ADEMCO

INSTALLATION INSTRUCTIONS

No. 4140
VISTA AT SECURITY SYSTEM

MARGIN LINES INDICATE PRINCIPAL CHANGES IN THIS ISSUE

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Template for Mounting the 4137 and 5137 (provided on separate sheet)

N4410V1 5/89

GENERAL INFORMATION

The VISTA AT (No. 4140) is a microprocessor-based security control which provides up to 9 wired zones in the basic product, with expansion to an additional 8 wired zones when connected to a 2-wire zone expansion bus. The security control is housed in a wall-mounted metal cabinet measuring 12" (30.5 cm) wide x 12" (30.5 cm) high x 3" (7.6 cm) deep, and can be used with a console equipped with a multifunction 12-key digital keypad and a 2-line, 32-character multipurpose LCD English language display (5137), or one with factory-defined restricted word LCD display (4137). Both types of consoles are equipped with a built-in 85 db piezoelectric sounder that meets UL requirements as an alarm sounder.

Connections to the security control are made via a 24-terminal connector block which is used to interface to the wired loops, plug-in DC power pack, back-up battery, remote consoles, external alarm sounder(s), etc. The entire connector block (with the interface wiring) can be unplugged from the main circuit board if the board ever needs to be returned for service. Telephone line and optional ground start module connections are made via a separate 5-terminal connector block.

The security control can be easily programmed from an optional 5137 (ALPHA VISTA) or 4137 (VISTA) remote console; the control can also be programmed locally from the 699 Programmer (using a 695-30XT cartridge). Programmed options to establish specific alarm and reporting features are stored in electrically erasable, non-volatile EEPROM memory. This means that the unit can be reprogrammed many times (unlike units equipped with PROMS) and that information which has been programmed will not be lost in the event of a complete loss of power. For installer convenience, the control is factory-programmed to a set of values that is designed to meet the needs of many installations. However, these can be altered by the installer to suit the specific needs of a particular installation or installation company, following the instructions provided in the programming section of this manual (factory-programmed values are also shown that section).

This system also contains abbreviated operating instructions in memory, designed primarily as an aid to the end user. This feature, which functions only with the ALPHA VISTA (5137) console, may be used when the system is in the armed or the disarmed mode, and is activated by simply pressing any of the function keys for 5 seconds. The display on the console will then scroll information related to the use of that function key.

The system provides communication capability (central station reporting, etc.) over existing telephone lines, as well as zone expansion connections.

An optional remote keypad (No. 4131) can be used for arming, disarming, etc., from a remote indoor location within the protected premises. This unit is a compact 12-button keypad with 2 system status indicators (LEDs) and a built-in piezoelectric sounder that provides warning sounds (see Appendix A).

Remote consoles available for use with the system include:

5137: This console is equipped with 12 backlit keys, a backlit alphanumeric LCD display, a loud piezoelectric alarm sounder, and requires only a 4-wire connection to the control.

4137: This console provides functions similar to that of the 5137 with one notable exception. It utilizes an LCD display that displays numerics for zone identification and pre-defined words for mode, status, and alarms. Requires only a 4-wire connection to the control.

This system includes an alarm relay with SPDT dry contacts rated at 2.8 amps.

A complete list of optional accessories will be found in a section toward the end of this manual under the heading "Optional Accessories" (see Index).

Zone Characteristics

Zone 1: Programmable Zone, may be used as EOLR supervised Fire Zone (supports 2-wire Smoke Detectors), or may be used as a non-fire zone with N.C. contacts only. 350-500 msec response.

Zones 2-8: Programmable Zones, EOLR supervised, 350-500 msec response.

Zone 9: Programmable Zone, N.C. contacts only, fast 10-15 msec response.

Back-up 12V DC Battery

Mounted internally. Rechargeable 12-volt, 4 AH Gel or starved Lead Acid battery.

DC Power Pack

Plug-in Power Pack (DC power converter). Plugs into unswitched 2-pin 110 volt AC outlet providing 24-hour service. Power Pack (No. 1360) supplies unregulated 18VDC output (850 mA max.) for powering the Control.

REMOTE PROGRAMMING AND CONTROL

The No. 4140 allows the installer to call it using switched network phone lines so that the control/communicator can be remotely programmed and/or commanded from a No. 699MD Intelligent Programmer or an IBM compatible Personal Computer (PC). See Note 2 under **Remote Capabilities** in this section.

Accessing of the No. 4140 from a remote location is protected against compromise by someone attempting to defeat the system, using 4 levels of security protection:

1. **Security Code Handshake:** An 8-digit Central Station ID code must be matched between the No. 4140 and the Central Station.

2. **Hang-up and call back:** Calling the No. 4140 does not directly allow programming, as a successful handshake merely results in the No. 4140 breaking the phone line connection and then calling back the (internally stored) central station service phone number*.

3. **Data Encryption:** Data passed between the central station and the No.4140 is encrypted for security so that it is very difficult for a foreign device tapped into the phone line to take over communication and substitute system compromising information.

4. **Central Station Advisory Note:** Any condition that causes the system to initiate a call back to a telephone number from which it can be reprogrammed or commanded (in fact, even for a local reprogramming of the EEPROM) causes a unique report to be sent to the central station's alarm logging digital receiver.

* **Note:** In situations where a service person is on site and the system is installed inside a PABX, it is possible to initiate a download from the protected premises by keying [installer or master security code] + [#] + [1].

Equipment Required

At the premises:

- 4140

At the central station (or the installer's office/home):

- A No. 699MD Intelligent Programmer that incorporates an internal modem and a No. 695-30XT Program Cartridge.

OR

- An IBM PC compatible computer, a Modem (check with Ademco Factory Technical Support for the specific brand and model to be used), No. 4130PC Downloading Software Diskette, and appropriate interconnecting cables.

Remote Capabilities (See Note 2)

Programming:

All programming functions accessible from the unit's keypad or via local No. 699 direct programming.

Commanding:

There are two types of commands that can be issued to the system:

1. Control Commands -
   - To Arm the System in the Away Mode*(1)
   - To Disarm the System*(1)
   - To Bypass a Zone
   - To Force the System to Accept a New Program Download
   - To Shut Down Communication (dialer) Functions (non-payment of monitoring fees in an owner's system)
   - To Shut Down all Security System Functions (non-payment for a leased system)
   - To Inhibit Local Keypad Programming (prevents takeover of your accounts)

2. Status Commands -
   - To Cause the System to Upload a Copy of its Resident Program to the central station
   - To Read System Status:

     Arming Status
     Ready Status and Current Faults
     Presence of Alarms (past or present)
     Presence of Troubles (past or present)
     AC Power Status
     Bypass Status and Current Bypasses

* NOTES:

1. If the system is programmed for open/close reporting by user, User #7 will be reported.

2. After the 4140 and the 699 or PC have established valid communication, each console will become inactive. The 4140 will resume the normal security functions (including responding to faults that took place during the downloading) after it is commanded to hang up. See the 4130PC or 695-30XT instructions for details.

The detailed operation of the functions described below is covered in the Installation Instructions for the No. 695-30XT Program Cartridge and for the 4130PC Download Software Diskette.

- To Read List of Faulted Sensors
- To Read List of Bypassed Sensors
- To Read 10-Day Alarm History Log
- To Read 10-Day Trouble History Log
- To Read List of Sensors Currently in Alarm
- To Read List of Sensors Currently in Trouble

Remote Communication Specifications:

. Program Download Time - 1 minute for a complete program
. Typical Total Time Including Call Up/Call-Back - 3-4 minutes.

Remote Command/Programming Advisory Notes:

. Alarm and Trouble Reporting are disabled during the time that the system and the central station are linked to each other for the described functions, following a valid exchange of codes.

. Keypad entries are ignored during the same time interval cited above.

. Should an alarm transpire during the remote program/control interval, the system would not respond to the alarm condition until the remote mode was ended. The local zones and the Nos. 4190WH, 4139WH, 4192SD/SDT, 4194WH, 4196, 4208 and 4275 all store their fault conditions until they are read by the Control. As such, alarm conditions from the local and expansion zones would not be missed, only delayed.

. A copy of the program downloaded may be produced from either the No. 699 Intelligent Programmer or the IBM PC compatible computer, using those products' internal report generators, when an optional printer is connected.

ZONE TYPES AVAILABLE FOR SELECTION

For each zone used, one of the following zone types must be selected:

1. **Entry/Exit Burglary (Delay #1).** Assigned to sensors on doors through which entry and exit will normally take place when the system is armed.

2. **Entry/Exit Burglary (Delay #2).** May be set for different delay than above. For use with sensors on overhead garage doors, etc., where longer delay is needed to reach the keypad in the main portion of the house or building, and more delay is needed to exit the premises.

3. **Perimeter Burglary.** Normally assigned to all sensors on exterior doors and windows requiring instant alarm.

4. **Interior, Follower.** Delayed alarm only if the Entry/Exit zone is faulted first; otherwise, produces an instant alarm. Assigned to zone covering an area such as a foyer or lobby through which one must pass upon entry to reach the keypad to disarm the system. Designed to provide instant intrusion alarm in the event an intruder hides on the premises prior to the system being armed or gains access to the premises through an unprotected area.

5. **Trouble by Day/Alarm by night.** Can be assigned to a zone which contains a foil-protected door or window (such as in a store), or to a zone covering a "sensitive" area such as a stock room, drug supply room, etc., or other controlled access area where immediate notification of an entry is desired. During the disarmed state (day), the system will provide latched Console annunciation (and central station report, if desired) of openings or troubles (such as sensor malfunctions or foil breaks). During the armed state (night), violations will initiate an alarm.

6. **24-hour Silent Alarm.** This type generally assigned to a zone containing an Emergency button that is designed to initiate an alarm report to the Central Station, but which produces no local displays or alarm sounds.

7. **24-hour Audible Alarm.** This type also assigned to a zone containing an Emergency button, but which will initiate an audible alarm in addition to an alarm report to the Central Station.

8. **24-hour Auxiliary Alarm** (Console sounder only). This type assigned to a zone containing a button for use in personal emergencies, or to a zone containing monitoring devices such as water sensors, temperature sensors, etc. Designed to initiate an alarm report to the Central Station and only provides Console alarm sounds and alarm displays.

9. **Supervised Fire** (alarm on short/trouble on open).

10. **Interior that always has Entry/Exit Delay #1** (except that Entry Delay is suppressed in the INSTANT mode). This type typically assigned to an interior zone containing a PIR that covers an area through which the user must pass to reach the Console for disarming purposes (whether inside or first entering). Ideal for an area such as an apartment entrance foyer in which the only Console is located.

FUNCTIONAL DESCRIPTION OF ZONE TYPES

The following is a description of the various zone types available which must be selected for each physical zone. You may wish to use Table A at the end of this description to record your selections.

Type 1. **BURGLARY ENTRY/EXIT (DELAY #1):** This zone type is not enabled after arming until termination of the programmed Exit Delay #1. Upon entry, the Console will emit 3 short beeps as a warning that the system must be disarmed. If the security code + OFF is not entered before termination of the programmed Entry Delay #1, an alarm will be initiated at the built-in sounder, and an external alarm and latched LCD display will be present. A system-wide programmed number of alarm reports for this zone will be allowed to be transmitted (swinger suppression) in one armed period. Restorals will be sent when the zone is restored for a time greater than its physical response time (less than 1 second).

During the disarmed state, a faulted zone will result in a **"DISARMED-Press * to show faults"** display (5137) or a **NOT READY** display (4137). Subsequent depression of the * key will cause all the descriptors and/or numbers of the faulted zones to be sequentially displayed. No communicator reports will be initiated.

Type 2. **BURGLARY ENTRY/EXIT (DELAY #2):** This zone type is not enabled after arming until termination of the programmed Exit Delay #2. Upon entry, the console will simply emit 3 short beeps as a warning that the system must be disarmed. If the security code + OFF is not entered before termination of the programmed Entry Delay #2, an alarm will be initiated at the built-in sounder, and an external alarm and latched

LCD display. A system-wide programmed number of alarm reports for this zone will be allowed to be transmitted (swinger suppression) in one armed interval. Restorals will be sent when the zone is restored for a time greater than its physical response time (less than 1 second).

During the disarmed state, a faulted zone will result in a "**DISARMED-Press * to show faults**" display (5137) or a **NOT READY** display (4137). Subsequent depression of the * key will cause all the descriptors and/or numbers of the faulted zones to be sequentially displayed. No communicator reports will be initiated.

Type 3. **BURGLARY PERIMETER:** While the System is armed, a faulted zone will initiate an alarm at the console, and an external alarm and a latched LCD display will be present; in addition, a programmed communicator report will be transmitted. Depression of any key will silence the Console's local alarm sounder for 10 seconds. A system-wide programmed number of alarm reports for this zone will be allowed to be transmitted (swinger suppression) by the communicator in one armed period. The communicator will transmit a restoral message when the zone is restored for a time greater than its physical response time (less than 1 second).

During the disarmed state, a faulted zone will result in a "**DISARMED-Press * to show faults**" display (5137) or a **NOT READY** display (4137). Subsequent depression of the * key will cause all the descriptors and/or numbers of the faulted zones to be sequentially displayed. No communicator reports will be initiated.

Type 4. **BURGLARY INTERIOR, FOLLOWER:** This zone will always have Exit Delay #1. The zone has an Entry Delay if preceded by a fault in an Entry/Exit zone (type #1 or #2). If not preceded by an Entry/Exit zone fault, an immediate audible local (console) and external alarm, latched display, and a programmed communicator report are initiated. Depressing any key at the Console will silence the Console sounder for 10 seconds. A system-wide programmed number of alarm reports for this zone will be allowed to be transmitted (swinger suppression) by the communicator in one armed period. The communicator will transmit a restoral message when the zone is restored for a time greater than its physical response time (less than 1 second).

During the disarmed state, a faulted zone will result in a "**DISARMED-Press * to show faults**" display (5137) or a **NOT READY** (display (4137). Subsequent depression of the * key will cause all the descriptors and/or numbers of the faulted zones to be sequentially displayed. No communicator reports will be initiated.

Type 5. **BURGLARY PERIMETER, TROUBLE BY DAY/ALARM BY NIGHT:** During the disarmed state (day), faulting the zone will initiate a "trouble" display and a latched sounder (beeping). The console will beep rapidly along with a latched display of the faulted zone and the word CHECK. Pressing any key will silence the beeping for 10 seconds. Keying the security code + OFF will silence the beeping, but will not clear the display of any faulted zone until the fault condition is removed.

Each trouble can result in a "trouble" report (if programmed). A trouble restoral message will be sent as each zone is restored to normal condition. The maximum number of trouble reports per armed period will be limited by the system-wide programmed number of alarm reports option (swinger suppression).

During the armed state (night), the internal (console) and external (if used) alarm sounders will activate and the communicator will report alarms. A system-wide programmed number of alarm reports for this zone will be allowed to be transmitted in one armed period. Restorals will be sent when the zone is restored for a time greater than its physical response time (less than 1 second).

Type 6. **24-HOUR SILENT ZONE:** Sensors assigned to this zone, when faulted, will initiate a communicator report. There will be no local displays or alarm sounds. Upon keying the security code plus OFF, there will be a memory indication of the faulted zone.

A system-wide programmed number of alarm reports for this zone will be allowed to be transmitted (swinger suppression) by the communicator until an OFF sequence is performed (security code plus OFF). The communicator will transmit a restoral message when the zone is restored for a time greater than its physical response time (less than 1 second).

During the disarmed state, a faulted zone will result in a **"DISARMED-Press * to show faults"** display (5137) or a **NOT READY** display (4137). If an "off" sequence is performed (Code + OFF), followed by depression of the * key, all the descriptors and/or numbers of the faulted zones will be sequentially displayed.

Type 7. **24-HOUR AUDIBLE ZONE:** Faulting a zone of this type will initiate a loud audible alarm externally and at the console, an LCD display, and a programmed communicator report. Pressing any key will silence the Console sounder for 10 seconds. Keying the security code plus OFF will permanently silence the alarm. A system-wide programmed number of alarm reports for this zone will be allowed to be transmitted (swinger suppression) by the communicator until an OFF sequence is performed . The communicator will transmit a restoral message when the zone is restored for a time greater than its physical response time (less than 1 second).

Type 8. **24-HOUR AUXILIARY ZONE:** Faulting a zone of this type will initiate a steady alarm sound at the console, an ALARM display, and a programmed communicator report. Pressing any key will silence the Console sounder for 10 seconds. Keying the security code plus OFF will permanently silence the alarm. A system-wide programmed number of alarm reports for this zone will be allowed to be transmitted (swinger suppression) by the communicator until an OFF sequence is performed. The communicator will transmit a restoral message when the zone is restored for a time greater than its physical response time (less than 1 second).

Type 9. **FIRE ZONE:** Opens in this zone will result in "troubles". Shorts will result in alarms. **Note:** Zone 1 will support 2-wire Smoke Detectors (using the EOL resistor configuration); Zones 2 through 8 (and 10 through 17, if used) can be used for heat detectors and pull stations and for 4-wire Smoke Detectors with external (manual) power interrupt; Zone 9 cannot be used for Fire.

Fire zones may not be bypassed. A fire zone in trouble will not prevent the burglary system from being armed in any mode.

A system-wide programmed number of alarm reports for this zone will be allowed to be transmitted (swinger suppression) by the communicator in one armed period. The communicator will transmit a restoral message when the zone is restored (less than 1 second).

Type 10. INTERIOR DELAY ZONE: This type of zone will always have Entry Delay #1 and Exit Delay #1. This zone is not enabled after arming until termination of the programmed Exit Delay #1. If this zone is faulted, three beeps will be emitted by the Console. If the security code + OFF is not entered before termination of the programmed Entry Delay #1, an alarm will be initiated. A system-wide programmed number of alarm reports for this zone will be allowed to be transmitted (swinger suppression) by the communicator in one armed period. The communicator will transmit a restoral message when the zone is restored for a time greater than its physical response time (less than 1 second).

During the disarmed state, a faulted zone will result in a **"DISARMED-Press * to show faults"** display (5137) or a **NOT READY** display (4137). Subsequent depression of the * key will cause all the descriptors and/or numbers of the faulted zones to be sequentially displayed. No communicator reports will be initiated.

TABLE A. ZONE ASSIGNMENTS

A zone type must be assigned to each physical zone in use. For convenience, the following chart has been provided for checking off selections made.

	PHYSICAL ZONES																
ZONE TYPE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. ENTRY/EXIT, Delay #1 (Burglary)																	
2. ENTRY/EXIT, Delay #2 (Burglary)																	
3. PERIMETER (Burglary)																	
4. INTERIOR, FOLLOWER (Burglary)																	
5. TROUBLE BY DAY/ALARM BY NIGHT (Burglary)																	
6. 24-HOUR SILENT																	
7. 24-HOUR AUDIBLE																	
8. 24-HOUR AUXILIARY																	
9. FIRE ZONE*									■								
10. INTERIOR, DELAY (Burglary)																	
										!				**			!

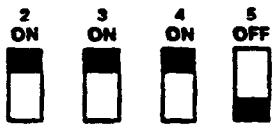
* Physical Zone 9 cannot be used for Fire.

** Available when 4152LM and 4208 Zone Expander used.

ZONE EXPANSION

Zone expansion to an additional 8 zones is achieved by connection to No. 4208 Eight-Zone Expander by a single pair of wires providing both power and signalling. Each of the 8 zones on the No. 4208 can be programmed from the various types described in this manual that are available for use on the basic 9 zones, with one exception. There is no ability to support 2-wire smoke detectors on any of the zones available in the No. 4208 Zone Expander. The No. 4208 Zone Expander may be located near the No. 4140 or remotely from it. The two wire run to it should utilize twisted pair wiring and should **not** be run in close proximity to protected premises intercom wiring [at least a 3-inch (8 cm) separation]. For the maximum wiring run permissible to the zone expander for various wiring gauges, see the Specifications Section relative to the No. 4208 Zone Expander later in this manual.

IMPORTANT: In order to utilize the No. 4208 to obtain zones 10-17, this product's DIP switches must be set as follows:



(as if set for sensor numbers 113-120, as cited in the instructions for the No. 4208)

Installation instructions for the wiring connections to the No. 4208 are provided in a subsequent section entitled "WIRING TO No. 4208".

4-DIGIT SECURITY CODES

Installer Code:

The installer programs the Installer Code initially as part of the programming procedure (see "Programming the Security Control"). In this system, the installer is considered to be user #1. The installer code permits re-entry into the programming mode (unless *98 has been previously used to exit the programming mode) and also allows access to the normal functions of the system. During initial programming, the installer also programs the Master security code into the system. Open/Close reporting must be enabled for User # 1 for this code to be operational.

[ ][ ][ ][ ] Installer Code (User #1), assigned during programming.

Installer exits programming mode with:

*99 (allows re-entry into programming mode with installer code).

or

*98 (does not allow re-entry to programming mode unless system is first powered down and then repowered). Installer code is disabled when this exit is used.

Master Security Code:

The Master security code can be used to assign up to thirteen secondary codes (to users #3 - #15); it can also be used to remove all secondary codes from the system (individually). The person to whom the Master code is assigned is considered to be user #2. In some applications (commercial installations, for example), user #2 (with Master code) will be the main user of the system (see Application 1 on a following page). In other applications (such as in an apartment complex, for example), user #2 (with Master code) may not be the actual end user of the system (see Application 2 on a following page).

Secondary security codes are assigned by user #2 (with Master Code) as follows:

Master Code + CODE key + User # (03 - 15) + Secondary Code

The system will emit a single beep when each secondary code has been successfully entered.

Note: When a secondary code is inadvertently repeated for different users, or one user's code is another's duress code, the lower user number will take priority.

Individual secondary security codes can be deleted by user #2 (with Master Code) as follows:

Master Code + CODE key + User # (03 - 15) + Master Code

Note: All security codes, master and secondary, permit access to the system for arming, disarming, etc.

Secondary (Temporary) Security Codes:

As stated previously, up to thirteen secondary codes can be assigned - to users 3 through 15. The configuration in Application 1 shows that secondary (or temporary) codes may be assigned by the primary user (user #2) to as many as thirteen employees, each with a unique code. Note that user #3 can also assign secondary codes to users 4 - 14 if required, but in the typical arrangement shown in Application 1, there may never be a practical need for this. If so, the primary user (#2) can elect to omit user #3 when assigning secondary codes.

In the configuration shown in Application 2, user #3, who is the primary user, may need to assign secondary (temporary) codes to maids, cleaning persons, etc. Since the system allows user #3 to assign secondary or temporary codes to as many as eleven users (4 - 14), this need can be met. User #3 cannot assign (or delete) user #15's code, which is strictly under the control of user #2, who may be the building manager or owner in the configuration shown in Application 2. See Table B, which illustrates the various levels of authority that exist for security codes.

User #3 can assign secondary (temporary) codes for users 4 - 14 as follows:

User #3 Code + CODE key + User # (04 - 14) + Secondary Code

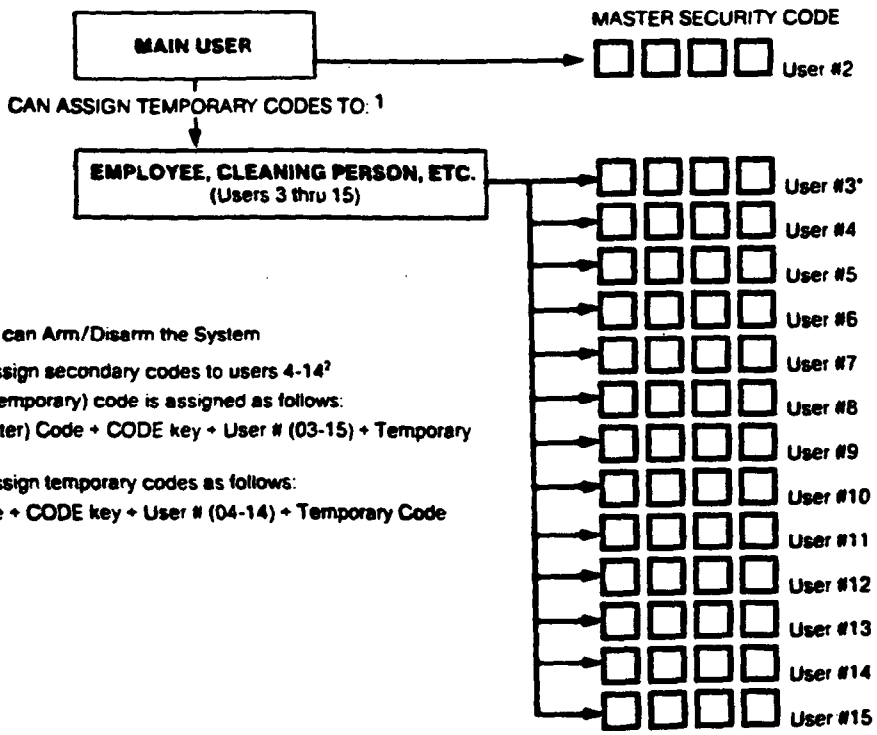
User #3 can delete secondary codes assigned to users 4 - 14 as follows:

User #3 code + CODE key + User # (04 - 14) + User #3 Code

TABLE B. LEVELS OF AUTHORITY FOR SECURITY CODES

User No.	Can assign or delete Secondary Code of User:
#1 (Installer)	NONE
#2	#3 through #15
#3	#4 through #14
#4 - #15	NONE

APPLICATION 1



Note: All codes can Arm/Disarm the System

*User #3 can assign secondary codes to users 4-14[2]

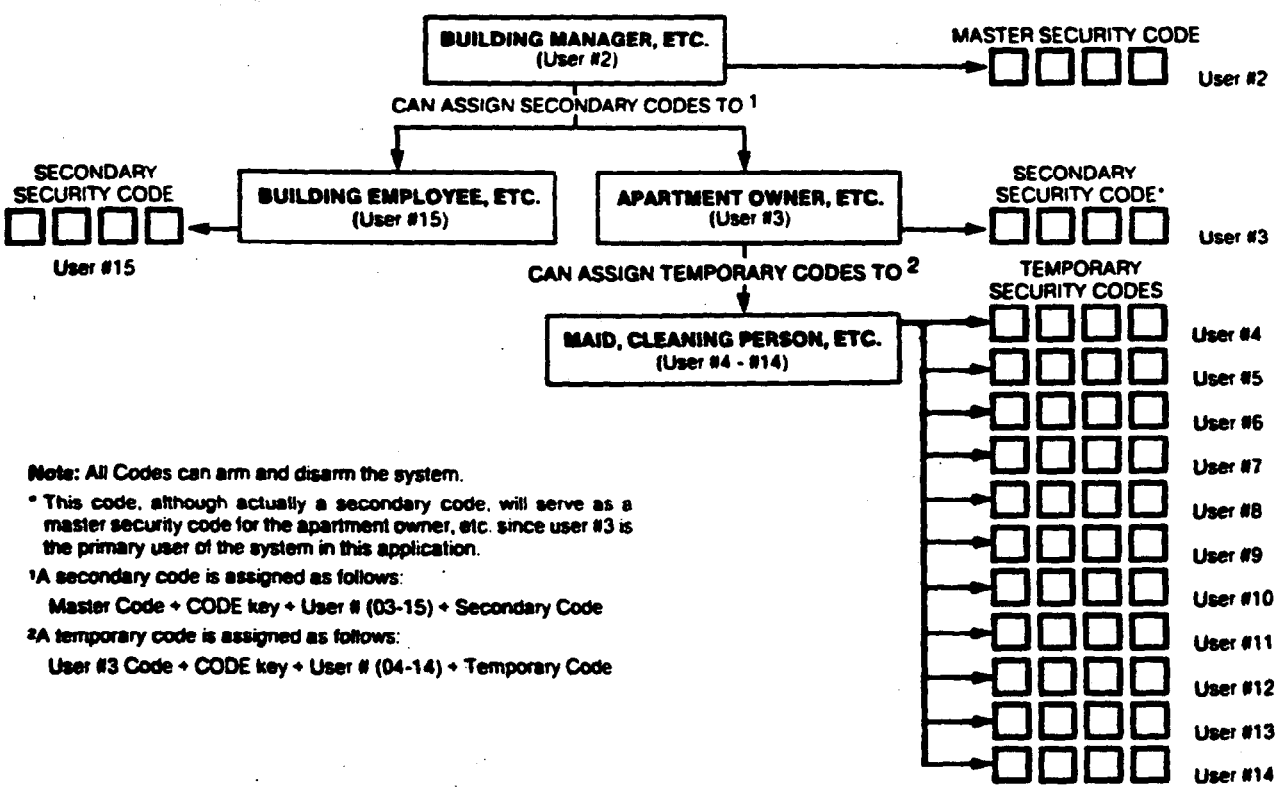
[1]A secondary (temporary) code is assigned as follows:

User #2 (Master) Code + CODE key + User # (03-15) + Temporary Code

[2]User #3 can assign temporary codes as follows:

User #3 Code + CODE key + User # (04-14) + Temporary Code

APPLICATION 2



Note: All Codes can arm and disarm the system.

* This code, although actually a secondary code, will serve as a master security code for the apartment owner, etc. since user #3 is the primary user of the system in this application.

[1]A secondary code is assigned as follows:

Master Code + CODE key + User # (03-15) + Secondary Code

[2]A temporary code is assigned as follows:

User #3 Code + CODE key + User # (04-14) + Temporary Code

INSTALLING THE DIGITAL COMMUNICATION INTERFACE BOARD (4171XT)*

The Digital Communication Interface Board is mounted onto the main circuit board of the 4140 as follows (refer also to Diagram 1).

1. Insert three small plastic standoffs (supplied) into the three holes on the main circuit board identified as "A", "B" and "C" in Diagram 1. Press them in firmly until they "snap" into place.

3. Insert the 13-pin male-to-male adapter (supplied) into the interface socket pin holes on the underside of the Communication Interface board, as shown.

   Important: Make sure that the insulation paper that has been attached to the underside of the Communication board at the factory is still in place. **Do not install the board without this insulation paper.**

4. Attach the Communication Interface Board to the main circuit board as follows. Guide the adapter pins (on the Communication board) into the interface pin holes on the main board, simultaneously allowing the ends of the standoffs to partially enter the holes in the Communication board (shown as "A", "B" and "C" in the Diagram). Before proceeding, make sure the adapter pins are properly entering the pin holes on the main board. Then press the Communication board down until the connector pins are fully seated and the standoffs "snap" into place in the Communication board, thus holding the board securely.

This completes the installation of the Communication Interface board.

* In later production No. 4140s, the Communication Interface board is mounted onto the main circuit board at the factory.

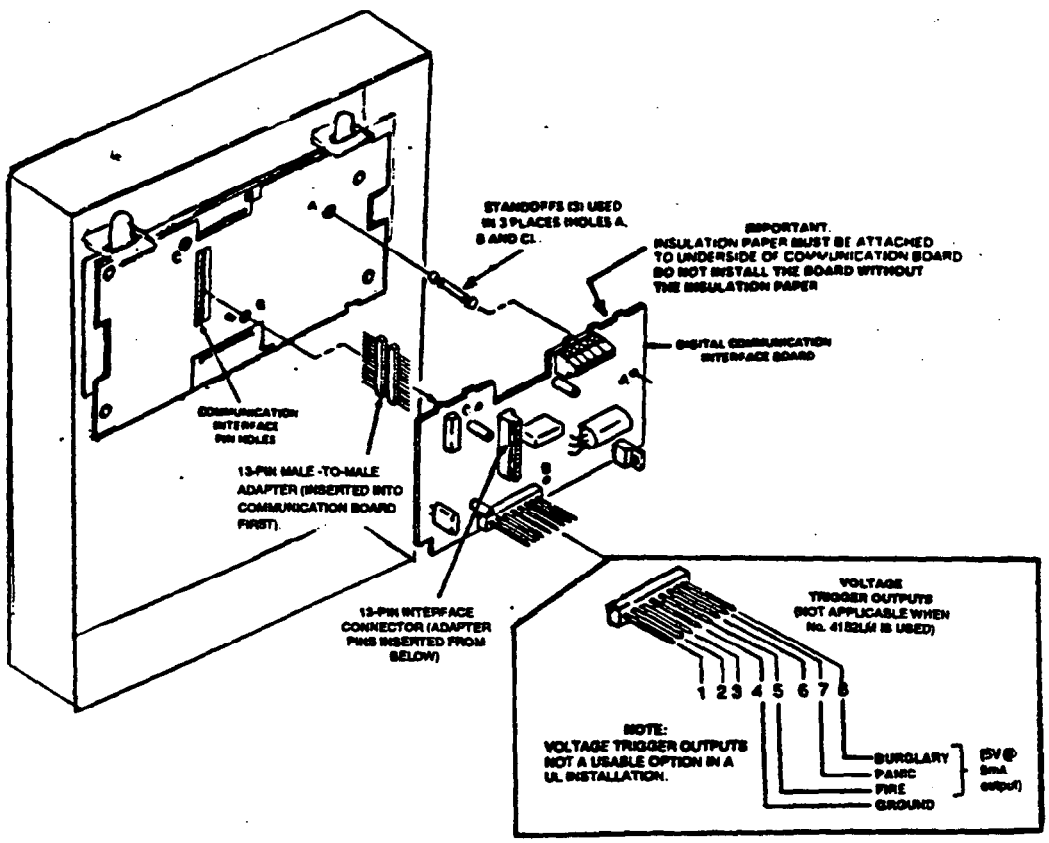


Diagram 1. INSTALLING THE DIGITAL COMMUNICATION BOARD

WIRING CONNECTIONS

(See Diagram 2, Summary of Connections)

Terminal blocks with screw terminals are provided to interface the 4140 to the wired loops, external sirens and/or motor bell, the back-up battery, to externally powered devices (auxiliary current), and to the plug-in DC Power Pack.

Important: Do not connect the battery or plug in the DC Power Pack until all other wiring connections have been completed. **When powering up the system, you must use the following sequence:**

1. Plug in DC Power Pack.
2. Connect the battery.

Grounding the System

A proper earth ground **must** be provided for the system in order to protect the system from lightning and electrostatic discharge damage. TB2 terminal 3 is the earth ground connection point. Connect a lead from this terminal to a proper earth ground.

TB1

Terminals

1: Zone 1(+) - N.C. Zone, Normal Response (350 Msec).

2: Zone 1(-) - When Zone 1 is used as a fire zone, a 13,000 Ohm EOLR should be used and the high side of the zone will be found on TB2-4 (if programmed for fire usage). In this application, Terminal 1 would **not** be used.

3: Zone 2(+). *

4: Zones 2 and 3 Return.

5: Zone 3(+).*

6: Zone 4(+).*

7: Zones 4 and 5 Return.

8: Zone 5(+).*

9: Console Data Out (YELLOW).

10: Console Data In (GREEN).

* Zone that is programmable for use as a N.C. sensor loop or as end-of-line resistor supervised N.O./N.C. sensor loop.

TB2

Terminals

1: DC (+) Input from No. 1360 plug-in power pack (18V DC, 850 mA)

2: DC (-) Input from No. 1360 plug-in power pack.

3: Earth Ground.

4: Zone 1 (+) when zone is used as an End-of-Line Resistor supervised 2-wire smoke detector compatible fire zone.

5: Battery (+) - When AC is present, 13.8V DC is being developed to recharge the battery and when AC is absent, 12V DC current is drawn from the battery. Battery lead reversal damage is protected against by fuse F2. Used to provide alarm relay coil power and alarm sounder power.

6: Battery (-)/Remote Console Ground (BLACK).

7: Continuous Auxiliary/Remote Console Power (RED): +12V DC at 700 mA max. in non-UL installations, or 400 mA max. in UL installations.

8: Alarm relay activation signal.

9: Zone 6(+).*

10: Zones 6 and 7 Return.

11: Zone 7(+).*

12: Zone 8(+).*

13: Zones 8 and 9 Return/Auxiliary Power (-).

14: Zone 9(+) - N.C. Zone, Fast Response (15 msec).

* Zone that is programmable for use as a N.C. sensor loop or as end-of-line resistor supervised N.O./N.C. sensor loop.

Alarm Relay Board (No. 4148) Connections:

Terminal	Usage
1	12V (+) (factory pre-wired to TB2-5 on Control).
2	12V (-) (factory pre-wired to TB2-6 on Control).
3	Siren (-)
4	Siren (+)
5	Not used.
6	Not used.
7	Trigger (factory pre-wired to TB2-8 on Control).

Digital Communication Interface Board Connections ** (Phone Line Interface):

Terminals

1: Ground Start Output (to BLUE LEAD on No. 675 Ground Start Module).

2: Incoming Phone Line (TIP).

3: Incoming Phone Line (RING).

4: Handset (RING).

5: Handset (TIP).

Warning: To prevent the risk of shock, disconnect telephone line at Telco jack before servicing the unit.

** The Digital Communication Interface board (No. 4171XT) should have been mounted onto the main circuit board (if not factory-installed, the No. 4171XT must be mounted by the installer in accordance with the instructions and Diagram 1 on a previous page).

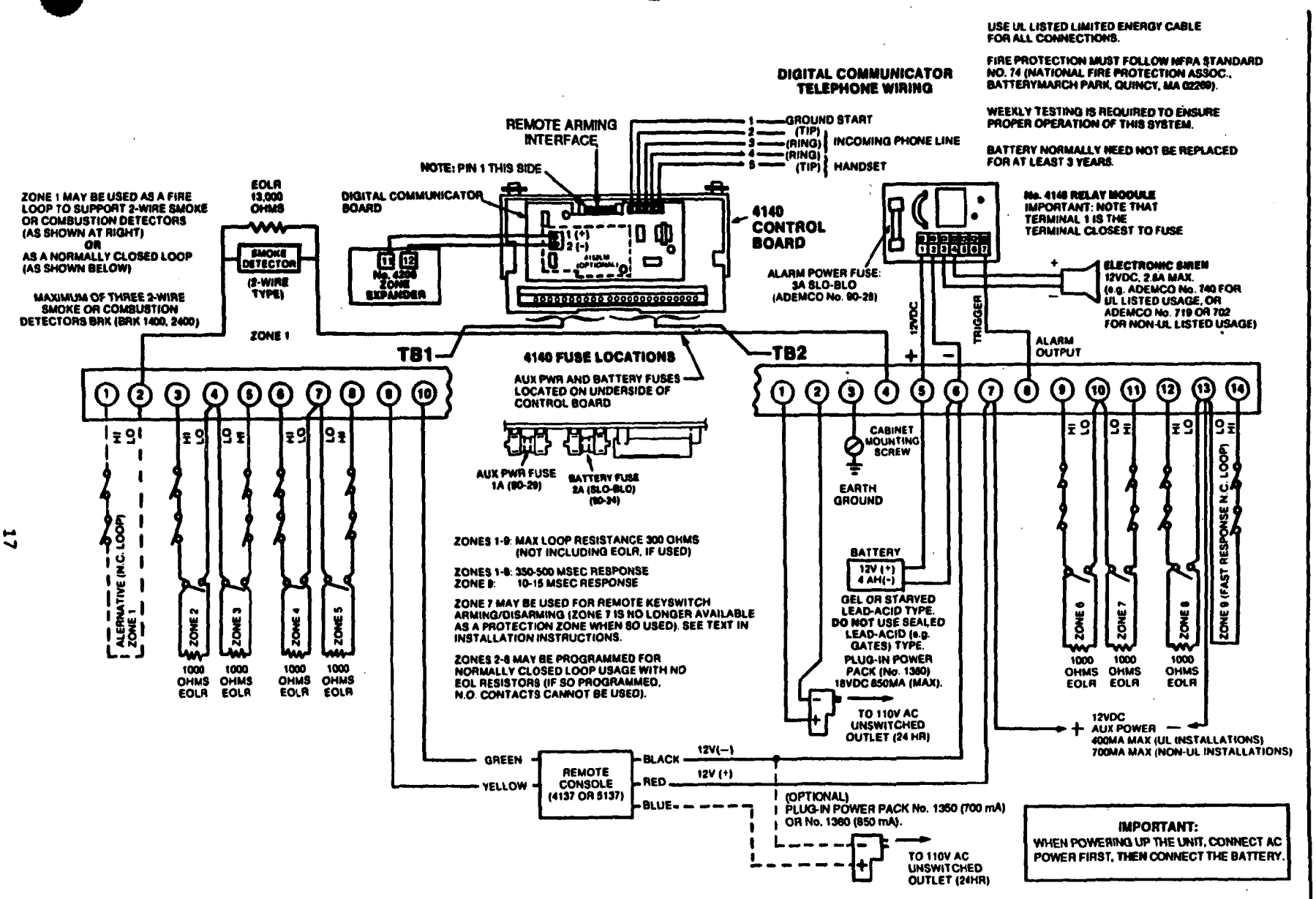


Diagram 2. SUMMARY OF CONNECTIONS

REMOTE KEYSWITCH OPERATION & WIRING

An optional Remote Keyswitch may be used for remote arming and disarming (this is an installer-programmed option). A normally-open momentary switch is connected across Zone 7 (which must be given up as a protection zone). A momentary short of the zone will arm the System in the AWAY mode; if the key is held (short maintained) for over 3 seconds, the System will arm in the STAY mode. When a momentary short is applied subsequently, the System will disarm. A keyswitch tamper (normally-closed) switch wired in series with zone 7 will disable keyswitch operation until the system is next disarmed via a keypad, if activated. Refer to Diagram 3 for Keyswitch wiring details.

Note: Regardless whether End-of-Line supervision is selected or not (in Address *41), an end-of-line resistor must **still** be used for proper functioning of the keyswitch.

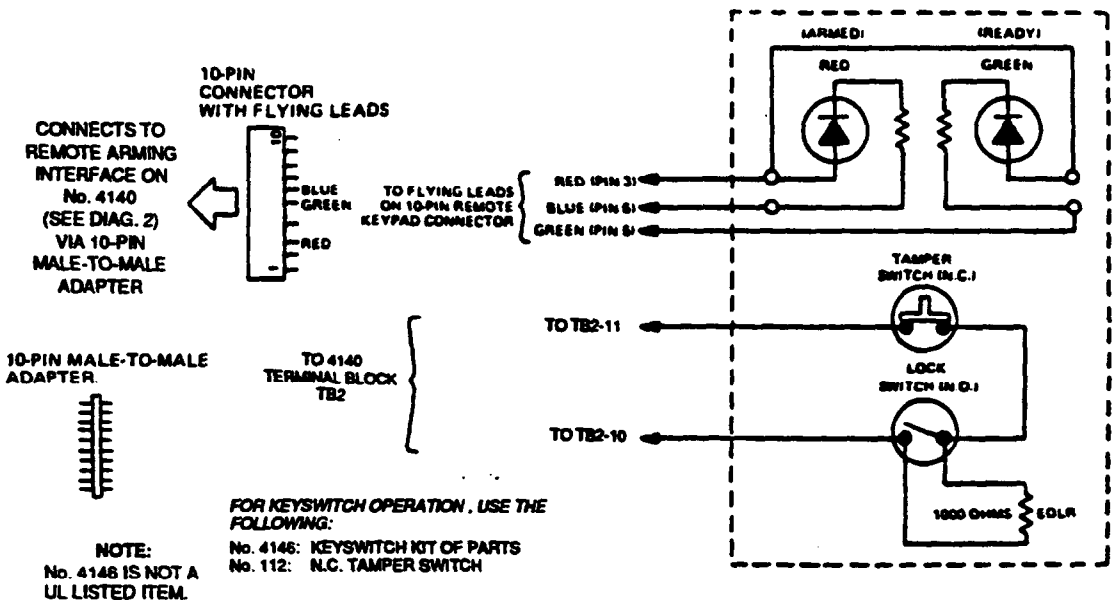


Diagram 3. KEYSWITCH WIRING

INSTALLATION OF No. 4152LM AND WIRING TO No. 4208

The optional No. 4152LM Loop Module is installed onto the Digital Communication Interface board as follows, referring to Diagram 4.

Note: The Digital Communication Interface board must be mounted onto the main circuit board in accordance with the instructions on a previous page [see **"Installing the Digital Communication Interface Board (4171XT)"** and Diagram 1] before proceeding with steps a, b, and c.

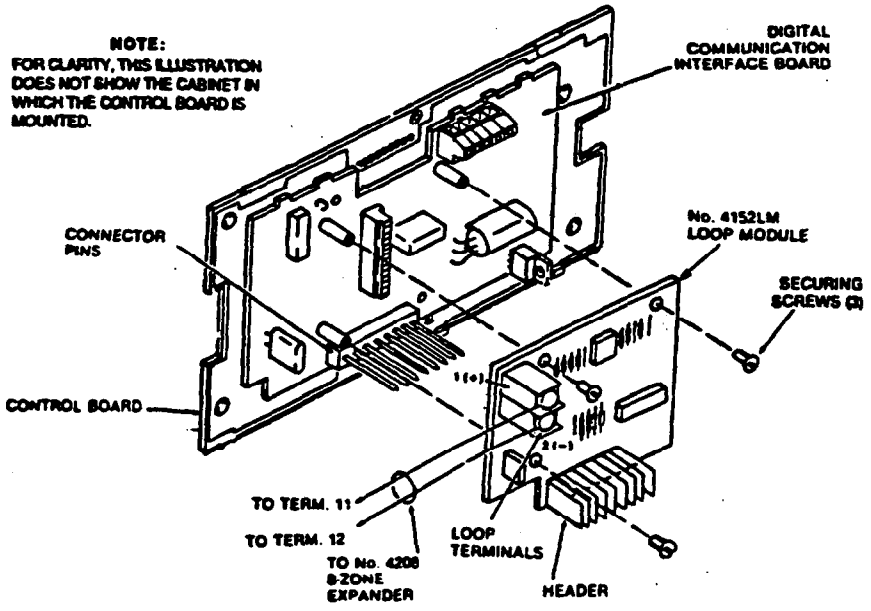


Diagram 4: No. 4152LM INSTALLATION AND WIRING TO No. 4208

CONSOLE WIRING CONNECTIONS (4137 or 5137)

Nos. 4137 or 5137 Consoles used with the system are connected to the terminals on the Control as indicated in Table C, which shows console wire colors and their assignments. The auxiliary current capability of the system can be expanded, if desired, by **not** using the Console Power input to power consoles (except when AC power is absent). If a separate Power Pack is used to power the consoles, the entire auxiliary current can then be used for motion detectors and other auxiliary devices, as well as allowing more consoles to be used. For this purpose, use a separate No. 1350 or No. 1360 Power Pack to provide unregulated power to the consoles via the connections indicated in Table C (see Diagram 2 also).

Up to six No. 4137s or No. 5137s (in any combination) can be used, provided a separate Power Pack is used, and provided the total available current from the Power Pack in use is not exceeded, as follows:

No. 1350: Total available current is 700 mA.

No. 1360: Total available current is 850 mA.

Note: No. 4137 draws 60 mA, No. 5137 draws 150 mA.

TABLE C.

5137/4137 Leads		4140 Control Terminals
RED	to	TB2-7 (CONSOLE POWER)
YELLOW	to	TB1-9 (DATA OUT)
GREEN	to	TB1-10 (DATA IN)
BLACK	to	TB2-6 (CONSOLE GROUND) - connect also to (-) output of separate Nos. 1350 or 1360 Power Pack (if used).
BLUE	to	(+) Output of Separate Nos. 1350 or 1360 Power Pack (if used instead of TB2-7 Console Power).

MOUNTING THE CONSOLE(S)

There are two methods that may be used for mounting consoles - **Surface Mounting** and **Flush Mounting.** If a "rough-in" ring (4133) has been installed in the wall in a new construction application, only the flush mounting method is applicable.

Note: 5137 consoles are equipped with flying leads exiting from the rear of the console for connection to the control. 4137 consoles are supplied with an interface connector (with flying leads attached) which plugs into the rear of the console.

Proper selection of mounting location and height is important for optimum viewability of the LCD display on the console. A location in which lighting is directly above the console should be avoided, since this can shadow the display. For optimum viewing, the console should also be mounted so that the display is slightly below eye level to ensure that the system's users will look down at the display.

Surface Mounting:

1. Use the template provided (on a separate sheet) to mark the positions on the wall for the screw mounting holes and the cut-out for the interface wiring. Use wall anchors for the screws and make the cut-out in the wall no larger than indicated on the template.
2. Pull the interface wiring in the wall through the cut-out.
3. Remove the console's back cover. The securing screw at the front of the console must be removed to release the back cover (see Diagram 5 for screw location).
4. Pass the interface wiring through the opening in the back cover and then mount the back cover to the wall surface with screws.
5. Splice the interface wiring to the 5137 console wires (or to the wires on the interface connector supplied with 4137s). See Diagram 2 and Table C for wire colors and assignments. Insulated solderless wire splices (such as Ademco No. 311) may be used for splicing. **Check wire connections carefully before splicing.**
6. **If a 4137 is being used,** attach the interface connector to the board at the rear of the console.
7. Attach the main body of the console to the wall-mounted back cover. The console is properly attached when it snaps into place. Use the securing screw (previously removed) to secure the console to the back cover (see Diagram 5 for location of screw hole), then insert the small name plate supplied into the recessed opening to cover the screw head.

Flush Wall Mounting:

If a "rough-in" ring (4133) has been previously installed in the wall (during new construction), disregard step 1 and proceed to step 2, since the required opening for the console is already present. If a wall plate (4136) is installed over the rough-in ring, remove the plate to expose the opening.

1. Cut an opening measuring 4-5/16" (11 cm) high by 7-3/4" (20 cm) wide between studs in the wall. The opening must be no less than 1-1/2" (4 cm) from either stud. Avoid cutting the opening any larger than that specified. See Diagram 6.

Note: A special "trim ring" has been supplied for installation between the wall and the console for those cases where the opening has inadvertently been made too large (over-cutting). The console fits into the recess in the trim ring which will extend 1/2" (1.3 cm) beyond the console front panel, and thus cover any opening that might otherwise be visible as a result of over-cutting.

2. Remove the back cover on the console. The securing screw at the front of the console must be removed to release the back cover (see Diagram 5 for screw location). Discard the back cover, but retain the screw.

3. Pull the interface wiring in the wall through the opening previously made. Splice the appropriate wires to the wires on the interface connector supplied with 4137s (or to the console wires on 5137s). See Diagram 2 and Table C for wire colors and assignments. Note that the Blue wire on the console may not necessarily be used. Insulated solderless wire splices (such as Ademco No. 311) may be used for splicing. **Check all wire connections carefully before splicing.**

4. Attach the interface connector to the board at the rear of the console.

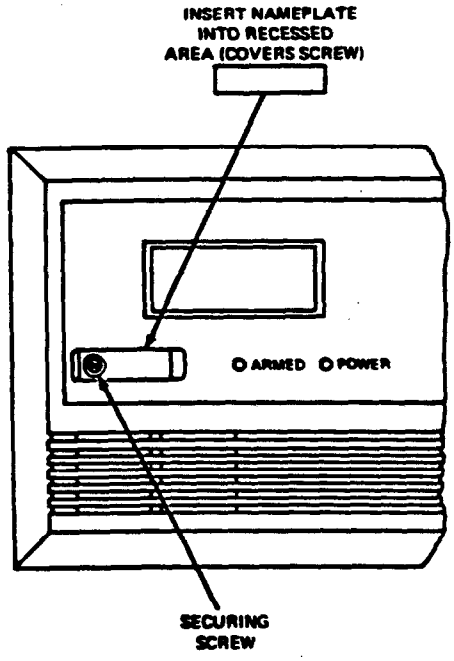


Diagram 5. INSERTING NAMEPLATE

Refer to Diagram 7 for Steps 5, 6 and 7:

5. Mount the console as follows. Insert securing screw (previously removed) in screw hole at front of console (see Diagram 5) and attach metal clip (at the rear) as shown in Diagram 7. Turn the screw until the clip enters the cylindrical plastic guide point about 1/8 of an inch (3 mm).

6. Insert the straight end of the flat spring into the slot at the other side of the console, as shown.

7. With the metal clip in the vertical position, mount the console by hooking the spring behind the right edge of the opening so that it holds the console against the inside of the wall, as shown at (A). Now turn the screw (from the front of the console). The clip will turn until it hits the clip stop and will then draw the console forward (B). Continue turning the screw until the console is flush against the wall then, making sure that the console is straight, tighten the screw further to secure the console firmly in position. **DO NOT OVERTIGHTEN!**

8. Insert the small nameplate supplied into the recessed opening to cover the screw head at the front of the console, as previously shown in Diagram 5.

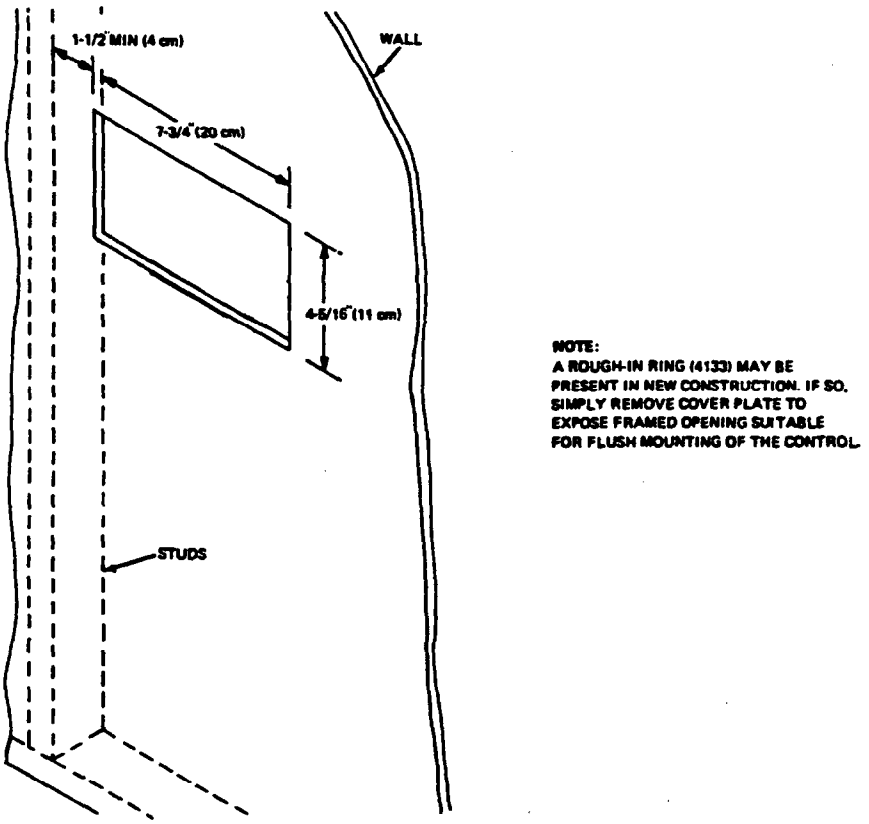


Diagram 6. WALL PREPARATION FOR FLUSH MOUNTING THE CONSOLE

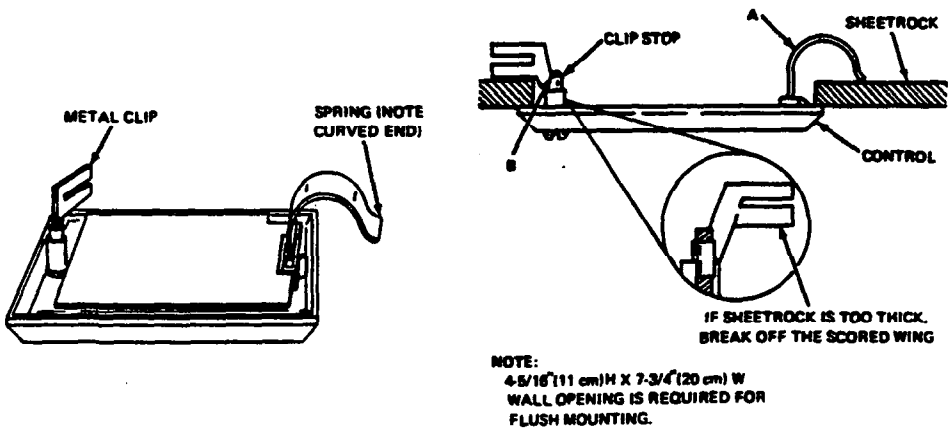


Diagram 7. FLUSH MOUNTING THE 5137/4137

PROGRAMMING THE SECURITY CONTROL

Installer options are stored in non-removable, electrically erasable, non-volatile EEPROM memory. These options must be programmed for the particular installation to establish its specific alarm and reporting features.
The security control may be programmed from an optional 5137 or 4137 remote console, or can be programmed locally from the 699 Programmer. Information regarding the Programmer is included with the No. 695-30XT Programming Cartridge.

When programming from the 5137 console, prompts for each field description (only field number will be displayed on the 4137 console) and field number will be displayed on the 2-line, 32-character LCD display; also, each entry is displayed as it is keyed in. After programming, values that have been entered in each field can be reviewed and, if neccesssary, modified.

The system is factory-programmed to a set of preset values, which can be altered by the installer to suit the specific needs of a particular installation or installation company. The preset values are detailed in the Factory Programming Table.

Note: Programming information is stored in non-volatile EEPROM memory in the control (removal of power will **not** result in the loss of the information). Consequently, it is possible to program the system at any time - even at the installer's premises prior to the actual installation. Simply apply power temporarily to the control and then program the unit as desired.

When programming from the console, note the following:

1. Enter the Programming mode by simultaneously depressing the * and # keys **within 30 seconds after power is applied to the Control**, or subsequently by keying the code 4 + 1 + 4 + 0 followed by depression of CODE + 0 + 0 keys. Once an installer code is programmed, use it instead of 4140 to gain access to the programming mode.

2. Immediately following entry into the program mode, the following will be displayed on a 5137:

   Program Console
   *** Fill # View - 00**

   and on a 4137: **00**

   Following the above display, the system is ready to accept entries for Address **00**.

   To program a data field, key * plus **Address** (for example, *01), then make the required entry. To simply review a data field, key # plus **Address**.

3. When a data field has been completely programmed, the console will "beep" three times and then automatically proceed to, and display, the next data field address to be programmed.

4. If the number of digits that you enter in the data field is less than the maximum permitted (for example, phone number), then the console will display the last data entered. To proceed, the next data field address to be programmed must then be entered (for example, *05).

5. If an address is improperly entered, the console will display **FC** . If a program entry is improperly entered (for example, a larger number than that which is permitted), the console display will go **blank**. In either case, simply re-enter the number.

The following is a description of commands necessary for programming:

FUNCTION	PROCEDURE
ENTER PROGRAMMING MODE:	1. POWER UP, then depress * and # simultaneously within 30 seconds of powering up. **OR** 2. Initially, Key: 4 + 1 + 4 + 0 plus CODE key + 0 + 0. **OR** 3. After Installer Code is programmed, key: Installer Code + CODE key + 0 + 0. **Notes:** User #1 (installer) must be enabled (in Address 52) if Type 3 method of entry is to be used. Type 3 method of re-entry to the programming mode is inhibited if the programming mode is exited via use of *98. Type 1 method of entry can always be used, unless console programming has been locked out by the remote downloader.
EXIT PROGRAMMING MODE:	*99 (always allows re-entry to programming mode via Type 3 entry method above), unless console programming has been locked out by the remote downloader). *98 (inhibits re-entry to programming mode via Type 3 entry method). **Note:** When the programming mode is exited, a 1-minute set-up period must elapse before the system can properly function.
ADVANCE TO FIELD:	* + ADDRESS (e.g., 01, 10, 21, etc.).
PROGRAM FIELD:	* + ADDRESS, followed by data entries.
ERASE FIELDS:	* + ADDRESS + * (only applies to Addresses 31 thru 34).
READ FIELD:	# + ADDRESS
RESTORE FACTORY PROGRAM SETTINGS:	*97 (see Factory Programming Table).
ENTER ZONE DESCRIPTION AND INSTALLER MESSAGE PROGRAMMING MODE:	*93 (only relevent if 5137 Console is being used).

SPECIAL MESSAGES

OC = OPEN CIRCUIT (no communication between the Console and the Control).
FC = FIELD CODE ERROR (program entry mistake, re-enter the data).

After powering up, ****DISARMED**** READY TO ARM (5137) or AC and READY (4137) will be displayed after approximately 7 seconds. Enter the programming mode by simultaneously depressing * and # within 30 seconds. The System is factory-programmed with preset values (see Table D) that can be altered via the programming instructions that follow the table.

FACTORY PRESET VALUES

Factory preset values serve two purposes:

- They can reduce programming time on the part of the installer if many of the preset values shown in the table are accepted.
- They will permit an installer who is unfamiliar with this product to quickly set up the system for bench test so that familiarity with the operation of the system can be achieved in a shorter period of time.

The factory preset values are defined in the Table that follows:

TABLE D. FACTORY PROGRAMMING

Address	Function		Factory Programmed Value	
00	INSTALLER CODE		[4] [1] [4] [0]	
01	MASTER SECURITY CODE		[1] [2] [3] [4]	
02	ASSIGN RESPONSE TYPE FOR ZONES 1-8	Z1	[0] [9]	Fire
		Z2	[0] [3]	Perimeter, Burglary
		Z3	[0] [4]	Interior, Follower, Burglary
		Z4	[0] [5]	Trouble by Day/Alarm by Night, Burg.
		Z5	[1] [0]	Interior, Delay, Burglary
		Z6	[0] [7]	24-hour audible
		Z7	[0] [8]	24-hour Aux
		Z8	[0] [1]	Entry/Exit (Delay #1), Burglary
03	ASSIGN RESPONSE TYPE FOR ZONES 9-16	Z9	[0] [0]	
		Z10	[0] [0]	
		Z11	[0] [0]	
		Z12	[0] [0]	
		Z13	[0] [0]	
		Z14	[0] [0]	
		Z15	[0] [0]	
		Z16	[0] [0]	
04	ASSIGN RESPONSE TYPE FOR ZONE 17	Z17	[0] [0]	
			[0] [0]	
			[0] [0]	
			[0] [0]	
			[0] [0]	
			[0] [0]	
			[0] [0]	
			[0] [0]	

05	ASSIGN RESPONSE TYPE FOR VARIOUS KEYPAD PANICS AND ZONE EXPANDER WIRING SUPERVISION	1	[0] [0]	
		2	[0] [0]	
		3	[0] [0]	
		4	[0] [0]	
		5	[0] [0]	Short in Wiring to Zone Expander (displays "97")
		6	[0] [0]	1 and * Panic (displays "95")
		7	[0] [0]	3 and # Panic (displays "96")
		8	[0] [0]	* and # Panic (displays "99")
06	DESIGNATE RIGHT ZONE USAGE		[0] [0] [0] [0] [0] [0] [0]	Zones 10-16 (none)
07	DESIGNATE RIGHT ZONE USAGE		[0]	Zone 17 (none)
08	NOT USED			
09	ENTRY DELAY #1		[0] [2]	(30 seconds)
10	EXIT DELAY #1		[0] [3]	(45 seconds)
11	ENTRY DELAY #2		[0] [6]	(90 seconds)
12	EXIT DELAY #2		[0] [8]	(120 seconds)
13	ALARM SOUNDER DURATION		[0] [4]	(8 minutes)
14	ALARM SOUNDER SELECTION		[0]	(Alarm Relay compatibility)
15	KEYSWITCH ARM/DISARM ENABLE		[0]	(Disable)
16	CONFIRMATION OF ARMING DING		[0]	(Disable)
17	AC POWER LOSS SOUNDING		[0]	(Disable)
18	NOT USED		[0]	
19	NOT USED		[0]	
20	NOT USED		[0]	
21	DISABLE FIRE TIME-OUT		[0]	(No)
22	NOT USED			
23	MULTIPLE ALARMS		[1]	(Yes)
24	TAMPER DETECTION DISABLE (ZONES 10-17)		[0]	(Enable)
25	DURESS REPORT DISABLE (ADEMCO HIGH SPEED)		[0]	(Enable)
26	NOT USED		[0]	

27	TEST REPORT INTERVAL	[2] (24 hours)
28	POWER UP IN PREVIOUS STATE	[1] (YES)
29	QUICK ARM	[1] (Enabled)
30	TOUCH-TONE OR ROTARY DIAL	[1] (Touch-Tone)
31	PABX ACCESS CODE	No Entry
32	SUBSCRIBER ACCT.No.	[1][5] [1][5] [1][5] [1][5]
33	PRIMARY PHONE No.	No Entry
34	SECONDARY PHONE No.	No Entry
35	CS DOWNLOAD PHONE No.	No Entry
36	CS ID No.	[1][5] [1][5] [1][5] [1][5] [1][5] [1][5] [1][5] [1][5]
37	DOWNLOAD COMMAND ENABLES	1[1] Dialer Shutdown enabled 2[1] System Shutdown enabled 3[0] Not Used 4[1] Remote Bypass enabled 5[1] Remote Disarm enabled 6[1] Remote Arm enabled 7[1] Upload Program enabled 8[1] Download Program enabled
38	INHIBIT BYPASS OF ZONE	[0][0] (All non-fire zones bypassable)
39	OPEN/CLOSE REPORTING ENABLE BY USER CODE	[0][0][0][0][0][0][0] (disabled for Users 9-15)
40	REPROGRAM/DOWNLOAD ATTEMPT REPORT	[0][0] (No code reported)
41	EOLR DISABLE (Zones 2-8)	[1] (End-of-Line Resistor supervision not required)
42	DIAL TONE PAUSE	[0] (5 seconds)
43	DIAL TONE DETECTION	[1] (Dial Tone Detection Enabled)
44	RING DETECTION COUNT	[0][0] (Ring detection disabled)
45	PRIMARY ACK WAIT	[0] (30 seconds)
46	PRIMARY TRANSMISSION FORMAT	[0] (Ademco Low Speed)

47	SECONDARY ACK WAIT	[0]	(30 seconds)
48	SECONDARY TRANSMISSION FORMAT	[0]	(Ademco Low Speed)
49	SINGLE MESSAGE TRANSMISSION WITH CHECKSUM VERIFICATION	[0]	(No)
50	SESCOA/RADIONICS SELECTION	[0]	Radionics with 0-9, B-F reporting.
51	DUAL REPORTING	[0]	(No)
52	OPEN/CLOSE REPORTING ENABLE BY USER CODE	[1] [0] [0] [0] [0] [0] [0] [0] (disabled for Users 2-8)	
53	4+2 ZONE EXPANDED FORMAT SELECTION	[0]	(Not selected)
54	4+2 ZONE FORMAT SELECTION	[0]	(Not selected)
55	ALARM REPORT	[0]	(Standard report)
56	RESTORE REPORT	[1]	(Expanded)
57	BYPASS REPORT	[0]	(Standard report)
58	TROUBLE REPORT	[0]	(Standard report)
59	OPEN/CLOSE REPORT	[0]	(Standard report)
60	LOW BATTERY, AC LOSS AND TEST REPORT	[0]	(Standard report)
61	CHANNEL ASSIGNED TO EACH ZONE	1 [0] [0] 2 [0] [0] 3 [0] [0] 4 [0] [0] 5 [0] [0] 6 [0] [0] 7 [0] [0] 8 [0] [0]	Zeroes for zones 1 - 8 (no code reported)
62	CHANNEL ASSIGNED TO EACH ZONE (CONT'D)	1 [0] [0] 2 [0] [0] 3 [0] [0] 4 [0] [0] 5 [0] [0] 6 [0] [0] 7 [0] [0] 8 [0] [0]	Zeroes for zones 9-16 (no code reported)

63	CHANNEL ASSIGNED TO EACH ZONE (CONT'D)	1 [0] [0]	Zero for zone 17 (no code reported)	
		2 [0] [0]		
		3 [0] [0]		
		4 [0] [0]		
		5 [0] [0]		
		6 [0] [0]		
		7 [0] [0]		
		8 [0] [0]		
64	CHANNELS ASSIGNED TO DURESS AND VARIOUS KEYPAD PANICS		All zeroes in 8 locations (same as Address *61)	
		1 [0] [0]		
		2 [0] [0]		
		3 [0] [0]		
		4 [0] [0]	Duress	
		5 [0] [0]	Short on Wiring to Zone Expander (displays 97)	
		6 [0] [0]	1 & * Panic (displays 95)	
		7 [0] [0]	3 & # Panic (displays 96)	
		8 [0] [0]	* & # Panic (displays 99)	
65	ALARM REPORTING CODES ASSIGNED TO EACH CHANNEL	1 [0] [0]	Zeroes for channels 1-8 (no code reported)	
		2 [0] [0]		
		3 [0] [0]		
		4 [0] [0]		
		5 [0] [0]		
		6 [0] [0]		
		7 [0] [0]		
		8 [0] [0]		
66	ALARM REPORTING CODES ASSIGNED TO EACH CHANNEL (CONT'D)	9 [0] [0]	Zeroes for channels 9-15 (no code reported)	
		10 [0] [0]		
		11 [0] [0]		
		12 [0] [0]		
		13 [0] [0]		
		14 [0] [0]		
		15 [0] [0]		
		[0] [0]	Not Used	
67	NON-ALARM CODES	[0] [0]	All zeroes (no code reported)	
68	NON-ALARM CODES (CONT'D)	[0] [0]	All zeroes (no code reported)	
69	ZONE TYPES 1-4 RESTORE REPORT ENABLE	[1] [1] [1] [1]	Enabled (all)	
70	ZONE TYPES 5-8 RESTORE REPORT ENABLE	[1] [0] [0] [0]	Zone Type 5 enabled, all others disabled	

71	ZONE TYPES 9 & 10 RESTORE REPORT ENABLE		[1]	[1]		Enabled (all)
72	4+2 EXPANDED FORMAT ZONES 1-8 EVENT DIGIT (1st digit)	1	[0]	[0]	AL	
		2	[0]	[0]	TR	
		3	[0]	[0]	BY	Zeroes for zones 1-8 (no
		4	[0]	[0]	AL RE	codes reported)
		5	[0]	[0]	TR RE	
		6	[0]	[0]	BY RE	
73	4+2 EXPANDED FORMAT ZONES 9-16 EVENT DIGIT (1st digit)	1	[0]	[0]	AL	
		2	[0]	[0]	TR	
		3	[0]	[0]	BY	
		4	[0]	[0]	AL RE	Zeroes for zones 9-16 (no
		5	[0]	[0]	TR RE	codes reported)
		6	[0]	[0]	BY RE	
74	4+2 EXPANDED FORMAT ZONE 17 EVENT DIGIT (1st digit)	1	[0]	[0]	AL	
		2	[0]	[0]	TR	
		3	[0]	[0]	BY	
		4	[0]	[0]	AL RE	Zeroes for zone 17 (no
		5	[0]	[0]	TR RE	codes reported)
		6	[0]	[0]	BY RE	
75	4+2 EXPANDED FORMAT KEYPAD PANICS/ZONE EXPANDER WIRING SUPERVISORY EVENT DIGIT	1	[0]	[0]	AL	
		2	[0]	[0]	TR	
		3	[0]	[0]	BY	Zeroes for keypad
		4	[0]	[0]	AL RE	panics and for zone expander
		5	[0]	[0]	TR RE	wiring supervisory (no
		6	[0]	[0]	BY RE	codes reported)
76	4+2 EXPANDED FORMAT ZONES 1-8 ID DIGIT (2nd digit)	1	[0]	[0]		
		2	[0]	[0]		Zeroes for zones 1-8 (no
		3	[0]	[0]		codes reported)
		4	[0]	[0]		
		5	[0]	[0]		
		6	[0]	[0]		
		7	[0]	[0]		
		8	[0]	[0]		
77	4+2 EXPANDED FORMAT ZONES 9-16 ID DIGIT (2nd digit)	9	[0]	[0]		
		10	[0]	[0]		
		11	[0]	[0]		Zeroes for zones 9-16 (no
		12	[0]	[0]		codes reported)
		13	[0]	[0]		
		14	[0]	[0]		
		15	[0]	[0]		
		16	[0]	[0]		
78	4+2 EXPANDED FORMAT ZONE 17 ID DIGIT (2nd digit)	17	[0]	[0]		
			[0]	[0]		
			[0]	[0]		Zeroes for zone 17
			[0]	[0]		(no codes reported)
			[0]	[0]		
			[0]	[0]		
			[0]	[0]		
			[0]	[0]		

79	4+2 EXPANDED FORMAT	[0] [0]	
	KEYPAD PANICS/ZONE	[0] [0]	
	ZONE EXPANDER WIRING	[0] [0]	
	SUPERVISORY ID DIGIT	[0] [0]	Duress
	(2nd digit)	[0] [0]	Short in Wiring to Zone Expander
		[0] [0]	1 & * Panic
		[0] [0]	3 & # Panic
		[0] [0]	* & # Panic
80	4+2 EXPANDED FORMAT	[0] [0]	Zeroes (no codes reported) in all
	NON-ALARM CODES	[0] [0]	10 locations
		[0] [0]	
		[0] [0]	
		[0] [0]	
		[0] [0]	
		[0] [0]	
		[0] [0]	
		[0] [0]	
		[0] [0]	
81	4+2 EXPANDED FORMAT	[0] [0]	Zeroes (no codes reported) in all
	NON-ALARM CODES	[0] [0]	10 locations
	(CONT'D)	[0] [0]	
		[0] [0]	
		[0] [0]	
		[0] [0]	
		[0] [0]	
		[0] [0]	
		[0] [0]	
		[0] [0]	
82	ALARM COUNT	[0] [3]	(Swinger Suppression)
83	TEST REPORT INITIATION TIME	[1] [2]	(12 hours after program mode exit)
84	ADEMCO HIGH SPEED REPORTING ON 800/WATS LINES	[0]	(No)
85	NOT USED	[0]	
86	ZONE EXPANDER TYPE SELECTION	[1]	(4208 type selected)
87	ENTRY WARNING	[0]	(3 short beeps)
88	BURGLARY ALARM COMMUNICATION DELAY	[0]	(no delay)
89	ALARM VOLTAGE TRIGGER OUTPUTS	[0]	(zone expansion capability intact, no alarm voltage triggers)

SPECIFIC ADDRESS PROGRAMMING INSTRUCTIONS

FUNCTION	ADDRESS	
INSTALLER CODE	***00**	[ ][ ][ ][ ]
		COMMENTS: This 4-digit (0-9) code reserved for installation company use. **Only active if openings and closings are enabled for User #1 (in Address *52).** This is the only code that can be used to enter the Program mode from the console. Cannot be used to enter secondary codes. This code may not be used if programming mode is exited by a ***98.**
MASTER SECURITY CODE	***01**	[ ][ ][ ][ ]
		COMMENTS: Enter 4 digits, **0 - 9** (entry of all 4 is mandatory). Use of a "9" in last position inhibits the Ambush feature.
ASSIGN RESPONSE TYPE FOR ZONES 1 - 8	***02**	[ ][ ] Zone 1 [ ][ ] Zone 2 [ ][ ] Zone 3 [ ][ ] Zone 4 [ ][ ] Zone 5 [ ][ ] Zone 6 [ ][ ] Zone 7* [ ][ ] Zone 8
		COMMENTS: Enter 2 digits, **00 - 10** in each field (use one of the response types below).
		* If Zone 7 is to be used for Keyswitch Arm/Disarm operation, **10** must be entered as its response type.
		00 = Assign for unused zones 01 = ENTRY/EXIT (Delay #1), Burglary 02 = ENTRY/EXIT (Delay #2), Burglary 03 = PERIMETER, Burglary 04 = INTERIOR, FOLLOWER, Burglary 05 = TROUBLE BY DAY/ALARM BY NIGHT, Burglary 06 = 24-HOUR SILENT 07 = 24-HOUR AUDIBLE 08 = 24-HOUR AUXILIARY 09 = FIRE 10 = INTERIOR, DELAY, Burglary
ASSIGN RESPONSE TYPES FOR ZONES 9-16	***03**	1 [ ][ ] Zone 9 2 [ ][ ] Zone 10 3 [ ][ ] Zone 11 4 [ ][ ] Zone 12 5 [ ][ ] Zone 13 6 [ ][ ] Zone 14 7 [ ][ ] Zone 15 8 [ ][ ] Zone 16
		COMMENTS: Enter 2-digit response types (see Address *02 for types)

ASSIGN RESPONSE TYPE FOR ZONE 17 — ***04**

1 [ ][ ] Zone 17
2 [0] [0]
3 [0] [0]
4 [0] [0]
5 [0] [0] Zeroes to be entered
6 [0] [0]
7 [0] [0]
8 [0] [0]

COMMENTS: Enter 2-digit response types (see Address *02 for types) in field location 1 only (enter 00 in fields 2-8).

ASSIGN RESPONSE TYPES FOR ZONE EXPANDER WIRING SUPERVISION AND FOR KEYPAD PANICS — ***05**

1 [0] [0]
2 [0] [0]
3 [0] [0] Zeroes to be entered
4 [0] [0]
5 [ ][ ] Short in Wiring to Zone Expander (displays **97 or CALL SERVICE**)
6 [ ][ ] 1 & * Panic (displays 95)
7 [ ][ ] 3 & # Panic (displays 96)
8 [ ][ ] * & # Panic (displays 99)

COMMENTS: Enter response types (see Address *02 for types) in field locations 5-8 only (enter 00 in fields 1-4).

DESIGNATE RIGHT ZONE USAGE

***06** — 10 11 12 13 14 15 16
[ ][ ][ ][ ][ ][ ][ ] Zones 10-16

***07** — 17
[ ] Zone 17

COMMENTS: All spaces must be filled with 0 or 1 (1 if that zone is a right loop on a 4190WH transponder or on a 4196 Quad PIR transponder). When the 4208 is used as a Zone Expander, set all zone number locations to 0. Similarly, set the zone number locations for 4194WH contact/transponders, 4192 smoke detector base/transponders, and 4275 PIRs to 0, as well as left loops on 4190WHs and the PIR portion of the 4196.

***08** — NOT USED

ENTRY DELAY #1 — ***09**

[ ][ ]

COMMENTS: Defines the time period between a fault occurring in a zone to which Entry Delay #1 has been assigned and the time when the alarm will sound (UL 1023 Household Burglary usage permits a maximum of 45 seconds). Applies to the Interior, Delay Zone type also.
Enter 00 - 15. Multiply by 15 seconds to determine time delay (0 - 225 seconds available).

EXIT DELAY #1 ***10** **[ ][ ]**

COMMENTS: Defines the time delay period after the system arming code is keyed when zone to which this delay has been assigned will arm (UL 1023 Household Burglary usage permits a maximum of 60 seconds). Is also the exit delay time allocated to the Interior zones (both Follower and Delay types).
Enter 00 - 15. Multiply by 15 seconds to determine time delay (0 - 225 seconds available).

ENTRY DELAY #2 ***11** **[ ][ ]**

COMMENTS: Defines the time period between a fault occurring in a zone to which Entry Delay #2 has been assigned and the time when the alarm will sound. (UL 1023 Household Burglary usage permits a maximum of 45 seconds). **Must be set for longer period than Entry Delay #1 (in Address * 09).**
Enter 00 - 15. Multiply by 15 seconds to determine time delay (0 - 225 seconds available).

EXIT DELAY #2 ***12** **[ ][ ]**

COMMENTS: Defines the time delay period after the system arming code is keyed when zone to which this delay has been assigned will arm. (UL 1023 Household Burglary usage permits a maximum of 60 seconds).
Must be set for longer period than Exit Delay #1 (in Address *10).
Enter 00 - 15. Multiply by 15 seconds to determine time delay (0 - 225 seconds available).

ALARM SOUNDER DURATION ***13** **[ ][ ]**

COMMENTS: Defines the length of time an external or the console's alarm sounder will sound for all audible alarms (UL 1023 Household Burglary usage requires a minimum of 4 minutes).
Enter 01 - 15. Multiply by 2 minutes to determine sounder duration.

ALARM SOUNDER SELECTION ***14** **[0]**

COMMENTS: Enter 0 for DC drive to operate the alarm relay. Do not enter 1.

KEYSWITCH ARM/ DISARM ENABLE ***15** **[ ]**

COMMENTS: Requires the use of zone 7 wired loop (zone 7 no longer available as protection zone when used for keyswitch operation).
Enter 1 for keyswitch enable; otherwise, enter 0.
NOTE: 10 must have been entered for Zone 7 in Address *02. Reports openings/closing by user #7 if reporting is enabled in Address *52.

CONFIRMATION OF ARMING DING ENABLE	***16**	**[ ]**
		COMMENTS: Enter 1 to enable 1/2 second external alarm sounding at the end of exit delay #1 and 0 to disable the "ding".
AC POWER LOSS SOUNDING	***17**	**[ ]**
		COMMENTS: Enter 1 to enable this feature. Results in rapid beeping at Console when AC power is lost; otherwise, enter 0.
NO USED	***18**	**[0] MUST BE ZERO**
NOT USED	***19**	**[0] MUST BE ZERO**
NOT USED	***20**	**[0] MUST BE ZERO**
DISABLE FIRE TIME-OUT	***21**	**[ ]**
		COMMENTS: Disables the sounder time-out feature for any zone designated as a fire zone so that fire sounding continues until the system is reset. Enter 0 (time-out) or 1 (no time-out). 1 (no time-out) is required for usage in accordance with UL985, Household Fire.
NOT USED	***22**	
MULTIPLE ALARMS	***23**	**[ ]**
		COMMENTS: Enables the system to permit multiple audible alarms from a protection zone during one armed interval (as opposed to only one alarm). Enter 0 (only one alarm) or 1 (multiple alarms, but not more frequently than allowed by alarm time-out). Selection has no impact on the number of communication messages transmitted.
DISABLE TAMPER DETECTION IN EXPANSION ZONES 10-17	***24**	**[ ]**
		COMMENTS: Only applicable if No. 4190WH RPMs are used to provide expansion zones. Enter 1 to disable tamper detection (disables tamper detection in 4190WH or tamper detection is not applicable because other devices are used to provide expansion zones). Enter 0 to enable tamper detection (opening of the 4190WH case).
DISABLE DURESS REPORTING IN ADEMCO HIGH SPEED FORMAT	***25**	**[ ]**
		COMMENTS: Only applicable if Ademco High Speed Format is selected. Enter 1 to disable duress reporting or 0 to enable duress reporting.

NOT USED	***26**	**[0] MUST BE ZERO**
TEST REPORT INTERVAL	***27**	**[ ]**

COMMENTS: Determines time period between test reports.
Enter 0 (no report), or 1 (12 hours), 2 (24 hours) or 3 (168 hours). Program for a maximum of 24 hours for UL installations.
Must be used in conjunction with Data Fields *83 and *68 (location 5). If low battery testing that automatically removes AC power is desired, enter a non-zero number even if test reporting is not desired. At the interval selected, AC power will be disconnected and the battery will be tested under auxiliary current load.

POWER UP IN PREVIOUS STATE	***28**	**[ ]**

COMMENTS: If 1 selected (YES), on power-up the system will assume system status prior to power down. If 0 selected (NO), the system will power up in disarmed state.
When the system powers up armed, an alarm will occur 3 minutes after arming if a zone is faulted. When so armed, reports closing as User #7 if open/close reporting for User #7 was enabled in Address *52.

QUICK ARM	***29**	**[ ]**

COMMENTS: Enables arming of the burglary system in any mode without use of a Security Code (just # key depression followed by the command AWAY, STAY, INSTANT or MAXIMUM). When armed AWAY or MAXIMUM, reports closing as User #7 if open/close reporting for User #7 was enabled in Address *52.
Enter 0 (disabled) or 1 (enabled).

TOUCH-TONE OR ROTARY DIAL	***30**	**[ ]**

COMMENTS: Permits selection of the type of dialing to be used. Enter 1 for Touch-Tone, 0 for Rotary.

Caution: Do not select a dialing method that is not legally permitted by the telephone company for the particular subscriber (if selecting "Touch-Tone", make sure the subscriber has requested and is paying for Touch-Tone service).

Note: Whether or not Touch-Tone dialing for call placement is permitted, communication by the use of DTMF signalling (Ademco High Speed) will still take place.

PABX ACCESS CODE *31 [ ][ ] [ ][ ] [ ][ ] [ ][ ]

COMMENTS: If not required, enter nothing and proceed to next address; otherwise, enter prefix needed to obtain an outside Telco line. This field may be used alternatively to enter a prefix that can suppress the Telco's call waiting feature from interfering with outgoing transmissions. This prefix is only useful if the Telco option to be able to suppress call waiting has been obtained by your customer. The prefix to be used is 1170 if pulse dialing is being used or *70 if TouchTone dialing is being used.
Enter up to 4 digits. Each digit requires a 2-digit entry so as to allow entry of hexadecimal digits (B-F). Use the following chart to determine the entry for each digit. Only enter digits required. Do not fill unused spaces. Erase the field by entering *31*.

NUMBER	ENTER	NUMBER	ENTER
0	00	8	08
1	01	9	09
2	02	A	(DO NOT USE)
3	03	B	11
4	04	C	12
5	05	D	13
6	06	E or *	14
7	07	F or #	15

SUBSCRIBER ACCT. NO *32 [ ][ ] [ ][ ] [ ][ ] [ ][ ]

COMMENTS: Enter 3 or 4 digits. Each digit requires a 2-digit entry so as to allow entry of hexadecimal digits (B-F). If a 3 digit number is to be used, only enter data in the first 6 locations, leaving the last two unfilled.
Use the chart in address *31 to determine the entry for each digit. Erase the field by entering *32*.

PRIMARY PHONE No. *33 [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

COMMENTS: Enter up to 12 digits, 0-9. Do not fill unused spaces. Erase the field by entering *33*.

NOTE: Back-up reporting (8 calls are made to the secondary phone number if no acknowledgment is received after 8 attempts to the primary number) is automatic only if there is a secondary phone number.

SECONDARY PHONE No. *34 [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

COMMENTS: Enter up to 12 digits, 0-9. Do not fill unused spaces. Erase the field by entering *34*

CENTRAL STATION DOWNLOAD PHONE No. *35

[ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

COMMENTS: Only applicable if downloading will be utilized. Enter up to 12 digits, 0-9. Do not fill unused spaces. Erase the field by entering *35*.

CENTRAL STATION ID NUMBER *36

[ ][ ] [ ][ ] [ ][ ] [ ][ ] [ ][ ] [ ][ ] [ ][ ] [ ][

COMMENTS: Only applicable if downloading will be utilized. Enter all 8 hexadecimal digits (0-9, A-F).

00 = 0	04 = 4	08 = 8	12 = C
01 = 1	05 = 5	09 = 9	13 = D
02 = 2	06 = 6	10 = A	14 = E
03 = 3	07 = 7	11 = B	15 = F

DOWNLOAD COMMAND ENABLES *37

1 [ ] Dialer Shutdown
2 [ ] System Shutdown
3 [0] NOT USED
4 [ ] Remote Bypass
5 [ ] Remote Disarm
6 [ ] Remote Arm
7 [ ] Upload Program
8 [ ] Download Program

COMMENTS: Each of the various remote (from the Central Station) functions can either be enabled or disabled, dependent upon what functions the Central Station desires to perform. Setting a function to be disabled means that the Central Station will not be able to perform this function in the system. Enter 1 to enable a function and 0 to disable a function.

INHIBIT BYPASS OF ZONE *38

[ ][ ]

COMMENTS: Enables one zone to be selected as a priority zone which cannot be bypassed. Enter 2 digits (for zone number) 01 - 17. Enter 00 if all zones to be bypassable. This selection has no impact on fire zones which are always non-bypassable.

OPEN/CLOSE REPORTING ENABLE BY USER CODE *39

9 10 11 12 13 14 15
[ ][ ][ ][ ][ ][ ][ ]

COMMENTS: Enter 0 (disable) or 1 (enable). Determines which user codes will send open/close reports.

REPORTING CODE FOR ATTEMPT (SUCCESSFUL OR UNSUCCESSFUL) BY A REMOTE AGENCY TO GET INTO A DOWN-LOAD MODE WITH THE SYSTEM OR BY SOMEONE TO LOCALLY CHANGE THE PROGRAM. *40

[ ][ ] LOCAL REPROGRAM/DOWNLOAD ATTEMPT REPORT (1st digit)

COMMENTS: Applicable if downloading will be utilized or not. Enter reporting code as double digits. Disable = 00 (no code reporting)

01 = 1	06 = 6	11 = B
02 = 2	07 = 7	12 = C
03 = 3	08 = 8	13 = D
04 = 4	09 = 9	14 = E
05 = 5	10 = 0	15 = F

Note: If 4+2 zone expanded reporting is being used, the second digit is the second digit of the power up code.

DISABLE USAGE OF END-OF-LINE RESISTOR SUPER-VISION ON WIRED ZONES 2-8 *41

[ ]

COMMENTS: Enter 1 to change zones 2-8 to N.C. loops that detect only an "open" and do not require end-of-line resistors (EOLRs). Enter 0 to retain EOLR supervision of zones 2-8.

DIAL TONE PAUSE *42

[ ]

COMMENTS: This feature determines the wait time for dial tone detection before dialing will commence, if detection does not take place. Enter single digit, 0 (5 seconds), 1 (11 seconds) or 2 (30 seconds).

DIAL TONE DETECTION *43

[ ]

COMMENTS: Determines whether true dial tone detection is used, or whether just delay before dialing (same as programmed in Address *42) is used. The latter may be necessary in high-noise environment Telco networks where noise can be confused with dial tone and premature dialing results.
Enter 1 (Dial Tone detection) or 0 (Dial Tone Detection disable).

RING DETECTION COUNT *44

[ ][ ]

COMMENTS: Only applicable if central station intitiated downloading will be used. Enter 00 to disable ring detection. Enter 01-14 for ring counts of 1-14. Enter 15 to select mode that gets around telephone answering machines connected to the same phone line. In the latter mode, the system upon hearing one ring followed by nothing, will not answer but will ready itself to pick up the next incoming call received within the next 30 seconds on the first ring (the downloader calling again).

PRIMARY ACK WAIT	***45**	[ ] COMMENTS: Central Station receiver "Acknowledge" wait time for primary phone number. Enter 0 (30 seconds) or 1 (60 seconds).
PRIMARY TRANSMISSION FORMAT	***46**	[ ] COMMENTS: Permits selection between Ademco Low Speed format, SESCOA/Radionics, or Ademco High Speed format. Enter 0 (Ademco Low Speed), 1 (SESCOA/Radionics), or 2 [Ademco High Speed - Traditional for up to 12 (all 17 if non-unique reporting is acceptable) wired zones and 4+2 DTMF for up to 17 wired zones]. **Note:** If Traditional Ademco High Speed reporting is selected, the Non-Alarm reports desired must be selected in Addresses *40, *67 and *68 (any non-zero code may be used).
SECONDARY ACK WAIT	***47**	[ ] COMMENTS: Central station receiver "Acknowledge" wait time for secondary phone number. Enter 0 (30 seconds) or 1 (60 seconds).
SECONDARY TRANSMISSION FORMAT	***48**	[ ] COMMENTS: Same options as Address *46. Enter 0 (Ademco Low Speed), 1 (SESCOA/Radionics), or 2 (Ademco High Speed).
SINGLE MESSAGE TRANSMISSION WITH CHECKSUM VERIFICATION	***49**	[ ] COMMENTS: When selected, will send a verification digit with the message to validate the message at the receiver without having to send two message rounds. Enter 0 (NO) or 1 (YES). NOTE: Selection applies to both primary and secondary phone numbers.
SESCOA/RADIONICS SELECTION	***50**	[ ] COMMENTS: Enter 0 if Radionics format is to be used with hexadecimal B-F reporting; enter 1 if SESCOA format is to be used with only numeric reporting (0-9). NOTE: Selection applies to both primary and secondary phone numbers.
DUAL REPORTING	***51**	[ ] COMMENTS: If selected, will send all reports to both primary and secondary phone numbers. **Note:** If dual reporting is desired and Ademco High Speed format is to be used at all, it must be selected as both the primary and secondary transmission formats. Enter 0 (NO) or 1 (YES)

OPEN/CLOSE REPORTING ENABLE BY USER CODE	***52**	1 2 3 4 5 6 7 8 [ ][ ][ ][ ][ ][ ][ ][ ] COMMENTS: Enter 0 (disable) or 1 (enable) Determines which user code will send open/close reports. User #7 must be enabled if open/close reporting is desired for keyswitch arming or close reporting is desired for "Quick Arm" and "Power Up" arm. **Note:** User 1 must be enabled to permit use of installer code to enter Programming mode.
4+2 ZONE (MAX. OF 17 WIRED ZONES) EXPANDED FORMAT SELECTION	***53**	[ ] COMMENTS: Enter 1, if 4+2 reporting by zone for a zone expanded system is desired, enter 0 if a non expanded zone configuration is being used. If the expanded zone reporting format is selected, skip Addresses 55-71 and continue programming at Address #72. **IMPORTANT:** If Ademco High Speed format had been selected in Addresses *46 or *48 and this selection is made, a high speed 4+2 transmission using DTMF TouchTone communication can be obtained which is compatible with Ademco No. 685 Digital Receivers using Level 4.3 software or higher.
4+2 ZONE (MAX. OF 9 WIRED ZONES) FORMAT SELECTION	***54**	[ ] COMMENTS: Enter 1, if 4+2 reporting is desired, enter 0 if 3+1/4+1 or traditional Ademco High Speed reporting is to be used. This selection is overridden by the selection of 4+2 reporting in Address *53. If the 4+2 format of address *54 is selected, Addresses 55-70 should be programmed, but Addresses 72 through 81 should be skipped.

The following reports (Addresses *55 - *60) may be designated to report either in Standard or Expanded format. In all cases, the Standard message reports to the central station a subscriber ID number and a report (e.g., Alarm [see Address *55], trouble, restore, open/close) code. The Expanded message reports a subscriber ID number, the report code, followed by a second line where the report code is repeated three or four times and is trailed by the channel number (or user ID) related to that report. When 4+2 format is selected, no second line is transmitted. The channel number or User ID is sent as the last digit of the report.

Report	3+1/4+1 Standard	3+1/4+1 Expanded	4+2 Expanded
Alarm	SSS(S) A	SSS(S) A AAA(A) C_h	SSSS AC_h
Trouble	SSS(S) T	SSS(S) T TTT(T) C_h	SSSS TC_h
Bypass	SSS(S) B	SSS(S) B BBB(B) C_h	SSSS BC_h
AC Loss	SSS(S) E	SSS(S) E EEE(E) A_C	SSSS EA_C
Low Battery	SSS(S) L	SSS(S) L LLL(L) L_B	SSSS LL_B
Open	SSS(S) O	SSS(S) O OOO(O) U	SSSS OU
Close	SSS(S) C	SSS(S) C CCC(C) U	SSSS CU
Cancel	SSS(S) X	SSS(S) X	SSSS XØ
Test	SSS(S) T_e	SSS(S) T_e	SSSS $T_eØ$
Power Up Reset	SSS(S) P	SSS(S) P	SSSS PØ
Program Tamper	SSS(S) M	SSS(S) M	SSSS MØ
Restore:			
Alarm	SSS(S) R	SSS(S) R RRR(R) C_h	SSSS RC_h
AC Loss	SSS(S) R	SSS(S) R RRR(R) A_C	SSSS RA_C
Low Battery	SSS(S) R	SSS(S) R RRR(R) L_B	SSSS RL_B
Trouble	SSS(S) R_T	S S S (S) R_T $R_TR_TR_T(R_T)C_h$	SSSS R_TC_h
Bypass	SSS(S) R_B	S S S (S) R_B $R_BR_BR_B(R_B)C_h$	SSSS R_BC_h

Where:

SSS or SSSS = Subscriber ID
A = Alarm Code
Ø = Zero
C_h = Channel Number
T = Trouble Code
B = Bypass Code
E = AC Loss Code (1st Digit)
A_C = AC Loss Code (2nd digit)
X = Cancel Code
P = Power Up Reset Code
M = Program Tamper Code
L = Low Battery Code (1st digit)
L_B = Low Battery Code (2nd digit)
O = Open Code
C = Close Code
U = User Number
Te = Test Code
R = Restore Code (Alarm, AC Loss, Low Battery)
R_T = Restore Code (Trouble)
R_B = Restore Code (Bypass)

Ademco High Speed Format

This format is the fastest format used in the alarm industry in that alarm information on 8 zones can be received at a Central Station in 5 seconds. This format utilizes DTMF (TouchTone) signalling and transmits at the rate of 10 hexadecimal characters per second. The traditional format of Ademco High Speed transmission contains 13 digits, as follows: 4 digit Subscriber ID number, 8 digits containing the status of each of 8 event reporting channels and 1 digit in a 9th channel that is primarily used to indicate what kind of event is being received in the other 8 channels.

For the eight event reporting channels (digits 5-12 in the format), the channel status codes are as follows:

Code	Meaning
1	NEW EVENT (previously unreported)
2	OPENING REPORT
3	RESTORE
4	CLOSING REPORT
5	NORMAL (no event since previously reported RESTORE)
6	PREVIOUSLY REPORTED EVENT STILL PRESENT

For the ninth channel (digit 13), the following channel status codes are used:

1 DURESS REPORT in channel 1 and ZONE ALARM and ALARM RESTORES assigned to CHANNELS 9 through 15 (in Addresses *61 through *64) will appear in channels 2 through 8 respectively.

2 OPENING REPORT in the previous 7 or 8 channels; 7 if expanded opening/closing reporting is selected, wherein User ID (1-9,A-F) appears in Channel 1.

3 BYPASS and BYPASS RESTORE REPORTS for ZONES assigned to CHANNELS 1 through 8 (in Addresses *61 through *64) will appear in Channels 1 through 8.

4 CLOSING REPORT in the previous 7 or 8 channels; 7 if expanded opening/closing reporting is selected, wherein User ID (1-9,A-F) appears in Channel 1.

5 ZONE TROUBLE and TROUBLE RESTORE REPORTS for ZONES assigned to CHANNELS 1 through 8 (in Addresses *61 through *64) will appear in channels 1 through 8.

6 SYSTEM TROUBLE and TROUBLE RESTORE REPORTS are in the previous 8 channels; wherein:

CH 1 =	Loss of AC	CH 5 =	Not Applicable
CH 2 =	Low Battery	CH 6 =	Not Applicable
CH 3 =	Program Tamper*	CH 7 =	Not Applicable
CH 4 =	Power On Reset*	CH 8 =	Not Applicable

*No Restore report is provided for these conditions.

7 ZONE ALARM and ALARM RESTORE REPORTS for ZONES assigned to CHANNELS 1 through 8 (in Addresses *61 through *64) will appear in channels 1 through 8.

9 TEST REPORT. All '5's will appear in channels 1 through 8.

IMPORTANT NOTES:

1. When the traditional Ademco High Speed format is used, zones assigned to channels 9 through 15 in Addresses *61 through *64 **cannot** report trouble, trouble restore, bypass, and bypass restore. As such, 24 hour type keypad panic zones are good candidates for the use of these reporting channels (e.g. * & #, 1 & *, 3 & # panics, etc.)

2. Only NEW events: ALARM, OPENING, RESTORE, BYPASS, CLOSING or TROUBLE on any channel or TEST will trigger transmission, at which time all 9 channels will report.

3. When the traditional Ademco High Speed format is used, non-zero codes must be entered in Addresses 61, 62, 63, 64 (for zones in use), 65, 66, 67 and 68.

Examples (Ademco High Speed Zone format)

1. At subscriber #5890, channels 2 and 5 go into alarm (and initiate a call) and channel 6, which has previously reported an alarm is still triggered.

	Subscriber Identification	Channel Number 1 2 3 4 5 6 7 8 9
Message:	5 8 9 0	5 1 5 5 1 6 5 5 7

Channel 2: NEW ALARM
Channel 5: NEW ALARM
Channel 6: PREVIOUSLY REPORTED ALARM (still in effect)

2. Still at subscriber #5890, following the events of example 1 above, channel 2 restores (initiating the call) and channels 5 and 6 remain in alarm:

	Subscriber Identification	Channel Number 1 2 3 4 5 6 7 8 9
Message:	5 8 9 0	5 3 5 5 6 6 5 5 7

Channel 2: NEW RESTORE
Channels 5, 6: PREVIOUSLY REPORTED ALARMS (still in effect)

3. Subscriber #0135 sends an opening:

	Subscriber Identification	Channel Number 1 2 3 4 5 6 7 8 9
Message:	0 1 3 5	1 2 2 2 2 2 2 2 2

Channel 1: USER ID - User #1 opened
Channels 2-9: OPENING REPORT TRANSMITTED

4. After transmission of Example 3, subscriber #0135 sends a closing:

	Subscriber Identification	Channel Number 1 2 3 4 5 6 7 8 9
Message:	0 1 3 5	D 4 4 4 4 4 4 4 4

Channel 1: USER ID - User #13 (= hex D) closed
Channels 2-9: CLOSING REPORT TRANSMITTED

5. Subscriber #0135 sends a duress message:

Subscriber Identification	Channel Number 1 2 3 4 5 6 7 8 9
0 1 3 5	1 5 5 5 5 5 5 5 1

Channel 1: DURESS REPORT
Channel 9: SUPPLEMENTAL ALARM ZONES TRANSMITTED

6. Subscriber #0135 User #7 bypasses faulted zone 2 (for the sake of this example, Zone 2 = Channel 3, not a requisite) and then arms the system.

	Subscriber Identification	Channel Number 1 2 3 4 5 6 7 8 9	
Message:	0 1 3 5	5 5 1 5 5 5 5 5 3	(Bypass Report)
	0 1 3 5	7 4 4 4 4 4 4 4 4	(Closing Report)

Bypass restorals are transmitted when the restoral takes place.

	0 1 3 5	5 5 3 5 5 5 5 5 3

7. If a trouble condition occurs in Zone 4 for subscriber #5890 and Zone 4 was assigned to Channel 2, a trouble report is transmitted.

	Subscriber Identification	Channel Number 1 2 3 4 5 6 7 8 9
Message:	5 8 9 0	5 1 5 5 5 5 5 5 5

Trouble restoral is transmitted as soon as it occurs.

	5 8 9 0	5 3 5 5 5 5 5 5 5

8. If a system trouble condition occurs, a separate trouble message format exists.

	Subscriber Identification	Channel Number 1 2 3 4 5 6 7 8 9
For Loss of AC Reporting (Channel 1 is used)		
Message:	0 1 3 5	1 5 5 5 5 5 5 5 6
For AC Restoral		
Message:	0 1 3 5	3 5 5 5 5 5 5 5 6
For Low Battery Reporting (Channel 2 is used)*		
Message:	0 1 3 5	5 1 5 5 5 5 5 5 6
For Low Battery Restoral		
Message:	0 1 3 5	5 3 5 5 5 5 5 5 6
For Program Tamper (Channel 3 is used)		
Message:	0 1 3 5	5 5 1 5 5 5 5 5 6
For Power Up Reset (Channel 4 is used)		
Message:	0 1 3 5	5 5 5 1 5 5 5 5 6

* Low battery is not only determined when AC power is off and the battery is being discharged. It is also tested for by priodically (at the interval selected in Address *27) removing AC power briefly to check battery status.

NOTE: Restorals are not applicable to Program Tamper and Power Up Reset.

9. At Subscriber #5890, Zone 12 assigned to channel 13 goes into alarm and Zone 11 assigned to channel 11, which has previously reported an alarm has restored.

	Subscriber Identification	Channel Number 1 2 3 4 5 6 7 8 9
Message:	5 8 9 0	5 5 5 3 5 1 5 5 1

10. At Subscriber #0135 a test message is initiated.

	Subscriber Identification	Channel Number 1 2 3 4 5 6 7 8 9
Message:	0 1 3 5	5 5 5 5 5 5 5 5 9

FUNCTION	ADDRESS	
ALARM REPORT	*55	[ ]

COMMENTS: Enter 0 (Standard Report) or 1 (Expanded Report).
When Expanded is selected, the channel number is transmitted in the last position of the 2nd transmission line (or of the 1st transmission line if 4 + 2 Format is used).
NOTE: Selection applies to both primary and secondary phone numbers.

RESTORE REPORT	*56	[ ]

COMMENTS: Enter 0 (Standard Report) or 1 (Expanded Report).
When a zone of protection alarm, bypass, trouble, AC loss or low battery report is transmitted, a restore report for any of those conditions is not issued unless **ALL** like conditions within a zone are restored.
When Expanded is selected, the channel number is transmitted in the last position of the 2nd transmission line (of the 1st transmission line if 4 + 2 Format is used). Restore reports for each zone type alarm are individually selectable (see Address numbers *69 through *71).
NOTE: Selection applies to both primary and secondary phone numbers.

BYPASS REPORT	*57	[ ]

COMMENTS: Enter 0 (Standard Report) or 1 (Expanded Report).
Bypassing a zone results in a bypass report and in a restore report when all bypasses are removed.
Fire and priority zones cannot be bypassed. When Expanded is selected, the channel is transmitted in the last position of the 2nd transmission line (or of the 1st transmission line if 4+2 Format is used). Zone ID is not transmitted.
NOTE: Selection applies to both primary and secondary phone numbers.

TROUBLE REPORT	*58	[ ]

COMMENTS: Enter 0 (Standard Report) or 1 (Expanded Report).
When Expanded is selected, the channel is transmitted in the last position of the 2nd transmission line (or of the 1st transmission line if 4+2 Format is used). Zone ID is not transmitted.
NOTE: Selection applies to both primary and secondary phone numbers.

OPEN/CLOSE REPORT ***59** [ ]

COMMENTS: Enter **0** (Standard Report) or **1** (Expanded Report).
When Expanded is selected, user ID (0-9, B-F) is transmitted in the last position of the 2nd transmission line (or of the 1st transmission line if 4 + 2 Format is used).
NOTE: Selection applies to both primary and secondary phone numbers.

LOW BATTERY, AC LOSS AND TEST REPORT ***60** [ ]

COMMENTS: Enter **0** (Standard Report) or **1** (Expanded Report).
When Expanded is selected, an additional programmable (except for Test which has a 0) code is transmitted in the last position of the 2nd transmission line (of the 1st transmission line if 4+2 Format is used).
NOTE: Selection applies to both primary and secondary phone numbers.

CHANNEL ASSIGNED TO EACH ZONE ***61**

1 [ ][ ] Zone 1
2 [ ][ ] Zone 2
3 [ ][ ] Zone 3
4 [ ][ ] Zone 4
5 [ ][ ] Zone 5
6 [ ][ ] Zone 6
7 [ ][ ] Zone 7
8 [ ][ ] Zone 8

COMMENTS: Enter all channel IDs as double digits. Disable = **00** (no channel reporting).

01 = 1	06 = 6	11 = B
02 = 2	07 = 7	12 = C
03 = 3	08 = 8	13 = D
04 = 4	09 = 9	14 = E
05 = 5	10 = 0	15 = F

CHANNEL ASSIGNED TO EACH ZONE (CONT'D) ***62**

1 [ ][ ] Zone 9
2 [ ][ ] Zone 10
3 [ ][ ] Zone 11
4 [ ][ ] Zone 12
5 [ ][ ] Zone 13
6 [ ][ ] Zone 14
7 [ ][ ] Zone 15
8 [ ][ ] Zone 16

COMMENTS: Enter all channel IDs as double digits (same as Address *61). Disable = **00** (no channel reporting).

CHANNEL ASSIGNED TO EACH ZONE (CONT'D) *63

1 [ ][ ] Zone 17
2 [0][0]
3 [0][0]
4 [0][0]
5 [0][0]
6 [0][0]
7 [0][0]
8 [0][0]

COMMENTS: Enter all channel IDs as double digits (Same as Address *61). Disable = 00 (no channel reporting)

CHANNEL ASSIGNED TO EACH ZONE (CONT'D) *64

1 [0][0] Not used
2 [0][0] Not used
3 [0][0] Not used
4 [ ][ ] Duress
5 [ ][ ] Short on Wiring to Zone Expander
6 [ ][ ] 1 & * Panic
7 [ ][ ] 3 & # Panic
8 [ ][ ] * & # Panic

COMMENTS: Enter all channel IDs as double digits (same as Address *61). Disable = 00 (no channel reporting).
Note: Non-zero codes must be entered when traditional Ademco High Speed format is used.

ALARM REPORTING CODES ASSIGNED TO EACH CHANNEL *65

1 [ ][ ]
2 [ ][ ]
3 [ ][ ]
4 [ ][ ]
5 [ ][ ]
6 [ ][ ]
7 [ ][ ]
8 [ ][ ]

COMMENTS: Enter all alarm reporting codes as double digits. Disable = 00 (no code reporting)
Note: Non-zero codes must be entered when traditional Ademco High Speed format is used.

01 = 1	06 = 6	11 = B
02 = 2	07 = 7	12 = C
03 = 3	08 = 8	13 = D
04 = 4	09 = 9	14 = E
05 = 5	10 = 0	15 = F

ALARM REPORTING CODES ASSIGNED TO EACH CHANNEL (CONT'D) *66

9 [ ][ ]
10 [ ][ ] 0
11 [ ][ ] B
12 [ ][ ] C
13 [ ][ ] D
14 [ ][ ] E
15 [ ][ ] F
[0][0] Not used

COMMENTS: Enter all alarm reporting codes as double digits (same as Address *65).
Disabled = 00 (no code reporting).
Note: Non-zero codes must be entered when traditional Ademco High Speed format is used.

NON-ALARM CODES ***67**

[ ][ ] AC LOSS
[ ][ ]* AC LOSS 2nd DIGIT
[ ][ ] TROUBLE
[ ][ ] TROUBLE RESTORE
[ ][ ] BYPASS
[ ][ ] BYPASS RESTORE
[ ][ ] RESTORE CODE FOR ALARM,AC LOSS,LOW BATTERY

COMMENTS: Enter all codes as double digits (see Address *65). Disabled = **00** (no report).
Note: Non-zero codes must be entered when traditional Ademco High Speed format is used.

* If you have entered a reporting code for AC LOSS, **enter any non-zero code here.** This is necessary regardless of the reporting format selected (e.g., Ademco High Speed, 3+1, 4+1, etc.).

NON-ALARM CODES ***68**

[ ][ ] OPEN
[ ][ ] CLOSE
[ ][ ] LOW BATTERY
[ ][ ]* LOW BATTERY 2ND DIGIT
[ ][ ]** TEST
[ ][ ]** POWER UP[1]
[ ][ ] NOT USED
[ ][ ]** CANCEL CODE[2]

COMMENTS: Enter all codes as double digits (see Address *65). Disabled = **00** (no report).
Note: Non-zero codes must be entered when traditional Ademco High Speed format is used.

* If you have entered a reporting code for LOW BATTERY, **enter any non-zero code here.** This is necessary regardless of the reporting format selected (e.g. Ademco High Speed, 3+1, 4+1, etc.).

** When 4+2 by zone (field 54) format is used, the 2nd digit of the event code is always "0".

NOTES:

1 After a power reset, or after exiting the Program mode, this code will be sent.

2 If system is shut down by using a security code while a burglary alarm is sounding, this code will be sent. (Not sent for 24-hour zones.)

A Cancel in traditional Ademco high speed format is identical to an Opening Report for user 15 and should not be used together.

To disable Restore reports, program all locations in Addresses *69 - 71 as 0.

ZONE TYPES 1-4 RESTORE REPORT ENABLE	*69	1 2 3 4 [ ][ ][ ][ ] (See Address *02 for Response types). COMMENTS: Enables Restore reporting for individual zone types. Enter 1 to select restore reporting for the zone type; enter 0 to inhibit restore reports.
ZONE TYPES 5-8 RESTORE REPORT ENABLE	*70	5 6 7 8 [ ][ ][ ][ ] (See Address *02 for Response types). COMMENTS: Enables Restore reporting for individual zone types. Enter 1 to select Restore reporting for the Zone Type; enter 0 to inhibit Restore reports.
ZONE TYPES 9 AND 10 RESTORE REPORT ENABLE	*71	9 10 [ ][ ] (See Address *02 for Response types) COMMENTS: Enables Restore reporting for individual zone types. Enter 1 to select Restore reporting for the Zone Type; enter 0 to inhibit restore reports.

INTRODUCTION TO FIELD ADDRESSES 72-81

In order to make it easier for an installer to understand expanded zone reporting, an explanation and an illustrative example are given first.

Bearing in mind that a 2 digit reporting code is utilized, let us discuss how zones 1-17, Duress, Zone Expander Supervisory, and the 3 keypad panics (1 & *, 3 & #, and * & #) can be coded. The recurring theme of the following information is that the leading digit represents the type of event being reported and the second digit identifies the zone within that type.

NOTES:

1. Two digit entries are required because hexadecimal entries are allowed (0-9, B-F) = (00-15) for fields 72-81.

2. Users of the Ademco CAPS Automation System are cautioned not to assign 78 or 8C for any report, as these codes are reserved.

3. If **Ademco High Speed Format** is selected in either Addresses *46 or *48 and the **4+2 Expanded Zone Format** is selected in Address *53, a very fast 4+2 Format is created that uses DTMF (TouchTone) signalling instead of pulses. Actually, 9 digits are transmitted but only the 4+2 portion of the message is ever seen on the central station receiver's display or printer. This High Speed 4+2 format is currently only compatible with Ademco No. 685 Digital Receiver operating with Revision 4.3 software or higher and has a message transmission time of well under 5 seconds.

An example of report code assignments follows:

Zone	Alarm	Trouble	Bypass	Alarm Restore	Trouble Restore	Bypass Restore
1	11	31	51	71	01	E1
2	12	32	52	72	02	E2
3	13	33	53	73	03	E3
4	14	34	54	74	04	E4
5	15	35	55	75	05	E5
6	16	36	56	76	06	E6
7	17	37	57	77	07	E7
8	19	39	59	79	09	E9
9	21	41	61	91	D1	F1
10	22	42	62	92	D2	F3
11	23	43	63	93	D3	F3
12	24	44	64	94	D4	F4
13	25	45	65	95	D5	F5
14	26	46	66	96	D6	F6
15	27	47	67	97	D7	F7
16	28	48	68	98	D8	F8
17	29	49	69	99	D9	F9
Duress	1B	3B	5B	7B	0B	EB
Zone Expander Supervisory	1C	3C	5C	7C	0C	EC
1 & * Panic	1D	3D	5D	7D	0D	ED
3 & # Panic	1E	3E	5E	7E	0E	EE
* & # Panic	1F	3F	5F	7F	0F	EF

NOTE: 78 and 8C are avoided because of CAPS not permitting their usage.

Open:	B1-B9, B0, BB-BF
Close:	C1-C9, C0, CB-CF
AC Loss:	38
AC Loss Restore:	08
Low Battery:	58
Low Battery Restore:	E8
Cancel Report:	87
Powerup Report:	88
Test Report:	89
Program Tamper Report:	18

NOTES:

(CONT"D

4. English language on the Ademco 685 Digital Receiver should not be used for most of these reports.
5. Note that B and C are not used for leading digits in the above table. It is suggested that these digits be reserved for use in reporting "openings" and "closings" so that the appropriate display and print out can be obtained at the central station receiver and so that an automation system can be given the appropriate information.

FUNCTION	ADDRESS		
4+2 EXPANDED FORMAT ZONES 1-8 EVENT DIGIT (1st digit of reporting code)	*72	[ ][ ] [ ][ ] [ ][ ] [ ][ ] [ ][ ] [ ][ ]	ALARM TROUBLE BYPASS ALARM RESTORE TROUBLE RESTORE BYPASS RESTORE
		COMMENTS: The first digit of the 2-digit event code use to report alarm, trouble, bypass and their restores for zones 1-8. Enter all reporting codes as double digits (see Address *65). Disable = 00 (no code reporting)	
4+2 EXPANDED FORMAT ZONES 9-16 EVENT DIGIT (1st digit of reporting code)	*73	[ ][ ] [ ][ ] [ ][ ] [ ][ ] [ ][ ] [ ][ ]	ALARM TROUBLE BYPASS ALARM RESTORE TROUBLE RESTORE BYPASS RESTORE
		COMMENTS: The first digit of the 2-digit event code used to report alarm, trouble, bypass, and their restores for zones 9-16. Enter all reporting codes as double digits (see Address *65). Disable = 00 (no code reporting).	
4+2 EXPANDED FORMAT ZONE 17 EVENT DIGIT (1st digit of reporting code)	*74	[ ][ ] [ ][ ] [ ][ ] [ ][ ] [ ][ ] [ ][ ]	ALARM TROUBLE BYPASS ALARM RESTORE TROUBLE RESTORE BYPASS RESTORE
		COMMENTS: The first digit of the 2-digit event code used to report alarm, trouble, bypass, and their restores for zone 17. Enter all reporting codes as double digits (see Address *65). Disable = 00 (no code reporting).	
4+2 EXPANDED FORMAT KEYPAD PANICS/ZONE EXPANDER WIRING SUPERVISORY EVENT DIGIT (1st digit of reporting code)	*75	[ ][ ] [ ][ ] [ ][ ] [ ][ ] [ ][ ] [ ][ ]	ALARM TROUBLE BYPASS ALARM RESTORE TROUBLE RESTORE BYPASS RESTORE
		COMMENTS: The first digit of the 2-digit event code used to report alarm, trouble, bypass, and their restores for various keypad panics (duress, * & #, 1 & *, and 3 & #) and for supervision of the wiring (for short circuits) to the zone expander. Enter all reporting codes as double digits (see Address *65). Disable = 00 (no code reporting).	

4+2 EXPANDED FORMAT ZONES 1-8 ID DIGIT (2nd digit of reporting code) *76

Z1 [ ][ ]
Z2 [ ][ ]
Z3 [ ][ ]
Z4 [ ][ ]
Z5 [ ][ ]
Z6 [ ][ ]
Z7 [ ][ ]
Z8 [ ][ ]

COMMENTS: The second digit of the 2 digit event code used to report alarm, trouble, bypass, and their restores for zones 1-8. Enter all reporting codes as double digits (see Address *65). Disable = 00 (no code reporting).

4+2 EXPANDED FORMAT ZONES 9-16 ID DIGIT (2nd digit of reporting code) *77

Z9 [ ][ ]
Z10 [ ][ ]
Z11 [ ][ ]
Z12 [ ][ ]
Z13 [ ][ ]
Z14 [ ][ ]
Z15 [ ][ ]
Z16 [ ][ ]

COMMENTS: The second digit of the 2 digit event code used to report alarm, trouble, bypass, and their restores for zones 9-16. Enter all reporting codes as double digits (see Address *65). Disable = 00 (no code reporting).

4+2 EXPANDED FORMAT ZONE 17 ID DIGIT (2nd digit of reporting code) *78

Z17 [ ][ ]
[0] [0]
[0] [0]
[0] [0]
[0] [0]
[0] [0]
[0] [0]
[0] [0]

COMMENTS: The second digit of the 2-digit event code used to report alarm, trouble, bypass, and their restores for zone 17. Enter all reporting codes as double digits (See address *65) Disable = 00 (no code reporting).

4+2 EXPANDED FORMAT KEYPAD PANICS/ZONE EXPANDER WIRING SUPERVISORY ID DIGIT (2nd digit of reporting code) *79

[0] [0]
[0] [0] Zeroes to be entered
[0] [0]
[ ][ ] Duress
[ ][ ] Short in Wiring to Zone Expander
[ ][ ] 1 & * Panic
[ ][ ] 3 & # Panic
[ ][ ] * & # Panic

COMMENTS: The second digit of the 2-digit event code used to report alarm, trouble, bypass, and their restores for various keypad panics (duress, * & #, 1 & *, and 3 & #) and for supervision of the wiring (for short circuits) to the zone expander. Enter all reporting codes as double digits (see Address *65). Disable = 00 (no code reporting).

4+2 EXPANDED FORMAT NON-ALARM CODES ***80**

[ ][ ]	CLOSE REPORT (1st digit)
[ ][ ]	CLOSE REPORT (2nd digit)
[ ][ ]	OPEN REPORT (1st digit)
[ ][ ]	OPEN REPORT (2nd digit)
[ ][ ]	LOW BATT REPORT (1st digit)
[ ][ ]	LOW BATT REPORT (2nd digit)
[ ][ ]	LOW BATT RESTORE REPORT (1st digit)
[ ][ ]	LOW BATT RESTORE REPORT (2nd digit)
[ ][ ]	TEST REPORT (1st digit)
[ ][ ]	TEST REPORT (2nd digit)

COMMENTS:

- Enter all reporting codes as double digits (see Address *65). Disable = **00** (no code reporting) if **both 1st and 2nd digits** are so programmed.
- 1st digit of Close Report must be C (hex 12) if English printout of "close" is desired on Ademco No. 685 Receiver or if closing by user is to be processed on an Ademco Automation System.
- 1st digit of Open Report must be B (hex 11) if English printout of "open" is desired on Ademco No. 685 Receiver or if opening by user is to be processed on an Ademco Automation System.
- The 2nd digit of both the Close and Open Reports represents the user ID for the Installation Company Security Code. User No. 2 is automatically assigned an ID one higher than this code (e.g., if 01 is keyed, User 2 reports as 2, User 3 as 3, etc...).

4+2 EXPANDED FORMAT NON-ALARM CODES (CONT'D) ***81**

[ ][ ]	POWER UP REPORT (1st digit)
[ ][ ]	POWER UP/DOWNLOAD ATTEMPT REPORT (2nd digit)
[ ][ ]	AC LOSS REPORT (1st digit)
[ ][ ]	AC LOSS REPORT (2nd digit)
[ ][ ]	AC RESTORE REPORT (1st digit)
[ ][ ]	AC RESTORE REPORT (2nd digit)
[0][0]	Not used - Zeroes to be Entered
[0][0]	Not used - Zeroes to be Entered
[ ][ ]	CANCEL REPORT (1st digit)
[ ][ ]	CANCEL REPORT (2nd digit)

COMMENTS:

- Power Up is transmitted after a power reset or after exiting the Program Mode.
- Cancel is transmitted if system is shut down while a **burglary** alarm is sounding.
- Enter all reporting codes as double digits (see Address *65). Disable = **00** (no code reporting) if **both 1st and 2nd digits** are so programmed.

ALARM COUNT	***82**	**[ ][ ]** COMMENTS: Enter 01 - 15. This option limits the number of messages (Alarms or Troubles) sent for a specific channel in an armed period (Swinger Suppression) before additional reports from that channel are inhibited. This selection is system-wide.
TEST REPORT INITIATION TIME	***83**	**[ ][ ]** COMMENTS: Enter the time in hours from the time that the programming mode is exited that the first test report shall be transmitted. 00 entry signifies immediately upon exiting. 01 - 31 represents the range in hours that can be selected.
ADEMCO HIGH SPEED FORMAT USED ON WATS LINES	***84**	**[ ]** COMMENTS: Enter 1 if Ademco High Speed Format (either traditional or 4+2 versions) will be transmitted on 800/WATS lines where satellite links may be used. Enter 0 if other formats are selected or if local telco lines are being used.
DO NOT USE	***85**	**[0] MUST BE ZERO**
ZONE EXPANDER TYPE SELECTION	***86**	**[ ]** COMMENTS: Enter 1 if No. 4208 Eight Zone Expander is being used. Enter 0 if other VECTOR type RPMs are being used to expand the number of zones. **Important:** See "Zone Expansion" in an earlier section of this manual for proper configuration of the No. 4208.
ENTRY WARNING	***87**	**[ ]** COMMENTS: Enter "0" for 3 short beeps, or "1" for slow beeps that continue for the entire entry delay period.
BURGLARY ALARM COMMUNICATION DELAY	***88**	**[ ]** COMMENTS: Enter "0" for no delay on burglary alarm communication, or "1" for 16-second delay (no delay on 24-hour reports).
ALARM VOLTAGE TRIGGER OUTPUTS	***89**	**[ ]** COMMENTS: Set to 0 (zone expansion capability intact, no alarm voltage triggers) or 1 (zone expansion capability suppressed, alarm voltage triggers active). See Diagram 1 for alarm voltage trigger outputs on digital communication board.

PROGRAMMING ZONE DESCRIPTIONS FOR DISPLAY ON THE 5137 CONSOLE

An appropriate English language description/location for each protection zone can be programmed into the system. Each description may be composed of a combination of words (up to a maximum of 3) that can be selected from a vocabulary of approximately 220 words stored in memory (a complete list of all words in this vocabulary is provided in Table E. In addition, up to 5 installer-defined "custom" words may be added to those presently in memory. Thus, when an alarm or trouble occurs in a zone, an appropriate description for the location of that zone will be displayed at the security control.

Programming Procedure:

1. Enter programming mode as described previously.

2. Key ***93**. The following will be displayed: *** ZN ??**

3. To select zone 1, key ***01** (key ***02** for zone 2, ***03** for zone 3, etc.). The following will be displayed: *** ZN 01 A**

   Note that the first letter of the alphabet appears after the zone number.

4. The zone number is automatically included with the proposed description.

5. Select the first letter of the desired description ("A" is already displayed). Use key [3] to advance through the alphabet and key [1] to go backward. For example, assume the desired description for zone 1 is BACK DOOR. Press key [3] repeatedly (or hold down the key) until "B" appears, then press key [6]. Pressing key [6] will display the first available word beginning with B. Repeatedly press key [3] to advance through the available words until the word **BACK** is displayed.

6. For selection of the second word (DOOR), press key [6]. "A" will now be displayed again after the first word selected . Press key [3] until the desired first letter of the second word appears (in this example, "D"). Then press key [6] to display the first available word beginning with "D". Press key [3] repeatedly until the desired word (DOOR) appears.

7. If you wish to add a third word (provided there is sufficient space for it in the display), repeat step 6 for that word.

8. When all desired words have been entered, press key [8] to store the descriptor in memory.

9. To review the zone descriptions (and/or edit), key **#** plus zone number (e.g., **#01**).

10. To exit the zone description mode, key ***99**.

TABLE E. VOCABULARY OF WORDS STORED IN MEMORY*
(5137 CONSOLE ONLY)

AIR
ALARM
ALCOVE
ALLEY
AMBUSH
AREA
APARTMENT
ART
ATTIC
AUDIO
AUXILIARY

BABY
BACK
BAR
BARN
BASEMENT
BATHROOM
BED
BEDROOM
BELL
BLOWER
BOILER
BOTTOM
BOX
BREAK
BUILDING
BURNER

CABINET
CALL
CAMERA
CAR
CASE
CASH
CCTV
CEILING
CELLAR
CENTRAL
CIRCUIT
CLIP
CLOSED
COIN
COLD
COATROOM
COLLECTION
COMBUSTION
COMPUTER
CONTACT

DAUGHTERS
DELAYED
DEN
DESK
DETECTOR
DINING
DISCRIMINATOR
DISPLAY
DOCK
DOOR
DORMER
DOWN
DOWNSTAIRS
DRAWER
DRIVEWAY
DRUG
DUCT

EAST
ELECTRIC
EMERGENCY
ENTRY
EQUIPMENT
EXECUTIVE
EXIT
EXTERIOR

FACTORY
FAILURE
FAMILY
FATHERS
FENCE
FILE
FIRE
FLOOR
FLOW
FOIL
FOYER
FREEZER
FRONT
FUR
FURNACE

GALLERY
GARAGE
GAS
GATE
GLASS
GUEST
GUN

HALL
HEAT
HIGH
HOLDUP
HOUSE

INFRARED
INSIDE
INTERIOR

JEWELRY

KITCHEN

LAUNDRY
LEFT
LEVEL
LIBRARY
LIGHT
LINE
LIQUOR
LIVING
LOADING
LOCK
LOOP
LOW
LOWER

MACHINE
MAGNETIC
MAIDS
MAIN
MASTER
MAT
MEDICAL
MEDICINE
MICROWAVE
MONEY
MONITOR
MOTHERS
MOTION
MOTOR
MUD

NORTH
NURSERY

OFFICE
OIL
OPEN
OPENING
OUTSIDE
OVERFLOW
OVERHEAD

PAINTING
PANIC
PASSIVE
PATIO
PERIMETER
PHONE
PHOTO
POINT
POLICE
POOL
POWER

QUAD

RADIO
REAR
RECREATION
REFRIG
REFRIGERATION
RF
RIGHT
ROOM
ROOF

SAFE
SCREEN
SENSOR
SERVICE
SHED
SHOCK
SHOP
SHORT
SHOW
SIDE
SKYLIGHT
SLIDING
SMOKE
SONIC
SONS
SOUTH
SPRINKLER
STAMP
STATION
STEREO
STORE
STORAGE
STORY
STRESS
STRIKE
SUMP
SUPERVISED
SUPERVISION
SWIMMING
SWITCH

TAMPER
TAPE
TELCO
TELEPHONE
TELLER
TEMPERATURE
THERMOSTAT
TOOL
TRANSMITTER
TRAP

ULTRA
UP
UPPER
UPSTAIRS
UTILITY

VALVE
VAULT
VIBRATION
VOLTAGE

WALL
WAREHOUSE
WASH
WEST
WINDOW
WINE
WING
WIRELESS
WORK

XMITTER

YARD

ZONE

0
1
2
3
4
5
6
7
8
9

* This factory-provided vocabulary of words is subject to change.

Creating Custom Words:

Up to 5 installer-defined words can be added to the factory-provided vocabulary. Each of the 5 "words" can actually consist of several words, but bear in mind that a maximum of 10 characters can be used for each word string. To create the custom word or word string, proceed as follows:

1. Enter the programming mode.
2. Key *93. The following will be displayed: * ZN ??
3. Now key 00 to get into the mode which will allow the custom words to be created. The following will be displayed: * ED ?
4. Key the number of the custom word or word string to be created (0-4). For example, if you are creating the first word (or word string), enter 0; when creating the second word, enter 1, and so on. A cursor will now appear at the beginning of the second line.
5. Use the [3] key to advance through the alphabet (numbers, symbols and special characters are included). Use the [1] key to move back through the alphabet.

   Warning: Custom words must begin with an alphabetic character. If numbers or symbols are used as the first character, the word will not be "saved".

6. When you have reached the desired character, press the [6] key to select it. The cursor will then move to the right, in position for the next character.
7. Repeat steps 5 and 6 to create the desired word (or words). Note that the 4 key can be used to move the cursor to the left if neccessary, and that key [7] can be used to enter a blank (or to erase an existing character).
8. Press the [8] key to "save" the custom word(s) and return to the * ED ? display. The custom word (or string of words) will be automatically added to the factory-provided vocabulary at the end of the group of words beginning with the same letter.
9. Repeat steps 4 through 8 to create up to 4 additional custom words (or word strings).
10. Press the [*] key to return to the * ZN ?? display.
11. Key *99 to exit the programming mode.

CREATING A CUSTOM MESSAGE DISPLAY (ONLY USABLE ON 5137 CONSOLES)

Normally, when the system is in the disarmed state, the following display is present on the Console.

****DISARMED****
READY TO ARM

Part or all of the above message can be modified to create a custom installer message. For example, ****DISARMED**** on the first line or READY TO ARM on the second line could be replaced by the installation company name or phone number for service. Note that there are only 16 character spaces on each of the two lines. To create a custom display message, proceed as follows:

1. Enter the programming mode.
2. Key *93. The following will be displayed: * ZN ??

3. Key 00. The following will appear: * ED ??

4. Press the 5 key. The following will appear:

******DISARMED******
READY TO ARM

A cursor will be present on the extreme left of the first line (over the first "star"). The 6 key is used to move the cursor to the right and the 4 key to move the cursor to the left. Key 7 may be used to to insert spaces or erase existing characters.

5. For example, to replace **READY TO ARM** with the message **SERVICE:424-0177**, proceed as follows:

Press the 6 key to move the cursor to the right, and continue until the cursor is positioned over the first location on the second line.

Press the 3 key to advance through the alphabet to the first desired character (in this case, "S"). Use the 1 key to go backward, when neccessary. When the desired character is reached, press 6. The cursor will then move to the next position, ready for entry of the next character (in this example, "E"). When the cursor reaches a position over an existing character, pressing the 3 or 1 key will advance or back up from that character in the alphabet. Proceed in this manner until all characters in the message have been entered.

6. To store this new display message in memory, press the 8 key.

7. Press the * key to return to the * ZN ?? display. To confirm that the new message has been stored in memory, press 00 and then press key 5. The new message should be displayed.

8. Key *99 to exit the descriptor/programming mode.

TESTING THE SYSTEM

After installation is completed, the Security System should be carefully tested.

1. With the System in the disarmed state, check that all zones are intact. If **DISARMED - Press * to show faults** (5137) or **NOT READY** (4137) is displayed, press the * key to display the descriptors of the faulted zone(s). Restore faulted zone(s) if necessary, so that ******DISARMED***** **READY TO ARM** (5137) or **READY** (4137) is displayed.

2. Enter the **security code** and press the **TEST** key. The external sounder (if used) should sound for 3 seconds and then turn off (the system is operating on the back-up battery only at this time).

Note 1. The system will not enter the TEST mode if the battery voltage is too low, if the battery is not connected, or if any communication messages are waiting to be transmitted.

Note 2. As a reminder that the system is in the TEST mode, the Console will sound a single beep at 15-second intervals if no protection zones are violated.

Note 3. In the TEST mode, no reports will be sent to the central station. Also, the external sounder (if used) will not be activated.

3. **Door and windows:** Open and close each protected door and window in turn. Each action should produce three beeps from the Console. The descriptor for each protection zone will appear on the Console display.

4. **Motion detectors:** Walk in front of any interior motion detectors (if used). Listen for three beeps when the detector senses movement. While it is activated, its descriptor will remain displayed on the Console.

5. **Smoke detectors:** Follow the test procedure provided by the manufacturer of each smoke detector to ensure that all detectors are operational and are functioning properly. **Note:** A 2-wire smoke detector display will not clear until the Test mode is exited.

6. To turn off the TEST mode, enter the **security code** and press the **OFF** key.

A message will be sent to the central station during the following tests. Notify the central station that a test will be in progress.

NOTE: A display of **"COMM. FAILURE"** (5137) or **FC** (4137) indicates a failure to communicate (no Kissoff by the receiver at the central station after the maximum number of transmission attempts is tried).

7. Arm the system and fault one or more zones. Silence alarm sounder(s) each time by entering the code and pressing OFF. Check Entry/Exit delay zones.

8. Check the keypad-initiated alarms by simultaneously pressing the Panic keys (* and #, 1 and *, and/or 3 and #). If the system has been programmed for audible emergency, the console will emit a loud, steady alarm sound, and ALARM and a descriptor will be displayed for * and # (if 1 and * are pressed, a different descriptor will be displayed; if 3 and # are pressed, its descriptor will be displayed). Silence the alarm by entering the security code and pressing OFF.

   If the system has been programmed for silent emergency, there will be no audible alarms or displays, but a report will be sent to the central station.

9. Notify the central station that all tests are finished, and verify results with them.

5137 LCD Viewing Angle Adjustment:

Insert the end of the small, key-shaped tool (supplied) into the small hole to the left of the console display window (the adjustment screw is recessed in this hole). Turn the adjustment screw to the left or right until optimum viewing is achieved. Be sure to take the height of the users into account when making this adjustment.

USING THE BUILT-IN QUICK-REFERENCE USER'S MANUAL (ONLY USABLE WITH 5137)

An abbreviated User's Manual is stored in memory and can be displayed by simply pressing any of the function keys (e.g., OFF, AWAY, STAY, MAXIMUM, BYPASS, INSTANT, CODE, TEST, READY, #, and CHIME) for approximately 5 seconds and then releasing it. Abbreviated instructions relative to the key that has been pressed will then be displayed (2 lines of text are displayed at a time). This function is available when the system is in the armed or the disarmed state. This feature will prove particularly useful to the end user if the printed User's Manual is not conveniently accessible when the user needs to perform a little-used and unfamiliar system procedure.

TURNING THE SYSTEM OVER TO THE USER

1. Fully explain the operation of the System to the user by going over each of its functions as well as the User's Manual supplied.

2. In particular, explain the operation of each zone (entry/exit, perimeter, interior, fire, etc.). Be sure the user understands how to operate any emergency feature(s) programmed into the System. **Important:** In the spaces provided in the User's Manual, record the Entry and Exit Delay times, and those functions that have been programmed into the available pairs of "Emergency" keys (* and #, 1 and *, 3 and #).

3. Make sure the user understands the importance of testing the system at least weekly, following the procedure provided in the User's Manual.

TO THE INSTALLER

Regular maintenance and inspection (at least annually) by the installer and frequent testing by the user are vital to continuous satisfactory operation of any alarm system.

The installer should assume the responsibility of developing and offering a regular maintenance program to the user as well as acquainting the user with the proper operation and limitations of the alarm system and its component parts. Recommendations must be included for a specific program of frequent testing (at least weekly) to insure the system's proper operation at all times.

RECALLING ALARM AND TROUBLE MESSAGES

The system will store up to 10 days worth of alarm and trouble messages for display to service personnel with the following procedure:

Enter: **Security Code** plus **0**

The system's alarm memory retains all events for a period of 10 days, **starting with the first event that occurs.** Upon expiration of the 10-day period, all history is automatically erased and the alarm memory will reset. However, the 10-day cycle will start again **only when the next event occurs.**

Recall by service personnel (using the entry indicated above) will display all events that have occurred from the start of the 10-day cycle to the time of recall (recall always terminates a 10-day cycle). The LCD display on the console will indicate the number of the zone in which the event occurred (e.g., **01, 02,** etc.), accompanied by the appearance of the word **CHECK** (trouble), **ALARM** and, if applicable, **FIRE,** to describe the type of event that occurred in the displayed zone. If a 5137 is used, an alpha descriptor of the zone will also be provided. If more than one event had occurred, the events will be displayed in sequence. Each display will appear for 1-2 seconds, then disappear.

When all information has been displayed and noted, the recall mode is exited by entering:

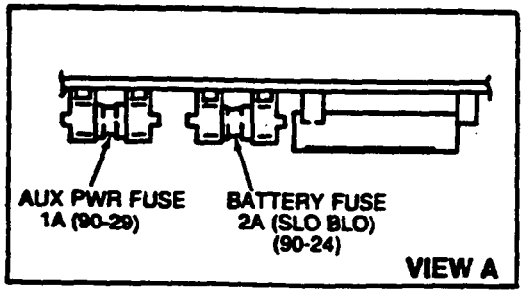
Security Code plus OFF

At this point, all existing memory is erased and the alarm memory is reset. The 10-day cycle will start again only when the next event occurs.

REPLACING FUSES IN THE 4140

Two fuses (Battery fuse and Auxiliary Power fuse) are located on the underside of the main circuit board in the 4140. A third fuse (Alarm Output) is located on an the Alarm Relay board that is installed on a cabinet shelf located below the main chassis. For locations of the Battery and Auxiliary Power fuses on the main circuit board, see Diagram 8. Fuse values and Ademco part numbers are also indicated in the diagram.

When replacing fuses, **be sure to use exact replacements only** (see note beneath View A).



NOTE:
Fuse types (European style) are not readily available from electrical supply houses and should be inventoried by the installer by pre-ordering from Ademco. These fuses are, however, available from Radio Shack stores as 5x20 mm fuses

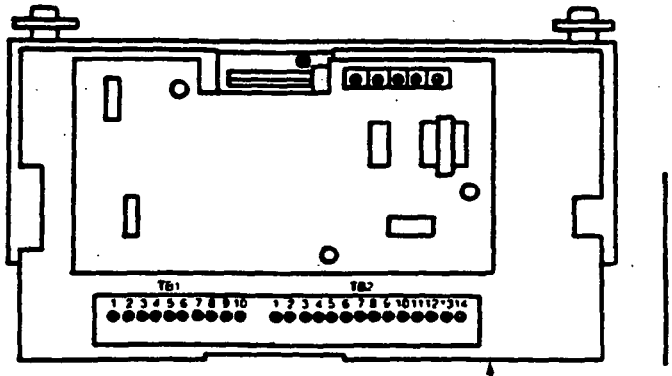


Diagram 8: FUSE LOCATION

"FEDERAL COMMUNICATIONS COMMISSION (FCC) STATEMENT"

This equipment has been tested to FCC requirements and has been found acceptable for use. The FCC requires the following statement for your information:

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause 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:

- If using an indoor antenna, have a quality outdoor antenna installed.
- Reorient the receiving antenna until interference is reduced or eliminated
- Move the receiver away from the control/communicator.
- Move the antenna leads away from any wire runs to the control/communicator.
- Plug the control/communicator into a different outlet so that it and the receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions.

The user may find the following booklet prepared by the Federal Communications Commission helpful:

"Interference Handbook."

This booklet is available from the U.S. Government Printing Office, Washington, DC 20402. Stock No. 004-000-00450-7.

IN THE EVENT OF TELEPHONE OPERATIONAL PROBLEMS

n the event of telephone operational problems, disconnect the control/communicator by removing the plug from the RJ31X jack. We ecommend that the installer demonstrate disconnecting the phones on nstallation of the system. Do not disconnect the phone connection nside the control/communicator. Doing so will result in the loss of the hone lines. If the regular phone works correctly after the control/communicator has been disconnected from the phone lines, the control/communicator has a problem and should be returned for repair. If upon disconnection of the control/communicator, there is still a prob lem on the line, notify the telephone company that they have a proble and request prompt repair service. The user may not under any circumstances (in or out of warranty) attempt any service or repairs on the system. It must be returned to the factory or an authorized service agency for all repairs.

REPLACEMENT PARTS

Description	Part No.
DC Power Pack - 110V AC Input,	
18V DC Output (850 mA max output)	No. 1360
Auxiliary Output Fuse (1 Amp)	No. 90-29
Alarm Output Fuse (3 Amp)	No. 90-28
Battery Fuse (2 Amp)	No. 90-24
Console Trim Ring (for covering overcut walls)	N3724
13-pin Male-to-Male Adapter (Communication-to-Control Board Interface)	N3322-13
Terminal Block Assembly (TB1/TB2)	SA4144-1

OPTIONAL ACCESSORIES

No. 5137	Remote ALPHA VISTA Console.
No. 4137	Remote VISTA Console.
No. 4133*	Console Rough-in Ring.
No. 4136*	Cover Plate for Rough-In Ring, Stainless Steel.
No. 4131	Compact Remote Keypad.
No. 4208	8-Zone Expander.
No. 4146*	Keyswitch Arming Kit.
BRK PA400B	Piezoelectric Alarm Sounder, 90dB output (mounts in single-gang box).
No. 4192SD	Photoelectric Smoke Detector for direct connection to the zone expander input.
No. 4192SDT	Same as above, but with 135°F (57°C) thermostat.
No. 4190WH	Dual Point Remote Point Module
No. 4194WH	Surface Reed Switch Sensor/Remote Point Module
No. 4139WH	Surface Reed Switch Sensor/Remote Point Module (compact)
No. 4201	RPM Programmer for No. 4139WH.
No. 4275	Wide Area/Corridor/Curtain protection Dual Detector PIR Motion Detector for direct connection to zone expander input.
No. 4196	Wide Area/Corridor protection Quad Detector PIR Motion Detector with Auxiliary Sensor loop for direct connection to zone expander input.
No. 688-12	Booster amplifier for alarm voltage triggers to operate relay, strobes, or trigger other communications media that can't accept 5v @ 5 mA outputs.
No. 702	Self-contained 20 watt Siren (indoor or outdoor).
No. 740	Extremely loud Piezoelectric Alarm Sounder, 122 dB output (indoor or outdoor).
No. 4152LM	Zone Expander Interface.
No. XAT-PR	50-sheet pad of Programming Forms.

* NOT UL LISTED

4140 SECURITY CONTROL

1. Physical: 12" (30.5 cm) W, 12" (30.5 cm) H, 3" (7.6 cm) D

2. Electrical:

VOLTAGE INPUT: 18V DC (from plug-in Power Pack, Ademco No. 1360), 850 mA max.

RECHARGEABLE BACK-UP BATTERY: 12V DC, 4 AH (Gel or starved lead-acid type)

ALARM SOUNDER OUTPUT: Dry contact relay (2.8A max. contact rating @ 28V DC). Can drive 12V motor driven bells (100 mA each) - AMSECO MSB10G or ABB1031. Do **not** use solenoid operated bells on the No. 4140.
Can drive one 702 or two 702 (**series** connected) self-contained 20-watt sirens. Do **not** connect two 702s in parallel.

AUXILIARY POWER OUTPUT: 10.4 - 13.8V DC, 700 mA max. for non-UL installations, 400 mA max. for UL installations.

STANDBY TIME: 4 HRS with Auxiliary load of 700 mA*
6 HRS with Auxiliary load of 400 mA*
* Using 4 AH Battery

FUSES:
Battery Fuse: 2A (Ademco No. 90-24)
Auxiliary Power: 1A (Ademco No. 90-29)
Alarm Relay Power: 3A (Ademco No. 90-28)

4. Alarm Trigger Outputs:
Pin 1: Not used
Pin 2: Not used
Pin 3: Not used
Pin 4: Ground
Pin 5: Fire, 5V @ 5 mA - HI on alarm
Pin 6: Not used
Pin 7: Panic, 5V @ 5 mA - HI on alarm
Pin 8: Burglary, 5V @ 5 mA - HI on alarm

5. Communication:
FORMATS SUPPORTED:
Ademco Express & High Speed, 10 characters/sec, DTMF (TouchTone) Data Tones, 1400/2300 Hz ACK, 1400 Hz KISSOFF
Ademco Low Speed, 10 pulses/sec, 1900 Hz Data Tone, 1400 Hz ACK/KISSOFF.
SESCOA, 20 pulses/sec, 1800 Hz Data Tone, 2300 Hz ACK/KISSOFF, Variable Interdigit Timing (Use for code reports 0-9).
RADIONICS, 20 pulses/sec,1800 Hz Data Tone, 2300 Hz ACK/KISSOFF. Fixed Interdigit Timing (Use for code reports 0-9, B-F).

Line Seize: Double Pole

Ringer Equivalence: 0.7B

FCC Registration No.: AC 398U-68192-AL-E

5137/4137 REMOTE CONSOLE

1. **Physical:** 8.4" (21.3 cm) W, 4.75" (12.1 cm) H, 1.1" (2.8 cm) D

2. **Electrical:** Voltage Input: 12V DC
   Current Drain: 60 mA (4137), 150 mA (5137)

3. **Interface Wiring:**
   - RED: 12V DC input (+) - auxiliary power
   - BLUE: 18V DC input (+) - from optional No. 1350 or No. 1360 Power Pack.
   - GREEN: Data In
   - YELLOW: Data Out
   - BLACK: Ground and (-) connection from optional No. 1350 or No. 1360 Power Pack.

4152LM ZONE EXPANSION LOOP MODULE

1. **Physical:** 3.25" (8.8 cm) W, 2.63" (6.7 cm) H, 0.63" (1.6 cm) D

2. **Electrical:** Voltage Output: 7-11 volts (w/1 KHz modulation)
   Current Output: 65 mA (part of the 400 or 700 mA auxiliary power pool).

3. **Interface Wiring:** Terminal 1: Loop (+)
   Terminal 2: Loop (-)

4. **Wiring Run Permitted to No. 4208 Zone Expander:**

WIRE GAUGE	MAX WIRE RUN
22 (0.64 mm O.D.)	650 ft (200 m)
20 (0.81 mm O.D.)	950 ft (290 m)
18 (1.0 mm O.D.)	1500 ft (460 m)
16 (1.3 mm O.D.)	2400 ft (730 m)

4208 ZONE EXPANDER

1. **Physical:** 3.9" (9.8 cm) W, 7" (17.8 cm) H, 1.4" (3.5 m) D

2. **Electrical:** Voltage Input: 8-11 Volts (w/1 KHz Modulation)
   Current Drain: 16 mA

4190WH DUAL POINT RPM

1. **Physical:** 2-1/8" (5.3 cm) W, 3-1/4" (8.1 cm) H, 1" (2.5 cm) D

2. **Electrical:** Voltage Input: 8-11 volts at 5 mA
   Current Drain: 2 mA (High current)
   1 mA (Low current)

4194WH REED SWITCH SENSOR/RPM

1. **Physical:** 4-1/4" (10.8 cm) L, 5/8" (1.6 cm) W, 3/4" (1.8 cm) H

2. **Electrical:** Voltage Input: 8-11 volts at 5 mA
   Programming: DIP switch

3. **Usage:** Gap: 3/8" min. (1 cm), 1" max. (2.5 cm)

4139WH REED SWITCH SENSOR/RPM

1. **Physical:** 2-1/2" (6.4 cm) L, 1/2" (1.3 cm) W, 9/16" (1.4 cm) H

2. **Electrical:** Voltage Input: 8-11 volts at 5 mA
   Current Drain: 0.5 mA
   Programming: Separate No. 4201 Programmer needed.

3. **Usage:** Gap: 7/8" max. (2.2 cm)

APPENDIX A.

WIRING INSTRUCTIONS for No. 4131 REMOTE KEYPAD

The No. 4131 is an optional, economical, remote keypad that can be used with No. 4140 VISTA AT security systems for arming, disarming, etc., from a remote indoor location within the protected premises. This unit is a compact 12-button keypad with two system status indicators (LEDs) and a built-in piezoelectric sounder that provides warning and alarm sounds.

WIRING CONNECTIONS

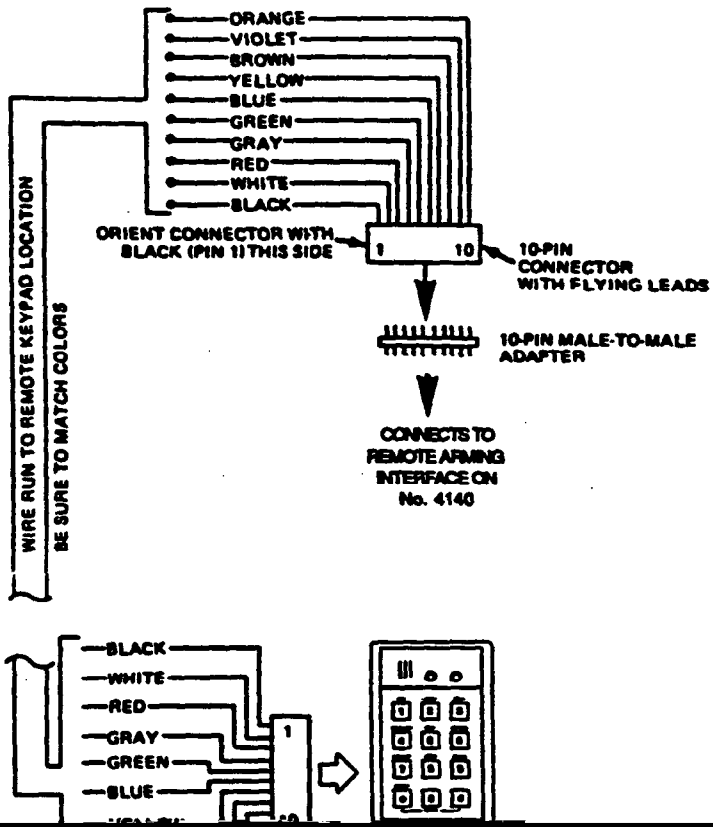
Two 10-pin connectors are required for keypad interfacing to the No. 4140 control (see the Diagram below). These connectors are supplied with the control and are equipped with color-coded flying leads.

One of these 10-pin connectors is attached to the mating connector on the 4131 Keypad (the connector can only be inserted one way, and locks in place).

The other 10-pin connector is attached to the Remote Arming Interface on the control (see the Summary of Connections diagram in the main section of this manual) via a "straight" 10-pin male-to-male adapter.

Important: Be sure to attach the connector to the control with the BLACK lead (pin 1) to the left.

A 10-conductor cable is then required for the wire run from the Keypad location to the No. 4140. **Be sure to match colors when splicing cable wires to the connector wires.**



For keypad operation, refer

WARNING
THE LIMITATIONS OF THIS ALARM SYSTEM

While this system is an advanced design security system, it does not offer guaranteed protection against burglary, fire or other emergency. Any alarm system, whether commercial or residential, is subject to compromise or failure to warn for a number of reasons. For example:

- Intruders may gain access through unprotected openings or have the technical sophistication to bypass an alarm sensor or disconnect an alarm warning device.
- Intrusion detectors (e.g., passive infrared detectors), smoke detectors, and many other sensing devices will not work without power. Battery operated devices will not work without batteries, with dead batteries, or if the batteries are not put in properly. Devices powered soley by AC will not work if their AC power supply is cut off for any reason, however briefly.
- A user may not be able to reach a panic or emergency button quickly enough.
- While smoke detectors have played a key role in reducing residential fire deaths in the United States, they may not activate or provide early warning for a variety of reasons in as many as 35% of all fires, according to data published the Federal Emergency Management Agency. Some of the reasons smoke detectors used in conjunction with this system may not work are as follows. Smoke detectors may have been improperly installed and positioned. Smoke detectors may not sense fires that start where smoke cannot reach the detectors, such as in chimneys, in walls , or roofs, or on the other side of closed doors. Smoke detectors also may not sense a fire on another level of a residence or building. A second floor detector , for example, may not sense a first floor or basement fire. Moreover, smoke detectors have sensing limitations. No smoke detector can sense every kind of fire every time. In general, detectors may not always warn about fires caused by carelessness and safety hazards like smoking in bed, violent explosions, escaping gas, improper storage of flammable materials, overloaded electrical circuits, children playing with matches, or arson. Depending on the nature of the fire and/or the location of the smoke detectors, the detector, even if it operates as anticipated, may not provide sufficient warning to allow all occupants to escape in time to prevent injury or death.
- Passive Infrared Motion Detectors can only detect intrusion within the designed ranges as diagrammed in their installation manual. Passive Infrared Detectors do not provide volumetric area protection. They do create multiple beams of protection, and intrusion can only be detected in unobstructed areas covered by those beams. They cannot detect motion or intrusion that takes place behind walls, ceilings, floors, closed doors, glass partitions, glass doors, or windows. Mechanical tampering, masking, painting or spraying of any material on the mirrors, windows or any part of the optical system can reduce their detection ability. Passive Infrared Detectors sense changes in temperature; however, as the ambient temperature of the protected area approaches the temperature range of 90 to 105 degrees Fahrenheit, the detection performance can decrease.
- Alarm warning devices such as sirens, bells, or horns may not alert people or wake up sleepers who are located on the other side of a closed or partly open doors. If warning devices sound on a different level of the residence from the bedrooms, then they are less likely to waken or alert people inside the bedrooms. Even persons who are awake may not hear the warning if the alarm is muffled by noise from a stereo, radio, air conditioner or other appliances, or by passing traffic. Finally, alarm warning devices, however loud, may not warn hearing-impaired people or waken deep sleepers
- Telephone lines needed to transmit alarm signals from a premises to a central monitoring station may be out of service or temporarily out of service. Telephone lines are also subject to compromise by sophisticated intruders.
- Even if the system responds to the emergency as intended, however, occupants may have insufficient time to protect themselves from the emergency situation. In the case of a monitored alarm system, authorities may not respond appropriately.
- This equipment, like other electrical devices, is subject to component failure. Even though this equipment is designed to last as long as 10 years, the electronic components could fail at any time.

The most common cause of an alarm system not functioning when an intrusion or fire occurs is inadequate maintenance. This alarm system should be tested weekly to make sure all sensors are working properly.

Installing an alarm system may make one eligible for lower insurance rates, but an alarm system is not a substitute for insurance. Homeowners, property owners and renters should continue to act prudently in protecting themselves and continue to insure their lives and property.

We continue to develop new and improved protection devices. Users of alarm systems owe it to themselves and their loved ones to learn about these developments.

ADEMCO
LIMITED WARRANTY

Alarm Device Manufacturing Company, a Division of Pittway Corporation, and its divisions, subsidiaries and affiliates ("Seller"), 165 Eileen Way, Syosset, New York 11791, warrants its products to be in conformance with its own plans and specifications and to be free from defects in materials and workmanship under normal use and service for 18 months from the date stamp control on the product or, for products not having an Ademco date stamp, for 12 months from date of original purchase unless the installation instructions or catalog sets forth a shorter period, in which case the shorter period shall apply. Seller's obligation shall be limited to repairing or replacing, at its option, free of charge for materials or labor, any part which is proved not in compliance with Seller's specifications or proves defective in materials or workmanship under normal use and service. Seller shall have no obligation under this Limited Warranty or otherwise if the product is altered or improperly repaired or serviced by anyone other than Ademco factory service. For warranty service, return product transportation prepaid, to Ademco Factory Service, 165 Eileen Way, Syosset, New York 11791.

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. IN NO CASE SHALL SELLER BE LIABLE TO ANYONE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR BREACH OF THIS OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, OR UPON ANY OTHER BASIS OF LIABILITY WHATSOEVER, EVEN IF THE LOSS OR DAMAGE IS CAUSED BY THE SELLER'S OWN NEGLIGENCE OR FAULT.

Seller does not represent that its product may not be compromised or circumvented; that the product will prevent any personal injury or property loss by burglary, robbery, fire or otherwise; or that the product will in all cases provide adequate warning or protection. Buyer understands that a properly installed and maintained alarm may only reduce the risk of a burglary, robbery or fire without warning, but it is not insurance or a guarantee that such will not occur or that there will be no personal injury or property loss as a result. CONSEQUENTLY, SELLER SHALL HAVE NO LIABILITY FOR ANY PERSONAL INJURY, PROPERTY DAMAGE OR OTHER LOSS BASED ON A CLAIM THE PRODUCT FAILED TO GIVE WARNING. However, if Seller is held liable, whether directly or indirectly, for any loss or damage arising under this Limited Warranty or otherwise, regardless of cause or origin, Seller's maximum liability shall not in any case exceed the purchase price of the product, which shall be the complete and exclusive remedy against Seller.

This warranty replaces any previous warranties and is the only warranty made by Seller on this product. No increase or alteration, written or verbal, of the obligation of this Limited Warranty is authorized.

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