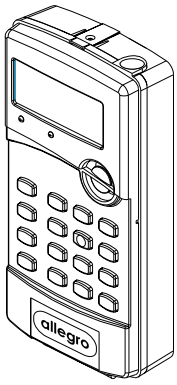
ITI Part No. 60-874-95

Allegro



Document Number: 466-1821 Rev. A
April 2002

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Installation Instructions

FCC Notices

FCC Part 15 Information to the User

Changes or modifications not expressly approved by Interlogix Inc. can void the user's authority to operate the equipment.

FCC Part 15 Class B

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ❑ Reorient or relocate the receiving antenna.
- ❑ Increase the separation between the equipment and receiver.
- ❑ Connect the affected equipment and the panel receiver to separate outlets, on different branch circuits.
- ❑ Consult the dealer or an experienced radio/TV technician for help.

FCC ID: B4Z-785B-ALGRO

About This Manual

This manual provides information for planning, installing, programming, and testing this security system. When necessary, this manual refers you to other documentation included with compatible devices.

Planning sheets are included for you to record hardware layout and software programming settings.

Special Installation Requirements

This security system can be used as an intrusion alarm system, a fire alarm system, and an emergency notification system.

Some installations may require configurations dictated by city/state codes, insurance, or Underwriter's Laboratories (UL). This section describes the various component and configuration listings.

UL Listed Systems

This section describes the requirements for UL Listed systems.

Basic System

- ❑ Control Panel (60-874-95R).
- ❑ Standard Class II 8.0 VAC, 300 mA Power Transformer; manufacturer—Sino America, (A1014444-0) ITI Part No. 22-117.
- ❑ Dialog Telephone Interface Module (DTIM) (60-879-95R).
- ❑ Backup Battery 4.8 VDC rechargable NiCd battery pack (34-057).

Household Burglary Alarm System Unit (UL 1023)

Basic system, plus:

- ❑ Hardwire Magnetic Contact (13-068 or 13-071) or Wireless Learn Mode Door/Window Sensor (60-362), Wireless Learn Mode PIR Motion Sensor (60-703-95 or 60-639).
- ❑ RECEIVER TROUBLE set to on.
- ❑ EXIT DELAY set to 60 seconds or less.
- ❑ QUICK EXIT set to off.
- ❑ SIREN TIMEOUT set to 4 minutes or more.
- ❑ ENTRY DELAY set to 45 seconds or less.
- ❑ QUIET TIME set to off.

Household Fire Warning System (UL 985)

Basic system, plus:

- ❑ Wireless Smoke Sensor (60-506-319.5 or 60-848-95) learned into sensor group 26.
- ❑ RECEIVER TROUBLE set to on.
- ❑ QUIET TIME set to off.
- ❑ EXIT EXTENSION set to off.

Digital Alarm Communicator System (UL 1635)

Basic system, plus:

- ❑ AC FAILURE set to on.
- ❑ LOW CPU BATTERY set to on.
- ❑ AUTO PHONE TEST set to one.

Central Station Reporting

The panel has been tested with the following central station receivers using SIA and Contact ID reporting formats:

- ❑ ITI CS-5000 Central Station Receiver.
- ❑ Sur-Gard Central Station Receiver with models SG-DRL2A and SG-CPM2.

UL-Canada Listed Systems

This section describes the requirements for ULC (UL Canada) Listed systems.

CSA Certified Accessories

Residential Burglary Alarm System Unit (ULC-S309)

Same as "UL Basic System and Household Burglary Alarm System Unit (UL 1023)."

California State Fire Marshall Listed Systems

Same as Household Fire Warning System (UL 985).

Planning the Installation

This section describes the systems's capabilities to help you get familiar with the system. Appendix B provides planning sheets with tables that let you record the hardware and programming configuration of the system to help prepare for system installation.

Standard System

Panel

The panel keypad provides complete system programming and operation control. Displays system messages and indicates system status.

DTIM

The DTIM allows the panel to communicate with the central monitoring station.

Note
The DTIM does not have a backup battery.

The following describes the system's basic (out-of-box) hardware capabilities.

- ❑ Power: AC Class II, 8 VAC transformer.
- ❑ Backup Battery 4.8 VDC rechargable NiCd battery pack.
- ❑ One Supervised Hardwire Zone: Input for various hardwired detectors.
- ❑ Built-In Radio Receiver: Allows use of up to 20 ITI

319.5 MHz. crystal and/or SAW Learn Mode wireless sensors and touchpads.

- ❑ Built-In Siren: Capable of 85 dB @ 3m.
- ❑ Built-In Panel Keypad.
- ❑ Liquid Crystal Display (LCD).

Additional System Components

The system can monitor up to 20 sensors using any combination of the following sensors:

- ❑ Door/Window Sensor (60-670-95R)
- ❑ 2-Button Keychain Touchpad (60-607-319.5)
- ❑ Remote Handheld Touchpad (60-671-95R)
- ❑ Indoor Motion Sensor (60-639-95R)
- ❑ Carbon Monoxide Alarm (60-652-95)*
- ❑ Smoke Sensor (60-848-95)
- ❑ ShatterPro Glass Break (60-873-95)*

Note
Both ITI SAW and Crystal sensors function with this control panel.

Installing the System

Before starting the installation, plan your system layout and programming using the worksheets provided in Appendix B.

Installing the system consists of the following:

- ❑ Determining the panel location.
- ❑ Mounting the panel.
- ❑ Identifying main panel components.
- ❑ Connecting detection devices to panel zone input.
- ❑ Installing an RJ-31X phone jack for the DTIM.
- ❑ Connecting the AC power transformer.
- ❑ Powering up the panel.

Determine the Panel Location

Before permanently mounting the panel, determine panel location using the following guidelines:

- ❑ Avoid running wires parallel with electrical wiring or fixtures such as fluorescent lighting, to prevent wire runs from picking up electrical noise.
- ❑ Mount the panel at a comfortable working height (about 45 to 55 inches from the floor to the bottom of the panel).
- ❑ Leave space above the panel for optional antenna plastic (min 4 inches).

Important !
The panel must be mounted at least 10 feet from any other panel or DTIM.

Mounting the Panel

Use the following procedure to mount the panel to the wall or wall studs.

Note
The wiring knockout is approximately the same width as a wall stud. If mounting the panel to a wall stud be sure you have enough room to feed the wires through the knockout.

CAUTION
Make sure you are free of static electricity whenever you work on the panel with the back mounting plate removed. Using an approved grounding strap is recommended.

To mount the panel:

1. Remove the panel from the back mounting plate by lifting the tab located on the top and pulling back.

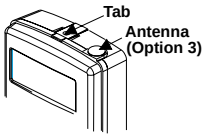


Figure 1. Remove back by lifting tab

2. Remove the wiring knockout.

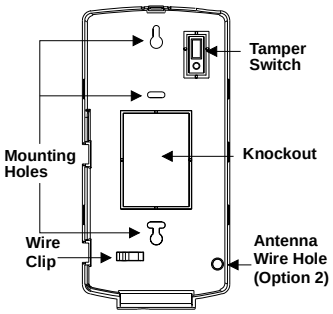


Figure 2. Back Mounting Plate

3. Feed all device wires through the knockout and place the back mounting plate in position against the wall.
4. Level the back mounting plate and mark the top and bottom mounting holes.
5. Install anchors where studs are not present.
6. Partially insert a screw into the top mounting hole location then hang the back mounting plate on the screw.
7. Recheck for level, insert the lower screw, and tighten both mounting screws.
8. Install the antenna. There are three antenna options to

**) Not investigated by UL.*

❑ **Option 1:** Leave as is (shortest range).

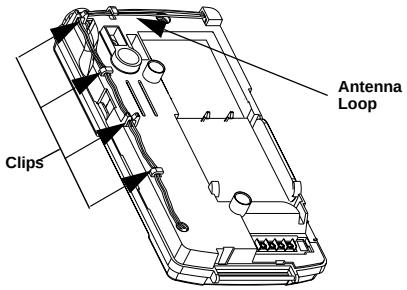


Figure 3. Antenna wiring as shipped

❑ **Option 2:** Hang antenna in wall (longest range).

➢ When you mark the back mounting plate's two mounting holes, also mark where the antenna hole is (see Figure 2 for antenna wire hole location).

➢ Where the antenna hole was marked, drill a hole into the wall.

➢ Remove the antenna loop (see Figure 3) from the panel cabinet clips and feed through the antenna hole and down into the wall.

❑ **Option 3:** Optional antenna housing (included in accessory pack) and attach it to the panel (medium range).

➢ Push the antenna housing down into the top-right hole of the panel until it snaps into place (see Figure 4).

➢ Remove the antenna loop from the last clip on the panel cabinet and insert it into the antenna housing.

9. Place panel cabinet into back mounting plate and snap into place.

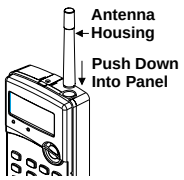


Figure 4. Optional Antenna Housing

Connecting Detection Devices to Panel Zone Inputs

Zone input is supervised using a 2k-ohm, end-of-line (EOL) resistor (included with panel) at the last device on the circuit. It accepts either normally open (N/O) or normally closed (N/C) detection devices.

The maximum loop resistance for each zone input is 300 ohms, plus the 2k EOL resistor.

Connecting Intrusion Detection Devices

Figure 5 shows the typical wiring for N/C and N/O door/window intrusion detection.

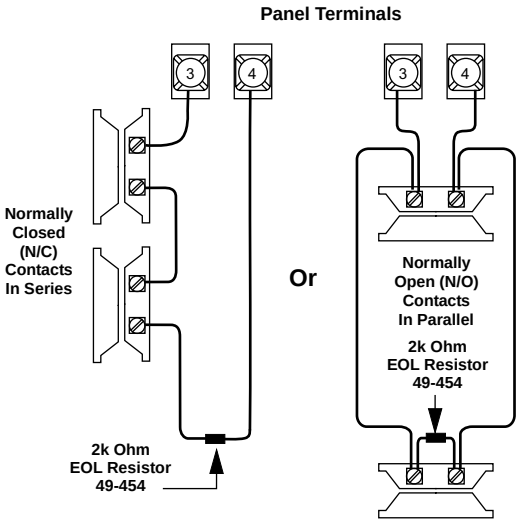


Figure 5. Wiring N/O or N/C Intrusion Detection devices

Connecting the AC Power Transformer

The panel must be powered by a plug-in stepdown transformer that supplies 8 VAC, 300 mA.

Connect the power transformer to the panel as shown in Figure 6.

CAUTION
Do not plug in the power transformer at this time. The panel must be powered up using the sequence of steps described in the "Powering Up the Panel" section

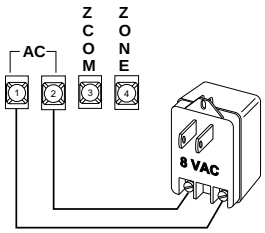


Figure 6. Connecting a Power Transformer

Connecting the Backup Battery Pack

The panel will receive its primary power from an AC class II transformer. In the event of an AC power failure, the panel will be powered by a battery pack containing four rechargeable NiCd batteries.

To connect the backup battery pack:

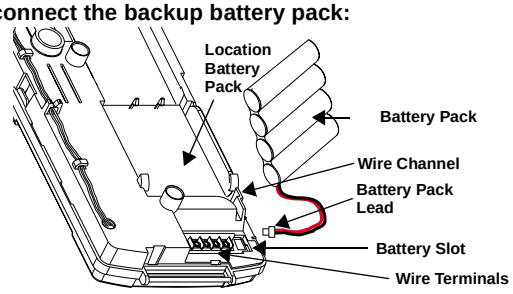
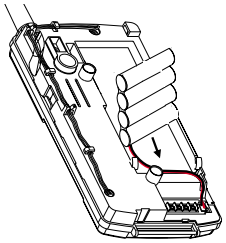


Figure 7. Connecting the Battery Pack



1. Remove the panel housing from the back mounting plate by lifting the tab located on the top of the panel and pulling back.
2. Slide the battery pack into the space provided on the back of the panel (Figure 8).

Figure 8. Placement of Battery

3. Plug the battery pack lead into the slot provided next to the wire terminals (Figure 7).

   Note
   Be sure to run the battery pack wires below the battery and thru the wire channel.

4. Replace the panel housing into back mounting plate and snap into place.

   Note
   See Appendix A: Troubleshooting on page 18 if the panel displays LOW BATTERY.

Powering Up the Panel

After connecting and wiring all devices to the panel, you are ready to apply AC power to the panel.

To power up the panel:

- ❑ Plug the transformer into an outlet that is not controlled by a switch or ground fault circuit interrupt (GFCI). Be sure to screw the top of the transformer onto the outlet so that it doesn't fall out of the outlet.

⚠ WARNING
Be careful when securing the transformer to an outlet with a metal cover. Hold the cover tightly in place. You could receive a serious shock if the metal outlet cover drops down onto the prongs of the plug while you are securing the transformer and cover to the outlet box.

Note
If the panel does not display anything, immediately unplug the transformer and disconnect the backup battery. Refer to the "Troubleshooting" (on page 18) section.

Programming the Panel

This section describes how to program all settings found in programming mode. You can program the panel manually using the panel keypad to program on site. Or, using the ToolBox® software, you can automatically program remotely via a modem and phone line.

Panel Keypad Button Programming Functions

In program mode, panel keypad buttons let you navigate to all installer programming menus for configuring the system.

Table 1 describes the panel keypad button functions in program mode.

Table 1: Button Functions

Button	Programming Function
Bypass # Select	Selects menu item or data entry. Toggles between on and off whenever needed.
Status * Back	Deselects menu item or data entry (if pressed before #).
▲ 🔒 ▼ 🔓	Scroll through available options at the current menu tier.
Bypass # (twice)	Clears current display.
0 thru 9	Enter numeric values wherever needed.

Moving Through Program Mode Tiers and Menus

There are three tiers of programming menus. Tier 1 menus are accessible immediately after entering program mode.

In Figure 9 pressing arrows pointing down ▼ advances forward through the menus. Pressing arrows pointing up ▲ moves through the menus in reverse.

When you find the menu you want to make changes to, press # once. This will take you to tier 2 program menus.

To return to tier 1 program menu, press *.

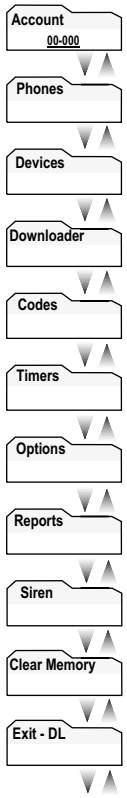


Figure 9. Tier 1 Programming Menu

Installer Programing Menu Items

This section guides you through the installer programing menu items as they appear in sequence with the exception of clearing memory.

Entering Installer Programming Mode

Entering programming mode on site is done from the panel, using an installer code. The default installer code is [4][3][2][1]. The system can be put into program mode only when the system is disarmed.

To enter programming mode:

With the system disarmed, press [8] + [C][O][D][E].

To clear memory:

It is strongly recommended that you clear memory on all newly installed panels before programming.

Clear Memory 1st Tier	*(Clear Memory)*
(Default = none) Clear memory deletes all existing programming information and then resets the panel settings to their default settings. The dealer code is not erased when panel memory is cleared. **To clear panel memory:** 1. Press [8], and enter the dealer or installer code. The display shows ACCOUNT. 2. Press ▲ twice. The display shows EXIT - DL; CLEAR MEMORY. 3. Press #. 4. Enter code to clear memory.	

Learning the DTIM into the Panel

Note
We recommend learning the DTIM as zone 1, since zone 1 is set up to learn into Group 36 automatically and has pre-programmed sensor text for the DTIM (PHONE MODULE).

The DTIM uses a 3-2-1 tamper switch activation sequence for learning, which causes the LED to blink in a corresponding 3-2-1 sequence. You must wait for the LED to turn off after each flash sequence before releasing the tamper switch (see Figure 2).

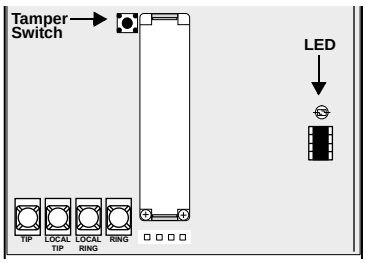


Figure 10. DTIM Tamper Switch and LED Locations

To learn the DTIM into the panel:

1. Remove the DTIM cover and set it aside.
2. With the system disarmed, enter program mode by pressing [8] + [C][O][D][E].
3. Press ▼ twice and # twice. The display shows ZONE 01 - TRIP.
4. Locate the DTIM tamper switch and LED (see Figure 10).

   Important !
   Timing is the key to success with step 5. Do not wait more than 1 second between tamper switch activations in step 5. If you wait too long, the LED will not flash and you must start over. Also, do not release the tamper switch before the LED is done flashing or you must start over.

5. Press and release the DTIM's tamper switch as follows:

   Press 3 times, holding the tamper switch down on the third press until the LED flashes 3 times, then release after the third flash.

   Immediately press 2 times holding the tamper switch down on the second press until the LED flashes 2 times, then release after the second flash.

   Immediately press and hold until the LED flashes 1 time, then release the tamper switch.

6. Proceed to programming the rest of the panel or exit from program mode.

Account Menu *(1st Tier)*

The account menu lets you set up the account number used for customer identification for the central monitoring station.

Account 1st Tier	*(Account)*
(Default = 00000, Parameters = 4-10 digits; 0-9, A-F) The account number is used as panel (or customer) identification for the central monitoring station. The panel sends the account number every time it reports to the central station. Account numbers must be 4 to 10 characters long. Alpha characters A–F can be assigned to the account number by pressing and holding buttons 1–6 respectively, until the character appears. **Note** The CID format only supports account numbers with letters B through F, or numbers 0 through 9 (or a combination of those letters and numbers). **To program an account number:** ❑ Press #, then enter the 4-10 digit code (0-9 and A-F) and press #.	

Phones Menu *(1st Tier)*

The phone menu lets you set up central station reporting for the system.

Number 1 and 2 3rd Tier	*(Phones—Phone 1 and Phone 2)*
(Default = none, Parameters = 24 digits; 0-9, *, #) This setting is used for programming the central station receiver phone number. Phone numbers can be 1 to 24 digits long, including pauses or * and # characters. To enter pauses, press the silent key. A pause is displayed as P. To enter *, press and hold the 7 key until * appears. A star (*) is displayed as *. To enter #, press and hold the 9 key until + appears. A pound (#) is displayed as +. **Note** The phone numbers are not accessible if a Dealer Code is programmed and the Installer Code is used to enter installer programming mode. To access these numbers when a Dealer Code is programmed, you must enter installer programming mode using the Dealer Code. **Note** Call-waiting services should be disabled to prevent interrupting panel communication to the central monitoring station. To program a dialing prefix that disables call-waiting, see *Pre-Dial String on page 7.* **To program number 1/2:** ❑ Enter 1-24 digit number and press #.	

FMT - CID *(Phones—Phone 1 and Phone 2)*
3rd Tier

(Default = CID) This setting determines whether the panel uses the SIA (off) or CID (on) reporting format for central station communication.

To select reporting format under phone 1/2:

- ❑ Press # to select on or off.

High Lvl *(Phones—Phone 1 and Phone 2)*
3rd Tier

(Default = Phone 1: on, Phone 2: off) When High Level Reporting is on, the following conditions report to the central station:

- ❑ Fire, Police, Emergency, and Duress alarms
- ❑ Phone Test
- ❑ Receiver Trouble
- ❑ Entering or Exiting Sensor Test Mode
- ❑ Tamper Conditions, including Zone Tampers and System Tamper

Note
For UL listed installations, High and Low-level reports must be set to on.

To turn high-level reports on or off under phone 1/2:

- ❑ Press # to turn it on or off.

Low Lvl *(Phones—Phone 1 and Phone 2)*
3rd Tier

(Default = Phone 1: on, Phone 2: off) When this setting is on, the following non-alarm conditions report to the central station:

- ❑ Forced Arming
- ❑ Hardwire Zone Trouble
- ❑ RF Supervisory
- ❑ RF Low Battery
- ❑ Phone Test

To turn low-level reports on or off under phone 1/2:

- ❑ Press # to turn it on or off.

Openings *(Phones—Phone 1 and Phone 2)*
3rd Tier

(Default = off) This setting determines whether an opening report is sent to the central station. When turned on, the panel sends an opening report when the system is disarmed.

To turn opening reports on or off under phone 1/2:

- ❑ Press # to turn it on or off.

Closings *(Phones—Phone 1 and Phone 2)*
3rd Tier

(Default = off) This setting determines whether a closing report is sent to the central station. When turned on, the panel sends a closing report when the system is armed.

To turn closing reports on or off under phone 1/2:

- ❑ Press # to turn it on or off.

Backup *(Phones—Phone 2)*
3rd Tier

(Default = on) This setting determines whether the DTIM uses phone number 2 for reporting if three initial attempts on phone number 1 are unsuccessful. PHONE 1 is backed up by PHONE 2. The DTIM makes up to 16 attempts (8 per phone number), alternating between the two programmed phone numbers.

For example, if Backup is on and three failed reporting attempts occur using PHONE 1, (panel displays PHONE 1 FAIL), the DTIM switches to PHONE 2 for three more reporting attempts. If these attempts fail, (panel displays PHONE 2 FAIL), the DTIM switches back to PHONE 1 for five more reporting attempts and, if necessary, switches back to PHONE 2 for five final attempts. If these final attempts fail, the panel will display PHONE FAILURE.

To turn backup on or off:

- ❑ Press # to turn it on or off.

Dial Dly *(Phones)*
2nd Tier

(Default = 30 seconds, Parameters = 15-120 seconds) Dial Delay determines how much time the user has to stop a panel before it sends a false alarm to the central station.

Alarm reports from sensors in groups 00–03, 10, and 13-20 can be aborted. To abort the dialing attempt, the user must disarm the system within the Dial Dly time setting. Cancel and restoral reports from these sensor groups are aborted at the same time. The following reports can also be aborted.

- ❑ System Tamper Alarm/Cancel
- ❑ Touchpad Police and Emergency Panic/Cancel
- ❑ Forced Arming
- ❑ Recent Closing

Note
Fire alarm reports to the central station cannot be aborted.

To set the dial dly:

- ❑ Enter the desired amount of time (15-120 seconds) and then press #.

Pre-Dial String *(Phones)*
2nd Tier

(Default = none, Parameters = 8 digits; 0-9, *, #, pause) This feature lets you set up a dialing prefix to disable the call waiting feature before the panel makes its first dialing attempt to any programmed central monitoring station or downloader phone number. The prefix can be up to eight digits. Contact your local phone company for call waiting disable numbers and characters. See Number 1 and 2 programming on page 5 for information on how to program * and # characters.

Note
The pre-dial string is not accessible if a Dealer Code is programmed and the Installer Code is used to enter installer programming mode. To access the pre-dial string option when a Dealer Code is programmed, you must enter installer programming mode using the Dealer Code.

To set the pre-dial string:

❑ Enter the desired numbers and then press #.

DTMF Dial *(Phones)*
2nd Tier

(Default = on) This setting determines whether the panel uses DTMF tones (on) or pulse (off) for dialing programmed phone numbers.

To turn DTMF dialing on or off:

❑ Press # to turn it on or off.

Devices *(1st Tier)*

(Default = none) Devices include a HW sensor, RF sensors, RF touchpads, and other RF devices such as the DTIM.

Table 2: Sensor Group Assigned to Device

Device	Sensor Group
Keyfob or RF Touchpad	1
Portable Panic	1
HW Input	10
DWS	10
PIR	17
Sound	17
Glassguard	17
Smoke	26
Rate of Rise	26
DTIM	36

Note
See Table B1, in Appendix B for more information on sensor groups.

Table 3: Device Programming

Device	To Program
Door/Window Sensor (SAW)	Press button on top of sensor (cover removed).
Motion Sensor	Press button on back of sensor (mounting plate removed).
Keychain Touchpad (non encrypted)	Press lock & unlock buttons until LED blinks.
Keychain Touchpad (encrypted)	See Note.
Crystal Sensors	See Note.
DTIM	3-2-1 sequence (on page 5).
Hardwire Sensor	For normally closed - separate sensor from magnet. For normally opened - close sensor then reopen.

Note
When installing crystal sensors and encrypted keychain touchpads, use the installation instructions included in their packing boxes.

Add *(Devices)*
2nd Tier

(Default = none) When adding devices, the panel will automatically assign the device to a sensor group based on the type of device. Table 2 outlines the sensor group assigned to each device.

Note
To override the preassigned sensor number, use the arrow keys to skip to the desired sensor number.

To add a device:

1. Press #. The display shows ZONE {01- 20} - TRIP.
2. Trip the sensor (see Table 3). The panel beeps twice to indicate the sensor was successfully learned into the panel.
3. Repeat step 2 until all desired zones are added.

Delete *(Devices)*
2nd Tier

(Default = none) The following procedure describes how to remove hardwire and wireless sensors from panel memory.

Note
Deleting zones/sensors does not delete text associated with the deleted zone/sensor number.

To delete a device:

1. To select a different zone press ▼ to scroll thru the learned zones. Press # to delete the displayed zone. The display shows the next sensor.
2. Repeat step 1 until all desired zones are deleted.

Review *(Devices)*
2nd Tier

(Default = none) This allows you to view the zone number and the group for each learned zone or sensor. For example, the display shows:

ZONE
01 GRP 10

where:

ZONE 01 = zone/sensor number,
GRP 10 = sensor group 10.

Important !
Review devices allows the installer to change the group assigned to devices. The panel accepts the group numbers defined in Table B1 in Appendix B.

To review a device:

1. To select a different zone press ▼ to scroll thru the learned zones. The display shows the current setting.
2. Enter the desired group number to modify then press #. The display shows the new setting.

Text *(Devices)*
2nd Tier

(Default = none) The panel allows sensor text to be associated with each device. The sensor text consists of a prefix field, base field, and suffix field. Table 4 shows the words available for each field. The default text for zones 1-3 are:

- ❑ Zone 1 - Phone Module (DTIM)
- ❑ Zone 2 - Front Door
- ❑ Zone 3 - Back Door

To add text:

1. To select the zone you want to add text to press ▼, till you get to the correct zone then press #. Base is the first to be displayed.
2. Press # then ▼ to scroll thru the base words, press # to select the word you want.
3. Press ▼ to change to the prefix words. Press # then ▼ to scroll thru the prefix words. Press # to select the word you want.
4. Press ▼ to change to the suffix words. Press # then ▼ to scroll thru the suffix words. Press # to select the word you want.
5. Press * to review what has been selected, then press ▼ to go to the next zone to change.
6. Repeat steps 2 thru 4 to change all zones.

Table 4: Sensor Text

Prefix Field	Base Field	Suffix Field
None	None	None
North	Keychain	Door
NE	Touchpad	Window
East	Front	Remote
SE	Back	Smoke
South	Garage	Emergency
SW	Bedroom	Motion
West	Guest Room	Fire
NW	Childs Room	Freeze
	Utility Room	CO
	Living Room	0
	Dining Room	1
	Bathroom	2
	Laundry Room	3
	Kitchen	4
	Office	5
	Den	6
	Special Chime	7
	Basement	8
	Upstairs	9
	Downstairs	
	Hallway	
	Medicine Cabinet	
	Closet	
	Attic	
	System Panic	
	Phone Module	

Note
Some combinations of the sensor text selections are too long for the display.

Downloader *(1st Tier)*

Number *(Downloader)*
2nd Tier

(Default = none, Parameters = 24 digits; 0-9, *, #, pause) Use this setting to enter the phone number of an off-site computer that can be used to program the panel through the phone line. Phone numbers can be 1 to 24 digits long, including pauses or * and # characters (see Number 1 and 2 (Phones—Phone 1 and Phone 2) on page 5).

Note
The phone numbers are not accessible if a Dealer Code is programmed and the Installer Code is used to enter installer programming mode. To access these numbers when a Dealer Code is programmed, you must enter installer programming mode using the Dealer Code.

Note
For this feature to work, the DTIM must be connected to a phone line with a Downloader phone number, and with a Downloader code.

Note
Call-waiting services should be disabled to prevent interrupting panel communication to the downloader. To program a dialing prefix that disables call-waiting, see the *Predial String* setting on page 7.

To program a downloader number:
❑ Enter 1-24 digit number and then press #.

DL Code *(Downloader)*
2nd Tier

(Default = 12345, Parameters = 5 digits; 0-9) The 5-digit downloader code is used in conjunction with downloader programming. The downloader operator must have the panel account number, dealer code, and downloader code in order to perform any programming.

Note
The Downloader Code cannot be deleted from panel memory. To change the Downloader Code to its default setting, enter 12345 when programming the Downloader code.

To program a downloader code:
❑ Enter 5-digit code and then press #.

Codes *(1st Tier)*

Install Code *(Codes)*
2nd Tier

(Default = 4321, Parameters = 4 digits; 0-9) The 4-digit installer code is used for entering program mode and changing system settings. If a dealer code is programmed, all settings except phone numbers, pre-dial string, and downloader number and dealer code can be changed.

To change an installer code:
❑ Enter 4-digit code and then press #.

Dealer Code *(Codes)*
2nd Tier

(Default = none, Parameters = 4 digits; 0-9) The 4-digit dealer code is used to prevent unauthorized persons from changing the programmed central station phone numbers. When this feature is enabled, central station phone numbers, pre-dial string, and downloader phone number cannot be changed (unless you enter the program mode by using the dealer code). All *other* system settings are still accessible by entering program mode with the installer code.

Note
When memory is cleared the dealer code will not be deleted from panel memory.

If a dealer code has already been programmed into the system, use that code to change the dealer code.

To program a dealer code:
❑ Enter 4-digit code and then press #.

To delete a dealer code:
❑ Press # twice, once to delete code and then again to accept the command.

Duress Code *(Codes)*
2nd Tier

(Defaults = none, Parameters = 4 digits; 0-9) The duress code is a unique 4-digit access code that allows users to operate the system and, at the same time, instructs the panel to send a silent alarm report to the central station.

To program a duress code:
❑ Enter 4-digit code and then press #.

Manager *(Codes)*
2nd Tier

(Default = none, Parameters = 4 digits; 0 to 9) The manager code functions the same as the primary code within the user programming menu, and can arm or disarm the system.

To program manager code:
❑ Enter 4-digit code and then press #.

To delete the manager code:
❑ Press # twice, once to delete code and then again to accept the command.

Maintenance Code *(Codes)*
2nd Tier

(Default = none, Parameters = 4 digits, 0 to 9) The maintenance code is to be used in conjunction with the apartment manager keychain touchpad. When a maintenance person needs access to a site protected by an Allego, he can press disarm on the apartment manager keychain touchpad, enter the premises, then enter the maintenance code at the panel to disarm the system.

To set the maintance code:
❑ Press #, enter the desired code and then press #.

Timers *(1st Tier)*

Entry Dly *(Timers)*
2nd Tier

(Default = 30 seconds, Parameters = 30-240 seconds) Entry Delay determines how much time the user has to disarm the system after entering the armed premises through a "designated delay door," (grp 10) without causing an alarm.

Note
For UL Listed installations, the Entry Delay must be set to 45 seconds or less.

To set the entry delay:

- ❑ Press #, enter desired time and then press #.

Exit Dly *(Timers)*
2nd Tier

(Default = 60 seconds, Parameters = 45-254 seconds) Exit Delay determines how much time the user has after arming the system to leave the premises through a "designated delay door," (group 10 or 19) without causing an alarm.

Note
For UL Listed installations, the Exit Dly must be set to 60 seconds or less.

To set the exit delay:

- ❑ Press #, enter desired time and then press #.

Auto Phone Test *(Timers)*
2nd Tier

(Default = 0 days, Parameters = 0-255 days) Auto Phone Test determines how often the panel conducts the automatic phone test. The system can be set to perform an automatic phone test anywhere from every day to every 255 days. Set this option to 0 to turn off.

Note
For UL Listed installations, the Auto Phone Test must be set to 1.

To set the auto phone test:

- ❑ Press #, enter desired number of days and then press #.

Quiet Time *(Timers)*
2nd Tier

(Default = on) Quiet Time determines whether quiet hour is enabled or disabled. If enabled, proceed to Quiet Hour to set the quiet time desired.

Important !
Fire related trouble beeps are not affected by Quiet Time.

Note
For UL Listed installations the Quiet Time option must be set to off.

To set the quiet time:

- ❑ Press # to turn on or off.

Quiet Hour *(Timers)*
2nd Tier

(Default = 22, Parameters = 0-23) Quiet Hour determines the start time of a 10 hour window during which trouble beeps are suppressed. For example, if quiet hour is set to 22 (10 p.m.) then non-fire related trouble beeps will not start between 10 p.m. and 8 a.m.

To set the quiet hour:

- ❑ Enter desired time (00-23) and then press #.

Rearm Timer *(Timers)*
2nd Tier

(Default = 0, Parameters = 0-12 hours) Rearm timer determines how long the system will remain disarmed before it rearms to the previous level if disarmed with the apartment manager keychain touchpad.

To set the rearm timer:

- ❑ Press #, enter desired number of hours and then press #.

Options *(1st Tier)*

KTP Arm *(Options)*
2nd Tier

(Default = off) When Keychain Touchpad Arm is on, pressing the lock button on keychain touchpads arms the system directly to Level 3 with NO DELAY.

When this setting is off, each key-press increments the arming level without NO DELAY.

To turn keychain touchpad arm on or off:

- ❑ Press # to turn on or off.

Police Panic *(Options)*
2nd Tier

(Default = on) This setting determines whether panel keypad police panic buttons are enabled (on) or disabled (off). If enabled, an immediate Police alarm will occur after the police panic buttons are pressed for two seconds and the panel displays the alarm as a police panic. If the DTIM is installed with the system;

- ❑ An alarm report will be issued.
- ❑ If the dialer delay option is on, the report will be delayed or can be aborted.

To turn the police panic on or off:

- ❑ Press # to turn on or off.

Emergency Panic *(Options)*
2nd Tier

(Default = off) This setting determines whether panel keypad emergency panic buttons are enabled (on) or disabled (off). If enabled, an immediate alarm will occur after the emergency panic buttons are pressed for two seconds and the panel displays the alarm as an emergency panic. If the DTIM is installed with the system;

- ❑ An alarm report will be issued.
- ❑ If the dialer delay option is on, the report will be delayed or can be aborted.

To turn the emergency panic on or off:

- ❑ Press # to turn on or off.

Fire Panic *(Options)*
2nd Tier

(Default = on) This setting determines whether panel keypad fire panic buttons are enabled (on) or disabled (off). If enabled, an immediate Fire alarm will occur after the fire panic buttons are pressed for two seconds and the panel displays the alarm as a fire panic. If the DTIM is installed with the system, an immediate alarm report will be issued.

Note
The alarm report cannot be aborted or cancelled.

To turn the fire panic on or off:

- ❑ Press # to turn on or off.

Rcvr Trouble *(Options)*
2nd Tier

(Default = off) When Receiver Trouble is on, the panel reports a receiver failure under the following conditions:

- ❑ A wireless sensor signal has not been received for two hours or
- ❑ The receiver is being jammed with a constant signal.

Note
For UL Listed installations using wireless devices, Receiver Trouble must be set to on.

To turn receiver trouble reports on or off:

- ❑ Press # to turn on or off.

Panel Tamper *(Options)*
2nd Tier

(Default = on) Panel Tamper determines how the panel handles possible tamper situations. When this feature is on, the panel reports a panel tamper if the panel back cover or DTIM cover is opened while the panel is armed. A police alarm will sound and PANEL TAMPER will be displayed. If this feature is off, the panel will display a status message only.

To turn the panel tamper on or off:

- ❑ Press # to turn on or off.

Exit Ext *(Options)*
2nd Tier

(Default = on) When Exit Extension is on, the panel restarts the exit delay timer if the user re-enters the premises through a standard delay door before the standard exit delay time expires.

This helps prevent exit faults and false alarms by allowing users to re-enter the premises for a forgotten item.

When this feature is off, the exit delay timer does not restart if the user re-enters the premises, forcing the user to disarm the system to avoid setting off an accidental alarm.

Note
For UL Listed Installations the Exit Extension option must be set to off.

To turn exit extension on or off:

- ❑ Press # to turn on or off.

Swinger Shutdown *(Options)*
2nd Tier

(Default = 1, Parameters = 1-2) This setting determines the maximum number of times a sensor or zone can go into alarm (during a single arming period) before the panel automatically bypasses that sensor or zone. This feature applies to all sensors groups except the fire group (26).

When set to 1, the panel automatically bypasses a sensor or zone after it causes an alarm. When set to 2, the panel waits until a sensor or zone has caused a second alarm (during the same arming period) before bypassing it. At any setting, the automatic bypass is logged into the event buffer and can only be viewed thru ToolBox.

Changing the arming level also clears all bypassed sensors and zones and resets the Swinger Limit count on all sensors and zones.

To set the swinger shutdown:

- ❑ Press #, enter desired number and then press #.

Quick Arm *(Options)*
2nd Tier

(Default = off) Quick Arm allows system arming without using an access code. When Quick Arm is on, the system arming level can be increased without entering an access code.

A valid access code is still required to disarm the system.

To turn quick arm on or off:

- ❑ Press # to turn on or off.

Quick Exit *(Options)*
2nd Tier

(Default = on) This setting determines whether or not users can open and close a standard entry/exit door without causing an alarm (while the system is armed).

When Quick Exit is on, (while the system is armed) pressing the Quick Exit button starts a 2-minute timer that allows exit/entry thru one standard entry/exit door (sensor group 10) to be activated (opened, then closed) for 2 minutes.

When this feature is turned off, the system must be disarmed if a protected door is opened.

Note
For UL Listed installations, this feature must be set to off.

To turn quick exit on or off:

❑ Press # to turn on or off.

Auto Stay Arm *(Options)*
2nd Tier

(Default = on) This setting determines whether or not the system automatically arms only doors and windows if the user arms the system without exiting the premises. This can help prevent accidental alarms by deactivating interior motion sensors during occupied arming periods.

When this feature is on and the system is armed, the display counts down the exit delay time. If the exit delay time expires with no group 10 sensor activation, the system automatically arms to Level 2, doors and windows.

Note
Arming the system to "Level 3 with No Delay" overrides the Auto Stay Arming feature.

To turn auto stay arm on or off:

❑ Press # to turn on or off.

Supv Time *(Options)*
2nd Tier

(Default = from 1 am to 5 am, Parameters = 12 am - 11:59 pm) Supervisory Time determines what time of day the panel sends supervisory, low battery, and auto phone test reports to the central station.

Note
The panel clock must be set with the correct time for accurate supervisory time reporting. See programming Time (Time) on page 15.

To set the supervisory time:

❑ Press #, enter desire time, use scroll keys to select am or pm, and then press #.

Alarm Verify *(Options)*
2nd Tier

(Default = off) This setting determines whether the panel reports to the central monitoring station after a single sensor or zone trip (off) or waits for a second trip before reporting (on).

Note
The first trip of a sensor will be a local alarm (doesn't call in), the second trip must be a different sensor within 4 minutes of the first trip.

This setting affects sensors/zones in groups 10 through 20. If Alarm Verify is set to on, group 18 responds the same as group 17.

Note
For UL Listed installations, Alarm Verify must be set to off.

To turn alarm verify on or off:

❑ Press # to turn on or off.

Reports *(1st Tier)*

Demo Kit *(Options)*
2nd Tier

(Default = off) This setting determines whether the panel is used for a standard installation (off) or as a demo kit (on). The demo kit will include:

- ❑ Allegro panel
- ❑ SAW D/W
- ❑ 2 button key fob
- ❑ PIR plastic (motion sensor)
- ❑ DTIM plastic
- ❑ 9V alkaline battery with battery strap
- ❑ Soft-sided case
- ❑ Demo kit Instructions

The following contains the modifications to Allegro Software that embody the Demo Kit Software. All features work exactly as on the production version except those listed here.

Power Up Default Deviations

The power-up defaults are the same as the production version except the following:

Zones

	Zone Number	Text
❑	1	KEYCHAIN REMOTE
❑	2	FRONT DOOR

Miscellaneous

	Item	Default
❑	Demo kit	ON
❑	CPU low battery	OFF
❑	Quick arming	ON
❑	Panel panics	ON
❑	Entry delays	8 seconds
❑	Exit delays	8 seconds
❑	Siren time-out	1 minute
❑	Trouble beeps	OFF
❑	Panel tamper	OFF

All program items can be changed by the operator but will return to defaults upon a memory clear execution.

Behavioral Differences

A transformer is not required for the Demo Kit. AC power tests will never be performed and AC power failure will never be shown.

The prompt for setting time after a power cycle will never be shown.

AC Fail *(Reports)*
2nd Tier

(Default = off) When AC Failure is on, the panel reports to the central station 15 minutes after AC power to the panel is lost.

Note
For UL Listed installations, AC Failure must be set to on.

To turn AC failure reports on or off:

- ❑ Press # to turn on or off.

Low CPU Battery *(Reports)*
2nd Tier

(Default = on) When this setting is on, the panel reports a low panel battery to the central station.

Note
Panel will not call in a low CPU battery within the first 24 hours of being powered up.

Note
For UL Listed installations, the Low CPU Battery feature must be set to on.

To turn low CPU battery reports on or off:

- ❑ Press # to turn on or off.

Phone Test *(Reports)*
2nd Tier

(Default = on) This setting determines if the user can, at any time when disarmed, test the communication between the panel and the central station. If a DTIM is installed with the system:

- ❑ The panel sends a packet to the DTIM informing it to send a phone test report to the central station. The report will be sent out immediately.
- ❑ The DTIM will send a successful or failed phone test message to the panel.
- ❑ The panel will display PHONE TEST FAILURE, if the phone test is unsuccessful.
- ❑ The panel will display TEST PASS, if the phone test is successful.
- ❑ If a central station phone number is not programmed the panel will not display the option to do a phone test.
- ❑ If a DTIM is not enrolled the panel will not display the option to do a phone test.
- ❑ High or Low level reporting must be on.

To turn the phone test setting on or off:

- ❑ Press # to turn on or off.

Siren *(1st Tier)*

Siren Time Out *(Siren)*
2nd Tier

(Default = 4 minutes, Parameters = 1-30) Siren Time-out determines how long sirens sound if no one is present to disarm the system.

Note
For UL Listed installations, the Siren Time-out must be set to 4 minutes or more.

To set siren time out:
1. Press **#**, enter the desired time and then press #.

Trouble Beeps *(Siren)*
2nd Tier

(Default = on) When this setting is on, the panel will beep to alert users of system trouble.

Note
For UL Listed installations, Trouble Beeps must be set to on.

To turn trouble beeps on or off:
- ❑ Press **#** to turn on or off.

Alarm Volume *(Siren)*
2nd Tier

(Default = 6, Parameters = 0 to 6) This setting allows you to adjust the panel's siren volume. The volume can be set from 0 to 6, with 0 being the lowest volume.

Note
Alarm Volume must be set to 6 for UL installations.

To set the alarm volume:
1. Press **#**, enter the desired volume level and then press #.

Exit - DL *(1st Tier)*

If Exit is selected, the panel returns to active mode. If the installer/dealer code is entered, a downloader session will begin.

After all installer programming is completed, use the following procedure to exit programming mode.

To exit programming mode:
- ❑ Press ***** until EXIT - DL is displayed and then press **#**. The current time will be displayed.

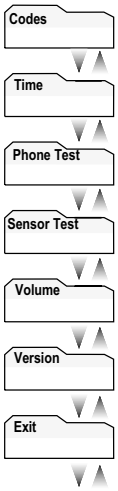
  Or

- ❑ Press * until EXIT - DL is displayed and then enter installer or dealer code to start a Downloader session.

User Programing Menu Items

This section guides you through the user programing menu items as they appear in sequence.

Entering User Programming Mode



There are two tiers of user programming menus. Tier 1 menus are accessible immediately after entering the program mode.

In Figure 11, pressing arrows pointing down ▼ advances forward through the menus. Pressing arrows pointing up ▲ moves through the menus in reverse.

To advance to tier 2 program menus press the up or down arrow keys to scroll thru the tier 1 menu items. When you find the menu you want to make changes to, press * once. This will take you to tier 2 program menus.

You can enter the user programming mode using the primary access code. The default primary access code is [1][2][3][4].

Figure 11. Tier 1 User Programming Menus

To enter user programming mode:
With the system disarmed, press [8] + [C][O][D][E]. This will take you to CODES, the first menu item in Tier 1.

Codes *(1st Tier)*

Manager *(Codes)*
2nd Tier

(Default = none, Parameters = 4 digits, 0 to 9) The manager code functions the same as the primary code within the user programming menu, and can arm or disarm the system.

Note
This code will only be displayed in user programming if the manager code was used to enter user program mode.

To program/change manager code:
1. Enter the manager code. The display shows CODES.
2. Press **#**. The display shows MANAGER.
3. Press **#** to display the current code (if any).
4. Press **#**, enter the desired code and then press **#**.

Maintenance Code *(Codes)*
2nd Tier

(Default = none, Parameters = 4 digits, 0 to 9) The maintenance code is to be used in conjunction with the apartment manager keychain touchpad. When a maintenance person needs access to a site protected by an Allego, he can press disarm on the apartment manager keychain touchpad, enter the premises, then enter the maintenance code at the panel to disarm the system.

Note
This code will only be displayed in user programming if the maintenance code was used to enter user program mode.

To set the maintance code:
- ❑ Press **#**, enter the desired code and then press **#**.

Primary *(Codes)*
2nd Tier

(Default = 1234, Parameters = 4 digits, 0 to 9) The primary code performs all system operations and user programming.

To set the primary code:

1. Press # to display the current code.
2. Press #, enter the desired code and then press #.

User 2, 3, 4 *(Codes)*
2nd Tier

(Default = none, Parameters = 4 digits, 0 to 9) User Codes performs arming and disarming functions. The user codes cannot directly bypass sensors or program the primary code. The system allows up to 3 user codes (user 2 - 4).

To program/change user 2, 3, 4 code:

1. Press # to display the current user code (if any).
2. Press #, enter the desired user code and then press #.

Time *(1st Tier)*

Time *(Time)*
1st Tier

(Default = 12:00 am, Parameters = 12:00 am to 11:59 pm) This setting lets you adjust the panel's clock to the correct time. The panel uses a 12-hour clock.

To set the time:

1. Press # to display the time.
2. Press #, enter the current time, use the arrow key to select am or pm and then press #.

Phone Test *(1st Tier)*

Phone Test *(Phone Test)*
1st Tier

This setting lets you perform a manual phone test to check the phone communication between the panel and the central monitoring station.

Note
The DTIM and phone number must be programmed before the panel will display the Phone Test option.

To perform a phone test:

- ❑ Press # to initiate a phone test. The panel will indicate if the test was successful or not.

Sensor Test *(1st Tier)*

Sensor Test *(Sensor Test)*
1st Tier

This setting lets you perform a manual sensor test to check that all the sensors are working properly.

- ❑ A DTIM and battery test are performed at the start of the sensor test. The panel will display the DTIM zone number and beep once for every received transmission.
- ❑ The panel will beep indicating the number of transmissions received, (see Table B4: "Minimum Beeps," on page 17), and displays <SENSOR NAME> + OK to indicate a satisfactory test of the sensor. For the first 10 to 20 seconds of test, the volume is set to a lower level.
- ❑ Panel will automatically leave sensor test after 15 minutes. Warning beeps will sound the last minute.
- ❑ The panel will display TEST DONE when all sensors have been tested.

To run a sensor test:

1. Press # to display the sensor test (TEST; ZONE XX). The display then scrolls thru the untested zones, and beeps indicating the number of sensor packets received.
2. To trip a sensor, follow the instructions in Table 5.
3. To restart the list, press 1. This will also restart the 15 minute timer.

Table 5: Sensor Tripping Instructions

Sensor	Do This
DTIM	Initiate a sensor test.
Door/Window	Open the secured door or window
Carbon Monoxide Alarm	Unplug the CO Alarm. Plug it back in, then press the TEST/RESET button until the unit beeps 8 times
Glass Guard	Tap the glass 3 or 4 inches from the sensor
Motion Sensor	Avoid the Motion Sensor field of view for 5 minutes, then enter its view
Rate-of-Rise Heat Detector	Rub your hands together until warm, then place one hand on the detector for 30 seconds
Shock	Tap the glass twice, away from the sensor. Wait at least 30 seconds before testing again
Smoke	Press and hold the test button until the system sounds transmission beeps
Panic Buttons	Press and hold the appropriate panic button(s) for 3 seconds
KeyChain Touchpad	Press and hold LOCK and UNLOCK simultaneously for 3 seconds
Remote Handheld Touchpad	Press and hold the 2 EMERGENCY buttons simultaneously for 3 seconds

Volume *(1st Tier)*

Volume *(Volume)* 1st Tier
(Default = 0, Parameters = 0-5) This setting allows the user to adjust the panel's status and arming level beep volume. The volume can be set from 0 to 5, with 0 being the lowest volume. **To set the volume:** 1. Press # to display the current volume. 2. Press #, enter the desired volume level and then press #.

Version *(1st Tier)*

Panel *(Version)* 2nd Tier
This setting allows the user to display the panel software and hardware version installed. **To display the panel version:** ❑ Press # to display the current panel software and hardware version.

Phone Module *(Version)* 2nd Tier
This setting allows the user to display the DTIM software and hardware version installed. **To display the phone module version:** ❑ Press # to display the current phone module software and hardware version.

Exiting User Programming Mode

After all user programming is completed, use the following procedure to exit programming mode.

To exit programming mode:

❑ Press * until EXIT is displayed and then press #. The current time will be displayed.

Downloader Programming

The panel can be programmed remotely using ToolBox. Allegro has a 100 event buffer that can only be viewed by ToolBox. Use the information you recorded in Appendix B to inform the downloading operator of the programming requirements for this system.

ToolBox Downloader Programming

Note
A Downloader Phone Number and DL Code must be programmed for remote downloader programming to work.

To initiate a ToolBox download session:

1. Contact your downloader station and ask the operator to prepare to download to the panel.
2. Make sure the system is disarmed.
3. Go into installer program mode.
4. Press * to go to the EXIT - DL display.
5. Enter the installer, dealer, or primary code.
6. When the downloader session completes, a panel programmed status message will be displayed.

If the panel display does not flash DOWNLOAD ON, call the downloader operator to verify the downloader phone number. Also, make sure ToolBox is set up properly. Refer to the "Troubleshooting" section (on page 18) if the problem persists.

To initiate a ToolBox download session using the Ring/Hang/Ring method:

For off-site access where an answering machine does not exist, the user or ToolBox operator simply calls the panel location once and listens for 10 rings. The panel should answer after the tenth ring.

For off-site access where an answering machine exists, the user or ToolBox operator must perform the following steps:

1. Call the panel location.
2. Let the phone ring once, then hang up.
3. Wait at least 10 seconds but not more than 40, then call the panel location again. The panel should answer on the first ring.

Testing the System

You should test the system after installing, servicing, and after adding or removing devices from the system (see Testing Sensors/Zones on page 17).

Note
UL Listed systems must be tested weekly.

Refer to "Appendix A: Troubleshooting" (on page 18) if correct test results are not achieved.

Basic System Commands

Table 6 describes the system's basic panel keypad operating commands. For complete details on system operation, including user programming, refer to the system's owner's manual.

Table 6: Basic Panel Operating Commands

How to...	Command
Check system status.	Status * Press once
Arms doors and windows.	Arm + Code
Arms doors and windows, no delay.	Arm + Code + No Delay 4
Arms motions, doors, and windows.	Arm (twice) + Code
Arms motions, doors, and windows, no delay.	Arm (twice) + Code + No Delay 4
Arms doors and windows.	Arm Press once if quick arm is on
Arms motions, doors, and windows.	Arm Press twice if quick arm is on
Arms system silently	Silent + Arm + Code

Table 6: Basic Panel Operating Commands

How to...	Command
Turns chime feature on and off (only when system is unarmed).	Chime 7 Press once
Identifies alarms in memory.	Status * Press once
Bypass	Bypass # + Primary Code
Disarm	Disarm + Code
Quick Exit	Quick Exit Press once, starts a 2 minute timer for use of one entry/exit door.
Police Panic	Arm + 1 Press and hold both buttons until panel indicates alarm.
Emergency Panic	Disarm + No Delay 4 Press and hold both buttons until panel indicates alarm.
Fire Panic	Silent + Chime 7 Press and hold both buttons until panel indicates alarm.

Testing Sensors/Zones

We recommend that you test sensors/zones after all programming is completed and whenever a sensor/zone-related problem occurs.

If the system does not respond as described in Sensor Test (on page 17), see "Appendix A: Troubleshooting on page 18."

Note
While the sensor test is a valuable installation and service tool, it only tests sensor operation for the current conditions. You should perform a sensor test after any change in environment, equipment, or programming.

To test sensors:

1. Go into sensor test; trip sensor.
2. Count the number of beeps that the panel emits.

Refer to Table 7 for the preferred number of beeps required.

Table 7: Minimum Beeps

Type of Sensor	Number of Beeps
Wireless Intrusion Sensors	7–8 beeps
Wireless Smoke & Heat Sensors	7–8 beeps
Wireless Environmental/Panic Buttons	7–8 beeps
Hardwire Loops	1
Emergency Buttons (Remote Handheld Touchpads only)	7-8 beeps
Keychain Touchpad	3 beeps
DTIM	7-8 beeps

If a Wireless Sensor Does Not Test

When possible, locate wireless sensors within 100 feet of the panel. While a transmitter may have a range of 500 feet or more out in the open, the environment at the installation site can have a significant effect on transmitter range. Refer to "Appendix A: Troubleshooting" (on page 18) to resolve the problem.

For wireless sensors that don't respond, use an ITI RF Sniffer (60-401) test tool to verify that the sensor is transmitting. Constant beeps from the RF Sniffer indicate a runaway (faulty) sensor. Remove the sensor's battery and replace the sensor.

Testing Phone Communication

Perform a phone test to check the phone communication between the panel and the central monitoring station, see Phone Test (Reports) on page 13.

Testing Central Station Communication

After performing sensor and phone tests, check that the system is reporting alarms successfully to the central station.

To test communication with the central station:

1. ***To avoid the dispatch of emergency personnel, call the central station and tell the operator that you will be testing the system!***
2. Arm the system.
3. Test each of the panel keypad and wireless panic buttons and trip at least one sensor of each type (fire, intrusion, etc.) to verify correct operation.
4. Call central station to verify all alarms were reported.

Appendix A: Troubleshooting

Feature	Problem	Action/Solution
Panel Power		
	Panel does not power up and does not display or respond.	
		1. Check that panel transformer is plugged into an unswitched outlet. 2. Check the AC circuit breaker to be sure the circuit is live. 3. Check that the backup battery is installed correctly and the AC power transformer is plugged in. 4. Check for proper panel and transformer wiring. 5. Measure the incoming AC voltage at panel terminals 1 and 2. It should read about 8 VAC.
	No incoming AC voltage at panel terminals 1 and 2.	
		1. Unplug the AC power transformer and disconnect the wires from the transformer and the panel. 2. Check transformer to panel wire for short or open circuits. 3. Plug in the transformer and check for 8.0 VAC at the transformer unconnected terminals. If zero (0) volts, replace the transformer. If transformer is good, call Tech Support.
	Panel display indicates *Low CPU Battery.*	
		Note If the AC power was out for an extended period of time, the battery may not be fully charged yet. 1. Perform a battery test by entering and exiting sensor test. 2. Check that the backup battery is installed correctly and the AC power transformer is plugged in. 3. Measure the incoming AC voltage at the panel terminals 1 and 2. It should read about 8 VAC. 4. Remove the backup battery power by disconnecting the battery and replace the battery. **Note** If AC power is present, the battery voltage is only monitored during a backup battery test. The panel automatically runs a backup battery test under the following conditions: (1) during user sensor test, (2) once every 4 hours, (3) when the back cover is closed. In order for the panel to update the battery status, a backup battery test must be run. **Note** With the AC power transformer plugged in, the panel automatically charges the battery. While the battery is charging for the first time it is normal for the system to indicate *Low CPU Battery.* Charging the battery can take a number of hours depending on the battery's initial charge. Once the battery reaches 4.8 VDC (full charge as measured while in battery test), the condition clears. If the trouble condition persists after 24 hours, replace the backup battery. A Low Battery report to the central station will not be made for the first 24 hours after power up.
	After pressing **STATUS** the panel flashes *AC Fail*, (panel continues to operate from backup battery).	
		1. Check the AC circuit breaker to be sure the circuit is live. 2. Check for proper panel and transformer wiring. 3. Check that the transformer is supplying AC to the panel. 4. Check that the transformer is plugged into a nonswitched outlet and secured with the provided screw. **⚠ WARNING** **Be careful when securing the transformer to an outlet with a metal cover. Hold the cover tightly in place. You could receive a serious shock if the metal outlet cover drops down onto the prongs of the plug while you are securing the transformer and cover to the outlet box.**
Access Code		
	Customer cannot remember access code(s).	
		1. Check your records to see if you have the customer's access code(s) on file. 2. Verify the access code(s) using the Downloader. 3. Clear memory and reprogram the panel locally. 4. Use Apartment Manager code to enter program mode and view the primary and user codes.
	Installer cannot remember install code.	
		1. Check your records to see if you have the install code on file. 2. Verify the install code using the Downloader. 3. Use the Dealer Code to enter program mode and view the installer code. 4. Call Technical Support for assistance.

Feature	Problem	Action/Solution
Arming/Disarming		
	System protests and will not arm immediately.	
		1. Press **STATUS** for an indication of the problem. 2. Make sure all monitored perimeter doors and windows are closed. 3. Make sure all perimeter and interior sensors are closed.
Bypassing		
	Sensor to bypass is not listed.	
		1. Attempting to bypass a 24-hour sensor (a sensor that is active in all levels) that cannot be bypassed. 2. Sensor is not active in the current arming level. 3. Sensor is not learned in.
Wireless Sensor/Touchpad Battery		
	System indicates *Sensor/Touchpad low battery.*	
		Replace the indicated device battery. Perform a sensor test to test the sensor/touchpad after replacing the battery. **Note** If the sensor/touchpad is not tested after battery replacement, the system continues to show a low battery condition, since that was the last signal it received from the device. Testing the sensor/touchpad with new batteries allows the panel to receive a signal with good battery information.
Central Station Reporting		
	Central station is not receiving reports.	
		1. Check that the premises phone line is working. 2. Perform a phone test. 3. Check for correct phone line wiring between the DTIM and RJ-31X Jack (see DTIM Installation Instructions). 4. Verify that central station phone number is programmed into the panel. If necessary, reprogram the phone number and retest. 5. Verify that the correct phone format (SIA or CID) is being used.
Hardwire Zone		
	System doesn't go into alarm when zone is tripped.	
		1. Sensor is not active in current arming level. Verify sensor group and retest. 2. Zone is not learned into panel memory. Enter installer program mode. Go to Devices, then Add and learn zone into memory. 3. Verify wiring.
Wireless Sensor Zone		
	System doesn't respond (in sensor test or when armed) when sensor is tripped.	
		1. Check that the wireless sensor battery is installed. 2. Check the sensor battery for low voltage. Replace batteries, if necessary. 3. Use an RF Sniffer (60-401) to verify that sensor is transmitting. 4. Constant beeps from the RF Sniffer indicate a runaway (faulty) sensor. Remove the sensor's battery and replace the sensor. 5. Sensor is not learned into panel memory. Enter installer program mode—Devices, Add, and learn sensor into memory (maximum zones = 20). 6. Sensor may be out of range. Move sensor to another location.
	Sensor reports trouble condition.	
		1. Sensor tamper switch is tripped—sensor cover is off, not latched securely, or sensor is not mounted securely. Secure sensor mounting and/or cover, then trip sensor to clear the condition. 2. Check the sensor battery for low voltage. Replace batteries, if necessary.

Feature	Problem	Action/Solution
Wireless Sensor Zone (Continued)		
	Panel indicates *[sensor #] supervisory.*	
		1. Use an RF Sniffer (60-401) to verify that sensor is transmitting. If sensor is not transmitting, check battery for low or no voltage and replace. 2. Change mounting position of sensor (from horizontal to vertical or vice versa) and test sensor several times for consistency. 3. Sensor signal is not reaching panel/receiver because sensor is too far away or there is too much interference. Remove sensor from mounted location and test from other locations. Mount sensor in area where signal can reach panel/receiver.
	Smoke sensor beeps once every minute.	
		Sensor batteries are getting low. Replace batteries. **Note** System Sensor smoke sensors do not transmit a low battery signal to the panel/receiver until battery voltage drops to within a range of 7.0 to 7.8 VDC. The sensor sounds beeps to notify occupants that the sensor's batteries need replacing, but the sensor does not transmit a low battery signal to the panel until the next supervisory signal (69 minutes later).
Wireless Touchpad		
	System doesn't respond to commands entered from wireless touchpad.	
		❑ Check for dead batteries. ❑ Perform a sensor test.
	Touchpad reports trouble condition.	
		Check the touchpad battery for low voltage. Replace battery, if necessary.
DTIM		
	Panel displays *phone module memory failure, or Service required.*	
		1. Perform a sensor test. 2. Call technical support for assistance.
	Panel displays *Phone Module Low Battery.*	
		1. Replace the battery and perform a sensor test. 2. Call technical support.
Phone		
	Constant dial tone, preventing dial-out on premises phones.	
		One or more polarity-sensitive phones exist on-site.
	Panel displays *phone 1 fail, phone 2 fail, or phone failure*.	
		1. Perform a phone test. 2. Check to make sure manual phone test option is on. 3. Verify that high and/or low level reporting option is on. 4. Perform a sensor test to verify communication between the DTIM and panel. See Phone Test (Reports) on page 13 5. Check DTIM wiring (see DTIM installation instructions).
Phone Test		
	Panel does not display option to perform a phone test.	
		❑ The central station phone number is not programmed in. ❑ DTIM has not been enrolled.
Downloader		
	Download/upload session fails on a pre-programmed panel.	
		1. Verify Downloader Phone Number matches ToolBox setting. 2. Verify Downloader CODE matches ToolBox setting. 3. Verify Dealer CODE matches ToolBox setting. 4. Verify panel Account Number matches ToolBox setting.

Feature	Problem	Action/Solution
Downloader (Continued)		
	Download/upload session fails on an unprogrammed panel.	
		1. Verify Downloader Phone Number matches ToolBox setting. 2. Verify Downloader CODE matches ToolBox setting. 3. Verify Dealer CODE matches ToolBox setting.

Appendix B: Reference Tables

Table B1: Sensor Group Characteristics

No.	Name	Application	Alarm	Delay	Restoral	Supervisory	CS Report	Chime	Active Levels
00	Fixed Panic	24-hour audible fixed emergency buttons.	Police	Instant		√	√		1, 2, 3
01	Portable Panic	24-hour audible portable emergency buttons.	Police	Instant			√		1, 2, 3
02	Fixed Panic	24-hour silent fixed emergency buttons.	Silent	Instant		√	√		1, 2, 3
03	Portable Panic	24-hour silent portable emergency buttons.	Silent	Instant			√		1, 2, 3
04	Fixed Emergency	24-hour emergency sensor, such as Pendant Panic or holdup button.	Emergency	Instant		√	√		1, 2, 3
06	Portable Emergency	24-hour portable emergency alert button.	Emergency	Instant			√		1, 2, 3
08	Special Intrusion	Special belongings, such as gun cabinets and wall safes.	Police	Instant	√	√	√		1, 2, 3
09	Special Intrusion	Special belongings, such as gun cabinets and wall safes.	Police	Standard	√	√	√		1, 2, 3
10	Entry/Exit Delay	Entry and exit doors that require a standard delay time.	Police	Standard	√	√	√	√	2, 3
13	Instant Perimeter	Exterior doors and windows.	Police	Instant	√	√	√	√	2, 3
14	Instant Interior	Interior doors.	Police	Follower	√	√	√		2, 3
15	Instant Interior	Interior PIR motion sensors. *	Police	Follower		√	√		2, 3
16	Instant Interior	Interior doors.	Police	Follower	√	√	√		3
17	Instant Interior	PIR motion sensors. *	Police	Follower		√	√		3
18	Instant Interior	PIR motion sensors subject to false alarms. * †	Police	Follower		√	√		3
19	Delayed Interior	Interior doors that initiate a delay before going into alarm. *	Police	Standard	√	√	√		3
20	Delayed Interior	PIR motion sensors that initiate a delay before going into alarm. *	Police	Standard		√	√		3
21	Local Instant Interior	24-hour local alarm zone protecting anything that opens and closes.	Police	Instant	√	√			1, 2, 3
22	Local Delayed Interior	Same as group 21, plus activation initiates a delay before going into alarm.	Police	Standard	√	√			1, 2, 3
23	Local Instant Emergency	24-hour local alarm zone protecting anything that opens and closes. ‡	Emergency	Instant	√	√			1, 2, 3
25	Local Special Chime	Notify the user when a door is opened. Sounds emit from a local annunciator. * **Note** If using a PIR motion sensor, use only ITI part no. 60-511-01-95.	Special Chime	Instant		√			1, 2, 3
26	Fire	24-hour fire, rate-of-rise heat, and smoke sensors.	Fire	Instant	√	√	√		1, 2, 3
34	Gas	Carbonmonoxide (CO) Gas Detectors ‡	Emergency	Instant	√	√	√		1, 2, 3
36	DTIM	Dialog Telephone Interface Module (DTIM) ⌘	Police	Instant					

Table B1: Sensor Group Characteristics (Continued)

No.	Name	Application	Alarm	Delay	Restoral	Supervisory	CS Report	Chime	Active Levels

Note
Check marks (√) represent characteristics present in a group.

* This group is not certified as a primary protection circuit for UL-listed systems and is for supplementary use only.

† Sounds instant police siren if two or more sensors are tripped within 4 minutes. Otherwise sensors are followers to delayed sensors. If Alarm Verification is on, group 18 functions like group 17.

‡ This group has not been investigated by UL.

⌘ The DTIM will report in all levels.

Siren Type:

Police - A high level steady siren.

Fire - A high level temporal siren.

Silent -No siren.

Emergency - A low level on-off patterned siren.

Delay:

Instant -A sensor of this type will cause an immediate alarm if a violation occurs anytime in an active arming level.

Standard - A sensor of this type will cause an entry delay if a violation occurs anytime in active arming level. A violation during an exit delay will not cause an alarm.

If the arming level modifier No Delay is enabled a sensor of this type will cause an immediate alarm if the violation occurs during an active arming level.

Follower - A sensor of this type will cause an immediate alarm if a violation occurs during an active level unless an entry or exit delay is in progress. If violated during an entry delay and the entry delay expires the sensor will go into alarm.

Table B2: System Settings

Menu Name & Default	Parameters	Settings
Account, 00-000	4-10 digits; 0-9, A-F	
Number 1, none	24 digits; 0-9, *, #, pause	
FMT - CID/SIA, CID	1=CID, 0=SIA	
High LVL, on	off, on	
Low LVL, on	off, on	
Openings, off	off, on	
Closings, off	off, on	
Number 2, none	24 digits; 0-9, *, #, pause	
FMT - CID, CID	1=CID, 0=SIA	
High LVL, off	off, on	
Low LVL, off	off, on	
Openings, off	off, on	
Closings, off	off, on	
Backup, on	off, on	
Dial DLY, 30	15-120	
Pre-dial String, none	8 digits; 0-9, *, #, pause	
DTMF Dia, on	off, on	
Number, none	24 digits; 0-9, *, #, pause	
DL Code, 12345	5 digit code, 0-9	

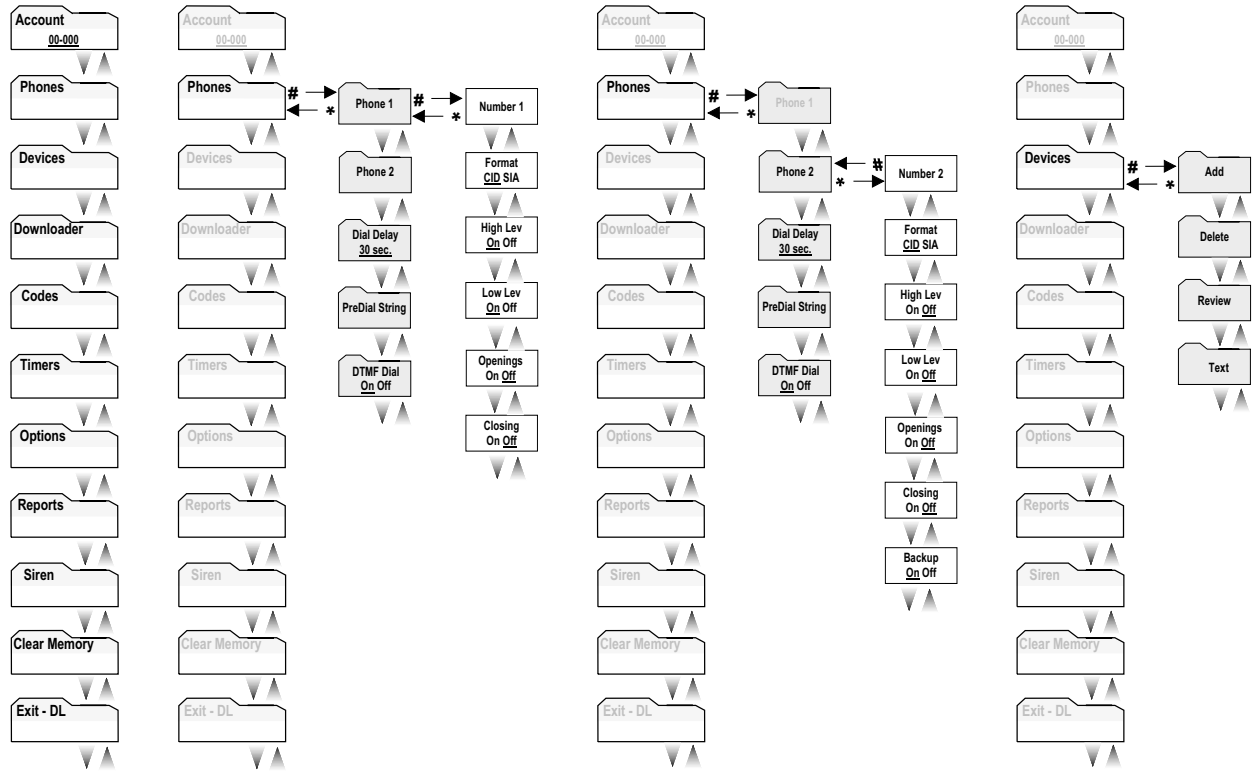
Table B2: System Settings (Continued)

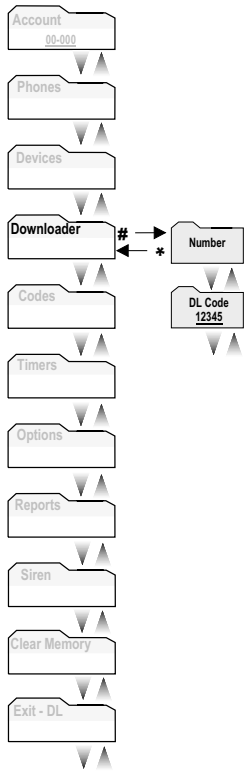
Menu Name & Default	Parameters	Settings
Install Code, 4321	4 digit code, 0-9	
Dealer Code, none	4 digit code, 0-9	
Duress Code, none	4 digit code, 0-9	
Manager Code, none	4 digit code, 0-9	
Maintenance Code, none	4 digit code, 0-9	
Entry DLY, 30 (45 for UL installations)	30-240	
Exit DLY, 60 (60 for UL installations)	45-254	
Auto Phone Test, 0 (off) (1 for UL installations)	0-255	
Quiet Time, on (off for UL installations)	off, on	
Quiet Hour, 22	0-23	
Rearm Timer, 0	0-12	
KTP Arm, off	off (ratchet arm), on (all on), No Delay	
Police Panic, on	off, on	
Emergency Panic, off	off, on	
Fire Panic, on	off, on	
Rcvr Trouble, off (on for UL installations)	off, on	
Panel Tamper, on	off, on	
Exit EXT, on (off for UL installations)	off, on	
Swinger Shutdown, 1	1-2	
Quick Arm, off	off, on	
Quick Exit, on (off for UL installations)	off, on	
Auto Stay Arm, on	off, on	
Supv Time, random from 1 am to 5 am	12 am - 11:59 pm	
Alarm Verify, off (off for UL installations)	off, on	
Demo Kit, off	off, on	
AC Fail, off (on for UL 1635)	off, on	
Low CPU Battery, on (on for UL 1635)	off, on	
Phone Test, on	off, on	
Siren Time Out, 4 (minimum for UL installations)	1-30	
Trouble Beeps, on (on for UL installations)	off, on	
Alarm Volume, 6 (minimum for UL installations)	0-6	

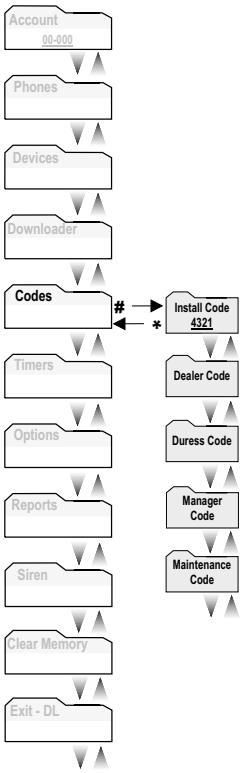
Table B3: Sensor Information

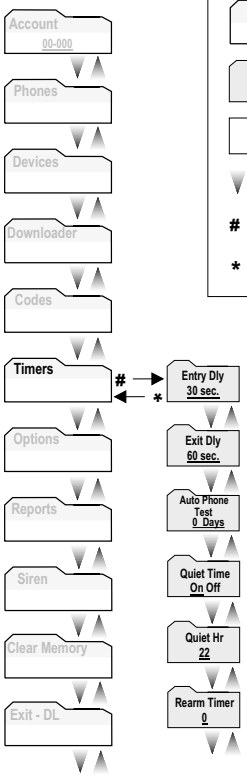
Sensor Number	Sensor Text	Sensor Type	Sensor Group
01			
02			
03			
04			
05			
06			
07			
08			
09			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

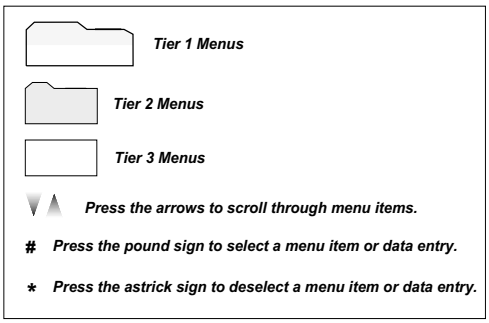
Appendix C: Installation Menus



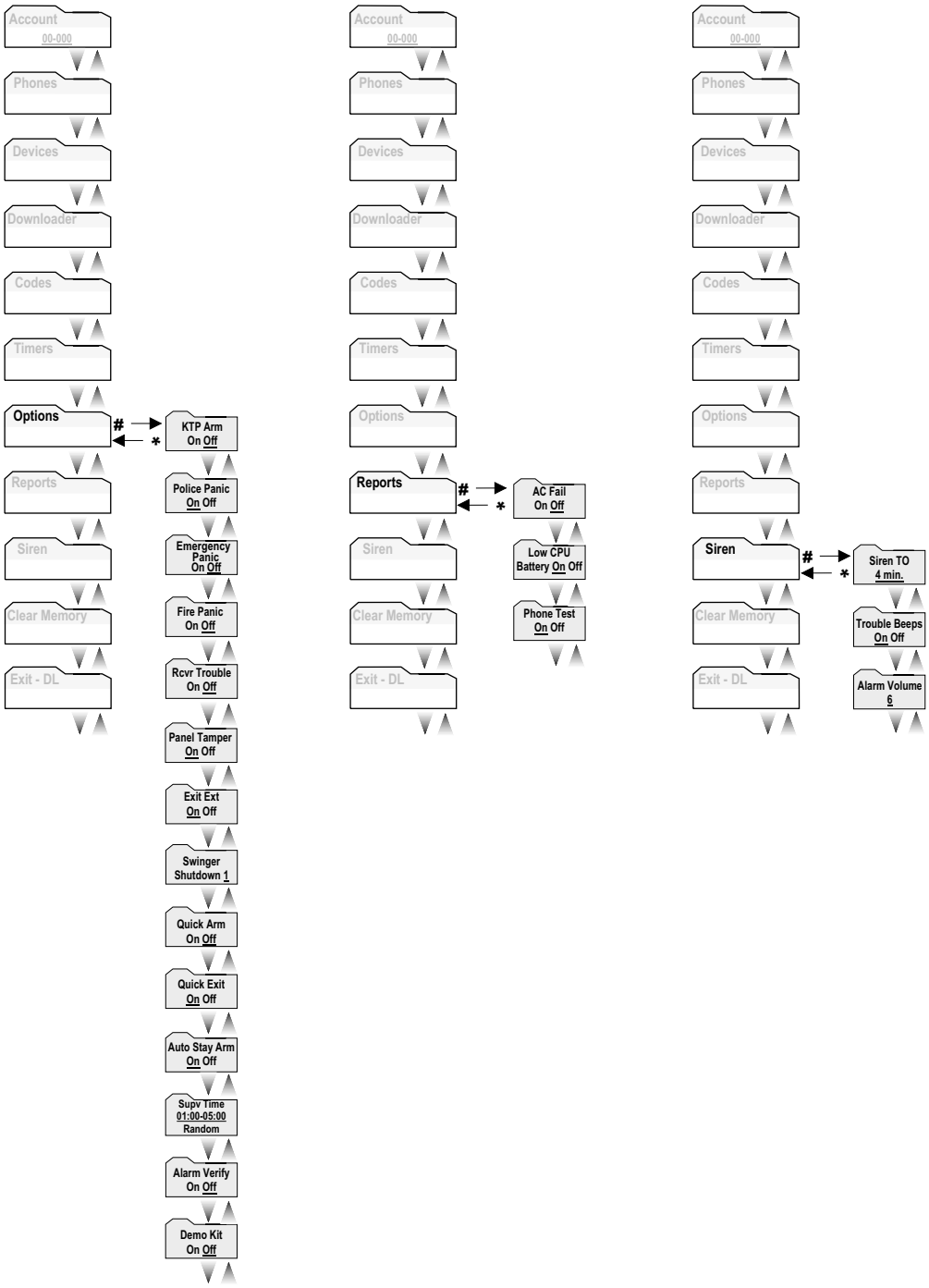








Note:
Underlined settings indicate defaults


Account
00-000
Phones
Devices
Downloader
Codes
Timers
Options
#
*
KTP Arm On Off
Police Panic On Off
Emergency Panic On Off
Fire Panic On Off
Rcvr Trouble On Off
Panel Tamper On Off
Exit Ext On Off
Swinger Shutdown 1
Quick Arm On Off
Quick Exit On Off
Auto Stay Arm On Off
Supv Time 01:00-05:00 Random
Alarm Verify On Off
Demo Kit On Off
Reports
AC Fail On Off
Low CPU Battery On Off
Phone Test On Off
Siren
Siren TO 4 min.
Trouble Beeps On Off
Alarm Volume 6
Clear Memory
Exit - DL

Specifications

Power Requirements: .....8 VAC, 300 mA

Rechargeable Battery:.....4.8 VDC Rechargable NiCd Battery pack

Radio Frequency: .....319.5 MHz + or - 140 kHz

Nominal Range: ..... 500 feet, (150 m) open-air receiving range

Temperature Range
Storage: .....-30° to140° F (-34° to 60° C)

Operating: .....32° to 122° F (0° to 49° C)

Maximum Humidity: .....90% relative humidity, noncondensing

Dimensions: .....7.5” x 6.75” x 1.5” (L x W x D)

Color: .....Ash White

Case material: .....Polycarbonate ABS plastic

Weight: .....1.0 lbs

Installation: .....On wall mounting

Listings

UL 985: Household Fire Warning System Units (applied for)

UL 1023: Household Burglar-Alarm System Units (applied for)

UL 1635: Digital Alarm Communicator System Units (applied for)

ULC-S545: Canada Residential Fire Warning System Control Units (applied for)

ULC-C1023: Canada Household Burglar-Alarm System Units (applied for)

CSFM California State Fire Marshall (applied for)

GE Interlogix

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