

Simon Version 2.0

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Module 1-Planning the Installation

Introduction

This module teaches the installer how to plan the installation of the Simon system.

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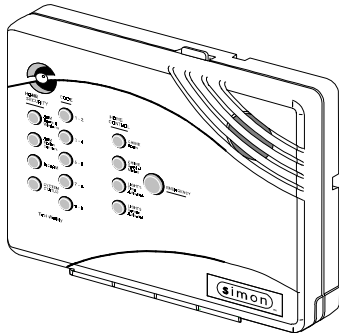
Major Features

This describes the major features of the Simon system. You should understand the system before planning the installation.

- Learn Mode Technology
- 24 zones including 2 optional hardwire inputs
- 6 user access codes (main plus 5 user codes)
- Voice output
- Light and appliance control using X-10 Lamp Modules
- Pager notification
- Door chime with optional voice chime
- Controls 8 individual lights through:
 - Time activated
 - Sensor tripping
 - Entry and exit
- Program at panel or remotely using ITI ToolBox
- Two types of communication locks
 - Primary phone number lock
 - Central station lock code
- 45-event buffer
- Remote phone access

System Components

This task familiarizes you with the basic components of the Simon system.



The panel and touchpad are combined in one unit.

The panel operates with the following two types of devices:

Devices that report to the panel:

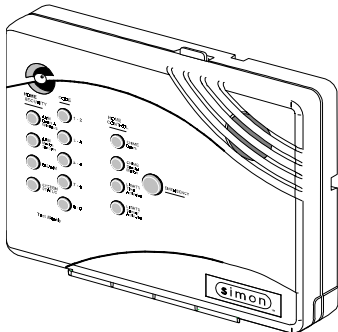
- Wireless sensors
- Hardwire sensors
- Wireless touchpads

Devices that respond to the panel:

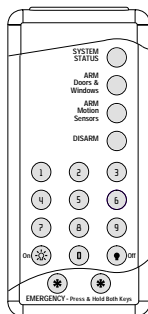
- Sirens
- X-10 Lamp Module
- Central Station

Planning Control Locations

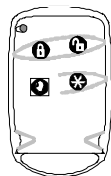
This task helps you plan the installation and use of the control panel, remote hand held touchpad and the key chain touchpad.



Find a location for the control panel that is convenient to use and allows the speaker to be heard.



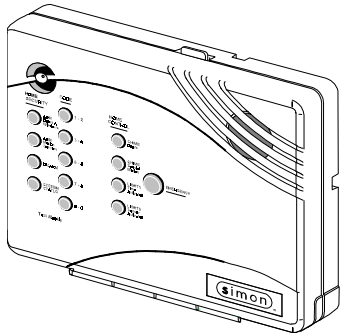
Find a location for the remote hand held touchpad that is convenient and offers quick response in emergencies.



Keychain touchpads attach to the owner's key ring.

Planning Lamp, Appliance, Wall Switch, and Universal/Garage Door Module Controls

This task helps you plan the installation and use of the modules that control lights, appliances, wall switches, and garage doors.



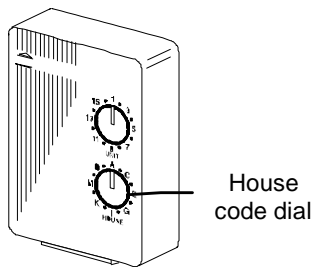
Before you program the modules, you must know the house code, unit number, and the activation method of each module.

Use the Home Control Planning Table to record this information (included in the *Simon Installation Instructions*).

NOTE

Do not use a light module to control appliances, because the wattage rating of the light module is less than the appliance module.

Simon can control up to eight individual unit numbers.



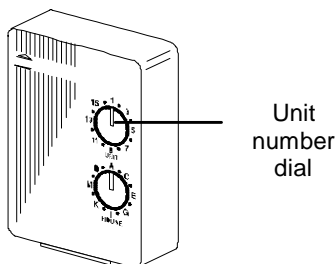
1. Set the house code on all the modules to the same letter, except on the remote siren.

The lettered dial on the module sets the house code.

NOTE

The instructions that come with the Powerhorn Siren won't work with the Simon panel. Use these instructions instead.

2. Set the remote siren house code to the *next* letter in the alphabet. For example, if the house code is B, set the remote siren house code to C.



3. Set the module unit numbers.

The numbered dial on the module sets the unit number.

NOTE

Use unit number 9 for status and alarm sounds.

Use the other unit numbers for alarms only.

4. Write the location of the lamp or appliance in the *Location* column of the table.
5. Write the location of each lamp module on an adhesive note and label the module.
6. Decide if the device should be activated by sensors, entry/exit delay, time or a combination and record the information in the table.

An example of sensor activation is using a motion sensor to turn on a light.



Home Control Planning Table

Module			Activated by		Time Activated	
Unit #	Type	Location	Sensor	Entry/Exit	Start Time	Stop Time
Example 1	lamp	hallway	-----	No	8 p.m.	10:30 p.m.
Example 2	lamp	near front door	-----	Yes	-----	-----
Example 3	universal	garage	Keychain touchpad	-----	-----	-----
1						
2						
3						
4						
5						
6						
7						
8						

Student Notes:

Planning Access Codes

This task helps you plan the use of the access codes.

Utility Access Code 1	The utility access code 1 is used during installation. This code can be used for all programming.
Utility Access Code 2	The utility access code 2 is used for all programming except for changing utility access code 1 and changing options 4, 5, 6, 8, 9, 12, and 13.
Master Access Code	<p>The Master Access Code is a user access code that is needed to:</p> <ul style="list-style-type: none"> • disarm the panel • program options 1, 2, 3, 34–37, and 41-44 • program light control, set the system clock • program access codes 1 through 5 • perform a sensor or phone test • sub-disarm the panel. <p>The Master Access Code can delete and add secondary access codes.</p>
Access Codes 1 Through 5	<p>The panel allows up to five secondary user access codes.</p> <p>Access codes 1 through 5 can arm and disarm the system.</p>
Panic Code	<p>The Panic Code is able to disarm or sub-disarm the panel; however, a silent alarm will be sent to the central station. There will be no indication of an alarm at the panel.</p>

System Access Codes

Type	Default	Installer Settings
Utility Access Code 1	4321	
Utility Access Code 2	4321	
Master Access Code	1234	
Access Code 1	None	
Access Code 2	None	
Access Code 3	None	
Access Code 4	None	
Access Code 5	None	
Panic Code	None	

Planning System Options

This task helps you plan the system options. The system options control how the system works.

Option 01: Panel Beeps

Add turns on panel beeps that sound when an access code is entered or when the arming level is changed.

Delete turns off panel beeps.

Option 02: Panel Voice

Add enables the panel voice.

Delete disables the panel voice.

NOTE

The panel voice is always ON for status messages, open sensor responses, and when in program mode.

Option 03: Latchkey (Reports as 99)

Add programs the Latchkey time.

Delete removes the Latchkey time. Latchkey cannot be enabled when the Panel is armed.

Option 04: Primary Phone Number

Add programs the primary phone number to be called when there is an alarm. The phone number belongs to the central station.

Delete removes the primary phone number.

Option 05: Secondary Phone Number	<p><i>Add</i> and <i>Delete</i> function the same as they do for the primary phone number. This number can be to a numeric pager or a central station. When using it to call a numeric pager, program this phone number with 2 pauses (press the test button to program a pause) at the end of the number. Set Phone Mod 2 (option 13) to 8 or 9. The Panel will call a numeric pager twice for each report. Pagers that require the Panel to dial more than 22 digits will not work. Silent alarms report to a pager as an intrusion alarm. See the Owner's Manual for more reporting information.</p>
Option 06: Downloader Phone Number	<p>Programs the ITI ToolBox Downloader telephone number.</p> <p><i>Add</i> and <i>Delete</i> function the same as they do for the primary phone number.</p>
Option 07: Account Number	<p><i>Add</i> programs the account number.</p> <p><i>Delete</i> resets it to 00-000.</p>
Option 08: Phone Lock	<p><i>Add</i> enables phone lock so that a different central station cannot change the central station code.</p> <p><i>Delete</i> disables phone lock.</p>
Option 09: DL Code (Downloader Code)	<p><i>Add</i> programs the downloader access code. The Downloader Code is used during Panel programming with the ITI ToolBox. The Panel's downloader code must match the downloader access code in the ITI ToolBox account in order to program the Panel using the ITI ToolBox.</p> <p><i>Delete</i> resets it to 12345.</p>
Option 10: Entry Delay	<p><i>Add</i> programs the entry delay. Enter time in seconds. The range is 005-120 seconds (3 digits must be entered).</p> <p><i>Delete</i> sets the delay to 5 seconds.</p> <p>For UL listed systems, the entry delay should not exceed 45 seconds.</p>
Option 11: Exit Delay	<p><i>Add</i> programs the exit delay. Enter time in seconds. The range is 005-120 seconds (3 digits must be entered).</p> <p><i>Delete</i> sets the delay to 5 seconds.</p> <p>For UL listed systems, the exit delay should not exceed 45 seconds.</p>

Option 12: Phone Mod 1

TABLE 1-1. Phone Mod 1.

Enter #	Reports	Format
0	All	SIA
1	All	CID
2	Alarms	SIA
3	Alarms	CID

Add sets the report content and format which the primary phone number uses. The range is 0-3.

Delete sets the phone mod to 0.

Alarms include: Fire, Intrusion, Emergency, and Silent.

Non-Alarms include: Latchkey, No Activity, Alarm Cancel, Opening, Closing, Force Armed, AC Power Failure, CPU Low Battery, and Trouble Restorals.

All includes: Alarms and Non-Alarms.

Option 13: Phone Mod 2

TABLE 1-2. Phone Mod 2.

Enter #	Reports	Format
0	All	SIA
1	All	CID
2	Alarms	SIA
3	Alarms	CID
4	Non-Alarms	SIA
5	Non-Alarms	CID
6	Phone 1 Failure	SIA
7	Phone 1 Failure	CID
8	Latchkey/No Activity/ Activity/Phone Test	Pager
9	Alarms, Latchkey/No Activity/ Activity/ Phone Test	Pager

Add sets the report content and format that the secondary phone number uses. Range is 0-9.

Delete sets the phone mod to 0.

Option 14: DTMF Dialing

Add enables DTMF dialing.

Delete enables pulse dialing.

Option 15: No Activity (Reports as Sensor 79)

Add enables the no activity time-out. Program the no activity time-out in hours. The range is 02-24 hours (2 digits must be entered).

Delete disables the no activity time-out.

Option 16: Auto Phone Test (Reports as Sensor 93)

Add enables the auto phone test. Program the auto phone test frequency in days. The range is 001 - 254 days (3 digits must be entered).

Delete disables auto phone test.

Option 17: Dialer Delay

Add enables the dialer delay. Program the delay in seconds. The range is 005-120 seconds (3 digits must be entered).

Delete disables the dialer delay.

For UL installations, dialer delay time cannot be greater than 45 seconds.

NOTE

The Panel will not wait the amount of time programmed as the dialer delay to call in an alarm if the Panel is disarmed before the dialer delay expires and opening reports are on. Both the alarm and opening report will be called in immediately.

Option 18: Alarm Cancel

Add enables alarm cancel. Program the time in minutes. If the Panel is disarmed from an alarm state within the programmed time, the Panel will send an alarm cancel message. The range is 01-30 minutes (2 digits must be entered).

Delete disables the alarm cancel.

**Option 19: Supervisory Time
(SUPSYNC)**

Add sets the supervisory time. Program the time in hours. The range is 02-24 hours (2 digits must be entered).

Delete resets SUPSYNC to 2 hours.

For UL listed systems, the SUPSYNC shall not exceed 4 hours.

**Option 20: Manual Phone Test
(Reports as Sensor
83)**

Add allows the user to perform a manual phone test.

Delete disables manual phone test.

**Option 21: Opening Reports
(Reports as Sensor
84)**

Add enables opening reports. Opening reports will be sent to the central station if the Panel is disarmed from a higher arming level. Also, if the Panel is armed to level 4 from level 2 or 3, an opening report will be sent to the CS.

Delete disables opening reports.

**Option 22: Closing Reports
(Reports as Sensor
85)**

Add enables closing reports. Closing reports will be sent to the central station if the Panel is armed to level 2, 3, or 4.

Delete disables closing reports.

**Option 23: Force Armed
(Reports as Sensor
87)**

Add enables force armed report. A force armed report will be sent to the central station.

Delete disables force armed reports.

**Option 24: AC Power Failure
(Reports as Sensor
90)**

Add enables AC power failure reports. An AC power failure report will be sent to the central station if the Panel has lost power for 15 minutes. The Panel will report AC power restoral when power returns to the Panel.

Delete disables AC power failure and restoral reports.

Option 25: CPU Low Battery
(Reports as Sensor 91)

Add enables CPU low battery reports. A low battery report will be sent to the central station when the Panel battery voltage drops below 7.65 volts (non-rechargeable) or 6.2 volts (rechargeable)

Delete disables CPU low battery reports.

Option 26: Fail to Communicate
(Reports as Sensor 96)

Add enables fail to communicate. If the Panel is not able to connect to the CS, the Panel will indicate this with trouble beeps and the system status light will illuminate.

Delete disables fail to communicate.

Option 27: Ring/Hang/Ring

Add enables remote phone access and ring/hang/ring for use with ToolBox. This feature is useful when programming a Panel in a home with an answering machine. Program ring/hang/ring by number.

Delete disables remote phone access.

TABLE 1-3. Ring/Hang/Ring Program Numbers

Program #	Control Panel will answer after:
1	ring / hang / ring or 10 rings
2	ring / hang / ring / hang / ring or 10 rings
3	ring / hang / ring / hang / ring / hang / ring or 10 rings
4	10 rings

If Option 27 (ring/hang/ring) is programmed as:

Program 1

1. Call the panel and let the phone ring twice then hang up.
2. Wait 10-40 seconds and call the panel again.
3. The panel should answer after the first ring.

Program 2

Repeat steps 1 and 2 before the panel will answer.

Program 3

Repeat steps 1 and 2 twice before the panel will answer.

Delete disables ring/hang/ring. The Panel will not answer.

Option 28: No Delay from Key Chain Touchpad

Add arms with no entry delay when using the Key Chain Touchpad.

Delete arms with an entry delay when using the Key Chain Touchpad.

Option 29: Control Panel Alarms

Add enables the Panel piezo. Alarms will sound from the Panel.

Delete disables the Panel piezo. Alarms will not sound from the Panel.

For UL listed systems, at least one listed external audible signal device shall be used if the external piezo is disabled.

Option 30: Panic Alarms

Add enables panic alarms initiated from the Panel or Handheld Touchpad.

Delete disables panic alarms.

Option 31: Day of Week

Add will program the day of week based on a programmed number. The day of week will be used during an event buffer dump to ToolBox.

Delete sets day of week to 0.

Day of Week by Number

0 Sunday

1 Monday

2 Tuesday

3 Wednesday

4 Thursday

5 Friday

6 Saturday

Option 32: 300 Baud

Add enables 300 baud communication. Enable this option for faster communication

Delete enables 110 baud communications.

Option 33: Two-Way Voice

Add enables two-way voice communications between the security system site and a monitoring station.

Delete disables two-way voice

Option 34: Fail to Open

Add enables fail to open. If the panel has not been disarmed by the programmed opening time, the panel will call in a fail to open alarm to the Central Station and/or pager (Option 43).

Delete disables fail to open.

Option 35: Fail to Close

Add enables fail to close. If the panel has not been armed by the programmed opening time, the panel will call in a fail to close alarm to the Central Station and /or a pager (Option 43).

Delete disables fail to close.

Option 36: Motion Activated
Light Lockout Start
Time

Add enables motion activated light lockout start time for all sensor activated lights. The panel will not turn on a light between the programmed start time (option 36) and the programmed stop time (option 37) even if sensor activated lights are enabled.

Delete disables motion activated light lockout start time. The panel will turn on a light activated by a sensor learned as type 25 at all times, if sensor activated lights are on.

Option 37: Motion Activated
Light Lockout Stop
Time

Add enables motion activated light lockout stop time for all sensor activated lights. The panel will not turn on a light between the programmed start time (option 36) and the programmed stop time (option 37) even if sensor activated lights are enabled.

Delete disables motion activated light lockout stop time.

Option 38: Auto Arm (Sensor
Bypassing)

Add enables auto arm. Any sensor that requires restoration and is open when the panel is armed will automatically be bypassed when the panel is done protesting. The panel will protest for 4 minutes, then auto arm. Pressing the ARM Doors and Windows button a second time will stop the control panel protest and auto arm the system. Pressing this button a third time will arm with no entry delay. The panel will go into alarm if an instant alarm sensor is opened during an exit delay. A sensor learned as type 26 can never be bypassed.

Delete disables auto arm. Any sensor that requires a restoral and is open when the exit delay expires will automatically be bypassed. Protest beeps indicating the arming level will sound 3 times from the X-10 module, interior siren, and the panel siren. The panel will go into alarm if an instant alarm sensor is opened during an exit delay. A sensor learned as type 26 can never be bypassed.

Option 39: Siren Time Out

Add programs siren time out from 1 to 30 min. The default siren time out is 4 minutes.

Delete disables the siren from timing out.

Option 40: Trouble Beeps

Add enables trouble beeps. If there is a trouble condition, six beeps will sound every minute. If the panel is armed, disarmed, or status is pressed, the trouble beeps will stop and them resume 4 hours later.

Trouble beeps will be heard if:

- There is AC power failure.
- The CPU battery is low.
- There is a sensor failure.
- There is sensor trouble.
- There is a fail to communicate problem.
- The panel is in program mode.
- The no activity timer has timed out.

NOTE

Trouble beeps for “no activity” will continue for 5 minutes. If the panel does not see activity within that time, the trouble beeps will stop and the panel will call the CS to report the no activity.

Delete disables trouble beeps, so that if a problem occurs the control panel will not notify the owner.

Option 41: Chime and Chime Voice

The panel has two chime modes which may be enabled by pressing the appropriate button on the panel.

CHIME Doors

Chime doors is a chime sound (two beeps) that will be emitted from the interior siren output, the panel siren, and the X-10 Powerhorn Siren (if set to unit #9) when a door/window sensor (type 10 or 13) is activated. If there are no sensors learned as type 10 or 13, this function will not be available.

CHIME Special Motion

Chime special motion is a chime sound (three beeps) that will be emitted from interior siren output, the panel siren, and the X-10 Powerhorn Siren (if set to unit #9) when a chime sensor (type 25) is activated (the alarm state is sent to the panel). If there are no sensors learned as type 25 this function will not be available. The panel will announce the voice descriptor of which sensor was tripped, if chime voice is on.

Add enables chime voice. The panel will announce the voice descriptor when a sensor has been tripped if the chime feature is on.

Delete disables chime voice. The panel will not announce which sensor has been tripped if the chime feature is off.

Option 42: Speaker Level

Add sets speaker level to the high voice level.

Delete sets the speaker level to the low voice level.

Option 43: Pager Phone Number

Add enables pager phone number. Program the pager phone number. This phone number can only call a pager.

Delete removes the pager phone number.

Option 44: Pager Phone Mod 3

Add enables pager phone mod 3. It sets the report content and format the pager phone number uses. Use the following table to determine the value to enter.

Enter #	Reports	Format
8	Latchkey, No Activity and Phone Test	Pager
9	Alarms, Latchkey, No Activity, Phone Test, Openings, Closings, Fail to Open/Close	Pager

Use the following table to determine what the numeric message is reporting.

Reports	Numeric Message
Phone Test	101 101
AC Power Restoral	102 102
AC Power Failure	103 103
Latchkey	104 104
No Activity	105 105
Panic	106 106
Emergency	107 107
Intrusion	108 108
Fire	109 109
Openings	110 110
Closings	111 111
Fail to Open	112 112
Fail to Close	113 113

Option 45: Sensor Alarm Restoral

Add enables sensor alarm restoral. A report is sent to the central station when a restoral sensor remains in alarm but is placed into a non-alarm state.

Delete disables sensor alarm restoral reports.

Option 46: Fire Shutdown - AVM

Add enables fire shutdown-AVM and allows the panel to turn off the sirens during a two-way voice session with the user and the central station. The panel will beep every 10 seconds while the sirens are off.

Delete disables fire shutdown-AVM, thus the sirens will not shut off during a two-way voice session.

Option 47: AVM Mode

Add enables AVM mode, allowing the central station to hang up and call the panel back for a two-way voice session.

Delete disables AVM mode allowing the two-way voice session to start immediately.

Option 48: Panic Talk

Add enables panic talk. This allows the central station to listen and talk to the user during a panic or emergency alarm.

Delete disables panic talk. When this option is turned off, the central station may only listen during a panic or emergency alarm.

Do the following to conduct an audio session:

1. After the panel has completed reporting the alarm, pick up the CS phone.
2. Press the * button on the phone to start the audio session.
3. While interactive, press 1 to speak or 3 to listen.
4. Press *99 to terminate the session.

Phone Buttons	Audio Verification Set
1	Speak
3	Listen
7	Initiates Timed Session
88	Terminates Session with Call Back
99	Terminates Session with no Call Back
0	Returns to Initial Configuration

Option 49: Rechargeable Battery

Add enables the rechargeable battery to be used.

Delete enables the lithium or alkaline battery to be used.

Option 50: RF Jam Detect

Add enables RF jam detect, allowing the control panel to detect RF interference.

Delete disables RF jam detect, denying the Control Panel to detect RF interference.

Option 51: 24-hour Battery
Test

Add sets battery test period to 24 hours. This feature is only useful when using a non-rechargeable Ultra-Life 9V lithium battery or a 9V alkaline battery because it extends battery life.

Delete sets battery test period to 4 hours.

Option 52: High-level Status

Add sets status beeps and arming level beeps to high volume.

Delete sets status beeps and arming level beeps to low volume.

Option 53: Hardwire Siren
Supervision

Add turns hardwire siren supervision on. Turn this option on if installing a hardwire siren and supervision is desired.

Delete turns hardwire supervision off and is the appropriate setting if hardwire sirens are not being connected.

Planning System Options Table

Option Number	Upper Sensor/ Feature Number	Function	Default	Range	Who Can Change: U1 - Utility Access Code 1; U2 - Utility Access Code 2; MA - Master; Access Codes	Installer Settings
01		Panel Beeps	On	On/Off	U1 U2 MA	
02		Panel Voice	On	On/Off	U1 U2 MA	
03	Reports as 99	Latchkey Option	Off	12:00 a.m. - 11:59 p.m.	U1 U2 MA	
04		Primary Phone Number	Off	22 digits	U1	
05		Secondary Phone Number	Off	22 digits	U1	
06		Downloader Phone Number	Off	22 digits	U1	
07		Account Number	00000	00000-99999	U1 U2	
08		Phone Lock	Off	On/Off	U1	
09		Downloader Code	12345	00000-99999	U1	
10		Entry Delay	30 sec	005-120 sec	U1 U2	
11		Exit Delay	30 sec	005-120 sec	U1 U2	
12		Phone Mod 1	0	0-3	U1	
13		Phone Mod 2	0	0-9	U1	
14		DTMF	On	On/Off	U1 U2	
15	79	No Activity	Off	02-24 hrs	U1 U2	
16	93	Auto Phone Test Option (Must be enabled for UL Listed systems)	Off	001-254 days	U1 U2	
17		Dialer Delay	Off	001-120 sec	U1 U2	
18		Alarm Cancel	Off	01-30 min	U1 U2	
19		Supervisory Time (SUPSYNC)	12 hrs	02-24 hrs	U1 U2	
20	83	Manual Phone Test	On	On/Off	U1 U2	
21	84	Opening Reports	Off	On/Off	U1 U2	
22	85	Closing Reports	Off	On/Off	U1 U2	
23	87	Forced Arm	Off	On/Off	U1 U2	
24	90	AC Power Failure (Must be enabled for UL Listed systems)	Off	On/Off	U1 U2	
25	91	CPU Low Battery (Must be enabled for UL Listed systems)	On	On/Off	U1 U2	
26	96	Fail to Communicate (Must be enabled for UL Listed systems)	On	On/Off	U1 U2	
27		Ring/Hang/Ring	1	1-4	U1 U2	
28		No Delay from KeyChain Touchpad	Off	On/Off	U1 U2	
29		High Level Siren	On	On/Off	U1 U2	



Option Number	Upper Sensor/ Feature Number	Function	Default	Range	Who Can Change: U1 - Utility Access Code 1; U2 - Utility Access Code 2; MA - Master; Access Codes	Installer Settings
30		Panic Alarms	Off	On/Off	U1 U2	
31		Day of Week	0	0-6	U1 U2	
32		300 Baud Central Station Communications	On	On/Off	U1 U2	
33		Audio Verification	Off	On/Off	U1 U2	
34		Fail to Open	Off	12:00 a.m. - 11:59 p.m.	U1 U2 MA	
35		Fail to Close	Off	12:00 a.m. - 11:59 p.m.	U1 U2 MA	
36		Motion Activated Light Lockout Start Time	Off	12:00 a.m. - 11:59 p.m.	U1 U2 MA	
37		Motion Activated Light Lockout Stop Time	Off	12:00 a.m. - 11:59 p.m.	U1 U2 MA	
38		Auto Arm	Off	On/Off	U1 U2	
39		Siren Time Out	04 min	01 – 30 Minutes	U1 U2	
40		Trouble Beeps	On	On/Off	U1 U2	
41		Chime Voice	Off	On/Off	U1 U2 MA	
42		Speaker Level	On	On/Off	U1 U2 MA	
43		Pager Phone Number	Off	22 Digits	U1 U2 MA	
44		Pager Phone Mod 3	9	8 or 9	U1 U2 MA	
45		Sensor Alarm Restoral	Off	On/Off	U1 U2	
46		Fire Shutdown - AVM	Off	On/Off	U1 U2	
47		AVM Mode	Off	On/Off	U1 U2	
48		Panic Talk - AVM	Off	On/Off	U1 U2	
49		Rechargeable Battery	Off	On/Off	U1 U2	
50		RF Jam Detect	Off	On/Off	U1 U2	
51		24-hour Battery Test	Off	On/Off	U1 U2	
52		High-level Status	Off	On/Off	U1 U2	
53		Hardwire Siren Supervision	Off	On/Off	U1 U2	

Sensor/Device Location Planning Table

Sensor Number	Sensor/Device Name (Use Sensor Type Characteristics Chart)	Sensor Type	Remote	Keychain	Front Door	Back Door	Garage Door	Bedroom	Guest Room	Child's Room	Utility Room	Living Room	Dining Room	Bathroom	Laundry Room	Kitchen	Office	Den	Garage	Special Chime	Basement	Upstairs	Downstairs	Hallway	Medicine	Closet
xx	Keychain Touchpad	13	X																							
xx	Door/Window Sensor	13			X																					
01																										
02																										
03																										
04																										
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Installation Planning Exercise

Answer the following questions using the System Planning Worksheets provided with this module. This exercise is intended to make you familiar with the worksheets.

1. What is the default amount of time for the Entry Delay? (Panel Configuration Settings)
2. Is the Emergency Alarm on or off by default? (Reports as what sensor number)
3. What does option 3 do? (See Sensor/Device Location Planning Table 1-21.)
4. How many secondary access codes does the Simon allow?

Module 2-Installation

Introduction

This module teaches how to install the Simon system hardware.

What's in This Module

Wiring Phone Lines	2-2
Wiring the Transformer.....	2-3
Wiring the Hardwire Interior Siren (60-483).....	2-4
Wiring the Hardwire Interior Siren (60-483).....	2-4
Wiring the Hardwire Exterior Siren (13-046).....	2-5
Wiring the Universal/Garage Door Opener Module	2-6
Wiring Hardwire Sensors	2-6
Adding Two-Way Voice	2-7
Connecting the Backup Battery.....	2-7
Powering Up the Panel.....	2-8

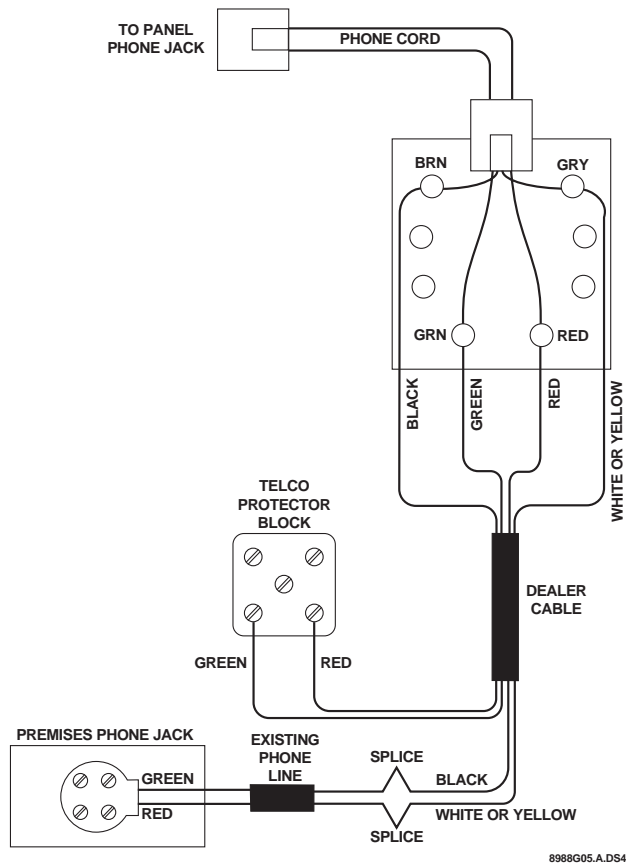
Wiring Phone Lines

This task details connecting the Simon system to the site telephone wiring.

NOTE

Wire the system ahead of all in-house telephones.

1. Plug one end of the phone cord into the RJ-31X jack.
2. Plug the other end of the phone cord into the control panel phone jack (labeled "TO LINE" on the back of the panel).

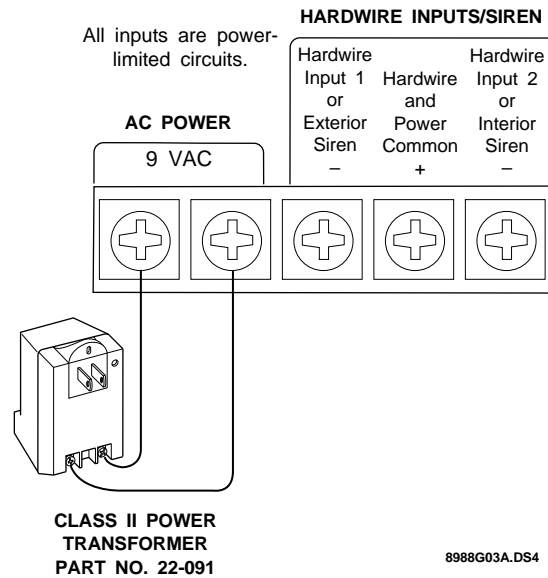


3. To connect a phone through the control panel, plug the phone cord into the control panel (labeled "TO PHONE" on the back of the panel).
4. Test the telephone connection.

Wiring the Transformer

This task covers wiring the Simon transformer.

1. Make sure the transformer is unplugged.
2. Connect a 22-gauge wire to each terminal on the transformer.



3. Connect each wire to one of the AC POWER 9 VAC terminals on the control panel.

Wiring the Hardwire Interior Siren (60-483)

This task covers wiring the hardwire interior siren to the Simon system.

You can wire a Hardwire Interior Siren so it only sounds alarms or you can wire it so it makes alarm and status sounds.

Alarm Sounds Only

Simon Terminals	Siren Terminals
Hardwire Input 1 or Exterior Siren	- (negative)
Hardwire and Power Common	+ (positive)

Status and Alarm Sounds

Simon Terminals	Siren Terminals
Hardwire Input 2 or Interior Siren	- (negative)
Hardwire and Power Common	+ (positive)

NOTE
 If Option 53 is on, Simon requires a 47k ohm resistor be placed between all positive and negative terminals that are not used for a siren or hardwire zone. If a hardwire input is not used to connect a siren or a hardwire zone, and do not have the 47k ohm resistor connected, the panel will respond with the following message:

- *Module 1 Failure*
- Or
- *Module 2 Failure*

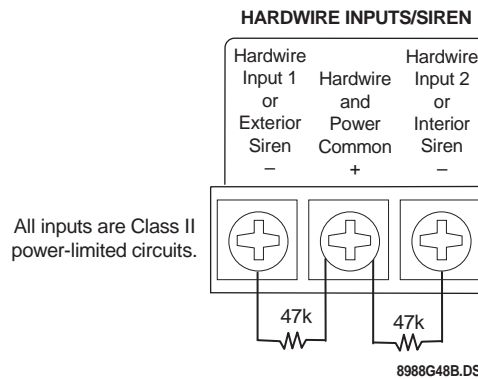


FIGURE 2-1. Connecting 47k Ohm Resistors to the Simon Terminal Block.

Wiring the Hardwire Exterior Siren (13-046)

This task details connecting the Hardwire Exterior Siren to the Simon system.

Connect the wires from the Hardwire Exterior Siren to the Simon hardwire inputs as shown below.

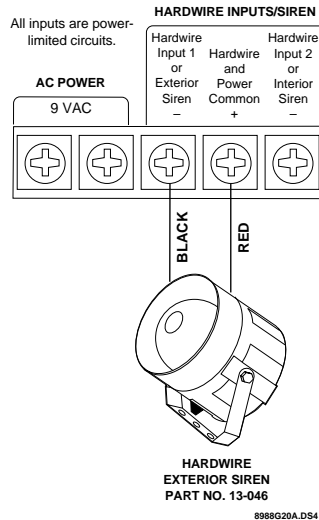


FIGURE 2-2. Connecting an Exterior Hardwire Siren to the Simon Terminal Block.

NOTE

If Option 53 is on, Simon requires a 47k ohm resistor be placed between all positive and negative terminals that are not used for a siren or hardwire zone. If a hardwire input is not used to connect a siren or a hardwire zone, and do not have the 47k ohm resistor connected, the panel will respond with the following message:

- *Module 1 Failure*
- Or
- *Module 2 Failure*

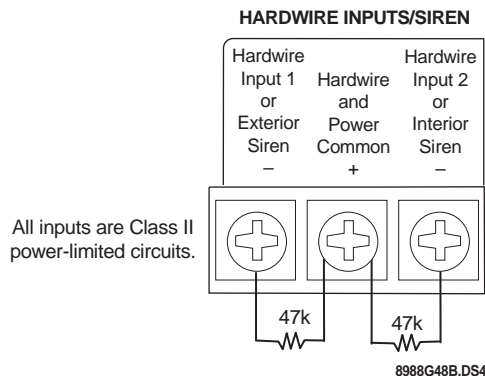


FIGURE 2-3. Connecting 47k Ohm Resistors to the Simon Terminal Block.

Wiring the Universal/Garage Door Opener Module

This task illustrates connecting the universal module to the Simon system used to control a garage door.

1. Set the unit code of the universal module to a unique unit number between 1 and 8.
2. Set the house code on the universal/garage door opener module to match the house code programmed in the panel.
3. Set the module's switches to momentary and relay only.
4. Connect the terminals on the universal module to the button terminals on the garage door opener.
5. Plug the universal module into a wall outlet.

NOTE

See the Programming module for Key Chain Touchpad programming instructions.

Wiring Hardwire Sensors

This task illustrates wiring hardwire sensors to the Simon system.

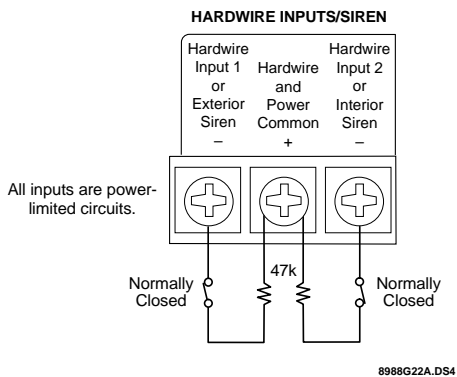
1. Using the instructions that came with the hardwire sensors and the following wiring diagram, wire the hardwire sensors.
2. Use a 47k Ohm resistor to supervise the hardwire loop.

NOTE

Hardwired loops are N/C (normally closed) only.

NOTE

Do not use any powered, hardwired devices with the Simon system.



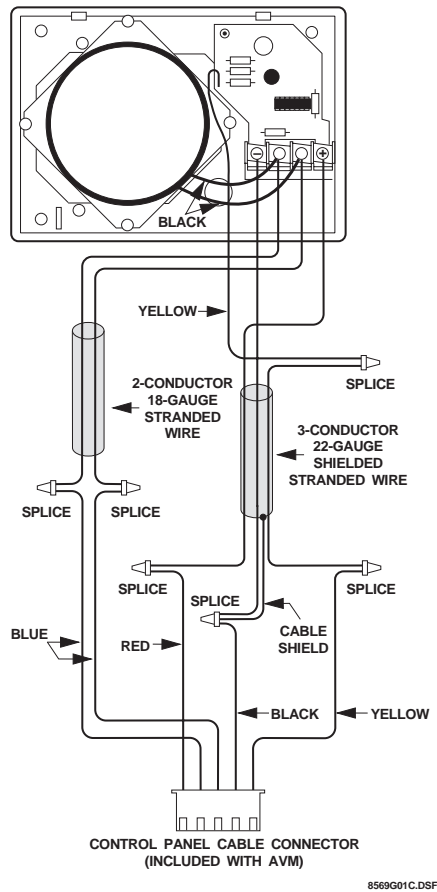
NOTE

If Option 53 is on, Simon requires a 47k ohm resistor be placed between all positive and negative terminals that are not used for a siren or hardwire zone. If a hardwire input is not used to connect a siren or a hardwire zone, and do not have the 47k ohm resistor connected, the panel will respond with the following message:

- *Module 1 Failure*
- Or
- *Module 2 Failure*

Adding Two-Way Voice

The two-way voice option is integrated in the panel. If you need to add two-way voice to Simon without integrated two-way voice, use the wiring diagram shown below.



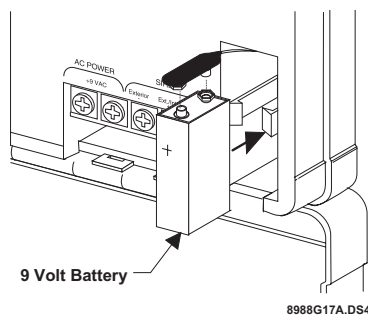
Connecting the Backup Battery

This task illustrates connecting the backup battery to the Simon system.

1. Connect a 9-Volt lithium battery (ITI #34-037) to the battery clip.
2. Snap the battery into the battery compartment.
3. Turn off Option 49, if using a 9 volt dc battery.

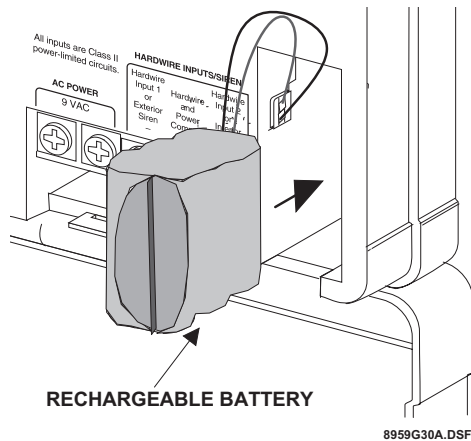
After initially installing the battery, the system will light the **SYSTEM STATUS** button.

The Simon system tests the battery every four hours and will clear the status message if the battery is good.



Connecting a Rechargeable Backup Battery

1. Connect the battery to the connector located in the battery compartment (Part # (60-785)).
2. Turn on Option 49.



Powering Up the Panel

This task illustrates powering up the Simon panel after you've wired it.

NOTE

Plugging in the transformer before connecting the battery will result in a low battery message for 4 hours (until the panel performs a system check or until a sensor test is performed.)

After wiring the hardwire devices and connecting the backup battery, plug the transformer into an unswitched outlet.

Student Notes:

Module 3-Peripheral Installation

Introduction

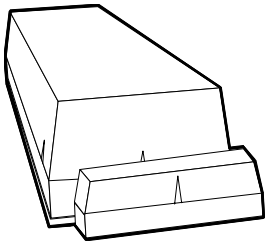
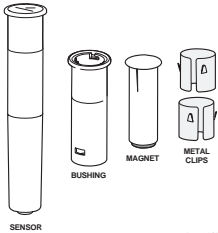
This module teaches the installer how to install wireless peripheral devices for the Simon system.

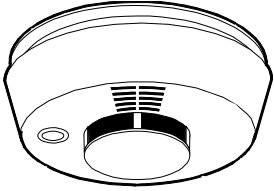
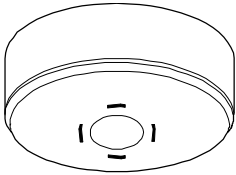
What's in This Module

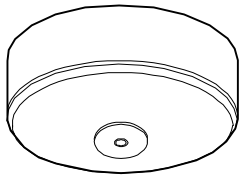
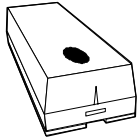
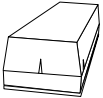
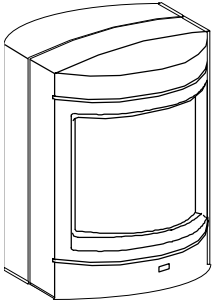
Locating Wireless Sensors.....	3-2
Installing SAW Door/Window Sensor (60-670-95R).....	3-5
Installing Crystal Door/Window Sensor (60-362).....	3-6
Installing the Slim Line Door/Window Sensor (60-499).....	3-7
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Installing the Rate of Rise Heat Sensor (60-460).....	3-15
Installing the SAW PIR Motion Sensor (60-639-95R).....	3-15
Installing the Wall Mount PIR Motion Sensor (60-511).....	3-17
Installing the Shock Sensor (60-461)	3-18
Installing the X-10 Lamp Control Module (13-204).....	3-18

Locating Wireless Sensors

This table provides tips for finding the best locations for wireless sensors.

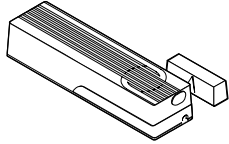
Sensor	Do	Don't
<p>All Sensors</p>	<ul style="list-style-type: none"> Installation environment will affect sensor range. Perform a sensor test to determine the exact range. 	<ul style="list-style-type: none"> Place sensors or magnets on any metallic surface such as metal doors or foil wallpaper. If you must, then use spacers to keep sensor and magnet away from the metal. Place sensors in areas with excessive metal or electrical wiring, such as furnace/utility rooms. Place sensors in areas where they will be exposed to moisture. Place sensors in locations where the temperature will exceed the sensor's operating limits of 10 to 120 ° F.
<p>Door/Window Sensors 60-362, 60-499, and 60-670-95R</p> 	<ul style="list-style-type: none"> Mount the sensor on the door frame (magnet on the door or on double doors, mount sensor on the least used door, magnet on the other door). Mount the sensors with screws or double-sided tape. Make sure the alignment arrow on the magnet points to the alignment mark on the sensor. 	<ul style="list-style-type: none"> Place sensors on a door within 5 inches of the floor to avoid damage to sensors.
<p>Recessed Mount Door Sensor 60-641-95</p> 	<ul style="list-style-type: none"> Install the transmitter in the door frame to decrease the possibility of shock and moisture damage from opening/closing the door. For doors, drill far enough into the center of the door frame for proper sensor installation. 	<ul style="list-style-type: none"> Mount transmitter in a metal frame. Drill through interior walls or exterior siding.

Sensor	Do	Don't
<p>Smoke Sensors 60-508 and 60-645-95</p>  <p>SMOKE SENSOR 60-508</p>	<ul style="list-style-type: none"> • Determine the best locations for each Smoke Sensor to optimize early detection and maintain accessible escape routes out of the building. • Locate a Smoke Sensor at the bottom of the basement stairwell(s). For other stairwells, locate Smoke Sensors at top of the stairwell. • Mount sensors on ceilings whenever possible. Make sure that the Smoke Sensor is no closer than 4 inches to any wall. • Place the Smoke Sensor no more than 6 inches from the ceiling for wall mounting. • Locate the Smoke Sensor in any hallway servicing bedrooms. For maximum protection, place a Smoke Sensor inside each bedroom, especially in rooms where electric blankets and electrical devices are used. 	<ul style="list-style-type: none"> • Mount smoke sensors in rooms with sloped, peaked, or gabled ceilings whenever possible. If unavoidable, mount detector(s) within 3 feet (measured horizontally) from the highest point of the ceiling. • Mount smoke sensors in or near damp or very humid areas such as bathrooms with showers. • Install near fluorescent light fixtures. Noise from electrical lights may cause nuisance alarms. • Place sensors in location a where the temperature will exceed the smoke sensor operating limits of 40° to 100°F. • Mount in very dusty or dirty areas. • Mount near fresh air inlets or returns or excessively drafty areas. • Mount in areas where many insects are present.
Sensor	Do	Don't
<p>Sound Sensor 60-459</p> 	<ul style="list-style-type: none"> • Make sure the site is suitable for a sound sensor to avoid nuisance alarms. • Mount the sensor within 15 feet of glass to be protected. Be conservative in determining how much area the sound sensor will protect. The LM Sound Sensor can cover about 900 square feet. • Use a glass-break simulator to test the range of the sound sensor. • Program the sound sensor to be active only in the away mode. 	<ul style="list-style-type: none"> • Mount sensor in areas where glassware or china is stored. • Mount near noisy machinery. • Mount in mechanical rooms and furnace rooms. • Mount in areas where steam heat radiators hiss or clang. • Mount sensors in same room as an interior siren. (If unavoidable, mount at least 10 feet apart.) • Adjust sensitivity, because it's preset at the factory.

Sensor	Do	Don't
<p>Rate of Rise Heat Sensor 60-460</p> 	<ul style="list-style-type: none"> Use heat detector to protect property. Also use smoke detectors where life safety is involved. Ceiling mounting near the center of the area to be protected is recommended. Do not mount within 4 inches of a wall. If wall mounting, the top of the detector must be no closer than 4 inches but no further than 12 inches from the ceiling. 	<ul style="list-style-type: none"> Mount where ceiling temperatures exceed 100° F. Mount a Rate-of-Rise Sensor too close to something that changes temperature rapidly, for example, above an oven or near a heat duct, furnace or boiler.
<p>Freeze Sensor 60-504</p> 	<ul style="list-style-type: none"> Locate the sensor in an area that is likely to get cold first. Locate the sensor on an interior wall where there is free movement of air. 	<ul style="list-style-type: none"> Locate the sensor in the same room as a furnace, water heater, or any other heat source that may stay warm after the furnace fails. Locate the sensor on an outside wall or near the basement floor.
<p>Glass Guard Sensor 60-462</p> 	<ul style="list-style-type: none"> Mount sensor on glass at least 1 inch from the frame. Mount sensor on a fixed pane of glass. 	<ul style="list-style-type: none"> Use more than 4 additional devices in series with the sensor.
<p>PIR Motion 60-511 and 60-639-95R</p> 	<ul style="list-style-type: none"> Mount so there is a reference point (such as a wall) at the end of its detection pattern. Mount so that an intruder will most likely walk across the detection pattern. Mount 5 to 8 feet above the floor. Mount on an insulated outside wall facing in. Mount on a surface that is rigid and free from vibration. 	<ul style="list-style-type: none"> Mount in direct sunlight. Aim at air conditioners, heat vents, wood stoves, fireplaces, intermittent heat source, etc.... Aim at solar heated walls or uninsulated metal walls. Aim at moving objects. Mount in an area where the coverage may be blocked by any temporary items such as boxes or freight.

Installing SAW Door/Window Sensor (60-670-95R)

This task details installing the SAW door/window sensor. For programming and testing instructions, refer to the *Simon Security System Reference Manual* or the corresponding Simon training module.



NOTE

The sensor cover must be removed to see the alignment line.

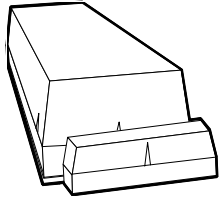
NOTE

When window or door construction does not allow the transmitter to be installed next to the magnet, use an external switch to install the Door/Window Sensor.

1. Remove the sensor cover by pressing the button on the narrow end.
2. Remove the batteries to access the mounting holes.
3. Mount the sensor base with two #6 flathead screws.
4. Remove the magnet from its base. Line up the arrow on the magnet with the mark on the sensor.
5. Mount the magnet base no more than 3/8-inch away from the sensor base.
6. Replace the magnet cover.
7. Re-install the batteries and attach the sensor cover to the sensor base.

Installing Crystal Door/Window Sensor (60-362)

This task details installing the door/window sensor. For programming and testing instructions, refer to the *Simon Security System Reference Manual* or the corresponding Simon training module.



CAUTION

You must be free of all static electricity when handling sensor circuit boards. Touch a grounded metal surface before handling the circuit board. Always handle the circuit board by the edges and never set the circuit board on any metallic surface.

NOTE

The sensor base has markings that indicate the position of the reed switches when the circuit board is reinstalled. Use the markings for aid in alignment. Spacers are available if the sensor will be mounted on a metallic surface or height alignment is needed.

NOTE

Ensure the magnet doesn't interfere with door or window opening. Do not use two sided tape to mount magnet.

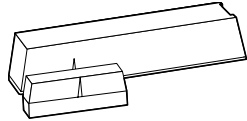
NOTE

After determining which reed switch will be used, remove the other reed switch by clipping the leads as close to the board as possible.

1. Remove the sensor cover by pressing on the end of the cover (that has an opening for wire) to release the tab on the cover from the slot on the sensor base.
2. Carefully remove the circuit board by pulling back on the tab and lifting the battery holder, or gently flex the plastic sensor base to release the circuit board. To guard against static, place the circuit board in the sensor cover before continuing.
3. Mount the sensor base using #6 flathead screws. Two screw holes are provided, one is enlarged to allow for sensor alignment. Two small additional holes are provided for mounting the sensor with 18 gauge wire nails (brads) and a brad driver.
4. Mount magnet base within 3/8" of the sensor's base, centered on the base's notch or tab. Use two #6 x 1/2" flathead screws.
5. Reattach the circuit board to the sensor base.
6. Reattach the sensor cover to the sensor base.

Installing the Slim Line Door/Window Sensor (60-499)

This task details installing the slim line door/window sensor. For programming and testing instructions, refer to the *Simon Security System Reference Manual* or the corresponding Simon training module.



1. Remove the sensor cover by pressing on the cover release catch.

NOTE

The notch on the sensor base indicates the reed switch position when the circuit board is installed.

NOTE

Make sure the magnet won't interfere with the door or window opening.

2. Mount the sensor base. Two screw holes are provided, one is enlarged to allow for sensor alignment.

Use #4 x 1" pan head screws when mounting the sensor.

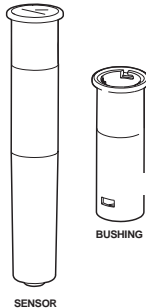
Two small additional holes are provided for mounting the sensor with 18 gauge wire nails (brads) and a brad driver.

3. Mount the magnet base within 3/8" of the sensor's base, centered on the notch. Use two #4 x 1" pan head screws or #18 x 1/2" wire nails.
4. Remove the spring from the accessory pack and place on the tamper switch.
5. Replace the sensor cover, while positioning the tamper spring to protrude through the hole in the sensor base.

The tamper switch detects removal of the cover or removal of the sensor from the wall.

Installing the Micro Recessed Door/Window Sensor (60-741-95)

This task details installing the recessed door/window sensor. For programming and testing instructions, refer to the *Simon Security System Installation Manual*.



1. Program the recessed door/window sensor and perform a dealer sensor test before installing the sensor.

To simulate mounting, test the transmitter by holding it on the exterior side of the door frame and then tripping it.

2. Using a 5/8-inch spade or paddle bit, drill a hole to the minimum depth of 3¾-inches in the door or the window frame.
3. Slide the transmitter tube into the hole. The lip of the tube should fit snugly against the door frame surface.
4. Perform a dealer sensor test to verify that the transmitter is still working.
5. Drill a ½-inch diameter hole for mounting the magnet in wood. The hole should be 2-inches deep and centered opposite the transmitter hole.
6. Place the magnet in the hole. It should fit tightly. If it doesn't fit tightly, secure it with an adhesive.
7. Perform a customer sensor test to be sure the sensor and magnet are aligned properly.

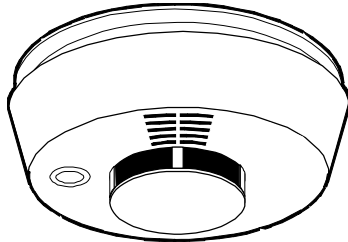
Installing the Magnet

NOTE

Ensure the magnet doesn't interfere with the door or window opening.

Installing System Sensor 2100 RF (60-506-319.5) and 2100ARFT (60-838-95) Smoke Sensors

This task details installing the 2100 RF and 2100ARFT Smoke Sensors. For programming and testing instructions, refer to the *Simon Security System Installation Manual* or the corresponding Simon training module.



Model 2100

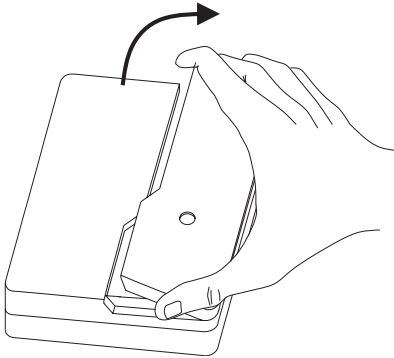
NOTE

The batteries are installed backwards at the factory. You must reinstall them correctly.

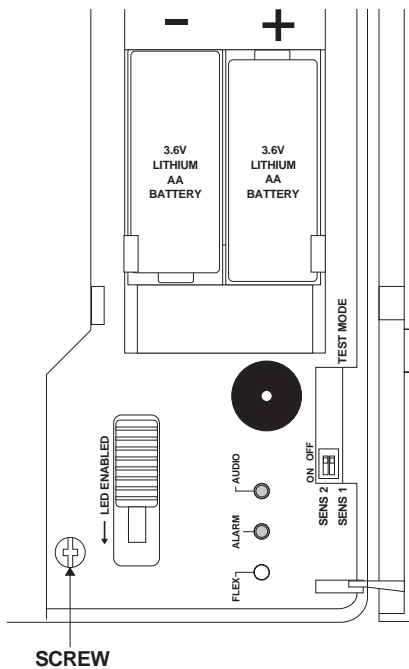
1. Remove the sensor's mounting bracket by gently twisting the sensor cover counterclockwise.
2. Mount bracket directly onto wood surfaces using #8, 1 ½" wood screws. If you mount it to plaster or drywall, use appropriate anchors.
3. Remove the batteries and reinstall them correctly because they are installed backwards at the factory.
4. Place the sensor in the mounting bracket by aligning the arrows on the mounting bracket with the raised marks on the smoke detector and twisting the smoke sensor clockwise until it locks in place.

Installing the FlexGuard® Sound Sensor (60-834)

This task illustrates installing the FlexGuard Sound Sensor. For programming and testing instructions, refer to the *Simon Security System Installation Manual*.

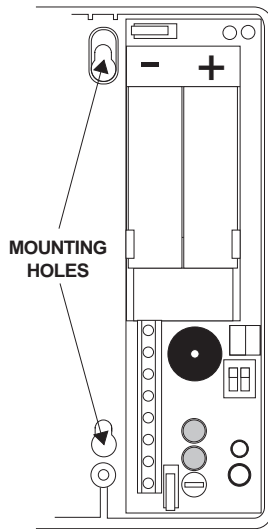


1. Open the sensor door by grasping it at the top and bottom with one hand and pulling upward.



2. Remove the sensor cover screw using a Phillips screwdriver.

3. Remove the sensor cover by first pulling up at the top of the cover, then lift up at the bottom.



- Place the sensor base on the desired location on the wall or ceiling and mark the narrow portion of the mounting holes.

NOTE

Use anchors if installing in plaster or drywall.

- Insert screws partially into the wall.

- Place the sensor base on the screws and slide the narrow portion of the mounting holes onto the screws.

- Gently tighten the screws to secure the sensor in place.

- Before attaching the sensor cover to the sensor, first close the door on the sensor cover.

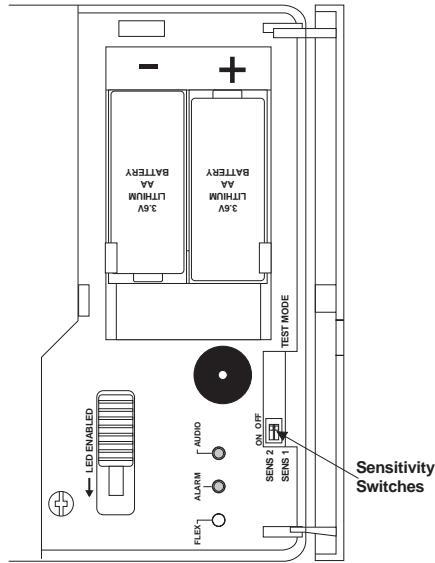
NOTE

Do not bend the tamper switch lever while installing the cover.

- Align the top edge of the cover and base, then swing the cover down in the direction of the arrow.

- Carefully open the door and while holding the cover in place, install the sensor cover screw.

Adjusting the Flex Sensitivity

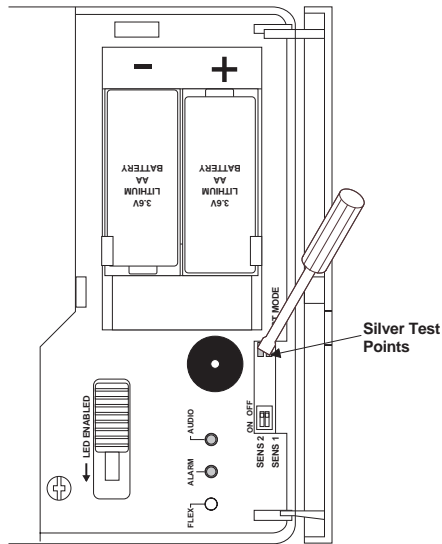


1. Open the sensor door
2. Remove the batteries.
3. Use a small screwdriver to move the sensitivity switches to the desired setting.

Sensitivity	SENS 1 Switch	SENS 2 Switch	Approximate Coverage
Max	Off	Off	25 Feet
Med	On	Off	15 Feet
Low	Off	On	10 Feet
Lowest	On	On	5 Feet

4. Reinstall the batteries.
5. Place the sensor in test mode.
6. Turn on any heating/air-conditioning system, and any other equipment in the sensor vicinity. Observe the green audio LED for one minute with equipment running. Excessive subsonic noise typically produced by air handling systems may cause the green audio LED to flash randomly.
7. If the LED flashes randomly, decrease the sensitivity according to the sensitivity settings in table.

FlexGuard Sound Sensor Testing (FG-700 Glass Break Simulator)



You must test the FlexGuard with either the FG-700 or the FG-701 Glass Break Simulator.

1. Set the panel to the dealer sensor test mode.
2. Open the sensor door (to view LEDs).

NOTE

The only LEDs are for audio and alarm. The flex LED hole should be empty.

3. Place the sensor in test mode by shorting out the silver test points on the sensor board using a small flathead screwdriver. When the sensor is in test mode the green LED will blink once per second.

NOTE

The sensor will return to normal mode after 5 minutes. To immediately return the sensor to normal mode short out the silver test points a second time.

4. Hold the tester at the farthest point of the glass to be protected (25 feet maximum).
5. Place the tester setting switches to “Flex” and “Temp.”
6. Within 30 seconds of arming the tester, generate a signal by striking the glass with your hand or a cushioned tool. The tester will automatically generate a burst of glass breaking sound, and the red LED on the sensor should light to indicate an alarm condition.
7. Listen for interior siren beeps to determine acceptable range (see panel installation instructions).

NOTE

If the sensor response is unacceptable, change the position or location of the sensor and retest.

FlexGuard Sound Sensor Testing (FG-7010 Glass Break Simulator)

You must test the FlexGuard with either the FG-700 or the FG-701 Glass Break Simulator.

1. Set the panel to the dealer sensor test mode.
2. Open the sensor door (to view LEDs).

NOTE

The only LEDs are for audio and alarm. The flex LED hole should be empty.

3. Place the sensor in test mode by placing the tester setting switches to "Activate" and "Man," then press the red button on the tester (within 15 feet of the sensor). The tester will emit a low frequency buzzing sound. When the sensor is in test mode the green LED will blink once per second.

NOTE

The sensor will return to normal mode after 5 minutes. To immediately return the sensor to normal mode, place the tester setting switches to "Activate" and "Man," then press the red button on the tester. The tester will emit a low frequency buzzing sound and the green LED will stop flashing.

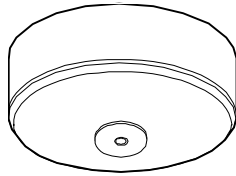
4. Hold the tester at the farthest point of the glass to be protected (25 feet maximum).
5. Place the tester setting switches to "Test" and "Flex."
6. Within 30 seconds of arming the tester, generate a signal by striking the glass with your hand or a cushioned tool. The tester will automatically generate a burst of glass breaking sound, and the red LED on the sensor should light to indicate an alarm condition.
7. Listen for interior siren beeps to determine acceptable range (see panel installation instructions).

NOTE

If the sensor response is unacceptable, change the position or location of the sensor and retest.

Installing the Rate of Rise Heat Sensor (60-460)

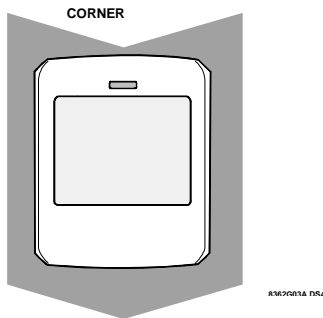
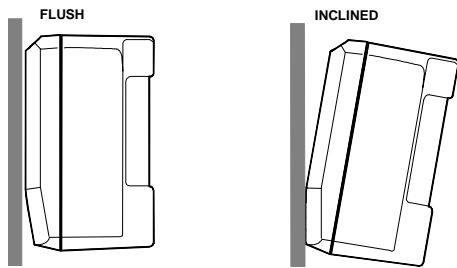
This details installing the rate of rise heat sensor. For programming and testing instructions, refer to the *Simon Security System Reference Manual* or the corresponding Simon Training Module.



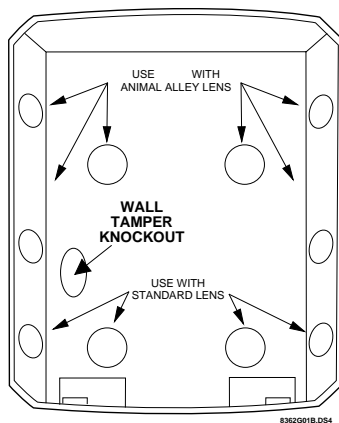
1. Remove the sensor's mounting bracket.
2. Mount bracket directly onto wood surfaces using #8, 1 1/2" wood screws. If you mount it to plaster or drywall use appropriate anchors.
3. Insert batteries and look for proper polarity.
4. Place the sensor in the mounting bracket by aligning the arrows on the mounting bracket and heat sensor.

Installing the SAW PIR Motion Sensor (60-639-95R)

This task details installing the SAW PIR Motion Detector (60-639-95R). For programming and testing instructions, refer to the *Simon Security System Reference Manual* or the Simon Training Module.



1. Decide which of the three mounting positions you will use for the sensor: flush, inclined, or corner.
2. Remove the mounting plate by pushing the button on top of the sensor body. With the opposite hand pull the mounting plate away from the body of the sensor.



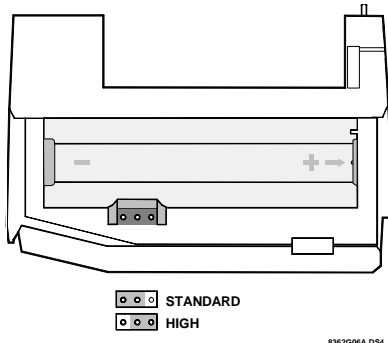
3. Punch out the mounting holes that best fit your application.

NOTE

For applications without pets, use the lower mounting holes. For applications with pets, use the upper mounting holes and the animal alley lens (ITI # 13-381).

4. Mark the location of the required holes on the mounting surface.
5. Use wall anchors and screws to secure into place.
6. If you want wall-tamper functionality, remove the wall tamper knock-out. The wall tamper switch cannot be used when the sensor is corner mounted.
7. Attach the sensor to the mounting plate.

Setting the PIR Sensitivity



1. Locate the sensitivity pins by first removing the mounting plate and the sensor cover.
2. The two sensitivity pins are located under the battery on the right side of the PIR when looking at the front of the PIR. The sensor is set to standard sensitivity at the factory. To change this to high sensitivity, move the shorting jumper to the pair of pins that are closer to the top of the PIR. If the shorting jumper is not used or if it is placed incorrectly, the sensor defaults to standard sensitivity.

NOTE

The PIR is set to standard sensitivity at the factory. This sensitivity is preferred for most applications and provides the best immunity to false alarms. High sensitivity should only be used in quiet environments where thermal transients are not expected.

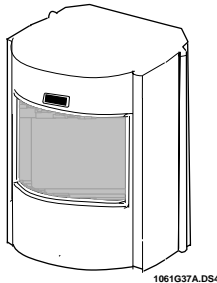
3. Walk test the PIR to verify the sensitivity.

The PIR walk test is enabled by removing and replacing the back mounting plate from the sensor. The LED on the PIR will light each time motion is detected while in the walk test mode. The walk test is disabled automatically after 90 seconds.

Installing the Wall Mount PIR Motion Sensor (60-511)

This task details installing the DS924 motion detector (PIR). For programming and testing instructions, refer to the *Simon Security System Reference Manual* or the corresponding Simon training module.

You can mount the PIR with the swivel bracket or without.



Mounting without Swivel Bracket

NOTE

If you are mounting the base in drywall or plaster, first drill a 1/8" pilot hole. This will help you determine what type of material is behind the surface and whether to use a drywall anchor or the #6 x 1" wood screw.

Mounting with the Swivel Bracket

NOTE

If you are mounting the base in drywall or plaster, first drill a 1/8" pilot hole. This will help you determine what type of material is behind the surface and whether to use a drywall anchor or the #6 x 1" wood screw.

1. Remove the mounting plate by gently pushing in with your thumb and prying it away from the PIR body.
2. Remove the PIR cover.
3. Secure the mounting plate using either of the corner-mount knock outs that fit the mounting situation.
4. Place the PIR body into the mounting plate and secure it to the mounting plate using the mounting plate screw.
5. Set the pulse sensitivity. See the DS924 instructions for more information.
6. Remove the mounting plate by gently pushing in with your thumb and prying it away from the PIR base.
7. Mount the swivel bracket with the #6 x 1" wood screw for the corner mount or flat surface oriented with the hallway.
8. Using the #6 x 5/8" metal screw secure mounting plate to the swivel bracket. Tighten the screw until snug. Don't tighten it fully yet.
9. Replace PIR base into mounting plate. Check the PIR for correct alignment. Gently remove the PIR base from the mounting plate and fully tighten the metal screw in the swivel bracket.
10. Replace the PIR base into the mounting plate and secure it to the mounting plate with the mounting plate screw.

Installing the Shock Sensor (60-461)

This task details installing the shock sensor. For programming and testing instructions, refer to the *Simon Security System Reference Manual* or the corresponding Simon training module.



NOTE

If only the self-contained reed switches will be used, place a jumper between terminals 2 and 3 on the transmitter circuit board. (Terminal 3 is located closest to the battery.)

NOTE

If you are mounting the base in drywall or plaster, first drill a 1/8" pilot hole. This will help you determine what type of material is behind the surface and whether to use a drywall anchor or the #6 x 1" wood screw.

1. Remove the sensor cover to disengage the top of the cover from the slot in the sensor base.

2. Carefully remove the circuit board by pulling back on the tab and lifting the battery holder, or gently flex the plastic sensor base to release the circuit board. To guard against static, place the circuit board in the sensor cover before continuing.

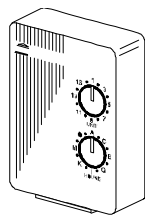
3. Secure the sensor using the two screw holes in the base.

One hole is larger to allow alignment of the sensor.

4. Put the sensor circuit board back into place, sliding the reed-switch end in first then snapping the board in place. Be sure the locking tab is secure and the board is level.

Installing the X-10 Lamp Control Module (13-204)

This task details installing the X-10 Lamp Module.



X-10 Lamp Module

1. Make sure the panel uses the Line Carrier Transformer (60-678).
2. Plug the lamp cord into the bottom of the X-10 Lamp Module.
3. Plug the X-10 Lamp Module into a lower AC outlet.
4. Determine the house code that is programmed into the panel and set it on the X-10 Lamp Module.
5. Turn on the lamp plugged into the lamp module.

Module 4-Programming

Introduction

This module teaches the installer how to program the Simon system.

What's in This Module

Tripping Learn Mode Wireless Sensors	4-7
Programming Options	4-9
Programming the House Code and Unit Numbers.....	4-16
Programming Light and Appliance Controls.....	4-16
Programming System Access Codes	4-18
Programming the Latchkey Feature.....	4-19
Installation and Programming Exercise.....	4-21

Entering Programming Mode

This task covers entering the programming mode. You must enter programming mode before you can program any of the on-site programming options.

NOTE

Some systems may come programmed from the factory with other than the listed default settings.

1. Disarm.
2. Open the control panel cover.
3. Enter the Utility Access Code 1 or Utility Access Code 2 (default is 4321).
4. The panel voice command tells you what to do next.

Exiting Programming Mode

This task covers exiting programming mode. You must exit programming mode to place the system back in normal mode.

- Close the panel cover.
The system beeps once.

Clearing Memory

This task covers clearing the Simon system memory.

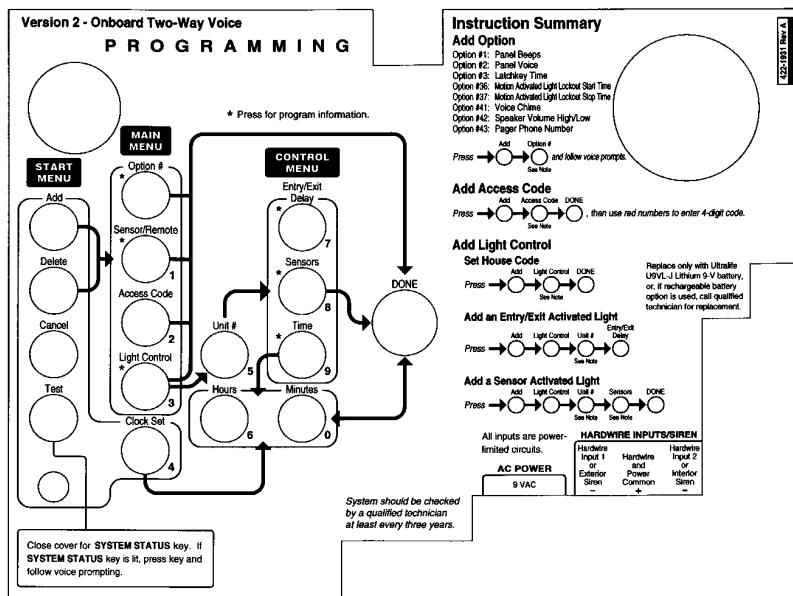
1. Disconnect the backup battery and the panel power.
2. Press and hold the following three buttons at the same time:
 - Cancel
 - Clock Set
 - Minutes
3. While holding the buttons, power up the panel.
4. The system memory is clear.

Student Notes:

Learning Sensors and Touchpads

This task covers “learning” sensors (hardwire and wireless) and touchpads for the Simon system.

1. Enter program mode.
2. Press Add on the Start Menu.



8988G44A.DSF

3. Press Sensor/Remote on the Main Menu.
4. Press Sensor/Remote again until you hear the name of the voice descriptor you want to add.

If you want the compass direction inserted before the sensor name, press the Option button to cycle through the compass directions (North, Northeast, etc.)
5. Each time you press Sensor/Remote, the system announces the next name in the list. When you reach the end of the list, it starts over.
6. Press the DONE button to select the name you want to add.
7. Enter the sensor type number.
8. Trip the sensor—refer to page 4-8

The system announces the sensor name and sensor type, and it verifies that it was programmed.
9. Add other sensors by repeating steps 2 through 8.
10. When you complete adding the sensors, close the panel cover to exit programming mode.

Recommended Sensor Types

Device	Recommended Sensor Type
Key Chain Touchpad	01, 03, 06, 07
Remote Handheld Touchpad	01, 03, 06, 07
Indoor Motion Sensor	17 (intrusion), 25 (chime)
Outdoor Motion Sensor	25
Smoke Sensor	26
Exterior Door	10
Interior Door	14
Window Sensor	13

Sensor Type Characteristics

Type	Name/Application	Siren Type	Delay	Restoral	Supervisory	Active in Levels
00	Fixed Panic: 24 hour audible fixed emergency button	Intrusion	I	No	Yes	1234
01	Portable Panic: 24 hour audible portable emergency buttons	Intrusion	I	No	No	1234
02	Fixed Panic: 24 hour silent fixed emergency buttons	Silent	I	No	Yes	01234
03	Portable Panic: 24 hour silent portable emergency buttons	Silent	I	No	No	01234
04	Fixed auxiliary: 24 hour auxiliary sensor, such as Pendant Panic	Emergency	I	No	Yes	01234
05	Fixed Auxiliary: 24 hour emergency button. Siren shut off confirms CS report	Emergency	I	No	Yes	01234
06	Portable Auxiliary: 24 hour portable auxiliary alert button	Emergency	I	No	No	01234
07	Portable Auxiliary: 24 hour portable auxiliary button. Siren shut off confirms CS report	Emergency	I	No	No	01234
08	Special Intrusion: such as gun cabinets and wall safes.	Intrusion	I	Yes	Yes	1234
09	Special Intrusion: such as gun cabinets and wall safes.	Intrusion	S	Yes	Yes	1234
10	Entry/Exit Delay: Entry/Exit Delay that require a standard delay time. Chime	Intrusion	S	Yes	Yes	24
13	Instant perimeter: Exterior doors and windows. Chime	Intrusion	I	Yes	Yes	24
14	Instant Interior: Interior doors	Intrusion	F	Yes	Yes	234
15	Instant Interior: Interior PIR motion sensors*	Intrusion	F	No	Yes	234
16	Instant Interior: Interior doors	Intrusion	F	Yes	Yes	34
17	Instant Interior: PIR motion sensors*	Intrusion	F	No	Yes	34
19	Delayed Interior: interior doors that initiate a delay before going into alarm*	Intrusion	S	Yes	Yes	34
20	Delayed Interior: PIR motion sensors that initiate a delay before going into alarm*	Intrusion	S	No	Yes	34

Type	Name/Application	Siren Type	Delay	Restoral	Supervisory	Active in Levels
21	Local Instant Interior: 24 hour local alarm zone protecting anything that opens and closes. No Report	Intrusion	I	Yes	Yes	1234
22	Local delayed interior: same as group 21, plus activation initiates a delay before going into alarm. No report.*	Intrusion	S	Yes	Yes	1234
23	Local instant Auxiliary: 24 hour local alarm zone protecting anything that opens and closes.‡ No report	Emergency	I	Yes	Yes	01234
24	Local Instant Auxiliary: 24 hour local alarm zone protecting anything that opens and closes. Sirens shut off at restoral. No report.*	Emergency	I	Yes	Yes	01234
25	Local Special Chime: Notify the user when a door is opened. Sounds emit from a local annunciator.* No report	Two beeps	I	No	Yes	01234
26	Fire: 24 hour fire, rate-of-rise heat, and smoke sensors§.	Fire	I	Yes	Yes	01234
27	Lamp control or other customer feature.‡ No report	Silent	I	Yes	Yes	01234
28	PIR motion sensor, sound sensor, or pressure mat.‡ No report	Silent	I	No	Yes	01234
29	Auxiliary: freeze sensor	Emergency	I	Yes	Yes	01234
32	PIR motion sensor or sound sensor‡ No report	Silent	I	No	No	01234
33	SWIS	Silent	1	Yes	Yes	01234
34	Carbon Monoxide Sensor	Emergency	I	Yes	No	01234

*This type is not certified as a primary protection circuit for UL-listed systems and is for supplementary use only.
 §This type is required for UL-listed residential fire alarm applications.
 ‡This type has not been investigated by UL.
 The arming levels are :
 0 = Subdisarmed
 1 = Disarm
 2 = Arm Doors and Windows
 3 = Arm Motion Sensors
 4 = Arm Doors/Windows and Motion Sensors
 Delays:
 I = Instant (no delay, immediate alarm)
 S = Standard Delay (alarm sounds after programmed entry delay time)
 F = Follower Delay (alarm sounds immediately if entry/exit delay is not active, otherwise alarm sounds after programmed entry delay time)

Student Notes:

Deleting Sensors and Touchpads

This task covers deleting sensors (hardwire and wireless) and touchpads. If you want to change a sensor's group, you must delete the sensor, then add it to the other group.

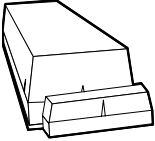
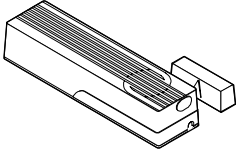
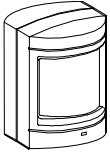
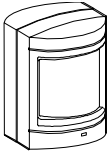
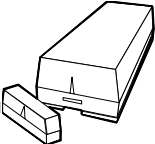
1. Enter program mode.
2. Press Delete on the Start Menu.
3. Press Sensor/Remote on the Main Menu.
4. Press Sensor/Remote again until you hear the name of the sensor you want to delete.

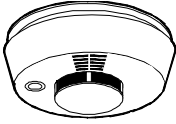
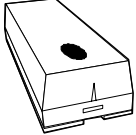
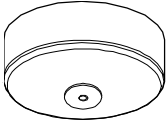
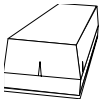
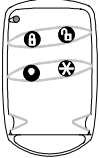
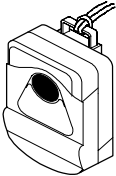
Each time you press Sensor/Remote, the system announces the next name in the list of sensors. When you reach the end of the list, it starts over.

5. When you hear the name of the sensor you want to delete, press the DONE button.
6. Delete other sensors by repeating steps 2 through 5.
7. When you complete deleting sensors, close the panel cover to exit program mode.

Tripping Learn Mode Wireless Sensors

This task lists how to trip the most common wireless sensors.

Sensor	Action
<p>Crystal Door/Window</p> 	<p>Remove the sensor cover.</p>
<p>SAW Door/Window</p> 	<p>Remove the sensor cover and press the PRESS TO PROGRAM button.</p>
<p>Crystal PIR Motion</p> 	<p>Remove the sensor front cover.</p>
<p>SAW PIR Motion</p> 	<p>Remove the sensor's back cover.</p>
<p>Shock</p> 	<p>Remove the sensor cover.</p> <p>NOTE Do not wire the shock detector to the sensor terminals until after programming the device.</p>

Sensor	Action
<p data-bbox="264 254 483 289">System Smoke</p> 	<p data-bbox="688 254 1357 321">Press and hold the test button until the system sounds transmission beeps.</p>
<p data-bbox="326 520 423 556">Freeze</p> 	<p data-bbox="688 520 1000 552">Remove the sensor cover.</p>
<p data-bbox="170 762 578 798">Rate-of-rise Heat Detector</p> 	<p data-bbox="688 762 959 793">Trip the Learn Switch.</p>
<p data-bbox="284 1010 464 1045">Glass Guard</p> 	<p data-bbox="688 1010 1000 1041">Remove the sensor cover.</p>
<p data-bbox="228 1241 519 1276">Keychain Touchpad</p> 	<p data-bbox="688 1241 1442 1308">Press and hold the lock and unlock buttons together for 3 full seconds.</p>
<p data-bbox="246 1499 501 1535">Emergency Panic</p> 	<p data-bbox="688 1499 1377 1566">Press and hold the appropriate panic button(s) for 3 full seconds.</p>
<p data-bbox="151 1780 212 1808">NOTE</p> <p data-bbox="151 1808 1243 1839">Refer to the sensor installation instructions for more details on tripping Learn Mode wireless sensors.</p>	

Programming Options

This task covers programming the panel configuration options that control how the system operates and communicates.

- To add an option follow the steps below in the *Instructions* column in the *Options Table*.
- When you want to *delete* an option, follow the steps in the instructions column. Press the Delete key instead of the Add key in the START MENU.
- You must be in program mode to program options.

TABLE 4-1. Options Table.

Option Number/Reporting	Function	Default	Range	Who Can Change: U1 - Utility Access Code 1; U2 - Utility Access Code 2; M - Master; A - Access Codes	Instructions
01	Panel Beeps	On	On/Off	U1 U2 M A	1. Press Add from the Start menu. 2. Press Option # 01 with the red numbered keys. 3. Press DONE.
02	Panel Voice	On	On/Off	U1 U2 M A Note: Voice is always on for status messages, open sensor responses, and in program mode.	1. Press Add from the Start menu. 2. Press Option # 02 with the red numbered keys. 3. Press DONE.
03 Reports as 99	Latchkey Option	Off	12:00 a.m. - 11:59 p.m.	U1 U2 M A	1. Press Add from the Start menu. 2. Press Option # 03. 3. Press Hours and Minutes to set the time. 4. Press DONE.
04	Primary Phone Number*	None	22 digits	U1	1. Press Add from the Start menu. 2. Press Option # 04. 3. Enter a phone number with the red numbered keys. Press Test to enter a pause in the phone number. * 4. Press DONE.
05	Secondary Phone Number*	None	22 digits	U1	1. Press Add from the Start menu. 2. Press Option # 05. 3. Enter a phone number with the red numbered keys. Press Test to enter a pause in the phone number. * 4. Press DONE. Note: When using it to call a numeric pager, program this phone number with 2 pauses (press the test button to program a pause) at the end of the number. Set Phone Mod 2 (option 13) to 8 or 9. The panel will call a numeric pager twice for each report. Pagers that require the panel to dial more than 22 digits will not work. Silent alarms report to a pager as an intrusion alarm. See the Owner's Manual for more reporting information.
06	Downloader Phone Number (ITI ToolBox Downloader)	None	22 digits	U1	1. Press Add from the Start menu. 2. Press Option # 06. 3. Enter a phone number with the red numbered keys. Press Test to enter a pause in the phone number. * 4. Press DONE.

* The phone number is automatically stored after you've pressed 22 digits. You will not need to press DONE to store the number. If the number is less than 22 digits, then DONE must be pressed.

TABLE 4-1. Options Table.

Option Number/Reporting	Function	Default	Range	Who Can Change: U1 - Utility Access Code 1; U2 - Utility Access Code 2; M - Master; A - Access Codes	Instructions
07	Account Number	00000	00000-99999	U1 U2	1. Press Add from the Start menu. 2. Press Option # 07. 3. Enter the account number.
08	Phone Lock	Off	On/Off	U1	1. Press Add from the Start menu. 2. Press Option # 08. 3. Press DONE.
09	Downloader Code	12345	00000-99999	U1	1. Press Add from the Start menu. 2. Press Option # 09. 3. Enter the downloader code.
10	Entry Delay	30 sec	005-120 sec	U1 U2	1. Press Add from the Start menu. 2. Press Option # 10. 3. Enter the delay time in seconds (3 digits must be entered).
11	Exit Delay	30 sec	005-120 sec	U1 U2	1. Press Add from the Start menu. 2. Press Option # 11. 3. Enter the delay time in seconds (3 digits must be entered). Note: For UL systems, the exit delay should not exceed 45 seconds.
12	Phone Mod 1 Sets report content and format used by the primary phone number	0	0-3	U1	1. Press Add from the Start menu. 2. Press Option # 12. 3. Enter phone mod number. Mod # Reports Format 0 All SIA 1 All CID 2 Alarms SIA 3 Alarms CID
13	Phone Mod 2 Sets report content and format used by the secondary phone number	0	0-9		1. Press Add from the Start menu. 2. Press Option # 13. 3. Enter phone mod number. Mod # Reports Format 0 All SIA 1 All CID 2 Alarms SIA 3 Alarms CID 4 Non-alarms SIA 5 Non-alarms CID 6 Phone 1 failure SIA 7 Phone 1 failure CID 8 Latchkey/No Activity/Phone Test Pager 9 Alarms/Latchkey/No Activity/Phone Test Pager

TABLE 4-1. Options Table.

Option Number/ Reporting	Function	Default	Range	Who Can Change: U1 - Utility Access Code 1; U2 - Utility Access Code 2; M - Master; A - Access Codes	Instructions
14	DTMF	On	On/Off	U1 U2	1. Press Add from the Start menu. 2. Press Option # 14. (Delete enables pulse dialing) 3. Press DONE.
15 Reports as 79	No Activity	Off	02-24 hrs	U1 U2	1. Press Add from the Start menu. 2. Press Option # 15. 3. Enter the no activity time-out in hours (2 digits must be entered).
16 Reports as 93	Auto Phone Test Option (Must be enabled for UL Listed systems)	Off	001-254 days	U1 U2	1. Press Add from the Start menu. 2. Press Option # 16. 3. Enter the number of days between each auto phone test (3 digits must be entered).
17	Dialer Delay	Off	001-120 sec	U1 U2	1. Press Add from the Start menu. 2. Press Option # 17. 3. Enter the dialer delay in seconds (3 digits must be entered). Note: For UL systems, the delay cannot exceed 45 seconds. Note: The panel will not wait for the set dialer delay to call in an alarm if the panel is disarmed before the dialer delay expires and opening reports (Option 21) are on. Both the alarm and opening report will be called in immediately.
18	Alarm Cancel If enabled and the panel is disarmed from an alarm state within the set time, the panel will send an alarm-cancel message.	Off	01-30 min	U1 U2	1. Press Add from the Start menu. 2. Press Option # 18. 3. Enter the alarm cancel time in minutes (2 digits must be entered).
19	Supervisory Time (SUPSYNC)	12 hrs	02-24 hrs	U1 U2	1. Press Add from the Start menu. 2. Press Option # 19. 3. Enter the supervisory time in hours (2 digits must be entered). Note: For UL listed systems, the SUPSYNC shall not exceed 4 hours.
20 Reports as 83	Manual Phone Test	On	On/Off	U1 U2	1. Press Add from the Start menu. 2. Press Option # 20. 3. Press DONE.
21 Reports as 84	Opening Reports	Off	On/Off	U1 U2	1. Press Add from the Start menu. 2. Press Option # 21. 3. Press DONE.
22 Reports as 85	Closing Reports	Off	On/Off	U1 U2	1. Press Add from the Start menu. 2. Press Option # 22. 3. Press DONE.

TABLE 4-1. Options Table.

Option Number/ Reporting	Function	Default	Range	Who Can Change: U1 - Utility Access Code 1; U2 - Utility Access Code 2; M - Master; A - Access Codes	Instructions
23 Reports as 87	Forced Arm	Off	On/Off	U1 U2	1. Press Add from the Start menu. 2. Press Option # 23. 3. Press DONE.
24 Reports as 90	AC Power Failure (Must be enabled for UL Listed systems)	Off	On/Off	U1 U2	1. Press Add from the Start menu. 2. Press Option # 24. 3. Press DONE.
25 Reports as 91	CPU Low Battery (Must be enabled for UL Listed systems)	On	On/Off	U1 U2	1. Press Add from the Start menu. 2. Press Option # 25. 3. Press DONE.
26 Reports as 96	Fail to Communicate (Must be enabled for UL Listed systems)	On	On/Off	U1 U2	1. Press Add from the Start menu. 2. Press Option # 26. 3. Press DONE.
27	Ring/Hang/ Ring	1	1-4	U1 U2	1. Press Add from the Start menu. 2. Press Option # 27. 3. Enter the ring/hang/ring number. Ring/Hang/Ring Numbers # Panel will answer after: 1 ring/hang/ring or 10 rings 2 ring/hang/ring/hang/ring or 10 rings 3 ring/hang/ring/hang/ring/hang/ring or 10 rings 4 10 rings
28	No Delay from KeyChain Touchpad	Off	On/Off	U1 U2	1. Press Add from the Start menu. 2. Press Option # 28. 3. Press DONE.
29	Control Panel Alarms (enables panel piezo)	On	On/Off	U1 U2	1. Press Add from the Start menu. 2. Press Option # 29. 3. Press DONE. Note: For UL listed systems, at least one listed external audible signal device shall be used if the external piezo is disabled.
30	Panic Alarms	On	On/Off	U1 U2	1. Press Add from the Start menu. 2. Press Option # 31. 3. Press DONE.

TABLE 4-1. Options Table.

Option Number/ Reporting	Function	Default	Range	Who Can Change: U1 - Utility Access Code 1; U2 - Utility Access Code 2; M - Master; A - Access Codes	Instructions
31	Day of Week	0	0-6	U1 U2	<ol style="list-style-type: none"> 1. Press Add from the Start menu. 2. Press Option # 31. 3. Enter the day of week number. # Day of the Week 0 Sunday 1 Monday 2 Tuesday 3 Wednesday 4 Thursday 5 Friday 6 Saturday
32	300 Baud Central Station Communications	Off	On/Off	U1 U2	<ol style="list-style-type: none"> 1. Press Add from the START MENU. 2. Press Option # 32. 3. Press DONE.
33	Audio Verification	Off	On/Off	U1 U2	<ol style="list-style-type: none"> 1. Press Add from the START MENU. 2. Press Option # 33. 3. Press DONE.
34	Fail to Open	Off	12:00 AM - 11:59 PM	U1 U2	<ol style="list-style-type: none"> 1. Press Add from the START MENU. 2. Press Option # 34. 3. Press Hours and Minutes to Set Time. 4. Press DONE.
35	Fail to Close	Off	12:00 AM - 11:59 PM	U1 U2	<ol style="list-style-type: none"> 1. Press Add from the START MENU. 2. Press Option # 35. 3. Press Hours and Minutes to set the time. 4. Press DONE.
36	Sensor Activated Light Lockout Start Time	Off	12:00 AM - 11:59 PM	U1 U2 M	<ol style="list-style-type: none"> 1. Press Add from the START MENU. 2. Press Option # 36. 3. Press Hours and Minutes to set the time. 4. Press DONE.
37	Sensor Activated Light Lockout Stop Time	Off	12:00 AM - 11:59 PM	U1 U2 M	<ol style="list-style-type: none"> 1. Press Add from the START MENU. 2. Press Option # 37. 3. Press Hours and Minutes to set the time. 4. Press DONE.
38	Auto Arm (Sensor Bypassing)	Off	On/Off	U1 U2	<ol style="list-style-type: none"> 1. Press Add from the START MENU. 2. Press Option # 38. 3. Press DONE.
39	Siren Time Out	04 min	01 - 30 minutes	U1 U2	<ol style="list-style-type: none"> 1. Press Add from the Start menu. 2. Press Option # 39. 3. Enter the siren time out in minutes (2 digits must be entered).
40	Trouble Beeps	On	On/Off	U1 U2	<ol style="list-style-type: none"> 1. Press Add from the START MENU. 2. Press Option # 40. 3. Press DONE.

TABLE 4-1. Options Table.

Option Number/Reporting	Function	Default	Range	Who Can Change: U1 - Utility Access Code 1; U2 - Utility Access Code 2; M - Master; A - Access Codes	Instructions
41	Chime Voice	Off	On/Off	U1 U2 M	1. Press Add from the START MENU. 2. Press Option # 41. 3. Press DONE.
42	Speaker Level*	On	On/Off	U1 U2 M	1. Press Add from the START MENU. 2. Press Option # 42. 3. Press DONE.
43	Pager Phone Number*	Off	22 digits	U1 U2 M	1. Press Add from the Start menu. 2. Press Option # 43. 3. Enter a phone number with the red numbered keys. Press Test to enter a pause in the phone number. * 4. Press DONE. Note: When using it to call a numeric pager, program this phone number with 2 pauses (press the test button to program a pause) at the end of the number. Set Phone Mod 3 (option 44) to 8 or 9. The panel will call a numeric pager twice for each report. Pagers that require the panel to dial more than 22 digits will not work. Silent alarms report to a pager as an intrusion alarm. See the Owner's Manual for more reporting information.
44	Pager Phone Mod 3	9	8 or 9	U1 U2	1. Press Add from the Start menu. 2. Press Option # 44. 3. Enter phone mod number. Mod # Reports Format 8 Latchkey/No Activity/Phone Test Pager 9 Alarms/Latchkey/No Activity/Phone Test Pager
45	Sensor Alarm Restoral	Off	On/Off	U1 U2	1. Press Add from the START MENU. 2. Press Option # 45. 3. Press DONE.
46	Fire Shutdown - AVM*	Off	On/Off	U1 U2	1. Press Add from the START MENU. 2. Press Option # 46. 3. Press DONE.
47	Audio Verification Mode*	Off	On/Off	U1 U2	1. Press Add from the START MENU. 2. Press Option # 47. 3. Press DONE.
48	Panic Talk - AVM*	Off	On/Off	U1 U2	1. Press Add from the START MENU. 2. Press Option # 48. 3. Press DONE.
49	Rechargeable Battery	Off	On/Off	U1 U2	1. Press Add from the START MENU. 2. Press Option # 49. 3. Press DONE.

* The phone number is automatically stored after you've pressed 22 digits. You will not need to press DONE to store the number. If the number is less than 22 digits, then DONE must be pressed.

TABLE 4-1. Options Table.

Option Number/Reporting	Function	Default	Range	Who Can Change: U1 - Utility Access Code 1; U2 - Utility Access Code 2; M - Master; A - Access Codes	Instructions
50	RF Jam Detect	Off	On/Off	U1 U2	1. Press Add from the START MENU. 2. Press Option # 50. 3. Press DONE.
51	24 Hour Battery Test	Off	On/Off	U1 U2	1. Press Add from the START MENU. 2. Press Option # 51. 3. Press DONE.
52	High Level Status	Off	On/Off	U1 U2	1. Press Add from the START MENU. 2. Press Option # 52. 3. Press DONE.
53	Hardwire Siren Supervision	Off	On/Off	U1 U2	1. Press Add from the START MENU. 2. Press Option # 53. 3. Press DONE.

* The phone number is automatically stored after you've pressed 22 digits. You will not have to press DONE to store the number. If the number is less than 22 digits, then DONE must be pressed.

Programming the House Code and Unit Numbers

This task covers programming the house code and unit numbers for lamp modules, appliance modules, and remote sirens.

To Program House Code

1. Enter program mode.
2. Press Add from the START MENU.
3. Press Light Control from the MAIN MENU until you hear the house code letter you want.
4. Press DONE.
5. Set the house code on each lamp and appliance module.
6. Set the house code on the remote siren to the next letter in the alphabet.

To Assign a Unit Number

1. Set the UNIT number dial on each module to the unit number you planned.

Programming Light and Appliance Controls

This task covers programming the light and appliance controls for the Simon System.

To Add an Entry/Exit Activated Light

1. Enter program mode.
2. Press Add from the START MENU.
3. Press Light Control from the MAIN MENU.
4. Press Unit # until you hear the number you chose on the module.
5. Press Entry/Exit Delay from the CONTROL MENU.

The panel confirms your programming.

To Delete an Entry/Exit Activated Light

1. Enter program mode.
2. Press Delete from the START MENU.
3. Press Light Control from the MAIN MENU.
4. Press Unit # until you hear the number you want to delete.
5. Press Entry/Exit Delay from the CONTROL MENU.

The panel confirms your programming.

To Add a Sensor Activated Light

1. Enter program mode.
2. Press Add from the START MENU.
3. Press Light Control from the MAIN MENU.
4. Press Unit # until you hear the number you chose on the module.
5. Press Sensors from the CONTROL MENU until you hear the number of the sensor you want to control the light.
6. Press DONE.

The panel confirms your programming.

To Delete a Sensor Activated Light

1. Enter program mode.
2. Press Delete from the START MENU.
3. Press Light Control from the MAIN MENU.
4. Press Unit # until you hear the number you want.
5. Press Sensors from the CONTROL MENU until you hear the number of the sensor you want to delete.
6. Press DONE.

The panel confirms your programming.

To Add a Time Activated Light

1. Enter program mode.
2. Press Add from the START MENU.
3. Press Light Control from the MAIN MENU.
4. Press Unit # until you hear the number you chose on the module.
5. Press Time from the CONTROL MENU.
6. Press Hours and Minutes to set the beginning of the schedule.
7. Press DONE.
8. Press Hours and Minutes to set the end of the schedule.
9. Press DONE.

The panel confirms your programming.

To Delete a Time Activated Light

1. Enter program mode.
2. Press Delete from the START MENU.
3. Press Light Control from the MAIN MENU.
4. Press Unit # until you hear the number you want.
5. Press Time from the CONTROL MENU.

Programming System Access Codes

This task covers programming the system access codes.

1. Enter program mode.
2. Press Add from the START MENU.
3. Press Access Code on the MAIN MENU. Continue pressing the Access Code button until you hear the name of the access code you want to change.
4. Press DONE.
5. Using the red keys, enter the new access code.

The panel announces the new access code.

To Delete an Access Code

1. Enter program mode.
2. Press Delete from the START MENU.
3. Press Access Code on the MAIN MENU. Continue pressing the Access Code button until you hear the name of the access code you want to delete.
4. Press DONE.

The panel announces the name of the deleted access code.

Programming the Latchkey Feature

This task covers programming the Latchkey feature.

Programming the Latchkey feature consists of five tasks:

- Programming the Latchkey time (installer or homeowner).
- Programming a phone number into the panel.
 - Option 05 (installer only)
 - Option 43 (installer or homeowner)
- Select reporting option
 - Option 13 (installer only)
 - Option 44 (installer or homeowner)
- Setting the clock (installer or homeowner)
- Activate Latchkey by arming the system (homeowner).

Program Latchkey Time

1. Enter program mode.
2. Press Add from the START MENU.
3. Press Option # three times.

You will hear:



"OPTION 3, PRESS AGAIN FOR NEXT OPTION OR SET LATCHKEY HOURS AND MINUTES THEN PRESS DONE OR PRESS CANCEL TO QUIT."

4. Press the Hours button until you've selected the hour for the latchkey time.
5. Press the Minutes button until you've selected the minutes for the Latchkey time.
6. Press the DONE button.

You will hear:



"OPTION 3, LATCHKEY TIME IS XX:XX P.M."

NOTE

XX is the time the panel announces for the Latchkey time.

Program Secondary Phone Number (or pager number)

1. Enter program mode.
2. Press Add from the START MENU.
3. Press Option # 05 or Option # 43.

You will hear:



"OPTION XX, PRESS AGAIN FOR NEXT OPTION OR USE RED NUMBERED KEYS TO ENTER PHONE NUMBER. THEN PRESS DONE OR PRESS CANCEL TO QUIT."

NOTE

For pager numbers, add two pauses at the end of the number by pressing the Test button twice after entering the phone number.

Setting Phone Mod 2 (Option 13) or Phone Mod 3 (Option 44)

4. Enter the pager phone number by pressing the red numbered keys then press the Test button twice.
5. Press the DONE button.

You will hear:



"OPTION 5, PHONE NUMBER XXX-XXXX P, P."

1. Enter program mode.
2. Press Add from the START MENU.
3. Press Option # 13 and Option # 44

You will hear:



"OPTION XX, PRESS AGAIN FOR NEXT OPTION OR USE RED NUMBERED KEYS TO ENTER OPTION."

4. Press 8 or 9.

You will hear:



"OPTION 13 IS 8 (OR 9)."

Activate Latchkey (done by homeowner when arming the system)

1. Exit programming mode.
2. Press ARM Motion Sensors twice when arming the system.

NOTE

If the time has not been set, you will hear:



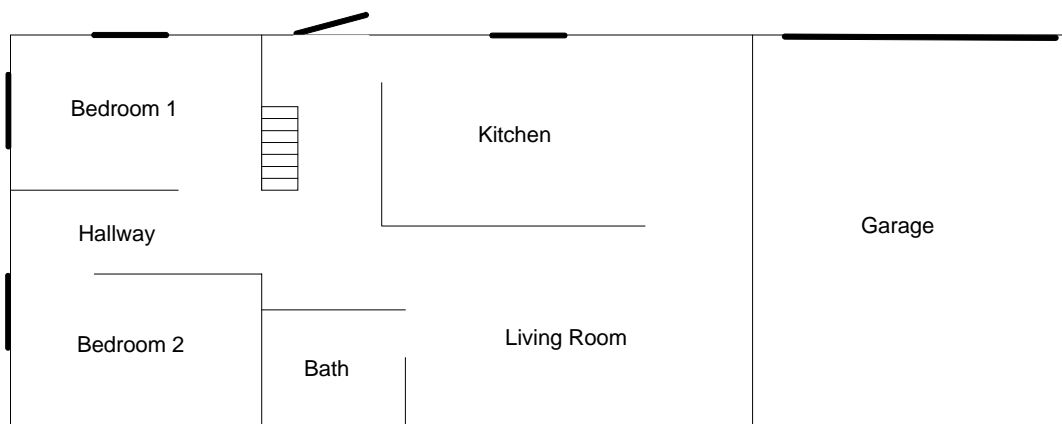
"FUNCTION NOT AVAILABLE"

Installation and Programming Exercise

Now it's your turn to practice what you've learned. Using the Simon system provided in the classroom, program the system using the homeowner requirements below.

The Homeowner Wants:

1. A keychain touchpad
2. A wireless sensor on the front door with a 45 second delay.
3. A wireless smoke sensor in the hallway
4. A wireless wall-mount motion detector in the living room.
5. A Slim Line siren.
6. The keychain touchpad will control the garage door.
7. An X-10 Lamp Module controlling a lamp.



Module 5-System Testing

Introduction

This module teaches the installer how to test the Simon system after installation.

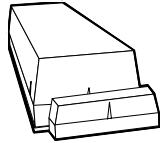
What's in This Module

Testing Sensors.....	5-2
Tripping Learn Mode Wireless Sensors.....	5-2
Correcting a Failed Sensor.....	5-5
Testing Touchpads.....	5-5
Testing the X-10 Lamp Module.....	5-6
Testing Telephone Communications.....	5-6
Testing Central Station Communications.....	5-6
Testing Exercise.....	5-6

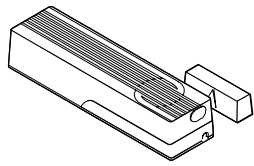
Testing Wireless Sensors

This task covers testing wireless and hardwire sensors after installing and programming them. This is also called a dealer sensor test. The dealer sensor test helps you determine two things: if the sensor is communicating with the panel and how many data rounds the panel is receiving from that sensor.

Test the sensors after finishing programming all the sensors or whenever a sensor-related problem is suspected.



1. Place all sensors in their non-alarm state.
2. Open the control panel door.
3. Enter the access code.



4. Press Test on the START MENU.

You will hear,



"SENSOR TEST, PRESS AGAIN TO CHANGE OR DONE TO SELECT."

5. Press DONE.
6. Trip (put into the alarm state) the first wireless sensor when prompted by the panel.
7. Count the number of transmission beeps and refer to the following table.

NOTE

Note: See page 5-3 for instructions on how to test the different kinds of wireless sensors.

Minimum Transmission Beeps for Good Signal Strength	
Type of Sensor	Number of Beeps
Intrusion Sensors	6-8
Wireless Environmental/Panic Buttons	6-8
Hardwire Loops	1
Touchpad Emergency Buttons	1

After the beeps, you will hear,



"SENSOR ACTIVATED, STATUS IS [NUMBER OF BEEPS]."

If the system does not respond, or if the sensor does not meet the minimum transmission beep requirements, refer to Correcting a Failed Sensor on page 5-5.

8. Follow the system prompts to test the remaining sensors.
9. Press DONE after testing all the sensors.

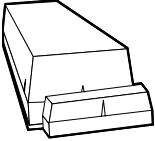
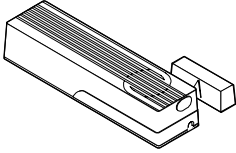
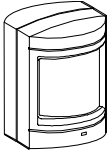
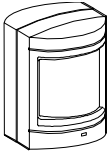
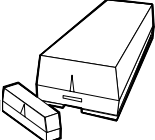
You will hear,

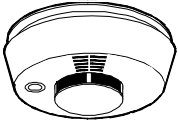
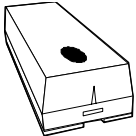
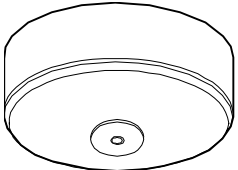

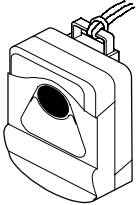


"SENSOR TEST COMPLETE."

Testing Learn Mode Wireless Sensors

This task covers testing the most common wireless sensors.

Sensor	Action
<p>Crystal Door/Window</p> 	<p>Open the secured door or window.</p>
<p>SAW Door/Window</p> 	<p>Open the secured door or window.</p>
<p>Crystal PIR Motion</p> 	<p>Avoid the motion detector's view for 5 minutes, then enter its view.</p>
<p>SAW PIR Motion</p> 	<p>Avoid the motion detector's view for 5 minutes, then enter its view.</p>
<p>Shock</p> 	<p>Tap the glass twice, away from the sensor. Wait at least 30 seconds before testing again.</p>

Sensor	Action
<p data-bbox="264 254 483 289">System Smoke</p> 	<p data-bbox="688 254 1357 321">Press and hold the test button until the system sounds transmission beeps.</p>
<p data-bbox="326 520 423 556">Freeze</p> 	<p data-bbox="688 520 1417 556">Apply ice to the sensor. Do not allow the sensor to get wet.</p>
<p data-bbox="172 762 578 798">Rate-of-rise Heat Detector</p> 	<p data-bbox="688 762 1446 829">Rub your hands together until warm, then place one hand on the detector for 30 seconds.</p> <p data-bbox="688 852 721 888">Or</p> <p data-bbox="688 905 1455 972">Remove the detector from the mounting base and short across the brass screws.</p>
<p data-bbox="285 1045 464 1081">Glass Guard</p> 	<p data-bbox="688 1045 1222 1081">Tap the glass 3 or 4 inches from the sensor.</p>
<p data-bbox="248 1287 505 1323">Emergency Panic</p> 	<p data-bbox="688 1287 1377 1354">Press and hold the appropriate panic button(s) for 3 full seconds.</p>
<p data-bbox="151 1623 212 1650">NOTE</p> <p data-bbox="151 1654 630 1745">Refer to the specific sensor installation instructions for more details on testing Learn Mode wireless sensors.</p>	

Correcting a Failed Sensor

This tasks covers fixing a sensor when it fails the sensor test.

Use an RF Sniffer

If sirens do not beep when a sensor is tripped, use an ITI RF Sniffer (60-401) test tool to verify that the sensor is transmitting.

Constant beeps from the sniffer indicate a runaway (faulty) sensor. Remove the sensor's battery and replace the sensor.

Reposition the Sensor

1. Rotate the sensor and test for improved sensor communication at 90 and 180 degrees from the original position.
2. If poor communication persists, relocate the sensor as described below.

Relocate the Sensor

The environment at the installation site (for example, nearby wiring or metal objects) can have a significant effect on transmitter range. If possible, re-locate the sensor.

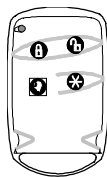
3. Test the sensor a few inches from the original position.
4. Increase the distance from the original position and retest until an acceptable location is found.
5. Mount the sensor in the new location.
6. If no location is acceptable, consider using external contacts that allow you to mount the sensor in an acceptable location.

Replace the Sensor

1. Using a sensor that you know works, test it at the same location.
2. If the transmission beeps remain below the minimum level, avoid mounting a sensor at that location.
3. If the replacement sensor functions, contact ITI for repair or replacement of the problem sensor.

Testing Touchpad Operation

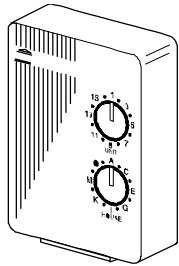
This task covers testing the operation of the touchpads.



1. Arm and disarm the system several times from all of the touchpads.
2. Test the EMERGENCY buttons.

Testing the X-10 Lamp Control

This task covers testing the light control using the X-10 Lamp Control Module.



X-10 Lamp Module

1. Test the Light Control Functions by pressing the Light button on the KeyChain Touchpad or the Hand-Held Remote repeatedly to turn all lights on and off.

X-10 Lamp Module controlled lights should come on and the panel will announce,



"LIGHTS ON/OFF."

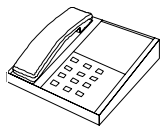
2. Also test the Light Control Functions by pressing the LIGHTS Time Activated and LIGHTS Sensor Activated buttons on the panel and touchpads.
3. Test individual lights by pressing the LIGHTS On button and the unit number of the lamp module, using the numeric buttons on the Remote Handheld Touchpad.
4. Test the LIGHTS On function from the main control panel.

LIGHTS On + System Status 7-8.

LIGHTS Off + System Status 9-0.

Testing the Telephone Communications

This task covers testing the communications between the Simon panel and the central station.



1. Open the panel door.
2. Enter the access code.
3. Press Test twice.
4. Press DONE.

You will hear,



"PHONE TEST IS ON."

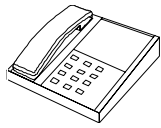
When the test is complete, you will hear,



"PHONE TEST OK."

Testing Central Station Communication

This task covers testing communication with the central station.



1. Call the central station and tell the operator that you will be testing the system.
2. Arm the system.
3. Trip at least one sensor of each type: fire, intrusion, etc. to verify that the alarms are working correctly.
4. If X-10 lamp modules are installed, check to be sure they operate correctly.

The lights should come on steady during the fire and auxiliary/medical alarms, and flash during intrusion alarms.

5. When you finish testing the system, call the central station to verify that the alarms were received.

Testing Exercise

Now it's your turn to practice what you've learned. Using the Simon system provided in the classroom, test the following components that you installed in the Installation and Programming Exercise.

See the page numbers below and use the procedures provided in this module.

Test the Following Items:

- Both touchpads..... 5-5
- The wireless sensor on the front door 5-2
- The wireless smoke sensor in the hallway 5-2
- The wireless wall-mount motion detector in the living room 5-2

Module 6-Troubleshooting

Introduction

This module teaches the installer how to troubleshoot the Simon system.

What's in This Module

Basic Troubleshooting	6-2
Phone Troubles.....	6-3
Programming Troubles.....	6-4
Wireless Device Troubles	6-5
Line Carrier Troubles	6-7
Normal Operation Troubles.....	6-8

Basic Troubleshooting

This task covers the basics of troubleshooting. Troubleshooting can help you eliminate system problems by methodically isolating and eliminating them.

Troubleshooting Equipment

- Voltmeter
- Butt Set
- RF Sniffer (available from ITI)
- Appropriate Technical and Reference Manuals

NOTE

Note: ITI Technical Support recommends that you use 22-gauge wire for Simon wiring.

Power Troubles

This troubleshooting section presents:

- Tips for preventing power troubles
- Power problems and solutions

Power Tips

Ensure the system is using the correct transformer and that it is plugged in.

Ensure the transformer is not plugged into a switched outlet.

Check for proper wire termination at the panel and power transformer.

Power Problems	Solutions
<p>You hear,</p> <p><i>"SYSTEM LOW BATTERY."</i></p>	<p>Perform a Sensor Test to check the panel back-up battery. Also check the connections and replace the battery if necessary.</p> <p>Turn option 49 on if using a rechargeable back-up battery.</p>
<p>You hear,</p> <p><i>"SENSOR [SENSOR NUMBER] LOW BATTERY."</i></p>	<p>Replace the sensor battery.</p>
<p>Panel does not power up.</p> <p>NOTE Simon will power-up by connecting the back-up battery without AC power.</p>	<p>Check the circuit breaker to be sure the circuit is live.</p> <p>Ensure the back-up battery is installed correctly and the transformer is plugged in.</p> <p>Check for proper wiring at the panel and the transformer.</p> <p>Measure the incoming voltage at the panel terminals. A standard transformer reads 9 VAC at AC POWER terminals.</p>

Phone Troubles

This troubleshooting section covers:

- Tips for preventing phone troubles
- Phone problems and solutions

Phone Tips

- Review the wiring diagram.
- Make sure the panel is wired ahead of the other telephones on the line.
- Sometimes fax machines, modems and similar devices affect communication with the monitoring station.
- Voice mail and roll-over lines also affect remote access. If one of these features exists, isolate the phone line so the panel is the only equipment using it and test communications.
- Verify that the correct phone numbers are programmed into the panel (Central Station phone number).

Phone Problems	Solutions
Phone does not work	<p>Disconnect the panel from the phone jack. If the phone still doesn't work, the system is OK.</p> <p>If the phone cord supplied with the panel has two different sized plugs, make sure the smaller plug is connected to the panel and the larger (8-pin plug) is connected to the RJ-31X Jack.</p> <p>Verify that the phone cords are plugged in to the correct jacks in the back of the panel.</p>
Loss of dial tone on premise phones after wiring the RJ-31X jack or connecting the DB-8 cord	<p>Check the RJ-31X jack wiring.</p> <p>Check the connection from the panel to the DB-8 cord.</p> <p>Replace the RJ-31X jack.</p> <p>Replace the DB-8 cord.</p> <p>Perform a phone test after troubleshooting the phone line.</p>
Constant dial tone, preventing dial-out on premises phones	<p>Polarity-sensitive phones exist on the premises. Reverse the wires you connected to the brown and gray wire terminals on the RJ-31X jack.</p>
Remote phone access not functioning.	<p>Verify proper phone line connection.</p> <p>Verify option 27 is enabled.</p> <p>Check operation of the RJ-31X.</p>

Programming Troubles

This troubleshooting section covers:

- Tips for preventing programming troubles.
- Programming problems and solution..

Programming Tips

- Review the programming module.
- Test the panel before installing it.

NOTE

To ensure the programming is correct, enter program mode then press Option# button followed by the option number. The panel will verify the programming of the selected option.

Wireless Device Troubles

This troubleshooting section covers:

- Tips for preventing wireless device troubles
- Wireless device problems and solutions

Wireless Device Tips

- Conduct a dealer sensor test. You should hear 6-8 beeps indicating the sensor signal strength.
- Sensor Conditions
 - Supervisory
 - Trouble
 - Failure
 - Open
- If a sensor checks in during the dealer sensor test with less than 6 beeps, you may need to relocate the sensor. See “Locating Wireless Sensors” on page 3-2 of this student guide.
- Duct work, concrete, and steel affect the panel’s ability to hear wireless device.
- Repositioning a wireless device may improve reception.

Wireless Device Problems	Solutions
Not checking in	<ul style="list-style-type: none"> • Check the environment around the sensor. See the sensor installation instructions for tips about placement of the sensor. • Make sure the sensor is programmed into the panel.
Alarm for no reason	<ul style="list-style-type: none"> • Smoke sensor - check for dirty chamber. • Motion detector <ul style="list-style-type: none"> - Direct sunlight can cause false alarms. - Heating/AC vents can cause false alarms. - Plants and curtains that move cause false alarms. • Door/Window Sensors <ul style="list-style-type: none"> - Check the magnet spacing. - Check for a loose door or window.
Smoke sensor beeps once every minute	Batteries are low. Replace all of the smoke sensor batteries.
Difficulty learning wireless with HW contact	Learn the wireless sensor into the panel then connect the HW contact to the sensor. (The transmitter needs to be normally closed.)

Wireless Device Problems	Solutions
<p>Grouping issues and explanations</p>	<p>For more information on sensor groups, see the following references:</p> <ul style="list-style-type: none"> • Quick Guide in the Simon Security System Reference Manual • Simon Programming Training Module
<p>Hardwired sensors showing open state</p>	<p>Simon can only use Normally Closed hardwire zones.</p>
<p>Difficulties learning in hardwired devices</p>	<p>Simon can only use Normally Closed hardwire zones.</p> <ol style="list-style-type: none"> 1. Remove wiring for hardwire loop. 2. Wire a 47K ohm resister across the terminals. 3. Complete the procedure for learning sensors (See Learning Hardwire Sensors in the Simon Programming Training Module or see Adding Hardwire Sensors in the Simon Security System Reference Manual). 4. Follow the procedure for learning wireless sensors. When you are prompted to push the button on the sensor, pull one leg of the resister out of the terminal. The panel will confirm the zone has been programmed. 5. Rewire hardwire sensor (include one 47K ohm resister in series).
<p>Runaway wireless sensor</p> <ul style="list-style-type: none"> - Sensor continuously transmitting - Sensor blocks transmissions from other sensors - Panel won't respond - All other sensors send supervisory reports to monitoring company 	<p>Use an RF sniffer to determine if the sensor is continuously transmitting.</p>
<p>Panel doesn't respond to sensor activity (no alarm, chime, or sensor test sounds)</p>	<ol style="list-style-type: none"> 1. Ensure the wireless sensor battery is installed. 2. Ensure the sensor battery for low voltage. Replace batteries, if necessary. 3. Use an RF Sniffer (60-401) to verify that sensor is transmitting. 4. Ensure the sensor is programmed (learned) into the panel memory. Learn the sensor, if necessary.
<p>Panel doesn't respond to wireless touchpad commands</p>	<ol style="list-style-type: none"> 1. Operate touchpads from different locations to locate areas of intermittent operation. 2. Check and/or replace wireless touchpad batteries. 3. Program or reprogram the touchpad(s) into the panel.

Line Carrier Troubles

This troubleshooting section covers:

- Tips for preventing line carrier troubles
- Line carrier problems and solutions

Line Carrier Tips

- Most line carrier troubles involve incorrect settings of the X-10 lamp module or the X-10 Powerhorn Siren.
- Noise (spikes) on AC lines is often caused by appliances on the line (examples: refrigerators, microwaves, TV, etc.) When someone turns on one of those devices, the line carrier device may sound.
- Review the device installation instructions.

Line Carrier Problems	Solutions
Powerhorn Siren sounds intermittently	Noise on AC line may cause line carrier device to sound without reason. Relocate the device or the appliance to another outlet.
Siren won't stop sounding when disarmed	You may need to disarm the system more than once to quiet the siren.
Siren doesn't work correctly	Set the unit number correctly. Unit number 9 provides status and alarm sounds. All other unit numbers provide alarm sounds only.
Powerhorn not sounding	Verify that the house code setting is the next letter in the alphabet beyond the panel house code. Powerhorn will not sound by pressing the Simon panel's EMERGENCY button. Instead, arm the system and trip an alarm.
X-10 doesn't work	Ensure the house code letter is set for proper house code number. Make sure the correct unit number is set.
Light fixtures controlled by the X-10 Lamp Modules are not working	Ensure the lamp has a working bulb and that the lamp switch is on. Confirm the lamp operation at a working outlet. Ensure the lamps are plugged into X-10 Lamp Modules and the X-10 Lamp Modules are plugged into outlets that are not switched. Relocate to non-switched outlets, if necessary. Ensure the panel is powered by a Line Carrier Transformer. Ensure the HOUSE dial on the X-10 Lamp Module matches the house code programmed into the panel. Ensure the X-10 device and transformer are plugged into the same electrical phase.

Normal Operation Troubles

This troubleshooting section covers:

- Tips for preventing normal operation troubles
- Normal operation problems and solutions

Normal Operation Problems	Solutions
<p>System says, <i>"SENSOR XX OPEN"</i></p>	<p>If arming to level 2, make sure all monitored perimeter doors and windows are closed.</p> <p>If arming to level 3, PIRs do not send a restoral. Verify that the correct sensor type is programmed.</p> <p>If arming to level 4, make sure all perimeter and interior sensors are closed.</p> <p>Press SYSTEM STATUS twice for an indication of the problem.</p>
<p>Trouble beeps from panel</p>	<p>Press SYSTEM STATUS twice for an indication of the problem.</p>
<p>The system says, <i>"FUNCTION NOT AVAILABLE"</i> when CHIME Doors is pressed.</p>	<p>No sensors are programmed using sensor type 10 or 13.</p>
<p>The system says, <i>"FUNCTION NOT AVAILABLE"</i> when CHIME Special Motion is pressed.</p>	<p>No sensors are programmed using sensor type 25.</p>
<p>The system says, <i>"FUNCTION NOT AVAILABLE"</i> when LIGHTS Time Activated is pressed.</p>	<p>No time activated lights have been programmed or the system time has not been set.</p>
<p>The system says, <i>"FUNCTION NOT AVAILABLE"</i> when LIGHTS Sensor Activated is pressed.</p>	<p>No sensor activated lights have been programmed.</p>
<p>The system says, <i>"SYSTEM TIME IS NOT SET."</i></p>	<p>Set the system time.</p>
<p>The Control Panel does not beep.</p>	<p>Program Option 1 to "on".</p>

Normal Operation Problems	Solutions
Latchkey does not function.	<ul style="list-style-type: none"> • Latchkey time (option 3) is not set. Set Latchkey time. • Latchkey is not enabled. Enable Latchkey by pressing ARM Motion Sensors twice. • The phone number is not programmed properly. Reprogram the phone number.

NOTE

If Option 53 is on Simon requires a 47k ohm resistor be placed between all positive and negative terminals that are not used for a siren or hardwire zone. If a hardwire input is not used to connect a siren or a hardwire zone, and do not have the 47k ohm resistor connected, the panel will respond with the following message:

- *Module 1 Failure*
- Or
- *Module 2 Failure*

Module 7-System Operation

Introduction

This module teaches the installer how to use the basic features of the Simon system after it is installed and programmed.

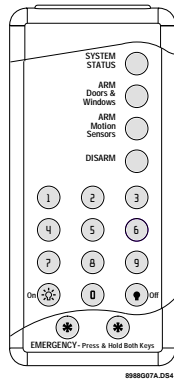
What's in This Module

Arming the System	7-2
Disarming the System: Panel or Touchpad.....	7-4
Bypassing Window or Door Sensors with Option 38.....	7-5
Sending Emergency Alarms.....	7-6
Checking System Status	7-7
Setting and Changing Access Codes.....	7-8
Controlling Lights	7-9
Turning Chime On and Off	7-9
Testing Sensors.....	7-10
Testing Communication with the Central Monitoring Station.....	7-10
Setting the Latchkey Feature	7-11
System Operation Exercise.....	7-12

Arming the System

This task covers arming doors/windows and motion sensors from the panel, a touchpad, and a keychain touchpad.

Arming the System: Panel or Touchpad



Arming Doors and Windows/Motion Sensors

Use **ARM Doors and Windows** when the homeowner is in the home and wants to arm doors and windows.

Use **ARM Motion Sensors** when the homeowner wants all the intrusion Motion Sensors armed.

Use both **ARM Doors and Windows** and **ARM Motion Sensors** when the homeowner will be out of the house and wants all sensors activated.

1. Press **ARM Doors and Windows**.

You will hear:



"DOORS AND WINDOWS ON." THEN TWO SHORT BEEPS.

2. Press **ARM Motion Sensors**.

You will hear:



"MOTIONS ON." THEN # SHORT BEEPS.

3. Additional options:

To select no entry delay, press **ARM Doors and Windows** again.

You will hear:



"DOORS AND WINDOWS ON. NO ENTRY DELAY."

4. If entering or exiting, do so during the delay period or an alarm will sound.

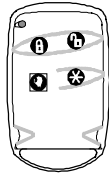
NOTE

Arming with No Delay removes the entry delay time only.

NOTE

If an alarm sounds, cancel it by entering the access code.

Arming the System: Keychain Touchpad



Arming Doors, Windows, and Motion Sensors

NOTE

If option 28 is on, pressing the Lock button once will arm the system with no delay.

NOTE

Arming with No Delay removes the entry delay time only.

NOTE

If an alarm sounds, cancel it by entering the access code.

1. Press and hold the Lock button until the keychain light blinks once.

You will hear:



"DOORS AND WINDOWS ON." THEN TWO SHORT BEEPS.

2. Press and hold the Lock button until the keychain light blinks a second time.

You will hear:



"MOTIONS ON." THEN # SHORT BEEPS.

3. Press and hold the Lock button until the keychain light blinks a third time.

You will hear:



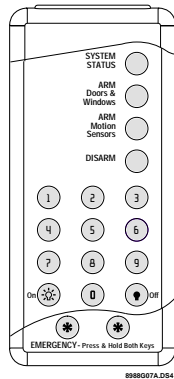
"MOTIONS ON. LATCHKEY ON." THEN # SHORT BEEPS.

4. If entering or exiting, do so during the delay period, otherwise an alarm will sound.

Disarming the System

This task covers disarming the system from the panel, a touchpad, and keychain touchpad.

Disarming the System: Panel or Touchpad



Disarming the system turns off protection to doors, windows, and motion devices.

However, smoke detectors and police, fire, and auxiliary panic alarms are still on.

- Enter the access code.

You will hear:



"SYSTEM DISARMED."

The disarm button will turn on.

- Enter the master access code a second time.

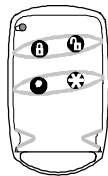
You will hear:



"SYSTEM DISARMED."

The disarm button will flash indicating the panel is sub-disarmed (level 0). Reference the Sensor Type Characteristics Chart to determine which sensors remain active.

Disarming the System: Keychain Touchpad



Disarming the system turns off protection to doors, windows, and motion devices.

However, smoke detectors and police, fire, and auxiliary panic alarms are still on.

Press and hold the Unlock button until the keychain light blinks.

If within range of the system speaker, you will hear:

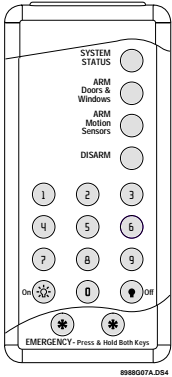


"SYSTEM DISARMED."

Bypassing Window or Door Sensors with Option 38

This task covers arming the Simon system and making it ignore certain sensors. For example, use this task when you want to arm the system with a window open.

Bypassing Window or Door Sensors: Panel or Touchpad



Option 38 Off

1. Open the door(s) and/or windows you want to bypass.
2. Press ARM Doors and Windows.

You will hear:



To immediately bypass any open zone, press ARM Doors and Windows 2 times.

If a door or window is open while arming, you will hear,



If the sensor remains open, the zone will be bypassed at the end of the exit delay time.

NOTE

The panel will continue to repeat this phrase until the zone is restored to its non-alarm state — then the system will arm to the selected level.

If the zone remains open for 4 minutes, the panel will then bypass the zone.

If you want to bypass the open zone(s), press Arm Doors and Windows a second time.

Option 38 On

1. Open the door(s) and/or windows you want to bypass.
2. Press ARM Doors and Windows.

You will hear:



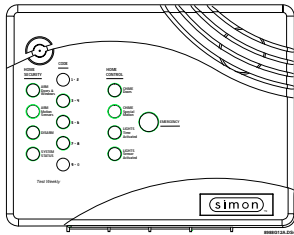
3. Place the open zones into the non-alarm state.
4. The system will arm.

Sending Emergency Alarms

This task covers sending a panic alarm using the panel, a touchpad, or a keychain touchpad. Use a panic alarm to alert the central monitoring station to an emergency.

The system sends an emergency signal to the central station notifying them of a non-medical call for help.

Sending an Emergency Alarm: Panel



1. Press the EMERGENCY button.

NOTE

The X-10 Powerhorn will not sound by pressing the EMERGENCY button.

You will hear:



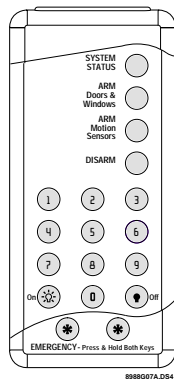
INTERMITTENT, LOW-VOLUME BEEPING.

The system sends an emergency call to the central monitoring station.

Canceling an Emergency

Within 15 seconds of activating an emergency alarm, enter the access code.

Sending an Emergency Alarm: Remote Touchpad



Press and hold both EMERGENCY buttons on the remote touchpad.

You will hear:

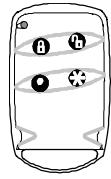


INTERMITTENT, LOW-VOLUME BEEPING.

Canceling an Emergency

Within 15 seconds of activating an emergency alarm, enter the access code.

Sending Emergency Alarms: Keychain Touchpad



Sending a Panic

Using a 2- button or 4-button keychain touchpad, press and hold the Unlock and Lock buttons together until the light blinks.



Canceling a Panic

1. Within 15 seconds of activating a police or auxiliary alarm, enter your access code. (No call is sent to the central monitoring station.)

If within range of a speaker, you will hear:



ONE LONG BEEP, THEN "SYSTEM DISARMED."

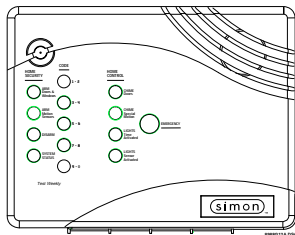
2. If 15 seconds have already passed call the central monitoring station to cancel the alarm.

NOTE

A panic alarm sent from a keychain touchpad cannot be disarmed from the same keychain touchpad

Checking System Status

This task covers checking the status of the Simon system using the panel or a remote touchpad.



- If the SYSTEM STATUS button is lit, it means there is a problem with the system.
- If the SYSTEM STATUS button is blinking an alarm has occurred.

Press the SYSTEM STATUS button twice.

You will hear:



A DESCRIPTION OF THE SYSTEM STATUS.

Setting and Changing Access Codes

This task covers how to set and change the Simon system access codes. The system uses two types of codes:

Master Access Code - The Master Access Code is a user access code that is needed to: disarm the panel, program options 1, 2, 3, 34-37, and 41-44, program light control, set the system clock, program access codes 1 through 5, and perform a sensor or phone test.

Utility Access Codes 1 and 2 - The utility access code 1 is used during installation. This code can be used for all programming. The utility access code 2 is used for all programming except for changing utility access code 1 and changing options 4, 5, 6, 8, 9, 12, and 13.

Access Codes 1 through 5 - The panel allows up to five secondary user access codes.

Setting and Changing Access Codes: Panel or Touchpad

1. Open the panel cover.
2. Enter the master access code or utility access code 1 or 2.
3. Press the **Add** button on the **START MENU**.
4. Press the **Access Code** button on the **MAIN MENU**.
5. Press the **Access Code** button until you hear the name of the access code you want to change, then press the **DONE** button.
6. Using the red-numbered keys, enter the new access code.

You will hear:



THE NEW ACCESS CODE.

Controlling Lights

This task covers controlling both types of lights: time activated and sensor activated using the panel and the remote touchpad.

Sensor-Activated Lights

1. Press LIGHTS Sensor Activated.
2. You will hear:



"*SENSOR ACTIVATED LIGHTS ON.*" THE BUTTON WILL REMAIN LIT UNTIL PRESSED AGAIN.

3. The system will turn on the lights that are controlled by sensors when the sensors are tripped.

Time-Activated Lights

1. Press LIGHTS Time Activated.
2. You will hear:



"*TIME ACTIVATED LIGHTS ON.*" THE BUTTON WILL REMAIN LIT UNTIL PRESSED AGAIN.

The system will turn on the time-activated lights at the correct times.

Turning Chime On and Off

This task covers turning the chime feature on and off using the panel or the remote touchpad. The chime feature causes the system to sound a chime when anyone opens a door or window and when a motion sensor detects movement. For example, this works well to let you know when children enter and leave the house or customers walk into a store.

1. Press CHIME Doors and/or CHIME Special Motion.

You will hear:



"*CHIME DOORS ON.*" OR "*SPECIAL CHIME MOTION ON*"

2. To turn off the chime feature, press CHIME Doors and/or CHIME Special Motion again.

You will hear:



"*CHIME DOORS OFF.*" OR "*SPECIAL CHIME MOTION OFF*"

Testing Sensors

This task covers testing the sensors using the panel.

1. Open the panel door.
2. Enter the access code.
3. Press the TEST button.
4. Press the DONE button.

You will hear:



"SENSOR TEST IS ON," AND THE SYSTEM PROMPTS YOU TO TEST EACH SENSOR.

5. Trip the sensors as the system prompts you.

After you trip each sensor, the system will name the sensor and sound a series of beeps. The number of beeps equals the strength of the signal. (6 - 8 beeps for good signal strength.)

6. When you complete the test, press the DONE button.

You will hear:



"SENSOR TEST OK."

Testing Communication with the Central Monitoring Station

This task covers testing the communication with the central monitoring station using the touchpad and the telephone.

1. Open the panel door.
2. Enter the access code.
3. Press the TEST button twice.
4. Press the DONE button.

You will hear:



"PHONE TEST IS ON."

If the test is successful, within two minutes the system will announce,

"PHONE TEST OK."

If the test is unsuccessful, within 10 minutes the system will announce,

"PHONE COMMUNICATION FAILURE."

Setting the Latchkey Feature

This task covers arming the Latchkey Feature. Before it can work, five tasks must have already been set up:

- Program the Latchkey time (done by the installer or homeowner).
- Program a pager phone number into option 05 or option 43.
- Set Phone Mod 2 (Option 13) or Phone Mod 3 (Option 44) for paging.
 - See Module 4 - Programming, for step-by-step instructions to complete those tasks
- Set the clock.
- Activate latchkey by arming the system.

Press ARM Motion Sensors twice.

You will hear:



"MOTIONS ON. LATCHKEY ON."

System Operation Exercise

Now it's your turn to practice what you've learned using the system that you already installed, programmed, and tested.

Perform the following system tasks using the panel or touchpad.

Test the Following Items:

- Arm the system 7-2
- Disarm the system 7-4
- Change the primary access code to any number you want 7-8
- Disarm the system and rearm it by bypassing a window sensor 7-5
- Turn on chime mode and test it by tripping the front door sensor 7-9
- Remove the battery from the smoke detector and perform a status check 7-7

Module 8-End-User Training

Introduction

This module trains the installer how to teach the homeowner to use the Simon system. Rehearse the script with a coworker before you use it to teach a customer. That way, you'll be familiar with the script.

Read and follow the script that applies to the customer. For example, if the customer doesn't have a keychain touchpad, don't use that part of the script. The script is shown in two columns: Read This and Do This. Read the script in the Read This column to the customer. Perform the steps in the Do This column.

The tasks are in a "demonstration and practice" style. Demonstration and practice is one of the best ways to teach people. Each task begins with you demonstrating the steps to the customer and ends with you helping the customer perform the steps by themselves.

What you Need to Know to Operate Your System

Panel or Remote Touchpad: How to Arm and Disarm the System.....	8-2
Keychain Touchpad: How to Arm and Disarm the System	8-4

Can I Leave a Window Open and Arm the System?

Panel or Remote Touchpad: Bypassing Sensors.....	8-5
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What if There is a Problem?

Panel or Remote Touchpad: Checking System Status.....	8-6
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How to Use the Latchkey Feature?

Setting the Latchkey Time	8-7
Arming Latchkey.....	8-8

End-User Training Exercise

Exercise	8-8
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Arming and Disarming the System

This task guides you through teaching the end user how to arm and disarm the system to Level 2 or 3 from a touchpad and a keychain touchpad.

Panel or Remote Touchpad: Arming and Disarming the System

Read This	Do This
<p>“I’m going to show you how to arm your Simon security system at the panel or from a touchpad.”</p> <p>“First, I’ll arm the door and window sensors”</p> <p>“Arm the door and window sensors when the homeowner is in the home and wants security turned on.”</p>	<p>Tell the customer what you are entering as you press ARM Doors and Windows.</p>
<p>“Notice that the speaker gives two short beeps and says, ‘Doors and windows on.’”</p> <p>“If you want no delay, press the doors and windows button again.”</p>	<p>Tell the customer what you are entering as you press ARM Doors and Windows again.</p>
<p>“Now, I’ll show you how to disarm the system.”</p> <p>“Disarming the system turns off the protection to doors, windows, and motion devices.”</p> <p>“This is also how you turn off the system if you accidentally set off the alarm.”</p> <p>“However, smoke detectors and police, fire, and auxiliary panic alarms are still on.”</p>	<p>Tell the customer what you are entering as you press DISARM and enter the access code. Or simply enter your access code.</p>
<p>“The speaker gives one long beep, then says, ‘System disarmed.’”</p>	

Read This	Do This
<p>“Now it’s your turn to arm the system. I’m going to tell you how to arm the system doors, windows, and motion sensors while you push the buttons.”</p> <p>“Arm the motion sensors when you will be out of the house.”</p> <p>“Press the ARM Doors and Windows button and ARM Motion Sensors button”</p> <p>“You must enter and exit during the exit delay or the alarm will sound.”</p> <p>“If you want to cancel the entry delay, press the ARM Doors and Windows button again.”</p> <p>“If you do, the speaker will say ‘No entry delay.’”</p> <p>“If an alarm sounds, you can cancel it by entering your access code.”</p> <p>“Now I’ll tell you how to disarm the system “</p> <p>“Press the DISARM button”</p> <p>“Then enter your access code.”</p> <p>“Notice that the speaker says, ‘System disarmed.’”</p> <p>“Remember that disarming the system turns off protection to doors, windows, motion sensors.”</p> <p>“Smoke detectors and police, fire, and auxiliary panic alarms are still on”</p>	<p>Watch and assist the customer.</p>

Keychain Touchpad: Arming and Disarming the System

Read This	Do This
<p>“I’m going to show you how to arm your Simon security system using a keychain touchpad.”</p> <p>“First, I’ll arm the system.”</p>	<p>Show and tell the customer what you are entering as you press and hold the Lock button until the keychain light blinks.</p>
<p>“If you are within range of a speaker, you will hear the system announce, Doors and windows on.”</p> <p>“If you want to activate the lights controlled by your system, press the LIGHTS button.”</p>	<p>Show and tell the customer as you press the functioning LIGHTS button.</p>
<p>“Now, I’ll show you how to disarm the system using the keychain touchpad.”</p> <p>“Disarming turns off protection to doors, windows, and motion devices.”</p> <p>“This is also how you turn off the system if you accidentally set off the alarm.”</p> <p>“However, smoke detectors and police, fire, and auxiliary panic alarms are still on.”</p>	<p>Tell the customer what you are doing as you press and hold the Unlock button until the light on the keychain blinks.</p>
<p>“If you are within range of a speaker, you will hear it announce, ‘System disarmed.’”</p> <p>“Now it’s your turn to arm the system. I’m going to tell you how.”</p> <p>“Press and hold the Lock button until the light on the keychain blinks.”</p>	<p>Point to the Lock button, if necessary.</p>
<p>“Now, I’ll tell you how to disarm the system.”</p> <p>“Press and hold the Unlock button until the light on the keychain blinks.”</p>	<p>Watch and assist the customer.</p>

Bypass Window or Door Sensors

This task guides you through teaching the end user how to arm the Simon system and make it ignore certain sensors. Use this task when you want to arm the system with a window or door open.

You can only bypass sensors using the panel or from a remote touchpad. The keychain touchpad cannot bypass sensors.

Panel or Touchpad: Bypass Window or Door Sensors

Read This	Do This
<p>“I’m going to show you how to bypass a door or window sensor on your Simon security system at the panel or from the remote touchpad.</p> <p>“With the system disarmed, open the door or window that you want to bypass.”</p>	<p>Open a door or window (it must be one that has a working sensor installed).</p>
<p>“Now, I’ll arm the system.”</p>	<p>Show and tell the customer what you are doing as you press the ARM Doors and Windows button.</p>
<p>“Notice that the system announced that the door or window was open.”</p> <p>“Wait for the duration of the exit delay. That’s all there is to bypassing a sensor.”</p> <p>“Go ahead and disarm the system. Then it’s your turn to bypass a sensor.”</p>	<p>Assist the customer in disarming the system if necessary (press the access code).</p>
<p>“Now you arm the system. Remember that a door or window is open.”</p>	<p>Assist the customer in arming the system if necessary.</p>
<p>“Notice that the speaker announced that a sensor is open.”</p> <p>“Do you have any questions or do you want to try it again?”</p>	

Checking the System Status

This task guides you through teaching the end user how to check the status of the Simon system.

Panel or Touchpad: Checking the System Status

Read This	Do This
<p>“I’m going to show you how to check the status of your Simon system.”</p>	<p>Show and tell the customer as you press the SYSTEM STATUS button twice.</p>
<p>“Listen to the speaker.”</p> <p>“If your system is OK, that is, everything is right, it will say tell you the time.”</p> <p>“If there are any system troubles, it will tell the problem area.”</p> <p>“Look in your owner’s manual for System Tests and Trouble Messages for more information if the system announces a problem.”</p> <p>“It will also tell you if there were any recent alarms.”</p> <p>“Now, it’s your turn to do a status check.”</p> <p>“Press the SYSTEM STATUS button twice.”</p>	<p>Watch and assist the customer as necessary.</p>
<p>“What problems did the system report?”</p>	

Using the Latchkey Feature

This task guides you through teaching the end user how to set the Latchkey time and arm the Latchkey feature. If Latchkey is on and the panel is not disarmed by the pre-programming time (option 3), the panel will report to the monitoring company and/or a numeric pager.

Panel or Touchpad: Setting the Latchkey Time

Read This	Do This
<p>“I’m going to show you how to set the Latchkey time.”</p> <p>“If the system isn’t disarmed by the pre-programming Latchkey time (set in option 3), the Simon system will call your monitoring company or numeric pager.”</p>	<p>Show and tell the customer as you follow these steps:</p> <ol style="list-style-type: none"> 1. Open the cover. 2. Enter the access code. 3. Press the Add button. 4. Press the Option # button three times. 5. Enter the hours and minutes for the latchkey time. 6. Press the DONE button. 7. Close the cover.
<p>“Notice that after I pressed the DONE button, the system told me the time I just set.”</p> <p>“Now, it’s your turn to set the Latchkey time.”</p> <p>“Open the cover.”</p>	<p>Watch and assist the customer as necessary.</p>
<p>“Enter your access code.”</p>	<p>Watch and assist the customer as necessary.</p>
<p>“Press the Add button under the START MENU.”</p>	<p>Watch and assist the customer as necessary.</p>
<p>“Press the Option # button under the MAIN MENU three times.”</p>	<p>Watch and assist the customer as necessary.</p>
<p>“Press the Hours button until you hear the hour you want”</p>	<p>Watch and assist the customer as necessary.</p>
<p>“Press the Minutes button until you hear the hour you want”</p>	<p>Watch and assist the customer as necessary.</p>
<p>“Press the DONE button and listen to the system to make sure the time set is what you want.”</p>	<p>Watch and assist the customer as necessary.</p>



Panel or Touchpad: Arming the Latchkey Feature

Read This	Do This
<p>“I’m going to show you how to arm the system with the Latchkey feature activated.”</p> <p>“Press the ARM Motion Sensors button twice.”</p>	<p>Watch and assist the customer as necessary.</p>
<p>“Listen to the system. It tells you that motions sensors are on and the Latchkey feature is on.</p>	

End-User Training Exercise

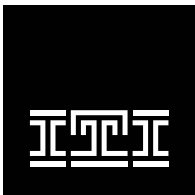
This exercise will familiarize you with teaching an end user how to use the Simon system.

Find a partner and take turns teaching each other how to perform the following user tasks. Use the script provided in this training module.

Test the Following Items:

- How to arm and disarm the system from the panel 8-2
- How to bypass a sensor from the panel 8-5
- How to check the system status from a panel 8-6

Security
Automation
Fire Protection
Access Control



INTERACTIVE TECHNOLOGIES, INC.
2266 SECOND STREET NORTH
NORTH SAINT PAUL, MN 55109-2900
T: 800-777-1415
F: 651-779-4890
WEB SITE: WWW.ITII.COM

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