [Pickup] command will prompt WDSRP to pickup the incoming call. WDSRP will then be on-line with the control panel.

4.0 OPERATING GUIDE

4.1 Accounts

To access accounts, choose [Accounts] from the **WDSRP Main** window.

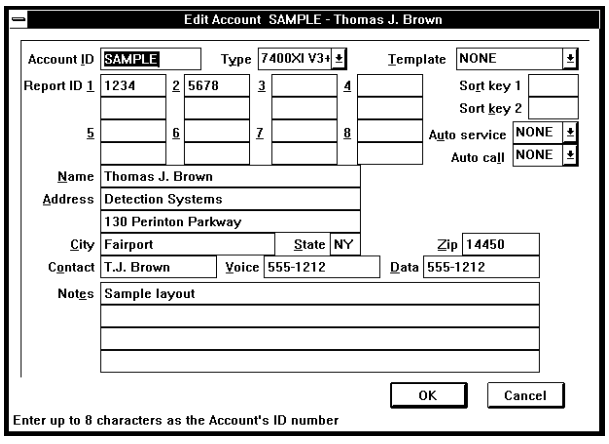
The **Find Account** window will appear. It is here where you keep track of the various control panels/accounts that you supervise. This window lists various general information concerning the accounts.



You can scroll through the account database by using the command buttons [Beginning], [Previous], [Next], or [End of File] at the bottom of the window.

4.2 Account General Information

The general information consists of:



4.2.1 Account ID
This is the number/code you assign each account for identification purposes. This number is used by WDSRP only; it will not be programmed into the control panel.

4.2.2 Type
This is the type of control panel used on this account.

4.2.3 Template
This is the Template that this account uses (may be none).

4.2.4 Report ID
These are the Central Station Account Codes of the control panel. The Account may have no Report ID (in the case of a local, non reporting system). Reporting systems require as few as one reporting ID (in the case of one reporting phone number on a non-partitioned system) to as many as 16 Account ID numbers (in the case of an eight partition system with each partition reporting to two phone numbers). They are the numbers transmitted to the Central Station receiver that identify this particular control panel. These numbers uniquely identify this control panel to the Central Station.

Note: The number of Account Codes will differ depending on the type of control/communicator selected.

Name
This is the name of the residential or business subscriber of this Account.

Address, City, State, ZIP Code
This is the address of the residential or business subscriber of this Account.

Contact
This is the name of the individual at the site of the control panel whom you may reach by voice call. This person's phone number should be listed in the Voice Call (VC) field.

Sort Key 1 and 2
These fields are used to enter another unique number/code, allowing you another method of sorting the accounts. This is an optional entry choice.

Auto Service
This is the selected service that will automatically be performed whenever the control panel is brought on-line. You may choose from the following:

ARMM	=	Master Arm System
ARMP	=	Perimeter Arm System
CLRE	=	Clear System Errors
DWLD	=	Perform Complete Program Download
HISA	=	Upload New History Events
HISC	=	Upload All History Events
NONE	=	No Auto Services (Default)
PASS	=	Change Remote Code
RSET	=	Reset System After Contact
TIME	=	Set System Time
UPLD	=	Perform Complete Program Upload
WRNP	=	Set Non-resetable Warning
WRNT	=	Set Keypad Resetable Warning

Voice Call (VC)
This is the phone number to reach this Account's subscriber/voice contact. This phone number will reach the person listed in the Contact field.

Data Call (DA)
This is the phone number to reach this Account's control/communicator. This number will call the control panel directly.

Notes
This field may be used for any additional notes you may have concerning this Account.

The rest of the fields in the **Find Account** window are filled in automatically by WDSRP. They are:

Comm
This field lists the time and date of the last communication between the control panel and WDSRP.

Image
This field lists the time and date of the last upload or download.

Status
This field will list such things as data transfer information, history upload/download information, and communication status.

Created
This field lists the time and date when this Account was created.

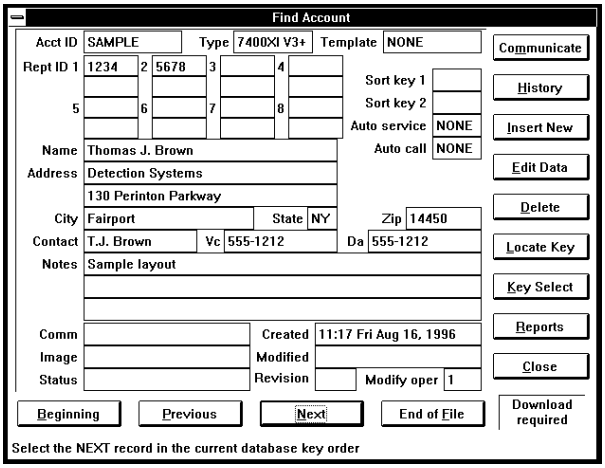
Modified
This field lists the last time this Account was modified by an operator.

Revision
This field lists the control panel's ROM version.

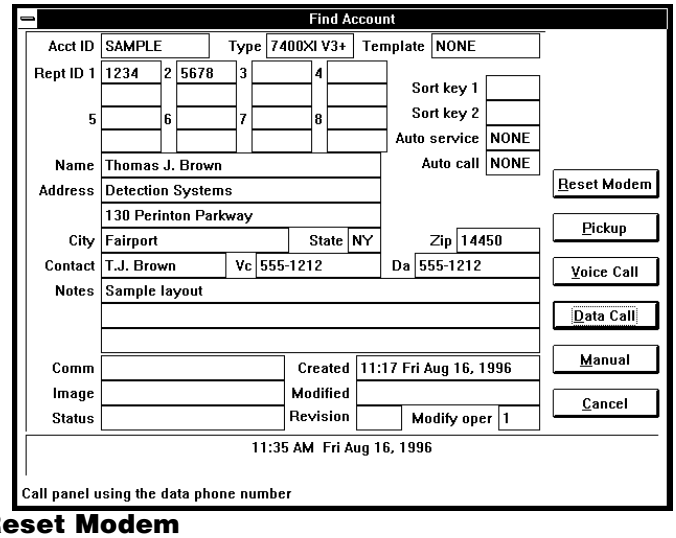
Modify Oper
This field lists the Operator's ID who last modified this Account.

4.3 Find Account Window - Commands

4.3.1 Communicate
Choose the Communicate command from the right-hand column of command buttons. This command is used to communicate with control panels.



The Communicate buttons will appear. The right-hand column command buttons will only show those commands necessary for communication.



Reset Modem

This command will reset the modem. After resetting the modem, wait for the Status field (bottom left of window) to display "Modem Reset Successful" before attempting a call.

Pickup

This command will prompt WDSRP to pickup an incoming call . WDSRP will then be on-line with the control panel.

An incoming call produces a tone through the speaker of your computer. This is your notification that a call is incoming. When this tone is heard, you must proceed to the Find Accounts window, choose the [Communicate] command, then choose the [Pickup] command. It may take a while for the incoming call to come on-line.

Voice Call

This command will dial the phone number to reach this Account's subscriber/voice contact. This phone number will reach the person listed in the Contact field.

Data Call

This command will dial the phone number to reach this Account's control panel. This number will call the control panel directly.

Manual

This command allows you to switch from a Voice call to a Data call.

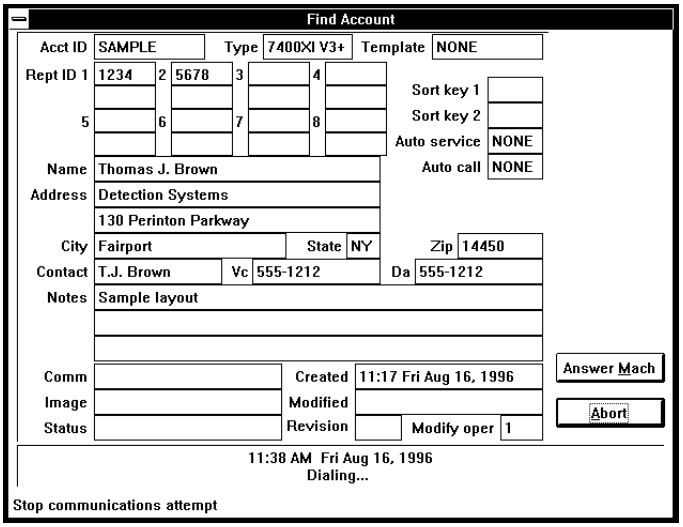
If you are speaking with your technician/subscriber on the same line as the panel's Data line, use the Manual command to switch access to the panel. As soon as the subscriber hears a high-pitched tone, he or she must enter the remote programming answer command sequence ([PIN] [#] [86]) on the control panel's keypad, and both of you should hang up.

WDSRP will then proceed to go on-line with the control panel.

Cancel

This command will return you to the original Find Account window. From this window you may choose a different Account/control panel to communicate with.

The following commands will show when WDSRP is dialing a phone number:



Answering Machine

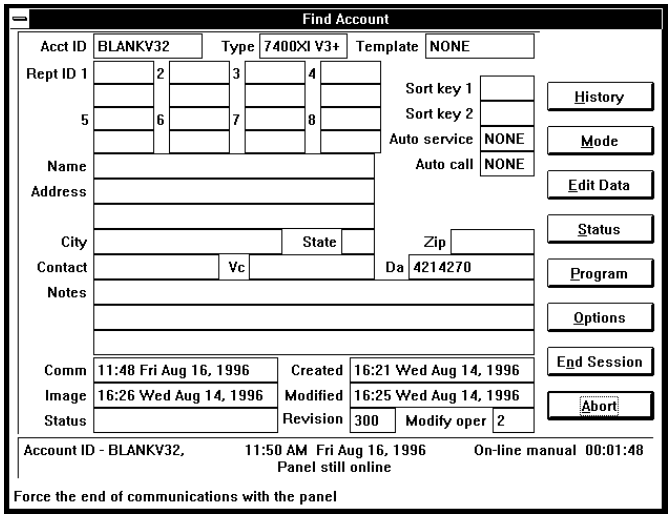
This command will make WDSRP hang up and redial the phone number. This will allow control panels with answering machine override programmed to answer this call from WDSRP.

Abort

This command will cancel this attempt to call and hang-up immediately.

CAUTION: Only use the abort command if communications are locked-up or in the event of an emergency. The abort command will cause the control panel to remain on-line a few minutes before it times out.

The following commands will show when WDSRP is on-line with a control panel:

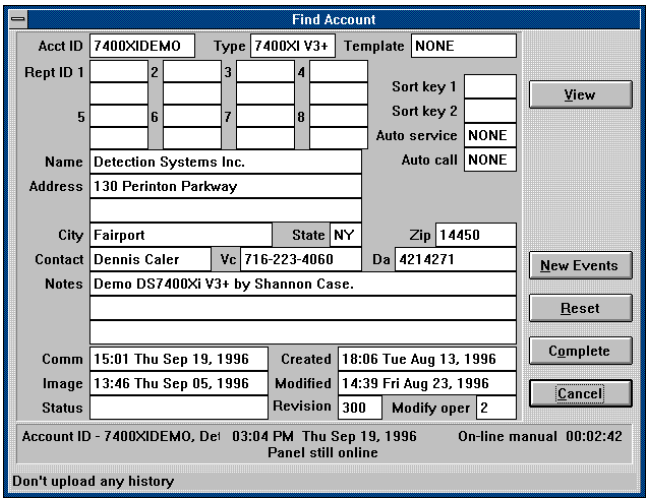


Suspend

This command will only appear when WDSRP is actively engaged with the control panel (e.g. uploading or downloading). This command will stop all data transfer without making changes to the WDSRP or control panel data.

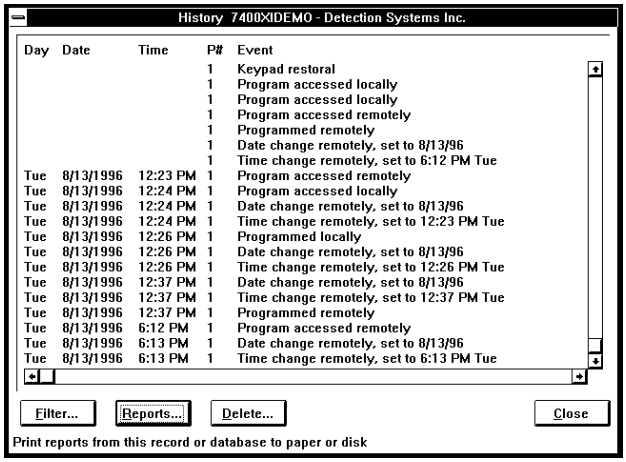
History

This command will allow you to perform the following History functions:



View

This command will allow you to view, delete, and archive history events that have been uploaded to this Account. When choosing this command, the History window will appear with the following commands:



- **FILTER:** This command will allow you to view specific history events by select categories and time range.
- **REPORTS:** This command allows you to print out history reports.
- **DELETE:** This command allows you to move the history events to the History Archive, or to delete them completely.
- **CLOSE:** This command will return you to the previous screen.

NEW EVENTS: This command will upload only new History events since the last History upload.

RESET: This command will upload the History buffer without saving it.

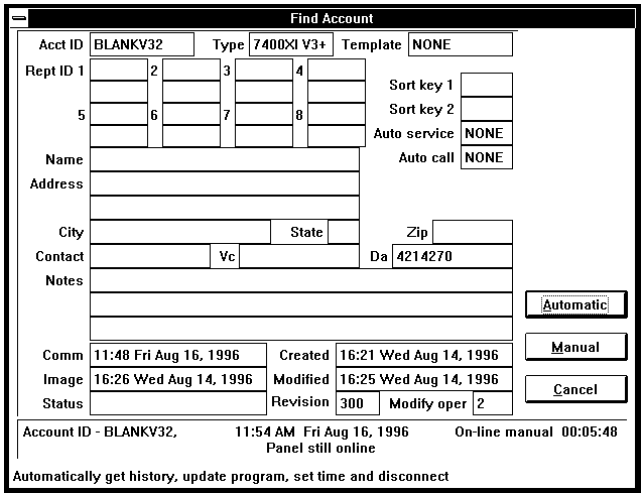
COMPLETE: This command will upload all History events.

Note: This command should only be used if there is no history in the open account as it may duplicate items in the account database. Under normal circumstances, use the NEW EVENTS command.

CANCEL: This command will return you to the previous screen.

Mode

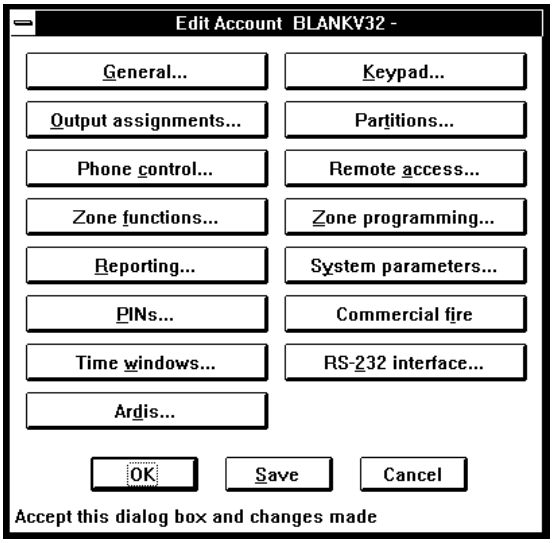
This command will allow you to perform the following Mode functions:



- **AUTOMATIC:** This command will automatically upload history, update the programming information, set the clock, and then disconnect from the control panel.
- **MANUAL:** This command will allow you to manually control communications with the control panel.
- **CANCEL:** This command will return you to the previous screen.

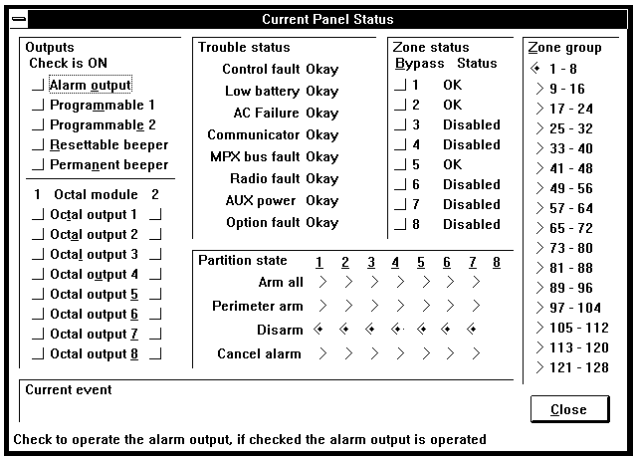
4.3.2 Edit Data

This command will allow you to edit all Account information. It will take you to the Edit Account window. From here you may choose the categories/information you wish to edit.



4.3.3 Status

The Clear Status command will clear the Status field in the Find Account window.



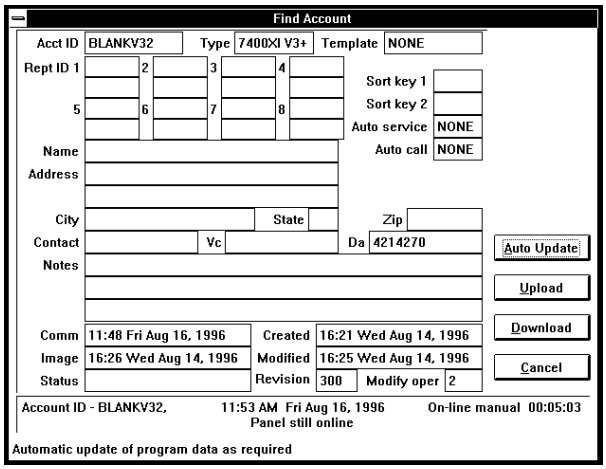
The Status command will call up the Current Panel Status window. This window will show you the status of system parameters specific to this Account/control panel such as: zone status, output status, trouble status, arming state, partition state. You may also edit the status of the control panel from this window.

All panels will have a Current Event text display at the bottom of the window. This text block will display any event that occurs at the control panel site while you are on-line. This message is waiting to be delivered to the central station and requires action by you. Because you are on-line with the control panel, this message will not go further than here. You must:

- Acknowledge the event and deliver the message manually to the central station operator for dispatch. You may continue with your communications session.
- End the session so the control panel can deliver the message to the proper receiver.

4.3.4 Program

This command will allow you to perform the following Programming functions:



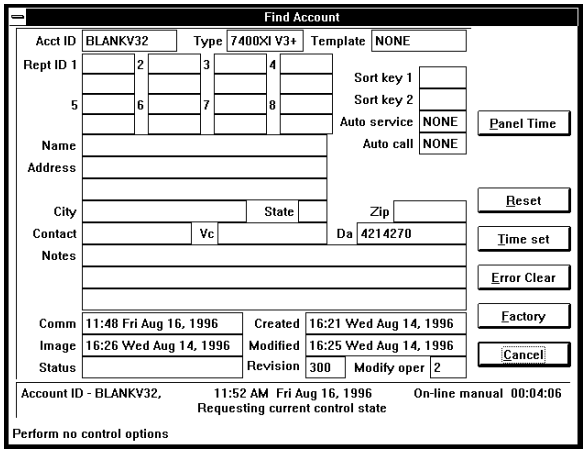
- **AUTOMATIC UPDATE:** This command will update all data as needed.

CAUTION: The automatic update command will make changes based on the most current information in either the Account or the control panel. When you first contact a control panel, you should first perform a complete upload or download.

- **UPLOAD:** This command will upload all data from the control panel to WDSRP.
- **DOWNLOAD:** This command will download system data, user data, alpha data, or all data to the control panel from WDSRP depending on which command you choose.
- **CANCEL:** This command will return you to the previous screen.

4.3.5 Options

This command will allow you to perform the following Optional functions:



- **PANEL TIME:** This command will display the control panel's time in the lower text block of the Find Account window.
- **RESET:** This command will reset the control panel after this communication session is complete. This will erase history and time. **Use this command only if the control panel is locked-up.**
- **TIME SET:** This command will set the control panel's clock.
- **ERROR CLEAR:** This command will clear all troubles that do not self-clear as well as perform a battery test.
- **FACTORY:** This command will reset the control panel to the factory set defaults.
- **CANCEL:** This command will return you to the previous screen.

4.3.6 End Session

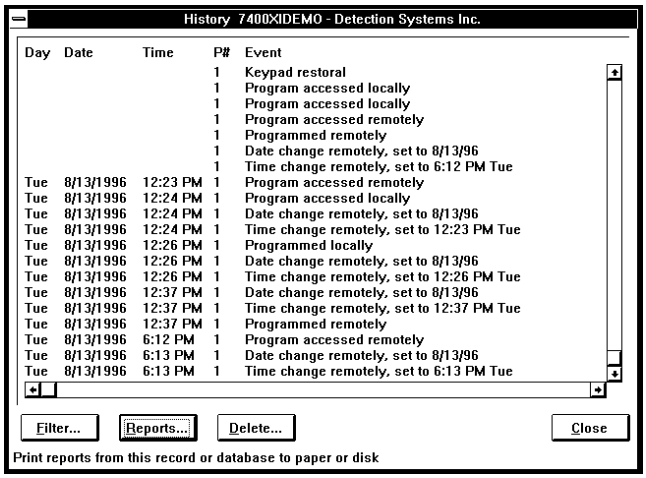
This command will end this communications session with the control panel, and will take you off-line with the control panel. It will also call up a verification window asking you if you wish the connection to be dropped.

After this session is complete, you will still be in the Find Account window with the communications commands. Choose the [Cancel] command to return to the original Find Account window.

4.3.7 History Commands

Choose the [History] command from the right-hand column command buttons. This command is used to access the Account's history buffer.

The History window will appear. Your computer's memory will determine the total amount of history events you will be able to scroll through.



A bottom row of command buttons will show those commands available. They are as follows:

- **FILTER:** This command will allow you to view specific history events by categories and time range. By choosing this command, the History Filter screen will appear. From this screen you can choose the viewing parameters.

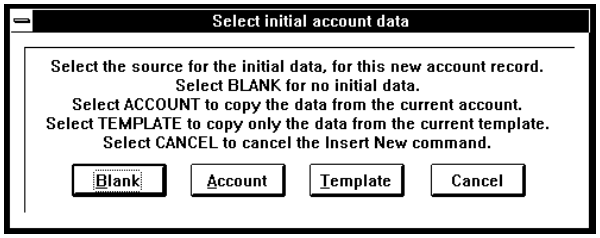
- **REPORTS:** This command allows you to print out history reports.

- **DELETE:** This command allows you to move the history events to the History Archive or to delete them completely.

- **CLOSE:** This command will return you to the previous screen.

4.3.8 Insert New Commands

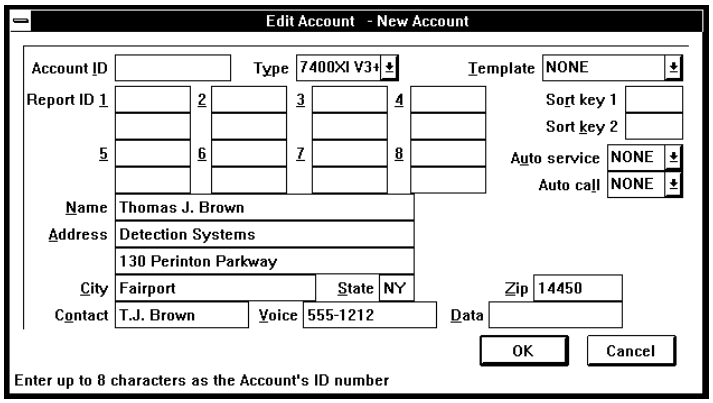
Choose the Insert New command from the right-hand column command buttons. This command is used to create a new Account. The Select Initial Account Data window will appear.



It is here where you choose the source from which you will create the new Account. The choices are:

- **BLANK:** Choosing this command will allow you to create a new Account using no initial data. This Account will be created from scratch.

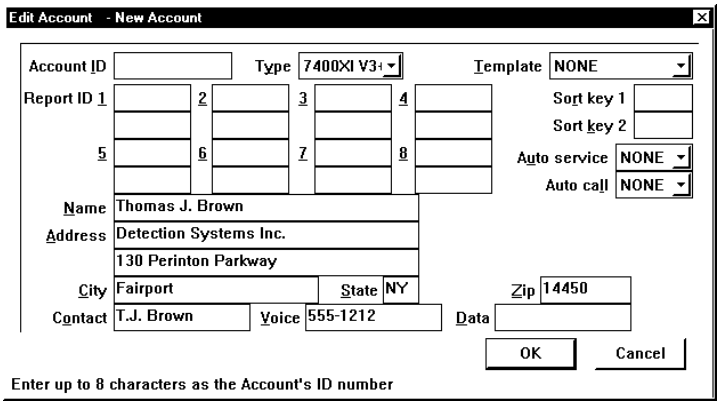
This command will call-up a blank Edit Account window. From here you will fill in all the necessary general information for this new Account.



Once the necessary information is filled-in, choose [OK]. The Edit Account window for this new Account will appear. It is here where you complete all the programming information concerning this Account.

- **ACCOUNT:** Choosing the command will allow you to create a new Account using initial data from an existing Account.

Locate the Account you wish to copy from, then choose the [Insert New] command. This command will call-up the Edit Account window with the general information showing for the Account you selected to copy. The cursor will be in the Account ID field waiting for you to enter a new Account ID.



Once you edit the necessary information from this window and choose [OK], another Edit Account window for this new Account will appear. It is here where you complete all the programming information concerning this Account.

4.3.9 Template

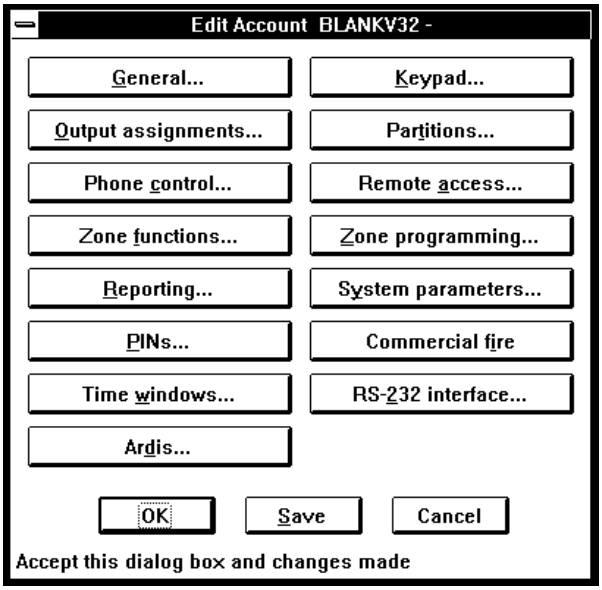
Choosing this command will allow you to create a new Account using initial data from a template.

This command will call-up an Edit Account window with the default information showing. From here you can edit the necessary general information for this new Account. Be sure to select the template ID from which you would like this Account based.

Once you complete the necessary information from this window and choose [OK], the Edit Account window for this new Account will appear. It is here where you can edit all the programming information concerning this Account.

4.3.10 Edit Data

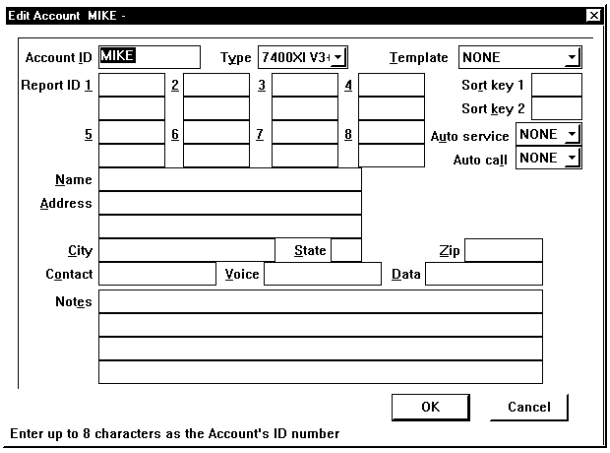
Choose the Edit Data command from the right-hand column command buttons. This command is used to edit all system data. The Edit Account window will now appear:



It is here where you choose the categories from which to edit the system information. The categories are as follows (Screens will vary, depending on the panel type):

General Information

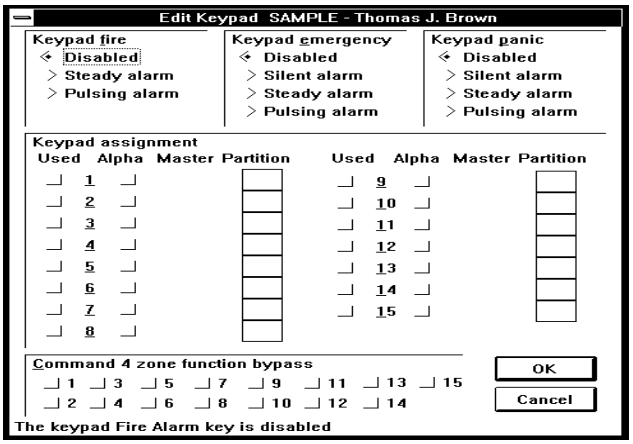
By choosing this command, the general information window will appear. From here you may edit information as needed. The cursor will first appear in the Account ID field.



When you are finished editing this data, choose [OK], or [Cancel]. [OK] will return you to the previous screen with your changes saved. [Cancel] will return you to the previous screen with no changes made.

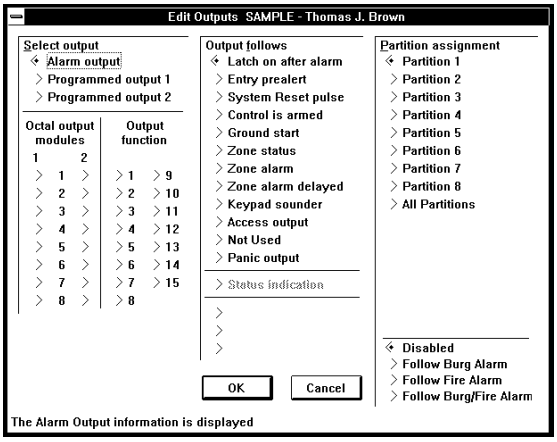
Keypad

By choosing this command, the edit keypad window will appear. From here you may edit information as needed concerning the keypads.



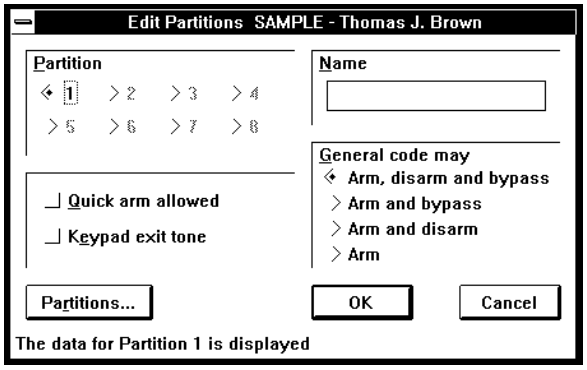
Output Assignments

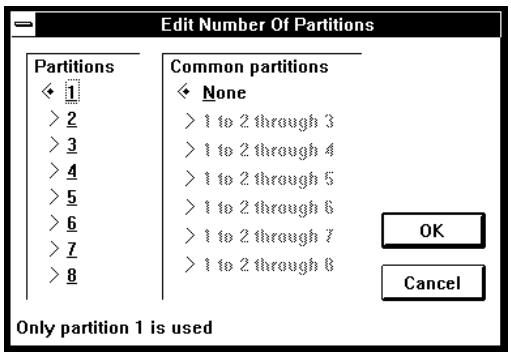
By choosing this command, the Edit Outputs window will appear. From here you may edit the selected outputs and accompanying information.



Partitions

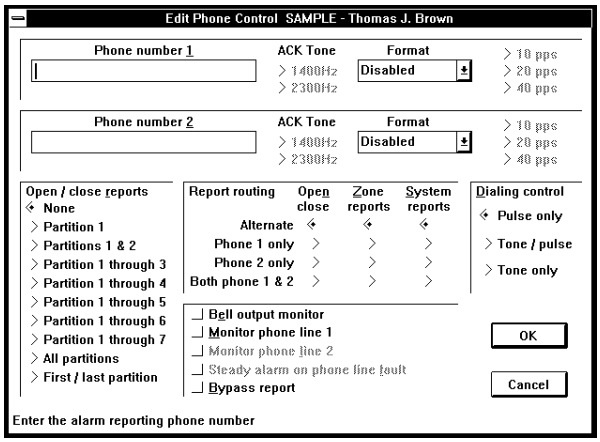
By choosing this command, the Edit Partitions window will appear. From here you may edit select information specific to partitioning.





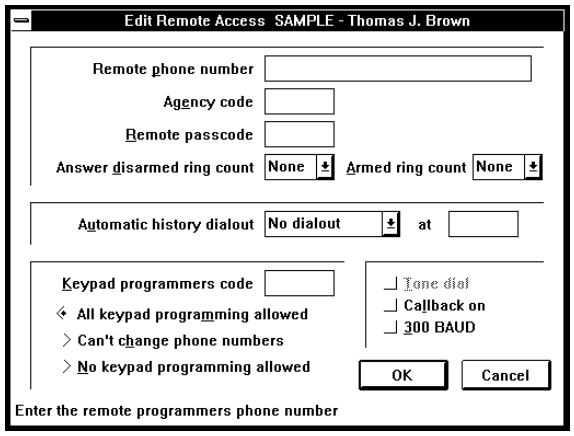
Phone Control

By choosing this command, the edit phone control window will appear. From here you may identify phone numbers and other parameters used by the control panel to report alarms to the central station.



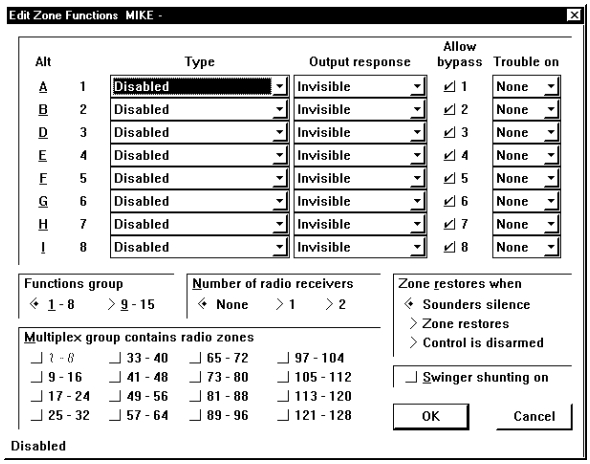
Remote Access

By choosing this command, the Edit Remote Access window will appear. From here you may edit the parameters for remote programming access.



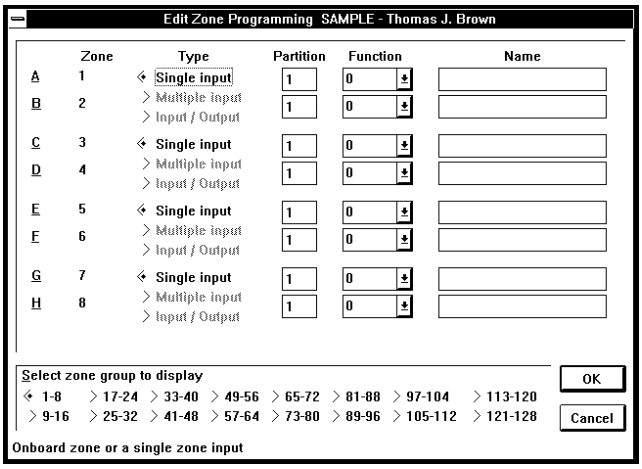
Zone Functions

By choosing this command, the Edit Zone Functions window will appear. From here you define the zone functions and edit other related information.



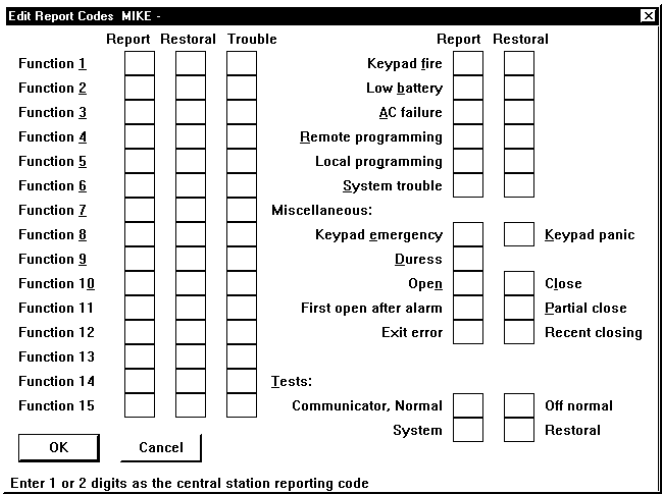
Zone Programming

By choosing this command, the Edit Zone Assignments window will appear. From here you assign zone functions and partitions, and edit input/output data.



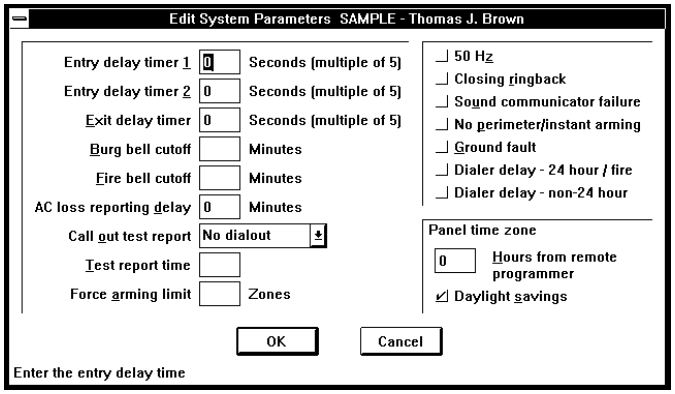
Reporting

By choosing this command, the Edit Report Codes window will appear. From here you may edit the values sent for each report.



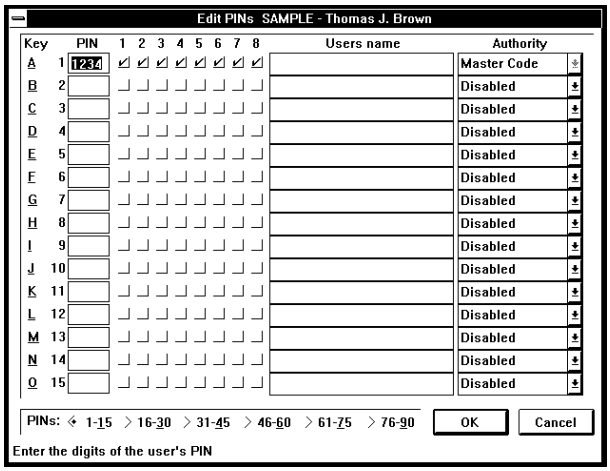
System Parameters

By choosing this command, the Edit System Parameters window will appear. From here you may edit the system-wide general operating parameters.



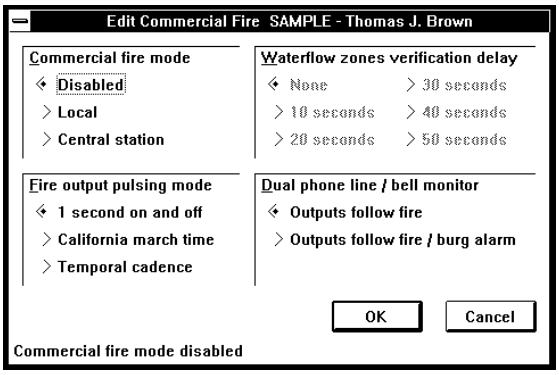
Pin Numbers

By choosing this command, the edit PIN NUMBERS (user codes) window will appear. From here you may program and edit PIN numbers.



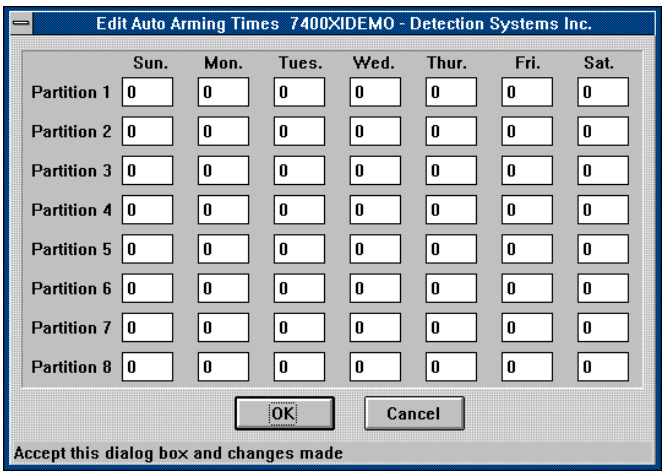
Commercial Fire

DS7400, DS7400X, DS7400Xi and DS7400 Xi Ver. 3+. By choosing this command the edit commercial fire window will appear. From here you may edit parameters necessary for the commercial fire mode.



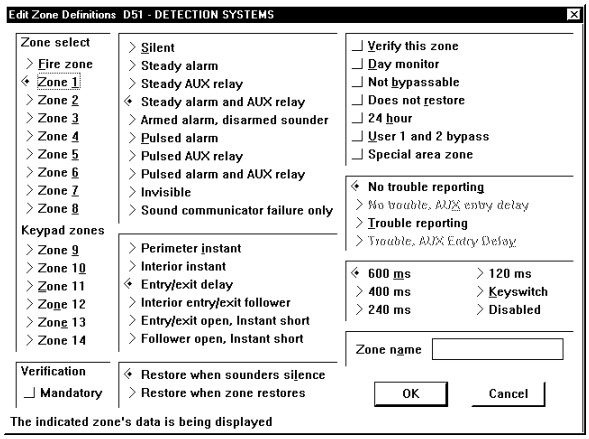
Time Windows

(DS7090TM, DS7090TMi, DS7100, DS7400Xi (ROM version 2.04 or greater) and DS7400Xi VER. 3+ only) By choosing this command, the Edit Auto Arming Times window will appear. From here you may edit the arming times .



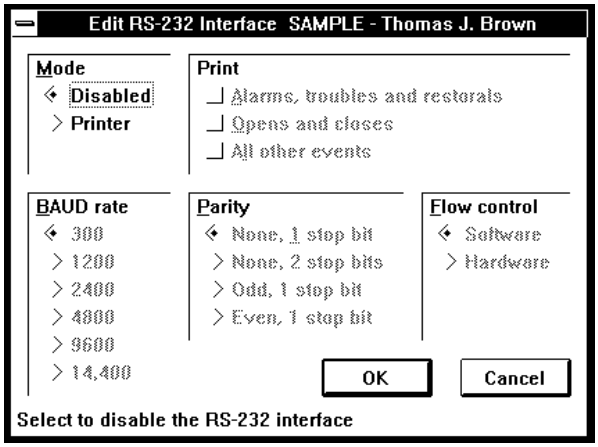
Zone Definitions

(DS7060, DS7080i, DS7090, DS7090i, DS7090TM, DS7090TMi, and DS7100 only): By choosing this command, the Edit Zone Definitions window will appear. From here you may define and edit related information concerning zones.



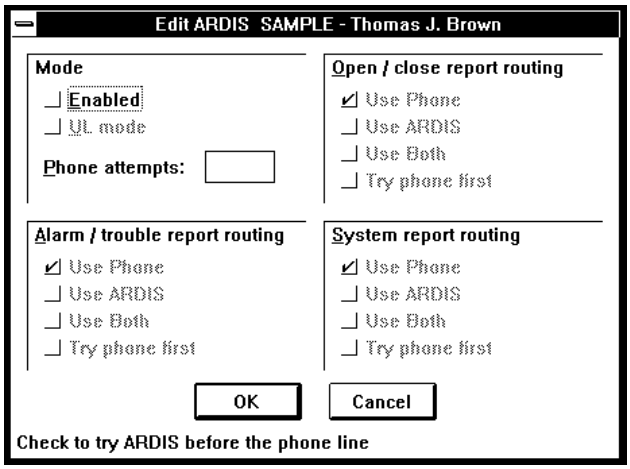
RS-232 Interface

DS7400Xi and DS7400Xi Ver. 3+ only. By choosing this command the RS-232 screen will appear. This allows you to set the data rate and flow controls for the DS7412 RS-232 Interface module



ARDIS

DS7400, DS7400X, DS7400Xi and DS7400Xi Ver. 3+ only. Choosing this command will allow you to set up the ARDIS radio functions for the ARDIS communication module.

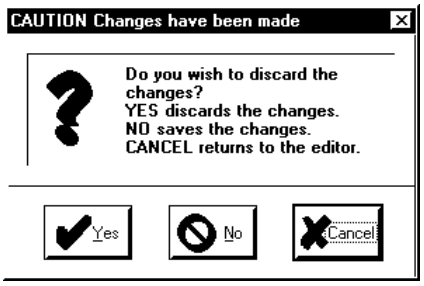


Once you have completed the necessary editing, choose one of the three commands to save or cancel these editions. They are as follows:

- **O.K. save changes and EXIT:** This command will save all the changes and return you back to the Find Account window.

- **Save and continue editing:** This command will save all of the changes and keep you at the Edit Account screen if more editing is needed.

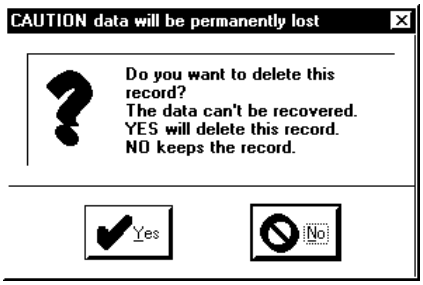
- **Cancel - no changes saved:** This command will delete all the changes you have just made and return you back to the Find Account window. If you choose the Cancel command the cancel challenge window will open.



You must choose to cancel the changes. If YES is selected the changes will be discarded. If NO is selected, the changes are saved and the program will return to the EDIT Account screen. Cancel will return you to the EDIT ACCOUNTS screen.

4.3.11 Delete

Choose the Delete command from the right-hand column command buttons in the Edit Account Screen. This command is used to delete this Account permanently from record.

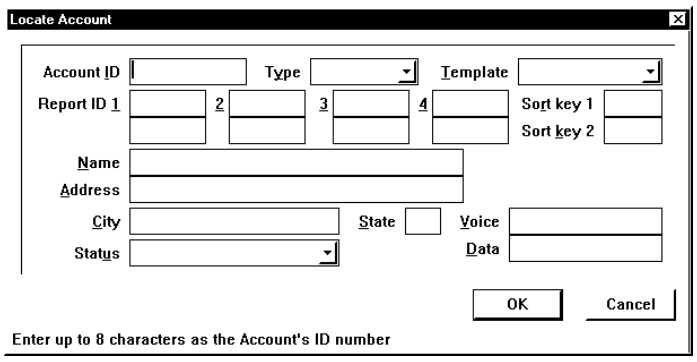


A confirmation window will appear asking if you really wish to delete this Account. Choose YES to permanently delete this Account and all associated history events, or NO to keep this Account on record.

4.3.12 Locate Key

Choose the Locate Key command from the right-hand column command buttons. This command is used to find a specific Account and have it displayed.

The Locate Account window will appear with the cursor in the blank Account ID field. Fill-in the Account ID field (if known) and choose O.K. The Account with that Account ID will now be displayed.



If the Account ID is not known, one of the following information fields may be filled in to locate a specific Account:

Equipment Type, template ID, Report IDs, Sort 1 and 2, Name (of the residential or business subscriber), Address/City/State, Status, Voice phone number, and Data phone number.

By entering one of the above fields, a number of Accounts will move to the front of the Account database that have values for that field. For example: if you enter an Equipment Type in the Locate Account window, all those Accounts with that Equipment Type (e.g. 7400) will move to the front of the Account database.

Only those Accounts that have values for the Search Key field will be displayed.

To find the specific Account you are looking for, scroll through the Account database by using the command buttons at the bottom of the window (Beginning, Previous, Next, and End of File).

4.3.13 Key Select

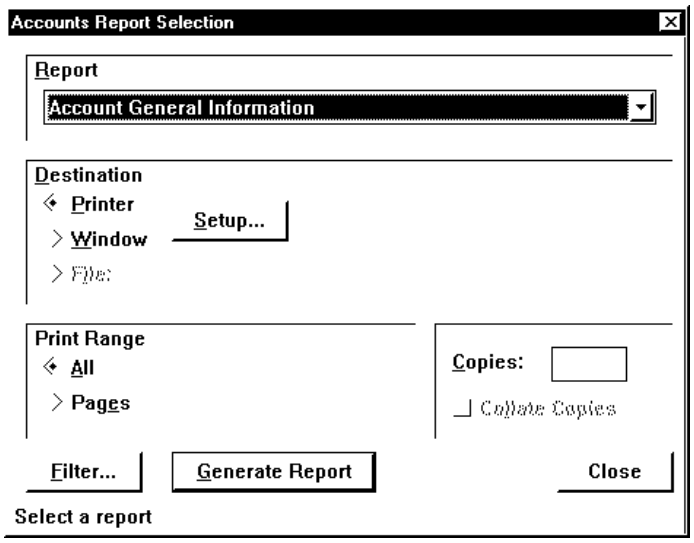
Choose the Key Select command from the right-hand column command buttons. This command is used to organize the Account database.

The Select Search Key window will appear. The Account database may be organized according to the following:

Account ID, Equipment Type, template ID, Name, State, City Address, Voice phone #, Data phone #, Reporting ID 1, 2, 3, or 4, Account Status, Sort Key 1, or Sort Key 2. Only those Accounts that have values for the Search Key field will be displayed.

4.3.14 Reports

Choose the Reports command from the right-hand column command buttons. This command is used to print information on a single Account or a group of Accounts.



Note: Not all reports are available for all types of control/communicators.

Account General Information

This report provides the account general information such as names, addresses and contacts for the accounts in the database.

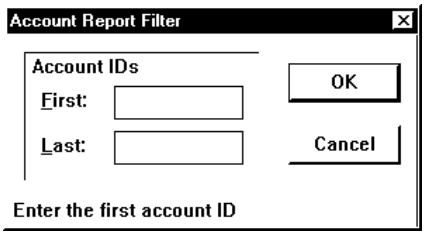
Mailing Labels

This report generates mailing labels for all the accounts in the database.

EEPROM Data

Available on the DS7080i, DS7400, DS7400X, DS7400Xi and DS7400Xi Ver. 3+ only. This report provides the programming addresses and control/communicator programming information as it would be displayed on a keypad in a two digit hexadecimal format.

Note: When using this or any other report, you may wish to use a report filter. This can save a significate amount of time when generating reports.



To use the filter, enter the first and last Account ID numbers of the accounts that you wish to include in the report. The default of the filter is the account you are currently using. If you wish a report on only one account, enter the account number as both the first and last accounts. If you set the filter to no value, the report generator will search all accounts in the database for information. This can have a significant impact on the time required to generate a report.

User PIN Information

This report generates a listing of the pin numbers and users in a system.

Zone Functions

Available on the DS7400, DS7400X, DS7400Xi and DS7400Xi Ver. 3+ only. This report generates a listing of the zone functions for an account.

Keypad Information

Available on the DS7060, DS7080i, DS7400, DS7400X, DS7400Xi, DS7400Xi Ver. 3+ only. This report defines what keypads are used and what addresses are assigned to the keypads.

Output Programming

Available on the DS7060, DS7080i, DS7400, DS7400X, DS7400Xi and DS7400Xi Ver. 3+ only. This report defines the settings of the alarm, programmable and relay outputs.

Phone Settings

This report generates the phone number, communication format and dialing method used by the communicator.

Zone Programming (7400 Style Panels)

This report generates information on the zone number, zone function, module type and partition number.

Zone Programming (non-7400 Style Panels)

This report lists the zone parameters for all zones in a control/communicator. Included is information on: Zone number, type, bypass, restore, 24 hour, response time, trouble, outputs, report code, restore code and the zone name.

Cross Matrix Programming

DS7400X, DS7400Xi and DS7400Xi Ver. 3+ only. This report lists the Output Functions and the zone and partition the output functions are linked to.

Reporting Codes

This report lists all the reporting codes which are sent in reports to the Central Station.

4.4 Templates

The purpose of a Template is to create a blueprint of commonly used programming values. This will allow you to create new accounts quickly based on the various Templates you have created.

For example: Many systems share the same information such as central station phone numbers, reporting formats, bell timers, etc. A Template can be created with these values. Subsequent accounts created using the Template would automatically have this information. To set up a new account, the programmer would have to enter the information that was specific to each new account such as user codes and zone configuration.

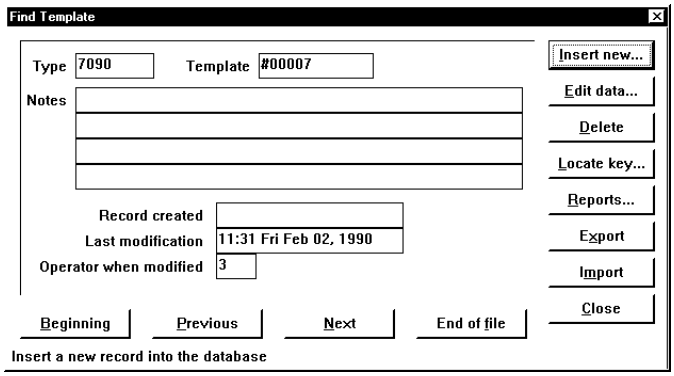
Whenever you modify a Template, all those accounts connected to it will be updated as well. This allows you to edit multiple account types from a single Template.

However, if you modify data in the accounts to differ from the Template, whenever you update that Template it will not update those fields that have been changed in the accounts.

If data in the accounts has been changed back to match the Template, that field will then be updated whenever the Template is edited.

To access the Template database, select Templates from the WDSRP Main window.

The Find Template window will appear. It is here where you keep track of the various Templates.



This window lists various general information concerning the Templates.

You can scroll through the Templates by using the command buttons at the bottom of the window (Beginning, Previous, Next, and End of File).

4.4.1 Template General Information

The general information consists of:

- **Equipment Type:** This is the type of control panel that this Template is for (DS7060, DS7080i, DS7090, DS7090i, DS7090TM, DS7090TMi, DS7100, DS7400, DS7400X, DS7400Xi, DS7400Xi Ver. 3+).

- **Template ID:** This is the number/code you assign each Template for identification purposes.

- **Notes:** This field may be used for any additional notes you may have concerning this template.

The rest of the fields in the Find Template window are filled in automatically by WDSRP. They are:

- **Record created:** This field lists the time and date when this Template was created.

- **Last modification:** This field lists the time and date when this template was last modified.

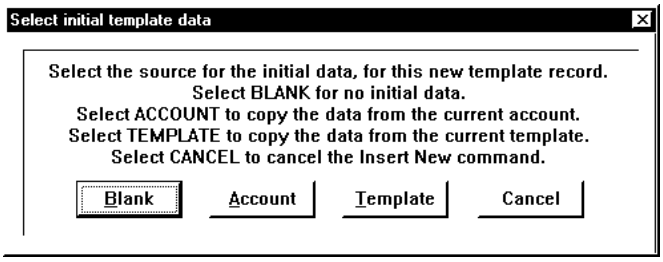
- **Operator when modified:** This field lists the operator's number who last modified this Template

4.4.2 Find Template Window Commands

Insert New

Choose the Insert New command from the right-hand column command buttons. This command is used to create new Templates.

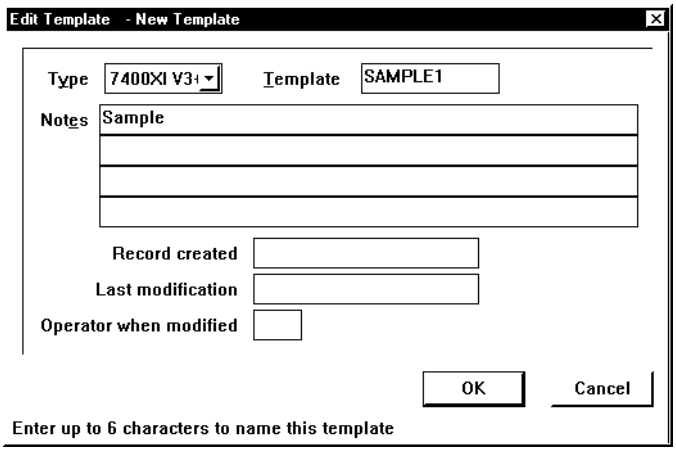
The Select initial template data window will appear. It is here where you choose the source from which you will create the new Template.



The choices are:

- **Blank:** Choosing this command will allow you to create a new Template using no initial data. This Template will be created from scratch.

This command will call-up a blank Edit Template window. From here you will fill in all the necessary general information for this new Template.



Once you complete the necessary information from this window and choose O.K., the Edit Template window for this new Template will appear. It is here where you complete all the programming information concerning this Template.

- **Template:** Choosing this command will allow you to create a new Template using initial data from the current Template displayed.

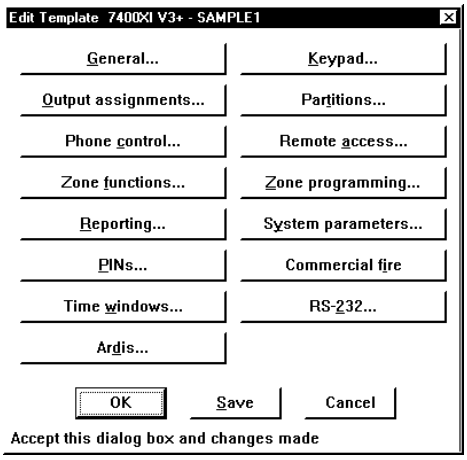
This command will call-up an Edit Template window with the information showing from the current Template. From here you can edit the necessary general information for this new Template. Be sure to select the Template ID from which you would like this Template based.

Once you complete the necessary information from this window and choose O.K., another Edit Template window for this new Template will appear. It is here where you can edit all the programming information concerning this Template.

- **Cancel:** Choosing this command will take you back to the previous window.

Edit Data

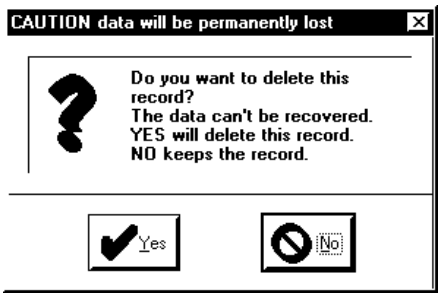
Choose the Edit Data command from the right-hand column command buttons. This command is used to edit all system data for this Template.



The Edit Template window will appear (see figure above). It is here where you choose the categories from which you will edit the system information.

Delete

Choose the Delete command from the right-hand column command buttons. This command is used to delete this Template permanently from record.

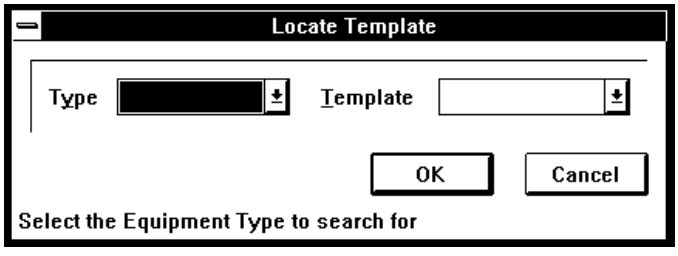


A confirmation window will appear asking if you really wish to delete this Template. Choose YES to permanently delete this Template, or NO to keep this Template Account on record.

Locate Key

Choose the Locate Key command from the right-hand column command buttons. This command is used to find a specific Template and have it displayed.

The Locate template window will appear with the cursor in the blank Equipment Type field.



Fill-in the Equipment Type field (if known) and select O.K. The Templates with that Equipment Type will now be available to scroll through (scroll through the Template database by using the commands at the bottom of the window: Beginning, Previous, Next, and End of File).

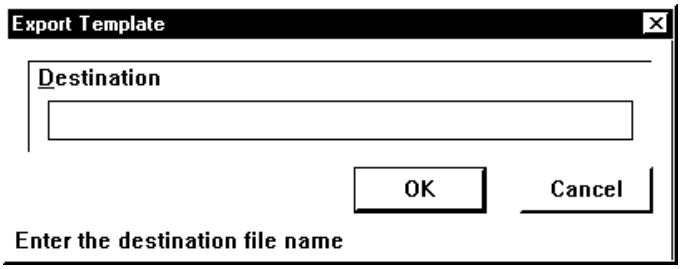
If the Template ID is known, type it in its field in the Locate Template screen and select O.K. The Template with that Template ID will be displayed.

To be sure of calling-up a single specific Template, fill-in both the Equipment Type and Template ID fields. In order for the program to accept a Template ID field entry, you must also enter the Equipment Type field.

Reports (not implemented)

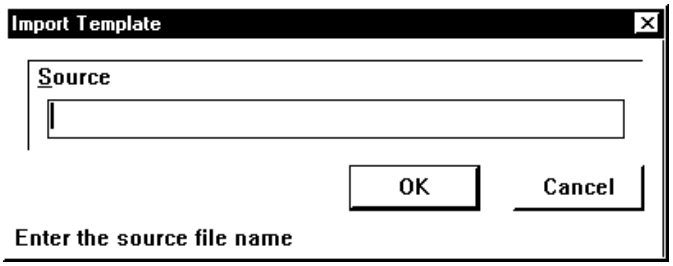
Choose the Reports command from the right-hand column command buttons. This command is used to print information on a single Template or a group of Templates.

Export



Choosing the Export command from the right hand column of command buttons will allow you to export a template to another drive or directory.

Import



Choosing the import command will allow you to import a template from another drive or directory.

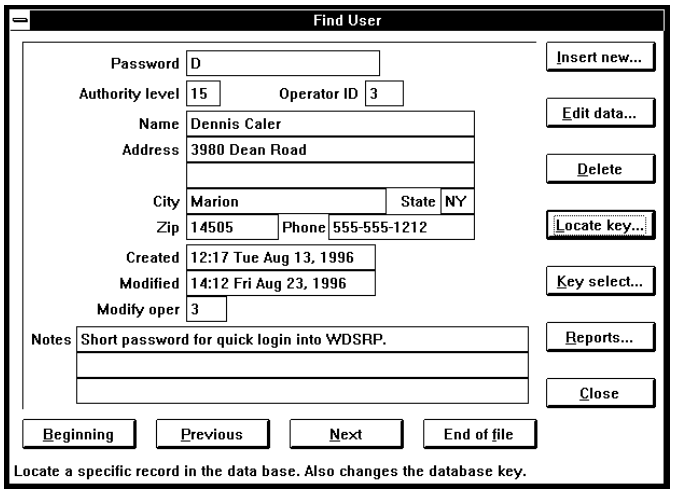
Close

Choose the Close command from the right-hand column command buttons. This command will return you to the WDSRP Log-in window.

4.5 Users

To access Users (users of this WDSRP program), choose Users from the WDSRP Main window.

The Find User window will appear. It is here where you keep track of the various Users of this WDSRP program.



This window lists various general information concerning the users.

You can scroll through the Find User database by using the command buttons at the bottom of the window (Beginning, Previous, Next, and End of File).

4.5.1 User General Information

The general information consists of:

- **Password:** This is the code given to each User that allows them access to WDSRP. This password will be asked for upon Log-in.
- **Authority Level:** This is the level of authority that each User will have.

The authority level you give each user is critical. The authority level given to each user will allow that user certain access privileges throughout the WDSRP program. Each field within WDSRP (any place a user may interact with) has its own authority levels. Authority levels affect the user in two ways. The fields have a minimum authority level that a user must meet just to view that field. They also have a minimal authority level that each user must meet in order to edit that field.

You can not add a user with an authority level higher than or equal to your own.

- **Operator ID:** This is the number assigned to each User by WDSRP. You may use this number for organizational purposes.
- **Name:** This is the name of the User.
- **Address, City, State, Zip Code:** This is the address of the User.
- **Phone Number:** This is the phone number to reach this User.
- **Notes:** This field may be used for any additional notes you may have concerning this User.

The rest of the fields in the Find User window are filled in automatically by WDSRP. They are:

- **Created:** This field lists the time and date when this User data was created.
- **Modified:** This field lists the time and date when this User data was last modified.
- **Modify op:** This field lists the operator's number who last modified this User information.

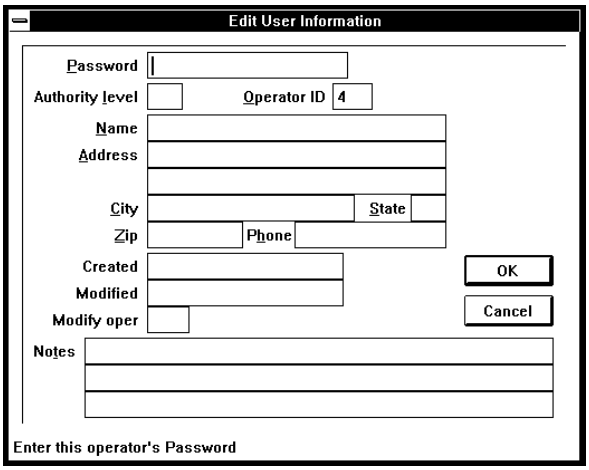
4.5.2 Find User window: Commands

Insert New

Choose the Insert New command from the right-hand column command buttons. This command is used to create a new WDSRP program User.

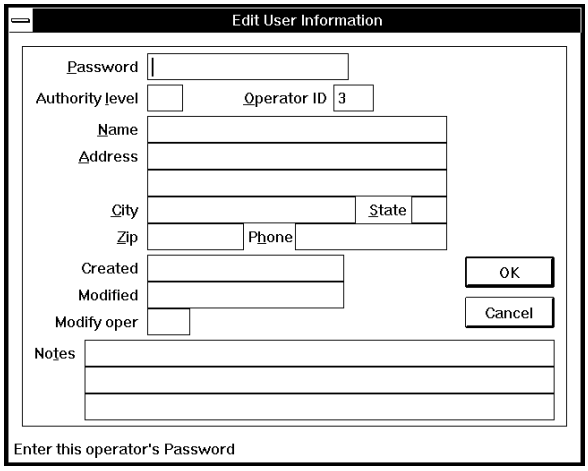
The Edit User Information window will appear. Most the fields will be blank waiting for your in

The Operator ID, Created, Modified, and Modify op. fields will be filled in by WDSRP



Edit Data

Choose the Edit Data command from the right-hand column command buttons. This command is used to edit the information concerning that User.



The Edit User Information window will appear. It is here where you may edit any or all information concerning this User.

Delete

Note: You cannot delete a user of equal or greater authority than your own. The Delete Button will not appear on user screens that have equal authority to your own. You can not view or modify users with greater authority.

Choose the Delete command from the right-hand column command buttons. This command is used to delete this User permanently from record.

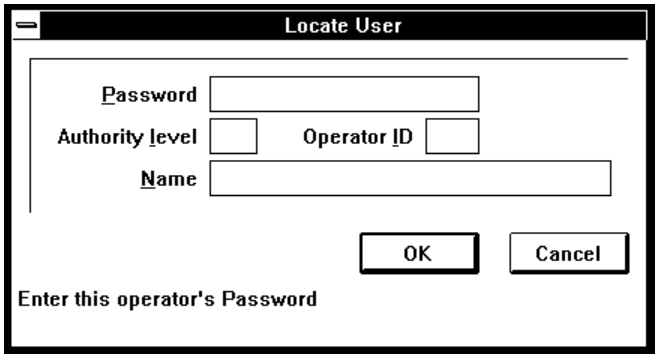
A confirmation window will appear asking if you really wish to delete this User.

Choose YES to permanently delete this User , or NO to keep this User on record.

Locate Key

Choose the Locate Key command from the right-hand column command buttons. This command is used to find a specific User and have his/her data displayed.

The Locate User window will appear with the cursor in the blank Password field.



Fill-in the Password field. Fill-in another field if the password is not known and choose O.K. The User with that Password or information will now be displayed.

Key Select

Choose the Key Select command from the right-hand column command buttons. The Select Search Key window will appear.

This command is used to organize the User database.

The User database may be organized according to the following: Password, Name, Authority Level, or Operator ID.

Reports (not implemented)

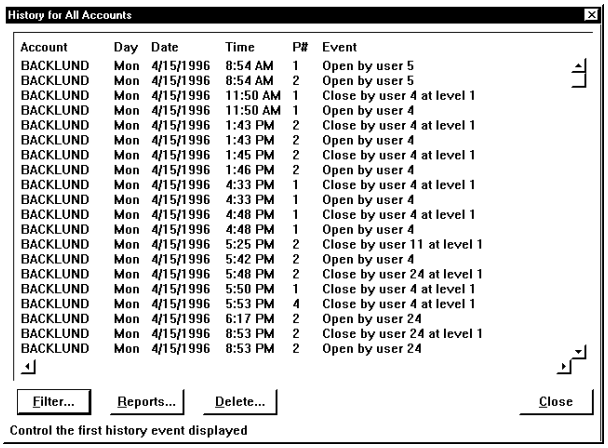
Choose the Reports command from the right-hand column command buttons. This command is used to print information on a single User or a group of Users.

Close

Choose the Close command from the right-hand column command buttons. This command will return you to the WDSRP Log-in window.

5.0 HISTORY

To access History, select History from the WDSRP Main window. The History for all Accounts window will appear.



It is here where the history events for all Accounts will be displayed.

A bottom row of command buttons will show those commands available. They are as follows:

- **Filter:** This command will allow you to view specific history events by select categories and time range. By choosing this command, the History Filter screen will appear. From here you can select the viewing parameters.

- **Reports:** This command allows you to print out history reports.

- **Delete:** This command allows you to move the history events to the History Archive or delete them completely.

- **Close:** This command will return you to the previous screen.

If you would like to view the History for a specific Account, select Account from the WDSRP Main window. Locate the Account you wish to access History for, and choose the History command. The History for that particular control panel will then be displayed.

6.0 LOG OUT

There are several ways to Log-out of WDSRP.

1- Select Log-out from the WDSRP Main window. By choosing this command you are exiting the WDSRP program as a user. The Log-in password window will appear indicating that log-out has taken place and that you must use your password to log in again.

2- Selecting Log-out from the Windows Title bar will allow you to log out and retain the WDSRP menu on the screen. You may also select Log-out and Minimize, which will log out and reduce WDSRP to an icon in Windows 3.1 or a selection on the Task bar in Windows 95.

Remember: This is a communications program. The user is expected only to log-out, not quit the program. Quitting will terminate operation and communications will not be possible.

7.0 UTILITIES

The Utilities menu can be accessed from the WDSRP Main window.

Choose Utilities from the pull-down menu items at the top of this window. From here you will be able to access the following categories.

- **Organize:** The Organize selection will enable WDSRP to automatically organize Account database settings for ALL Accounts. The categories for organizing are as follows: (selecting these categories will call-up a confirmation window where you decide whether or not to complete the action)

  - **Test Times:** This selection will organize the Account database's Test Times. It will arrange the control panel's test timers so they will call the central station at programmed intervals. This will only update the database. The control panels and WDSRP still must get in contact for this transfer of data to take place (it will take place automatically upon contact).

  - **Dump Times:** This selection will organize the Account database's history dump times. It will arrange the control panel's dump timers so they will call WDSRP at programmed intervals. This will only update the database. The control panels and WDSRP still must get in contact for this transfer of data to take place (it will take place automatically upon contact).

  - **Set Panel Time:** This selection will cause each control panel timer to match the WDSRP timer (taking into account hours from UTC). This will only update the database. The control panels and WDSRP still must get in contact for this transfer of data to take place (it will take place automatically upon contact).

  - **Remote Codes:** This selection will assign each control panel new account codes. This will only update the database. The control panels and WDSRP still must get in contact for this transfer of data to take place (it will take place automatically upon contact).

  - **Upload Panel to WDSRP:** This selection will have each panel upload to their database to WDSRP upon next contact.

  - **Download WDSRP to Panel:** This selection will have each panel receive a download from WDSRP upon next contact.

  - **Clear all Auto Service:** This selection will clear the Auto Service field for all accounts. Therefore, no auto services will occur at the next contact.

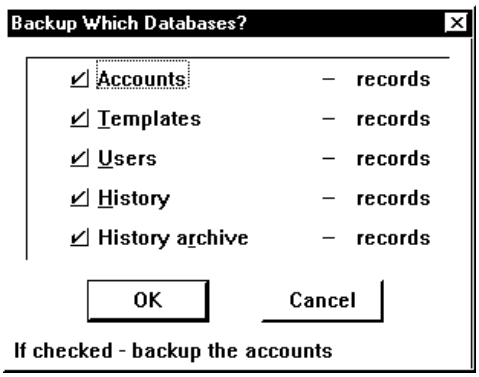
  - **Clear all Status:** This selection will clear the Status filed for all accounts upon next contact. It will also clear all current control panel status information.

  - **Clear all Auto Call:** (Not implemented)

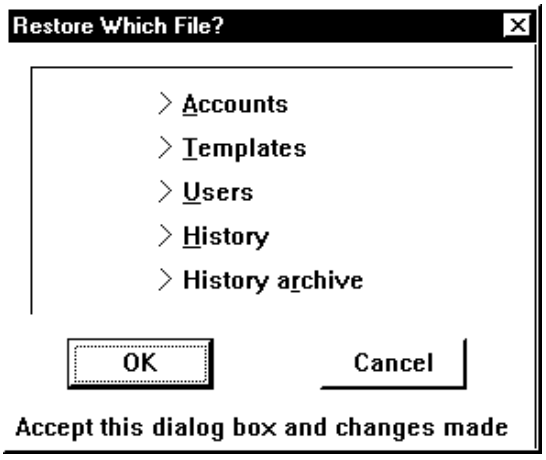
  - **Auto call all non-history panels:** (Not implemented)

  - **Auto call all panels:** (Not implemented)

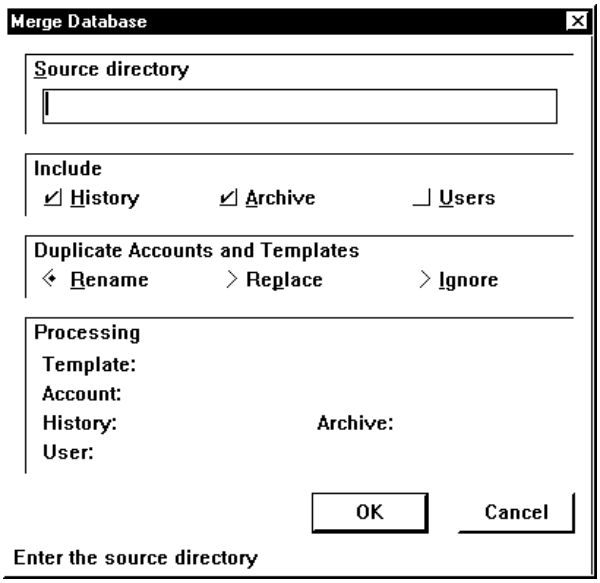
- **Backup:** The Backup selection will enable you to backup the Accounts, Templates, Users, History, and/or History Archive databases. The paths these backups are sent to are set in the Preferences window.



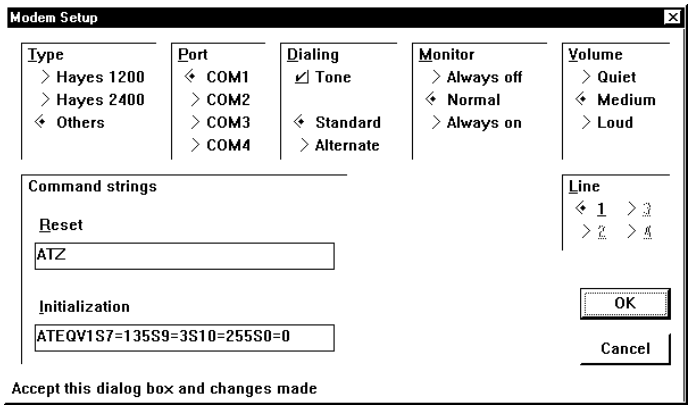
- **Restore:** The Restore selection will enable you to restore the Accounts, Templates, Users, History, or History Archive databases to the point of the last backup.



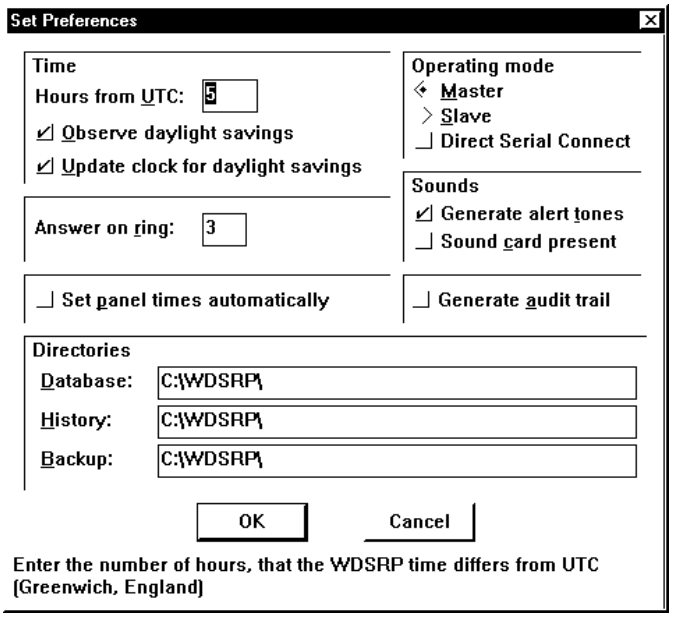
- **Merge:** The Merge selection allows you to merge data from other WDSRP or DSRP databases into your own database.



- **Modem:** The Modem selection will enable you to set the parameters needed for proper modem operation.



- **Preferences:** The Preferences selection will enable you to edit/select certain WDSRP preferences.



The specific selections are as follows:

- **Time Zone:** It is here where you can edit your hours from UTC and whether or not daylight savings time is observed, and update your clock for daylight savings.

- **Set panel times automatically:** Check this box if you wish to set each control panel's timer to match the WDSRP timer (taking into account hours from UTC) every time contact is made.

- **Sound Alert Tones:** Check this box if you wish alert tones to be sounded at your PC. This will enable you to be alerted to incoming phone calls and error messages. This selection should be checked.

- **System has sound card:** Check this selection if the PC running WDSRP has a sound card installed.

- **Operating Mode:** Check either the Master, Slave or Direct Connect boxes. The Slave selection is used if WDSRP is operating from a portable PC. If so, the control panel will be instructed to call the Master PC to upload data if programmed from a Slave PC. The Direct Connect is for connecting the computer directly (without the use of a modem or phone line) to a DS7400Xi (with ROM Version 2.04 or greater) or a DS7400Xi Ver. 3+. See **Section 8.0 Direct Connect.**

- **Answer ring count:** It is here where you determine how many rings it will take before WDSRP will answer an incoming call.

- **Audit File:** Check this box if you wish the Audit file function to be in use. The Audit file keeps track of User activity within WDSRP.

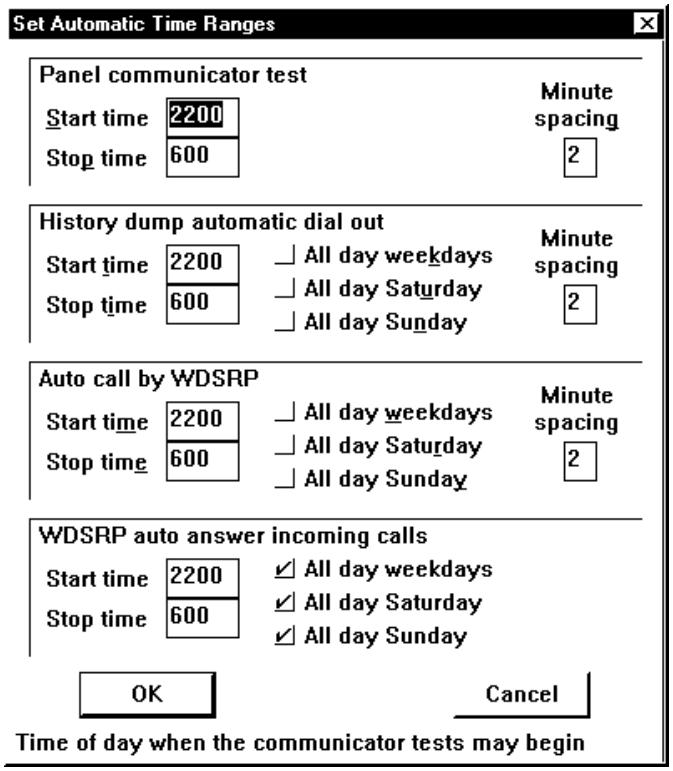
Note: Operation of the **Audit File** feature uses large amounts of hard drive space with continual use.

- **Database Path:** It is here where you determine the path where the databases are located.

- **History Path:** It is here where you determine the path where the History and Archive databases are located.

- **Backup/restore Path:** It is here where you determine the path where each Backup/restore databases will be located.

- **Times:** The Times selection will enable you to set time ranges for communicator tests, history dumps, and/or auto calls.



8.0 DIRECT CONNECTION

WDSRP allows you to connect your computer directly to a DS7400Xi control/communicator without the need of a modem or phone line. All of the WDSRP features are available using Direct Connect.

Equipment Required:

- DS7400Xi with control ROM version 2.04 or higher, DS7400Xi Ver. 3+
- WDSRP version 1.7R6 or higher
- DS7412 RS232 Interface
- DS7447 keypad

Setup:

1) Remove power from the DS7400Xi and install the DS7412.
2) Connect the RS232 cable between the RS232 connector on the DS7412 and the RS232 Com port on your computer.
3) Apply power to the control
4) Program panel address 0206 as 10 and 0207 as 25, to enable the RS232 for remote communications.
5) Turn on your computer and start WDSRP.

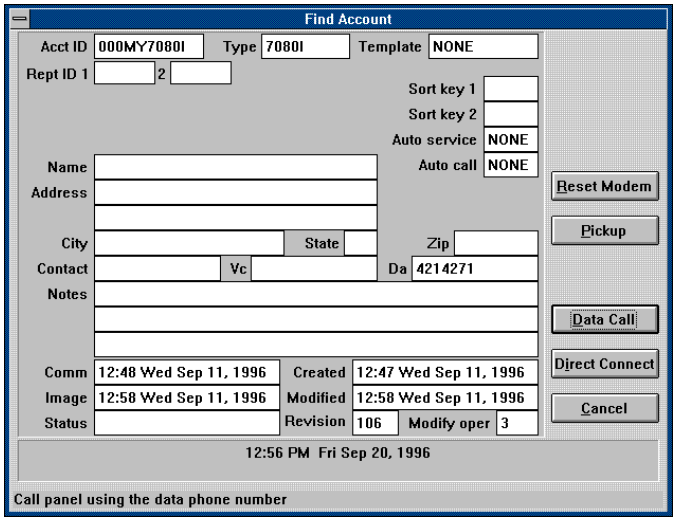
Establishing Communications:

1) From the WDSRP Utilities menu, select "**Preferences**".
2) Under operating mode, select "**Direct Connect**"
3) Exit WDSRP and restart the program to enable the change to direct connect.

Note: If you used direct connect in the previous session with a panel, you may skip steps 1-3. If your next session with a panel will be via the modem, you will have to go back to the "Preferences" selection, select your modem, then exit and restart WDSRP.

Remember: Anytime you change from direct connect to modem or from modem to direct connect, it is necessary to exit WDSRP and restart the program.

4) From the main menu, select "**Accounts**".
5) Locate the account for the panel you wish to communicate with.
6) Select "**Communicate**".
7) Select "**Direct Connect**".



The WDSRP will establish communications with the control.

You can now upload and download as you normally would when remote programming over the telephone line.

Note: RS232 programming requires the correct settings in the DS7412 section (addresses 0206 and 0207). If you change these settings, and download them, the panel will disconnect as soon as it burns the new settings into the EEPROM. If you need to set the DS7412 differently, such as for a printer, make sure you finish all other desired commands first.

9.0 QUITTING WDSRP

There are several ways to quit WDSRP. In all cases you must return to the main screen to quit. You may then select File from the title bar in Windows and then select quit. In Windows 3.1, you may double click the - symbol on the upper left corner of the title bar to quit. In Windows 95, clicking the X in the upper right corner of the title bar will quit the program.

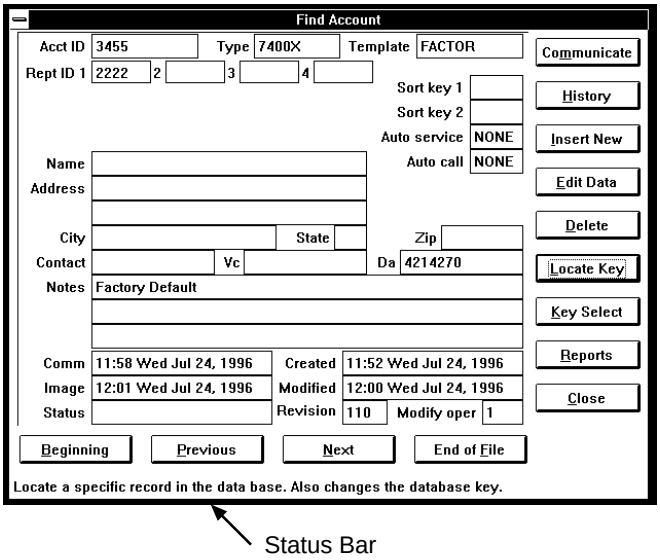
10.0 TROUBLESHOOTING WDSRP

This section contains some tips for using WDSRP effectively and offers some solutions to problems you may encounter when using the program.

10.1 The Status Bar

The Status Bar is one of the most important troubleshooting tools

available in WDSRP. Located in the lower left hand corner of the active window screen, it provides programming information when you are setting up accounts, templates, users and so forth. It also provides online status information when you are communicating with a panel.



In the example above, the Locate Key is highlighted and the Status Bar explains that the Locate Key will locate a specific record in the database.

10.2 Troubleshooting Tips

Below are some problems you may encounter.

1- When starting WDSRP, I get a General Protection Fault or modem not found message.

- You are running multiple instances (for example: you have selected the WDSRP 1 icon twice) of WDSRP at the same time on the computer. Minimize all operating programs and the program manager to find the duplicate instance of WDSRP.

2- The panel does not answer.

- The panel is not programmed to auto-answer. If panel is set to factory default, it will not answer.
- The manual line seize command is not issued correctly. Use [PIN][#86] or [#86], not [#83], to seize the line.
- The answering machine answers. Use answering machine override or manually seize the line.

3. WDSRP does not answer the phone.

- WDSRP is not programmed to answer. Go to Utilities, Preferences and set a valid ring count.
- WDSRP is not logged out. It will not answer when you are using the program unless you go to the Account screen and select pickup. See Section 3.5.

4. WDSRP does not communicate with panel.

- The modem may be incompatible with WDSRP. Incompatible modems may appear to work as they will dial out, the panel will answer, but no communication takes place. See the README.TXT file for compatible modems.

5. Panel answers the phone and then hangs up.

- Log-in rejected because the agency or passcode do not match. Observe the Status Bar as it will tell you why communications were terminated.
- If there is a sudden termination of communications while uploading/downloading to the panel, investigate for noisy phone lines.

6. New Account is generated when the panel calls in.

- WDSRP will create a new account if the panel calling in does not match any existing account. Phone number 1 and Reporting ID #1 must match. The panel will not create a new account if there is an agency or passcode in the panel calling in.

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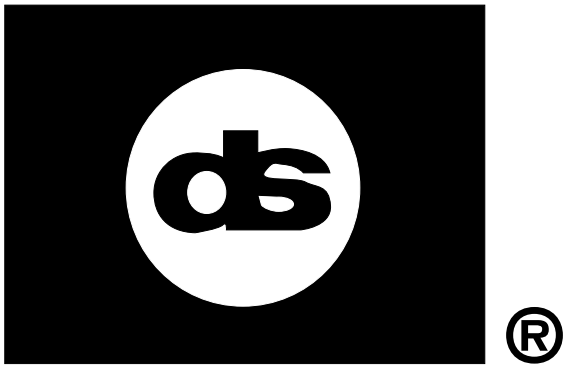


Installation Instructions for the DS7443 and DS7444 Control Stations (Keypads)

1.0 General Information

The DS7443 and the DS7444 are 4-wire LED Control Stations (keypads) intended for use with the DS7400Xi, DS7080i, and DS7060 Control/Communicators (panels). The DS7443 has 6 zone LEDs and the DS7444 has 8 zone LEDs; otherwise the two control stations are identical.

Mounting variations of the keypads include: wall surface mounting, mounting to standard single gang switch or outlet boxes, and/or direct mounting to the front of the control panel's enclosure.

The recommended wiring to the control panel is standard #22 AWG (0.8 mm), non-shielded "telephone" quad (4-wire) cable. The following is a chart of general wiring guidelines:

	DS7400Xi	DS7080i	DS7060
Wire Gage	22 AWG (0.8 mm)	22 AWG (0.8 mm)	22 AWG (0.8 mm)
Wire Type	no shield, 4-wire	no shield, 4-wire	no shield, 4-wire
Max. number of Keypads allowed per System	6	4	4
Max. distance allowed between the Control and each Keypad	1,000 feet (300 m)	1,000 feet (300 m)	1,000 feet (300 m)
Max. distance of Keypad Wiring per System	6,000 feet (1800 m)	6,000 feet (1800 m)	1,000 feet (300 m)

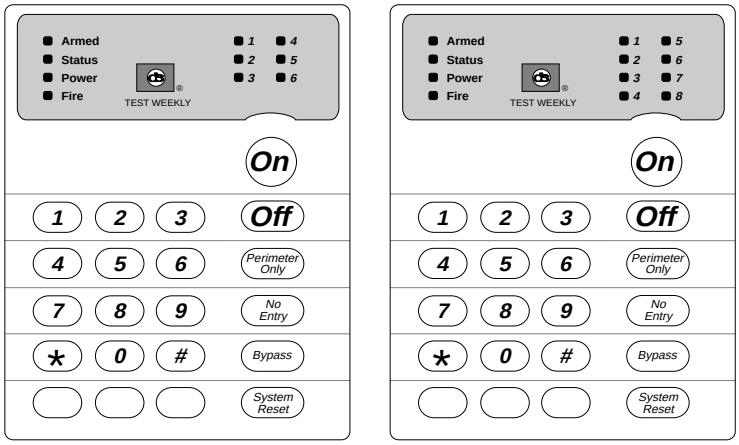
2.0 Location

Ideally, one keypad should be located close to the primary entry/exit door of the premises, and within 1,000 feet (300 m) of the control panel. Because control panels will support more than one keypad, the installation of additional keypads is available at secondary entry/exit zones or other strategic locations throughout the premises.

Note: The keypads are not intended for outdoor installations.

3.0 Mounting

- The keypad should be mounted so that the bottom of the keypad is no higher than shoulder height of the shortest person using the system.
- With the keypad's door open, remove the chassis from the base by inserting a small flathead screwdriver in the two slots in the bottom of the chassis and, pressing up, pulling the chassis straight away from the base.



DS7443 **DS7444**

Figure A - Front view of keypads

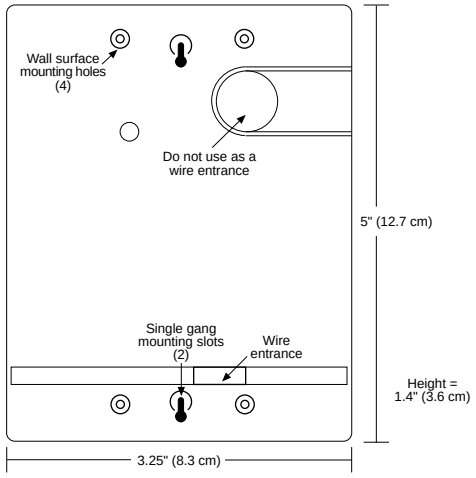


Figure B - Rear view of keypad base

- **Wall Surface Mount**: Using the base as a template, mark the location for the 4 mounting holes and the wire/cable entrance on the mounting surface.
  - Provide an appropriate opening in the mounting surface for the wiring.
  - Pre-start the mounting screws.
  - Do not secure the base at this time.
- **Switch or Outlet Box Mount**: Use either set of mounting holes for mounting to a single gang box.
  - Do not secure the base at this time.

4.0 Wiring

- **Be sure all wiring is unpowered (de-energized) before routing.** *Keypad wiring can not be shared with multiplex, options bus, telephone, or siren wiring.*
- Route wiring as necessary from the control panel to the area of the DS7443/DS7444 installation.

Note: No more than 1 keypad may be placed along any single run of 1,000 feet (300 m) of #22 AWG (0.8 mm) cable.

Detection Systems PTY Ltd.
Unit 21, 45 Gilby Road
Mount Waverley, Victoria 3149, Australia
61 3 9558 8088
Fax: 61 3 9558 8089

Detection Systems PTY Ltd.
Unit 2, The Riverside Centre
148 James Ruse Drive
Parramatta, NSW 2150, Australia
61 2 891 4944
Fax: 61 2 891 5844

Detection Systems Ltd.
19, Rue du 19 Mars-78130
Les Mureaux, France
Phone/Fax: 33 1 34 74 9576

Detection Systems Ltd.
Unit 13-18, 17/F New Commerce Centre
19 On Sum Street, Shatin, N.T.
Hong Kong
852 2635 2815
Fax: 852 2648 7986

Detection Systems, Inc., 130 Perinton Parkway, Fairport, New York, USA 14450-9199
(716) 223-4060 • (800) 289-0096 • Fax: (716) 223-9180

- Bring the cable through the wire/cable entrance in the keypad base.
- Secure the base to the mounting surface or box.
- Make all necessary connections from the field wiring to the keypad wires.

Red Stripe = + Power

= - Power

Green = Data In

Yellow Stripe = Data Out

Figure C - Wiring

5.0 Sounder Silence

- To set the control station's sounder for silent operation, place the shorting jumper over the sounder silence pin shown in Figure D.

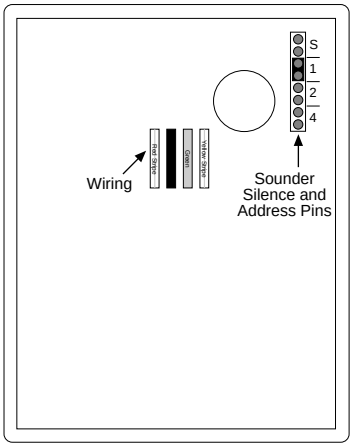
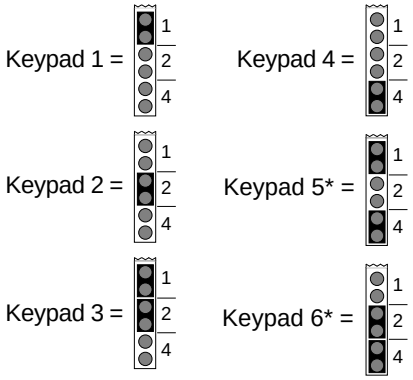


Figure D - Rear view of circuit board

6.0 Control Station Address

Note: Each keypad must have its address set via the address pins. Each keypad must also be programmed at the control panel.

- Select the keypad address (1 - 6) by placing the shorting jumpers over the address pins as shown in Figure E. For the location of the address pins on the back of the circuit board, see Figure D.



* = Keypads 5 and 6 are not valid for use with the DS7080i and DS7060

Figure E - Assigning keypad addresses

- Each keypad must have a different address. **One keypad must be assigned as Keypad 1.**
- Place the keypad chassis onto the base and, while feeding the excess cable out the rear of the base, press the chassis straight in until it latches on.

7.0 Emergency Key Labeling

Note: Do NOT label the emergency keys if they are not programmed.

If labeling, the unmarked key in the lower left corner of the keypad MUST be labeled as the FIRE key because of its programming values pre-set in the control panel. The unmarked center key should be labeled as the Special Emergency key. The unmarked right key should be labeled as the Panic key.

Fire **Special Emergency** **Panic**

Figure F - Emergency Key Labels

8.0 Keypad Faults

In case of trouble, the DS7443/DS7444 keypad will display the following characteristics:

Observation	Possible Causes
3 beep error tone at keypad	• The keypad's address has not been set with its address pins. • The keypad has not been programmed properly at the control panel. • The yellow wire has been disconnected.
Keypads locked out (no tones)	• Two or more keypads have been set to the same address.
No keypad LEDs light up	• The red/black power wires are disconnected or broken.

DS7481 Single Phone Line Monitor Installation Instructions

1.0 Description

The DS7481 Single Phone Line Monitor is designed for universal use with most 12 V control/communicators that accept N/O inputs. It is specifically designed to monitor 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.

2.0 Specifications

- **Power Required:** 20 mA @ 12 VDC.
- **Phone Fault Output:** A N/O dry contact rated 0.5 A @ 12 VDC. Wire to a 24-hour input with a supervised end-of-line resistor.
- **Ringer Equivalence Number:** 0.0B
- **Operating Temperature:** +32° to +120°F (0° to +49°C)
- **Lightning Protection:** MOVs and spark gaps provide protection from lightning surges and static discharges.
- **FCC Registration Number:** ESVUSA-20057-KX-N
- **DOC Certificate Number:** 11454
- **DOC Certification Number:** 1249 5790 A

CAUTION: Handle this circuit board with care. Rough handling and static discharge can damage this and other circuits. Ground yourself before handling any circuit board.

3.0 Installation

Screws are the preferred method of mounting and are required on U.L. Certificated installations. If mounting to a DS7080i or a DS7400Xi enclosure, and only one battery is being used in the system, the preferred mounting position will be in the lower left corner of the enclosure.

4.0 Terminal Functions / Phone Line Connection

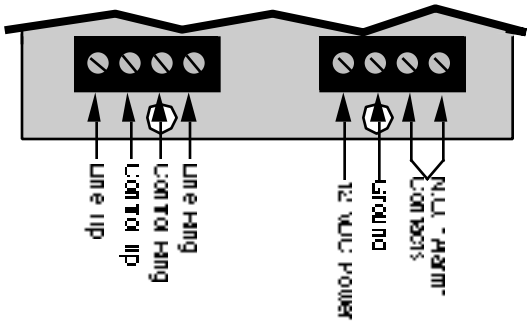


Figure A - Terminal Functions (supervised)

5.0 Programming

The zone you connect to at the control panel should be programmed to provide an alarm sounder output to indicate the phone line has been lost or cut. For intrusion systems, the recommended sound is a constant keypad output when disarmed and the normal alarm sounders when armed.

6.0 Testing

Disconnect the phone line connection. After a 50 second delay, the line fault output will fault the zone it is wired to. Verify the proper sounder output.

7.0 Operation

If the DS7481 Monitor detects a phone line fault for more than 50 seconds, it will activate the relay output.

A phone line failure may be caused by:

- A cut or missing phone line, or a mis-wired jack.

To clear a line fault error:

- Determine the cause of the failure and eliminate the cause.
- After eliminating the cause of the failure, wait at least ten seconds.
- The error will clear if the problem has been eliminated and the zone output will return to normal.

8.0 Wiring to Control Panels

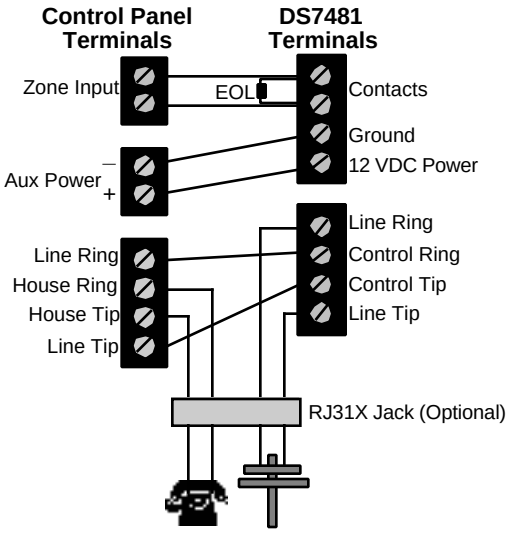


Figure B - Wiring Connections

Detection Systems, Inc.
Fairport, New York 14450
Technical Service: (800) 374-7454
Sales: (800) 289-0096 and (716) 223-4060
Fax: (716) 223-9180

9.0 FCC Compliance Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

10.0 FCC Phone Connection Notice To Users

This unit complies with Part 68 of the FCC rules.

On the top of the PCB is a label that contains, among other information, the FCC Registration Number and the Ringer Equivalence Number (REN) for this equipment. You must, upon request, provide this information to your local telephone company.

The REN is useful to determine the quantity of devices that you may connect to your telephone line and still have all of those devices ring when your telephone number is called. In most, but not all areas, the sum of the REN's of all devices connected to one line should not exceed five (5.0). To be certain of the number of devices that you may connect to your line, you may want to contact your local telephone company to determine the maximum REN for your local calling area.

This equipment may not be used on coin service provided by the telephone company. This control should not be connected to party lines.

Should this equipment cause harm to the telephone network, the telephone company may discontinue your service temporarily. If possible, they will notify you in advance. But if advanced notice isn't practical, you will be notified as soon as possible. You will be informed of your right to file a complaint with the FCC. The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the proper functioning of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.

If you experience trouble with this equipment, please contact the manufacturer for information on obtaining service or repairs.

The telephone company may ask that you disconnect this equipment from the network until the problem has been corrected or until you are sure that the equipment is not malfunctioning. The repairs to this equipment must be made by manufacturer and not by the user.

To guard against accidental disconnection, there is ample room to mount the Telco jack to the inside of the Control cabinet.

The operation of this Control may also be affected if events such as accidents or acts of God cause an interruption in telephone service.

11.0 Canadian Department of Communications

General Installation Requirements: Notice: The Canadian Department of Communications label identifies certified equipment. This certification means that the equipment meets certain telecommunications network, protective, operational, and safety requirements. The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring associated with a single line individual service may be extended by means of a certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure, for their own protection, that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Caution: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

Terminal Requirements: The Load Number (LN) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop which is used by the device, to prevent overloading. The termination on a loop may consist of any combination of devices subject only to the requirement that the total of the Load Numbers of all the devices does not exceed 100. The Load Number of the DS7080i and the DS7400Xi is 2.

RFI Requirements: This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations. [Cet appareil numerique de la classe A respecte toutes les exigences du Reglement sur le material broilleur du Canada.]