



Security Systems

EN

Program Entry Guide
Control Panels

BOSCH

Documentation Conventions

Type Styles Used in this Manual

To help identify important items in the text, the following type styles are used:

Bold text	Indicates selections that you may use while programming your control panel, important facts and headings, and other information that should be noted.
<i>Italicized text</i>	Refers the user to another section of this manual or another manual entirely. It also symbolizes names for records that the user creates.
Courier Text	Indicates what may appear on the command center/keypad or internal printer.
[TEXT OR ###]	Indicates to the user that a specific key should be pressed.
[##]	Indicates a control panel event number (see <i>Appendix B</i>).
<i>Italicized Text</i>	Indicates a control panel programming parameter.

Important Notes, Cautions, and Warnings

Throughout this document helpful tips and notes are presented concerning the entire application and/or programming the unit. They are set off as follows:



Important Notes - Should be heeded for successful operation and programming. Also tips and shortcuts may be included here.



Caution - These caution the operator that physical damage to the control panel and/or equipment may occur.



Warning - These warn of the possibility of physical damage to the operator, program, and/or equipment.



SIA— These indicate that features of this control panel meet the SIA Control Panel Standard for False Alarm Reduction. For more information, see the *D6412, D4412 SIA Quick Start Guide* and the *Control Panel Standard – Features for False Alarm Reduction* (ANSI/SIA CP-01-2000, •1994-2000 Security Industry Association).

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1.0 Introduction

1.1 Other Literature Referenced

Throughout this guide, references are made to other documentation. See *Table 1* for a more complete and detailed description of the control panel literature, including the part number for ordering purposes.

Table 1: Literature Referenced

Name of Document	Part Number
<i>D6412, D4412 Installation Guide</i>	45349
<i>D6412 Program Record Sheet</i>	45350
<i>D4412 Program Record Sheet</i>	50485
<i>D6412, D4412 SIA Quick Reference Guide</i>	46930

1.2 System Features

Table 2 lists the features that pertain to the two control panels covered in this *Program Entry Guide*.

Table 2: Control Panel System Features

Feature	D6412	D4412
Points	40	24
RF Points	40	24
Outputs	20	12
Areas	4	2
Users	32	32
RF Keyfobs (RF3332/RF3334)	32	32
RF Keypads (RF3341)	4	4
DX2010 Input Expander (single inputs)	Up to 5 allowed	Up to 3 allowed
DX2010 Input Expander (doubled inputs)	Up to 2 allowed	Up to 1 allowed
DX3010 Octo-Output Expander	Up to 2 allowed	Up to 1 allowed
DX3020 X-10 Control Module	Up to 1 allowed	Up to 1 allowed
DX4010 RS-232 Serial Interface Module	Up to 1 allowed	Up to 1 allowed
RF3224 Premises RF Receiver	Up to 2 allowed	Up to 2 allowed
D621 LED Command Center	Up to 8 allowed	Up to 8 allowed
D623 LCD Command Center	Up to 8 allowed	Up to 8 allowed
D625 VF Command Center	Up to 8 allowed	Up to 8 allowed
RF3341 Keypad	Up to 4 allowed	Up to 4 allowed
DX8010 DTMF Command Module	Up to 1 allowed	Up to 1 allowed
Enclosure	D2203	D2203
18 VAC Transformer	CX4010	CX4010

2.0 How to Program

2.1 Programming Options/Methods

2.1.1 Programming from a Text Command Center

Any of the D6412/D4412's parameters can be set from a text command center. Installers can connect a text command center to the control panel's Aux/Data terminals. See *Section 2.3 Command Center Programming Mode* for complete text command center programming instructions.



Press the [CMD] key when the Text Command Center display prompts you to press the [#] key.

2.1.2 RAM IV

Use Bosch Security Systems' Remote Account Manager IV (RAM IV) to program the control panel remotely or locally. RAM IV also includes diagnostic functions.

To use RAM IV locally, a DX4010 (D9533) RS-232 Serial Interface Module is required. The DX4010 does not need to remain connected to the control panel after the programming session. See the *D6412, D4412 Installation Guide* (P/N: 45349) for proper connections.

2.2 Entering Installer Mode



If the control panel is armed, you can only enter the Programming Mode using an installer's keypad. See the *D6412, D4412 Installation Guide* (P/N: 45349) for installer's keypad information.

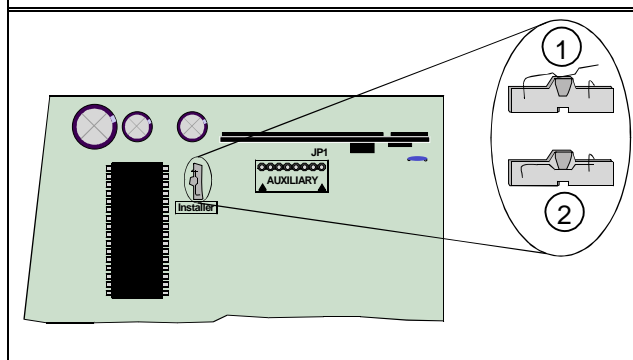


A Text Command Center set to Address 0 can be used for keypad programming. The installer switch must be closed.

This section covers accessing the Installer Mode and Programming Mode.

1. Close the control panel's Installer Switch. See *Figure 1*.

Figure 1: Installer Switch



1 - Installer switch normal (open)

2 - Installer switch locked (closed)

2. Enter the installer passcode.
 - The default installer passcode is 6543. When entered, the display shows *Code Accepted!*
 - The default passcode length is four digits (passcodes range between three and seven digits). See *Section 3.9 Passcode Configuration, Installer Passcode* to change the default passcode length.
3. Enter [CMD][4][1]. The system displays the Installer Menu.
4. Press [8] to enter Keypad Programming Mode. The display shows the control panel model number (D6412 or D4412) and the firmware revision for approximately 3 seconds. Then it shows *Nib: 0000 D = 0* across the top line. You can now program the control panel.

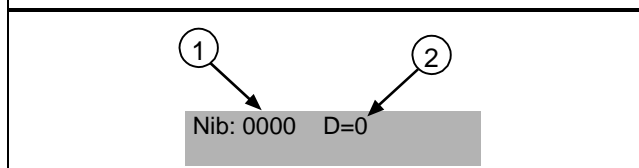
2.3 Command Center Programming Mode

2.3.1 Viewing Nibbles

There are two parts to every Nibble displayed across the Text Command Center's top line:

- **Nib: XXXX:** The number following "Nib" indicates the Nibble currently displayed.
- **D = X:** The number following "D" indicates the selection for the Nibble currently displayed (if no entry was made, "X" = the default value).

Figure 2: Initial Programming Display



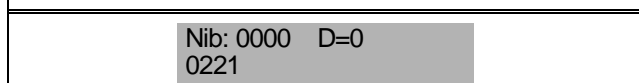
- 1 - Current Nibble displayed
- 2 - Current (default) Nibble selection

2.3.2 Going Directly to a Nibble

To view a specific Nibble, enter the four-digit Nibble number and press the [#] key.

For example, to go to Nibble 0221, enter this sequence: [0][2][2][1][#]. The keypad displays the following:

Figure 3: Selecting a Nibble



2.3.3 Scrolling through Nibbles

To scroll forward through the Nibbles, press [#].

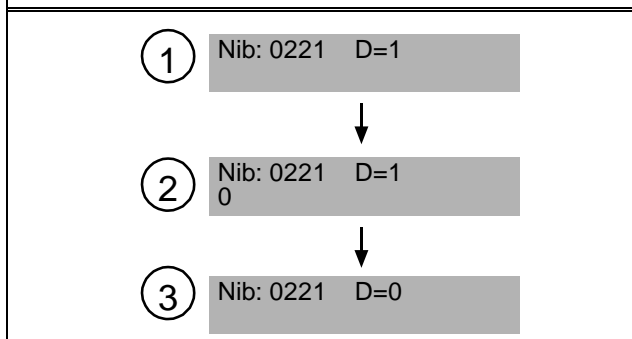
To scroll backward through the Nibbles, press [*].

2.3.4 Editing Nibble Data

Use the following steps to change the Nibble selection:

1. Go to the specified Nibble by entering its number followed by the [#] key. For example, enter [0][2][2][1][#] to go to Nibble 0221.
2. Change the Nibble selection by entering the new value (0 to 15) followed by the [*] key. For example, to change Nibble 0221 from 1 to 0, enter [0][*]. The display changes to show the new value.

Figure 4: Editing Nibble Data Entries



- 1 - Command center display before making any changes. Current Nibble data entry shown.
- 2 - Press [0] to change Nibble data from 1 to 0.
- 3 - Press [*] to accept new Nibble data entry. Display updates new entry.

2.3.5 Incorrect Entries

1. Press the [#] key.
2. Re-enter the Nibble you wish to program.
3. Enter the desired Nibble selection (0 to 15).

2.3.6 Reserved Nibbles

Reserved Nibbles cannot be accessed and are skipped. Pressing [#] to move forward skips to the next available Nibble. Pressing [*] to move back skips to the previous available Nibble.

The following Nibbles are reserved and cannot be accessed:

- 0065
- 0131
- 0236 to 0243
- 0274 to 0275
- 0705
- 1035 to 1037
- 1248
- 1252
- 1257 to 1264
- 2940 to 2943
- 2945 to 2946

The following reserved Nibbles apply only to the D4412:

- 0320 to 0363
- 0826 to 0905
- 1128 to 1183
- 1522 to 1649
- 2418 to 2929

2.3.7 Programming Text Nibble Parameters

All text Nibble parameters (System Text, Area Text, and Location Text) accommodate sixteen characters of text with each character occupying two Nibbles. When a text Nibble parameter is selected, the control panel enters a special text programming mode where you are automatically positioned to enter the first character of text.

In Text Programming Mode, the text command center keys are assigned different characters. Press the keys repeatedly to scroll to the desired character.

Table 3: Key/Character Assignments

# of Key Presses for each Character									
Key	1	2	3	4	5	6	7	8	9
1	.	,	?	!	-	&	<	>	1
2	A	B	C	a	b	c	2	'	
3	D	E	F	d	e	f	3		
4	G	H	I	g	h	i	4		
5	J	K	L	j	k	l	5		
6	M	N	O	m	n	o	6		
7	P	Q	R	S	p	q	r	s	7
8	T	U	V	t	u	v	8		
9	W	X	Y	Z	w	x	y	z	9
0 ¹		→	_	@	#	\$	%	*	0
*	Moves to the Nibble before the text block.								
Cmd	Moves to the Nibble after the text block.								
A	Moves the cursor to the previous character position in the text block.								
B	No Function – emits single tone when pressed.								
C	Moves the cursor to the next character position in the text block.								
¹ Press the [0] key once to clear a character space or enter a blank space. All On, Part On, No Delay, and Bypass keys all produce an error tone when pressed. Not used for text programming.									

2.3.8 Exiting Programming Mode

If you finish using the Keypad Programming Mode but wish to return only to the Installer Menu, press and hold the [#] key (do not open the Installer Switch). The display shows the control panel model number (D6412 or D4412) and the firmware revision for approximately 3 seconds before returning to the scrolling Installer Menu choices.

If you finish with keypad programming and the Installer Menu and are ready to return the system to normal, open the Installer Switch. The display shows the control panel model number (D6412 or D4412) and the firmware revision for approximately 3 seconds before returning to normal (disarmed, no fault/trouble conditions). Any programming changes take effect immediately.

2.4 Programming Tables

This *Program Entry Guide* uses tables to show the selections for option parameters. See *Table 4* for an example.

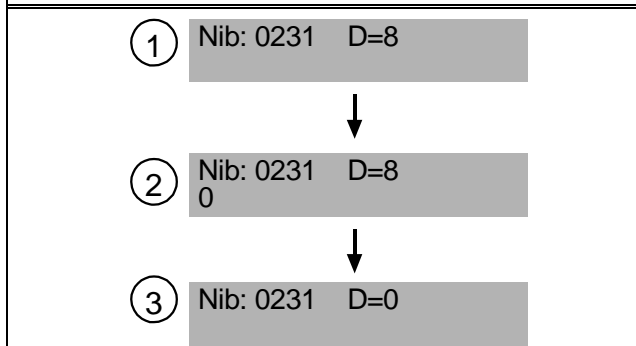
The first option usually disables or turns off all other options.

The sixteen Nibble values (labeled 0 to 15 under the heading “Enter This Value to Select Options”) are displayed across the top of the table. An “X” ties each Nibble value to an option. Some Nibble values are tied to more than one option. To select an option, enter the corresponding Nibble value at the Nibble programming prompt.

For example, see *Figure 5* to change Nibble 0231 from “Enable Weekly Test Reminder” (default setting) to “No Options” (see *Table 4*).

Table 4: Option Parameter Table Example

Option	Enter This Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No Options	X															
Call for Service Display at Call for Service Interval		X		X		X		X		X		X		X		X
Call for Service Report at Call for Service Interval			X	X			X	X		X	X				X	X
Call for Service Display at System Inactive Interval					X	X	X	X					X	X	X	X
Enable Weekly Test Reminder									X	X	X	X	X	X	X	X

Figure 5: Sample Programming Entry

- 1 - Display for Nibble 0231. Default of 8 is shown.
- 2 - Press [0] to change the entry from 8 to 0.
- 3 - Press [*] to accept the new entry. The display updates the new entry.

Notes

3.0 Programming Parameters

3.1 Routing Destinations

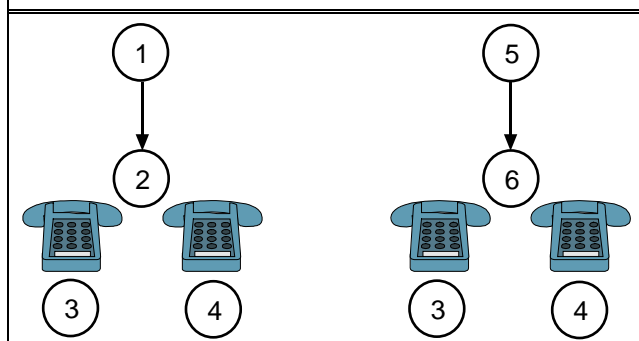
The control panel can route reports to two destinations. The control panel routes by point and report group to the destinations. For example, you can send Alarm Reports for one point to Destination 1 and for another point to Destination 2.

You can program two phone numbers for each destination. See *Appendix A* for a complete description of the routing/dialing process.



Communication Fail events are by destinations and not by phone number.

Figure 6: Routing Destinations



- 1 - Alarm reports from Point A
- 2 - Routing Destination 1
- 3 - Phone 1
- 4 - Phone 2
- 5 - Alarm reports from Point B
- 6 - Routing Destination 2

3.1.1 Phone Number 1 (2) for Destination 1 (2)

Nibble: 0000 to 0031 for Phone Number 1, Destination 1
 0066 to 0097 for Phone Number 1, Destination 2
 0032 to 0063 for Phone Number 2, Destination 1
 0098 to 0129 for Phone Number 2, Destination 2

Default: All zeros (0)

Selection: 0 to 15

Digit to be dialed	Enter at the Command Center
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
0	10
*	11
#	12
P (4-second pause)	13
F (on-hook, pause, off-hook)	14
Reserved	15
T (Terminate)	0



When entering phone numbers, enter [1][0] from the command center to enter the number "0"; use the [0] key to terminate the phone number.

If less than 32 digits are entered into the phone number Nibble range, the control panel dials digits until it reaches a terminator (0).

3.1.2 Entering Phone Numbers from the Command Center

The control panel can dial up to 32 digits per phone number. Each digit occupies one Nibble.



Terminate telephone numbers with less than 32 digits by entering a zero (0) in the programming Nibble after the last digit to be dialed.



If you program Phone Number 1 with a sequence to cancel call waiting (typically [*][7][0][P] followed by the phone number, program Phone 2 without the call waiting cancel sequence. If the subscriber cancels Call Waiting without notifying their alarm installing company, the control panel can still send reports using Phone 2. Dialing a call waiting sequence on a non-call waiting line prevents the system from dialing the central station receiver successfully.

3.1.3 Alternate Communication Path

The control panel can send reports using alternate communication paths (other than the phone). To use an alternate communication path:

1. Connect and configure the appropriate alternate communication module. See the *Installation Manual* provided with the module for installation instructions.
2. Enter the terminate selection [0] as the first digit of the phone number for the alternate communication module.
3. Follow [0] with the number for an alternate communication path as shown in *Table 5*.
4. Alternate communication modules generate the following reports: AltComm Cond [166], AltComm Fail [167], AltComm Rstrl [16]. See *Appendix B.1 Control Panel Events* for a description of each report.

Table 5: Alternate Communication Selections

Alternate Communication Path	Number to Enter after Termination Zero (0)
Alternate Communication Paths are defined in a later revision.	TBD

3.1.4 Format for Destination 1 (2)

Nibble:	0064 for Destination 1 0130 for Destination 2
Default:	Modem IIIa²
Selection:	1 to 4
1	Modem IIIa ²
2	Contact ID
3	Reserved
4	Basic Pager

Use this parameter to select a reporting format. All reports for this destination are sent in the selected format.

Leave this parameter at the default setting to transmit reports in the Modem IIIa² format with its advanced reporting capabilities.



Only the following central station receivers support the D6412/D4412 Modem IIIa² Format:

- D6600 with CPU v.01.01.03 (or higher)
- D6500 with D6511 MPU v1.05 (or higher)

The D6500 with D6510 MPU does not support the D6412/D4412 Modem IIIa² Format.

See *Appendix B.1 Control Panel Events* for a complete description of each reporting format and a listing of the specific control panel reports.



Check control panel communications at least annually (from control panel to central station) to verify the control panel is communicating properly in the selected reporting format.

3.2 Phone, Auto-Forward, and RAM Configuration

Use the parameters in this section to set the dialing format for the control panel and to configure the Auto-Forward and RAM (Remote Account Manager) features.

3.2.1 DTMF/Pulse Dialing

Nibble:	0132
Default:	0 (DTMF)
Selection:	0 and 1
0	DTMF
1	Pulse

3.2.2 Call Forwarding Auto On/Off Digits

Nibble:	0133 to 0164 for Call Forwarding Auto On Digits 0165 to 0180 for Call Forwarding Auto Off Digits	
Default:	All zeros	
Selection:	0 to 15	
Digit to be dialed	Enter at the Command Center	
1	1	
2	2	
3	3	
4	4	
5	5	
6	6	
7	7	
8	8	
9	9	
0	10	
*	11	
#	12	
P (4-second pause)	13	
F (on-hook, pause, off-hook)	14	
Reserved	15	
T (Terminate)	0	

This parameter configures the control panel's Call Forwarding Auto On/Off feature.



When entering phone numbers, enter [1][0] from the command center to enter the number "0"; use the [0] key to terminate the phone number.



To use this feature, the premises needs a call forwarding service from the local telephone company. The control panel's Call Forwarding Auto On/Off feature does not forward calls. It turns the telephone company's call forwarding service on or off by dialing digits just as the user would.



The Call Forwarding Auto On/Off feature is only available for Area 1.

If the control panel's Call Forwarding Auto On/Off feature is enabled ([#][8][2]) and a user turns the system All On, the control panel dials the Call Forwarding Auto On digits to activate the telephone company's call forwarding service.

If the control panel's Call Forwarding Auto On/Off feature is enabled ([#][8][2]) and a user turns the system off (from All On), the control panel dials the Call Forwarding Auto Off digits to turn off the call forwarding service.

A typical dialing sequence might be:

- A two-digit telephone company feature code (72*)
- A pause
- A phone number to forward to (315-555-1212)
- A flash (on-hook, pause, off-hook)
- A termination (t)

For this sequence, the entry at this parameter would be [7][2][*][p][3][1][5][5][5][5][1][2][1][2][f][t].

3.2.3 Remote Programming Call Back Phone Number

Nibble:	0181 to 0212
Default:	0
Selection:	0 to 15
Digit to be dialed	Enter at the Command Center
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
0	10
*	11
#	12
P (4-second pause)	13
F (on-hook, pause, off-hook)	14
Reserved	15

The phone number you enter here is the number the control panel dials to initiate RAM IV remote programming sessions. A session can be started by:

- RAM IV calling the control panel. The control panel answers, determines it is RAM calling, then, the control panel hangs up and calls RAM back.
- Entering a RAM Call Back phone number. Use [Cmd][4][3] to initiate a control panel call to RAM IV.
- Not entering a RAM Call Back phone number. The control panel must receive an incoming call before using [Cmd][4][3].

The control panel can be programmed to call this number automatically at Test Report time (see *Section 3.4.6 Automatic Test [137] Report Options* for more information).



When entering phone numbers, enter [1][0] from the command center to enter the number "0"; use the [0] key to terminate the phone number.

3.2.4 RAM Answer Ring Count, Answering Machine Bypass

Nibble:	0213
Default:	7
Selection:	0 to 15
0	Control panel does not answer the phone
1 to 13	Ring count
14	Answering machine bypass 1
15	Answering machine bypass 2

The ring count sets the number of rings the control panel waits before picking up and seizing the phone line for a remote programming session, or before remote arming with a telephone (see *Section 3.6.1 Arming Options 1*).

The control panel does not seize the phone line for remote programming or remote arming with telephone when this parameter is set to zero (0).

This ring count is used for any control panel arming state: armed or disarmed.

The Answering Machine Bypass function can be restricted to only operate when All or Part On (see *Section 3.6.1 Arming Options 1*). When the Answering Machine Bypass function is restricted to only operate when the system is All or Part On, the control panel does not answer the phone for a remote arming session when it is disarmed (off). However, the [Cmd][4][3] (Remote Program) can still initiate a remote programming session.

See *Appendix D.1 Text Command Center Operation Guide* and *Appendix D.2 LED Command Center Operation Guide* for a description of all command functions available to the D621 LED Command Center and D623/D625 Text Command Centers.

- **Answering Machine Bypass 1**

1. Call the premises; let the phone ring no more than two times. Then hang up/disconnect the remote programmer.
2. Wait at least 8 seconds to call back, but call back within 45 seconds.
3. The control panel then picks up after the first ring.

- **Answering Machine Bypass 2**

1. Call the premises; let the phone ring no more than four times. Then hang up/disconnect the remote programmer.
2. Wait at least 8 seconds to call back, but call back within 45 seconds.
3. The control panel then picks up after the first ring.

3.2.5 RAM Passcode

Nibble:	0214 to 0219
Default:	9, 9, 9, 9, 9, 9
Selection:	0 to 9, A to F (10 = A to 15 = F)



Six characters are required. The RAM Passcode in the remote programmer must match the RAM Passcode in the control panel in order to make a successful connection.

3.2.6 Phone Line Fault Response Options

Nibble: 0220																	
Default: 0																	
Selection: 0, 1, 3, 5, and 7																	
Phone Line Fault Option	Enter this Value to Select Options																
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
No phone line supervision	X																
Enable supervision (system trouble at Cmd Ctr)		X		X		X		X									
Burg alarm & strobe functions, All or Part On				X				X									
Burg alarm & strobe functions, Off						X		X									

The control panel monitors the phone line for voltage only. If the voltage drops below 1 V for 40 seconds the control panel declares a phone line fault. If the voltage falls between 1 V and 3 V for 40 seconds the control panel might declare a phone line fault. If the phone line voltage remains above 3 V for at least 40 seconds, the control panel declares the phone line restored.

When enabled, the Phone Line Fault event appears at all command centers for all areas. The control panel sends a Phone Line Restore [100] Report when a phone line fault event restores.

If the phone line fails, but restores before a Comm Fail event:

1. The system detects phone line fail and enters Event [99] in the log.
2. The system starts dialing attempts if programmed for Phone Fail Report.
3. The phone line restores before the Comm Fail event.
4. The system sends Phone Line Fail and Phone Line Restore Reports.

If the phone line fails, and restores after a Comm Fail event:

1. The system detects phone line fail and enters the event in the log.
2. The system starts dialing attempts if programmed for Phone Fail Report.
3. The dialing attempts end with a Comm Fail event. The Phone Fail Report is flushed.
4. The system detects the restored phone line and enters a Restoral Report in the buffer.
5. The system starts dialing attempts and sends Phone Fail Restoral and Comm Restoral Reports.

If an alternate communication path is enabled, the control panel can send a Phone Line Fail [99] Report via the alternate communication path when a phone line fault event occurs.

- **No Phone Line Supervision:** If selected, the control panel does not monitor the phone line voltage. Phone Line Fault events do not appear at command centers. The other phone line fault response options are also disabled if **No Phone Line Supervision** is selected.
- **Enable Supervision (Trouble at Command Center):** If a phone line fault occurs, the command center displays a phone line trouble message. To enable the command center to emit a trouble tone on system troubles, see *Section 3.11.1 Command Center # Options* for details.
- **Burg Alarm and Strobe Functions, All or Part On:** If a phone line fault occurs, the system's burglary alarm and strobe function as configured when the system is armed All On or Part On. See *Section 3.17 Outputs* for burglary alarm/strobe output configuration.

- **Burg Alarm and Strobe Functions, Off:** If a phone line fault occurs, the system's burglary alarm and strobe function as configured when the system is off (not armed). See *Section 3.16.5 Strobe Output Type Options* for burglary alarm/strobe output configuration.



For UL Listed installations, phone line supervision must be turned on (enter "1" at Nibble 0220).

3.3 Global Reporting Options

These parameters configure the reporting for all areas, all points, and all users.

3.3.1 Global Reporting Options

Nibble:	0221															
Default:	1 = Enable reporting															
Selection:	0, 1, 3, 5, 7, 9, 11, 13, and 15															
Global Reporting Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Local Only	X															
Enable Reporting		X		X		X		X		X		X		X		X
Extend Handshake				X				X				X				X
Delay Alarm Output						X		X						X		X
Burg Alarm After Two Failed Attempts										X		X		X		X

- **Local Only:** The control panel sends no reports.
- **Enable Reporting:** The control panel sends reports as programmed, provided that at least one phone number was programmed for at least one routing destination (see *Section 3.1 Routing Destinations*). Reporting options can be enabled and disabled in other parameters. See *Section 3.6.4 Open/Close Reporting Options*, *Section 3.7.2 Area # Opening [89-96]/Closing [42-67] Reporting Options*, *Section 3.8.3 Authority Level Config Option 3: [Cmd][3]/Part 2 On*, and *Section 3.14.7 Reporting Enable, Trouble Response Options, Point Index ##*.
- **Extend Handshake:** When the control panel finishes dialing the central station receiver, it waits for a handshake tone from the receiver. The receiver sends the handshake first after answering the phone. Each reporting format the receiver supports has its own handshake tone. If a receiver supports several formats, it sounds the handshake tones one at time. Choosing this option extends the time the control panel waits for a handshake from the central station receiver from 45 seconds to 60 seconds.
- **Delay Alarm Output:** The control panel delays burglary alarm output until communication to the central station receiver is complete or there are two failed dialing attempts. The delayed Alarm Output functions are 1, 8; 1, 9; and 1, 10 (see *Table 18* for descriptions of output types). Bell Time is not delayed, and begins at the alarm event. If Bell Time is set for 3 minutes or less, Alarm Output delayed by this feature may be very short (less than 1 minute), or the Alarm Output may not activate at all. See *Section 3.17 Outputs* for a complete description of output functions. The command center sounder is not delayed by this option.
- **Burg Alarm After Two Failed Attempts:** This option provides a steady alarm output after two failed attempts and transmits a burglary alarm report from any point when the system is armed. Alarm output is provided even if the point is not programmed for Alarm Output. Bell Time must be programmed with at least 3 minutes to use this option. Do not select this option if you want to prevent an alarm output from silent points even when the system fails to communicate with the receiver. This option only applies to output types 1, 8 (Alarm – All On, Part On and Part 2



Only extend the handshake wait time when advised by Bosch Security Systems Technical Support.

On; non-fire 24-hr alarms); 1, 9 (Alarm – Part and Part 2 Modes; non-fire 24-hr alarms) and 1, 10 (Alarm – Controlled points, 24-hr points-fire and non-fire). See *Section 3.17 Outputs* for alarm configuration.



The burg alarm output still activates after two failed communication attempts even if it is set for silent operation.

3.3.2 Ack Wait Time

Nibble:	0222
Default:	5 (5 seconds)
Selection :	0 to 15 (1 second to 15 seconds; 1 second increments, 0 = 1 second)

Use this parameter to set the amount of time the control panel waits for an acknowledgment tone from the central station receiver.



Use the default value unless otherwise instructed by Bosch Security Systems Technical Support.

3.3.3 AC Power Supervision Options

Nibble:	0223															
Default:	5															
Selection:	0 to 15															
AC Power Supervision Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No Options selected	X															
AC Fail Report is tag-along		X		X		X		X		X		X		X		X
Disable AC Fail Local Annunciation (at command center)			X	X			X	X			X	X			X	X
Enable Arm/Disarm/Bypass Tracking					X	X	X	X					X	X	X	X
Enable Internal Crystal to Keep Time									X	X	X	X	X	X	X	X

Use this parameter to configure the control panel's local response to AC power failure.

AC power must fail for a minimum of 2 minutes before the control panel responds to the failure. It must be restored for a minimum of 2 minutes before the control panel responds to the AC restoral.

The trouble tone for AC fail events sounds at all command centers in all areas. However, the trouble tone must be silenced in each area (silencing the trouble tone in one area does not silence it in the other areas).

- **AC Tag-along:** AC Fail and Restoral Reports are not sent at the time of the event, but are sent as Tag-Along Reports with the next report to be sent.
- **Disable AC Fail Local Annunciation (at Command Center):** If the control panel is only powered from a DC power source (through battery connections), select **Disable AC Fail AC Fail Local Annunciation**. This prevents the control panel from annunciating AC failures locally at the command center. You must also disable AC Fail reporting at the next parameter, AC Fail, Low Battery Report Options (see *Section 3.3.4 AC Fail [1], Low Battery [22] Report Options*).

- **Enable Arm/Disarm/Bypass Tracking:** If this option is not selected, the control panel always powers up in the disarmed state (Off), even if the control panel was armed before powering down. Points that were bypassed before powering down are not bypassed at power-up.
- **Enable Internal Crystal to Keep Time:** Not selecting this option keeps time by looking at the 60 Hz in AC power. Enable if running on DC only (for example, if you are generating your own power or power cycles are not consistent). Otherwise, leave set to the default.

3.3.4 AC Fail [1], Low Battery [22] Report Options

Nibble:	0224															
Default:	4															
Selection:	0 to 15															
AC Fail, Low Battery Reporting Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No AC Fail Reports, No Low Battery Reports	X															
AC Fail Reports		X		X		X		X		X		X		X		X
AC Restoral Reports			X	X			X	X							X	X
Low and Missing Battery and Restoral Reports					X	X	X	X					X	X	X	X
Ground Fault and Restoral Reports									X	X	X	X	X	X	X	X

AC Fail, Low Battery, and Ground Fault events occur at all command centers for all areas.

Use this parameter to enable reporting of AC power and battery supervision events, and ground fault events. You must also program at least one phone number for at least one routing destination (see *Section 3.1 Routing Destinations*), and enable reporting at the Global Reporting Options parameter (see *Section 3.3 Global Reporting Options*).

The battery is considered low if the nominal voltage on the battery terminals drops below 12.1 VDC.

If the nominal voltage on the battery terminals drops below 10.2 VDC, the low battery is considered a missing battery.

3.3.5 System Status Report Swinger Count

Nibble:	0225
Default:	0
Selection:	0 to 15

Set this parameter to zero (0) to disable the System Status Report Swinger feature. System Status Reports are sent as they occur.

Entering a value from 1 to 15 enables the System Status Report Swinger feature and sets the swinger count. Each System Status Report has its own swinger counter. When the count is reached, that report is no longer transmitted during the arming cycle.

For example, if you entered “1” at this parameter the control panel would only transmit one AC Fail Report, no matter how many times AC failed and restored during the arming cycle.

Not all System Status Reports follow this swinger count. System Status Reports that follow the count set in this parameter are marked with an “S” in the Control Panel Events and Reporting Formats found in *Table 35*.

3.3.6 System Status Reports Routing

Nibble:	0226
Default:	1
Selection:	0 to 5
0	No reports, no events to log/printer
1	Reports to Destination 1, events to log/printer
2	Reports to Destination 2, events to log/printer
3	Reports to Destinations 1 and 2, events to log/printer
4	Reports to Destination 2 only on Destination 1 Comm Fail Event, events to log/printer
5	No reports, events to log/printer

System Status Reports routed by this parameter are marked with an “R” in the Control Panel Events and Reporting Formats found in *Table 35*.

Comm Fail 1 (2) Reports follow System Status Reports routing. Comm Fail Reports for either destination are only sent if the other destination is the System Status Reports destination. See *Appendix A.2 Routing Dialing Tables* for the dialing sequence and description of the Comm Fail event.

3.3.7 Call for Service Interval

Nibble:	0227 to 0228
Default:	0,0 (disabled)
Selection:	0 to 9

Use this parameter to determine the interval in weeks (7 days), (00 to 99). For example, if you enter 0,2, the control panel waits 2 weeks (14 days) between displaying service messages.

At this interval, the command center displays a Call for Service fault and/or sends a Call for Service [37] Report (see *Section 3.3.9 Call for Service/System Inactive Options*). The display appears at all command centers in all areas. The report is sent for Area 1 only and follows System Status Report routing.

3.3.9 Call for Service/System Inactive Options

Nibble:	0231
Default:	8
Selection:	0 to 15

Call for Service/System Inactive Option	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No options	X															
Call for Service Display at Call for Service Interval		X		X		X		X		X		X		X		X
Call for Service Report at Call for Service Interval			X	X			X	X			X	X			X	X
Call for Service Display at System Inactive Interval					X	X	X	X					X	X	X	X
Enable Weekly Test Reminder									X	X	X	X	X	X	X	X

- Call for Service Display at Call for Service Interval:** At the Call for Service Interval, the command center displays Call for Service trouble at all command centers in all areas and/or sends a report for Area 1. [Cmd][4][7] (Reset Sensors) resets the fault only in the area the command center is assigned. There is no trouble tone for the Call for Service Interval event.
- Call for Service Report at Call for Service Interval:** The Call for Service [37] Report follows System Status routing. The interval is in weeks (00 to 99). See *Section 3.3.7 Call for Service Interval*.
- Call for Service Display at System Inactive Interval:** At the System Inactive Interval, the Command Center displays Call for Service trouble at all command centers and/or sends a System Inactive [136] Report for that area. See *Section 3.3.8 System Inactive Interval*.
- Enable Weekly Test Reminder:** If you select this option, the system command centers display System Test Due, Press 1 to test. A reminder is generated eight days after the last user test. There is no trouble tone for this trouble reminder event. When the user enters [Cmd][4] to view the trouble, the system displays System Test Due, Press 1 to test.

[Cmd][4][7] (Reset Sensors) resets the fault only in the area that the command center is assigned.

3.3.8 System Inactive Interval

Nibble:	0229 to 0230
Default:	0,0 (disabled)
Selection:	0 to 9

If an area is not armed (All, Part, or Part 2) in this interval, the control panel sends a System Inactive [136] Report for that area. A System Inactive Display is optional. See *Section 3.3.9 Call for Service/System Inactive Options*.

Interval is in weeks (00 to 99).

3.3.10 Log Supervision Configuration

Nibble: 0232	
Default: 2	
Selection: 0 to 6	
0	No Log Threshold events or reports, no Log Overflow events or reports
1	Overflow event and Report [84]; Threshold event and Report [85] at 50% full
2	Overflow event and Report [84]; Threshold event and Report [85] at 75% full
3	Overflow event and Report [84]; Threshold event and Report [85] at 90% full
4	Overflow event; Threshold event at 50% full; Local events no report
5	Overflow event; Threshold event at 75% full; Local events, no reports
6	Overflow event; Threshold event at 90% full; local events, no reports

The control panel can store up to 254 events in its event log (history). At startup, a new control panel has 100% of its log available for new events. It is 0% full. As the control panel begins storing events, the capacity for new events is reduced. When the 254th event is stored, the control panel is 100% full. On the 255th event the control panel begins overwriting events (beginning with the oldest).

The RAM IV remote programmer can access the control panel log. Once the log is received by RAM IV, the history pointer can be reset and the number of events stored in history is set to 0 (zero).

To avoid overwriting events not received by RAM IV, this parameter configures the system for supervision of its event log (history).

Setting this parameter to zero (0) disables supervision. No log threshold or overflow events are entered in the log. No Log Reports are sent.

Setting this parameter to 1, 2, or 3 creates log overflow and threshold events in the log. A threshold event is created when the control panel writes the first event to the log that exceeds the threshold (50%, 75%, or 90% full). A Threshold Report reminds the central station to access the event log with RAM IV, freeing log space, before the control panel reaches 100% full (log overflow) and begins overwriting events.

If this parameter is set to 75% threshold (default setting), the threshold event reoccurs when 191 new events occurred since the last history pointer reset.



Resetting the history pointer does not clear any events. The most recent 254 events are always available.

Overflow events are created when the log reaches 100% of capacity and begins writing over events not received by RAM IV.

Setting this parameter to 4, 5, or 6 creates the threshold and overflow events, but no reports are sent. The events are local only.

Log events (threshold and overflow) only appear in the log. They are not system troubles. They are viewed locally with [Cmd][8][5] (View Log) or remotely with RAM IV.

3.3.11 Auto On Alert Time

Nibble: 0233	
Default: 6 (30 minutes)	
Selection: 0 to 15 (time = selection x 5 minutes)	

Multiply the value entered in this parameter by 5 minutes to determine the duration of the Auto On Alert. The alert sounds before the Auto On Sked to warn users to exit or extend [Cmd][5][1] the auto arming. See *Section 3.8.12 Authority Level Config Option 12: [Cmd][5][1]* to configure the Authority Levels for [Cmd][5][1].

At the Auto On time, the control panel starts exit delay. See *Section 3.18 Skeds* for a complete description of the Auto On Skeds.

If the area is armed according to the scheduled arming state (All On or Part On) during Auto On Alert Time and then disarmed before the scheduled arming, auto-arming does not occur.

3.3.12 Cancel Event Enabled

Nibble: 0234	
Default: 1	
Selection: 0 and 1	
0	No Cancel Reports
1	Cancel Reports enabled

If the Cancel Event is enabled (enter “1” at Nibble 0234), a Cancel Window starts with the initiation of alarm events. The Cancel Window is equal to bell time. If the user acknowledges the alarm inside the Cancel Window, a Cancel event is created. If reporting is enabled, a Cancel [38] or Fire Cancel [39] Report is sent.

If the Abort feature is enabled, the Cancel Report is sent if the user acknowledges the alarm after the Abort Window expires but before the Cancel Window expires. See *Section 3.15.8 Alarm Event Abort Window* for more information.

If a user acknowledges a non-fire alarm event by entering a valid passcode before the Alarm Event Abort Window expires:

1. The alarm event is aborted. Alarm, Cancel* and Restoral Reports associated with the alarm are not transmitted. The alarm event becomes a local only event.
2. The user hears a three long beeps at the command center.
3. The text command center indicates the aborted alarm on the display. The LED command centers indicate the aborted alarm with a slow flash in Alarm Memory.

* A Cancel Window starts with the initiation of the alarm event and follows bell time. If the user acknowledges the alarm inside the Cancel Window (bell time), a Cancel [38] or Fire Cancel [39] Report is sent. If the Abort feature is enabled, the Cancel report is sent if the user acknowledges the alarm after the Abort Window has expired but before bell time expires.



Alarm Event Abort is required by the SIA Control Panel Standard for False Alarm Reduction.-2000 Security Industry Association).

3.3.13 Date Format

Nibble:	0235
Default:	0
Selection:	0 and 1
0	MM/DD/YY (U.S. date display)
1	DD/MM/YY (International date display)

This parameter controls the date shown on the keypad and logged on the printer.



The Date Format feature is only available in a control panel using firmware version 1.04 or greater.

3.4 Tests

3.4.1 System Test Configuration Options

Nibble: 0244																	
Default: 5																	
Selection: 0 to 15																	
System Test [Cmd][4][1] Configuration Options	Enter this Value to Select Options																
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
System Test [Cmd][4][1] Disabled	X																
Test Bell		X		X		X		X		X		X		X		X	
Test Strobe			X	X			X	X			X	X			X	X	
Test Battery					X	X	X	X					X	X	X	X	
Send Test Report									X	X	X	X	X	X	X	X	

This is a global (all areas) option.

When the user enters [Cmd][4][1] at the command center, the system performs a self-test that includes the options selected at this parameter. The configuration applies to all areas.



For UL 1023, Household Fire Systems, you must select Test Bell, Test Strobe (if installed) and Test Battery (enter 7 for this parameter).

- **Test Bell:** Makes a bell test part of the system test. The control panel activates the Bell Time (1, 5) and Alarm Output (1, 8; 1, 9; 1, 10; 1, 11; and 1, 12) functions for 3 seconds. See *Section 3.17 Outputs* for a complete description of output functions.
- **Test Strobe:** Makes a Strobe Test part of the system test. The control panel activates the Strobe Output functions and waits for the user to press the [*] key to end the test. If the user fails to press the [*] key within 20 minutes, the control panel automatically terminates the strobe test and proceeds to the next programmed test.
- **Test Battery:** Makes the battery test part of the system test. The Battery Test causes the system to run on battery power only for 4 minutes. If the battery voltage falls below 12.1 V during the 4-minute test, or if the battery is missing, the system restores AC power and displays a system trouble at all command centers. If programmed for Battery Reports, the control panel sends a Low Battery or Missing Battery Report. Users can end the test by pressing [Cmd] on the command center.
- **Send Test Report:** Makes a Communications Test part of the system test. If selected, this option causes the control panel to attempt to send a Test [137] Report when the user initiates a System Test with [Cmd][4][1]. If there is system trouble at the time of the test, the control panel sends a Test, Off Normal [138] Report. The Test Report follows the routing for the Automatic Test [137] Report. If the test communication is unsuccessful, the control panel creates a system trouble communication failure.

3.4.2 System Test [Cmd][4][1] Enable Options

Nibble: 0245

Default: 15 for D6412
3 for D4412

Selection: 0 to 15

System Test [Cmd][4][1] Enable Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
System Test [Cmd][4][1] Disabled	X															
Enable System Test [Cmd][4][1] for Area 1		X		X		X		X		X		X		X		X
Enable System Test [Cmd][4][1] for Area 2			X	X			X	X			X	X			X	X
Enable System Test [Cmd][4][1] for Area 3 (D6412)					X	X	X	X					X	X	X	X
Enable System Test [Cmd][4][1] for Area 4 (D6412)									X	X	X	X	X	X	X	X

This option enables [Cmd][4][1] for each of the four areas. Although the configuration of [Cmd][4][1] is global, the command is only enabled for command centers in the areas selected here, and only for users with the proper Authority Level. See *Section 3.8.9 Authority Level Config Option 9: Commands 40 to 44, 47, 48*.

Enabling the System Test feature for Areas 3 and 4 is available only on the D6412.



If the System Test is not enabled in the previous parameter (Nibble 0244 is set for 0), then this parameter is not functional and does not need to be programmed.

3.4.3 Walk Test [Cmd][4][4] Configuration Options

Nibble: 0246

Default: 8

Selection: 0 to 15

Walk Test [Cmd][4][4] Configuration Option	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Walk Test [Cmd][4][4] Disabled	X															
Start with System Test		X		X		X		X		X		X		X		X
Include Fire Points			X	X			X	X			X	X			X	X
Include 24-hr. Points					X	X	X	X					X	X	X	X
Include Controlled Points									X	X	X	X	X	X	X	X

When a user enters [Cmd][4][4] at a command center to start a Walk Test, the system includes the option(s) selected in this parameter. If included, the System Test follows its own configuration. See *Section 3.4.1 System Test Configuration Options* and *Section 3.4.2 System Test [Cmd][4][1] Enable Options*. No reports are sent from points included in the test.



If a point type is not included, those points remain active during the test.

A Walk Test Start [158] Report, with user number, is sent at the start of the test. A Walk Test End [159] Report, with User Number 0 (zero), is sent at the test's conclusion.

Entering Walk Test Mode starts a 20-minute timer. After 15 minutes with no activity from the included points, a warning tone (same as the auto-arm warning) begins. After 20 minutes, the test automatically terminates with User Number 0 (zero).



Any fire or 24-hour point faulted at the termination of the test generates a trouble response, not an alarm response. If programmed for Alarm Reports but not Trouble Reports, Trouble Reports are sent as part of the trouble response.

3.4.4 Walk Test [Cmd][4][4] Enable Options

Nibble:	0247															
Default:	15 for D6412 3 for D4412															
Selection:	0 to 15															
Walk Test [Cmd][4][4] Enable Option	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Walk Test [Cmd][4][4] Disabled	X															
Walk Test [Cmd][4][4] Enabled for Area 1		X		X		X		X		X		X		X		X
Walk Test [Cmd][4][4] Enabled for Area 2			X	X			X	X			X	X			X	X
Walk Test [Cmd][4][4] Enabled for Area 3 (D6412)					X	X	X	X					X	X	X	X
Walk Test [Cmd][4][4] Enabled for Area 4 (D6412)									X	X	X	X	X	X	X	X

Use this parameter to choose which areas have [Cmd][4][4] enabled. Although the configuration of [Cmd][4][4] is global, the command is only enabled for command centers in the areas selected here, and only for users with the proper Authority Level. See *Section 3.8.9 Authority Level Config Option 9: Commands 40 to 44, 47, 48*.

Enabling the Walk Test feature for Areas 3 and 4 is available only for the D6412.

3.4.5 Walk Test Start [158]/Walk Test End [159] Report Routing

Nibble:	0248															
Default:	5															
Selection:	0 to 5															
0	No reports, no events to log/printer															
1	Reports to Destination 1; events to log/printer															
2	Reports to Destination 2; events to log/printer															
3	Reports to Destinations 1 and 2; events to log/printer															
4	Reports to Destination 2 only on Destination 1 Comm Fail Event; events to log/printer															
5	No reports; events to log/printer															

This is a global (all areas) parameter. See *Appendix A* for the dialing sequence and a description of a Comm Fail Event.

3.4.6 Automatic Test [137] Report Options

Nibble:	0249															
Default:	0															
Selection:	See below															
Automatic Test Report Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No Automatic Test options	X															
Test Report only if system is armed		X		X						X		X				
Defer Test Report if other reports sent in test interval			X	X							X	X				
Test Reports for all areas (else Area 1 only)					X								X			
Call RAM at test time (after Test Report)									X	X	X	X	X			

Use these options to configure the Automatic Test [137] Report. If **Call RAM at Test Time** is enabled, a variety of tasks can be accomplished at this time, including downloading the log to the central station.

- **Test Report Only if System is Armed:** This option sends a Test Report only if the system is armed.
- **Defer Test Report if Other Report Sent in Test Interval:** If another report is sent during the test interval, this option defers the Test Report until the end of the test interval.
- **Test Reports for All Areas (else Area 1 only):** If selected, this option generates a Test Report for all enabled areas. For the D6412, this feature applies to Areas 1 to 4. For the D4412, this feature applies to Areas 1 and 2.
- **Call RAM at Test Time (After Test Report):** If selected, this option calls RAM IV at test time after the system sends the Test Report. The RAM IV phone number should be programmed. See *Section 3.2.3 Remote Programming Call Back Phone Number* for more information.

3.4.7 Automatic Test Report [137] Time

Nibble:	0250 to 0253			
Default:	0, 0, 0, 0 (Test Reports disabled)			
Selection:	0 to 9			

Enter the time of day for the Automatic Test. Use 24-hour format (HHMM) where midnight is 2400, noon is 1200, and 12:01 AM is 0001. Enter one digit in each of the four Nibbles so that Nibbles 0250 and 0251 are the hour and 0252 and 0253 are the minutes. An entry of 0000 (the default setting) disables the Automatic Test [137] Report.

3.4.8 Automatic Test [137] Report Interval

Nibble:	0254	
Default:	2	
Selection:	0 to 4	
0	No Automatic Test	
1	1 hour	
2	1 day	
3	7 days	
4	28 days	

Entering zero (0) at this parameter disables the Automatic Test [137] Report feature.

The 1-hour interval increments on the minute. For example, if you set the Automatic Test Time parameter to 1020 (10:20 AM), the Automatic Test Interval is 1-hour, and exits Programming Mode at 11:10. The control panel sends a Test Report at 11:20 AM (less than 1 hour after leaving Programming Mode). The next Test Report would come at 12:20 PM.

The 1 day, 7 day, and 28 day intervals are incremented at midnight (2400). For example, if you set the Automatic Test Time parameter to 1020 (10:20 AM), the Automatic Test Interval is one day and exits Programming Mode at 10:10 AM, then the control panel does not send a Test Report until 10:20 the next day (after the one-day interval increment at midnight).

If the Automatic Test Report is disabled in the previous parameter, the report interval is meaningless for the Automatic Test.

3.4.9 Test Report Routing

Nibble:	0255
Default:	1
Selection:	0 to 5
0	No reports, no events to log/printer
1	Reports to Destination 1; events to log/printer
2	Reports to Destination 2; events to log/printer
3	Reports to Destinations 1 and 2; events to log/printer
3	Reports to Destination 2 only on Destination 1 Comm Fail Event; events to log/printer
4	No reports; events to log/printer

Test Reports include the System Test [137] [138] reports from [Cmd][4][1] and [Cmd][4][4]. The Walk Test Start [158] and Walk Test End [159] Reports follow their own routing.

This is a global (all areas) parameter.



Reporting must be enabled at the Global Reporting Options prompt and at least one phone number must be entered for one routing destination.

3.5 Programming Options

3.5.1 Remote Programming (RAM IV) Options

Nibble: 0256																	
Default: 1																	
Selection: 0 to 7																	
Remote Programming Options	Enter this Value to Select Options																
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Disable Remote Programming	X																
Enable Remote Programming		X		X		X		X									
Enable Remote Programming Callback			X	X			X	X									
Terminate Remote Programming Session on Alarm					X	X	X	X									
Reserved																	

- Enable Remote Programming:** The system answers the phone at the programmed ring count for remote programming sessions. [Cmd][4][3] can also be used to start a remote programming session or answer the phone if Nibble 0213 is set to 0. See *Section 3.2.4 RAM Answer Ring Count, Answering Machine Bypass*.
 - If the programming session is completed successfully, the control panel sends a Valid Remote Access [103] Report.
 - If you change the control panel parameters during the programming session, the control panel sends a Parameters Changed [98] Report.
 - If the programming session is terminated with a Reset Control Panel from RAM IV, the control panel sends a Reboot [104] Report.
 - If the programming session is not successfully completed, the control panel sends an Invalid Remote Access [102] Report.
- Enable Remote Programming Call Back:** The system answers the phone at the programmed ring count for remote programming sessions (see *Section 3.2.4 RAM Answer Ring Count, Answering Machine Bypass*). If it determines that the remote programmer is calling, it hangs up and calls the remote programmer back using the

programmed call-back phone number (see *Section 3.2.3 Remote Programming Call Back Phone Number*). When this is enabled, [Cmd][4][3] can also start a programming session. When a user enters [Cmd][4][3] at the command center, the control panel calls RAM IV.

If the callback to RAM IV is not successful, the control panel sends a Bad Call [101] Report.



For this option to operate properly, “Enable Remote Programming” must be activated.

or any command center terminates the remote programming session.



For this option to operate properly, “Enable Remote Programming” must be activated.

- **Terminate Remote Programming**

Connection on Alarm: An alarm on any point

3.5.2 Programming and Daylight Savings Time Options

Nibble: 0257

Default: 15

Selection: 0, 2, 4, 6, 8, 10, 12, and 14

Programming and Daylight Savings Time Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No Options selected	X															
Reserved																
Auto adjust for Daylight Savings Time enabled			X				X				X				X	
Command center programming enabled					X								X		X	
PK32 (programming key) enabled									X		X		X		X	



A closed Installer Switch disables most control panel functions, including:

- Control panel reporting with alarms (only sends installer-initiated Test Reports and Service Start Reports)
- The [A][B][C] keys
- Alarm Output

A closed Installer Switch activates a Call for Service system trouble at all command centers.

The disabled reporting characteristic of the Installer Switch can be used for service tasks (for example, replacing hold-up buttons). It could also be used to allow the control panel's battery to charge during the installation process.

- **Auto Adjust for Daylight Savings Time**

Enabled: The control panel automatically sets its clock ahead 1 hour at 2:00 AM on the first Sunday in April, and sets its clock back 1 hour at 2:00 AM on the last Sunday in October.



If Command Center Programming or PK32 is not enabled, access to the control panel using a command center is not possible. Remote programming (RAM IV) is the only programming method available.

- **Command Center Programming Enabled:**

All control panel parameters can be programmed from any system text keypad or an Installer Keypad. See *Section 2.2 Entering Installer Mode* for a description of the Installer Mode.

- **PK32 (Programming Key) Enabled:** The PK32 Programming Key can be used to send or receive a program record (the control panel's parameter settings). See *Appendix Programming Key (PK32)* for more information.



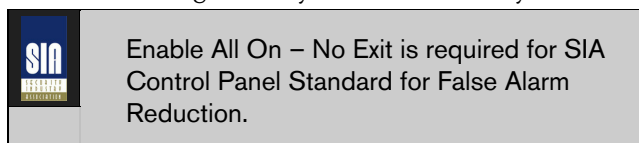
If the Command Center Programming and Remote Programming options are not enabled, there is no way to access control panel programming.

3.6 Global Open/Close Options

3.6.1 Arming Options 1

Nibble: 0258																	
Default: 1																	
Selection: 0 to 7																	
Arming Options	Enter this Value to Select Options																
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
No options enabled	X																
Enable All On – No exit feature		X		X		X		X									
Answering Machine Bypass Only when All/Part On			X	X			X	X									
Remote Arming with telephone, Area 1					X	X	X	X									
Reserved																	

- **Enable All On – No Exit Feature:** If this feature is selected and the system is turned All On and no entry or exit points are faulted during Exit Delay, the system automatically shifts to Part On (not Part 2 On). Part On (not All On) appears in the log and reports. This feature can only be used if the control panel is armed with delay. This feature does not apply when arming with keyswitches or RF keyfobs.



- **Answering Machine Bypass Only When All/Part On:** The Answering Machine Bypass function is activated at the RAM Answer Ring Count, Answering Machine Bypass parameter (see *Section 3.2.4 RAM Answer Ring Count, Answering Machine Bypass*). If activated, use this option to restrict the answering machine bypass function so that it only operates when the system is All On or Part On. The system does not answer if disarmed.
- **Remote Arming with Telephone, Area 1:** Controls the built-in telephone arming feature for Area 1. When enabled, the control panel answers the phone on the ring count set for remote programming.
When the control panel answers the phone:
 - If the control panel is All or Part On, it sounds three beeps and starts the handshake tone for remote programming.

- If the control panel is off, it sounds one short beep, waits approximately 3 seconds and then starts the handshake tone for remote programming (one long beep). Press and hold the [5] key* for 2 seconds immediately after the first short arming beep and before the handshake tone begins.
- The control panel arms if it detects the [5] key pressed from the telephone (All On with Delay, faulted points are force-armed like keyswitch arming). The control panel sounds three beeps (new armed state) and then hangs up.

* If arming from a cell phone, quickly press the [5] key three times. If pressing and holding the [5] key for 2 seconds from a house (landline) phone does not produce a tone long enough to arm Area 1, retry by quickly pressing the [5] key three times.



The control panel cannot be remotely disarmed using a telephone.

3.6.2 Arming Options 2

Nibble:	0259															
Default:	0															
Selection:	0 to 15															
Arming Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No options enabled	X															
First Area to Open/Last Area to Close reporting		X		X		X		X		X		X		X		X
Make Area 1 Common Area			X	X			X	X			X	X			X	X
Enable [Cmd][8][0] All Areas On					X	X	X	X					X	X	X	X
Enable [Cmd][8][1] All Areas Off									X	X	X	X	X	X	X	X

- **First Area to Open [164]/Last Area to Close [165] Reporting:** The system transmits one Closing [165] Report when all areas are turned On and one Opening [164] Report when any area is turned Off. Passcode and Opening/Closing Reports must be enabled for all areas. Open and Close Reports are for Area 1 using Area 1's account numbers.



All area account numbers must be the same in order to send Area 1's account numbers. See *Section 3.7 Areas* for information on programming account numbers.

- **Make Area 1 Common Area (D6412):** All other areas are made common to Area 1. Area 1 arms when all the other areas are armed All On, and Area 1 disarms when any other area is disarmed.
- **Make Area 1 Common Area (D4412):** Area 2 is made common to Area 1. Area 1 arms when Area 2 is armed All On, and Area 1 disarms when Area 2 is disarmed.
- **Enable [Cmd][8][0] All Areas All On*:** Faulted points are force-armed. See *Section 3.8.8 Authority Level Config Option 8: [Cmd][8][0]/[Cmd][8][1]* to configure the Authority Level for Cmd 80.
- **Enable [Cmd][8][1] All Areas Off*:** [Cmd][8][1] always requires a passcode. See *Section 3.8.8 Authority Level Config Option 8: [Cmd][8][0]/[Cmd][8][1]* to configure the Authority Levels for [Cmd][8][1].

* All = All areas where the user has the appropriate authority level.

3.6.3 Bypass/Force Arm Limit

Nibble: 0260
Default: 0
Selection: 0 to 15

The parameter configures all areas.

This parameter sets the maximum number of points that can be force-armed or bypassed for any one area. The area does not arm if this limit is reached and points remain faulted.

Entering zero (0), the default setting for this parameter allows an unlimited number of points to be force-armed or bypassed. The Point Index determines which points are bypassable.



Force-arming is not permitted in UL installations

3.6.4 Open/Close Reporting Options

Nibble:	0261															
Default:	15															
Selection:	0 to 15															
Open/Close Reporting Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No Open, Close, Exit Error, or Recent Close Reports	X															
Opening [89 to 96, 164] Reports enabled		X		X		X		X		X		X		X		X
Closing [42 to 67, 165] Reports enabled			X	X			X	X			X	X			X	X
Exit Error [18] Report enabled					X	X	X	X					X	X	X	X
Recent Closing [19 to 20] Reports enabled									X	X	X	X	X	X	X	X

This is a global parameter affecting all points, all areas, and all passcodes.



Once enabled and configured here, Opening and Closing Reports can be restricted by area (see *Section 3.7.2 Area # Opening [89-96]/Closing [42-67] Reporting Options*) and by Authority Level (see *Section **Error! Not a valid result for table.** Authority Level Config Option 6: Disable Open/Close Reports*). Reporting must be enabled at the system level first (see *Section 3.3 Global Reporting Options*).

- **Opening Reports Enabled:** If selected, this option enables Opening [89-96, 164] Reports.
- **Closing Reports Enabled:** If selected, this option enables Closing [42-67, 165] Reports.
- **Exit Error:** Only the Exit Error [18] Report is enabled and disabled by this parameter. By default, the event is always enabled. If an entry or exit point (Point Types 11 and 12) is violated at the end of exit delay. The following events occur:
 1. Local alarm annunciation starts (command centers and alarm outputs).
 2. Entry Delay starts (the command center can either sound an alarm or initiate entry delay).
 3. The alarm transmission procedure starts if the system is not turned off at the end of Entry Delay. An Exit Error [18] Report is included if programmed. The Exit Error Report follows the Alarm Report routing.



Exit Error is required for SIA Control Panel Standard for False Alarm Reduction.

- **Recent Closing:** An Alarm Recent Closing [19 – 20] Report (including the user number) is sent for any alarm within 2 minutes of the end of the exit time.



Recent Closing is required for SIA Control Panel Standard for False Alarm Reduction.

3.6.5 Opening/Closing Report Routing

Nibble:	0262	
Default:	1	
Selection:	0 to 5	
0	No reports, no events to log/printer	
1	Reports to Destination 1; events to log/printer	
2	Reports to Destination 2; events to log/printer	
3	Reports to Destinations 1 and 2; events to log/printer	
3	Reports to Destination 2 only on Destination 1 Comm Fail Event; events to log/printer	
4	No reports; events to log/printer	

This is a global parameter that affects all points, all areas, and all passcodes.

The Exit Error [18] and Recent Closing [19 to 20] Reports follow alarm routing. See *Appendix A* for the dialing sequence and a description of a Comm Fail event.



You must enable reporting at the Global Reporting Options prompt and enter at least one phone number for one routing destination.

3.6.6 Exit Time Restart

Nibble:	0263
Default:	1
Selection:	0 and 1
0	No Exit Time Restart
1	Restart

If this parameter is set to Restart (1), a violation, restoral, and a second violation of an entry/exit point (before the end of Exit Delay) restarts Exit Delay. One restart is allowed per arming cycle. Violation, restoral, and a second violation must all occur at the same point.



Exit Time Restart is required for SIA Control Panel Standard for False Alarm Reduction.

3.6.7 Entry Delay Time 1 (2)

Nibble:	0264 to 0265 for Entry Delay Time 1 0266 to 0267 for Entry Delay Time 2
Default:	1, 14 (30 seconds) for Entry Delay Time 1 7, 8 (120 seconds) for Entry Delay Time 2
Selection:	0, 0 to 15, 15 (Range: 30 seconds to 255 seconds) for Entry Delay Time 1 and 2



The shortest possible Entry Delay is 30 seconds, regardless of the values entered in this parameter

Entry Delay is the time the system allows the user to turn the system off before an alarm initiates.

If the user fails to turn off the system before Entry Delay expires, an alarm event occurs. Users must enter through a point programmed for Entry Delay to start the Entry Delay timer.

The control panel provides two Entry Delays. Only point types programmed to initiate Entry Delay 1 use the Entry Delay time you set at the Entry Delay Time 1 parameter. Point types programmed to initiate Entry Delay 2 use the Entry Delay time you set at the Entry Delay Time 2 parameter.

If the system is on and a user enters through a point assigned to Entry Delay 2, the system initiates Entry Delay 2. If the user enters through a point assigned to Entry Delay 1, and then through a point assigned to Entry Delay 2, the system does not switch from Entry Delay 1 to Entry Delay 2.

The system sounds an Entry Delay tone at the area's command center during entry delay.

Programming from the Command Center

Program two Nibbles for Entry Delay Time 1 and Entry Delay Time 2 to set the parameters. The system multiplies the first entry in the first Nibble by sixteen and adds it to the entry in the second Nibble.

For example, to set Entry Delay Time 1 to 50 seconds, enter 3 in the first Nibble ($3 \times 16 = 48$) and then enter 2 in the second Nibble ($48 + 2 = 50$). Use the formula below to calculate the delay time for programming this parameter.

$$\begin{array}{ccccccc} 3 & \times & 16 & = & 48 & + & 2 & = & 50 \\ \text{(Nibble} & & & & & & \text{(Nibble} & & \text{(Entry Delay} \\ & & & & & & & & \text{Time 1)} \\ & & & & & & & & \text{0264)} & & \text{0265)} \end{array}$$

3.6.8 Part Mode Delay Time

Nibble:	0268 to 0269
Default:	0, 0 (use assigned Entry Delay)
Selection:	0, 0 to 15, 15 (range: 30 seconds to 255 seconds)



The shortest time span that the Part Mode Delay Time parameter can be set for is 30 seconds, regardless of the values entered in this parameter.

Making an entry in the Part Mode Delay Time parameter creates an entry delay time that only applies when the system is Part On.

If the system is Part On or Part 2 On, and any armed point is faulted (fire and 24-hour points excluded), the system starts a Part Mode Entry Delay timer. It uses this Part Mode timer for points that are assigned to either Entry Delay 1 or Entry Delay 2, and points that are not assigned Entry Delay.

Setting the Part Mode Delay Time to zero disables the Part Mode Delay feature. When the system is Part On and 0,0 is entered for Part Mode Delay Time, the armed entry points follow the Entry Delay assigned to them (Entry Delay 1 or 2).

Programming from the Command Center

Programming two Nibbles sets the Part Mode Delay Time. The system multiplies the number entered in the first Nibble by sixteen and adds that total with the number entered in the second Nibble.

For example, to set Part Mode Delay Time to 50 seconds, enter 3 in the first Nibble ($3 \times 16 = 48$) and then enter 2 for the second Nibble ($48 + 2 = 50$).

Use the formula below to calculate the delay time for programming this parameter.

$$\begin{array}{ccccccc}
 3 & \times & 16 & = & 48 & + & 2 & = & 50 \\
 \text{(Nibble)} & & & & & & \text{(Nibble)} & & \text{(Part Mode)} \\
 0268) & & & & & & 0269) & & \text{Delay Time)}
 \end{array}$$

3.6.9 Exit Delay Time 1 (2)

Nibble:	0270 to 0271 for Exit Delay Time 1 0272 to 0273 for Exit Delay Time 2
Default:	3, 12 (60 seconds – UL Listed default) for Exit Delay Time 1 7, 8 (120 seconds) for Exit Delay Time 2
Selection:	0, 0 to 15, 15 (range: 45 seconds to 255 seconds) for Exit Delay Time 1 and 2



The shortest time span that the Exit Delay Time parameter can be set for is 45 seconds, regardless of the values entered in this parameter.

Exit Delay is the time the system allows users to exit the premises. Users must leave the premises before Exit Delay expires.

The control panel provides two Exit Delays. When a user turns the system All or Part On with delay, the system always starts Exit Delay 1. Exit Delay is set to the time you enter at the Exit Delay Time 1 parameter.

If a point assigned to Exit Delay 2 is faulted when Exit Delay is running, the system switches from Exit Delay 1 to Exit Delay 2 (the time you enter at the Exit Delay Time 2 parameter).

If a user force-arms an Exit Delay 2 point, the system uses Exit Delay 2 and Entry Delay 2.

Programming from the Command Center

Programming two Nibbles for each parameter sets Exit Delay Time 1 and Exit Delay Time 2. The system multiplies the number entered in the first Nibble by sixteen and adds that total with the number entered in the second Nibble.

For example, to set Exit Delay Time 1 to 50 seconds, enter 3 in the first Nibble ($3 \times 16 = 48$) and then enter 2 for the second Nibble ($48 + 2 = 50$).

$$\begin{array}{ccccccc}
 3 & \times & 16 & = & 48 & + & 2 & = & 50 \\
 \text{(Nibble)} & & & & & & \text{(Nibble)} & & \text{(Exit Delay 1)} \\
 0270) & & & & & & 0271) & & \text{Time)}
 \end{array}$$

3.7 Areas

Use the parameters in this section to configure the control panel's available areas (up to four on the D6412; up to two on the D4412). Along with the parameters in this section, each area has sixteen characters of programmable text for an area name and sixteen characters of programmable Area Idle text. All control panel text is programmed from the command center in a special text-programming mode. See *Section 2.3.7 Programming Text Nibble Parameters* for text programming instructions.

3.7.1 Area # Account Number for Routing Destination 1 (2)

Table 6: Area Configuration Nibbles and Default Values

Area	Account # for Routing Destination 1	Account # for Routing Destination 2	Open/Close Reporting Options	Lock Area Reporting
1	Nibble 0276 to 0285 10,10,10,10,0,0,0,0,0,0	Nibble 0286 to 0295 10,10,10,10,0,0,0,0,0,0	Nibble 0296 1	Nibble 0297 0
2	Nibble 0298 to 0307 10,10,10,10,0,0,0,0,0,0	Nibble 0308 to 0317 10,10,10,10,0,0,0,0,0,0	Nibble 0318 1	Nibble 0319 0
3*	Nibble 0320 to 0329 10,10,10,10,0,0,0,0,0,0	Nibble 0330 to 0339 10,10,10,10,0,0,0,0,0,0	Nibble 0340 1	Nibble 0341 0
4*	Nibble 0342 to 0351 10,10,10,10,0,0,0,0,0,0	Nibble 0352 to 0361 10,10,10,10,0,0,0,0,0,0	Nibble 0362 1	Nibble 0363 0

* D6412 only

Table 7: Account Number Entries

For This Selection	Press This at the Cmd Ctr
0	10
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
B	11
C	12
D	13
E	14
F	15
Terminate	0

Each area uses the account number entered in this parameter to report to the central station receiver. Different account numbers can be programmed for two routing destinations. See *Section 3.1 Routing Destinations* for a complete description of how the control panel routes reports to the routing destinations.

Account numbers can contain four, six, eight, or ten digits. If less than four digits are entered, the control panel adds up to four zeros to make a four-digit account number. If five, seven or nine digits are entered, the control panel adds a zero to make the account number 6, 8 or 10 digits in length respectively.



Only the Modem IIIa² format supports ten-digit account numbers. Verify that the central station receiver to which the control panel reports supports Modem IIIa² and ten-digit account numbers before programming a ten-digit number in the Account Number parameters.

If you select a reporting format other than Modem IIIa², the control panel automatically truncates the account number to the maximum length supported by that format. See *Section 3.1 Routing Destinations* for a complete description of the reporting formats available in the control panel.

Entering Account Numbers from the Command Center

One account number digit occupies each Nibble. Be sure to use a zero (0) to terminate the account number entry if it is less than ten digits. For example, to set an account number of 1234, enter [1][2][3][4][0].



When entering phone numbers, enter [1][0] from the command center to enter the number "0"; use the [0] key to terminate the phone number.

3.7.2 Area # Opening [89-96]/Closing [42-67] Reporting Options

Nibble:	See <i>Table 6</i>															
Default:	See <i>Table 6</i>															
Selection:	0 to 15															
Area # Open/Close Reporting Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No Open or Close Reports for Area #	X															
Open/Close Reports for Area # enabled		X		X		X		X		X		X		X		X
Restrict Open/Close Reports; Open after Alarm, Close on Force Arm				X				X				X				X
Open/Close Reports for Part On Modes						X		X						X		X
1 Second Bell Test on Closing Ack										X		X		X		X

- Open/Close Reports for Area # Enabled:**
 This parameter configures Opening/Closing Reports for each area. This also includes the report for the Extend Auto event (Event 21) (see *Appendix B* for more information). Opening [89-96] and Closing [42-67] Reports must be enabled at the system level (see *Section 3.6.4 Open/Close Reporting Options*). Opening and Closing Reports are also enabled by Authority Level (see *Section 3.14.4 Options 1, Point Index ##*).
- 1 Second Bell Test on Closing Ack:** Outputs assigned to Alarm Output Functions 1, 8; 1, 9; and 1, 10 activate for one second.

3.7.3 Lock Area # Reporting

Nibble:	See <i>Table 6</i>
Default:	0
Selection:	0 to 2
0	Lock Area reporting disabled
1	Lock Area reports to Routing Destination 1
2	Lock Area reports to Routing Destination 2

Use this parameter to lock area reporting to either Routing Destination 1 or Routing Destination 2. If you enable this feature for an area, all reports for that area are sent to the selected destination. Routing parameters for the individual reports are ignored.

For example, if you set this parameter to 1, all reports in the area are sent to Destination 1. If you set this parameter to 2, all reports in the area are sent to Destination 2.

3.8 Authority Level Configuration

The authority level determines which functions are available to system users. Each user is assigned an authority level. Use the parameters in this section to configure each of the four authority levels available in the control panel.

See *Appendix D* for an explanation of the commands listed for each Authority Level Configuration option.

Authority Level defaults consist of the following options:

- Authority Level 1: All options except for Option 5.
- Authority Level 2: All options except for Option 5.
- Authority Level 3: All options except for Options 5, 8, 10, and 11.
- Authority Level 4: All options except 7 to 15.

3.8.1 Authority Level Config Option 1: [Cmd][1]/All On

Nibble: 0364																
Default: 15																
Selection: 0 to 15																
Authority Level Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No Passcode required	X															
Assign to Authority Level 1		X		X		X		X		X		X		X		X
Assign to Authority Level 2			X	X			X	X			X	X			X	X
Assign to Authority Level 3					X	X	X	X					X	X	X	X
Assign to Authority Level 4									X	X	X	X	X	X	X	X

This parameter enables/restricts the following functions by authority level:

- [Cmd][1] – All On with Delay
- [Cmd][1] – All On with Delay, No Exit Tone*
- [Cmd][1] – All On with No Delay
- All On Key – All On with Delay
- All On Key – All On with Delay, No Exit Tone*
- All On Key – All On with No Delay

If a passcode is required and not entered, the system asks for it after the command is entered.

* Exit Time is doubled when arming the system All On with Delay, Silent. See *Appendix D.1.13 Turn the System On with No Exit Tone* in this guide for instructions.

3.8.2 Authority Level Config Option 2: [Cmd][2]/Part On

Nibble: 0365

Default: 15

Selection: 0 to 15

Authority Level Option	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No Passcode required	X															
Assign to Authority Level 1		X		X		X		X		X		X		X		X
Assign to Authority Level 2			X	X			X	X			X	X			X	X
Assign to Authority Level 3					X	X	X	X					X	X	X	X
Assign to Authority Level 4									X	X	X	X	X	X	X	X

This parameter enables/restricts the following functions by Authority Level:

- [Cmd][2] – Part On with Delay
- [Cmd][2] – Part On with Delay, No Exit Tone*
- [Cmd][2] – Part On with No Delay
- Part On Key – Part On with Delay
- Part On Key – Part On with Delay, No Exit Tone*
- Part On Key – Part On with No Delay

If a passcode is required and not entered, the system asks for it after the command is entered. Points must be configured for Part On arming. See *Section 3.14.4 Options 1, Point Index ##*. Exit Time is doubled when arming the system All On with Delay, Silent. See *Section D.1.13 Turn the System On with No Exit Tone* in this manual for instructions.

3.8.3 Authority Level Config Option 3: [Cmd][3]/Part 2 On

Nibble: 0366

Default: 15

Selection: 0 to 15

Authority Level Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No Passcode required	X															
Assign to Authority Level 1		X		X		X		X		X		X		X		X
Assign to Authority Level 2			X	X			X	X			X	X			X	X
Assign to Authority Level 3					X	X	X	X					X	X	X	X
Assign to Authority Level 4									X	X	X	X	X	X	X	X

This parameter enables/restricts the following functions by authority level:

- [Cmd][3] – Part 2 On with Delay
- [Cmd][3] – Part 2 On with Delay, Silent
- [Cmd][3] – Part 2 On with No Delay

If a passcode is required and not entered, the system asks for it after the command is entered.

3.8.4 Authority Level Config Option 4: Disarming the System

Nibble: 0367 Default: 15 Selection: 0 to 15																
Authority Level Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Disarmed not assigned	X															
Assign to Authority Level 1		X		X		X		X		X		X		X		X
Assign to Authority Level 2			X	X			X	X			X	X			X	X
Assign to Authority Level 3					X	X	X	X					X	X	X	X
Assign to Authority Level 4									X	X	X	X	X	X	X	X

This parameter enables/restricts disarming of the system by authority level.



If 0 (Disarm Not Assigned) is selected for Authority Level Option 4 (Nibble 0367), you cannot disarm the system.

3.8.5 Authority Level Config Option 5: One-Time Disarm

Nibble: 0368 Default: 8 Selection: 0 to 15																
Authority Level Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Disarmed Not Assigned	X															
Assign to Authority Level 1		X		X		X		X		X		X		X		X
Assign to Authority Level 2			X	X			X	X			X	X			X	X
Assign to Authority Level 3					X	X	X	X					X	X	X	X
Assign to Authority Level 4									X	X	X	X	X	X	X	X

If an authority level can disarm the system (see *Section 3.8.4 Authority Level Config Option 4: Disarming the System*), use this parameter to restrict that authority level to one-time disarm (can only disarm the system once).

3.8.6 Authority Level Config Option 6: Disable Open/Close Reports

Nibble: 0369

Default: 0

Selection: 0 to 15

Authority Level Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Send Open/Close Reports for Authority Levels 1 to 4	X															
Authority Level 1 does not send Open/Close Reports		X		X		X		X		X		X		X		X
Authority Level 2 does not send Open/Close Reports			X	X			X	X			X	X			X	X
Authority Level 3 does not send Open/Close Reports					X	X	X	X					X	X	X	X
Authority Level 4 does not send Open/Close Reports									X	X	X	X	X	X	X	X

No Open/Close Reports are sent for the authority level(s) selected at this parameter.

For example, if Open/Close Reports are enabled for an area and Open/Close Reports are disabled for Authority Level 1 in this parameter, the control panel sends Open/Close Reports for users assigned to Authority Levels 2, 3, and 4. It does not send Open/Close Reports for users assigned to Authority Level 1, even though Open/Close Reports are enabled for the area.

See the following parameters to properly enable/disable Open/Close Reporting: *Section 3.1 Routing Destinations*; *Section 3.3 Global Reporting Options*; *Section 3.6.4 Open/Close Reporting Options*; and *Section 3.7.2 Area # Opening [89-96]/Closing [42-67] Reporting Options*.



When the authority level is set to 15, no Open/Close Reports are sent even if the arming key (All On, Part On, [Cmd][1], [Cmd][2] or [Cmd][3]) does not require a passcode

3.8.7 Authority Level Config Option 7: Force Arm/[Cmd][0]/Bypass

Nibble: 0370																
Default: 7																
Selection: 0 to 15																
Authority Level Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No passcode required	X															
Assign to Authority Level 1		X		X		X		X		X		X		X		X
Assign to Authority Level 2			X	X			X	X			X	X			X	X
Assign to Authority Level 3					X	X	X	X					X	X	X	X
Assign to Authority Level 4									X	X	X	X	X	X	X	X

This parameter enables/restricts the following functions by Authority Level:

- Force Arm.
- [Cmd][0] – Selective Bypass.
- Bypass Key

Points must be configured for Bypass/Force Arm operation. See *Section 3.14.6 Options 2, Point Index ##*.

3.8.8 Authority Level Config Option 8: [Cmd][8][0]/[Cmd][8][1]

Nibble: 0371																
Default: 3																
Selection: 0 to 15																
Authority Level Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No passcode required	X															
Assign to Authority Level 1		X		X		X		X		X		X		X		X
Assign to Authority Level 2			X	X			X	X			X	X			X	X
Assign to Authority Level 3					X	X	X	X					X	X	X	X
Assign to Authority Level 4									X	X	X	X	X	X	X	X

This parameter enables/restricts the following functions by authority level:

- [Cmd][8][0] – All On with Delay, All Areas
- [Cmd][8][1] – Off, All Areas

Commands 80 and 81 must be enabled at the system level first. See *Section 3.6.2 Arming Options 2*.

3.8.9 Authority Level Config Option 9: Commands 40 to 44, 47, 48

Nibble: 0372

Default: 7

Selection: 0 to 15

Authority Level Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No Passcode Required	X															
Assign to Authority Level 1		X		X		X		X		X		X		X		X
Assign to Authority Level 2			X	X			X	X			X	X			X	X
Assign to Authority Level 3					X	X	X	X					X	X	X	X
Assign to Authority Level 4									X	X	X	X	X	X	X	X

This parameter enables/restricts the following functions by authority level:

- [Cmd[[4][0] - View Alarm Memory
- [Cmd[[4][1] - System Test
- [Cmd[[4][2] - View System Trouble (Cmd 42, 0 - View Call for Service Trouble)
- [Cmd[[4][3] - Remote Program (to enable Cmd 43, see *Section 3.5.1 Remote Programming (RAM IV) Options*)
- [Cmd[[4][4] - Walk Test
- [Cmd[[4][7] - Reset Sensors
- [Cmd[[4][8] - View Point Trouble

3.8.10 Authority Level Config Option 10: Commands 45, 52, 53, 56, 58, 62, 63, 65, 83, 84

Nibble: 0373 Default: 3 Selection: 0 to 15																
Authority Level Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No passcode required	X															
Assign to Authority Level 1		X		X		X		X		X		X		X		X
Assign to Authority Level 2			X	X			X	X			X	X			X	X
Assign to Authority Level 3					X	X	X	X					X	X	X	X
Assign to Authority Level 4									X	X	X	X	X	X	X	X

This parameter enables/restricts the following functions by authority level:

- [Cmd][4][5] - Set time and date (send Date/Time Change [73] Report)
- [Cmd][5][2] - Change Skeds (see *Section 3.18 Skeds* for information on Skeds)
- [Cmd][5][3] - Renew one-time passcodes
- [Cmd][5][6] - Change (add) other passcodes
- [Cmd][5][8] - Delete passcodes
- [Cmd][6][2] - Set Watch Tone
- [Cmd][6][3] - Set Watch Points
- [Cmd][6][5] - Set Part 2 Points
- [Cmd][8][3] - Auto-Call Forwarding Enable, Digits to dial at All On
- [Cmd][8][4] - Auto-Call Forwarding Disable, Digits to dial at disarm

3.8.11 Authority Level Config Option 11: [Cmd][5][0]

Nibble: 0374 Default: 3 Selection: 0 to 15																
Authority Level Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No passcode required	X															
Assign to Authority Level 1		X		X		X		X		X		X		X		X
Assign to Authority Level 2			X	X			X	X			X	X			X	X
Assign to Authority Level 3					X	X	X	X					X	X	X	X
Assign to Authority Level 4									X	X	X	X	X	X	X	X

This parameter enables/restricts Move to Area command ([Cmd][5][0]) by Authority Level.

3.8.12 Authority Level Config Option 12: [Cmd][5][1]

Nibble: 0375

Default: 7

Selection: 0 to 15

Authority Level Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No passcode required	X															
Assign to Authority Level 1		X		X		X		X		X		X		X		X
Assign to Authority Level 2			X	X			X	X			X	X			X	X
Assign to Authority Level 3					X	X	X	X					X	X	X	X
Assign to Authority Level 4									X	X	X	X	X	X	X	X

This parameter enables/restricts the Extend Auto On Time command ([Cmd][5][1]) by Authority Level.

3.8.13 Authority Level Config Option 13: Commands 49, 54, 61, 82

Nibble: 0376

Default: 7

Selection: 0 to 15

Authority Level Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No passcode required	X															
Assign to Authority Level 1		X		X		X		X		X		X		X		X
Assign to Authority Level 2			X	X			X	X			X	X			X	X
Assign to Authority Level 3					X	X	X	X					X	X	X	X
Assign to Authority Level 4									X	X	X	X	X	X	X	X

This parameter enables/restricts the following functions by authority level:

- [Cmd][4][9] - Adjust command center sounder volume and lighting
- [Cmd][5][4] - Change or reset outputs
- [Cmd][6][1] - Watch toggle Off/On
- [Cmd][8][2] - Auto-Forward – Enable/Disable

3.8.14 Authority Level Config Option 14: [Cmd][5][5]

Nibble: 0377

Default: 7

Selection: 0 to 15

Authority Level Option	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No Passcode Required	X															
Assign to Authority Level 1		X		X		X		X		X		X		X		X
Assign to Authority Level 2			X	X			X	X			X	X			X	X
Assign to Authority Level 3					X	X	X	X					X	X	X	X
Assign to Authority Level 4									X	X	X	X	X	X	X	X

This parameter enables/restricts the PIN Change function ([#][5][5]) by authority level.

3.8.15 Authority Level Config Option 15: [Cmd][8][5]

Nibble: 0378

Default: 7

Selection: 0 to 15

Authority Level Option	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No Passcode Required	X															
Assign to Authority Level 1		X		X		X		X		X		X		X		X
Assign to Authority Level 2			X	X			X	X			X	X			X	X
Assign to Authority Level 3					X	X	X	X					X	X	X	X
Assign to Authority Level 4									X	X	X	X	X	X	X	X

This parameter enables/restricts the View Log command ([Cmd][8][5]) by Authority Level.

3.9 Passcode Configuration, Installer Passcode

3.9.1 Passcode Length

Nibble:	0379
Default:	4
Selection:	3 to 7

This parameter determines the number of digits in a passcode. All user passcodes and the installer passcode follow this length. The RAM passcode (see *Section 3.2.5 RAM Passcode*) is not affected by this parameter's setting.

3.9.2 User Tamper Options

Nibble:	0380															
Default:	1															
Selection:	See below															
User Tamper Option	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No User Tamper Alert events	X															
User Tamper [156] Reports enabled		X		X												
User Tamper Activates Burg Alarm Output			X	X												
Reserved																
Reserved																

A user tamper event is:

- A user entering a passcode that is not in the system (the user must enter the invalid code the number of times shown in *Section 3.9.3 User Tamper Retry Count*).
- A user entering a passcode that is in the system but without the authority for the desired function.
- **User Tamper Reports Enabled:** User Tamper events appear at all command centers assigned to the area where the user is accessing the system. User Tamper [156] Reports and User Tamper Activated Alarm Outputs are tied to the command center's area. If only the **User Tamper [156] Reports Enabled** option is selected and a user tamper event occurs, the text command center where the event occurs shows Keypad Locked.
- **User Tamper Activates Burg Alarm Output:** If the Burglary Alarm Output (steady alarm output) is selected and a user tamper event occurs, the text command center where the user



If the passcode length is shortened after passcodes are entered, duplicate passcodes can be created (for example, passcodes 1235 and 1238 would both become 123).

If the passcode is lengthened, some passcodes may be disabled (for example, passcode 396, if lengthened to five digits, would become 396FF [F = blank] thus disabling the passcode since F cannot be entered at a command center).

tamper occurred shows Keypad Locked.

Other text command centers in the area shows User Tamper Alarm, Enter code to silence. While the command center is locked out, any key pressed produces an error tone (for text and LED command centers). Selecting **User Tamper Activates Burg Alarm Output** specifically activates output functions 1, 8; 1, 9; and 1, 10. See *Table 18* for descriptions of these output functions.

3.9.3 User Tamper Retry Count

Nibble:	0381
Default:	4
Selection:	0 to 15
0	Passcode Tamper Disabled
1 to 15	Number of attempts before Passcode Tamper Event

Entering zero (0) disables this feature. The control panel creates a User Tamper event when a user enters an invalid passcode the number of times programmed in this parameter. For example, if this parameter is set to 5, an invalid passcode entered five times, causes a User Tamper event.

3.9.4 User Tamper Lockout Time

Nibble:	0382
Default:	2
Selection:	0 minutes to 15 minutes

This parameter determines how long a command center is locked out when a User Tamper event occurs (selections are in minutes).

3.9.5 Installer Passcode

Nibble:	0383 to 0389
Default:	6543210
Selection:	0 to 9



Do not use digits 10 to 15 when creating the installer passcode. Entering these digits makes the passcode unusable and locks the installer out of the control panel.

The installer passcode length is the same as all other system passcodes (see *Section 3.9.1 Passcode Length*). The default installer passcode is 6543(210) depending on the passcode length.

The installer passcode cannot disarm the system, but it can access all other commands

The installer passcode reports as User 0 (zero).

3.10 Users

This section explains how to configure each user's passcode, authority level, and area assignment. Both the D6412 and D4412 support up to 32 users.

The control panels reserve the following User IDs for automated functions: 252 (Sked operation); 253 (remote telephone communication); 254 (RAM IV communication); 255 (keyswitch operation or any local operation that does not require a passcode entry).

Table 8: User Passcode, Authority Level, and Area Programming

User #	Passcode							Authority Level	Area
	Digit 1	Digit 2	Digit 3	Digit 4	Digit 5	Digit 6	Digit 7	Selection	Selection
1	Nibble 0390 (1)	Nibble 0391 (2)	Nibble 0392 (3)	Nibble 0393 (4)	Nibble 0394 (5)	Nibble 0395 (6)	Nibble 0396 (7)	Nibble 0397 (1)	Nibble 0398 (15/3)*
2	Nibble 0399 (0)	Nibble 0400 (0)	Nibble 0401 (0)	Nibble 0402 (0)	Nibble 0403 (0)	Nibble 0404 (0)	Nibble 0405 (0)	Nibble 0406 (0)	Nibble 0407 (0)
3	Nibble 0408 (0)	Nibble 0409 (0)	Nibble 0410 (0)	Nibble 0411 (0)	Nibble 0412 (0)	Nibble 0413 (0)	Nibble 0414 (0)	Nibble 0415 (0)	Nibble 0416 (0)
4	Nibble 0417 (0)	Nibble 0418 (0)	Nibble 0419 (0)	Nibble 0420 (0)	Nibble 0421 (0)	Nibble 0422 (0)	Nibble 0423 (0)	Nibble 0424 (0)	Nibble 0425 (0)
5	Nibble 0426 (0)	Nibble 0427 (0)	Nibble 0428 (0)	Nibble 0429 (0)	Nibble 0430 (0)	Nibble 0431 (0)	Nibble 0432 (0)	Nibble 0433 (0)	Nibble 0434 (0)
6	Nibble 0435 (0)	Nibble 0436 (0)	Nibble 0437 (0)	Nibble 0438 (0)	Nibble 0439 (0)	Nibble 0440 (0)	Nibble 0441 (0)	Nibble 0442 (0)	Nibble 0443 (0)
7	Nibble 0444 (0)	Nibble 0445 (0)	Nibble 0446 (0)	Nibble 0447 (0)	Nibble 0448 (0)	Nibble 0449 (0)	Nibble 0450 (0)	Nibble 0451 (0)	Nibble 0452 (0)
8	Nibble 0453(0)	Nibble 0454 (0)	Nibble 0455 (0)	Nibble 0456 (0)	Nibble 0457 (0)	Nibble 0458 (0)	Nibble 0459 (0)	Nibble 0460 (0)	Nibble 0461 (0)
9	Nibble 0462 (0)	Nibble 0463 (0)	Nibble 0464 (0)	Nibble 0465 (0)	Nibble 0466 (0)	Nibble 0467 (0)	Nibble 0468 (0)	Nibble 0469 (0)	Nibble 0470 (0)
10	Nibble 0471 (0)	Nibble 0472 (0)	Nibble 0473 (0)	Nibble 0474 (0)	Nibble 0475 (0)	Nibble 0476 (0)	Nibble 0477 (0)	Nibble 0478 (0)	Nibble 0479 (0)
11	Nibble 0480 (0)	Nibble 0481 (0)	Nibble 0482 (0)	Nibble 0483 (0)	Nibble 0484 (0)	Nibble 0485 (0)	Nibble 0486 (0)	Nibble 0487 (0)	Nibble 0488 (0)
12	Nibble 0489 (0)	Nibble 0490 (0)	Nibble 0491 (0)	Nibble 0492 (0)	Nibble 0493 (0)	Nibble 0494 (0)	Nibble 0495 (0)	Nibble 0496 (0)	Nibble 0497 (0)
13	Nibble 0498 (0)	Nibble 0499 (0)	Nibble 0500 (0)	Nibble 0501 (0)	Nibble 0502 (0)	Nibble 0503 (0)	Nibble 0504 (0)	Nibble 0505 (0)	Nibble 0506 (0)
14	Nibble 0507 (0)	Nibble 0508 (0)	Nibble 0509 (0)	Nibble 0510 (0)	Nibble 0511 (0)	Nibble 0512 (0)	Nibble 0513 (0)	Nibble 0514 (0)	Nibble 0515 (0)
15	Nibble 0516 (0)	Nibble 0517 (0)	Nibble 0518 (0)	Nibble 0519 (0)	Nibble 0520 (0)	Nibble 0521 (0)	Nibble 0522 (0)	Nibble 0523 (0)	Nibble 0524 (0)
16	Nibble 0525 (0)	Nibble 0526 (0)	Nibble 0527 (0)	Nibble 0528 (0)	Nibble 0529 (0)	Nibble 0530 (0)	Nibble 0531 (0)	Nibble 0532 (0)	Nibble 0533 (0)
17	Nibble 0534 (0)	Nibble 0535 (0)	Nibble 0536 (0)	Nibble 0537 (0)	Nibble 0538 (0)	Nibble 0539 (0)	Nibble 0540 (0)	Nibble 0541 (0)	Nibble 0542 (0)
18	Nibble 0543 (0)	Nibble 0544 (0)	Nibble 0545 (0)	Nibble 0546 (0)	Nibble 0547 (0)	Nibble 0548 (0)	Nibble 0549 (0)	Nibble 0550 (0)	Nibble 0551 (0)
19	Nibble 0552 (0)	Nibble 0553 (0)	Nibble 0554 (0)	Nibble 0555 (0)	Nibble 0556 (0)	Nibble 0557 (0)	Nibble 0558 (0)	Nibble 0559 (0)	Nibble 0560 (0)
20	Nibble 0561 (0)	Nibble 0562 (0)	Nibble 0563 (0)	Nibble 0564 (0)	Nibble 0565 (0)	Nibble 0566 (0)	Nibble 0567 (0)	Nibble 0568 (0)	Nibble 0569 (0)
21	Nibble 0570 (0)	Nibble 0571 (0)	Nibble 0572 (0)	Nibble 0573 (0)	Nibble 0574 (0)	Nibble 0575 (0)	Nibble 0576 (0)	Nibble 0577 (0)	Nibble 0578 (0)

* The D4412's default setting for User 1 area selection is "3" for Areas 1 and 2. See *Section 3.10.3 Area Option, User #* for more information.

Table 8: continued

User #	Digit 1	Digit 2	Digit 3	Passcode				Authority Level	Area
				Digit 4	Digit 5	Digit 6	Digit 7	Selection	Selection
22	Nibble 0579 (0)	Nibble 0580 (0)	Nibble 0581 (0)	Nibble 0582 (0)	Nibble 0583 (0)	Nibble 0584 (0)	Nibble 0585 (0)	Nibble 0586 (0)	Nibble 0587 (0)
23	Nibble 0588 (0)	Nibble 0589 (0)	Nibble 0590 (0)	Nibble 0591 (0)	Nibble 0592 (0)	Nibble 0593 (0)	Nibble 0594 (0)	Nibble 0595 (0)	Nibble 0596 (0)
24	Nibble 0597 (0)	Nibble 0598 (0)	Nibble 0599 (0)	Nibble 0600 (0)	Nibble 0601 (0)	Nibble 0602 (0)	Nibble 0603 (0)	Nibble 0604 (0)	Nibble 0605 (0)
25	Nibble 0606 (0)	Nibble 0607 (0)	Nibble 0608 (0)	Nibble 0609 (0)	Nibble 0610 (0)	Nibble 0611 (0)	Nibble 0612 (0)	Nibble 0613 (0)	Nibble 0614 (0)
26	Nibble 0615 (0)	Nibble 0616 (0)	Nibble 0617 (0)	Nibble 0618 (0)	Nibble 0619 (0)	Nibble 0620 (0)	Nibble 0621 (0)	Nibble 0622 (0)	Nibble 0623 (0)
27	Nibble 0624 (0)	Nibble 0625 (0)	Nibble 0626 (0)	Nibble 0627 (0)	Nibble 0628 (0)	Nibble 0629 (0)	Nibble 0630 (0)	Nibble 0631 (0)	Nibble 0632 (0)
28	Nibble 0633 (0)	Nibble 0634 (0)	Nibble 0635 (0)	Nibble 0636 (0)	Nibble 0637 (0)	Nibble 0638 (0)	Nibble 0639 (0)	Nibble 0640 (0)	Nibble 0641 (0)
29	Nibble 0642 (0)	Nibble 0643 (0)	Nibble 0644 (0)	Nibble 0645 (0)	Nibble 0646 (0)	Nibble 0647 (0)	Nibble 0648 (0)	Nibble 0649 (0)	Nibble 0650 (0)
30	Nibble 0651 (0)	Nibble 0652 (0)	Nibble 0653 (0)	Nibble 0654 (0)	Nibble 0655 (0)	Nibble 0656 (0)	Nibble 0657 (0)	Nibble 0658 (0)	Nibble 0659 (0)
31	Nibble 0660 (0)	Nibble 0661 (0)	Nibble 0662 (0)	Nibble 0663 (0)	Nibble 0664 (0)	Nibble 0665 (0)	Nibble 0666 (0)	Nibble 0667 (0)	Nibble 0668 (0)
32	Nibble 0669 (0)	Nibble 0670 (0)	Nibble 0671 (0)	Nibble 0672 (0)	Nibble 0673 (0)	Nibble 0674 (0)	Nibble 0675 (0)	Nibble 0676 (0)	Nibble 0677 (0)

3.10.1 Passcode, User #

Nibble:	See Table 8
Default:	See Table 8
Selection:	0 to 9

Use the Passcode parameter to enter a passcode for each user (up to 32). The Passcode Length parameter determines the number of digits in the passcodes.

Since the default passcode is four digits long, the default passcode for User 1 is 1234. If the passcode length is increased to five digits, the default passcode for User 1 becomes 12345. If six digits are selected, the default passcode becomes 123456, and if the maximum number of digits is programmed, the default passcode becomes 1234567.



Do not use Digits 10 to 15 when creating a user passcode. Entering these digits makes the passcode unusable and locks the user out of the system.

3.10.2 Authority Level, User #

Nibble:	See Table 8
Default:	See Table 8
Selection:	0 to 4

0	Disabled
1	Authority Level 1
2	Authority Level 2
3	Authority Level 3
4	Authority Level 4

This parameter assigns an authority level to each user. The authority level assigns functions to the user's passcode and RF keyfob (see *Section 3.8 Authority Level Configuration*). See *Section 3.25 RF Keyfobs* for a description of RF keyfobs and assigning them to users.

3.10.3 Area Option, User

Nibble: See Table 8

Default: See Table 8

Selection: 0 to 15

Area Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Not assigned to an area	X															
Assigned to Area 1		X		X		X		X		X		X		X		X
Assigned to Area 2			X	X			X	X			X	X			X	X
Assigned to Area 3 (D6412)					X	X	X	X					X	X	X	X
Assigned to Area 4 (D6412)									X	X	X	X	X	X	X	X

Assigning passcodes to multiple areas allows users to view and operate multiple areas at a single command center. This is a passcode/user function and is not a command center scope function (there is no command center scope in the D6412/D4412).

Area 3 and 4 assignment options apply only to the D6412.

3.11 Command Centers

Wired command centers (D621, D623, D625) 1 to 8 are fixed at SDI addresses 1 to 8.

All command centers (and other SDI devices) are fully supervised. Supervision reports (missing, tamper, and so on) follow the System Status Report routing.

Table 9: Command Center DIP Switch Address Settings

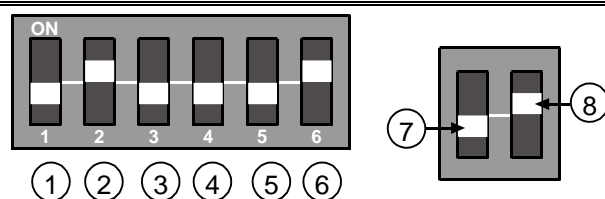
DIP Switch Address Settings						
	S1	S2	S3	S4	S5	S6
Address	1	2	4	8	16	Mode
0						
1	ON					ON
2		ON				ON
3	ON	ON				ON
4			ON			ON
5	ON		ON			ON
6		ON	ON			ON
7	ON	ON	ON			ON
8				ON		ON



Address 0 is reserved for the Installer's Keypad. See the *D6412, D4412 Installation Guide* (P/N: 45349) for installer's keypad information.

See Figure 7 for correct DIP switch orientation.

Figure 7: Command Center DIP Switch Orientation



- 1 - Address 1
- 2 - Address 2
- 3 - Address 4
- 4 - Address 8
- 5 - Address 16
- 6 - Mode
- 7 - Off
- 8 - On

Table 10: Command Center Parameter Nibbles and Defaults

Command Center	Command Center Options	Area
1	Nibble 0678 (7)	Nibble 0679 (1)
2	Nibble 0680 (7)	Nibble 0681 (0)
3	Nibble 0682 (7)	Nibble 0683 (0)
4	Nibble 0684 (7)	Nibble 0685 (0)
5	Nibble 0686 (7)	Nibble 0687 (0)
6	Nibble 0688 (7)	Nibble 0689 (0)
7	Nibble 0690 (7)	Nibble 0691 (0)
8	Nibble 0692 (7)	Nibble 0693 (0)

3.11.1 Command Center # Options

Nibble: See Table 10

Default: See Table 10

Selection: 0 to 15

Command Center Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No command center options	X															
Beep command center on system trouble		X		X		X		X		X		X		X		X
Enable exit tone			X	X			X	X			X	X			X	X
Enable area display (D646 Command Center)					X	X	X	X					X	X	X	X
Don't Show Point Status on Command Centers									X	X	X	X	X	X	X	X

- **Beep Command Center on System Trouble:** Sounds a tone at the command center when system trouble occurs.



For UL Listed installations, Beep Command Center on System Trouble must be turned on.

- **Enable Exit Tone:** Sounds the Exit Delay tone at this command center when Exit Delay is active.
- **Enable Area Display (D646 Command Center):** If selected, the D646 Command Center shows the current state of each area using its four area LEDs.

Table 11: D646 Command Center LED Functions

Function	Condition
LED flashes fast	Area is in alarm
LED is on steady	Area is armed, but not in alarm
LED flashes slow	Trouble condition exists, or point is bypassed in area
LED is off	Area is disarmed, no alarm/trouble conditions exist, no points are bypassed

If Enable Area Display is disabled, the D646 Command Center displays the area to which it is currently assigned. If the command center is assigned to another area, the LED for the new area lights steady (for example, if the command center is initially assigned to Area 1, the Area 1 LED lights steady. If it is reassigned to Area 2, the Area 1 LED is off and the Area 2 LED lights steady). This also applies if the user uses the Move to Area function ([#][5][0]) to reassign a D646 Command Center.



Enable Area Display is available only in a control panel using firmware version 1.04 or greater.

- **Don't Show Point Status on Command Centers:** If not selected (no "X" in option box for this feature), the text command center displays OK for All On or OK for Part On across the second line. This indicates that all points are normal and the system is ready to arm All On or Part On.
 - If a controlled point is faulted (either open or shorted), the Area Idle Text for this point's assigned area replaces the OK for All On message



If **Don't Show Point Status on Command Centers** is selected, change the default Area Idle Text ("Not Ready"). See Section 2.3.7 Programming Text Nibble Parameters for text entry instructions.

- If a controlled point not configured for Part On arming is faulted (either open or shorted), OK for Part On replaces OK for All On on the text command center's display. The system may be armed Part On, but cannot be armed All On until the faulted point is restored. See *Section 3.14.4 Options 1, Point Index ##* for point index configuration details.

This option configures the LED command center to not show point status when its area is Off (disarmed). Users must press the [*] key to see point status.

3.11.2 Command Center # Area

Nibble:	See <i>Table 10</i>
Default:	See <i>Table 10</i>
Selection:	0 to 4
0	Disabled
1	Assign command center to Area 1
2	Assign command center to Area 2
3	Assign command center to Area 3 (D6412 only)
4	Assign command center to Area 4 (D6412 only)

Only one area can be assigned to a command center. Users (passcodes) can be assigned to multiple areas.

The Move command ([Cmd][5][0]) allows users (passcodes) assigned to multiple areas to view those areas from one command center. There is no command center scope in this product.

Area 3 and Area 4 assignment options only apply to the D6412.

3.12 ABC Keys and Duress Parameters

The parameters in this section configure the ABC keys and the Duress function for all command centers and areas. Each key has sixteen characters of programmable text that is displayed when the key is activated (press twice to activate). See *Section 3.21 System Text* and *Section 2.3.7 Programming Text Nibble Parameters* for information on System Text programming and Text Nibble entries.

3.12.1 Area Options for ABC Keys

Nibble:	0694 for [A] key 0696 for [B] key 0698 for [C] key															
Default:	15 for D6412 3 for D4412															
Selection:	0 to 15															
A Key Area Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Disable for all areas	X															
A key works for Area 1		X		X		X		X		X		X		X		X
A key works for Area 2			X	X			X	X			X	X			X	X
A key works for Area 3 (D6412 only)					X	X	X	X					X	X	X	X
A key works for Area 4 (D6412 only)									X	X	X	X	X	X	X	X

Use this parameter to assign areas to the ABC Keys. The keys report as follows:

- [A] key reports as Zone 100 for all areas
- [B] key reports as Zone 101 for all areas
- [C] key reports as Zone 102 for all areas

3.12.2 Alarm Response for ABC Keys

Nibble:	0695 for [A] key alarm response 0697 for [B] key alarm response 0699 for [C] key alarm response
Default:	0
Selection:	0 to 3
0	No alarm response
1	Activate fire alarm response
2	Activate panic alarm response
3	Activate emergency response

This parameter determines the alarm response for the [A] key.

- **Fire Alarm Response:** Displays Fire Alarm Key # at the text command centers. If programmed, the control panel sends a Fire Alarm [75] Report and activates the Fire Alarm Output.
- **Panic Alarm Response:** Nothing is displayed and no sounds are emitted at the command centers. If programmed, a Panic [6] Report is sent and the Burglary Alarm Output is activated.
- **Emergency Alarm Response:** Displays Alarm Key # at the text command centers. If programmed, an Emergency Alarm [4] Report is sent and the Burglary Alarm Output is activated.

3.12.3 Alarm Output Option for ABC Keys

Nibble: 0700																
Default: 0																
Selection: See below																
Alarm Output Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No alarm output for ABC keys	X															
Alarm output for A key		X		X		X		X								
Alarm output for B key			X	X			X	X								
Alarm output for C key					X	X	X	X								
Reserved																

Use this parameter to assign an alarm output option to the ABC keys. The alarm output activates for the response type assigned to each key. See *Section 3.12.2 Alarm Response for ABC Keys*. This is a global parameter that affects all areas.

3.12.4 ABC Key Reports, Acknowledgement Beep at Command Center Options

Nibble: 0701																
Default: 0																
Selection: 0 to 15																
ABC Key Report and Ack Beep Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No Alarm Report for ABC keys	X															
Enable ABC key reporting (A = 100, B = 101, C = 102)		X		X		X		X		X		X		X		X
Acknowledgement beep for [A] key			X	X			X	X			X	X			X	X
Acknowledgement beep for [B] key					X	X	X	X					X	X	X	X
Acknowledgement beep for [C] key									X	X	X	X	X	X	X	X

This is a global parameter that affects all areas.

- **Enable ABC Key Reporting:** If enabled, the [A] key reports as Point 100, the [B] key reports as Point 101 and the [C] key reports as Point 102.
- **Acknowledgement Beep for ABC Keys:** The command center beeps when the central station receiver acknowledges a report. If the key is not programmed for reports, the beep occurs on activation.

3.12.5 Duress Reporting Options

Nibble: 0702																
Default: 0																
Selection: 0 to 15																
Duress Reporting Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No user emergency function reporting	X															
Make user 32 a duress user		X		X		X		X		X		X		X		X
Make user 31 a duress user			X	X			X	X			X	X			X	X
Make user 30 a duress user					X	X	X	X					X	X	X	X
Make user 29 a duress user									X	X	X	X	X	X	X	X

This parameter creates up to four Duress users (and passcodes). Creating a Duress user does not change any other functions programmed for that user.

Whenever a user enters a Duress passcode (passcode assigned to a Duress user), the control panel sends a Duress [74] Report and executes functions per the Duress user's authority level.

To create a unique Duress user (and passcode) for all areas, select Option 15 and then assign each of the four users (User 29 through User 32) to only one area.

To create one Duress user (and passcode) for all areas, select Option 1, 2, 4 or 8 and then assign a user (User 29 through User 32) to all areas (up to four areas on the D6412; up to two areas on the D4412).

3.12.6 ABC Keys and Duress Report Routing

Nibble:	0703
Default:	1
Selection:	0 to 5
0	No reports, no events to log/printer
1	Reports to Destination 1, events to log/printer
2	Reports to Destination 2, events to log/printer
3	Reports to Destination 1 and 2, events to log/printer
4	Reports to Destination 2 only on Destination 1 Comm Fail event, events to log/printer
5	No reports, events to log/printer

The [A] key reports as Point 100 for all areas, the [B] key reports as Point 101 for all areas, and the [C] key reports as Point 102 for all areas.

This is a global parameter that affects all areas. See *Appendix A* for the dialing sequence and a description of Comm Fail event.



You must enable reporting at the Global Reporting Options prompt and enter at least one phone number for one routing destination.

The RF Keyfob "Panic" feature follows this routing. See *Section 3.25.2 Keyfob Options* for details.

3.12.7 Enable Command Center Tamper Response

Nibble:	0704
Default:	0
Selection:	0 or 1
0	Disable command center tamper response
1	Enable command center tamper response

This is a global parameter that affects all command centers.

If this parameter is enabled, the panel checks for a tamper response from each command center. If this parameter is disabled, the panel ignores the command center tamper response.



This feature must be enabled at the panel by setting Nibble 0704 to "1" and by enabling the command center's tamper jumper pins. See the installation instructions accompanying the command center for information.



Enable Command Center Tamper Response is available only in a panel using firmware version 1.04 or greater.

3.13 Locations

The D6412 supports up to 40 Locations. The D4412 supports up to 24 Locations.

Locations are configured through the following parameters:

- Device
- Point Index
- Area
- Point Number

These four parameters must be configured for each location used in the system.

Table 12: Location Configuration Parameters

Location Parameters					Device Parameter Selections				
The default Nibble programming for each of the four Location parameters. These four parameters configure each location.					The selections for the Device parameter. The Device parameter tells the control panel where to find the sensor loop (or transmitter) status for each location. The cells in these columns tell you which loop to use on each device. Each cell also tells you which end-of-line (EOL) resistor value to use for each loop.				
Location #	Device (default)	Point Index (default)	Area (default)	Point # (default)	1 On-Board	2 DX2010	3 DX2010 Doubled	4 RF Receiver 1	5 RF Receiver 2
1	Nibble: 0706 (1)	Nibble: 0707 (1)	Nibble: 0708 (1)	Nibble: 0709 (0) 0710 (1)	2.2 kΩ only	SDI Addr 101 Loop 1, 2.2 kΩ		SDI Addr 50 Transmitter 1	SDI Addr 51 Transmitter 1
2	Nibble: 0711 (1)	Nibble: 0712 (11)	Nibble: 0713 (1)	Nibble: 0714 (0) 0715 (2)	3.65 kΩ only when doubled with 10	SDI Addr 101 Loop 2, 2.2 kΩ		SDI Addr 50 Transmitter 2	SDI Addr 51 Transmitter 2
3	Nibble: 0716 (1)	Nibble: 0717 (11)	Nibble: 0718 (1)	Nibble: 0719 (0) 0720 (3)	3.65 kΩ only when doubled with 11	SDI Addr 101 Loop 3, 2.2 kΩ		SDI Addr 50 Transmitter 3	SDI Addr 51 Transmitter 3
4	Nibble: 0721 (1)	Nibble: 0722 (13)	Nibble: 0723 (1)	Nibble: 0724 (0) 0725 (4)	3.65 kΩ only when doubled with 12	SDI Addr 101 Loop 4, 2.2 kΩ		SDI Addr 50 Transmitter 4	SDI Addr 51 Transmitter 4
5	Nibble: 0726 (1)	Nibble: 0727 (13)	Nibble: 0728 (1)	Nibble: 0729 (0) 0730 (5)	3.65 kΩ only when doubled with 13	SDI Addr 101 Loop 5, 2.2 kΩ		SDI Addr 50 Transmitter 5	SDI Addr 51 Transmitter 5
6	Nibble: 0731 (1)	Nibble: 0732 (14)	Nibble: 0733 (1)	Nibble: 0734 (0) 0735 (6)	3.65 kΩ only when doubled with 14	SDI Addr 101 Loop 6, 2.2 kΩ		SDI Addr 50 Transmitter 6	SDI Addr 51 Transmitter 6
7	Nibble: 0736 (1)	Nibble: 0737 (14)	Nibble: 0738 (1)	Nibble: 0739 (0) 0740 (7)	3.65 kΩ only when doubled with 15	SDI Addr 101 Loop 7, 2.2 kΩ		SDI Addr 50 Transmitter 7	SDI Addr 51 Transmitter 7
8	Nibble: 0741 (1)	Nibble: 0742 (4)	Nibble: 0743 (1)	Nibble: 0744 (0) 0745 (8)	3.65 kΩ only when doubled with 16	SDI Addr 101 Loop 8, 2.2 kΩ		SDI Addr 50 Transmitter 8	SDI Addr 51 Transmitter 8

Table 12: continued

Location Parameters					Device Parameter Selections				
The default Nibble programming for each of the four Location parameters. These four parameters configure each location.					The selections for the Device parameter. The Device parameter tells the control panel where to find the sensor loop (or transmitter) status for each location. The cells in these columns tell you which loop to use on each device. Each cell also tells you which end-of-line (EOL) resistor value to use for each loop.				
Location #	Device (default)	Point Index (default)	Area (default)	Point # (default)	1 On-Board	2 DX2010	3 DX2010 Doubled	4 RF Receiver 1	5 RF Receiver 2
9	Nibble: 0746 (0)	Nibble: 0747 (0)	Nibble: 0748 (1)	Nibble: 0749 (0) 0750 (9)	Not available as double point.	SDI Addr 102 Loop 1, 2.2 kΩ	SDI Addr 106 Loop 1, 3.65 kΩ	SDI Addr 50 Transmitter 9	SDI Addr 51 Transmitter 9
10	Nibble: 0751 (0)	Nibble: 0752 (0)	Nibble: 0753 (1)	Nibble: 0754 (1) 0755 (0)	Doubled with 2, 2.2 kΩ	SDI Addr 102 Loop 2, 2.2 kΩ	SDI Addr 106 Loop 2, 3.65 kΩ	SDI Addr 50 Transmitter 10	SDI Addr 51 Transmitter 10
11	Nibble: 0756 (0)	Nibble: 0757 (0)	Nibble: 0758 (1)	Nibble: 0759 (1) 0760 (1)	Doubled with 3, 2.2 kΩ	SDI Addr 102 Loop 3, 2.2 kΩ	SDI Addr 106 Loop 3, 3.65 kΩ	SDI Addr 50 Transmitter 11	SDI Addr 51 Transmitter 11
12	Nibble: 0761 (0)	Nibble: 0762 (0)	Nibble: 0763 (1)	Nibble: 0764 (1) 0765 (2)	Doubled with 4, 2.2 kΩ	SDI Addr 102 Loop 4, 2.2 kΩ	SDI Addr 106 Loop 4, 3.65 kΩ	SDI Addr 50 Transmitter 12	SDI Addr 51 Transmitter 12
13	Nibble: 0766 (0)	Nibble: 0767 (0)	Nibble: 0768 (1)	Nibble: 0769 (1) 0770 (3)	Doubled with 5, 2.2 kΩ	SDI Addr 102 Loop 5, 2.2 kΩ	SDI Addr 106 Loop 5, 3.65 kΩ	SDI Addr 50 Transmitter 13	SDI Addr 51 Transmitter 13
14	Nibble: 0771 (0)	Nibble: 0772 (0)	Nibble: 0773 (1)	Nibble: 0774 (1) 0775 (4)	Doubled with 6, 2.2 kΩ	SDI Addr 102 Loop 6, 2.2 kΩ	SDI Addr 106 Loop 6, 3.65 kΩ	SDI Addr 50 Transmitter 14	SDI Addr 51 Transmitter 14
15	Nibble: 0776 (0)	Nibble: 0777 (0)	Nibble: 0778 (1)	Nibble: 0779 (1) 0780 (5)	Doubled with 7, 2.2 kΩ	SDI Addr 102 Loop 7, 2.2 kΩ	SDI Addr 106 Loop 7, 3.65 kΩ	SDI Addr 50 Transmitter 15	SDI Addr 51 Transmitter 15
16	Nibble: 0781 (0)	Nibble: 0782 (0)	Nibble: 0783 (1)	Nibble: 0784 (1) 0785 (6)	Doubled with 8, 2.2 kΩ	SDI Addr 102 Loop 8, 2.2 kΩ	SDI Addr 106 Loop 8, 3.65 kΩ	SDI Addr 50 Transmitter 16	SDI Addr 51 Transmitter 16

Table 12: continued

Location Parameters					Device Parameter Selections				
The default Nibble programming for each of the four Location parameters. These four parameters configure each location.					The selections for the Device parameter. The Device parameter tells the control panel where to find the sensor loop (or transmitter) status for each location. The cells in these columns tell you which loop to use on each device. Each cell also tells you which end-of-line (EOL) resistor value to use for each loop.				
Location #	Device (default)	Point Index (default)	Area (default)	Point # (default)	1 On-Board	2 DX2010	3 DX2010 Doubled	4 RF Receiver 1	5 RF Receiver 2
17	Nibble: 0786 (0)	Nibble: 0787 (0)	Nibble: 0788 (1)	Nibble: 0789 (1) 0790 (7)		SDI Addr 103 Loop 1, 2.2 kΩ	SDI Addr 106 Loop 1, 2.2 kΩ	SDI Addr 50 Transmitter 17	SDI Addr 51 Transmitter 17
18	Nibble: 0791 (0)	Nibble: 0792 (0)	Nibble: 0793 (1)	Nibble: 0794 (1) 0795 (8)		SDI Addr 103 Loop 2, 2.2 kΩ	SDI Addr 106 Loop 2, 2.2 kΩ	SDI Addr 50 Transmitter 18	SDI Addr 51 Transmitter 18
19	Nibble: 0796 (0)	Nibble: 0797 (0)	Nibble: 0798 (1)	Nibble: 0799 (1) 0800 (9)		SDI Addr 103 Loop 3, 2.2 kΩ	SDI Addr 106 Loop 3, 2.2 kΩ	SDI Addr 50 Transmitter 19	SDI Addr 51 Transmitter 19
20	Nibble: 0801 (0)	Nibble: 0802 (0)	Nibble: 0803 (1)	Nibble: 0804 (2) 0805 (0)		SDI Addr 103 Loop 4, 2.2 kΩ	SDI Addr 106 Loop 4, 2.2 kΩ	SDI Addr 50 Transmitter 20	SDI Addr 51 Transmitter 20
21	Nibble: 0806 (0)	Nibble: 0807 (0)	Nibble: 0808 (1)	Nibble: 0809 (2) 0810 (1)		SDI Addr 103 Loop 5, 2.2 kΩ	SDI Addr 106 Loop 5, 2.2 kΩ	SDI Addr 50 Transmitter 21	SDI Addr 51 Transmitter 21
22	Nibble: 0811 (0)	Nibble: 0812 (0)	Nibble: 0813 (1)	Nibble: 0814 (2) 0815 (2)		SDI Addr 103 Loop 6, 2.2 kΩ	SDI Addr 106 Loop 6, 2.2 kΩ	SDI Addr 50 Transmitter 22	SDI Addr 51 Transmitter 22
23	Nibble: 0816 (0)	Nibble: 0817 (0)	Nibble: 0818 (1)	Nibble: 0819 (2) 0820 (3)		SDI Addr 103 Loop 7, 2.2 kΩ	SDI Addr 106 Loop 7, 2.2 kΩ	SDI Addr 50 Transmitter 23	SDI Addr 51 Transmitter 23
24	Nibble: 0821 (0)	Nibble: 0822 (0)	Nibble: 0823 (1)	Nibble: 0824 (2) 0825 (4)		SDI Addr 103 Loop 8, 2.2 kΩ	SDI Addr 106 Loop 8, 2.2 kΩ	SDI Addr 50 Transmitter 24	SDI Addr 51 Transmitter 24

Table 12: continued

Location Parameters					Device Parameter Selections				
The default Nibble programming for each of the four Location parameters. These four parameters configure each location.					The selections for the Device parameter. The Device parameter tells the control panel where to find the sensor loop (or transmitter) status for each location. The cells in these columns tell you which loop to use on each device. Each cell also tells you which end-of-line (EOL) resistor value to use for each loop.				
Location #	Device (default)	Point Index (default)	Area (default)	Point # (default)	1 On-Board	2 DX2010	3 DX2010 Doubled	4 RF Receiver 1	5 RF Receiver 2
25*	Nibble: 0826 (0)	Nibble: 0827 (0)	Nibble: 0828 (1)	Nibble: 0829 (2) 0830 (5)		SDI Addr 104 Loop 1, 2.2 kΩ	SDI Addr 107 Loop 1, 3.65 kΩ	SDI Addr 50 Transmitter 25	SDI Addr 51 Transmitter 25
26*	Nibble: 0831 (0)	Nibble: 0832 (0)	Nibble: 0833 (1)	Nibble: 0834 (2) 0835 (6)		SDI Addr 104 Loop 2, 2.2 kΩ	SDI Addr 107 Loop 2, 3.65 kΩ	SDI Addr 50 Transmitter 26	SDI Addr 51 Transmitter 26
27*	Nibble: 0836 (0)	Nibble: 0837 (0)	Nibble: 0838 (1)	Nibble: 0839 (2) 0840 (7)		SDI Addr 104 Loop 3, 2.2 kΩ	SDI Addr 107 Loop 3, 3.65 kΩ	SDI Addr 50 Transmitter 27	SDI Addr 51 Transmitter 27
28*	Nibble: 0841 (0)	Nibble: 0842 (0)	Nibble: 0843 (1)	Nibble: 0844 (2) 0845 (8)		SDI Addr 104 Loop 4, 2.2 kΩ	SDI Addr 107 Loop 4, 3.65 kΩ	SDI Addr 50 Transmitter 28	SDI Addr 51 Transmitter 28
29*	Nibble: 0846 (0)	Nibble: 0847 (0)	Nibble: 0848 (1)	Nibble: 0849 (2) 0850 (9)		SDI Addr 104 Loop 5, 2.2 kΩ	SDI Addr 107 Loop 5, 3.65 kΩ	SDI Addr 50 Transmitter 29	SDI Addr 51 Transmitter 29
30*	Nibble: 0851 (0)	Nibble: 0852 (0)	Nibble: 0853 (1)	Nibble: 0854 (3) 0855 (0)		SDI Addr 104 Loop 6, 2.2 kΩ	SDI Addr 107 Loop 6, 3.65 kΩ	SDI Addr 50 Transmitter 30	SDI Addr 51 Transmitter 30
31*	Nibble: 0856 (0)	Nibble: 0857 (0)	Nibble: 0858 (1)	Nibble: 0859 (3) 0860 (1)		SDI Addr 104 Loop 7, 2.2 kΩ	SDI Addr 107 Loop 7, 3.65 kΩ	SDI Addr 50 Transmitter 31	SDI Addr 51 Transmitter 31
32*	Nibble: 0861 (0)	Nibble: 0862 (0)	Nibble: 0863 (1)	Nibble: 0864 (3) 0865 (2)		SDI Addr 104 Loop 8, 2.2 kΩ	SDI Addr 107 Loop 8, 3.65 kΩ	SDI Addr 50 Transmitter 32	SDI Addr 51 Transmitter 32
* D6412 Only									

Table 12: continued

Location Parameters					Device Parameter Selections				
The default Nibble programming for each of the four Location parameters. These four parameters configure each location.					The selections for the Device parameter. The Device parameter tells the control panel where to find the sensor loop (or transmitter) status for each location. The cells in these columns tell you which loop to use on each device. Each cell also tells you which end-of-line (EOL) resistor value to use for each loop.				
Location #	Device (default)	Point Index (default)	Area (default)	Point # (default)	1 On-Board	2 DX2010	3 DX2010 Doubled	4 RF Receiver 1	5 RF Receiver 2
33*	Nibble: 0866 (0)	Nibble: 0867 (0)	Nibble: 0868 (1)	Nibble: 0869 (3) 0870 (3)		SDI Addr 105 Loop 1, 2.2 kΩ	SDI Addr 107 Loop 1, 2.2 kΩ	SDI Addr 50 Transmitter 33	SDI Addr 51 Transmitter 33
34*	Nibble: 0871 (0)	Nibble: 0872 (0)	Nibble: 0873 (1)	Nibble: 0874 (3) 0875 (4)		SDI Addr 105 Loop 2, 2.2 kΩ	SDI Addr 107 Loop 2, 2.2 kΩ	SDI Addr 50 Transmitter 34	SDI Addr 51 Transmitter 34
35*	Nibble: 0876 (0)	Nibble: 0877 (0)	Nibble: 0878 (1)	Nibble: 0879 (3) 0880 (5)		SDI Addr 105 Loop 3, 2.2 kΩ	SDI Addr 107 Loop 3, 2.2 kΩ	SDI Addr 50 Transmitter 35	SDI Addr 51 Transmitter 35
36*	Nibble: 0881 (0)	Nibble: 0882 (0)	Nibble: 0883 (1)	Nibble: 0884 (3) 0885 (6)		SDI Addr 105 Loop 4, 2.2 kΩ	SDI Addr 107 Loop 4, 2.2 kΩ	SDI Addr 50 Transmitter 36	SDI Addr 51 Transmitter 36
37*	Nibble: 0886 (0)	Nibble: 0887 (0)	Nibble: 0888 (1)	Nibble: 0889 (3) 0890 (7)		SDI Addr 105 Loop 5, 2.2 kΩ	SDI Addr 107 Loop 5, 2.2 kΩ	SDI Addr 50 Transmitter 37	SDI Addr 51 Transmitter 37
38*	Nibble: 0891 (0)	Nibble: 0892 (0)	Nibble: 0893 (1)	Nibble: 0894 (3) 0895 (8)		SDI Addr 105 Loop 6, 2.2 kΩ	SDI Addr 107 Loop 6, 2.2 kΩ	SDI Addr 50 Transmitter 38	SDI Addr 51 Transmitter 38
39*	Nibble: 0896 (0)	Nibble: 0897 (0)	Nibble: 0898 (1)	Nibble: 0899 (3) 0900 (9)		SDI Addr 105 Loop 7, 2.2 kΩ	SDI Addr 107 Loop 7, 2.2 kΩ	SDI Addr 50 Transmitter 39	SDI Addr 51 Transmitter 39
40*	Nibble: 0901 (0)	Nibble: 0902 (0)	Nibble: 0903 (1)	Nibble: 0904 (4) 0905 (0)		SDI Addr 105 Loop 8, 2.2 kΩ	SDI Addr 107 Loop 8, 2.2 kΩ	SDI Addr 50 Transmitter 40	SDI Addr 51 Transmitter 40
* D6412 Only									

3.13.1 Location ##, Device

Nibble:	See Table 12
Default:	See Table 12
Selection:	0 to 5
0	Disabled
1	On-board
2	Wired point expander
3	Doubled wired point expander
4	SDI RF Receiver 1
5	SDI RF Receiver 2

Each location in the control panel can be assigned to one of three types for devices:

- The control panel's on-board sensor loops (L-1 to L-8)
- A DX2010 Input Expander (Point Doubled or non-Point Doubled)
- A SDI Bus RF Zone Expander (RF3224)

Use each location's device parameter to assign the location to a device type. See *Section 3.13.5 Sample Location Scenario* for more information.

For information on RF Transmitters and Point States, see *Section D.8 RF Transmitters and Point States*.

3.13.2 Location ##, Point Index

Nibble:	See Table 12
Default:	See below
Selection:	0 to 15 (see Table 12)
Location 1	1 (24-hour fire)
Location 2	11 (controlled entry/exit delay)
Location 3	11 (controlled entry/exit delay 1)
Location 4	13 (controlled follower)
Location 5	13 (controlled follower)
Location 6	14 (controlled instant)
Location 7	14 (controlled instant)
Location 8	4 (24-hour tamper)
Locations 9 to 40	0 (not configured)

The Point Index determines how the system responds to faults on the sensor loop assigned to the location. See *Section 3.14 Point Index Configuration* for a complete description of point indexes.

See *Section 3.13.5 Sample Location Scenario* for more information.

3.13.3 Location ##, Area

Nibble:	See Table 12
Default:	1 (Area 1)
Selection:	0 to 4
0	Disabled
1	Assign location to Area 1
2	Assign location to Area 2
3	Assign location to Area 3 (D6412 only)
4	Assign location to Area 4 (D6412 only)

The Area Assignment parameter determines which area a location is assigned to. Each location can only be assigned to one area.

Area 3 and Area 4 Assign Location options are only available on the D6412.

See *Section 3.13.5 Sample Location Scenario* for more information.

3.13.4 Location ##, Point Number

Nibble:	See Table 12
Default:	See Table 12
Selection:	0, 1 to 4, 0 for D6412 0, 1 to 2, 4 for D4412

This parameter determines the point number that appears in command center displays, the control panel event log, and at the optional printer. This is also the point number reported to the central station.

See *Section 3.13.5 Sample Location Scenario* for more information.



Use this parameter to create a Point 1 for each area. Be careful not to duplicate point numbers within the same area.

3.13.5 Sample Location Scenario

The following example shows how to use the parameters in *Table 12* to configure a location.

Suppose the intended premises for the control panel is a small store that consists of the following four areas:

Area 1: Manager's Office/Money Room

Area 2: Entrance Foyer

Area 3: Sales Floor


Area 4: Employee Break Room

Your task is to set up Location 9 as an Entry/Exit door (door contact) for Area 2. It is connected to a DX2010 Input Expander without point doubling. It is the first point in Area 2.

Step 1: Set the Device Parameter

The device parameter tells the control panel how the location is connected to it: on-board sensor loop, off-board expander (DX2010), or RF expander (SDI RF Receiver). Since Location 9 is connected to a DX2010 Input Expander without point-doubling, you would enter a "2" in Nibble 0746.

Figure 8: Changing Nibble without Point Doubling



Location #	Device (default)	Point Index (default)	Area (default)	Point # (default)	1 On-Board	2 DX2010	3 DX2010 Doubled	4 RF Receiver 1	5 RF Receiver 2
9	Nibble: 0746 2	Nibble: 0747 (0)	Nibble: 0748 (1)	Nibble: 0749 (0) 0750 (9)	Not available as double point.	SDI Addr 102 Loop 1, 2.2 kΩ	SDI Addr 106 Loop 1, 3.65 kΩ	SDI Addr 50 Transmitter 9	SDI Addr 51 Transmitter 9


1 - Change Nibble 0746 from "0" to "2" for DX2010 without point doubling.

Step 2: Set the Point Index Parameter

The Point Index tells the control panel how the particular location behaves. There are several parameters for configuring a Point Index. See *Section 3.14 Point Index Configuration* for details.

For example, your entry for Nibble 0747 would be "11." Based on the Point Index default, this means that the control panel now recognizes the device at Location 9 as an Entry/Exit Delay 1 Point Type. To learn more about the Point Index Configuration for this particular point type and other point types, see *Section 3.14 Point Index Configuration*.

Figure 9: Set the Point Index Parameter



Location #	Device (default)	Point Index (default)	Area (default)	Point # (default)	1 On-Board	2 DX2010	3 DX2010 Doubled	4 RF Receiver 1	5 RF Receiver 2
9	Nibble: 0746 2	Nibble: 0747 11	Nibble: 0748 (1)	Nibble: 0749 (0) 0750 (9)	Not available as double point.	SDI Addr 102 Loop 1, 2.2 kΩ	SDI Addr 106 Loop 1, 3.65 kΩ	SDI Addr 50 Transmitter 9	SDI Addr 51 Transmitter 9

1 - Change Nibble 0747 from "0" to "11" for entry/exit delay 1 point type.

Step 3: Set the Area Parameter

The Area parameter tells the control panel in which area Location 9 appears. Each location can be assigned to only one area. Since Location 9 is in Area 2 for this example, enter a “2” in Nibble 0748 to assign Location 9 to Area 2.

Figure 10: Set the Area Parameter

Location #	Device (default)	Point Index (default)	Area (default)	Point # (default)	1 On-Board	2 DX2010	3 DX2010 Doubled	4 RF Receiver 1	5 RF Receiver 2
9	Nibble: 0746 2	Nibble: 0747 11	Nibble: 0748 2	Nibble: 0749 (0) 0750 (9)	Not available as double point.	SDI Addr 102 Loop 1, 2.2 kΩ	SDI Addr 106 Loop 1, 3.65 kΩ	SDI Addr 50 Transmitter 9	SDI Addr 51 Transmitter 9

1

1 - Change Nibble 0748 from “1” to “2” to assign location 9 to Area 2.

Step 4: Set the Point # Parameter

The Point Number determines the point number that appears on command center displays, in the control panel event log, and at the optional printer for Location 9. This number is also reported to the central station.

The default point number for Location 9 is “09” (Nibble 0749-0750). This default can be changed to any number. Since this is the first location in a new area (Area 2), change the default to “01” by entering a “0” in Nibble 0749 and a “1” in Nibble 0750.



Do not duplicate point numbers within the same area.

Figure 11: Set the Area Parameter

Location #	Device (default)	Point Index (default)	Area (default)	Point # (default)	1 On-Board	2 DX2010	3 DX2010 Doubled	4 RF Receiver 1	5 RF Receiver 2
9	Nibble: 0746 2	Nibble: 0747 11	Nibble: 0748 2	Nibble: 0749 (0) 0750 1	Not available as double point.	SDI Addr 102 Loop 1, 2.2kΩ	SDI Addr 106 Loop 1, 3.65 kΩ	SDI Addr 50 Transmitter 9	SDI Addr 51 Transmitter 9

1

1 - Change the point number for Nibble 0749 and 0750 from “0 and 9” to “0 and 1” for location 9.



Make sure two Nibbles are used to enter the point number.

Summary

The control panel now recognizes the following information for Location 9:

- Device: 2 (Location is on a DX2010 Input Expander without point doubling)
- Point Index: 11 (Entry/Exit Delay 1)
- Area: 2 (Location 9 is assigned to Area 2)
- Point #: 01 (Location 9 point type reports to command centers, control panel event log, and central station as Point # 01 in Area 2).

3.14 Point Index Configuration

The D6412 can monitor any combination of up to 40 sensor loops and/or RF transmitters (up to 24 for the D4412). Each sensor loop or transmitter is assigned to a location. Each location is assigned to one of fifteen point indexes so the control panel knows how to respond to sensor loop or transmitter changes.

Table 13 outlines the Point Index parameters and the Nibbles associated with them for each Point Index.

Table 13: Point Index Configuration Parameters								
Point Index	Point Type	Pulse Count	Pulse Count Time	Options 1	Options 2	Report Enable Trouble Response	Alarm Route	Restoral Route
1	Nibble 0906 (1)	Nibble 0907 (0)	Nibble 0908 (0)	Nibble 0909 (0)	Nibble 0910 (2)	Nibble 0911 (11)	Nibble 0912 (1)	Nibble 0913 (1)
2	Nibble 0914 (2)	Nibble 0915 (0)	Nibble 0916 (0)	Nibble 0917 (0)	Nibble 0918 (2)	Nibble 0919 (11)	Nibble 0920 (1)	Nibble 0921 (1)
3	Nibble 0922 (3)	Nibble 0923 (0)	Nibble 0924 (0)	Nibble 0925 (1)	Nibble 0926 (0)	Nibble 0927 (10)	Nibble 0928 (1)	Nibble 0929 (1)
4	Nibble 0930 (4)	Nibble 0931 (0)	Nibble 0932 (0)	Nibble 0933 (1)	Nibble 0934 (7)	Nibble 0935 (9)	Nibble 0936 (1)	Nibble 0937 (1)
5	Nibble 0938 (5)	Nibble 0939 (0)	Nibble 0940 (0)	Nibble 0941 (1)	Nibble 0942 (7)	Nibble 0943 (9)	Nibble 0944 (1)	Nibble 0945 (1)
6	Nibble 0946 (6)	Nibble 0947 (0)	Nibble 0948 (0)	Nibble 0949 (1)	Nibble 0950 (7)	Nibble 0951 (9)	Nibble 0952 (1)	Nibble 0953 (1)
7	Nibble 0954 (7)	Nibble 0955 (0)	Nibble 0956 (0)	Nibble 0957 (1)	Nibble 0958 (7)	Nibble 0959 (9)	Nibble 0960 (1)	Nibble 0961 (1)
8	Nibble 0962 (8)	Nibble 0963 (0)	Nibble 0964 (0)	Nibble 0965 (1)	Nibble 0966 (7)	Nibble 0967 (9)	Nibble 0968 (1)	Nibble 0969 (1)
9	Nibble 0970 (9)	Nibble 0971 (0)	Nibble 0972 (0)	Nibble 0973 (0)	Nibble 0974 (0)	Nibble 0975 (9)	Nibble 0976 (1)	Nibble 0977 (1)
10	Nibble 0978 (10)	Nibble 0979 (0)	Nibble 0980 (0)	Nibble 0981 (8)	Nibble 0982 (2)	Nibble 0983 (11)	Nibble 0984 (1)	Nibble 0985 (1)
11	Nibble 0986 (11)	Nibble 0987 (0)	Nibble 0988 (0)	Nibble 0989 (5)	Nibble 0990 (7)	Nibble 0991 (9)	Nibble 0992 (1)	Nibble 0993 (1)
12	Nibble 0994 (12)	Nibble 0995 (0)	Nibble 0996 (0)	Nibble 0997 (5)	Nibble 0998 (7)	Nibble 0999 (9)	Nibble 1000 (1)	Nibble 1001 (1)
13	Nibble 1002 (13)	Nibble 1003 (0)	Nibble 1004 (0)	Nibble 1005 (1)	Nibble 1006 (7)	Nibble 1007 (9)	Nibble 1008 (1)	Nibble 1009 (1)
14	Nibble 1010 (14)	Nibble 1011 (0)	Nibble 1012 (0)	Nibble 1013 (1)	Nibble 1014 (7)	Nibble 1015 (9)	Nibble 1016 (1)	Nibble 1017 (1)
15	Nibble 1018 (14)	Nibble 1019 (0)	Nibble 1020 (0)	Nibble 1021 (5)	Nibble 1022 (7)	Nibble 1023 (9)	Nibble 1024 (1)	Nibble 1025 (1)

3.14.1 Point Type, Point Index

Nibble: See Table 13

Default: See Table 13

Selection: 0 to 15 (see Table 14 and Table 15)

This parameter defines the type of point each point index is associated with. See Table 14 and Table 15 for a description of each type of point and the events and reports associated with that point type.

- **Controlled Point:** Controlled points are turned on and off when the user turns the system on (armed) and off (disarmed).

- **24-hour Point:** 24-hour points are always on and cannot be turned off by the user. Faults on 24-hour points must not be cleared or bypassed to turn the system on (armed).

Table 14: 24-Hour Point Type Options

	Point Type	Description	Events/Reports [Reference to Appendix B]
0	Watch Mode Only	No alarm or trouble response to opens or shorts (Watch Mode Only).	
1	24-hour, Fire	Short on sensor loop starts Fire Alarm response. Open on sensor loop starts trouble response. Activates Fire Alarm Output (Temporal Code 3). Do not assign doubled locations (points) to a Fire Point Index.	Fire Alarm [75-77], Fire Missing [78], Fire Restore from Alarm [79], Fire Restore from Missing [174], Fire Trouble [80], Fire Trouble Restore [81], Fire Bypass [26-27], Swinger Bypass [33], Restoral from Swinger Bypass [173], Fire Unbypass [34]
2	24-hour, Fire with Alarm Verification	Short on sensor loop starts the verification process: Control panel removes power from Point 1 (and activates the Fire Verification Output function if programmed) for 15 seconds to reset smoke detectors. See <i>Table 18</i> for Fire Verification Output Function information. Short on sensor loop within 120 seconds of reset starts alarm response. If a point remains normal or open for the 120-second verification window, there is no alarm response. Open on sensor loop starts trouble response. Activates Fire Alarm Output (Temporal Code 3). Do not assign doubled locations (points) to a Fire Point Index.	Fire Alarm [75-77], Fire Missing [78], Fire Restore from Alarm [79], Fire Restore from Missing [174], Fire Trouble [80], Fire Trouble Restore [81], Fire Bypass [26-27], Fire Unbypass [34]
3	24-hour, Voice Active	The Voice Verification Module (D169) shorts a Voice Active point to tell the control panel a 2-way voice verification session is active. Only trouble on open option is available. See <i>Voice Verification</i> in <i>Section 3.14.3 Pulse Count Time, Point Index ##</i> for a complete description of the Voice Verification function.	Trouble [139], Trouble Restore [146]
4	24-hour, Tamper	Short or open causes alarm response if no Trouble Option.	Alarm [3], Cross Alarm [10], Unverified Cross [17], Bypass [30-31], Swinger Bypass [33], Unbypass [36], Swinger Bypass Restore [173], Trouble [139], Trouble Restore [146], Missing Trouble [88], Restore from Alarm [112], Restore from Missing Trouble [176]
5	24-hour, Emergency	Short or open causes alarm response if no Trouble Option.	Alarm [4], Cross Alarm [11], Unverified Cross [17], Bypass [30-31], Swinger Bypass [33], Unbypass [36], Swinger Bypass Restore [173], Trouble [140], Trouble Restore [147], Missing Trouble [88], Restore from Alarm [113], Restore from Missing Trouble [176]

Table 14: continued

	Point Type	Description	Events/Reports [Reference to Appendix B]
6	24-hour, Visible Panic	Short or open causes alarm response if no Trouble Option.	Alarm [5], Cross Alarm [12], Unverified Cross [17], Bypass [30-31], Swinger Bypass [33], Unbypass [36], Swinger Bypass Restore [173], Trouble [141], Trouble Restore [148], Missing Trouble [88], Restore from Alarm [114], Restore from Missing Trouble [176] Reports.
7	24-hour, Invisible Panic	Short or open causes alarm response if no Trouble Option. No alarm tones or alarm display at command center, even if the Alarm Output option is enabled.	Alarm [6], Cross Alarm [13], Unverified Cross [17], Bypass [30-31], Swinger Bypass [33], Unbypass [36], Swinger Bypass Restore [173], Trouble [142], Trouble Restore [149], Missing Trouble [88], Restore from Alarm [115], Restore from Missing Trouble [176]
8	24-hour, Burglary	Short or open causes alarm response if no Trouble Option. Trouble option generates alarm response when Area is All or Part On, trouble response when area is Off.	Burglary [7], Cross Alarm [14], Unverified Cross [17], Bypass [30-31], Swinger Bypass [33], Unbypass [36], Swinger Bypass Restore [173], Trouble [143], Trouble Restore [150], Missing Alarm [87], Missing Trouble [88], Restore from Alarm [116], Restore from Missing Alarm [175], Restore from Missing Trouble [176]
9	24-hour, Independent Point Control	Independent Point Control. Connect Bosch Security System's D268, D269, or D279 (or later version) for independent point control (opening/closing reports by point). This point type is for on-board locations 2 to 8 only. You must set the EOL Resistor parameter Nibble 1026 for 1 k EOL resistors. Do not add an EOL resistor to the Independent Point Control. Independent Point Control Reports send only in Modem IIIa ² . If the Alarm Output option is selected, disarming the Independent Point Control silences the alarm output.	24-hour Burglary [7], Point Closing [68], Point Open [97], Bypass [28,29], Unbypass [35], Swinger Bypass [33], Swinger Bypass Restore [173], Trouble [143], Trouble Restore [150], Restore from Alarm [116]

Table 15: Controlled Point Type Options

Point Type		Description	Events/Reports [Reference to Appendix B]
10	Controlled Keyswitch	See <i>Section 3.14.5 Point Options 1 for Keyswitch Point Type</i> for more information. Can be programmed for a momentary or maintained keyswitch.	Alarm [9], Bypass [28,29], Forced Pt [32], Swinger Bypass [33], Unbypass [35], Swinger Bypass Restore [173], Trouble [145], Trouble Restore [152], Missing Alarm [87], Missing Trouble [88], Restore from Alarm [118], Restore from Missing Alarm [175], Restore from Missing Trouble [176]
11	Controlled Entry/Exit Delay 1	When control panel is On, short or open starts Entry Delay 1 if no Trouble Option. Follows Entry Delay 1 or 2. Follows exit delay. If this point type is programmed for trouble and a trouble condition occurs when the control panel is armed, an alarm event is generated. If a trouble condition occurs when the control panel is disarmed, a trouble event is generated. Entry/Exit Delay and Start Entry Delay settings are ignored for trouble events.	Alarm [08], Cross Alarm [15], Unverified Cross [17], Bypass [28,29], Forced Pt [32], Swinger Bypass [33], Unbypass [35], Swinger Bypass Restore [173], Trouble [144], Trouble Restore [151], Missing Alarm [87], Missing Trouble [88], Restore from Alarm [117], Restore from Missing Alarm [175], Restore from Missing Trouble [176]
12	Controlled Entry/Exit Delay 2	When control panel is On, short or open starts Entry Delay 2 if no Trouble Option. Follows Entry Delay 1 or 2. Follows exit delay. If this point type is faulted or bypassed at the start of exit delay or during exit delay, exit time is set to Exit Delay 2. If this point type is programmed for trouble and a trouble condition occurs when the control panel is armed, an alarm event is generated. If a trouble condition occurs when the control panel is disarmed, a trouble event is generated. Entry/Exit Delay and Start Entry Delay settings are ignored for trouble events.	Alarm [08], Cross Alarm [15], Unverified Cross [17], Bypass [28,29], Forced Pt [32], Swinger Bypass [33], Unbypass [35], Swinger Bypass Restore [173], Trouble [144], Trouble Restore [151], Missing Alarm [87], Missing Trouble [88], Restore from Alarm [117], Restore from Missing Alarm [175], Restore from Missing Trouble [176]
13	Controlled Follower	Follows exit delay. Follows, but can not start entry delay. Instant if first (or out of sequence if programmed for sequence). If this point type is programmed for trouble and a trouble condition occurs when the control panel is armed, an alarm event is generated. If a trouble condition occurs when the control panel is disarmed, a trouble event is generated. Entry/Exit Delay and Start Entry Delay settings are ignored for trouble events.	Alarm [9] Reports, Cross Alarm [16], Unverified Cross [17], Bypass [28,29], Forced Pt [32], Swinger Bypass [33], , Unbypass [35], Missing Alarm [87], Swinger Bypass Restore [173], Trouble [145], Trouble Restore [152], Missing Trouble [88], Restore from Alarm [118], Restore from Missing Alarm [175], Restore from Missing Trouble [176]
14	Controlled Instant	Does not follow entry or exit delay. Faulting a Controlled Instant point during Entry/Exit Delay creates an instant alarm, which terminates the Entry/Exit Delay period. If this point type is programmed for trouble and a trouble condition occurs when the control panel is armed, an alarm event is generated. If a trouble condition occurs when the control panel is disarmed, a trouble event is generated.	Alarm [9] Reports, Cross Alarm [16], Unverified Cross [17], Bypass [28,29], Forced Pt [32], Swinger Bypass [33], , Unbypass [35], Missing Alarm [87], Swinger Bypass Restore [173], Trouble [145], Trouble Restore [152], Missing Trouble [88], Restore from Alarm [118], Restore from Missing Alarm [175], Restore from Missing Trouble [176]
15	Reserved	Reserved for future use.	

3.14.2 Pulse Count, Point Index ##

Nibble:	See <i>Table 13</i>
Default:	0 for all point indexes, see <i>Table 13</i>
Selection:	0 to 15
0	160 ms
1	50 ms
2 to 15	Number of pulses required within the programmed Pulse Count time for an alarm to occur

This parameter determines the number of times a sensor loop must pulse (electrically off normal) in the Pulse Count Time before the control panel declares the point faulted. This applies to both on- and off-board points.

- Setting the Pulse Count to 0 (zero) tells the control panel to look for one pulse lasting at least 160 ms before declaring the point faulted.
- Setting the Pulse Count to 1 tells the control panel to look for one pulse lasting at least 50 ms before declaring the point faulted.



Bosch Security Systems recommends leaving Pulse Count at the default of 0 (zero).

3.14.3 Pulse Count Time, Point Index ##

Nibble:	See <i>Table 13</i>
Default:	0 for all point indexes (see <i>Table 13</i>)
Selection:	0 to 15 (see <i>Table 14</i> and <i>Table 15</i>)
Selection*	Pulse Count Time (seconds)
0	0.5
1	1
2	2
3	3
4	4
5	5
6	10
7	15
8	20
9	30
10	40
11	50
12	60
13	90
14	120
15	200
<p>* Selections 0 to 7: Pulse count time selections for 50 ms point scan time (on-board points only). Selections 8 to 15: Pulse count time selections for 160 ms point scan time (on- and off-board points.)</p>	

When the control panel detects a pulse (electrically off normal), it starts a timer and waits the time selected in this parameter to reach the pulse count and declare the point faulted.



If a single pulse starts the pulse count timer and lasts 20 seconds, the control panel declares the point faulted regardless of the pulse count.



Only selections 8 to 15 are appropriate for off-board points. The point expansion devices fix the Point Scan Time. Only assign off-board points to point indexes with the Pulse Count Time programmed with selections 8 to 15.

3.14.4 Options 1, Point Index

Nibble: See Table 13

Default: See Table 13

Selection: 0 to 15

Options 1, Point Index	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No options enabled	X															
Enable Alarm Event Abort		X		X		X		X		X		X		X		X
Voice Verification			X	X			X	X			X	X			X	X
Armed for Part Mode					X	X	X	X					X	X	X	X
Sensor Trouble Monitor									X	X	X	X	X	X	X	X

- **Alarm Event Abort (Non-Fire Points Only):**

Assigns the Abort feature to a Point Index. See *Section 3.15.8 Alarm Event Abort Window* to learn how to set the Alarm Event Abort Window.

If a user acknowledges a non-fire alarm point event by entering their passcode before the Alarm Event Abort Window expires:

- The alarm event is aborted. Alarm, Cancel*, and Restoral Reports associated with the alarm are not transmitted and the event becomes a local only event.
- The user hears three long beeps at the command center.
- The text command centers indicate that the alarm was aborted on the display. It appears as a slow flash in Alarm Memory at LED command centers.



Alarm Event Abort is required by the SIA Control Panel Standard for False Alarm Reduction -2000 Security Industry Association).

* A Cancel Window starts with the initiation of the alarm event and follows the bell time. If the user acknowledges the alarm inside the Cancel Window (bell time), a Cancel [38] or a Fire Cancel [39] Report is sent. If the Abort feature is enabled, the Cancel Report is sent if the user acknowledges the alarm after the Abort window expires, but before the bell time expires.



The Cancel Window is required by the SIA Control Panel Standard for False Alarm Reduction.



This option does not apply to Fire and Fire with Verification point types.

The Alarm Event Abort feature does not apply to alarm events initiated by the ABC Keys, the Duress Passcode, or the Keyfob Panic function.

- **Voice Verification:** The control panel can control a D169 Two-way Voice Verification Module. The D169 allows the central station personnel to verify alarms by conducting a two-way voice session with the premises. The premises phone line runs from the panel to the D169 and then to the premises phones. There are two other module connections to the panel: the programmable relay output (-12 VDC) programmed with the Voice Request Output function, and a point (zone) programmed as a Voice Active point. The panel must also have one or more points with the Voice Verification option selected.

When a point with Voice Verification generates an alarm event:

1. The panel transmits the alarm report to the receiver at the central station.
2. When the central station receiver acknowledges the report, the panel activates the Voice Request output function and starts a 30 second report delay time. All reports are delayed. The D169 has 30 seconds to start a two-way voice session.
3. An operator at the central station picks up the phone line from the receiver with a DTMF telephone and presses [2].

4. At the premises, the D169 picks up the phone line when the panel activates the Voice Request output function. When it hears the DTMF tone from the operator pressing [2], it begins a two-way voice session by first shorting the panel's Voice Active point.
 5. When the Voice Active point is shorted, the panel silences the non-fire alarm output (sets the bell timer to zero). Only the user can silence a fire alarm output.
 6. As long as the Voice Active point is shorted, the panel continues to buffer reports.
 7. The D169 ends the voice session by removing the short from the voice active point. The panel resets the bell time and Alarm Event Abort Window (assuming a user at the premises did not change the arming state of the panel during the voice session). Normal reporting (communication) resumes.
- **Armed for Part Mode:** Determines the points that arm when the user turns the system Part On. Only those points assigned to a point index (controlled point types only) with this option enabled are armed.
 - **Sensor Trouble Monitor:** Enables/disables reporting the sensor trouble monitor fault condition. This feature does not apply to fire point types or non-fire 24-hour point types. See *Section 3.15.7 Sensor Monitor Time* for a complete description of the Sensor Trouble Monitor feature.

3.14.5 Point Options 1 for Keyswitch Point Type

Nibble:	0981
Default:	See <i>Table 13</i>
Selection:	0, 1, 2, 4, 5, 6, 8, 9, 10, 12, 13, 14
0	Maintained, All On, Off from Any
1	Maintained, All On, No Off
2	Maintained, No On, Off from Any
4	Maintained, Part On, Off from Any
5	Maintained, Part On, No Off
6	Maintained, No On, Off from Part On or Part 2 On
8	Momentary, All On, Off from Any
9	Momentary, All On, No Off
10	Momentary, No On, Off from Any
12	Momentary, Part On, Off from Any
13	Momentary, Part On, No Off
14	Momentary, No On, Off from Part On or Part 2 On



Keyswitch point type selections 3, 7, 11, and 15 are reserved for future use.

Keyswitch Operation

For maintained keyswitches, the EOL resistor for the point is connected in series. An open on the circuit arms the area; a return to normal on the circuit disarms the area. A short on the circuit produces an alarm if the area is armed and a trouble if the area is disarmed.

For momentary keyswitches, the EOL resistor for the point is connected in parallel with the keyswitch so that the switch shorts the resistor when it operates. Operating the keyswitch (normal to short to normal) toggles the arming state. An open on the circuit produces an alarm if the area is armed and a trouble if the area is disarmed.

See the *D6412, D4412 Installation Guide* (P/N: 45349) for detailed instructions on wiring a keyswitch.

Silencing Alarms

- **Momentary Keyswitch:** To silence alarms (stop alarm output), operate the keyswitch. If the area is armed, operating the keyswitch to silence the alarm also disarms the area. If the area is

disarmed, operating a momentary keyswitch to silence the alarm does not arm the area.

- **Maintained Keyswitch:** If the area is armed, turn the keyswitch to the disarmed position. The control panel disarms the area and silences the

alarm. If the area is disarmed, turn the keyswitch to the armed position (the control panel does not arm), and then return the keyswitch to the disarmed position.

3.14.6 Options 2, Point Index

Nibble:	See Table 13															
Default:	See Table 13															
Selection:	0 to 15															
Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No options enabled	X															
Swinger bypass		X		X		X		X		X		X		X		X
Alarm output			X	X			X	X			X	X			X	X
Can be bypassed or force armed					X	X	X	X					X	X	X	X
Cross point									X	X	X	X	X	X	X	X

Swinger Bypass: Activates both Swinger Bypass functions for Alarm Output (Functions 1, 5; 1, 8 to 1, 12) and Point Reporting. See *Section 3.15.5 Swinger Count for Point Reports (Alarm, Trouble, Restore)* for additional swinger information.



Swinger bypass is required by the SIA Control Panel Standard for False Alarm Reduction.

Alarm Output: Activates the Alarm Output functions (Output Functions 1, 8 to 1, 12, see *Section 3.17 Outputs*) for alarm events.

Can Be Bypassed or Force Armed: Only points assigned to a point index with this option enabled can be bypassed or force armed. Bypassed controlled points remain bypassed for the arming cycle. Force armed points return to the system automatically if they restore during the arming cycle.

24-hour points (fire and non-fire) can be made bypassable with this option. They cannot be made to force arm since they are always armed.



Force arming is not permitted for UL applications.

Cross Point: Creates a Cross Point point index, which fixes the Point Pulse Count at two (2) and uses it and the Point Pulse Count Time as follows:

- When any point assigned to the Cross Point index detects a pulse, the control panel starts the Pulse Count Time as programmed in the Pulse Count Time parameter.
- If a second point assigned to the same Cross Point index detects a pulse, the control panel creates a Cross Point Alarm event for both points.
- A second pulse on the first point does not create an alarm event.
- If a single pulse on a cross point lasts 20 seconds, the control panel creates an alarm event for that point only; it is not a Cross Point event.
- If programmed for unverified event reporting [see *Section 3.15.2 Point Response Options (for all points)*], the control panel sends an Unverified Cross [17] or a Fire Unverified [77] Report point that detects a pulse without another cross point pulse to verify it.



Cross Point is required by the SIA Control Panel Standard for False Alarm Reduction

See *Section D.8 RF Transmitters and Point States* for more information.

3.14.7 Reporting Enable, Trouble Response Options, Point Index ##

Nibble:	See Table 13															
Default:	See Table 13															
Selection:	0 to 15															
Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No Alarm or Trouble Reports	X															
Alarm Reports enabled		X		X		X		X		X		X		X		X
Trouble Response on open			X	X			X	X			X	X			X	X
Trouble Response on short					X	X	X	X					X	X	X	X
Alarm Restoral Reports enabled									X	X	X	X	X	X	X	X

The trouble response for controlled and 24-hour burglary point types occurs only when the points are disarmed. When armed, any point fault generates an alarm response.

Other 24-hour point types (tamper, emergency, panic, invisible, and independent point control) are programmed to generate a trouble response.



Fire point types always have Trouble Response on Open and Alarm Response on Short regardless of programming.

- **Alarm Reports Enabled:** If enabled, the system generates Alarm Reports.
- **Trouble Response on Open:** If enabled, an open circuit generates a Trouble response.
- **Trouble Response on Short:** If enabled, a shorted circuit generates a Trouble response.
- **Alarm Restoral Reports Enabled:** If enabled, the system generates Alarm Restoral Reports.

3.14.8 Alarm Report Routing, Point Index ##

Nibble:	See Table 13	
Default:	See Table 13	
Selection:	0 to 5	
0	No reports, no events to log/printer	
1	Reports to Destination 1, events to log/printer	
2	Reports to Destination 2, events to log/printer	
3	Reports to Destinations 1 and 2, events to log/printer	
4	Reports to Destination 2 only on Destination 1 Comm Fail event, events to log/printer	
5	No reports, events to log/printer	

Reports for Alarm, Cancel, and Exit Error events follow Alarm Report routing. See *Appendix A.1 Comm Fail Event* for dialing sequence and a description of Comm Fail event.

Restoral Reports are routed as shown in *Section 3.14.9 Restoral Reporting, Point Index ##*. Trouble Reports are routed globally. See *Section 3.3 Global Reporting Options*.



To enable reporting at the Global Reporting Options prompt, at least one phone number must be entered for one routing destination.

3.14.9 Restoral Reporting, Point Index ##

Nibble:	See Table 13	
Default:	See Table 13	
Selection:	0 to 5	
0	No reports, no events to log/printer	
1	Reports to Destination 1, events to log/printer	
2	Reports to Destination 2, events to log/printer	
3	Reports to Destinations 1 and 2, events to log/printer	
4	Reports to Destination 2 only on Destination 1 Comm Fail event, events to log/printer	
5	No reports, events to log/printer	

In Modem IIIa² format, the control panel sends Restoral from Alarm, Restoral from Fire Alarm, and so on. See *Appendix A.1 Comm Fail Event* for dialing sequence and a description of Comm Fail event.

Alarm Reports are routed as shown in the previous parameter. Trouble Reports are routed globally. See *Section 3.3 Global Reporting Options*.



To enable reporting at the Global Reporting Options prompt, at least one phone number must be entered for one routing destination.

3.15 Global Point Configuration

3.15.1 EOL Resistor Value (for On-board Locations 2 to 8)

Nibble:	1026
Default:	2
Selection:	0 to 4
0	No EOL resistor
1	1 kΩ
2	2.2 kΩ
3	3.65 kΩ
4	Point doubled, 2.2 kΩ and 3.65 kΩ

On-board Location 1 always requires a 2.2 kΩ EOL resistor for end-of-line supervision. If point doubling is turned on, the locations are paired (see *Table 16*).

If no EOL is selected, then the input connected to COM is normal and an open input reports as open.

3.15.2 Point Response Options (for all points)

Nibble: 1027																
Default: 0																
Selection: See below																
Point Response Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No options selected	X															
Enable smart swinger		X		X		X		X								
Unverified events send Trouble Reports			X	X			X	X								
Entry delay is sequential					X	X	X	X								
Reserved																

Smart Swinger: Allows points that were swinger bypassed to report new alarm events if they are faulted when bell time is running. The central station receives alarm reports from points that previously reported they were swinger bypassed. When bell time is running, the Swinger Count applies to these points. They only send reports until bell time expires or until the swinger count is reached again, at which time they swinger bypass again. If these bypassed points are faulted while bell time is not running, they remain swinger bypassed and do not send reports.

Table 16: EOL Resistor Location Pairing

EOL	Location (Sensor Loop)							
	1	2	3	4	5	6	7	8
3.65 kΩ	X	2	3	4	5	6	7	8
2.2 kΩ	1	10	11	12	13	14	15	16



Both 2.2 kΩ and 3.65 kΩ End-of-Line (EOL) resistors are included in the control panel's hardware pack. If you are connecting a D268/D269 or D279 Independent Point Control to the control panel, you must set this parameter to 1 for 1 kΩ EOL resistors. Remember that on-board sensor loops 2 to 8 must be terminated with 1 kΩ EOL resistors. Point 1 is always terminated with a 2.2 kΩ EOL resistor.

Unverified Events Send Trouble Reports: When enabled, Fire Alarm with Verification points that have single, unverified events generate an Unverified Event Report. Also when enabled, points with the Cross Point option enabled that have a single pulse generate an Unverified Event Report.



SIA Control Panel Standard for False Alarm Reduction recommends enabling **Unverified Events Send Trouble Reports**.

Entry Delay Is Sequential: When enabled, the delay points must be faulted in order by location (lowest to highest). If the sequence is broken, Entry Delay is ended and an alarm response begins. Entry Delay sequence starts when the location with an Entry/Exit delay point type is faulted, and continues with the faulting of consecutive locations assigned to Follower point types. The sequence of point types must be consecutive and without any gaps. For example, Location sequence 2, 3, 4, 5 with Location 2 as an Entry/Exit point type and Locations 3 to 5 as Follower point types is OK. A location sequence of 2, 3, 5 with Location 4 as a Fire point type is not a valid sequence. See *Table 14* and *Table 15* for descriptions of Entry/Exit and Follower point types.

3.15.3 Bypass/Force Arm Report Routing

Nibble:	1028
Default:	1
Selection:	0 to 5
0	No reports, no events to log/printer
1	Reports to Destination 1, events to log/printer
2	Reports to Destination 2, events to log/printer
3	Reports to Destinations 1 and 2, events to log/printer
4	Reports to Destination 2 only on Destination 1 Comm Fail event, events to log/printer
5	No reports, events to log/printer

This parameter sets the routing for Bypass and Forced Reports. See *Appendix A.1 Comm Fail Event* for dialing sequence and a description of Comm Fail event.



Reporting at the Global Reporting Options prompt must be enabled, and at least one phone number for one routing destination must be entered.

3.15.4 Swinger Count for Alarm Output

Nibble:	1029
Default:	1
Selection:	0 (Swinger disabled) 1 to 15

Each point has a swinger count for alarm output.

Swinger Bypass Reports are not sent for Swinger Bypass for Alarm Output. Swinger Bypass Reports have their own swinger count [see *Section 3.15.5 Swinger Count for Point Reports (Alarm, Trouble, Restore)*]. The Swinger Count is reset on both arming and disarming of the system, allowing the Swinger Bypass feature to work for both controlled and 24-hour points. A trouble condition occurs after Swinger Bypass.

Example: Assume the Swinger Bypass option is enabled, the control panel is armed, no points are in alarm, and the swinger count for Alarm Output is set to 2. Points 1, 3, and 5 go into alarm. At the end of bell time, the Swinger Count for Alarm Output for Points 1, 3, and 5 decreases from 2 to 1. Since the counter does not reach zero, no points are bypassed. A second alarm event for any of those points bypasses that point.



When the swinger count is set to zero (0), the swinger count for Alarm Outputs feature is disabled. The alarm outputs activate on every new alarm.



Swinger Count for Alarm Output is required by the SIA Control Panel Standard for False Alarm Reduction.

3.15.5 Swinger Count for Point Reports (Alarm, Trouble, Restore)

Nibble:	1030
Default:	1
Selection:	0 (Swinger disabled) 1 to 15

Swinger shut down for the dialer is a global function that affects all points.

Swinger Bypass [33] Reports are sent for swinger bypass of points.

The swinger count is reset when arming and disarming, allowing the Swinger Bypass feature to work for both controlled and 24-hour points.

Example: Assume the Swinger Bypass option is enabled, the control panel is armed, and there are no alarms. When the point sends an Alarm or Trouble event to the dialer, the swinger count for point reports is checked. If the counter is at zero, the point is already swinger bypassed and no report is sent. If the counter is not at zero, the control panel decreases the swinger counter. If the counter goes to zero after the report is sent, the Swinger Bypass [33] Report is sent. The point is then swinger bypassed.

If the swinger count is set to zero (0), the Swinger Count for Point Reports feature is disabled. The dialer sends all alarm or trouble events.



Swinger Count for Point Reports is required by the SIA Control Panel Standard for False Alarm Reduction.

3.15.6 Bypass, Swinger Bypass, Sensor Trouble Report Options

Nibble: 1031 Default: 3 Selection: 0 to 15																
Bypass, Swinger Bypass, Sensor Trouble Report Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No options selected	X															
Point Bypass and Swinger Bypass Reports enabled		X		X		X		X		X		X		X		X
Bypass and Swinger Bypass Restoral Reports enabled			X	X			X	X			X	X			X	X
Sensor Trouble Reports enabled					X	X	X	X					X	X	X	X
Sensor Trouble Restoral Reports enabled									X	X	X	X	X	X	X	X

Use this parameter to enable Point Bypass, Swinger Bypass, and Sensor Reports and to enable their respective Restoral Reports. This is a global parameter affecting all areas.

3.15.7 Sensor Monitor Time

Nibble:	1032 to 1033
Default:	0, 7
Selection:	0 to 9

This parameter determines the number of days (00 to 99) that the control panel can function without sensor point activity (time accumulates only when the area is off/disarmed). This feature is assigned by Point Index in Point Options 1. This feature only applies to controlled points, not fire point types or non-fire 24-hour point types. If there is no sensor activity after the entered time period, a Trouble Report is sent. See *Section 3.14.4 Options 1, Point Index ##* to enable/disable the sensor trouble monitor fault condition.

3.15.8 Alarm Event Abort Window

Nibble:	1034
Default:	2
Selection:	0 to 15
0 to 1	15 seconds
2	30 seconds
3 to 15	45 seconds

This parameter sets the length of the window. See *Section 3.14.4 Options 1, Point Index ##* for more information on applying the Alarm Event Abort feature to a Point Index.



This option only affects Non-fire points. Fire and Fire with Verification points are not affected by enabling this option.

If a user acknowledges a non-fire alarm event by entering their passcode before the Alarm Event Abort Window expires:

1. The alarm event is aborted. Alarm, Cancel*, and Restoral Reports associated with the alarm are not transmitted. The alarm event becomes a local only event.
2. The user hears three unique long beeps at the command center.
3. The text command center indicates the aborted alarm on the display. The LED command centers indicate the aborted alarm with a slow flash in Alarm Memory.

* A Cancel Window starts with the initiation of the alarm event and follows bell time. If the user acknowledges the alarm inside the cancel window (bell time), a Cancel [38] or Fire Cancel [39] report is sent. If the Abort feature is enabled, the Cancel Report is sent if the user acknowledges the alarm after the Abort Window expires but before bell time expires.



Alarm Event Abort Window is required by the SIA Control Panel Standard for False Alarm Reduction.

3.15.9 Point Trouble, Restoral from Trouble Report Routing

Nibble:	1038
Default:	1
Selection:	0 to 5
0	No reports, no events to log/printer
1	Reports to Destination 1, events to log/printer
2	Reports to Destination 2, events to log/printer
3	Reports to Destinations 1 and 2, events to log/printer
4	Reports to Destination 2 only on Destination 1 Comm Fail event, events to log/printer
5	No reports, events to log/printer

Point Trouble report events include RF Low Battery [121], RF Tamper Trouble [121], and Trouble Events [139 to 145]. Restoral from Trouble report events include Restoral from Trouble [146 to 152].

3.16.1 Global Output Options

Nibble: 1039																
Default: 0																
Selection: 0 to 15																
Global Output Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No options selected	X															
Output 2 is supervised Horn/Speaker Output		X		X		X		X		X		X		X		X
Send output set/reset reports			X	X			X	X			X	X			X	X
Enable Strobe Arming Flash to indicate RF Keyfob and Keyswitch Arm/Disarm					X	X	X	X					X	X	X	X
Enable Alarm Output Arming Beep to indicate RF Keyfob and Keyswitch Arm/Disarm									X	X	X	X	X	X	X	X

This parameter affects all programmable outputs.

- **Output 2 Is Supervised Horn/Speaker Output:** Programmable Output 2 (PO 2) becomes a supervised siren driver. If a siren or speaker is not connected, the control panel generates a Siren Trouble event that can include a Siren Trouble [160] Report. The Restoral event is reported with Siren Trouble Restore [161]. See the *D6412, D4412 Installation Guide* (P/N 45349) for connection instructions and specifications for siren/speakers. Compatible speakers include Bosch Security System's D118 and D119 Speaker Drivers.

See *Appendix A* for dialing sequence and a description of Comm Fail event.



Reporting at the **Global Reporting Options** prompt must be enabled, and at least one phone number for one routing destination must be entered.

3.16 Global Output Configuration

The D6412 supports a total of twenty programmable outputs including four on-board (PO 1 to PO 4) and up to sixteen off-board. The D4412 supports a total of twelve programmable outputs (four on-board; up to eight off-board).

Outputs 5 through 12 are on an off-board SDI device (DX3010 Octo-Output Expander or DX3020 X-10 Control Module), SDI Address 150.

Outputs 13 through 20 are on an off-board SDI device (DX3010 or DX3020), SDI Address 151. Outputs 13 to 20 apply only to the D6412.

- **Send Output Set/Reset Reports:** The control panel sends Output Set (109 to 111) and Output Reset (106 to 108) Reports when Outputs are operated by a user, a Sked, or RAM.
- **Enable Strobe Arming Flash to indicate RF Keyfob and Keyswitch Arm/Disarm:** The Strobe Output Function indicates RF and keyswitch arming and disarming as follows:
 - 3 seconds = transition to Off (disarmed)
 - 6 seconds = transition to All or Part On

- **Enable Alarm Output Arming Beep to Indicate RF Keyfob and Keyswitch**
Arm/Disarm: Any Alarm Output Functions (1, 8; 1,9; 1,10) indicate RF and Keyswitch arming and disarming as follows:

- 1 beep = transition to off (disarmed)
- 2 beeps = transition to All On
- 3 beeps = transition to Part On



This feature is only available for RF Keyfobs (not RF keypads).

3.16.2 Bell Time

Nibble: 1040
 Default: 6
 Selection: 0 to 15

Bell Time determines how long (0 minutes to 15 minutes) the Alarm Output, Fire Alarm Output and Silent Alarm Output functions remain activated when triggered by an alarm event.



Bell Time lasts the number of minutes entered in Nibble 1040, and may even last up to 15 seconds longer.

3.16.3 Siren Warble Frequency (Non-Fire Alarm Output Function)

Nibble: 1041
 Default: 7
 Selection: 0 (lowest tone/frequency) to 15 (highest tone/frequency)

PO 2 can be configured as a Supervised Horn/Speaker Output (see *Section 3.16.1 Global Output Options*).

This parameter sets the warble frequency for the Alarm Output functions (1,8; 1,9; 1,10). The setting chosen here does not apply to other output functions.

Lowering the frequency effectively raises the perceived volume.

3.16.4 Alarm Output Arming Beep Volume

Nibble: 1042
 Default: 7
 Selection: 0 (no sound) to 15 (loudest)*

* A setting of 1 = quiet

PO 2 can be configured as a Supervised Horn/Speaker Output (see *Section 3.16.1 Global Output Options*).

This parameter sets the perceived volume for the Alarm Output Arming Beep only. No other siren sounds or output functions are affected by this parameter.

3.16.5 Strobe Output Type Options

Nibble: 1043

Default: 15

Selection: 0 to 15

Strobe Output Type Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Bell Time Activates Strobe Output Type	X															
Alarm Output Type 1, 8 Activates Strobe		X		X		X		X		X		X		X		X
Alarm Output Type 1, 9 Activates Strobe			X	X			X	X			X	X			X	X
Alarm Output Type 1, 10 Activates Strobe					X	X	X	X					X	X	X	X
Alarm Output Type 1, 11 Activates Strobe									X	X	X	X	X	X	X	X

This parameter configures the Strobe Output Type (see *Section 3.17 Outputs*). Choose any combination of these options to activate the Strobe Output Type. Passcode entry resets the function.

- **Bell Time Activates Strobe Output Type:** The Strobe Output Type 1,6 activates when an Alarm event starts Bell Time. Passcode entry resets the function.
- **Alarm Output Type 1, 8 Activates Strobe:** Any event that activates Alarm Output Type 1, 8 also activates the Strobe Output Type 1, 6. Passcode entry resets the function.
- **Alarm Output Type 1, 9 Activates Strobe:** Any event that activates Alarm Output Type 1, 9 also activates the Strobe Output Type 1, 6. Passcode entry resets the function.
- **Alarm Output Type 1, 10 Activates Strobe:** Any event that activates Alarm Output Type 1, 10 also activates the Strobe Output Type 1, 6. Passcode entry resets the function.
- **Alarm Output Type 1, 11 Activates Strobe:** Any event that activates Alarm Output Type 1, 11 also activates the Strobe Output Type 1, 6. Passcode entry resets the function.

3.17 Outputs

The D6412 supports a total of twenty programmable outputs including four on-board (PO 1 to PO 4) and up to sixteen off-board outputs.

The D4412 supports a total of twelve programmable outputs (four on-board; up to eight off-board).

PO 2 can be configured as a Supervised Siren Output (8 Ω , 10 W). See the *D6412, D4412 Installation Guide* (P/N: 45349) for more information.

- **PO 1 to PO 4:** On-board outputs
- **PO 5 to PO 12:** Off-board SDI device (DX3010 Octo-Output Expander or DX3020 X-10 Control Module) set to Address 150
- **PO 13 to PO 20 (D6412 only):** Off-board SDI device (DX3010 Octo-Output Expander or DX3020 X-10 Control Module) set to Address 151

Table 17: Output Configuration Parameters

Output	Area	Function		Mode	Base	Multiplier	
		Digit 1	Digit 2			Digit 1	Digit 2
1 ¹	Nibble 1044 (1)	Nibble 1045 (1)	Nibble 1046 (10)	Nibble 1047 (1)	Nibble 1048 (0)	Nibble 1049 (0)	Nibble 1050 (0)
2 ¹	Nibble 1051 (1)	Nibble 1052 (0)	Nibble 1053 (0)	Nibble 1054 (1)	Nibble 1055 (0)	Nibble 1056 (0)	Nibble 1057 (0)
3 ¹	Nibble 1058 (1)	Nibble 1059 (0)	Nibble 1060 (0)	Nibble 1061 (1)	Nibble 1062 (0)	Nibble 1063 (0)	Nibble 1064 (0)
4 ¹	Nibble 1065 (1)	Nibble 1066 (0)	Nibble 1067 (0)	Nibble 1068 (1)	Nibble 1069 (0)	Nibble 1070 (0)	Nibble 1071 (0)
5 ²	Nibble 1072 (1)	Nibble 1073 (0)	Nibble 1074 (0)	Nibble 1075 (1)	Nibble 1076 (0)	Nibble 1077 (0)	Nibble 1078 (0)
6 ²	Nibble 1079 (1)	Nibble 1080 (0)	Nibble 1081 (0)	Nibble 1082 (1)	Nibble 1083 (0)	Nibble 1084 (0)	Nibble 1085 (0)
7 ²	Nibble 1086 (1)	Nibble 1087 (0)	Nibble 1088 (0)	Nibble 1089 (1)	Nibble 1090 (0)	Nibble 1091 (0)	Nibble 1092 (0)
8 ²	Nibble 1093 (1)	Nibble 1094 (0)	Nibble 1095 (0)	Nibble 1096 (1)	Nibble 1097 (0)	Nibble 1098 (0)	Nibble 1099 (0)
9 ²	Nibble 1100 (1)	Nibble 1101 (0)	Nibble 1102 (0)	Nibble 1103 (1)	Nibble 1104 (0)	Nibble 1105 (0)	Nibble 1106 (0)
10 ²	Nibble 1107 (1)	Nibble 1108 (0)	Nibble 1109 (0)	Nibble 1110 (1)	Nibble 1111 (0)	Nibble 1112 (0)	Nibble 1113 (0)
11 ²	Nibble 1114 (1)	Nibble 1115 (0)	Nibble 1116 (0)	Nibble 1117 (1)	Nibble 1118 (0)	Nibble 1119 (0)	Nibble 1120 (0)
12 ²	Nibble 1121 (1)	Nibble 1122 (0)	Nibble 1123 (0)	Nibble 1124 (1)	Nibble 1125 (0)	Nibble 1126 (0)	Nibble 1127 (0)
13 ³	Nibble 1128 (1)	Nibble 1129 (0)	Nibble 1130 (0)	Nibble 1131 (1)	Nibble 1132 (0)	Nibble 1133 (0)	Nibble 1134 (0)
14 ³	Nibble 1135 (1)	Nibble 1136 (0)	Nibble 1137 (0)	Nibble 1138 (1)	Nibble 1139 (0)	Nibble 1140 (0)	Nibble 1141 (0)
15 ³	Nibble 1142 (1)	Nibble 1143 (0)	Nibble 1144 (0)	Nibble 1145 (1)	Nibble 1146 (0)	Nibble 1147 (0)	Nibble 1148 (0)
16 ³	Nibble 1149 (1)	Nibble 1150 (0)	Nibble 1151 (0)	Nibble 1152 (1)	Nibble 1153 (0)	Nibble 1154 (0)	Nibble 1155 (0)
17 ³	Nibble 1156 (1)	Nibble 1157 (0)	Nibble 1158 (0)	Nibble 1159 (1)	Nibble 1160 (0)	Nibble 1161 (0)	Nibble 1162 (0)
18 ³	Nibble 1163 (1)	Nibble 1164 (0)	Nibble 1165 (0)	Nibble 1166 (1)	Nibble 1167 (0)	Nibble 1168 (0)	Nibble 1169 (0)
19 ³	Nibble 1170 (1)	Nibble 1171 (0)	Nibble 1172 (0)	Nibble 1173 (1)	Nibble 1174 (0)	Nibble 1175 (0)	Nibble 1176 (0)
20 ³	Nibble 1177 (1)	Nibble 1178 (0)	Nibble 1179 (0)	Nibble 1180 (1)	Nibble 1181 (0)	Nibble 1182 (0)	Nibble 1183 (0)

¹ On-board outputs

² Outputs PO 5 to PO 12: Off-board SDI Addr 150

³ **D6412 Only.** Outputs PO 13 to PO 20: Off-board SDI Addr 151



Output 1 Default Function: 1, 10: Alarm for Controlled Points, 24-hour Points (Fire and Non-Fire). Activated by alarm on controlled point when All On, Part On, and Part 2 On, or by alarm on Fire and Non-fire 24-hour point, and by user/installer bell test. Follows bell time for Steady and Pulse Modes. Passcode resets.



Off-board outputs cannot provide output in Temporal Code 3 format (only on-board outputs). Off-board outputs configured for Temporal Code 3 provide a steady output. Follows programming for Alarm Output types.

3.17.1 Area, Output

Nibble: See *Table 17*

Default: See *Table 17*

Selection: 0 to 15

Area Output Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Disabled	X															
Area 1		X		X		X		X		X		X		X		X
Area 2			X	X			X	X			X	X			X	X
Area 3 (D6412 only)					X	X	X	X					X	X	X	X
Area 4 (D6412 only)									X	X	X	X	X	X	X	X

The area assignment determines the scope of the output. Functions are only activated by command centers or points assigned to the same area. Outputs can be assigned to multiple areas.

Area 3 and Area 4 assignments are available only on the D6412.

3.17.2 Function, Output

Nibble: See *Table 17*

Default: See *Table 17*

Selection: See *Table 18*

This parameter assigns each output to a specific function. The function determines when the output activates. The Mode, Time, and Multiplier parameters, in combination with this parameter, determine when the output deactivates.

Outputs 13 to 20 are available only on the D6412.

All output functions can be reset using Command 54 except Alarm Outputs that follow Function Types 1, 8 to 1, 12 and 2, 11 (see *Table 18*), and those functions resettable by Command 47.

Table 18: Output Function Types

Digit 1	Digit 2	Function Type	Description
0	0	Disabled	
0	1	Armed – All, Part, or Part 2	Output activates when the system is turned All On, Part On, or Part 2 On. For Steady or Pulse Modes, the output remains activated until the system is turned off.
0	2	Armed – Part or Part 2	Output activates when the system is turned Part On or Part 2 On. For Steady or Pulse Modes, the output remains activated until the system is turned off, or moved to another armed state.
0	3	Armed – All	Output activates when the system is turned All On. For Steady or Pulse Modes, the output remains activated until the system is turned off, or moved to another armed state.
0	4	Auto Arm Pre-Arming Alert	Output activates at the start of the Auto Arm Alert. For Steady or Pulse Modes, the output remains activated for the duration of the alert. See <i>Section 3.3.11 Auto On Alert Time</i> .
0	5	Exit Delay or Entry Delay	Output activates at the start of Exit Delay or Entry Delay. For Steady or Pulse Modes, the output remains activated until entry or exit delay ends.

Table 18: continued

Digit 1	Digit 2	Function Type	Description
0	6	Exit Delay	Output activates at the start of Exit Delay. For Steady or Pulse Modes the output remains activated until exit delay ends.
0	7	Exit Delay finished (until disarmed)	Output activates at the end of Exit Delay. For Steady or Pulse Modes the output remains activated until the system is disarmed.
0	8	Bell Test on Close	For systems programmed for closing reports, the output activates when the acknowledgement for the closing report is received. For systems not sending closing reports, the output activates at the end of Exit Delay. For Steady or Pulse Modes the output remains activated until the system is disarmed.
0	9	Entry Delay	Output activates at the start of Entry Delay. For Steady or Pulse Modes the output remains activated until entry delay ends.
0	10	Entry Delay and Watch	Output activates at the start of Entry Delay. For Steady or Pulse Modes, the output remains activated until entry delay ends. The output also activates whenever a Watch point is faulted. The output does not activate if the watch tone is turned off.
0	11	Exit Delay, Entry Delay, Watch	Output activates at the start of Exit Delay or Entry Delay. For Steady or Pulse Modes, the output remains activated until entry or exit delay ends. The output also activates whenever a Watch point is faulted. The output does not activate if the watch tone is turned off.
0	12	Phone Line Fail	Output activates when a Phone Line Fail condition is detected. For Steady or Pulse Modes the output remains activated until the condition is cleared. <i>This output works independently of Nibble 0220 (see Section Error! Not a valid result for table. Phone Line Fault Response Options).</i>
0	13	Ack received (any report)	Output activates when the acknowledgement for any report is received. For Steady or Pulse Modes, [Cmd][4][7] resets.
0	14	AC Fail	Output activates when an AC Fail condition is detected. For Steady or Pulse Modes the output remains activated until the condition is cleared.
0	15	Low or missing battery	Output activates when a control panel Low or Missing Battery condition occurs. For Steady or Pulse Modes the output remains activated until the condition is cleared.
1	0	PO 2 (on-board) Siren Supervision Fail	Output activates when a Siren Supervision Fail condition is detected. For Steady or Pulse Modes the output remains activated until the condition is cleared.
1	1	Sensor Trouble Monitor	Output activates when a Sensor Trouble Monitor condition is detected in conjunction with the selection made for the Sensor Monitor Time setting. For Steady or Pulse Modes the output remains activated until the Sensor Monitor Trouble condition is cleared.
1	2	Duress, [Cmd][4][7] (reset) resets.	Output activates whenever a Duress passcode is entered. For Steady or Pulse Modes, the output remains activated until user enters [Cmd][4][7].
1	3	User Tamper, [Cmd][4][7] (reset) resets.	Output activates on a User Tamper event. For Steady or Pulse Modes, the output remains activated until user enters [Cmd][4][7].
1	4	Arming beeps (for keyswitch/RF arming)	Disarm/All On/Part (1&2) beeps for keyswitch/RF arming. 1=Off, 2=All, 3=Part. Mode and Time parameters do not apply. This feature works in conjunction with Nibble 1039 (see Section 3.16.1 Global Output Options). The numbers preceding Off, All, and Part indicate the number of times the output beeps, depending on the selected arming mode (keyfob or keyswitch).
1	5	Bell Time – Starts on any Alarm Event. Code Stops. Activates on Bell Test.	Output activates on any alarm event. Entering passcode terminates Bell Time. For Steady and Pulse Modes, the output remains activated for the duration programmed in the Bell Time parameter. Entering passcode terminates bell time.
1	6	Strobe	See Section 3.16.5 Strobe Output Type Options to learn how strobe starts. Code resets. Passcode entry resets the function.
1	7	Silent Alarm	Activated by alarm on non-fire points programmed for No Alarm Output. Follows bell time for Steady and Pulse Modes. Passcode stops.

Table 18: continued

Digit 1	Digit 2	Function Type	Description
1	8	Alarm – All On, Part On, and Part 2 On, Non-fire 24-hour alarms	Activated by alarm on controlled point when All On, Part On, and Part 2 On, or by alarm on Non-fire 24-hour point, and by user/installer bell test. Follows bell time for Steady and Pulse Modes. Passcode resets. Follows programming for Alarm Output types.
1	9	Alarm – Part and Part 2 Modes, Non-fire 24-hour alarms	Activated by alarm on Controlled point when Part On and Part 2 On, or by alarm on Non-fire 24-hour point, and by user/installer bell test. Follows bell time for Steady and Pulse Modes. Passcode resets. Follows programming Alarm Output types.
1	10	Alarm – Controlled Points, 24-hour points (Fire and Non-Fire)	Activated by alarm on Controlled point when All On, Part On, and Part 2 On, or by alarm on Fire and Non-fire 24-hour point, and by user/installer bell test. Follows bell time for Steady and Pulse Modes. Passcode resets. Off-board outputs cannot provide output in Temporal Code 3 format (only on-board outputs). Off-board outputs configured for Temporal Code 3 provides a steady output. Follows programming for Alarm Output types. Temporal Code 3 for Fire alarms only.
1	11	Fire Alarm	Activated by alarm on Fire point, and by user/installer Bell Test. Follows bell time. Pulses in Temporal Code 3 format per NFPA and UL requirements. Mode and Time parameters do not apply. Passcode resets. Off-board outputs cannot provide output in Temporal Code 3 format (only on-board outputs). Off-board outputs configured for Temporal Code 3 provides a steady output. Follows programming for Alarm Output types.
1	12	Fire Alarm, Latching	Activated by alarm on Fire point, and by user/installer bell test. Does not pulse in Temporal Code 3 format. Mode and time parameters do not apply. [Cmd][4][7] resets. Follows programming for Alarm Output types.
1	13	Fire Verification	Inverted, resettable output used with Fire Verification points. Verification for Fire Verification point type and [Cmd][4][7] activate output for approximately 15 seconds. mode and time parameters do not apply. See <i>Table 14</i> for 24-hour, Fire with Alarm Verification point type description. Used for 4-wire smoke detectors.
1	14	System Trouble	Activates on any system trouble. Resets when all system troubles are clear.
1	15	[O] key (trapezoid key on RF Keyfob)	Activates when trapezoid key on RF Keyfob is pressed. [Cmd][4][7] resets. Pressing [O] (trapezoid) key again also resets output.
2	0	[P] key (rising sun key on RF Keyfob)	Activates when rising sun key on RF Keyfob is pressed. [Cmd][4][7] resets. Pressing [P] (rising sun) key again also resets output.
2	1	Panic on RF Fob	Activates when arm key (locked icon) and disarm key (unlocked icon) on RF Keyfob are pressed at the same time. [Cmd][4][7] resets.
2	2	Panic on RF Fob, Bell Time, Code resets	Activates when arm key (locked icon) and disarm key (unlocked icon) on RF Keyfob are pressed at the same time. Steady and Pulse Modes follow bell time. Passcode resets.
2	3	[A] Key	Activates when [A] key is pressed twice. [Cmd][4][7] resets.
2	4	[B] Key	Activates when [B] key is pressed twice. [Cmd][4][7] resets.
2	5	[C] Key	Activates when [C] key is pressed twice. [Cmd][4][7] resets.
2	6	Three unsuccessful dialing attempts.	Activates after three unsuccessful dialing attempts. Resets with first successful call or [Cmd][4][7].
2	7	Communication Fail Event. Successful communication clears.	Activates after Communication Fail Event. Resets with any successful communication or [Cmd][4][7].
2	8	Control panel off hook	Activates when the control panel takes the phone line off hook for a dialing attempt. Resets when the control panel finishes with the phone line and goes on hook.
2	9	Ring detect	Activates when the control panel detects a ring on the phone line. Resets when ringing stops.
2	10	Voice request	For use with an optional Voice Verification Module (D169). The output activates for 2 seconds when the control panel receives an acknowledgement of an Alarm Report from a point with the Voice Verification option enabled. Mode and time parameters do not apply.
2	11	Follow command center sounder.	Available for on-board outputs only. Output follows command center sounder. Mode and time parameters do not apply.

Table 18: continued

Digit 1	Digit 2	Function Type	Description
2	12	Watch	Activates per Watch Feature configuration (Commands 61, 62, and 63). Follows command center sounder per Watch Tone configuration. See Commands 61, 62, and 63 in <i>Sections D.1.32 Turn Watch On/Off [Cmd][6][1]</i> , <i>D.1.33 Select Watch Tone [Cmd][6][2]</i> , and <i>D.1.34 Select Watch Points [Cmd][6][3]</i> .
2	13	Ready to Arm (No controlled points faulted)	Output is activated (on) when: <ul style="list-style-type: none"> 1. Control panel is disarmed and no controlled points are faulted 2. Control panel is armed and no controlled points are faulted 3. Control panel is armed and any controlled point is faulted. Output is deactivated (off) when control panel is disarmed and any controlled point is faulted. Output is deactivated even if the point became faulted when control panel is armed.
2	14	Exit Error	Activates if controlled point is faulted at the end of Exit Delay. Resets when the system is disarmed.
2	15	AC 60 Hz	Activates on 60 Hz. Resets on 50 Hz.
3	0	Ground Start	Activates for approximately 0.5 seconds at the start of any dialing attempt. Use to bring up dial tone in ground start phone systems. See <i>D6412, D4412 Installation Guide</i> (P/N: 45349) for wiring instructions.
3	1 to	Follow Point Index 1	These fifteen output functions activate for any fault on any point assigned to the specified point index.
3	15	Follow Index 15	
4	0	[Cmd][5][4]	Activated/deactivated by [Cmd][5][4].
4	1 to	Alarm Point Index 1	These fifteen output functions activate for alarms on any point assigned to the specified point index and the area(s) the output is assigned to. They reset when none of the points assigned to the specified index are in alarm.
4	15	Alarm Index 15	
5	0	[Cmd][5][4]	Activated/deactivated by [Cmd][5][4].
5	1 to	Trouble Point Index 1	These fifteen output functions activate for troubles on any point assigned to the specified Point Index. They reset when none of the points assigned to the specified index are in trouble.
5	15	Trouble Index 15	
6	0	[Cmd][5][4]	Activated/deactivated by [Cmd][5][4].
6	1 to	Follow Passcode 1	These output functions activate when the specified passcode is entered. Passcode area assignments are ignored when these output functions are selected.
6	15	Follow Passcode 15	
7	0 to	Follow Passcode 16	
7	15	Follow Passcode 31	
8	0	Follow Passcode 32	This output type is only available for Outputs 1 to 15. Activated by Skeds. See <i>Section 3.18 Skeds</i> for more information.
8	1	Sked Only	
8	2	[Cmd][5][4]	Activated/deactivated by [Cmd][5][4].
8	3	Always On	Output is always activated.

3.17.3 Mode (Steady, Pulse, One Shot), Output ##

Nibble: See <i>Table 17</i> Default: See <i>Table 17</i> Selection: 0 to 13		
0	Output Disabled	
1	Steady	Normally open. On-board outputs go low (sink current) when activated. Off-board outputs are energized when activated. Time parameters do not apply. Resets as specified by output function.
2	Latch	Normally open. On-board outputs latch low (sink current) when activated. Off-board outputs latch energized when activated. Time parameters do not apply. Reset on [Cmd][4][7].
3	Toggle	Toggle output state. When the output is activated, the output toggles between states.
4	Pulse	Normally open. On-board outputs pulse low (sink current) when activated. Off-board outputs pulse energized when activated. The time parameters set the activated duration of the pulse.
5	One Shot	Normally open. On-board outputs go low (sink current) when activated. Off-board outputs are energized when activated. Time parameter sets the duration of the one shot (activation). Always runs the full duration. A new triggering event does not restart. Use [Cmd][4][7] to manually reset.
6	One Shot with Re-Trigger	Normally open. On-board outputs go low (sink voltage current) when activated. Off-board outputs are energized when activated. Time parameter sets the duration of the one shot (activation). Always runs for at least the full duration. A new triggering event restarts the one shot timer. Could be used with a motion sensor as a trigger for lighting control.
7	One Shot with Reset	Normally open. On-board outputs go low (sink current) when activated. Off-board outputs are energized when activated. Time parameter sets the duration of the one shot (activation). Termination of the triggering event terminates the one shot early.
8	Steady, Reversed Logic Normal	On-board outputs normally low (sink current). Off-board outputs are normally energized. On-board outputs open when activated. Off-board outputs de-energize when activated. Time parameters do not apply. Resets as specified by output function.
9	Latch, Reversed Logic Normal	On-board outputs normally low (sink current). Off-board outputs are normally energized. On-board outputs latch open when activated. Off-board outputs latch de-energized when activated. Time parameters do not apply. Reset on [Cmd][4][7].
10	Pulse, Reversed Logic Normal	On-board outputs normally low (sink current). Off-board outputs are normally energized. On-board outputs pulse open when activated. Off-board outputs pulse de-energized when activated. The time parameters set the activated duration of the pulse.
11	One Shot, Reverse Logic Normal	On-board outputs normally low (sink current). Off-board outputs are normally energized. On board outputs open when activated. Off-board outputs de-energize when activated. The time parameter sets the duration of the one shot (activation). Always runs the full duration. A new triggering event does not restart. Use [Cmd][4][7] to manually reset.
12	One Shot with Re-Trigger, Reverse Logic Normal	On-board outputs normally low (sink current). Off-board outputs are normally energized. On-board outputs open when activated. Off-board outputs de-energize when activated. Time parameter sets the duration of the one shot (activation). Always runs at least the full duration. A new triggering event restarts the one shot timer. Could be used with a motion sensor as trigger for lighting control.
13	One Shot with Reset, Reverse Logic Normal	On-board outputs normally low (sink current). Off-board outputs are normally energized. On-board outputs open when activated. Off-board outputs de-energize when activated. Time parameter sets the duration of the one shot (activation). Termination of the triggering event terminates the one shot early.

3.17.4 Base, Output ##

Nibble:	See <i>Table 17</i>
Default:	See <i>Table 17</i>
Selection:	1 to 4
1	200 ms (on-board outputs only)
2	1 second
3	1 minute
4	1 hour

3.17.5 Multiplier, Output ##

Nibble:	See <i>Table 17</i>
Default:	See <i>Table 17</i>
Selection:	0 to 9

Multiply the base by the multiplier to determine the output's off time.

See *Table 19* and *Table 20*.

Outputs 13 to 20 are available only on the D6412.

3.17.6 Configuring Steady, Pulse, and One Shot Mode

Steady and Toggle Modes: These modes are not affected by the Time Base and Time Multiplier parameters.

Pulse Modes: The system calculates the On Time (activation) and the Off Time for outputs based on the values in the Time Base and Time Multiplier (see *Table 19*). The duration or On Time of an output is determined by selecting one of the four time base options from *Table 19*. The Off Time is calculated as a multiple of the On Time by choosing a decimal number between 00 and 99 as the Time Multiplier.



The Time Base of 200 ms in *Table 19* and *Table 20* is only available for on-board outputs.

One Shot Modes: The duration of the on time of a One Shot Output is determined by the product of the value programmed in the Time Base parameter and the value in the Time Multiplier parameter.

Table 19: Pulse Mode

Time Base	On Time (On Time = Time Base)	Time Multiplier	Off Time (Off Time = Time Base x Time Multiplier)	Tolerance
0	0	N/A	Always Off	N/A
1 (200 ms)	200 ms	01 to 99	200 ms to 19.8 seconds	±200 ms
2 (1 second)	1 second	01 to 99	1 second to 99 seconds	±1 second
3 (1 minute)	1 minute	01 to 99	1 minute to 99 minutes	±1 minute
4 (1 hour)	1 hour	01 to 99	1 hour to 99 hours	±1 hour

Table 20: One Shot Mode

Time Base	Time Multiplier	On Time (On Time = Time Base x Time Multiplier)	Tolerance
0	N/A	0	N/A
1 (200 ms)	01 to 99	200 ms to 19.8 seconds	±200 ms
2 (1 second)	01 to 99	1 second to 99 seconds	±1 second
3 (1 minute)	01 to 99	1 minute to 99 minutes	±1 minute
4 (1 hour)	01 to 99	1 hour to 99 hours	±1 hour



Pulse Mode and One Shot Mode: If using a larger time base value, be aware that the output may not activate immediately as desired. It may wait until the "off time" expires before activating.

3.18 Skeds

Skeds are programmable events that occur at a specific (programmable) time of day and day of the week. These events can be Auto On, Auto Part On, Auto Part 2 On, Auto Off, or Sked Output Function.

Users can extend Auto On, Auto Part On, and Auto Part 2 On time by 1 hour using [Cmd][5][1]. When [Cmd][5][1] is executed, the control panel sends an Auto On Extended [21] Report.

Users can also change Skeds using [Cmd][5][2] (Change Skeds). To enable [Cmd][5][2] by Authority Level, see *Section 3.8.10 Authority Level Config Option 10: Commands 45, 52, 53, 56, 58, 62, 63, 65, 83, 84.*

The following sections and parameters detail the programming of each of the eight Skeds. The parameters in *Section 3.17 Outputs* determine the characteristics of the output activation that occurs at the Sked time.

Table 21: Sked Configuration Parameters

Sked	Type	Assign (Area or Output)	Time				Days Option 1	Days Option 2
			(H _ _)	(_ H _)	(_ _ M _)	(_ _ _ M)		
1	Nibble 1184 (0)	Nibble 1185 (0)	Nibble 1186 (0)	Nibble 1187 (0)	Nibble 1188 (0)	Nibble 1189 (0)	Nibble 1190 (0)	Nibble 1191 (0)
2	Nibble 1192 (0)	Nibble 1193 (0)	Nibble 1194 (0)	Nibble 1195 (0)	Nibble 1196 (0)	Nibble 1197 (0)	Nibble 1198 (0)	Nibble 1199 (0)
3	Nibble 1200 (0)	Nibble 1201 (0)	Nibble 1202 (0)	Nibble 1203 (0)	Nibble 1204 (0)	Nibble 1205 (0)	Nibble 1206 (0)	Nibble 1207 (0)
4	Nibble 1208 (0)	Nibble 1209 (0)	Nibble 1210 (0)	Nibble 1211 (0)	Nibble 1212 (0)	Nibble 1213 (0)	Nibble 1214 (0)	Nibble 1215 (0)
5	Nibble 1216 (0)	Nibble 1217 (0)	Nibble 1218 (0)	Nibble 1219 (0)	Nibble 1220 (0)	Nibble 1221 (0)	Nibble 1222 (0)	Nibble 1223 (0)
6	Nibble 1224 (0)	Nibble 1225 (0)	Nibble 1226 (0)	Nibble 1227 (0)	Nibble 1228 (0)	Nibble 1229 (0)	Nibble 1230 (0)	Nibble 1231 (0)
7	Nibble 1232 (0)	Nibble 1233 (0)	Nibble 1234 (0)	Nibble 1235 (0)	Nibble 1236 (0)	Nibble 1237 (0)	Nibble 1238 (0)	Nibble 1239 (0)
8	Nibble 1240 (0)	Nibble 1241 (0)	Nibble 1242 (0)	Nibble 1243 (0)	Nibble 1244 (0)	Nibble 1245 (0)	Nibble 1246 (0)	Nibble 1247 (0)

3.18.1 Type, Sked #

Nibble:	See Table 21
Default:	0 (disabled)
Selection:	0 to 6
0	Disabled
1	Auto All On
2	Auto Part On
3	Auto Part 2 On
4	Auto Off
5	Output function on D6412: Outputs 1 to 15 D4412: Outputs 1 to 12
6	Output function off D6412: Outputs 1 to 15 D4412: Outputs 1 to 12

During the Auto On Alert (see *Section 3.3.11 Auto On Alert Time*), the user can extend Auto On, Auto Part On, and Auto Part 2 On by 1 hour using [Cmd][5][1]. When [Cmd][5][1] is executed, the control panel sends an Auto On Extended [21] Report.

The Output Function On and Output Function Off Sked types override any output function at Sked time (except for Alarm Output functions 1, 8 to 1, 12).

For the D6412, the Output On/Off Sked types apply only to Outputs 1 to 15. For the D4412, they apply only to Outputs 1 to 12.

3.18.2 Assign (Area or Output), Sked #

Nibble:	See Table 21
Default:	0 (disabled)
Selection:	0 to 15
0	Disabled
1	Area 1 or Output 1
2	Area 2 or Output 2
3	Area 3 (D6412 only) or Output 3
4	Area 4 (D6412 only) or Output 4
5	Output 5
6	Output 6
7	Output 7
8	Output 8
9	Output 9
10	Output 10
11	Output 11
12	Output 12
13	Output 13 (D6412 only)
14	Output 14 (D6412 only)
15	Output 15 (D6412 only)

Entering a zero (0) in this parameter disables the Sked.

If the Sked Type is Auto On or Auto Off, this parameter assigns an area to the Sked.

If the Sked Type is Output Function On or Output Function Off, this parameter assigns a programmable output. How the programmable output functions at Sked time is determined in *Section 3.17 Outputs*.

The output assigned to the Sked in this parameter can be any output function. At Sked time, the Sked overrides that function.

The Sked function is only available for Outputs 1 to 15 for the D6412 (Outputs 1 to 12 for the D4412).

For the D4412, Selections 3 and 4 apply only to Outputs 3 and 4.

3.18.3 Time, Sked #

Nibble:	See Table 21
Default:	0, 0, 0, 0 (disabled)
Selection:	0 to 9

Enter the time of day that the Sked occurs. There are four digits in this entry, each occupying a Nibble. Enter the time in 24-hour format (HHMM) where midnight is 2400, noon is 1200 and 12:01 AM is 0001. Entering 0000 disables the Sked.

3.18.4 Days Option 1, Sked #

Nibble:	See Table 21
Default:	0 (no option selected)
Selection:	0 to 15

Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No option selected	X															
Everyday		X		X		X		X		X		X		X		X
Monday			X				X				X				X	
Tuesday					X		X						X		X	
Wednesday									X		X		X		X	

Use this parameter to determine the day of the week the Sked occurs.



Entering zero (0) for this parameter disables the Sked if no selection is made at Sked # Days, Option 2.

3.18.5 Days Option 2, Sked #

Nibble:	See Table 21
Default:	0 (no option selected)
Selection:	0 to 15

Option	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No option selected	X															
Thursday		X		X		X		X		X		X		X		X
Friday			X	X			X	X			X	X			X	X
Saturday					X	X	X	X					X	X	X	X
Sunday									X	X	X	X	X	X	X	X

Use this parameter to determine the day of the week the Sked occurs.



Entering zero (0) for this parameter disables the Sked if no selection is made at Sked # Days, Option 1.



If the **Every Day** option is selected in the Days Option 1, Sked # parameter, it overrides any selection made in the Days Option 2, Sked # parameter.

3.19 SDI Bus Device Configuration

The following parameters configure devices that connect to the SDI Bus on the control panel.

3.19.1 Premises RF Receiver Options

Nibble: 1249																	
Default: 0																	
Selection: 0 to 3																	
Options	Enter this Value to Select Options																
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
No RF Receiver Connected	X																
RF Receiver 1 Connected, Set to Address 50		X		X													
RF Receiver 2 Connected, Set to Address 51			X	X													

This parameter tells the control panel if a RF Receiver is connected.

All status reports for the RF receiver include the receiver's address. For example, if the cover is removed, Event 127 (SDI Tamper) is generated and the following message is sent in Modem IIIa²: SDI Tamper Device X. "X" represents either Address 50 or 51.

- Receiver 1 Connected, Set Receiver to Address 50:** RF Receiver 1 was connected to the control panel. Set the receiver's address to 50 (jumper setting OFF). See *Appendix D.5 Adding RF IDs (Enrolling Premises RF Devices)* for more information. For information on RF Transmitters and Point States, see *Section D.8 RF Transmitters and Point States*.
- Receiver 2 Connected, Set Receiver to Address 51:** RF Receiver 2 was connected to the control panel. Set the receiver's address to 51 (jumper setting ON). See *Appendix D.5 Adding RF IDs (Enrolling Premises RF Devices)* for more information. For information on RF Transmitters and Point States, see *Section D.8 RF Transmitters and Point States*.

3.19.2 Premises RF Receiver, Supervision Interval

Nibble:	1250
Default:	5
Selection:	0, 4, 5
0	No supervision
4	12 hours
5	24 hours

Premises RF transmitters (sensors) send a supervisory signal approximately once every hour. The RF receiver expects to hear this signal from every transmitter in the interval determined in this parameter. A Missing Report is sent for each device that the RF receiver does not hear.



Supervision Interval for fire transmitters is fixed at 4 hours.

3.19.3 RF Jam Detect Level

Nibble:	1251
Default:	12
Selection:	0 to 15

This parameter configures the RF receivers for jam detection.



Leave the RF Jam Detect Level setting at the default unless advised by Bosch Security Systems Technical Support.

3.19.4 DX4010 RS-232 Module Output Configuration

Nibble:	1253
Default:	0
Selection:	0, 1, 2
0	Disabled (no RS-232 module connected)
1	RS-232 output in log format for printer
2	RS-232 output in GSP format

Set the RS-232 Interface Module to Address 250.

- **RS-232 Output in Log Format for Printer:** Output is formatted ASCII text similar to the text that appears in the text command center displays. Each log event is output in real time. Line breaks are included making this option suitable for connecting a serial printer to the module.



If you connect a printer to the DX4010 and get unexpected results, check the module output configuration (Nibble 1253), baud rate configuration (Nibble 1254) and parity/flow control/stop bit configuration (Nibble 1255) for proper settings.

- **RS-232 Output is GSP Format:** Output is formatted in Gateway Serial Protocol (GSP). GSP protocol allows you to integrate the control panel with future GSP-compatible devices.

3.19.5 DX4010 RS-232 Module Configuration-Baud Rate

Nibble:	1254
Default:	2
Selection:	0 to 5
0	300 (D9533 only)
1	1200
2	2400
3	4800
4	9600
5	14400

This parameter tells the control panel what baud rates the DX4010 (D9533) supports.



If you connect a printer to the DX4010 and get unexpected results, check the module output configuration (Nibble 1253), baud rate configuration (Nibble 1254), and parity/flow control/stop bit configuration (Nibble 1255) for proper settings.



If you are using a DX4010 RS-232 Serial Interface Module, Option 0 (300) is not a valid selection. This selection is only available for the D9533 RS-232 Serial Interface Module.

3.19.6 DX4010 Module Configuration-Parity, Flow Control, Stop Bit

Nibble:	1255						
Default:	0						
Selection:	0 to 7						
Selection	Parity			Flow Control		Stop Bits	
	None	Odd	Even	Software	Hardware	1	2
0	X			X		X	
1	X				X	X	
2	X			X			X
3	X				X		X
4		X		X		X	
5		X			X	X	
6			X	X		X	
7			X		X	X	

3.19.7 DX8010 Telephone Command Module, Access Options

Nibble:	1256															
Default:	0															
Selection:	0 to 15															
DX8010 Access Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Disabled, no DX8010 connected	X															
Access granted to users with Authority Level 1		X		X		X		X		X		X		X		X
Access granted to users with Authority Level 2			X	X			X	X			X	X			X	X
Access granted to users with Authority Level 3					X	X	X	X					X	X	X	X
Access granted to users with Authority Level 4									X	X	X	X	X	X	X	X

Set this parameter to zero (0) if there are no DX8010 modules connected to the control panel, or to disable any DX8010 modules that are connected to the control panel.

Selecting any of the other options allows system control for users assigned to the chosen authority level.

3.20 Miscellaneous System Trouble Options

Nibble: 1265 Default: 0 Selection: 0 to 3																
Miscellaneous System Trouble Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No options selected	X															
Enable AC Fail Trouble Tone		X		X												
Enable Ground Fault Display and Trouble Tone			X	X												
Reserved																
Reserved																

- **Enable AC Fail Trouble Tone:** Use this parameter to enable or disable the AC Fail Trouble Tone. If enabled, all command centers emit the trouble tone when an AC Fail condition occurs. This tone must be silenced from each area.
- **Enable Ground Fault Display and Trouble Tone:** Use this parameter to enable or disable the Ground Fault display on the text command center and the accompanying trouble tone (text and LED command centers). If enabled, all command centers displays a Ground Fault message and emit the trouble tone when a ground fault condition occurs. The display and tone must be cleared from each area.



If Ground Fault Reports are disabled and the Ground Fault Display and Trouble Tone parameter is disabled, then ground fault events are not logged.

3.21 System Text

Nibbles are shown for each text parameter. When programming from the command center, selecting any nibble in the parameter puts you in special text programming mode where you can edit text blocks of sixteen characters (see *Section 2.3.7 Programming Text Nibble Parameters*).

Table 22: Key/Character Assignments

# of Key Presses for each Character									
Key	1	2	3	4	5	6	7	8	9
1	.	,	?	!	-	&	<	>	1
2	A	B	C	a	b	c	2	'	
3	D	E	F	d	e	f	3		
4	G	H	I	g	h	i	4		
5	J	K	L	j	k	l	5		
6	M	N	O	m	n	o	6		
7	P	Q	R	S	p	q	r	s	7
8	T	U	V	t	u	v	8		
9	W	X	Y	Z	w	x	y	z	9
0*		→	_	@	#	\$	%	*	0
*	Moves to the Nibble before the text block.								
Cmd	Moves to the Nibble after the text block.								
A	Moves the cursor to the previous character position in the text block.								
B	No Function – emits single tone when pressed.								
C	Moves the cursor to the next character position in the text block.								
* Press the [0] key once to clear a character space or enter a blank space.									
All On, Part On, No Delay and Bypass keys all produce an error tone when pressed. Not used in text programming.									

3.21.1 Call for Service Text

Nibble:	1266 to 1297
Default:	Blank
Selection:	See Table 22

This parameter provides sixteen characters of programmable text to be displayed in the second line of the display whenever the first line is **Call for Service**. The following are possible entries for the second line of text:

- Central station phone number
- Preferred phone number to call for service
- Press 0 to View to show system trouble details

See the *D6412, D4412 Installation Guide* (P/N: 45349) for more information on Call for Service details.

3.21.2 ABC Key Text

Nibble:	1298 to 1329 for [A] key text 1330 to 1361 for [B] key text 1362 to 1393 for [C] key text
Default:	[A] key text [B] key text [C] key text
Selection:	See Table 22

Enter up to sixteen characters to describe the ABC Keys. Use *Table 22* to make entries.

3.22 Area Text

3.22.1 Area Name Text

Nibble:	1394 to 1425 for Area 1 name 1458 to 1489 for Area 2 name 1522 to 1553 for Area 3 name (D6412 only) 1586 to 1617 for Area 4 name (D6412 only)
Default:	Area 1 name text Area 2 name text Area 3 name text Area 4 name text
Selection:	See Table 22

Enter up to sixteen characters to describe each area. Use *Table 22* to make entries.

Areas 3 and 4 are only available on the D6412.

3.22.2 Area Idle Text

Nibble:	1426 to 1457 for Area 1 idle text 1490 to 1521 for Area 2 idle text 1554 to 1585 for Area 3 idle text (D6412 only) 1618 to 1649 for Area 4 idle text (D6412 only)
Default:	Not ready
Selection:	See Table 22

This parameter provides sixteen characters of programmable text for each area to be displayed when the system is idle (no alarms, no troubles, and system disarmed).

If **Don't Show Point Status on Command Centers** is not selected (see *Section 3.11.1 Command Center # Options*), the text command center displays **OK for All On** or **OK for Part On** across the second line. This indicates that all points are normal and the system is ready to arm **All On** or **Part On**. If a controlled point is faulted (either open or shorted), the Area Idle Text for this point's assigned area replaces the **OK for All On/Part On** message.



If **Don't Show Point Status on Command Centers** is selected, the default Area Idle Text ("Not Ready") should be changed. If no points are faulted, the Area Idle Text must be changed. See *Section 2.3.7 Programming Text Nibble Parameters* for text entry instructions.

If a controlled point, not configured for **Part On** arming is faulted (either open or shorted), **OK for Part On** replaces **OK for All On** on the text command center's display. The system may be armed **Part On**, but cannot be armed **All On** until the faulted point is restored. See *Section 3.14.4 Options 1, Point Index ##* for point index configuration details.

Areas 3 and 4 are only available on the D6412.

3.23 Location Text

Table 23: Location Text Nibbles and Defaults

Location	Nibbles	Default
1	1650	Location 1 Text
2	1682	Location 2 Text
3	1714	Location 3 Text
4	1746	Location 4 Text
5	1778	Location 5 Text
6	1810	Location 6 Text
7	1842	Location 7 Text
8	1874	Location 8 Text
9	1906	Location 9 Text
10	1938	Location 10 Text
11	1970	Location 11 Text
12	2002	Location 12 Text
13	2034	Location 13 Text
14	2066	Location 14 Text
15	2098	Location 15 Text
16	2130	Location 16 Text
17	2162	Location 17 Text
18	2194	Location 18 Text
19	2226	Location 19 Text
20	2258	Location 20 Text
21	2290	Location 21 Text
22	2322	Location 22 Text
23	2354	Location 23 Text
24	2386	Location 24 Text
25*	2418	Location 25 Text
26*	2450	Location 26 Text
27*	2482	Location 27 Text
28*	2514	Location 28 Text
29*	2546	Location 29 Text
30*	2578	Location 30 Text
31*	2610	Location 31 Text
32*	2642	Location 32 Text
33*	2674	Location 33 Text
34*	2706	Location 34 Text
35*	2738	Location 35 Text
36*	2770	Location 36 Text
37*	2802	Location 37 Text
38*	2834	Location 38 Text
39*	2866	Location 39 Text
40*	2898	Location 40 Text

* D 6412 only

3.23.1 Location ##, Point Text

Nibble: See *Table 23*

Default: See *Table 23*

Selection: See *Table 22*

Enter up to sixteen characters to describe each location. Use *Table 22* to make entries.

Locations 25 to 40 are only available on the D6412.

3.24 RF Keypads

The control panel supports up to four RF3341 Keypads. Each keypad has two programming parameters. The RF keypads report low battery, tamper, and so on by transmitter number.



Compatible RF keypads were not investigated by UL.

Table 24: RF Keypad Addresses and Transmitter Numbers

RF Keypad	Rcvr 1 SDI Address	Transmitter Number	Rcvr 2 SDI Address	Transmitter Number
1	52	255	60	247
2	53	254	61	246
3	54	253	62	245
4	55	252	63	244

Table 25: RF Keypad Configuration Parameters

RF Keypad	Options (Default)	Area (Default)
1	Nibble 2930 (0)	Nibble 2931 (0)
2	Nibble 2932 (0)	Nibble 2933 (0)
3	Nibble 2934 (0)	Nibble 2935 (0)
4	Nibble 2936 (0)	Nibble 2937 (0)

3.24.1 RF Keypad # Options

Nibble: See Table 25

Default: 0 (no option selected)

Selection: 0, 2, 4, and 6

RF Keypad Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No option selected	X															
Reserved																
Belongs to Receiver 2			X				X									
Supervised					X		X									
Reserved																

- **Belongs to Receiver 2:** RF Receiver 2 performs ID and monitoring functions for the RF keypad. If this option is not selected, the RF keypad belongs to Receiver 1.
- **Supervised:** The receiver always supervises the RF keypad and the control panel ignores the supervision based on the installer's configuration of this option.

3.24.2 RF Keypad # Area

Nibble:	See Table 25
Default:	0 (disabled)
Selection:	0 to 4
0	Disabled
1	Assign RF Keypad 1 to Area 1
2	Assign RF Keypad 1 to Area 2
3	Assign RF Keypad 1 to Area 3 (D6412 only)
4	Assign RF Keypad 1 to Area 4 (D6412 only)

To enable an RF keypad, it must be assigned to an area. To disable an RF keypad, enter a 0 at this parameter.

Assignments for Areas 3 and 4 are only available on the D6412.

3.25 RF Keyfobs

The control panel internally manages RF Keyfobs (RF3332 2-button; RF3334 4-button). Keyfobs are assigned to passcodes (users) by entering IDs. No other programming parameters are required. Keyfobs follow the authority level and area assignment for the passcode they are assigned. They report low battery conditions using the user number. The user's ID number, not the point number, is used for Open/Close Reports.



Compatible RF keyfobs were not investigated by UL.

For the D6412, each RF receiver can handle 24 keyfobs. For the D4412, each RF receiver can handle 32 keyfobs.

To add an RF Keyfob into the system, see *Appendix D.5 Adding RF IDs (Enrolling Premises RF Devices)*.

3.25.1 RF Keyfob Receiver Assignment Options

Nibble: 2938																
Default: 8 for D6412 0 for D4412																
Selection: 0 to 15																
Keyfob Receiver Assignment Options	Enter this Value to Select Options															
	0*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15*
All keyfobs on Receiver 1	X															
Assign keyfobs 1 to 8 to Receiver 2		X		X		X		X		X		X		X		X
Assign keyfobs 9 to 16 to Receiver 2			X	X			X	X			X	X			X	X
Assign keyfobs 17 to 24 to Receiver 2					X	X	X	X					X	X	X	X
Assign keyfobs 25 to 32 to Receiver 2									X	X	X	X	X	X	X	X

* Not valid for D6412; **OK** for D4412

This parameter assigns keyfobs in groups of eight to Receiver 2. Keyfobs not assigned to Receiver 2 are automatically assigned to Receiver 1.

3.25.2 Keyfob Options

Nibble: 2939																
Default: 0																
Selection: 0 to 15																
Keyfob Options	Enter this Value to Select Options															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15*
No option selected	X															
Panic enabled		X		X		X		X		X		X		X		X
Alarm Output on panic			X	X			X	X			X	X			X	X
Assign [O] (trapezoid) key to Part On					X	X	X	X					X	X	X	X
Assign [P] (sun) key to Part 2 On									X	X	X	X	X	X	X	X

This parameter configures all keyfobs for all areas and all passcodes.

- **Panic Enabled:** Pressing the Lock and Unlock keys on the keyfob simultaneously transmits a unique panic signal to the RF receiver. This option configures the system's response to the RF panic signal. If the keyfob Panic option is enabled, the system sends a Duress Report with the User ID in the Modem IIIa² format. Duress Reports from keyfobs follow ABC Key/Duress Report routing (see *Section 3.12.6 ABC Keys and Duress Report Routing*).
- **Alarm Output on Panic:** This option functions the same as the Panic Enabled option, except that Alarm Output on Panic also activates the Alarm Output.

- **Assign [O] (Trapezoid) Key to Part On:** Programs the keyfob to turn the system Part On when the [O] key is pressed. If you select this option, you cannot use the [O] key to activate Output 1, 15.
- **Assign [P] (Sun) Key to Part 2 On:** Programs the keyfob to turn the system Part 2 On when the [P] key is pressed. The [P] key on the RF keypads is also configured by this option. If you select this option, you cannot use the [P] key to activate Output 2, 0.



The "Assign [O] Key to Part On" and "Assign [P] Key to Part 2 On" features are designed for use with the RF3224 RF Premises Receiver. These keyfob keys may not operate as intended if used with other RF receivers.

3.26 Return to Default

Nibble:	2944
Default:	0
Selection:	0 and 1
0	Maintain user specified settings
1	Return all parameters to factory defaults



Use this parameter to restore all of the manufacturer's default settings for all parameters (including this one) by entering 1.

4.0 Glossary

Table 26: Glossary

24-Hour Point	Points that are always on even when the system is turned off. Two types: fire points and non-fire 24-hour points.
Account Number	The number the control panel transmits to the receiver. It is not the passcode. The account number is not sufficient identification to abort an alarm.
Area	An installer-specified collection of points that can be armed and disarmed independently. An area can report with its own account number. Open, Close, Alarm, Trouble, and Restoral Reports are all associated with an area. You can organize the D6412's points and users into up to four independent areas (two for D4412), creating four independent systems with a single control panel.
All On	All controlled points are armed. All On with No Delay (Instant) is an option. No Exit or Entry Delay is provided with the No Delay option.
Authority Level	Determines what a user can do in a given area.
Burg Alarm Tone	A constant warble tone.
Bypass	Use to selectively remove points temporarily from the system.
Central Station	A facility where trained personnel monitor a security system 24 hours a day. The security system may be programmed to contact the central station during alarm conditions, enabling the central station personnel to dispatch the proper authorities.
Checksum	A method of checking the accuracy of transmitted information. A number representing the total number of bits of information transmitted is included with the transmission. The microprocessor counts the bits of information received and compares its sum to the transmitted checksum number. If the numbers do not match, the transmission is in error.
Command Center	The keypad from which the end user initiates commands (functions).
Contact ID	A communication format utilizing standard DTMF tones for transmission of information.
Controlled Point	A point that reports alarm conditions only when the system is turned on.
Cross Point	Two point types configured to initiate an alarm when both point types are faulted. Fire points cannot be set for Cross Point configuration.
DTMF Dialing	Dual Tone Multi Frequency. A standard signaling method for dialing and data transmission using a combination of two sine waves at different frequencies. Also commonly referred to as Touch-Tone® signaling.
Duress Passcode	A passcode that arms and disarms a system like a personal passcode. However, it also sends an alarm signal to the central station without sounding an alarm on the premises.
Entry Delay	A programmed delay of the system alarm responses that allows a person to enter the area through the entry door to turn the system off. An alarm response begins if the system is not turned off before Entry Delay expires.
Exit Delay	A programmed delay of the system alarm responses that allows a person to exit the building before the system turns on. An alarm response begins if a point is faulted after the Exit Delay expires.
Error Tone	The same warble tone as the Trouble Tone, but not repeated.
Faulted Point	A point that is not normal (for example, an open door or window).
Fire Alarm Tone	A warble tone that is repeatedly on for one second, then briefly off.
Follower Point	A point programmed to initiate an instant alarm unless a delay point is faulted first. When a delay point is faulted first, the follower point assumes the Entry Delay time of the delay point.
Force Arming	A method of overriding the safety feature that prevents arming with a faulted circuit on a control control panel.
Global	Something that affects the entire system (for example, global point configuration refers to the programmable features that affect all points).
Groups	The control panel's programming parameters described in this <i>Program Entry Guide</i> are organized into groups. Most groups primarily contain parameters that are related in some way. For example, the Authority Levels Group contains parameters that configure the control panel's four authority levels.

Table 26: continued

Handshake	A signal sent by one end of the communications channel to the other indicating reception of signal.
Hold	An instruction to press and hold a key to perform a function.
IPC	Independent Point Control. A device that allows a single point or zone on a control panel to be armed or disarmed independently from the rest of the system.
Instant Alarm	A point type that initiates an alarm immediately when faulted. This point type does not follow any Entry/Exit delay time.
Invisible Point	A point that does not display at any command center during alarm or trouble conditions.
Keyfob	A small, hand-held, wireless device, consisting of buttons, usually designed to fit on a key chain. Use to perform various functions, depending on the keyfob, such as arming/disarming the system, operating outputs, or sending reports.
Keyswitch	Two types: momentary and maintained. To operate a Momentary Keyswitch, insert the key, turn it and release it. The key returns to its starting position automatically. The key cannot be removed unless it is in the starting position. A Maintained Keyswitch typically has two positions marked "Armed" and "Disarmed." To operate, insert the key, turn to desired position and remove the key.
Latching	Locking of a circuit by means of a holding contact.
Location	On the D6412/D4412 Control panel, a location represents the following parameter assignments: area, zone number, and device. A location tells the control panel where a device is assigned and its zone number.
Modem IIIa²	Modem IIIa ² is a Radionics reporting format (protocol) the control panel uses to communicate to central station receivers. Even though you can program the control panel to report in other formats, only Modem IIIa ² Reports are referenced in this <i>Program Entry Guide</i> . If you choose an alternate reporting format, use <i>Appendix A</i> to determine which report to substitute for the Modem IIIa ² format.
Nibble	Once the installer selects a value for a parameter, the control panel stores the selection in E2 memory Nibbles. Each parameter uses one or more Nibbles. When programming from the keypad, the installer enters a selection directly into the memory Nibbles. When programming from the remote programmer, the installer needs to only make one entry per parameter.
No Delay	Turning the system on without Entry or Exit Delay.
Off	The controlled points are not armed.
Off Display	The display that appears when the system is turned off and no keys are pressed (normal display).
Options	A parameter allowing the installer to configure up to four features by entering a value in a single Nibble.
Outputs	The D6412 provides up to twenty programmable outputs (twelve on the D4412). These outputs are activated by installer-selectable control panel events. Event options include alarms, troubles, and scheduled events (Skeds). The control panel's on-board outputs provide power or dry contact switching upon activation. When programmed to activate on alarm events, outputs are sometimes described as "bell." In some Modem IIIa ² Reports, outputs are described as "relay."
PSTN	Public Switched Telephone Network. An assembly of communications facilities and central office equipment operated jointly by authorized common carriers. The general public can establish communications channels using discrete dialing codes through a PSTN.
Parity	A method of checking the accuracy of transmitted data by adding an extra bit to the number when necessary to make the number odd or even.
Parameter	Each program parameter sets a specific value or chooses an option.
Part On	An installer-defined subset of the controlled points that arm when the control panel is turned Part On. Part On with No Delay (Instant) is an option. No Exit or Entry Delay is provided.
Part 2 On	A user-defined subset of the controlled points that arm when the control panel is turned Part 2 On. Part 2 On with No Delay (Instant) is an option. No Exit or Entry Delay is provided.
Passcode	A unique number issued at the time of the system's installation. This passcode is required to operate the system (arm/disarm, test system, initiate functions, and so on). The passcode is not the same as the account number.

Table 26: continued

Points	The control panel reports changing conditions on the sensor loops as Point events. For example, when the condition on On-board Sensor Loop 1 changes from normal (supervised EOL resistor in place) to shorted, the control panel can be programmed to create an alarm event for Point 1. That alarm event appears in keypad displays as Alarm, Pt 1. If programmed for reporting, the control panel sends an Alarm, Pt 1 Report to the central station receiver in the programmed reporting format.
Point Index	Used to construct "personality types" for points used on the control panel. Each unique point index number determines how a point responds to specific conditions.
Point Type	Describes what the point does (for example, fire point, burglary point, 24-hour point, and so on).
Point Scan Time	The amount of time that passes while a point is electrically off-normal. This duration determines the length of a pulse.
Press/Push	These terms are used interchangeably, instructing you to push down and then release a key.
Pulse Count	A feature of an intrusion detection system in which an alarm is triggered only after there is a number of detections in a short period of time. A pulse count is used where false alarms are a problem.
Pulse Dialing	A method of selecting the called number by pulsing the phone line.
RAM IV	RAM (Remote Account Manager) IV is a Windows®-based account management and control panel programming utility designed to remotely set up and program specific control panels.
Restoral Report	A signal transmitted upon the removal of a trouble or alarm condition from a point.
Scope	<ol style="list-style-type: none"> 1. The limited information presented to a given command center or printer. The boundaries are area-wide or control panel-wide. 2. The selected beginning and end points of a process – from an initial activity to a final activity – for the purpose of analysis.
SDI	Serial Device Interface.
Sked	A scheduling parameter allowing a selected event to happen at a specific time.
Swinger Bypass	A programmable feature that determines the number of alarms or troubles a point can transmit. If the number is exceeded, the point is bypassed for the remainder of the arming period.
Trouble	A service condition that must be corrected, such as a broken wire.
Trouble Tone	A repeating warble tone that is on briefly, followed by a pause, followed by the warble tone.
Visible Point	A point that displays at command centers during alarm or trouble conditions.
Warble Tone	A tone that is on for one second, then briefly off.

Appendix A

Comm Fail Event & Routing Dialing Tables

This appendix contains tables showing the dialing attempts for each Destination/Phone Number configuration.



There is not a Phone 2 Only option. If you wish to program only one phone number for a routing destination, it must be Phone 1.

If Phone 1 is programmed to cancel call waiting, you should program Phone 2 without the call waiting cancel sequence. If the subscriber cancels call waiting without notifying the installing company, the control panel can still send reports using Phone 2. Dialing a call waiting sequence on a non-call waiting line prevents the system from successfully dialing the central station.

A.1 Comm Fail Event

When a Comm Fail occurs, the control panel responds as follows:

1. The initiating report and any pending reports for the destination where the Comm Fail event occurred are cleared (dumped).
2. A Comm Fail [69] or AltComm Comm Fail [70] Report which includes the destination number (1 or 2) is created. Modem IIIa² Reports identify the destination number as a route group (RG). The Alternate Comm Fail Report is used when an alternate communications path is used (SAFECOM, for example).
3. System Status Reports routing is followed for Comm Fail, Comm Restoral [71], and Alternate Comm Restore [72] Reports.
4. If the Comm Fail occurred on Destination 1 and System Status Reports routing is set to Destination 2 or set to Destination 2 on Destination 1 fail, then a Comm Fail Report is sent.
5. If the Comm Fail occurred on Destination 1 and System Status Reports routing is set to Destination 1 then a Comm Restore Report with the next report for Destination 1 is sent.
6. If the Comm Fail occurred on Destination 2 and System Status Reports routing is set to Destination 1, then a Comm Fail Report is sent.

7. If the Comm Fail occurred on Destination 2 and System Status Reports routing is set to Destination 2, then a Comm Restore Report with the next report for Destination 2 is sent.
8. If a Comm Fail Report is sent successfully to the other destination, a Comm Restore event is sent when there is a successful communication on the failed destination.

A.2 Routing Dialing Tables

In the following tables an “X” shows the point where dialing attempts for a routing destination end (the last attempt) and the Comm Fail event begins.

A.2.1 Routing Option – Destination 1 Only

Table 27: Phone 1 Programmed

Attempt	Destination 1		Destination 2	
	Phone 1	Phone 2	Phone 1	Phone 2
1	X			
2	X			
3	X			
4	X			
5	X			
6				
7				
8				
9				
10				

Table 28: Phones 1 and 2 Programmed

Attempt	Destination 1		Destination 2	
	Phone 1	Phone 2	Phone 1	Phone 2
1	X			
2		X		
3	X			
4		X		
5	X			
6				
7				
8				
9				
10				

A.2.2 Routing Option – Destination 2 Only

Table 29: Phone 1 Programmed

Attempt	Destination 1		Destination 2	
	Phone 1	Phone 2	Phone 1	Phone 2
1			X	
2			X	
3			X	
4			X	
5			X	
6				
7				
8				
9				
10				

Table 30: Phones 1 and 2 Programmed

Attempt	Destination 1		Destination 2	
	Phone 1	Phone 2	Phone 1	Phone 2
1			X	
2				X
3			X	
4				X
5			X	
6				
7				
8				
9				
10				

A.2.3 Routing Option – Destinations 1 and 2

Table 31: Phone 1 Programmed for Both Destinations

Attempt	Destination 1		Destination 2	
	Phone 1	Phone 2	Phone 1	Phone 2
1	X			
2	X			
3	X			
4	X			
5	X			
6				
7				
8			X	
9			X	
10			X	

Table 32: Phones 1 and 2 Programmed for both Destinations

Attempt	Destination 1		Destination 2	
	Phone 1	Phone 2	Phone 1	Phone 2
1	X			
2		X		
3	X			
4		X		
5	X			
6				
7				
8			X	
9				X
10			X	

Table 33: Phones 1 and 2 Programmed for Destination 1, Phone 1 Programmed for Destination 2

Attempt	Destination 1		Destination 2	
	Phone 1	Phone 2	Phone 1	Phone 2
1	X			
2		X		
3	X			
4		X		
5	X			
1			X	
2			X	
3			X	
4			X	
5			X	

Table 34: Phone 1 Programmed for Destination 1 and Phone 2 Programmed for Destination 2

Attempt	Destination 1		Destination 2	
	Phone 1	Phone 2	Phone 1	Phone 2
1	X			
2	X			
3	X			
4	X			
5	X			
1			X	
2				X
3			X	
4				X
5			X	

Appendix B

Control Panel Event, Reporting Formats, and Pager Setup

Table 35 includes each control panel event, the description for each event as it appears in the control panel log, the reports sent for each event, the point types linked to the event, and the RAM IV Event Alert Group number.

The last column, Status Reports, indicates System Status events. An “R” indicates that reports for the event follow the System Status routing. An “S” indicates the event following the System Status Swinger Count. System Reports do not include an area number; they use the account number for Area 1.

Following the table is a description of the Basic Pager reporting format. The event numbers shown in the Control Panel Events and Reporting Formats table are the same numbers that show up on a pager for each corresponding Report.

B.1 Control Panel Events

Table 35: Control Panel Events and Reporting Formats

Event #	Event as shown in Control Panel Log	Modem IIIa ² Report	Contact ID Report	Event Description	Point Types Linked to Event	RAM IV Event Group	Status Reports
01	AC Fail	AC Fail	301 AC Loss	AC Power to control panel interrupted.		12	R S
02	AC Restore	AC Restoral	301 AC Loss	AC Power to control panel restored.		12	R S
03	Alarm,Tamper	Alarm	137 Tamper	Alarm, Tamper Point Type.	4 - Tamper	3	
04	Alarm,Emergency	Alarm	101 Personal Emergency	Alarm, Emergency Point Type or ABC key programmed for emergency response.	5 - Emergency Emergency Key	3	
05	Alarm,Panic	Alarm	120 Panic	Alarm, Panic-Visible Point Type.	6 - Visible Panic Emergency Key	3	
06	Alarm,Invisible	Alarm	120 Panic	Alarm, Panic - Invisible Point Type or ABC key programmed for panic response.	7 - Invisible Panic Emergency Key	3	
07	Alarm,24-hr Burg	Alarm	133 24 Hr Safe	Alarm, Burglary Point Type or Independent Point Control Point Type.	8 - Burglary 9 - Independent Point Control	3	
08	Alarm,Cntrl,Dly	Alarm	134 Entry/Exit	Alarm, Delay 1 or Delay 2 Point Type.	11 - Delay 1 12 - Delay 2	3	
09	Alarm,Cntrl	Alarm	130 Burglary	Alarm, Keyswitch or Follower or Instant Point Types.	10 - Keyswitch 13 - Follower 14 - Instant	3	
10	Cross,Tamper	Alarm Cross Point	137 Tamper	Alarm, Tamper Point Type with Cross Point Option selected.	4 - Tamper	3	
11	Cross,Emergency	Alarm Cross Point	101 Personal Emergency	Alarm, Emergency Point Type with Cross Point Option selected.	5 - Emergency	3	
12	Cross,Panic	Alarm Cross Point	120 Panic	Alarm, Panic-Visible Point Type with Cross Point Option selected.	6 - Visible Panic	3	

Table 35: continued

Event #	Event as shown in Control Panel Log	Modem IIIa ² Report	Contact ID Report	Event Description	Point Types Linked to Event	RAM IV Event Group	Status Reports
13	Cross,Invisible	Alarm Cross Point	120 Panic	Alarm, Panic- Invisible Point Type with Cross Point Option selected.	7 - Invisible Panic	3	
14	Cross,24hr Burg	Alarm Cross Point	133 24 Hr Safe	Alarm, Burglary Point Type with Cross Point Option selected	8 - Burglary	3	
15	Cross,Cntrl,Dly	Alarm Cross Point	134 Entry/Exit	Alarm, Delay 1 or Delay 2 Point Type with Cross Point Option selected.	11 - Delay 1 12 - Delay 2	3	
16	Cross,Cntrl	Alarm Cross Point	130 Burglary	Alarm, Keyswitch or Follower or Instant Point Types with Cross Point Option selected.	13 - Follower 14 - Instant	3	
17	Cross,Unverified	Unverified Event Burglary	378 Cross-zone Trouble	A fault on one non-fire point type with the Cross Point Option selected. This is not an alarm event.	Any with Cross Point Option	3	
18	Alarm Exit Error	Alarm Exit Error	374 Exit Error (zone)	Point faulted at the end of exit delay.	11 - Delay 1 12 - Delay 2	3	
19	Alrm Recent Clse	Alarm, Recent Closing	134 Entry/Exit	Alarm event within 2 minutes of closing.	11 - Delay 1 12 - Delay 2	3	
20	Alrm Recent Clse	Alarm, Recent Closing	130 Burglary	Alarm event within 2 minutes of closing.	10 - Keyswitch 13 - Follower 14 - Instant	3	
21	Auto On Extended	Extend Close Time by Area	464 Auto-arm Time Extended	Auto On sked delayed 1 hour by user. Report follows Open/Close routing.		10	
22	Battery Low	Battery Low	302 Low System Battery	Control panel battery is low.		12	R S
23	Battery Missing	Battery Missing	311 Battery Missing/Dead	Control panel battery is missing. Very low, shorted, or open batteries are reported as missing.		12	R S
24	Rstrl Batt Low	Battery Restoral	302 Low System Battery	Battery restoral from low battery.		12	R S
25	Rstrl Bat Missng	Battery Restoral	311 Battery Missing/Dead	Battery Restoral from missing battery		12	R S
26	Bypass,Fire,User	Command Bypass	571 Fire Bypass	Selective bypass by user, fire point types	1 - Fire 2 - Fire with Alarm Verification	15	

Table 35: continued

Event #	Event as shown in Control Panel Log	Modem IIIa ² Report	Contact ID Report	Event Description	Point Types Linked to Event	RAM IV Event Group	Status Reports
27	Bypass,Fire, RAM IV	Remote Bypass (no call back) Remote Bypass (call back)	571 Fire Bypass	Selective bypass by RAM IV, fire point types.	1- Fire 2- Fire with Alarm Verification		
28	Bypass,Ctrl,User	Command Bypass	570 Zone/Sensor Bypass	Selective bypass by user, controlled point types.	10 to 14: Controlled Point Types	15	
29	Bypass,Ctrl, RAM IV	Remote Bypass (no call back) Remote Bypass (call back)	570 Zone/Sensor Bypass	Selective bypass by RAM IV, controlled point types.	10 to 14: Controlled Point Types		
30	Bypass,24hr,User	Command Bypass	572 24-Hr Zone Bypass	Selective bypass by user, 24-hour non-fire point types.	2 to 9: 24-hour, Non-Fire Point Types	15	
31	Bypass,24hr, RAM IV	Remote Bypass (no call back) Remote Bypass (call back)	572 24-Hr Zone Bypass	Selective bypass by RAM IV, 24-hour non-fire point types.	2 to 9: 24-hour, Non-Fire Point Types		
32	Bypass,Forced Pt	Forced Point	570 Zone/Sensor Bypass	Point force armed at force arming.	10 to 14: Controlled Point Types	15	
33	Bypass,Swinger	Swinger Bypass	575 Swinger Bypass	Point swinger bypassed.	All point types	15	
34	UnByPss,Fire, Usr	Bypass Restore (point < 256) (Fire Point)	571 Fire Bypass	User cleared bypass (unbypass), Fire point types.	1- Fire 2- Fire with Alarm Verification	15	
35	UnByPss,Ctrl,Usr	Bypass Restore (point < 256)	570 Zone/Sensor Bypass	User cleared bypass (unbypass), Controlled point types.	10 to 14: Controlled Point Types	15	
36	UnByPss,24hr,Usr	Bypass Restore (point < 256)	572 24-Hr Zone Bypass	User cleared bypass (unbypass), 24-hour point types.	2 to 9: 24-hour, Non-Fire Point Types	15	
37	Call for Service	Service Request	616 Service Request	This report sent automatically at Call for Service Interval. It does not indicate a trouble condition.		12	R
38	Cancel Alarm	Cancel Alarm (non-fire)	406 Cancel	User acknowledged active alarm before bell time expired, non-fire point types.		8	

Table 35: continued

Event #	Event as shown in Control Panel Log	Modem IIIa ² Report	Contact ID Report	Event Description	Point Types Linked to Event	RAM IV Event Group	Status Reports
39	Cancel Fire	Fire Cancel	406 Cancel	User acknowledged active alarm before bell time expired, fire point types.		7	
40	Checksum Fail	Checksum Fail	303 RAM CheckSum Bad	Checksum on control panel's parameters failed. Control panel program should be verified.		12	R S
41	ChckSum Fail,SDI	Parameter Checksum Fail (SDI Device reported)	330 System Peripheral Trouble	Checksum on SDI device parameters failed. Device should be checked.		12	R S
42	Cls,All,+Dly,Skd	Closing by Area	403 Automatic Open/Close	System turned All On with Entry/Exit delay by Sked.		10	
43	Cls,All,+Dly,KS	Closing by Area	409 Keyswitch Open/Close	System turned All On with Entry/Exit delay by keyswitch.		10	
44	Cls,All,+Dly, RAM IV	Closing by Area	400 Open/Close	System turned All On with Entry/Exit delay by RAM IV.			
45	Cls,All,+Dly,Tel	Closing by Area	407 Remote Arm/Disarm	System turned All On with Entry/Exit delay by telephone.		10	
46	Cls,All,+Dly,Usr	Closing by Area	401 Open/Close by User	System turned All On with Entry/Exit delay by user.		10	
47	Cls,All,-Dly,RAM IV	Closing by Area	400 Open/Close	System turned All On with no delay (instant) by RAM IV.			
48	Cls,All,-Dly,Usr	Closing by Area	401 Open/Close by User	System turned All On with no delay (instant) by user.		10	
49	Cls,Prt,+Dly,Skd	Perimeter Delay by Area	456 Partial Arm	System turned Part On with Entry/Exit delay by Sked.		10	
50	Cls,Prt,+Dly,KS	Perimeter Delay by Area	442 Keyswitch Armed Stay	System turned Part On with Entry/Exit delay by keyswitch.		10	
51	Cls,Prt,+Dly, RAM IV	Perimeter Delay by Area	456 Partial Arm	System turned Part On with Entry/Exit delay by RAM IV.			
52	Cls,Prt,+Dly,Usr	Perimeter Delay by Area	456 Partial Arm	System turned Part On with Entry/Exit delay by user.		10	
53	Cls,Prt,-Dly, RAM IV	Perimeter Instant by Area	456 Partial Arm	System turned Part On with no delay (instant) by RAM IV.			
54	Cls,Prt,-Dly,Usr	Perimeter Instant by Area	456 Partial Arm	System turned Part On with no delay (instant) by user.		10	

Table 35: continued

Event #	Event as shown in Control Panel Log	Modem IIIa ² Report	Contact ID Report	Event Description	Point Types Linked to Event	RAM IV Event Group	Status Reports
55	Frc,All,+Dly,Skd	Forced Closing by Area	403 Automatic Open/Close	System forced All On with Entry/Exit delay by Sked.		10	
56	Frc,All,+Dly,KS	Forced Closing by Area	400 Open/Close	System forced All On with Entry/Exit delay by keyswitch.		10	
57	Frc,All,+Dly, RAM IV	Forced Closing by Area	400 Open/Close	System forced All On with Entry/Exit delay by RAM IV.			
58	Frc,All,+Dly,Tel	Forced Closing by Area	400 Open/Close	System forced All On with Entry/Exit delay by telephone.		10	
59	Frc,All,+Dly,Usr	Forced Closing by Area	401 Open/Close by User	System forced All On with Entry/Exit delay by user.		10	
60	Frc,All,-Dly,RAM IV	Forced Closing by Area	400 Open/Close	System forced All On with no delay (instant) by RAM IV.			
61	Frc,All,-Dly,Usr	Forced Closing by Area	401 Open/Close by User	System forced All On with no delay (instant) by user.		10	
62	Frc,Prt,+Dly,Skd	Forced Close Perimeter Delay by Area	456 Partial Arm	System forced Part On with Entry/Exit delay by Sked.		10	
63	Frc,Prt,+Dly,KS	Forced Close Perimeter Delay by Area	456 Partial Arm	System forced Part On with Entry/Exit delay by keyswitch.		10	
64	Frc,Prt,+Dly, RAM IV	Forced Close Perimeter Delay by Area	456 Partial Arm	System forced Part On with Entry/Exit delay by RAM IV.			
65	Frc,Prt,+Dly,Usr	Forced Close Perimeter Delay by Area	456 Partial Arm	System forced Part On with Entry/Exit delay by user.		10	
66	Frc,Prt,-Dly, RAM IV	Forced Close Perimeter Instant by Area	456 Partial Arm	System forced Part On with no delay (instant) by RAM IV.			

Table 35: continued

Event #	Event as shown in Control Panel Log	Modem IIIa ² Report	Contact ID Report	Event Description	Point Types Linked to Event	RAM IV Event Group	Status Reports
67	Frc,Prt,-Dly,Usr	Forced Close Perimeter Instant by Area	456 Partial Arm	System forced Part On with no delay (instant) by user.		10	
68	Point Closing	Point Closing		Point closed by Independent Point Control (D268/269 or D279).	9- Independent Point Control	10	
69	Comm Fail	Comm Fail (route group reported)	354 Failure to communicate event	Report failed to reach routing destination. The routing destination number (1 or 2) reported as route group in Modem IIIa ² Reports.		12	R S
70	CommFail, AltComm	Comm Fail (route group and SDI device reported)	354 Failure to communicate event	Report failed to reach routing destination configured for Alternate Communication. The routing destination number (1 or 2) reported as route group in Modem IIIa ² Reports. SDI device number for Alternate Communication Module reported in Modem IIIa ² .		12	R S

Table 35: continued

Event #	Event as shown in Control Panel Log	Modem IIIa ² Report	Contact ID Report	Event Description	Point Types Linked to Event	RAM IV Event Group	Status Reports
71	Comm Restoral	Comm Restoral (route group reported)	354 Failure to communicate event	After communication fail, report sent successfully to routing destination. The routing destination number (1 or 2) reported as route group in Modem IIIa ² Reports.		12	R S
72	CommRstl, AltComm	Comm Restoral (route group and SDI device reported)	354 Failure to communicate event	After communication fail, report sent successfully to routing destination configured for alternate communication. The routing destination number (1 or 2) reported as route group in Modem IIIa ² Reports. SDI device number for alternate communication Module reported in Modem IIIa ² .		12	R S
73	Date/Time Change	Date Changed	625 Time/Date reset	Date/time in control panel changed.		12	R
74	Duress	Duress	121 Duress	User entered duress passcode or pressed panic key sequence on RF Keyfob. The Duress Report is sent in addition to any other report that the user's action generates.		1	
75	Fire,Alarm	Fire Alarm	110 Fire	Alarm event on fire point type.	1- Fire 2- Fire with Alarm Verification	2	
76	Fire,Cross	Fire Alarm Crossed Point	110 Fire	Verified alarm event on fire point type with Cross Point Option. See Cross Point Option, in <i>Section 3.14.6 Options 2, Point Index ##</i> .	1- Fire 2- Fire with Alarm Verification	2	

Table 35: continued

Event #	Event as shown in Control Panel Log	Modem IIIa ² Report	Contact ID Report	Event Description	Point Types Linked to Event	RAM IV Event Group	Status Reports
77	Fire,Un-verified	Unverified Event-Fire	378 Cross-zone Trouble	Unverified alarm event on fire point type with Cross Point Option. See Cross Point Option, in <i>Section 3.14.6 Options 2, Point Index ##</i> . Or unverified event on Fire Verify point type. See <i>Table 16</i> .	1- Fire 2- Fire with Alarm Verification	5	
78	Fire, Missing	Fire Missing	373 Fire Trouble	Fire point type assigned to point expander (wired or RF) not responding to control panel's status poll.	1- Fire 2- Fire with Alarm Verification	5	
79	Fire,Alrm,Rstl	Fire Restoral from Alarm	110 Fire	Restoral from alarm, Fire point types	1- Fire 2- Fire with Alarm Verification	7	
80	Fire,Trouble	Fire Trouble	373 Fire Trouble	Trouble condition on Fire point types	1- Fire 2- Fire with Alarm Verification	5	
81	Fire,Trbl,Rstl	Fire Restoral from Trouble/ Missing/ Supervision	373 Fire Trouble	Restoral from trouble, Fire point types.	1- Fire 2- Fire with Alarm Verification	7	
82	Instl Mode,Start	Service Start	466 Service On Premises	Installer passcode entered. Installer Mode accessed.		11	R
83	Instl Mode,End	Service End	466 Service Off Premises	Installer Mode exited.		11	R
84	Log Overflow	Log Overflow	624 Event Log Overflow	Control panel log overflow condition. Oldest events being overwritten.		12	R
85	Log Threshold	Log Threshold	620 Event Log	Control panel log reached threshold. See <i>Section 3.3.10 Log Supervision Configuration</i> .		12	R
86	AltCom Low Signl	Low Signal Strength III = level, ppp = path	350 Communication Trouble	Low Signal Strength detected on Alternate Communication device.		12	R S

Table 35: continued

Event #	Event as shown in Control Panel Log	Modem IIIa ² Report	Contact ID Report	Event Description	Point Types Linked to Event	RAM IV Event Group	Status Reports
87	Missing,Alarm	Missing Alarm	140 General Alarm	Point assigned to point expander (wired or RF) not responding to control panel's status poll while system is armed.	Any non-fire point type	3	
88	Missing,Trouble	Missing Trouble	382 Loss of supervision-RPM	Point assigned to point expander (wired or RF) not responding to control panel's status poll while system is disarmed.	Any non-fire point type	6	
89	Open,Skd	Opening by Area	403 Automatic Open/Close	Opening by Sked.		10	
90	Open,RAM IV	Opening by Area	400 Open/Close	Opening by RAM IV.			
91	Open,Usr	Opening by Area	401 Open/Close by User	Opening by user, by ID reported.		10	
92	Open,KS	Opening by Area	409 Keyswitch Open/Close	Opening by keyswitch.		10	
93	Open,Skd,Alarm	Opening by Area from Alarm	403 Automatic Open/Close	Opening after Alarm event by Sked.		10	
94	Open,RAM IV,Alarm	Opening by Area from Alarm	400 Open/Close	Opening after Alarm event by RAM IV.			
95	Open,Usr,Alarm	Opening by Area from Alarm	401 Open/Close by User	Opening after Alarm event, ID reported.		10	
96	Open,KS,Alarm	Opening by Area from Alarm	409 Keyswitch Open/Close	Opening after Alarm event by keyswitch		10	
97	Point Opening	Point Opening		Point opened by Independent Point Control (D268/269 or D279).		10	
98	Params Changed	Parameters Changed	306 Control panel Programming Changed	Control panel Parameters changed		12	R
99	Phone Line Fail	Phone Line Fail (Line 1)	351 Telco 1 fault	Phone line voltage less than 3 V for 40 seconds.		12	R S
100	Phone Line Rstl	Phone Line Restoral (Line 1)	351 Telco 1 fault	After Phone Line Fail event, phone line voltage detected at greater than 3 V for 40 seconds.		12	R S

Table 35: continued

Event #	Event as shown in Control Panel Log	Modem IIIa ² Report	Contact ID Report	Event Description	Point Types Linked to Event	RAM IV Event Group	Status Reports
101	Bad Call to RAM IV	Fail to Call RAM IV	413 Unsuccessful access	Control panel attempted call to RAM IV, but was unsuccessful.		12	R
102	RAM IV Access Fail	Invalid Remote Access	413 Unsuccessful access	RAM IV attempted to connect to control panel but was not successful.			R
103	RAM IV Access OK	Valid Remote Access	412 Successful Download/ Access	RAM IV successfully connected to and disconnected from control panel.			R
104	Re-Boot,Control panel	Re-Boot	305 System reset	Normal start up or reset with installer switch.			R S
105	Re-Boot,SDI	Re-Boot (SDI # reported)	339 Expansion Module Reset	Unexpected reset (reboot) from SDI device.		12	R S
106	Output Reset,Usr	Relay Reset (by User)	320 Sounder/Relay	Output reset by user		16	R
107	Output Reset,Skd	Relay Reset (by Sked)	320 Sounder/Relay	Output reset by Sked		16	R
108	Output Reset, RAM IV	Relay Reset (by RAM IV)	320 Sounder/Relay	Output reset by RAM IV			R
109	Output Set,Usr	Relay Set (by user)	320 Sounder/Relay	Output set by user		16	R
110	Output Set,Skd	Relay Set (by Sked)	320 Sounder/Relay	Output set by Sked		16	R
111	Output Set,RAM IV	Relay Set (by RAM IV)	320 Sounder/Relay	Output set by RAM IV			R
112	Rstrl,Tamper	Restoral from Alarm	137 Tamper	Restoral from alarm, Tamper point type.	4- Tamper	8	
113	Rstrl,Emergency	Restoral from Alarm	101 Personal Emergency	Restoral from alarm, Emergency point type.	5- Emergency	8	
114	Rstrl,Panic	Restoral from Alarm	120 Panic	Restoral from alarm, Panic point type.	6- Visible Panic	8	
115	Rstrl,Invisible	Restoral from Alarm	120 Panic	Restoral from alarm, Invisible point type.	7-Invisible Panic	8	
116	Rstrl,24-hr Burg	Restoral from Alarm	133 24 hour (Safe)	Restoral from alarm, 24-Hour Burglary point types.	8- Burglary 9- Independent Point Control	8	
117	Rstrl,Cntrl,Dly	Restoral from Alarm	134 Entry/exit	Restoral from alarm, controlled point types.	11- Delay 1 12- Delay 2	8	
118	Rstrl,Cntrl	Restoral from Alarm	130 Burglary	Restoral from alarm, controlled point types.	10- Keyswitch 13- Follower 14- Instant	8	

Table 35: continued

Event #	Event as shown in Control Panel Log	Modem IIIa ² Report	Contact ID Report	Event Description	Point Types Linked to Event	RAM IV Event Group	Status Reports
119	Rcvr Jam	RF Interference	344 RF Receiver Jam Detect	Jammed condition detected on premises RF receiver.		9	R S
120	Rcvr Jam Rstl	RF Interference Restoral	344 RF Receiver Jam Detect Restoral	Jammed condition detected on premises RF receiver cleared.		9	R S
121	RF Battery Low	RF Transmitter Low Battery	384 RF Low Battery	Low battery detected on premises RF transmitter.	Any point type	9	
122	RF Battery Rstl	RF Transmitter Battery Restore	384 RF Low Battery	Low battery condition detected on premises RF transmitter cleared.	Any point type	9	
123	RF Tamper Trbl	RF Transmitter Tamper Trouble	383 Sensor Tamper	Premises RF transmitter tamper trouble	Any point type	9	
124	RF Tamper Rstl	RF Transmitter Tamper Restoral	383 Sensor Tamper	Premises RF transmitter tamper restoral	Any point type	9	
125	SDI Missing	SDI-Fail (Missing)	333 Expansion Module Failure	SDI device not responding to polling.		12	R S
126	SDI Missing,Rstl	SDI-Fail (Missing) Restoral	333 Expansion Module Failure	SDI device declared as missing now responding to polling.		12	R S
127	SDI Tamper	SDI-Tamper	341 Expansion Module Tamper	Tamper open on SDI Device Tamper.		12	R S
128	SDI Tamper,Rstl	SDI-Tamper Restoral	341 Expansion Module Tamper	SDI Device Tamper restoral.		12	R S
129	SDI Trouble	SDI-Trouble	330 System Peripheral Trouble	Trouble detected on SDI Device.		12	R S
130	SDI Trouble,Rstl	SDI-Trouble Restoral	330 System Peripheral Trouble	SDI (Option Bus) Device trouble condition cleared.		12	R S
131	SDI OverCurrent	SDI-Overcurrent	330 System Peripheral Trouble	Over current condition detected on SDI device.		12	R S
132	SDI OverCur,Rstl	SDI-Overcurrent Restoral	330 System Peripheral Trouble	Over current condition on SDI device restored.		12	R S

Table 35: continued

Event #	Event as shown in Control Panel Log	Modem IIIa ² Report	Contact ID Report	Event Description	Point Types Linked to Event	RAM IV Event Group	Status Reports
133	Sensor Mon Trbl	Sensor Trouble	391 Sensor Watch trouble	Sensor trouble detected. See <i>Section 3.15.7 Sensor Monitor Time</i> for a description of Sensor Monitor feature. Reports follow point trouble routing.		6	
134	Sensor Mon Rstl	Trouble Restoral-Sensor	391 Sensor Watch trouble	Sensor trouble condition restored. Reports follow point trouble routing.		6	
135	Sensor Reset	Local event. No report.		User pressed [Cmd] [4][7].		12	
136	System Inactive	Closing Delinquent		System was not armed in Inactive Interval. See <i>Section 3.3.8 System Inactive Interval</i> . [Cmd][4][7] or arming resets this trouble.		12	R
137	Test, OK	Test Report Non Expanded	602 Period Test Report	No system troubles at automatic Test Report time.		13	
138	Test,Off-Normal	Test Off Normal Non Expanded	608 Period Test Report, System Trouble Present	System trouble present at test time.		13	
139	Trbl,Tamper	Trouble	380 Sensor Trouble	Trouble condition on Tamper or Voice Active point types.	4-Tamper	6	
140	Trbl,Emergency	Trouble	380 Sensor Trouble	Trouble condition on Emergency point type.	5- Emergency	6	
141	Trbl,Panic	Trouble	375 Panic Zone Trouble	Trouble condition on Panic point type.	6- Visible Panic	6	
142	Trbl,Invisible	Trouble	375 Panic Zone Trouble	Trouble condition on Invisible point type.	7-Invisible Panic	6	
143	Trbl,24-hr Burg	Trouble	380 Sensor Trouble	Trouble condition on Burglary or Independent Point Control point types.	8- Burglary 9- Independent Point Control	6	
144	Trbl,Cntrl,Dly	Trouble	380 Sensor Trouble	Trouble condition on Delay point types.	11- Delay 1 12- Delay 2	6	
145	Trbl,Cntrl	Trouble	380 Sensor Trouble	Trouble condition on Keyswitch, Follower, and Instant point types.	10- Keyswitch 13- Follower 14- Instant	6	

Table 35: continued

Event #	Event as shown in Control Panel Log	Modem IIIa ² Report	Contact ID Report	Event Description	Point Types Linked to Event	RAM IV Event Group	Status Reports
146	Rstrl,Trbl,Tmpr	Restoral from trouble, missing, non-fire supervision	380 Sensor Trouble	Restoral from trouble condition on Tamper or Voice Active point types.	4-Tamper	8	
147	Rstrl,Trbl,Emerg	Restoral from trouble, missing, non-fire supervision	380 Sensor Trouble	Restoral from trouble condition on Emergency point type.	5- Emergency	8	
148	Rstrl,Trbl,Panic	Restoral from trouble, missing, non-fire supervision	375 Panic Zone Trouble	Restoral from trouble condition on Panic point type.	6- Visible Pani	8	
149	Rstrl,Trbl,Invis	Restoral from trouble, missing, non-fire supervision	375 Panic Zone Trouble	Restoral from trouble condition on Invisible point type.	7-Invisible Panic	8	
150	Rstrl,Trbl,24-hr	Restoral from trouble, missing, non-fire supervision	380 Sensor Trouble	Restoral from trouble condition on Burglary or Independent Point Control point types.	8- Burglary 9- Independent Point Control	8	
151	Rstrl,Trbl,Dly	Restoral from trouble, missing, non-fire supervision	380 Sensor Trouble	Restoral from trouble condition on Delay point types.	11- Delay 1 12- Delay 2	8	
152	Rstrl,Trbl,Cntrl	Restoral from trouble, missing, non-fire supervision	380 Sensor Trouble	Restoral from trouble condition on Keyswitch, Follower, and Instant point types.	10- Keyswitch 13- Follower 14- Instant	8	
153	User Code Area Set	User Level Set		User code added by assigning area.		16	R
154	User Code Change	User Code Changed		User code changed.		16	R
155	User Code Delete	User Code Deleted		User code deleted.		16	R
156	User Code Tamper	User Code Tamper	461 Wrong Code Entry	Invalid user codes entered at keypad exceeded User Tamper retry count. See <i>Section 3.9.3 User Tamper Retry Count</i> .		16	R
157	User Level Set	User Level Set		User Level set.		16	R

Table 35: continued

Event #	Event as shown in Control Panel Log	Modem IIIa ² Report	Contact ID Report	Event Description	Point Types Linked to Event	RAM IV Event Group	Status Reports
158	Walk Test Start	Walk Test Start	607 Walk Test Mode	Walk Test started with [Cmd][4][4].		11	
159	Walk Test End	Walk Test End	607 Walk Test Mode	Walk Test ended by user or timed out.		11	
160	Siren Trouble	Output-Trouble	320 Sounder Relay	Trouble condition detected on Programmable Output 2 configured as Supervised Siren Output.		12	R S
161	Siren Restoral	Output-Restore	320 Sounder Relay	Trouble condition on Supervised Siren Output cleared.		12	R S
162	Grnd Fault	Ground Fault	310 Ground Fault	Ground fault detected on control panels sensor loops, SDI bus, or Aux power outputs.		12	R S
163	Grnd Fault, Rstl	Ground Fault, Restoral	310 Ground Fault	Ground fault condition cleared.		12	R S
164	First Open	Opening by Account	400 Open/Close	Control panel is configured for multiple area first to open, last to close functions. See <i>Section 3.7.2 Area # Opening [89-96]/Closing [42-67] Reporting Options.</i> First area opened.		10	
165	Last Close	Closing by Account	400 Open/Close	Control panel is configured for multiple area first to open, last to close functions. See <i>Section 3.7.2 Area # Opening [89-96]/Closing [42-67] Reporting Options.</i> Last area closed.		10	
166	AltCom Cond	Network Condition ppp = path, nnn = condition	350 Communication Trouble	Trouble detected on alternate communication network. Trouble condition is only specified in Modem IIIa ² Report.		12	R S
167	AltComm Fail	Network Failure ppp = path, nnn = condition	350 Communication Trouble	Network failure detected on alternate communication network. Trouble condition is only specified in Modem IIIa ² Report.		12	R S

Table 35: continued

Event #	Event as shown in Control Panel Log	Modem IIIa ² Report	Contact ID Report	Event Description	Point Types Linked to Event	RAM IV Event Group	Status Reports	
168	AltComm Rstrl	Network Restoral ppp = path, nnn = condition	350 Communication Trouble	Network failure detected on alternate communication network. Trouble condition is only specified in Modem IIIa ² Report		12	R	S
169	Reserved					12	R	S
170	Reserved					12	R	S
171	Reserved					12	R	S
172	Reserved					12	R	S
173	Rstrl, Swinger	Bypass Restore (point < 256)	575 Swinger Bypass	Restoral from swinger bypass.	Any point type	8		
174	Rstrl,Fire,Miss			Restoral from fire missing. Local event, no report.	1- Fire 2- Fire with Alarm Verification	7		
175	Rstrl,Alarm,Miss			Restoral from missing. Local event, no report.	Any non-fire point type	8		
176	Rstrl,Trble,Miss			Local event, no report.	Any non-fire point type	8		
177	Rstrl,Low Signl			Restoral from alternate communication Low signal strength event.		12	R	S
178	UnBypss,Fire, RAM IV	Bypass Restore (point < 256) (Fire Point)	571 Fire Bypass	Bypass on Fire point type cleared using RAM IV (un-bypass)	1- Fire 2- Fire with Alarm Verification			
179	UnBypss,Ctrl, RAM IV	Bypass Restore (point < 256)	570 Zone/Sensor Bypass	Bypass on controlled point type cleared using RAM IV (un-bypass)	10 to 14- Controlled Point Types			

Table 35: continued

Event #	Event as shown in Control Panel Log	Modem IIIa ² Report	Contact ID Report	Event Description	Point Types Linked to Event	RAM IV Event Group	Status Reports
180	UnBypss,24hr, RAM IV	Bypass Restore (point < 256)	572 24-hour zone bypass	Bypass on 24-hour point type cleared using RAM IV (un-bypass)	2 to 9: 24-hour, Non-Fire Point Types		
181	RF Battery Low	RF Transmitter Low Battery (for use with keyfob device)	384 RF Low Battery	Low battery condition on RF Keyfob.		9	R
182	RF Battery Rstl	RF Transmitter Battery Restore (for use with keyfob device)	384 RF Low Battery	Low battery condition on RF Keyfob restored.		9	R

B.2 Basic Pager Format

B.2.1 Configuring the Control Panel for Basic Pager Format

Setting a routing destination to Basic Pager format configures the control panel to send reports to a numeric pager. To utilize the Basic Pager format:

1. Enter the phone number for the pager in the **Phone Number 1** parameter for the routing destination you chose as the basic pager destination. The control panel's basic pager format does not wait for an acknowledgement tone from the pager service provider to send its report to the pager. It dials the phone number, waits 250 milliseconds, and then sends the report. To increase the delay (pause), add delay characters as needed to the end of the phone number. See *Table 36* for the valid phone number entries.
2. Set the **Format for Destination 1 (2)** parameter to **Basic Pager** for the routing destination you chose as the basic pager destination.

Chose a routing destination (1 or 2) as the basic pager destination for any reports you want sent to the pager.

Report digits are dialed as 100-millisecond DTMF tone pulses with 100-millisecond pauses between the digits.

B.2.2 Configuring a Pager Display

A pager's display can show up to four fields of information in the following order:

1. Account Number
2. Event Number
3. Area Number
4. Point/User Number

The data entered to set up a pager display follows the numbers entered for the control panel's routing phone numbers.

See *Table 36* for the valid phone number entries.

The following examples show setting up a pager display with different fields displayed, with and without separators. The following variables are used for each example:

- **Phone Number:** 978-1580
- **Account Number:** 1234
- **Event Number:** 08 (can be a 2- or 3-digit number)
- **Area Number:** 02
- **Point Faulted:** 21

Pager Display with All Four Fields and No Separators

To set up a pager display that shows all four fields without any separators between fields, enter the phone number Nibbles as shown below:

Nibble Entry: 9-7-8-1-5-8-10-13-13-13-0-#-0

Resulting Pager Display: 1234080221

- The first seven digits entered (9, 7, 8, 1, 5, 8, 10) are the sample phone number [to enter a “0” (zero), [1][0] must be entered at the command center]. Three pause characters (13, 13, 13) follow the phone number.
- The 11th digit, “0”, is the phone number terminator. This digit is always a “0” (zero).
- The 12th digit, “#” (entered as “12” at the command center), turns off all field separators. Without any field separators, the digits appear as shown above without any spacing between field groupings.
- The 13th digit, “0” (zero), is the separator/field terminator. This digit is always a “0” (zero).
- The absence of an “*” (asterisk) entry show all four fields in the following order: account number, event number, area number, and point number.

Pager Display with All Four Fields with Separators

To set up a pager display showing all four fields with separators between fields, enter the following phone number Nibbles:

Nibble Entry: 9-7-8-1-5-8-10-13-13-13-0-0

Resulting Pager Display: 1234-08-02-21

- The first 7 digits entered (9, 7, 8, 1, 5, 8, 10) make up the sample phone number number [to enter a “0” (zero), [1][0] must be entered at the command center]. Three pause characters (13, 13, 13) follow the phone number.
- The 11th digit, “0”, is the phone number terminator. This digit is always a “0” (zero).
- The 12th digit, “0”, is the separator/field terminator. This digit is always a “0” (zero).
- The absence of a “#” entry inserts separators (-) between each field.
- The absence of an “*” (asterisk) entry shows all four fields in the following order: account number, event number, area number, and point number.

Pager Display with First Three Fields with Separators

To set up a pager display that shows the first three fields (account number, event number, and area number) with separators between fields, enter the phone number Nibbles as shown below:

Nibble Entry: 9-7-8-1-5-8-10-13-13-13-0-0

Resulting Pager Display: 1234-08-02

- The first 7 digits entered (9, 7, 8, 1, 5, 8, 10) make up the sample phone number number [to enter a “0” (zero), [1][0] must be entered at the command center]. Three pause characters (13, 13, 13) follow the phone number.
- The 11th digit, “0”, is the phone number terminator. This digit is always a “0” (zero).
- The 12th, 13th, and 14th digits, “*” (asterisk entered as “11” at the command center), show the first three fields in the following order: account number, event number, and area number.
- The 15th digit, “0” is the separator/field terminator. This digit is always a “0” (zero).
- The absence of a “#” entry inserts separators (-) between each field. To turn the separators off, enter a “#” after the phone number terminator.

Pager Display with First Two Fields with Separators

To set up a pager display that shows the first two fields (Account Number and Event Number) with separators between fields, enter the phone number Nibbles as shown below:

Nibble Entry: 9-7-8-1-5-8-10-13-13-13-0-0

Resulting Pager Display: 1234-08

- The first 7 digits entered (9, 7, 8, 1, 5, 8, 10) make up the sample phone number number [to enter a “0” (zero), [1][0] must be entered at the command center]. Three pause characters (13, 13, 13) follow the phone number.
- The 11th digit, “0”, is the phone number terminator. This digit is always a “0” (zero).
- The 12th and 13th digits, “*” (asterisk entered as “11” at the command center), show the first two fields in the following order: Account Number and Event Number.
- The 14th digit, “0” is the separator/field terminator. This digit is always a “0” (zero).
- The absence of a “#” entry inserts separators (-) between each field. To turn the separators off, enter a “#” after the phone number terminator.

Pager Display with First Field Only

To set up a pager display that shows only the first field (account number), enter the Phone Number Nibbles as shown below:

Nibble Entry: 9-7-8-1-5-8-10-13-13-13-0-0

Resulting Pager Display: 1234

- The first 7 digits entered (9, 7, 8, 1, 5, 8, 10) make up the sample phone number number [to enter a “0” (zero), [1][0] must be entered at the command center]. Three pause characters (13, 13, 13 follow the phone number).
- The 11th digit, “0”, is the phone number terminator. This digit is always a “0” (zero).
- The 12th digit, “*” (asterisk entered as “11” at the command center), shows the first field (Account Number) only.
- The 13th digit, “0”, is the separator/field terminator. This digit is always a “0” (zero).
- *Table 36* shows the selections for any phone number.



If the point/user number is three digits, the leading digit is omitted. For example, “252” displays as “52.”

Table 36: Phone Number Selections

Digit to be Dialed	Enter at the Command Center
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
0	10
*	11
#	12
p (4-second pause)	13
f (on-hook, pause, off-hook)	14
???	15
t (terminate)	0



Any pauses needed in the dialing sequence (phone number) must go before the first terminator.



The number of pauses required vary based on the requirements of the specific paging service being used.



Test first to determine the correct number of pauses needed to correctly establish control panel communications by the pager sequence.

Appendix C

SDI Address Table

Table 37 shows the SDI addresses for the different devices that can connect to the control panel's SDI bus.

All the status reports for the receiver include the address. For example, if the cover is removed, Event 127 (SDI Tamper) is generated and sends the following message in Modem IIIa²: "SDI Tamper Device 50."

Table 37: SDI Address and Device Assignments	
SDI Address	Device Description
0	Installer Keypad or local connection to RAM IV
1 to 8	Command Centers 1 to 8
40, 41	DX8010 Telephone Control Module
50	Premises RF Receiver 1
51	Premises RF Receiver 2
52 to 55	Premises RF Keypads Receiver 1
60 to 63	Premises RF Keypads Receiver 2
101 to 107	D9528 Wired Point Expanders
150,151	DX3010 Octo-Output Expanders and/or DX3020-X10 Control Module
250	DX4010 Serial RS-232 Interface Module

Appendix D

Command Center and RF Device Operation

D.1 Text Command Center Operation Guide



The system remembers passcodes entered for approximately 10 seconds after you stop pressing keys. To log out of the system, press the [Cmd] key twice. Logged Out appears on the command center display.

D.1.1 Keys

The Text Command Center provides two lines of sixteen-character text for programming and general system operation. The command center has nineteen keys that perform various functions as described in *Table 38*.

Table 38: Keys

Keys	Description
1, 2, 3, 4, 5, 6, 7, 8, 9, 0	Numeric keys are used for entering passcodes, programming values, and so on.
Cmd	The [Cmd] and numeric keys enter commands (for example, [Cmd][4][1]).
All On	Turns the system All On.
Part On	Turns the system Part On.
No Delay	Turns the system All or Part On with no entry or exit delay.
Bypass	Bypasses specified points.
*	Advances to the next available display.
A, B, C	An emergency function (Fire, Panic or Emergency Alarms) can be assigned to these keys. Press the key twice to activate its special function. Each key must be labeled with its assigned function.

D.1.2 Tones

The Text Command Center also emits various tones, as described in *Table 39*.

Table 39: Tones

Tone	Description
Fire Alarm	A repeated warble tone (on for one second then briefly off) emitted when a fire point activates.
Burglary Alarm	A continuous warble tone emitted when a burglary point activates. See <i>Section 3.16.2 Bell Time</i> for details on setting the duration of this tone.
Trouble	A repeated warble tone (on briefly followed by a pause followed by the warble tone) emitted when a system component is not functioning properly.
Key Press	Short tone indicating a key press.
Entry Delay	An intermittent tone that sounds upon entry (entry delay) and serves as a reminder to turn the system off.
Exit Delay	An intermittent beep indicating exit delay and counting down to arming.
Error	Warble tone (same as Trouble but not repeated) indicating an invalid entry.
OK	Single beep (1 second) indicating an accepted entry.
Watch	Tone indicating a faulted watch point. Duration of the tone is determined by selecting a Watch tone (see <i>Section D.1.33 Select Watch Tone [Cmd][6][2]</i>).

D.1.3 Checking System Status

To check the system status, be sure the system is Off. Press [Cmd] to show the current system status. The following messages can appear:

Table 40: System Status

Status	Description
System OK	System is ready to turn on
System Trouble! Press [4] to view	Indicates a system trouble condition. See <i>Section D.1.24 Check System Troubles [Cmd][4]</i> to determine the nature of the trouble.
Points bypassed Press [0] to view	Indicates bypassed points. See <i>Section D.1.16 Bypass Points</i> for more information.
Points faulted Press [0] to view	Indicates faulted points. See <i>Section D.1.15 View Faulted Points [Cmd][0]</i> for more information.

D.1.4 Commands

Commands allow the user to carry out various tasks (add/delete passcodes, set date/time, test the system, and so on). Commands are indicated as follows: [Cmd][6][3]. To enter this command, press the [Cmd] key followed by the [6] key and then the [3] key.

D.1.5 Keypad Adjust [Cmd][4][9]

You can adjust the command center's sounder volume and display brightness by using Command 49.

1. Press [Cmd][4][9].
2. To adjust the command center's sounder volume, press and hold the [*] key, then press the [1] key to increase the volume or the [4] key to lower the volume.
3. To adjust the command center's display brightness, press and hold the [*] key, then press the [3] key to increase the brightness or the [6] key to decrease the brightness.
4. Press [Cmd] to exit the command function when finished.

D.1.6 Silence Alarms

During an alarm, the alarm tone sounds and the display shows the point(s) in alarm. If a valid passcode is entered before the system dials the security company, the Alarm Report is cancelled.

1. Enter a valid passcode to silence the alarm and turn off the system (if it was on). If this is not done, an Alarm Report is sent to the central station. To determine if an alarm was reported (and later review the points that alarmed), see *Section D.1.25 View Alarm Memory [Cmd][4][0]*. The display continues to show the point that initiated the alarm.
2. Press [Cmd] to remove the alarm message from the display.

D.1.7 Turn the System Off

Enter a valid passcode to turn off the system (disarm). The idle text appears on the display.

D.1.8 Turn the System All On [Cmd][1]

This function turns the entire system on.

1. Make sure all points are normal (not faulted).
2. Press [All On] or press [Cmd][1]. If required, enter a valid passcode.
3. Exit Delay begins if all points are normal. Leave the premises during this time. If the system has a faulted point, either close it or bypass it (see *Section D.1.16 Bypass Points*). During Exit Delay, you may stop the system from turning on by entering a valid passcode. To bypass points, press [Bypass]. You can skip the delay by pressing [No Delay]. You can turn the system Part On by pressing [Part On]. The system prompts you through these options.
4. During the last 10 seconds of Exit Delay, the command center allows for a "last chance" response to disarm the system. During this time, the command center emits a double tone every second. The system then turns All On.
5. To turn the system off, enter a valid passcode.

D.1.9 Turn the System Part On [Cmd][2]

This function turns on part of the system, leaving the rest of the system Off.

1. Make sure all points are normal (not faulted).
2. Press [Part On] or press [Cmd][2]. If all Part points are normal, the Exit Delay time starts. If there are faulted points, return them to normal or bypass them. The command center may prompt you to enter a passcode.
3. Enter a valid passcode, if necessary. During exit delay, you may stop the system from turning on by entering a valid passcode. If you wish to turn the system Part On with No Delay, press [No Delay], or you may bypass points by pressing [Bypass].

4. During the last 10 seconds of Exit Delay, the command center allows for a “last chance” response to disarm the system. During this time, the command center emits a double tone every second. The system then turns Part On.
5. To turn the system off, enter a valid passcode.

D.1.10 Turn the System Part 2 On [Cmd][3]

This command turns on part of the system, leaving the rest of the system off. Part 2 points are assigned by the user (see *Section D.1.11 Set Part 2 Points [Cmd][6][5]*).

1. Make sure all points are normal (not faulted).
2. Press [Cmd][3] to turn the system Part 2 On. The command center may prompt you to enter a passcode.
3. Enter a valid passcode if necessary. During Exit Delay, you may stop the system from turning on by entering a valid passcode. If you wish to turn the system Part 2 On with No Delay, press [No Delay], or you may bypass points by pressing [Bypass].
4. During the last 10 seconds of Exit Delay, the command center allows for a “last chance” response to disarm the system. During this time, the command center emits a double tone every second. The system then turns Part On.
5. To turn the system off, enter a valid passcode.

D.1.11 Set Part 2 Points [Cmd][6][5]

Use this command to assign points that arm when the system is turned Part 2 On.

1. Make sure the system is turned off (On indicator is off).
2. Press [Cmd][6][5]. The command center might prompt you to enter a passcode.
3. Enter a valid passcode if necessary. The command center displays the available points to assign to Part 2.
4. Enter the Point Number (D6412: 1 to 40; D4412: 1 to 24) and press [*] to toggle it Yes or No for Part 2 (Yes = Active, ready to detect intrusion / No = Non-active, you can move freely without sounding an alarm). Repeat this procedure until all the desired points are selected for Part 2.
5. Press [Cmd] to exit this function.

D.1.12 Turn the System On with No Delay

Use this command to turn the system All On, Part On, or Part 2 On without Entry or Exit delays. Turning the system on with no delay allows no Exit or Entry Delay time through the designated delay point (for example, the Front Door). This function is useful when staying in the premises with the system on.

1. Make sure all points are normal (not faulted).
2. Press [All On] to turn the system All On, or press [Part On] to turn the system Part On. To turn the system Part 2 On, press [Cmd][3]. The command center might prompt you to enter a passcode.
3. Enter a valid passcode if necessary. The command center prompts you to bypass points, if desired. If all points are normal, press [No Delay] to turn the system on with no delay. During the last 10 seconds of Exit Delay, the command center allows for a “last chance” response to disarm the system. During this time, the command center emits a double tone every second. The system then turns All or Part On.
4. To turn off the system, enter a valid passcode.

D.1.13 Turn the System On with No Exit Tone

Use this command to turn the entire system All On, Part On or Part 2 On without any exit tones. Turning the system on with no exit tone eliminates the tone emitted by the command center intended to alert occupants that the system is about to arm.

1. Make sure all points are normal (not faulted).
2. Arm the system by using a key sequence as shown in *Table 41*.
3. Enter a valid passcode if prompted.

Table 41: Exit Tone Silencing Key Sequences

Arming With	To Silence Exit Tone
All On	Press and hold [All On] key OR Press [Cmd], then press and hold [1] key
Part On	Press and hold [Part On] key OR Press [Cmd], then press and hold [2] key
Part 2 On	Press [Cmd], then press and hold [3] key



Silencing the Exit Delay tone doubles the Exit Delay period.

D.1.14 Turn the System On with Points Faulted (Force Arm)

- To force arm the system All On or Part On with normal Exit Delay and exit tone press [All On] or [Part On]. A Point Faulted message appears on the display. Press [All On] or [Part On] again. Enter your passcode when prompted.
- To force arm the system All On or Part On with Exit Delay doubled and no exit tone, press and hold [All On] or [Part On] until the Point Faulted message appears. Then press [All On] or [Part On] again. Enter your passcode if prompted. The system then scrolls the Forced on! message and the doubled Exit Delay Time countdown. The exit tone is silenced. The system forces the faulted points on. As long as they remain faulted, they do not provide protection. If they return to normal before the system is turned off, they provide protection and are capable of starting alarm events. If a point becomes faulted after Exit Delay begins, the command center displays the faulted point. If the point remains faulted at the end of Exit Delay, it starts an alarm event.



Forced arming is not permitted for UL applications.

D.1.15 View Faulted Points [Cmd][0]

Use this command to locate faulted points in the system.

- Ensure that the system is turned off (On indicator is off).
- Press [Cmd]. If points are faulted, the display shows Press [0] to view.
- Press [0] to view the faulted points.
- Return the faulted points to the normal (for example, close the door), or you may bypass the points by following the instructions on the command center display.
- Once the faulted points are bypassed or returned to normal, the system is ready to turn on.

D.1.16 Bypass Points

Use this command to bypass one or more points before turning the system All On, Part On, or Part 2 On. You can access bypassed points when the system is turned on without causing an alarm.

- Ensure that the system is turned off (On indicator is off).
- Press [Bypass]. The command center may prompt you to enter a passcode.

- Enter a valid passcode if necessary. The command center scrolls a list of points that can be bypassed.
- Enter the number of the point to bypass (D6412: 1 to 40; D4412: 1 to 24) followed by the [*] key. Repeat this step until all the necessary points are bypassed.
- If a point is already bypassed, the command center instructs you on unbypassing the point. The command center alerts you if a point cannot be bypassed.
- Press [Cmd] to exit this function.

D.1.17 Date and Time [Cmd][4][5]

Use this command to set the date and time in the system.

- Press [Cmd][4][5]. The command center may prompt you to enter a passcode.
- Enter a valid passcode if necessary. The command center prompts you to enter the date and time (MM/DD/YY HH:MM).
- Enter the date and time (in 24-hour format) using the numeric keys. After you make your entries, the command center displays the date and time entered before returning to the normal display.
- In the event of a power cycle (power to the system is lost and then restored), the control panel takes the last event in the log and uses that as a starting point for the time and date. It then alerts the user to enter the current time and date.

D.1.18 Change Passcode [Cmd][5][5]

Use this command to change your own passcode. Write down the current passcode and the new one before beginning.

- Ensure that the system is turned off (On indicator is off).
- Press [Cmd][5][5]. The OK tone sounds and the command center prompts you to enter the old passcode.
- Enter the current passcode. If it is valid, the command center prompts you to enter the new passcode.
- Enter the new passcode using the same number of digits as the old passcode. If the error tone sounds, try a different new passcode. If the new passcode is valid, the command center prompts you to enter the new passcode again.
- Enter the new passcode again. If successful, the command center indicates the code changed. It automatically exits the function.

D.1.19 Change Other Passcodes [Cmd][5][6]

Users with the applicable authority level can change passcodes for each user in the system.

1. Make sure that the system is turned off (On indicator is off).
2. Press [Cmd][5][6]. The command center may prompt you to enter a passcode.
3. Enter a valid passcode if necessary. The command center scrolls through the available options. If an option is not selected, the command center exits this function when the list ends.
4. Press [1] to change passcodes. The display shows the codes available to change.
5. Enter the user passcode number (1 through 32) to change followed by the [*] key (for example, press [2][*] to change the passcode for User 2). The command center prompts you to enter the new passcode.



If the user does not exist in the system, the command center emits an error tone. To add a user, see *Section 3.10 Users*.

6. Enter the new passcode using the same number of digits as the current passcode. If the error tone sounds, try a different new passcode. If the new passcode is valid the command center prompts you to enter the new passcode again.
7. Enter the new passcode again. If successful, the command center indicates the code number changed.
If necessary, repeat these steps to change other passcodes, or press [Cmd] to exit this feature.

D.1.20 Change Other's Passcode Authority Level [Cmd][5][6]

Users with the appropriate authority level can change passcode authority levels for each user in the system. You cannot change your own passcode authority level.

1. Ensure that the system is turned off (On light indicator off).
2. Press [Cmd][5][6]. The command center may prompt you to enter a passcode.
3. Enter a valid passcode if necessary. The command center scrolls through the available options. If an option is not selected, the command center exits this function when the list ends.
4. Press [2] to change passcode authority levels. The display shows the codes available to change along with instructions.
5. Enter the user passcode number (1 through 32) to change followed by the [*] key.



If the user does not exist in the system, the command center emits an error tone. To add a user (passcode), see *Section D.1.21 Add a Passcode [Cmd][5][6]*.

6. Enter the new authority level (1 through 4). The installer determines authority levels (see *Section 3.8 Authority Level Configuration* for more information).
7. Press [Cmd] to exit this feature.

D.1.21 Add a Passcode [Cmd][5][6]

Use this command to add new passcodes to the system. This command requires the appropriate authority level to add passcodes. To add a new passcode to the system, you must assign an area(s) to the new user in addition to using the other [Cmd][5][6] features (changing a passcode authority level).

1. Ensure that the system is turned off (On indicator is off).
2. Press [Cmd][5][6]. The command center may prompt you to enter a valid passcode.
3. Enter your passcode.
4. Press [3] to assign an area(s) to the new user.
5. Enter the user number (1 to 32) you want to assign area(s) to, followed by the [*] key (for example, for User 4, press [4][*]).
6. Enter the area(s) (1 to 4 for D6412; 1 and 2 for D4412) you want to assign to the new user by pressing the appropriate numeric key(s).
For example, if the user is to be assigned to Areas 1 and 2, press the [1] and [2] keys. To remove a currently assigned area(s), press the corresponding numeric key(s).
For example, if User 4 is assigned to Areas 1 and 2, but should only be assigned to Area 1, press the [2] key to remove Area 2 from User 4's area assignment.
7. Press the [Cmd] key twice to return to the three [Cmd][5][6] selections.
8. Press [1] to create a new passcode for the new user.
9. Enter the user number (1 to 32) followed by the [*] key. For example, press [4][*] to create the passcode for User 4.
10. When the display prompts, Please enter new code, enter a new passcode. If the error tone sounds, try a different new passcode. Enter the new passcode again for verification.
11. Press the [Cmd] key twice to return to the three [Cmd][5][6] selections.
12. Press [2] to assign a passcode authority level to the new user.

13. Enter the user number (1 to 32) followed by the [*] key. For example, press [4][*] to assign an authority level for User 4.
14. Enter an authority level (1 to 4) by pressing the appropriate numeric key.
15. Use Steps 1 to 14 to add additional new users, or press the [Cmd] key until the command center emits a single beep tone and the display returns to the normal display.



The new user passcode, area assignment, and authority level are automatically logged into the system's programming memory. Make sure any programming records are properly updated.

D.1.22 Delete Passcodes [Cmd][5][8]

This command allows users with the appropriate authority level to delete passcodes. You cannot delete your own passcode.

1. Ensure that the system is turned off (On indicator is off).
2. Press [Cmd][5][8]. The command center may prompt you to enter a passcode.
3. Enter a valid passcode, if necessary. The command center prompts you to delete a code.
4. Enter the user passcode number (1 to 32) to delete followed by the [*] key.
5. Press [Cmd] to exit this feature. If no keys are pressed, the command center automatically returns to the normal display.

D.1.23 One-time Passcodes [Cmd][5][3]

One-time passcodes can turn off the system once and then expire. Users with the applicable authority level can renew the passcode once it is used.

1. Ensure that the system is turned off (On indicator is off).
2. Press [Cmd][5][3]. The command center may prompt you to enter a passcode.
3. Enter a valid passcode if necessary. The command center scrolls through the available one-time passcodes.
4. Press [0][*] to renew all one-time passcodes, or enter the number of the code you wish to renew followed by the [*] key.
5. The display indicates which passcode is renewed, then the system returns to the normal display.

D.1.24 Check System Troubles [Cmd][4]

The system may be on or off when a system trouble occurs. If the system is on, you must turn it off to check the trouble.

1. Press [Cmd][4]. The trouble tone silences and the display scrolls the list of troubles. Follow the instructions shown on the command center display to view a trouble event.
2. Press [Cmd] to return to the off state.



The trouble tone for AC Failure events sounds at all command centers in all areas. However, the trouble tone must be silenced in each area (silencing the trouble tone in one area does not silence it in the other areas).

D.1.25 View Alarm Memory [Cmd][4][0]

1. Ensure that the system is turned off (On light is off).
2. Press [Cmd][4][0]. The command center might prompt you to enter a passcode.
3. Enter a valid passcode, if necessary. The command center displays all points in the alarm memory.
4. To clear the alarm memory, turn the system on again.

D.1.26 View System Trouble [Cmd][4][2]

Use this command to view system troubles. See *Table 42* for message descriptions.

1. Ensure that the system is turned off (on indicator is off).
2. Press [Cmd][4][2]. The command center might prompt you to enter a passcode.
3. Enter a valid passcode, if necessary. The command center displays all system trouble events one at a time.
4. Press [Cmd] to return to the normal display.

Table 42: Call for Service Messages

Call for Service Message	Message Description
Comm Fail, Destination 1[2]	The system attempted to send a report to this routing destination, but failed. See <i>Appendix A</i> for details on the failed communication event.
System battery is low	The battery connected to the control panel fell below 12.1 V.
System battery is missing	The battery connected to the control panel is badly damaged, discharged, or disconnected. Nominal voltage below 12.1 V, battery is low; nominal voltage below 10.2 V, battery is missing.
Data bus missing, Device ###	The SDI data bus device set to the address shown in the display (###) is missing or stopped responding.
Data bus tamper, Device ###	The tamper on the SDI data bus device set to the address shown in the display (###) is open.
Data bus reset, Device ###	The SDI data bus device set to the address shown in the display (###) reset its microprocessor.
Data bus trouble, Device ###	The SDI data bus device set to the address shown in the display (###) is sending a trouble message to the control panel. Troubles are defined by type. See the instructions for the device shown to learn the exact nature of the trouble.
Bell supervision fault, PO2	Programmable Output 2 (PO2) can be programmed as a supervised siren/speaker. See <i>Section 3.17 Outputs</i> for more information. When PO2 is programmed for supervision, disconnecting the siren or speaker generates this fault condition.
RF Rcvr Trouble, Device ###	The premises RF receiver set to the displayed SDI address (Device ###) is sending a trouble message to the control panel. Troubles are defined per receiver type. See the instructions for the receiver shown to learn the exact nature of the trouble.
RF Rcvr Jammed, Device ###	The premises RF receiver set to the displayed SDI address (Device ###) is sending a jammed message to the control panel.

The user can also press [0] to view system trouble details. See *Section 3.21 System Text* for information on entering Call for Service text.

D.1.27 View Point Trouble [Cmd][4][8]

This command allows you to view points in trouble.

1. Ensure that the system is turned off (On indicator is off).
2. Press [Cmd][4][8]. The command center might prompt you to enter a passcode.
3. Enter a valid passcode if necessary. The command center scrolls through all points that are in trouble.
4. Turn the system on again to clear the memory.

D.1.28 View Log [Cmd][8][5]

This command allows you to display the last 254 system events.

1. Press [Cmd][8][5]. The command center might prompt you to enter a passcode.
2. Enter a valid passcode, if necessary. The command center displays the event and user information as well as the date and time of the event. Press [*] to advance to the next event.
3. Press [Cmd] to return to the normal display.

D.1.29 System Test [Cmd][4][1]

Use this command to check system functions by testing the system's bell, strobe, battery and phone line. The installer determines which items can be tested. See *Section 3.4.1 System Test Configuration Options* for more information.

1. Ensure that the system is turned off (on indicator is off).
2. Press [Cmd][4][1]. The command center may prompt you to enter a passcode.
3. Enter a valid passcode, if necessary. The command center begins testing the first component. A test can take up to 10 minutes.

When the tests are completed the system returns to the off state. You can quit the current test and proceed to the next one by pressing [*], or you may abort the system test by pressing [Cmd].



When testing the bell and strobe, check for bell/strobe activation.

D.1.30 Walk Test [Cmd][4][4]

This command allows the user to test detection devices in the system. This should be performed weekly.

1. Ensure that the system is turned off (On light is off).
2. Press [Cmd][4][4]. The command center may prompt you to enter a passcode.
3. Enter a valid passcode, if necessary. The command center begins the walk test and scrolls all points to be tested. You must trigger each device (reed switch, PIR, and so on) to test it. The command center indicates the test status of each point.
4. To stop the test, press [Cmd].



Test fire detection devices (smoke/heat detectors) weekly as instructed by the security company

D.1.31 Reset the System [Cmd][4][7]

This command resets the system, including fire points, after an alarm. The procedure lasts approximately 20 seconds.

1. Ensure that the system is turned off (on light is off).
2. Press [Cmd][4][7]. The command center might prompt you to enter a passcode.
3. Enter a valid passcode, if necessary. The system resets, as indicated on the display. When complete, the command center returns to the normal display.

D.1.32 Turn Watch On/Off [Cmd][6][1]

Use to watch specific points when the system is turned off. The control panel alerts you to opened doors, windows, and so on.

This command turns the Watch feature on and off (see also *Sections D.1.33 Select Watch Tone [Cmd][6][2]*, and *D.1.34 Select Watch Points [Cmd][6][3]*).

1. Ensure that the system is turned off (on indicator is off).
2. Press [Cmd][6][1]. The command center might prompt you to enter a passcode.
3. Enter a valid passcode, if necessary. The command center displays the current Watch status (on or off).
4. Press [1] to turn the Watch feature On, or press [2] to turn it Off.
5. Press [Cmd] to exit this function.

D.1.33 Select Watch Tone [Cmd][6][2]

The Watch feature causes the system to watch specific points when the system is turned off. The control panel alerts you to opened doors, windows, and so on.

This command determines how the system responds to faulted watch points (see also *Section D.1.34 Select Watch Points [Cmd][6][3]*).

1. Ensure that the system is turned off (on indicator is off).
2. Press [Cmd][6][2]. The command center may prompt you to enter a passcode.
3. Enter a valid passcode, if necessary. The command center displays the current Watch tone.
4. Select the desired tone by pressing the appropriate corresponding key. The display indicates your selection.

Table 43: Watch Tone Descriptions

Watch Tone	Key	Description
Off	1	Display point identity; no tone on faulted points
Short Beep	2	Display point identity; sound short tone on faulted points
Beep Till Key	3	Display point identity; sound tone until [Cmd] key is pressed
Beep Till Closed	4	Display point identity; sound tone until point returns to normal or till [Cmd] key is pressed

5. Press [Cmd] to exit this function.

D.1.34 Select Watch Points [Cmd][6][3]

After programming the system's response to watch points (see *Section D.1.33 Select Watch Tone [Cmd][6][2]*), you must determine which points the system watches. This command programs watch points. 24-hour and 24-hour Fire points cannot be watched.

1. Ensure that the system is turned off (on indicator is off).
2. Press [Cmd][6][3]. The command center may prompt you to enter a passcode.
3. Enter a valid passcode, if necessary. The command center displays all the current watch points followed by instructions for changing the watch status.
4. Press [0][*] to turn off all the points, or press the appropriate key followed by [*] for individual points. The display scrolls the remaining points. Repeat this step to program all the desired points.
5. When complete, press [Cmd] to exit this function.

D.1.35 Extend Auto On Time [Cmd][5][1]

If entered during the Auto On Alert Time, this command delays the auto-on time by 1 hour.

1. Ensure that the system is turned off (on light is off).
2. Press [Cmd][5][1]. The command center may prompt you to enter a passcode.
3. Enter a valid passcode, if necessary. The command center displays the new time and date for the Auto-On Time.
4. Press [Cmd] to exit this function.

D.1.36 Change Skeds [Cmd][5][2]

This command changes the time the Sked turns the system on (All, Part or Part 2), off, or generates an output.

1. Ensure that the system is turned off (On indicator is off).
2. Press [Cmd][5][2]. The command center may prompt you to enter a passcode.
3. Enter a valid passcode, if necessary. The command center scrolls the available options.

To Change All On Skeds

1. See *Section D.1.36 Change Skeds [Cmd][5][2]* for Steps 1 to 3.
2. Press [1] and the command center scrolls the All On Skeds already programmed in the system.
3. Press the number key of the Sked you want to change followed by the [*] key.

4. Enter the time for the system to automatically turn All On using the 24-hour format (HHMM).
5. Select the days for the system to perform this Sked (Sunday = 1 through Saturday = 7, all days = 8).
6. If all days are programmed, press the [8] key to remove all days first, then press the corresponding number key(s) to add the desired days.

To Change Part On Skeds

1. See *Section D.1.36 Change Skeds [Cmd][5][2]* for Steps 1 to 3.
2. Press [2] and the command center scrolls the Part On Skeds already programmed in the system.
3. Press the number key of the Sked you want to change followed by the [*] key.
4. Enter the time for the system to automatically turn Part On using 24-hour format (HHMM).
5. Select the days for the system to perform this Sked (Sunday = 1 through Saturday = 7, all days = 8).
6. If all days are programmed, press the [8] key to remove all days first, then press the corresponding number key(s) to add the desired days.

To Change Part 2 On Skeds

1. See *Section D.1.36 Change Skeds [Cmd][5][2]* for Steps 1 to 3.
2. Press [3] and the command center scrolls the Part 2 On Skeds already programmed in the system.
3. Press the number key of the Sked you want to change followed by the [*] key.
4. Enter the time for the system to automatically turn Part 2 On using the 24-hour format (HHMM).
5. Select the days for the system to perform this Sked (Sunday = 1 through Saturday = 7, all days = 8).
6. If all days are programmed, press the [8] key to remove all days first, then press the corresponding number key(s) to add the desired days.

To Change Off Skeds

1. See *Section D.1.36 Change Skeds [Cmd][5][2]* for Steps 1 to 3.
2. Press [4] and the command center scrolls all the Off skeds already programmed in the system.
3. Press the number key of the sked you want to change followed by the [*] key.

4. Enter the time for the system to automatically turn off using the 24-hour format (HHMM).
5. Select the days for the system to perform this Sked (Sunday = 1 through Saturday = 7, all days = 8).
6. If all days are programmed, press the [8] key to remove all days first, then press the corresponding number key(s) to add the desired days.

To Change Output On Skeds

1. See *Section D.1.36 Change Skeds [Cmd][5][2]* for Steps 1 to 3.
2. Press [5] and the command center scrolls all the Output On Skeds already programmed in the system.
3. Press the number key of the Sked you want to change followed by the [*] key.
4. Enter the time for the system to automatically operate the output using 24-hour format (HHMM).
5. Select the days for the system to perform this Sked (Sunday = 1 through Saturday = 7, all days = 8).
6. If all days are programmed, press the [8] key to remove all days first, then press the corresponding number key(s) to add the desired days.

To Change Output Off Skeds

1. See *Section D.1.36 Change Skeds [Cmd][5][2]* for Steps 1 to 3.
2. Press [6] and the command center scrolls all the Output Off Skeds already programmed in the system.
3. Press the number key of the Sked you want to change followed by the [*] key.
4. Enter the time for the system to automatically operate the output using the 24-hour format (HHMM).
5. Select the days for the system to perform this Sked (Sunday = 1 through Saturday = 7, all days = 8).
6. If all days are programmed, press the [8] key to remove all days first, then press the corresponding number key(s) to add the desired days.

D.1.37 Change Outputs [Cmd][5][4]

This command turns pre-programmed outputs on and off.

1. Ensure that the system is turned off (on indicator is off).
2. Press [Cmd][5][4]. The command center may prompt you to enter a passcode.

3. Enter a valid passcode, if necessary. The command center displays the current status (on or off), followed by instructions to turn the output on or off.
4. Press [0][*] to turn off all the outputs, or press the appropriate key followed by [*] for individual points. The display shows the new output status.
5. Press [Cmd] to return to the normal display.

D.1.38 Remote Arming with Telephone, Area 1

This function controls the built-in telephone-arming feature for Area 1. When enabled, the control panel answers the phone on the ring count for remote programming.

When the control panel answers the phone:

- If the control panel is All or Part On, it sounds three beeps and starts the handshake tone for remote programming.
- If the control panel is off, it sounds one short beep, waits approximately 3 seconds and then starts the handshake tone for remote programming (one long beep). Press and hold the [5] key* for 2 seconds immediately after the first short arming beep and before the handshake tone begins.
- The control panel arms if it detects a [5] key press from the telephone (All On with Delay, faulted points are force-armed like keyswitch arming). The control panel sounds three beeps (new armed state) and then hangs up.

* If arming from a cell phone, quickly press the [5] key three times. If pressing and holding the [5] key for 2 seconds from a house (landline) phone does not produce a tone long enough to arm Area 1, retry by quickly pressing the [5] key three times.



Remotely disarming the control panel cannot be done with a telephone.

D.1.39 Remote Program [Cmd][4][3]

This command forces the system to connect to the security company's remote computer for programming.

1. Ensure that the system is turned off (On indicator is off).
2. Press [Cmd][4][3]. The command center may prompt you to enter a passcode.
3. Enter a valid passcode, if necessary. The command center indicates remote programming in progress. The command center exits this command when programming is complete.

D.1.40 All Areas Off [Cmd][8][1]

Depending on the areas assigned to the user's authority level, this command can turn all areas off when the system is split into more than one area (1 to 4 for the D6412, 1 and 2 for the D4412).

1. Press [Cmd][8][1]. The command center may prompt you to enter a passcode.
2. Enter a valid passcode, if necessary. The command center indicates that all areas are turned off.

D.1.41 All Areas On [Cmd][8][0]

Depending on the areas assigned to the user's authority level, this command can turn all areas on when the system is split into more than one area (1 to 4 for the D6412, 1 to 2 for the D4412).

1. Press [Cmd][8][0]. The command center may prompt you to enter a passcode.
2. Enter a valid passcode if necessary. The command center indicates that all areas are turned on.

D.1.42 Move to Area [Cmd][5][0]

The user can control multiple areas from one command center when the system is split into more than one area (1 to 4 for the D6412, 1 and 2 for the D4412).

1. Press [Cmd][5][0]. The command center might prompt you to enter a passcode.
2. Enter a valid passcode, if necessary. The command center scrolls the available areas followed by instructions to press a key or press [Cmd] to exit.

D.1.43 Auto-Forward On Setup [Cmd][8][3]

The user can program the auto-forward sequence to redirect all incoming calls to a specified telephone number when the system is All On.

1. Press [Cmd][8][3]. The command center might prompt you to enter a passcode.
2. Enter a valid passcode, if necessary. The command center scrolls directions for entering digits for Auto-Forward On.
3. Enter the desired sequence for auto-forwarding calls. Press and hold [Cmd] to exit.

D.1.44 Auto-Forward Off Setup [Cmd][8][4]

The user can program the auto-forward sequence to cancel the redirection of all incoming calls to a specified telephone number when the system is turned off.

1. Press [Cmd][8][4]. The command center might prompt you to enter a passcode.

2. Enter a valid passcode, if necessary. The command center scrolls directions for entering digits for Auto-Forward Off.
3. Enter the Auto-Forward Off sequence. Press and hold [Cmd] to exit.

D.1.45 Auto-Forward On/Off [Cmd][8][2]

Turns the Auto-Forward feature on and off.

1. Press [Cmd][8][2]. The command center might prompt you to enter a passcode.
2. Enter a valid passcode, if necessary. The command center displays the current status and available options. Press [1] to turn Auto-Forward On or press [2] to turn Auto-Forward Off.
3. Press [Cmd] to exit this feature.

D.2 LED Command Center Operation Guide

The system remembers passcodes entered for approximately 10 seconds after you stop pressing keys. To log out of the system, press the [Cmd] key twice. The Cmd LED stays off, acknowledging that you successfully logged out.

The LED Command Center lights different indicators (numbers, All, Part, and so on) on the display to indicate system status. The control panel cannot be programmed from an LED Command Center. The command center has nineteen keys that perform various functions (see *Section D.1.1 Keys*).

The LED Command Center also emits various tones as described in *Section D.1.2 Tones*.

D.2.1 Commands

The user can carry out various tasks (add/delete passcodes, set date/time, test the system, and so on). Commands are written: [Cmd][6][3]. To enter this command, press the [Cmd] key followed by the [6] key and then the [3] key.

D.2.2 Keypad Adjust [Cmd][4][9]

See *Section D.1.5 Keypad Adjust [Cmd][4][9]* for instructions on adjusting the command center's sounder volume. The display brightness cannot be adjusted on the LED Command Center.

D.2.3 Silence Alarms

During an alarm, the alarm tone sounds and the alarming points illuminate on the display. If a valid passcode is entered before the system dials the security company, the Alarm Report is cancelled.

1. Enter a valid passcode to silence the alarm and turn off the system (if it was on). If this is not done, an Alarm Report is sent to the central station. To determine if an alarm was reported (and to review the points in alarm), see *Appendix D.1.25 View Alarm Memory [Cmd][4][0]*.
2. Press [Cmd] to remove the alarm message from the display.

D.2.4 Turn the System Off

Enter a valid passcode to turn off the system (disarm). The All or Part indicator is off.

D.2.5 Turn the System All On [Cmd][1]

This function turns the entire system on.

1. Make sure all points are normal (not faulted).
2. Press [All On]. If required, enter a valid passcode.
3. Exit Delay begins if all points are normal. Leave the premises during this time. If the system has a faulted point, either close it or bypass it (see *Appendix D.1.16 Bypass Points*). During Exit Delay, you can stop the system from turning on by entering a valid passcode. If you wish to bypass points, press [Bypass]; you may skip the delay by pressing [No Delay]; or you may turn the system Part On by pressing [Part On].
4. During the last 10 seconds of Exit Delay, the command center allows for a “last chance” response to disarm the system. During this time, the command center emits a double tone every second. The system then turns All On.
5. To turn the system off, enter a valid passcode.

D.2.6 Turn the System Part On [Cmd][2]

This function turns on part of the system, leaving the rest of the system off.

1. Make sure all points are normal (not faulted).
2. Press [Part On]. If all Part points are normal, the Exit Delay time starts. If there are faulted points, return them to normal or bypass them. The command center may prompt you to enter a passcode by flashing the Cmd indicator.
3. Enter a valid passcode if necessary. During Exit Delay, you may stop the system from turning on by entering a valid passcode. If you wish to turn the system Part On with No Delay, press [No Delay], or you may bypass points by pressing [Bypass].
4. During the last 10 seconds of Exit Delay, the command center allows for a “last chance” response to disarm the system. During this time, the command center emits a double tone every second. The system then turns Part On.

5. To turn the system off, enter a valid passcode.

D.2.7 Turn the System Part 2 On [Cmd][3]

This command turns on part of the system, leaving the rest of the system off (see *Appendix D.1.11 Set Part 2 Points [Cmd][6][5]*).

1. Make sure all points are normal (not faulted).
2. Press [Cmd][3] to turn the system Part 2 On. The command center may prompt you to enter a passcode by flashing the Cmd light.
3. Enter a valid passcode if necessary. During Exit Delay, you may stop the system from turning on by entering a valid passcode. If you wish to turn the system Part 2 On with No Delay, press [No Delay] or you may bypass points by pressing [Bypass].
4. During the last 10 seconds of Exit Delay, the command center allows for a “last chance” response to disarm the system. During this time, the command center emits a double tone every second. The system then turns Part 2 On.
5. To turn the system off, enter a valid passcode.

D.2.8 Set Part 2 Points [Cmd][6][5]

1. Make sure the system is turned off (All and Part are off).
2. Press [Cmd][6][5]. The command center might prompt you to enter a passcode by flashing the Cmd light.
3. Enter a valid passcode, if necessary. The command center display turns points already assigned for Part 2 on steadily. Flashing points are available for Part 2 assignment.
4. Enter the Point Number (D6412: 1 to 40; D4412: 1 to 24) and press [*] to toggle it Yes or No for Part 2 (Yes = Active, ready to detect intrusion/No = Non-active, you can move freely without sounding an alarm). Repeat this procedure until all the desired points are selected for Part 2.
5. Press [Cmd] to exit this function.

D.2.9 Turn the System On with No Delay

See *Appendix ss [Cmd]* to exit this function.

D.1.12 *Turn the System On with No Delay* for steps to perform this command. The command center lights All or Part when the system is on.

D.2.10 Turn the System On with No Exit Tone

See *Appendix D.1.13 Turn the System On with No Exit Tone* for steps to perform this command.

D.2.11 Turn the System On with Points Faulted (Bypass Points, Force Arm)

See *Appendix D.1.14 Turn the System On with Points Faulted (Force Arm)* for steps to perform this command.

D.2.12 Bypass Points

Use this command to bypass one or more points before turning the system All On, Part On or Part 2 On. Bypassed points can be accessed when the system is turned on without causing an alarm.

See *Appendix D.1.16 Bypass Points* for steps to perform this command. Bypassed points flash on the display.

D.2.13 Date and Time [Cmd][4][5]

See *Appendix D.1.17 Date and Time [Cmd][4][5]* for steps to perform this command. The display lights a digit to represent each entry (for example, points 1 through 6 light for each entry in the date and points 1 through 4 light for each entry in the time).

D.2.14 Change Passcode [Cmd][5][5]

See *Appendix D.1.18 Change Passcode [Cmd][5][5]* for steps to perform this command.

D.2.15 Change Other Passcodes [Cmd][5][6]

Users with the applicable authority level can change passcodes for each user in the system. See *Appendix D.1.19 Change Other Passcodes [Cmd][5][6]* for steps to perform this command.

D.2.16 Change Other's Passcode Level [Cmd][5][6]

Users with the applicable authority level can change passcode authority levels for each user in the system. You cannot change your own passcode authority level. See *Appendix D.1.19 Change Other Passcodes [Cmd][5][6]* for steps to perform this command.

D.2.17 Add a Passcode [Cmd][5][6]

Users with the applicable authority level can add new passcodes to the system. See *Appendix D.1.21 Add a Passcode [Cmd][5][6]* for steps to perform this command.

D.2.18 Delete Passcodes [Cmd][5][8]

Users with the applicable authority level can delete passcodes. You cannot delete your own passcode. See *Appendix D.1.22 Delete Passcodes [Cmd][5][8]* for steps to perform this command.

D.2.19 Renew One-time Passcodes [Cmd][5][3]

One-time passcodes are able to turn off the system once, then expire. Users with the applicable authority level can renew the passcode once it is used. See *Appendix D.1.23 One-time Passcodes [Cmd][5][3]* for steps to perform this command.

D.2.20 Check System Troubles [Cmd][4]

1. Make sure the system is turned off (All and Part are off).
2. Press [Cmd][4]
3. Press [Cmd] to exit this command.

Table 44: LED Command Center System Trouble Description

Point #	Trouble Condition	Description
1	Weekly Test Due	A weekly system test must be performed. Press [1] to start the test. See <i>Section 3.21 System Test</i> .
2	System Trouble	Press [2] to determine the specific trouble. See <i>Appendix D.2.22 Viewing System Trouble [Cmd][4][2]</i> .
3	Remote Program Session Active	The security company is connected to the system by the telephone line.
5	Date and Time Lost	Press [5] to set the date and time.
6	Running on Battery Only	Power to the system is disconnected or failed.
8	Point Trouble	Press [8] to see point trouble. See <i>Appendix D.2.23 View Point Trouble [Cmd][4][8]</i> .
10	Alarm Memory	Press [0] to view previous alarms.



The trouble tone for AC Failure events sounds at all command centers in all areas. However, the trouble tone must be silenced in each area (silencing the trouble tone in one area does not silence it in the other areas).

D.2.21 View Alarm Memory [Cmd][4][0]

1. Make sure the system is turned off (All and Part are off).
2. Press [Cmd][4][0]. The command center displays all the points in alarm memory one at a time.
 - If the point indicator is flashing quickly, the point is currently in alarm or was in alarm.
 - If the point indicator is flashing slowly, the alarm was aborted. No reports for the alarm event were sent.
3. To clear the alarm memory, turn the system on.



The LED Command Center only displays Points 1 to 16.

D.2.22 Viewing System Trouble [Cmd][4][2]

1. Make sure the system is turned off (All and Part are off).
2. Press [Cmd][4][2]. The command center may prompt you to enter a passcode by flashing the Cmd light.
3. Enter a valid passcode, if necessary. The command center displays the current system trouble events by lighting the point indicators.
4. Press [Cmd] to return to the off state.

Table 45: Point Indicator Descriptions

Number	Point Indicator	Description
1	On	Telephone Line Fail
	Flashing slowly	Comm Fail, Destination 1
	Flashing quickly	Comm Fail, Destination 2
2	On	Alternate Comm Trouble
3	On	Installer Switch Closed
4	On	Backup Battery Low
	Flashing slowly	Backup Battery Missing
5	On	Bell Supervision Fail
6	On	RF Receiver Jammer
	Flashing slowly	RF Receiver Trouble
7	On	Data Bus Device Missing
	Flashing slowly	Data Bus Device Tamper
	Flashing quickly	Data Bus Device Trouble/Reset
8	On	System Fault
	Flashing slowly	Service Interval
	Flashing quickly	Ground Fault Condition

D.2.23 View Point Trouble [Cmd][4][8]

1. Make sure the system is turned off (All and Part are off).
2. Press [Cmd][4][8]. The command center might prompt you to enter a passcode by flashing the Cmd indicator.
3. Enter a valid passcode, if necessary. The command center displays all points in trouble one at a time.
4. Press [Cmd] to return to the off-state.

Table 46: Point Number Trouble Conditions

Point #	Trouble Condition
Off	No point trouble
On	Wiring fault
Flashing slowly	RF Sensor Low Battery
Flashing quickly	RF Sensor Missing

D.2.24 System Test [Cmd][4][1]

See *Appendix D.1.29 System Test [Cmd][4][1]* for steps to perform this command.

The command center lights the follow points during each test.

Table 47: System Test Light Descriptions

Point #	Testing
1	Bell
2	Strobe
3	Backup Battery (up to 4 minutes)
4	Communications (up to 10 minutes)

The testing progress is indicated by the flash rate of the point indicator.

Table 48: System Test Point Indicators

Point	Testing
Flashing slowly	Test underway
Flashing quickly	Test failed
On steadily	Testing complete

D.2.25 Walk Test [Cmd][4][4]

See *Appendix D.1.30 Walk Test [Cmd][4][4]* for steps to perform this command. Press [•] to exit the Walk Test.

D.2.26 Reset the System [Cmd][4][7]

See *Appendix D.1.31 Reset the System [Cmd][4][7]* for steps to perform this command.

D.2.27 Turn Watch On/Off [Cmd][6][1]

See *Appendix D.1.32 Turn Watch On/Off [Cmd][6][1]* for steps to perform this command. Entering [Cmd][6][1] and a valid passcode toggles the Watch feature on and off. When Watch is turned off, the command center emits three beeps. When Watch is turned on, the command center emits one beep.

D.2.28 Select Watch Tone [Cmd][6][2]

See *Appendix D.1.33 Select Watch Tone [Cmd][6][2]* for steps to perform this command.

D.2.29 Select Watch Points [Cmd][6][3]

See *Appendix D.1.34 Select Watch Points [Cmd][6][3]* for steps to perform this command. Watched points come on steadily and points available to watch flash on the display.

D.2.30 Extend Auto On Time [Cmd][5][1]

See *Appendix D.1.35 Extend Auto On Time [Cmd][5][1]* for steps to perform this command.

D.2.31 All Areas On [Cmd][8][0]

Enter [Cmd][8][0] plus a valid passcode to turn all areas on.

D.2.32 All Areas Off [Cmd][8][1]

Enter [Cmd][8][1] plus a valid passcode to turn all areas off.

D.2.33 Auto-Forward On/Off [Cmd][8][2]

See *Appendix D.1.45 Auto-Forward On/Off [Cmd][8][2]* for steps to perform this command.

D.2.34 Remote Arming with Telephone, Area 1

See *Appendix D.1.38 Remote Arming with Telephone, Area 1* to perform this function.

D.3 Keyswitch

You can connect a maintained or momentary contact arming station (keyswitch) to master arm/disarm any of the areas in the system. The keyswitch connects to an on-board or off-board point's sensor loop. Outputs can be programmed to activate arming status LEDs for keyswitch arming stations. See *Section 3.17 Outputs* for more information.

D.3.1 Arming/Disarming

See *Section 3.14 Point Index Configuration* for details on configuring keyswitch arming options.

D.3.2 Silencing Alarms

To silence alarms, operate the keyswitch. If the area is armed, operating the keyswitch to silence the alarm also disarms the area. If the area is disarmed, operating the keyswitch silences the alarm but does not arm the area.

D.4 RF Keyfob

The RF3332 and RF3334 Wireless Keyfobs allow the user to arm and disarm the system. The RF3334 can also control other devices connected to the system within the protected area. The keyfobs are programmed with a unique code that allow them to only work with devices in the specific system.

The keyfobs have a range of up to 150 m (500 ft.) in open air, but normal building materials can greatly reduce that range. If the user is in an automobile or the premises has aluminum siding, the range can be further reduced. Bosch Security Systems recommends testing the keyfob at various locations within the premises to test the range.



The RF3332 and RF3334 Keyfobs were not investigated by UL.

D.4.1 RF3332 Features

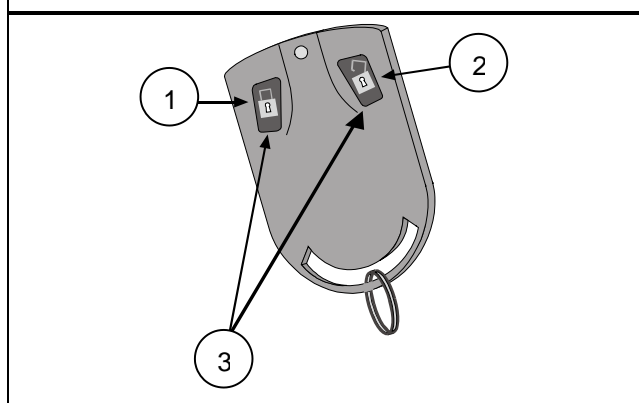
The RF3332 can arm and disarm the system. The keyfob can send a Panic code to the security company if the system is programmed to do so. The LED flashes to indicate signals sent to the alarm system.

To arm the system, press the left button with the closed padlock.

To disarm the system, press the right button with the open padlock.

To send a panic alarm, press and hold both buttons together for 2 seconds.

Figure 12: RF3332 Features



- 1 - Press to alarm
- 2 - Press to disarm
- 3 - Press both for 2 seconds to send a panic alarm

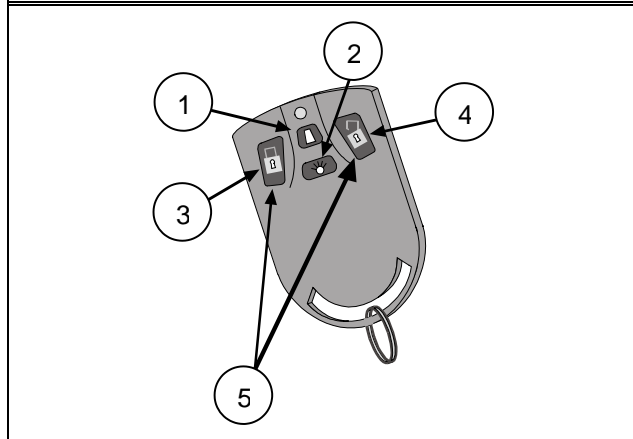
D.4.2 RF3334 Features

The RF3334 can arm and disarm the system. The keyfob can send a Panic code to the security company if the system is programmed to do so. The keyfob can also control other devices within the protected area. The LED flashes to indicate signals sent to the alarm system.

- To arm the system, press the left button with the closed padlock.
- To disarm the system, press the right button with the open padlock.
- To send a panic alarm, press and hold both buttons together for 2 seconds.

The two option buttons in the center can be programmed to operate other devices within the protected area.

Figure 13: RF3334 Features



- 1 - Option 1
- 2 - Option 2
- 3 - Press to arm
- 4 - Press to disarm
- 5 - Press both for 2 seconds to send a panic alarm

See the *RF3332 and RF3334 Wireless Keyfobs User Guide* (P/N: 36954) for more information on keyfob use and maintenance.

D.5 Adding RF IDs (Enrolling Premises RF Devices)



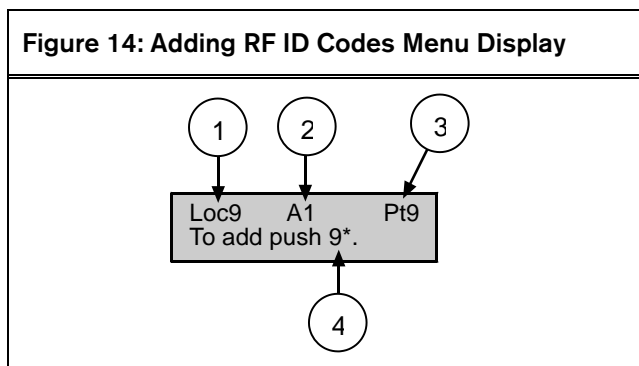
Press the [Cmd] key when the Text Command Center display prompts you to press the [#] key.

When programming the control panel to include locations assigned to a premises RF receiver, you must enter RF Add Mode to enroll each RF transmitter, keypad, and keyfob.

To enter RF Add Mode:

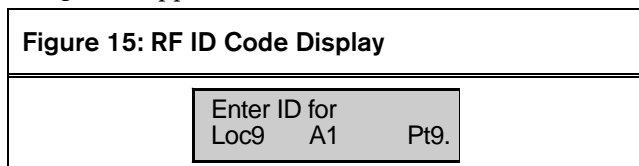
1. Close the installer switch.
2. Enter the installer passcode (default is 6 5 4 3).
3. Press [Cmd][4][1].
4. Press [7] for the RF menu.

To add RF ID codes into the system, press [1] when Add RF ID? Press 1 scrolls across the display. The display appears as shown in *Figure 14*.

Figure 14: Adding RF ID Codes Menu Display

- 1 - Location
- 2 - Area
- 3 - Point number
- 4 - Key sequence to press

To add the location shown in *Figure 14* as an RF device, press [9] followed by [*]. The display shown in *Figure 15* appears.

Figure 15: RF ID Code Display

Enter the 9-digit ID code found on the back of the RF device and press [Cmd]. ID added. Press # appears on the second line of the display, indicating the code was successfully entered and accepted.

If an error message appears, make sure you enter the code as printed on the back of the device and that you only enter nine digits.

Press [Cmd]. The display returns to the first location designated as an RF device and scrolls through other RF device locations (if any). You may enter the desired location number and add the ID code as described above.

When all RF ID codes are entered, press [Cmd] twice. The first line of the display shows **Configuring RF Please Wait**. During this period, the RF Receiver's LED flashes approximately once every second until all ID bytes are recognized. If the devices are successfully configured, the display returns to the scrolling RF Menu.

If an error message appears, make sure the RF Receiver's transmit lines are properly connected to the control panel and that no shorted conditions exist.

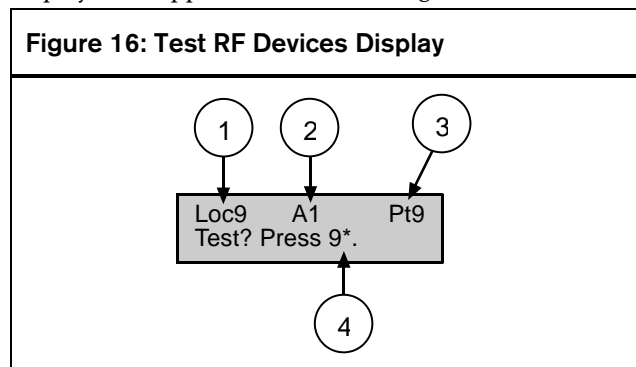
From the RF Menu, you can choose "1" to enter additional RF ID codes, or you may select one of the other RF Menu choices. If you are finished with the RF Menu, press [Cmd] to return to the main programming menu.

- **Locations 41 to 44:** RF Keypads (4 maximum – 1 per location)
- **Locations 45 to 76:** RF Keyfobs*

* **D6412:** 32 RF Keyfobs available when both RF Receivers 1 and 2 are connected to the system. **D4412:** RF keyfobs at Locations 45 to 76 may be handled by one receiver.

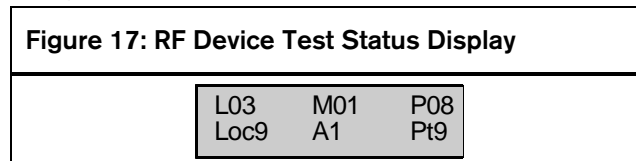
D.6 Testing RF Devices

To test RF devices, press [2] when **Test RF Devices?** Press 2 scrolls across the display. The display then appears as shown in *Figure 16*.

Figure 16: Test RF Devices Display

- 1 - Location
- 2 - Area
- 3 - Point number
- 4 - Key sequence to press

The display scrolls through all of the properly configured devices and asks if you wish to test. Using Location 9 as an example, press [9] followed by [*] to test the RF device at Location 9. The first line of the display shows **Activate device!**, indicating the device must be activated in order to test it. Once the device is activated, the display appears as shown in *Figure 17*.

Figure 17: RF Device Test Status Display

The first line in the figure above shows the RF device's test status:

L03: System recognizes the device and the device is operating properly.

L02: System recognizes device and device operation is fair.

L01: The device must be relocated for proper operation.

M01: Counts the number of device activations. For example, the device being tested is an RF3401 Point Transmitter. When the magnetic assembly is removed from the point transmitter base, the activation counter counts one activation. When the magnetic assembly is returned to the point transmitter base, a second activation is counted. Opening and closing the point transmitter's case are also counted as activations.

P08: Message packet transmission.

- Alarm, Panic and Restoral messages are transmitted with eight packets (Alarm and Restoral refer to the transitions in and out of alarm conditions).
- Supervisory and Test transmissions (smoke detectors) consist of four packets.
- RF keypads transmit four packets for all keys except the Emergency keys, which transmit 8 packets.
- RF keyfobs transmit four packets for normal operation and eight packets for Panic button operation ([Arm] and [Disarm] pressed simultaneously).

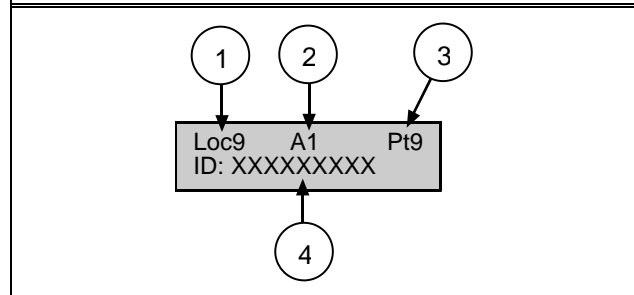
RF receivers must receive seven or eight data packets from a transmitter in order for that transmitter to be considered "Good" (L03). When testing RF keypads or keyfobs, the Panic functions must be used, otherwise the units only transmit four packets (see packet count above). When testing the installation of a smoke unit, do not use the test button. Doing so results in a four packet transmission. Instead, tamper the unit or cause it to alarm (canned smoke).

When you finish testing a device, press [Cmd]. The list of RF devices scrolls beginning with the first (lowest) location assigned to an RF device. You may select another location to test by entering the location number followed by the [*] key and repeating the procedure described above. If you are finished testing, press [Cmd] again and the RF Menu displays.

D.7 Viewing/Removing RF ID Codes

To view or remove RF ID codes, press [3] when View or Remove RF ID? Press 3 scrolls across the display. The display then scrolls through the properly configured RF devices.

Figure 18: RF ID Code



- 1 - Location
- 2 - Area
- 3 - Point number
- 4 - ID codes (see back of device)

After each ID code is shown, the display toggles to the following message before moving to the next ID code: To remove ID press 9* (the number "9" represents the location number and is used as an example here and in the *Figure 18*).

To remove the ID code, press the number key(s) that corresponds with the location number (for this example, [9]), then press [*]. The display asks you to confirm your removal. Press the appropriate number key(s) followed by [*]. The display then shows Removed ID on the first line with the location and point numbers of the removed ID on the second line.

If you wish to remove additional ID codes, press [Cmd]. The scrolling list of RF devices returns. Press [Cmd] again to return to the RF Menu when you finish removing all ID codes. Pressing [Cmd] a third time returns you to the main programming menu.

D.8 RF Transmitters and Point States

With the exception of the door/window transmitter, all RF transmitters show only two point states (normal and shorted).



When a location is assigned to an RF point expander, the door/window transmitter (RF3401) can monitor both a reed switch (magnet) and a supervised sensor loop. After the ID for a door/window transmitter is added, the control panel shows the status for the point as normal. If the first message from the transmitter is no magnet and open loop, the control panel reports the point as faulted. If a normal magnet message is received, the magnet is supervised. If a normal loop message is received, the loop is supervised.

For this example, the door/window transmitter is mounted on a doorjamb and its magnet is mounted on the door. Closing the door places the magnet next to the reed switch. Now the control panel sees the reed switch in a normal (not faulted) state. From this point forward, it shows the point (door/window transmitter) as faulted whenever it sees the reed switch faulted. It shows the point as normal when the reed switch returns to normal, even though the sensor loop remains faulted.

To continue with this example, a contact is attached on a window near the door. The contact was wired into the EOL resistor on the Door/Window transmitter's sensor loop and the window was closed. Now the control panel sees the sensor loop in a normal (not faulted) state. From this point forward, it shows the point (door window transmitter) as faulted whenever it sees either the sensor loop or the reed switch faulted. It only shows the point as normal when both the reed switch and the sensor loop return to normal.

When only the reed switch is monitored, only the Normal and Shorted point states are shown.

When both the reed switch and sensor loop are monitored, only the Normal and Shorted point states are shown.

When only the sensor loop is monitored, Normal, Shorted, and Open point states are shown.



Cut out reed switch if not used.

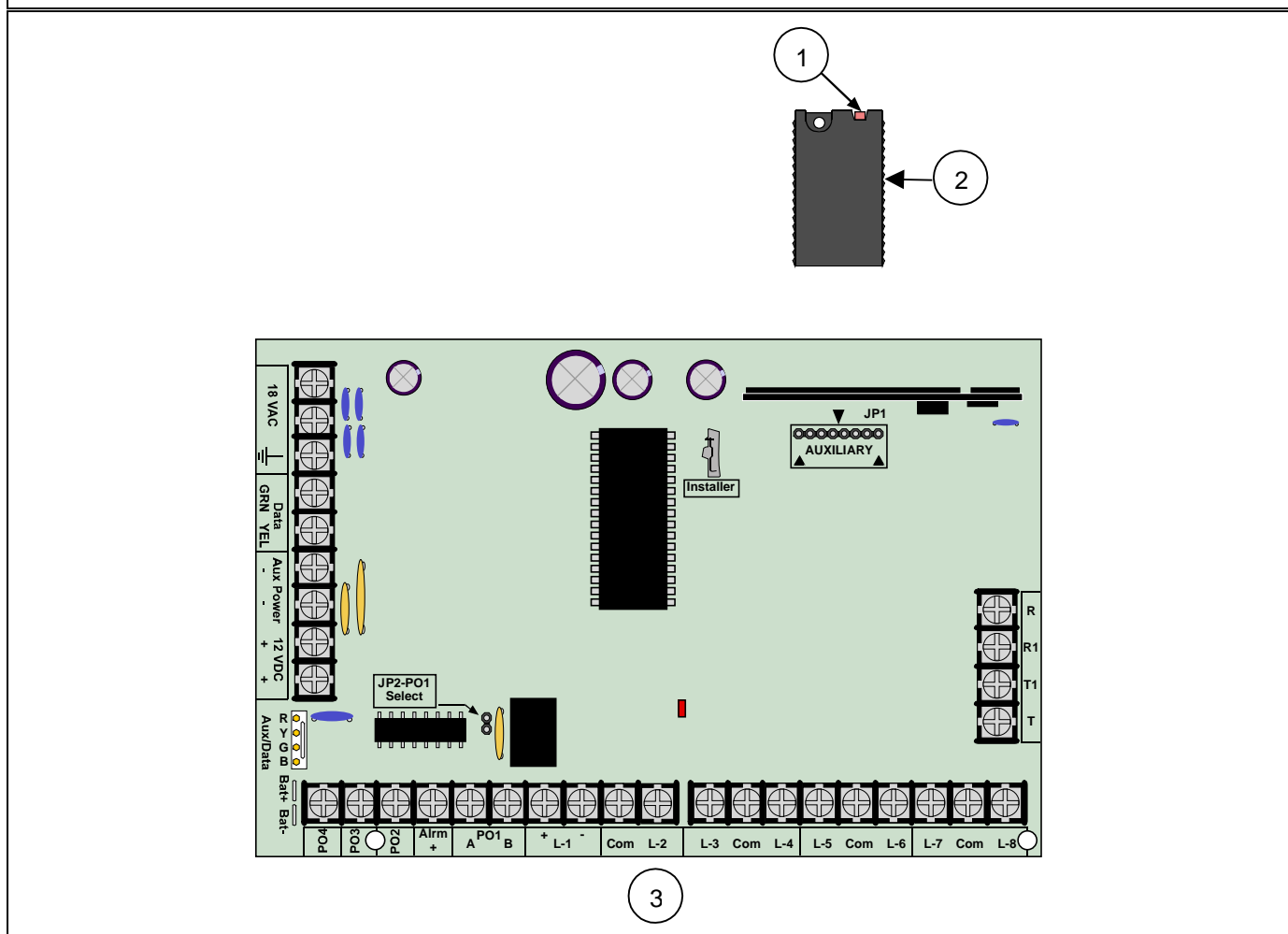
D.9 Programming Key (PK32)

The PK32 Programming Key functions like a blank floppy disk. It can be used to copy a system's programming to another system. This key can also be used as a backup if the system's programming entries are lost.

To access the PK32 Programming Key Menu, press [9] from the main programming menu. This menu contains the following selections:

- **Key to Control Panel:** Press [1] to send information from the Programming Key to the control panel.
- **Control Panel to Key:** Press [2] to send information from the control panel to the Programming Key.
- **Check Key:** Press [3] to perform a diagnostic test on the Programming Key. The status LED on the Programming Key flashes during the test. When the display shows Check OK, the Programming Key is OK for use. Press [Cmd] to abort the check.
- **Erase Key:** Press [4] to erase the contents of the Programming Key.

Figure 19: PK32 Programming Key Connections



- 1 - Status LED
- 2 - Programming key (PK32)
- 3 - D6412/D4412 PCB



A control panel program stored on a PK32 Programming Key can only be used on similar control panel types. For example, if a D6412's program is stored on a PK32, that program cannot be downloaded into a D4412 (and vice versa). It can only be downloaded to another D6412.

D.10 Exiting Installer Mode

When you are ready to exit the Installer's Menu and return the system to normal operation, open the Installer's Switch. The display shows the control panel model number (D6412 or D4412), firmware revision and Please Wait for approximately 10 seconds.

After the wait period, the text command center display returns to normal (disarmed, no fault/trouble conditions).

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