

Honeywell

ADEMCO VISTA-10P
ADEMCO VISTA-10PSIA
Security Systems

Installation and Setup Guide

RECOMMENDATIONS FOR PROPER PROTECTION

The Following Recommendations for the Location of Fire and Burglary Detection Devices Help Provide Proper Coverage for the Protected Premises.

Recommendations For Smoke And Heat Detectors

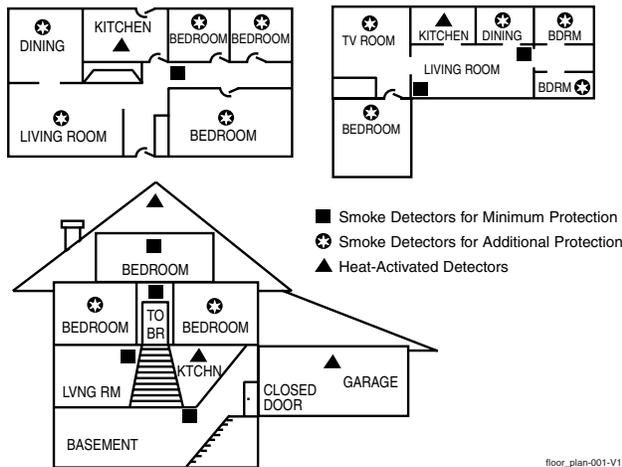
With regard to the number and placement of smoke/heat detectors, we subscribe to the recommendations contained in the National Fire Protection Association's (NFPA) Standard #72 noted below.

Early warning fire detection is best achieved by the installation of fire detection equipment in all rooms and areas of the household as follows: For minimum protection a smoke detector should be installed outside of each separate sleeping area, and on each additional floor of a multi-floor family living unit, including basements. *The installation of smoke detectors in kitchens, attics (finished or unfinished), or in garages is not normally recommended.*

For additional protection the NFPA recommends that you install heat or smoke detectors in the living room, dining room, bedroom(s), kitchen, hallway(s), attic, furnace room, utility and storage rooms, basements and attached garages.

In addition, we recommend the following:

- Install a smoke detector inside every bedroom where a smoker sleeps.
- Install a smoke detector inside every bedroom where someone sleeps with the door partly or completely closed. Smoke could be blocked by the closed door. Also, an alarm in the hallway outside may not wake up the sleeper if the door is closed.



- Install a smoke detector inside bedrooms where electrical appliances (such as portable heaters, air conditioners or humidifiers) are used.
- Install a smoke detector at both ends of a hallway if the hallway is more than 40 feet (12 meters) long.
- Install smoke detectors in any room where an alarm control is located, or in any room where alarm control connections to an AC source or phone lines are made. If detectors are not so located, a fire within the room could prevent the control from reporting a fire or an intrusion.

THIS CONTROL COMPLIES WITH NFPA REQUIREMENTS FOR TEMPORAL PULSE SOUNDING OF FIRE NOTIFICATION APPLIANCES.

Recommendations For Proper Intrusion Protection

For proper intrusion coverage, sensors should be located at every possible point of entry to a home or commercial premises. This would include any skylights that may be present, and the upper windows in a multi-level building.

In addition, we recommend that radio backup be used in a security system so that alarm signals can still be sent to the alarm monitoring station in the event that the telephone lines are out of order (alarm signals are normally sent over the phone lines, if connected to an alarm monitoring station).

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Features and Installation Highlights

SIA Installations: The VISTA-10PSIA is a certified SIA-compliant control that meets SIA specifications for False Alarm Reduction. The VISTA-10P is not certified as SIA compliant, but can be programmed for False Alarm Reduction. To program for False Alarm Reduction, follow the SIA Guidelines noted in the applicable programming fields.

Capabilities

- Up to 22 zones plus eight keyfob zones (zones 49-56) for total of 30 zones:
 - Six basic hardwired zones (zone 1-6)
 - Supports up to 16 wireless transmitter zones (5800 series; zones 9-24)
 - Supports one configurable zone type
- Up to 16 security codes, each with separate authority levels
- Downloading via Phone Line or Internet: By phone line via an IBM compatible computer, Compass downloading software, and a compatible HAYES or CIA modem specified by Honeywell. By Internet via an appropriate communications device (ex. 7845i-GSM) and Compass downloading software. This allows site maintenance independent of central station monitoring, and modification to sites globally via the Internet.

Functions

- Single-button arming feature: Can use dedicated keys to arm the system AWAY or STAY
- Up to two schedules (1 installer, 1 end-user), to control devices and/or auto-arm/disarm the system
- One keypad macro, which can simplify a long command string (e.g., bypassing zones before arming)
- Paging feature allows certain system conditions to be reported to one pager phone number; can use a dedicated key on keypads to send a signal to the pager
- Event Logging records up to 32 selected events in a history log; control and readout from the log is done via Ademco Compass Downloader software or installer/master code at Keypad
- Zone descriptors for all zones (useful only when using Alpha keypads and/or the 4286 Phone Module).
- Optional bell supervision detects external sounder wiring short (when in alarm) or open (when bell is off); causes a trouble condition, keypad display, and sends a report to the central monitoring station, if enabled.
- Optional RF jam detection for wireless systems detects a condition that may impede proper RF reception (i.e., jamming or other RF interference); causes keypad display, and sends a report to the central monitoring station (if trouble reporting is enabled).

Compatible Devices

- Up to eight Addressable Keypads: 6150 Fixed-Word Keypad, 6160 Alpha Keypad, 6150V Fixed-Word Display Voice Keypad, 6160V Alpha Display Voice Keypad, 6150RF Keypad/Transceiver
- Supports 5881 series receiver and 5800 series transmitters
- Up to four output relays (4204) plus two on-board triggers (does not support Powerline Carrier Devices)-- Up to 12 output functions.
- Ademco 4286 Phone Module; provides access to the system via on premises or off-premises phones for arming, disarming, etc., plus control of relay outputs.
- Audio Alarm Verification (using AAV module such as Honeywell AVS); can be used in conjunction with an output trigger to permit voice dialog between an operator at the central station and a person at the premises.
- Alarm output provides a 12VDC, 2 AMP output that can drive the compatible sounders; steady output for burglary/panic, or temporal pulse (3 pulses – pause – 3 pulses – pause – 3 pulses. . .) for fire. Uses current limiting circuitry for protection.
- Auxiliary Power Output: 12VDC, 600 mA maximum (uses circuit protection).
- Backup Battery: Rechargeable (sealed lead-acid type) 12VDC, 4AH minimum.
- Communication Device (Long Range Radio): Primary telephone number messages can be reported via ECP connection to various communication devices. Check compatibility and availability of specific models.
- AC Power Supply: Plug-in 120VAC transformer, ADEMCO 1321 (1321CN in Canada)

NOTE: All devices and accessories used in a Canadian installation must be Listed for use in Canada.

Important Installation Highlights (Installer Please Read)

- This system uses addressable keypads and Relay Modules (see table of addresses in ***Programming Overview*** section).
- Keypads must be set for addresses 16-23 (first keypad is address 16, which is different from previous controls) and programmed in data fields *190-*196.
- 4204 Relay Modules must be set for specific address 12 (see ***Connecting Relay Modules*** section).
- Relays have two programming menu modes: Use *79 Menu mode to map module addresses and device (output) numbers. Use *80 Menu mode to define the output functions (see ***Output Device Programming*** section).
- This system supports programmable function keys. Use *57 Menu mode to define the function keys (see ***Function Key Programming*** section).
- This system provides various paging features. Refer to the ***Programming Overview*** section for a summary on pager programming.

Mounting and Wiring the Control

Cabinet and Lock

1. Remove the cabinet door. Remove the cabinet knockouts needed for wiring entry.
2. Mount the control cabinet to a sturdy wall in a clean, dry area, which is not readily accessible to the general public, using fasteners or anchors (not supplied) with the four cabinet mounting holes.
3. When installation and wiring is completed, install the cabinet door and secure by using 2 screws (supplied) through the door's edge.

NOTES

OPTIONAL KEY LOCK: If desired, a key lock can be installed (K4445, not supplied). Remove the lock knockout from the door. Insert the key into the lock. Position the lock in the hole, making certain that the latch will make contact with the latch bracket when the door is closed. When correctly positioned, push the lock until the snap tabs hold it securely.

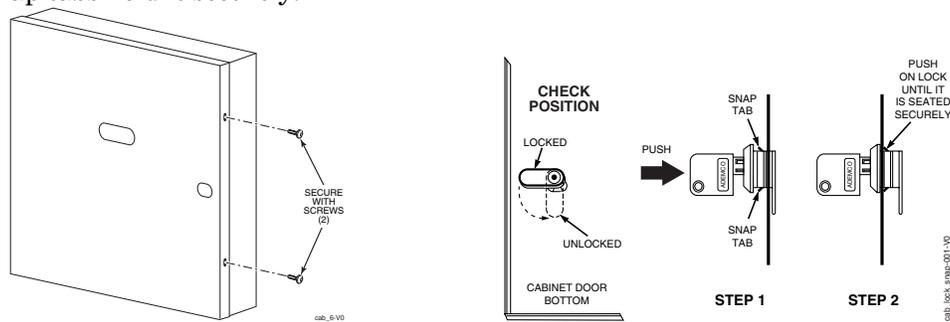


Figure 1. Installing the Door and Cabinet Lock

Mounting the PC Board Alone (no RF Receiver)

1. Hang two short mounting clips (provided) on the raised cabinet tabs (see Detail B in Fig. 2).
2. a. Insert the top of the circuit board into the slots at the top of the cabinet. Make sure that the board rests on the correct row (see Detail A).
- b. Swing the base of the board into the mounting clips and secure the board to the cabinet with the accompanying screws (see Detail B).

NOTES

- Before installing the cabinet's contents, remove the metal cabinet knockouts required for wiring entry. Do not remove the knockouts after the circuit board has been installed.

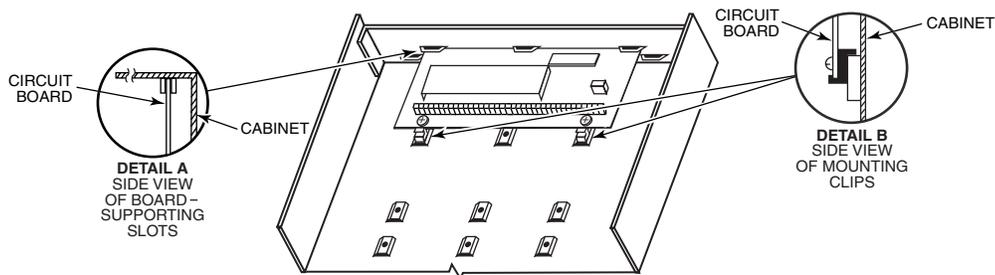


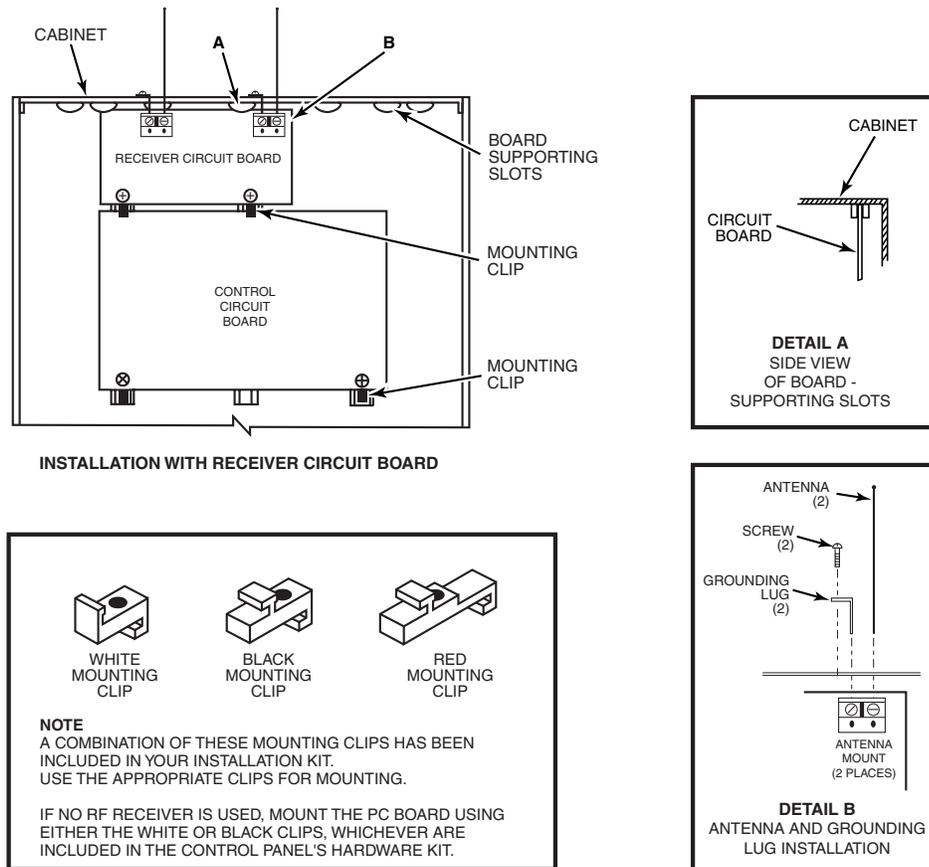
Figure 2. Mounting the PC Board

Mounting Board with RF Receiver

1. a. Remove the receiver board from its case, then insert the top of the board into the slots at the top of the cabinet, as shown in Detail A in Figure 3. Make sure that the board rests on the correct row of tabs.
 - b. Swing the base of the board into the mounting clips and secure it to the cabinet with the accompanying screws.
 - c. Insert the top of the control's board into the slot in the clips and position two clips at the lower edge of the board.
 - d. Swing this board into place and secure it with two additional screws.
2. Insert grounding lugs (supplied with the receiver) through the top of the cabinet into the left-hand terminals of the antenna blocks (at the upper edge of the receiver board) and secure them to the cabinet top with the screws provided, as shown in Detail B.
3. Insert the receiver's antennas through the top of the cabinet, into the blocks' right-hand terminals, and tighten the screws.

NOTES

- Do not mount the cabinet on or near metal objects. This will decrease RF range and/or block RF transmissions from wireless transmitters.
- Do not locate the cabinet in an area of high RF interference (revealed by frequent or prolonged lighting of the LED in the receiver after it is operational (random flicker is OK))



pc_mount-001-V1

Figure 3. Mounting the PC Board and RF Receiver

Wiring to Keypads

1. Connect keypads to the keypad terminals as shown on the Summary of Connections diagram. Determine wire size using the Wire Run Chart below.
2. Set keypad addresses. Refer to the address setting instructions included with the keypads and set each keypad device address according to the Keypad Addresses table below.
3. Program the keypad addresses and sound options in data fields *190-*196.
IMPORTANT: Each keypad must be assigned a unique address, **starting at address 16**. Keypads programmed with the same address will give unpredictable results.

Supplementary Power (optional)

1. Connect as shown. Be sure to connect the negative (-) terminal on the power supply unit to terminal 4 (AUX -) on the control.

NOTES

- Typical Fixed-Word Display: 6150
- Typical Alpha Display: 6160
- Voice Keypads: 6150V, 6160V
- The system supports up to 8 keypads (see program fields *190-*196).
- For single 4-wire runs, determine the current drawn by all units, then refer to the Wiring Run chart to determine the maximum length that can be safely used for each wire size.
- Use supplementary power if the control's aux. power load for all devices exceeds 600mA. Suggested power supply: AD12612

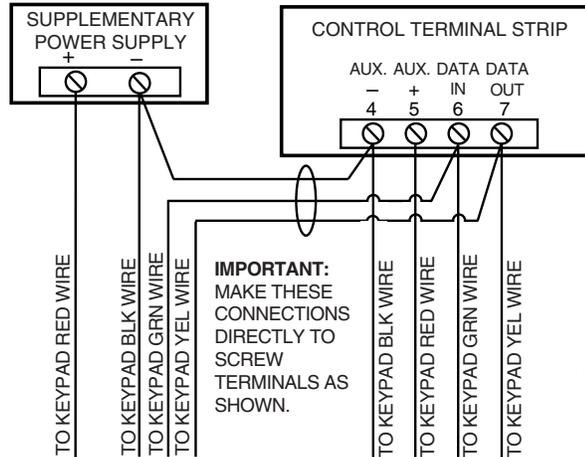


Figure 4. Using a Supplementary Power Supply

Keypad Addresses

Keypad	Address	Keypad	Address
no. 1	16**	no. 5	20
no. 2	17	no. 6	21
no. 3	18	no. 7	22
no. 4	19	no. 8	23

** The **first keypad is address 16**, which is always enabled and set with all sounds on.

UL Use a UL Listed, battery-backed supply for UL installations. The battery supplies power to these keypads in case of AC power loss. The battery-backed power supply should have enough power to supply the keypads with the UL required minimum standby power time.



Keypads powered from supplies that do not have a backup battery will not function if AC power is lost. Make sure to power at least one keypad from the control's auxiliary power output.

Wire Run Chart For Devices* Drawing Aux Power From The Control (12V+ & 12V-)					
Wire Size	TOTAL CURRENT DRAWN BY ALL DEVICES CONNECTED TO A SINGLE WIRE RUN				
	50 mA or less	100 mA	300 mA	500 mA	600 mA
#22	900 ft (274m)	450 ft (137m)	150 ft (46m)	90 ft (27m)	75 ft (23m)
#20	1400 ft (427m)	700 ft (213m)	240 ft (73m)	140 ft (43m)	120 ft (37m)
#18	1500 ft (457m)	1100 ft (335m)	350 ft (107m)	220 ft (67m)	170 ft (52m)
#16	1500 ft (457m)	1500 ft (457m)	550 ft (168m)	350 ft (107m)	270 ft (82m)

* Includes Keypads, RF Receivers, Zone Expander/Relay Units, 4286 Phone Module, and LRR.

Maximum wire lengths for any device that is homerun to the control can also be determined from the Wiring Run Chart, based on the current draw of that device alone.

The length of all wire runs combined must not exceed 1500 feet (457m) when unshielded quad conductor cable is used (750 feet if shielded cable is used). This restriction is due to the capacitive effect on the data lines when quad cable is used.

Sounder (Bell) Connections

Make sounder connections to alarm output terminals 3 (+) and 4 (-).

Supervised Output

1. Connect the supplied 820 ohm Bell Supervision EOL resistor across the terminals of the last sounder. See Figure 5.

NOTE: The value of the Bell Supervision EOL Resistor is 820 ohms. This resistor is required **ONLY** if Bell Supervision is enabled.

2. Set field *91 Option Selection for Bell Supervision (option 1).

This control complies with NFPA requirements for temporal pulse sounding of fire notification appliances. Temporal pulse sounding for a fire alarm consists of:
3 pulses – pause – 3 pulses – pause – 3 pulses–etc..

NOTES

- The 12VDC sounder output activates when an alarm occurs.
- Total current drawn from this output cannot exceed 2 amps (going beyond 2 amps will overload the power supply, or may cause the electronic circuit protecting the sounder output to trip).
- You must install a battery, since the battery supplies this current.

UL

- Use only UL Listed sounding devices for UL installations.
- Bell supervision is required for fire alarm installations.
- The total current drawn from the alarm output and the auxiliary power output, combined, cannot exceed 600 mA. In addition, the sounding device must be a UL Listed audible signal appliance rated to operate in a 10.2-13.8 VDC voltage range, and must be mounted indoors.

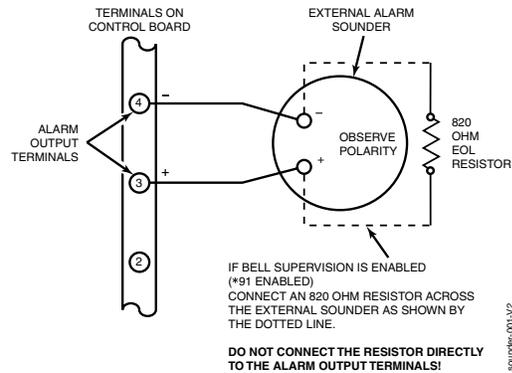


Figure 5. Sounder Wiring (Supervised)

Wiring the AC Transformer

Connect the 1321 Transformer to terminals 1 and 2 on the control board. See Wire Run Chart for wire size to use. (Use 1321CN in Canada.)

Wire Run Chart

Distance from control	Wire Size
Up to 50 feet	# 20
50–100 feet	# 18
100-250 feet	# 16

NOTES

- Use caution when wiring the transformer to the control to guard against blowing the transformer fuse (the fuse is non-replaceable).
- Wiring to the AC transformer must not exceed 250 feet using 16 gauge wire. The voltage reading between terminals 1 and 2 of the control must not fall below 16.5VAC or an “AC LOSS” message will be displayed.
- Do not plug the transformer into the AC outlet while making any wiring connections to the control. As a safety precaution, always power down the control when making such connections.

Backup Battery

1. Place the 12-volt backup battery in the cabinet.
2. After all connections to the control are completed and AC power has been applied, connect the red and black flying leads on the control board to the battery. Do not attach these leads to the battery terminals until all connections are completed.

IMPORTANT: The panel will not power up initially on battery power only. You must plug the transformer in first, and then connect the battery.

UL

For UL installations and Residential fire installations, refer to the chart below for the correct battery size required to meet the mandatory standby time.

**CALIFORNIA STATE FIRE MARSHALL (CSFM) AND UL RESIDENTIAL FIRE
24-HOUR BATTERY BACKUP REQUIREMENTS**

The California State Fire Marshal and UL have regulations which require that all residential fire alarm control panels must be provided with a backup battery which has sufficient capacity to operate the panel and its attached peripheral devices for 24 hours in the intended standby condition, followed by at least 4 minutes in the intended fire alarm signaling condition. This control panel can meet these requirements without using a supplementary power supply, provided that the panel's auxiliary power and bell output currents are limited as indicated below.

OUTPUT LIMITATIONS TO MEET CSFM 24 HOUR BATTERY BACKUP REQUIREMENTS AND UL RESIDENTIAL FIRE INSTALLATIONS			
OUTPUT CURRENT LIMITATIONS		BATTERY INFORMATION	
Output Current Total	Maximum Auxiliary Current	Battery Capacity To Use (Amp/Hrs)	Recommended Battery (Yuasa Model No.)
600mA maximum total of auxiliary power plus bell output currents	45mA	4AH	NP4-12 (or ADEMCO 467)
	160mA	7AH	NP7-12
	200mA	8AH	NP4-12 (two) ‡
	425mA	14AH	NP7-12 (two) ‡
	500mA	17.2AH	NPG18-12

‡ **NOTE:** Use two batteries, connected in parallel. Obtain an Ademco Battery Harness Kit SA5140-1. (Both batteries will fit inside the panel's cabinet.)

Earth Ground

Metal Cold Water Pipe:

Use a non-corrosive metal strap (copper is recommended) firmly secured to the pipe to which the ground lead is electrically connected and secured.

AC Power Outlet Ground:

Available from 3-prong, 120VAC power outlets only. To test the integrity of the ground terminal, use a 3-wire circuit tester with neon lamp indicators, such as the UL Listed Ideal Model 61-035, or equivalent, available at most electrical supply stores.

- This product has been designed and laboratory-tested to ensure its resistance to damage from generally expected levels of lightning and electrical discharge, and does not normally require an earth ground.
- If an earth ground is desired for additional protection in areas of severe electrical activity, terminal 25 on the control board, or the cabinet, may be used as the ground connection point. The examples of good earth grounds listed at the left are available at most installations.

AUXILIARY DEVICE CURRENT DRAW WORKSHEET

* If using hardwire devices such as PIRs, refer to the specifications for that particular unit's current draw.

‡ Figures are for relays OFF/relays ON.

DEVICE	CURRENT	UNITS	TOTAL CURRENT
6150 Fixed-Word Keypad	30mA		
6160 Alpha Keypad	100mA		
6150V Fixed-Word Display Voice Keypad	60mA		
6160V Alpha Display Voice Keypad	60mA		
5881/5882 RF Receiver	35mA		
5883 Transceiver	80mA		
4204 Relay Unit	15/180mA‡		
4286 Phone Module	300mA		
*			
*			
*			

(Current available from Aux. terminals = 600 mA max.)† **TOTAL =**

†In UL installations, maximum current draw from the Auxiliary Output and the Alarm Output **combined** must not exceed 600 mA (500 mA max from Auxiliary Output).

Hardwire Zones

Normally Open Zones/ Normally Open EOLR Zones

1. Connect open circuit devices in parallel across the loop; for EOLR zones, connect the EOLR across the loop wires at the last device.
2. Enable normally open/EOLR zones using Zone Programming mode, “Hardwire Type” prompt.

Normally Closed Zones/Normally Closed EOLR Zones

1. Connect closed circuit devices in series in the high (+) side of the loop; for EOLR zones, connect the EOLR in series following the last device.
2. Enable normally closed/EOLR zones using Zone Programming mode, “Hardwire Type” prompt.

NOTES

- **EOLR:** If the EOLR is not at the end of the loop, the zone is not properly supervised and the system may not respond to an “open” on the zone.

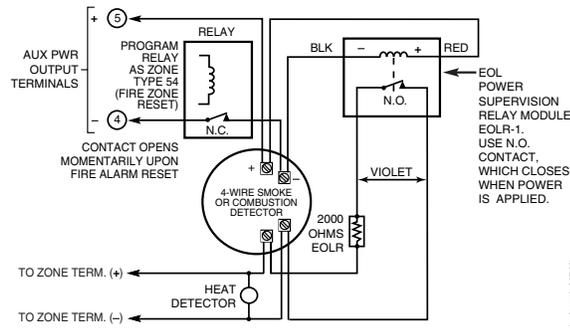
UL For UL commercial burglar alarm installations, use EOLR zones.

Smoke Detectors

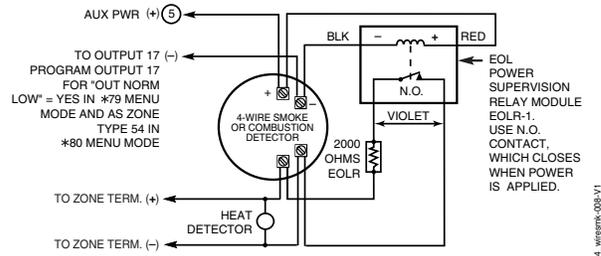
4-Wire Smoke Detectors

Connect 4-wire smoke detectors (up to 16, depending on detector current draw) to any zone as shown below. This control does not automatically reset power to 4-wire smoke detector zones, so you must use a relay (e.g., 4204), or on-board trigger to reset power (also required for fire verification). Do this by programming the designated relay/trigger as zone type 54 (fire zone reset); see On-Board Trigger section for other information.

Figure 7. 4-Wire Smoke Detector Connections



4-Wire Smoke Detector Using Relay for Power Reset



4-Wire Smoke Detector Using Output 17 for Power Reset

NOTES

- **Fire Verification (zone type 16):** The control panel will “verify” a fire alarm by resetting the smoke detectors after the first alarm trigger, and then waiting up to 90 seconds for a second alarm trigger. If the smoke detector or thermostat does not trigger again, the control will disregard the first trigger, and no alarm signal will occur. This feature eliminates false alarms due to electrical or physical transients.

SIA Installations: If using fire verification on zones other than zone 1, UL Fire Alarm Listed relay accessories must be used to reset power as described above.

- **Power Reset:** Maximum current on trigger 17 is 100mA.

Installing the RF Receiver

You can use any ADEMCO 5800 Series Wireless Receivers, including:

RF Receiver	No. of Zones
5881L/5882L	up to 8
5881M/5882M	up to 16 (transmitter zone numbers = 9-24; button zone numbers = 49-56)
5883, 6150RF	up to 16 (transmitter zone numbers = 9-24; button zone numbers = 49-56)

1. Set Device Address to "00" as described in its instructions (set all switches to the right, "off" position).
2. Mount the receiver, noting that the RF receiver can detect signals from transmitters within a nominal range of 200 feet.
3. Connect the receiver's wire harness to the control's keypad terminals. Plug the connector at the other end of the harness into the receiver. Refer to the installation instructions provided with the receiver for further installation procedures regarding antenna mounting, etc.

NOTES

- The receiver is supervised and a trouble report is sent ("CHECK 100" displayed) if communication between the panel and receiver is interrupted, or if no valid RF signals from at least one supervised transmitter are received within 12 hours.

If the receiver is mounted remotely:

- Place the RF receiver in a high, centrally located area for best reception.
- Do not locate the receiver or transmitters on or near metal objects. This will decrease range and/or block transmissions.
- Do not locate the RF receiver in an area of high RF interference (indicated by frequent or prolonged lighting of the LED in the receiver; random flicker is OK).
- Do not locate RF receiver closer than 10 feet from any keypads to avoid interference from the microprocessors in those units.

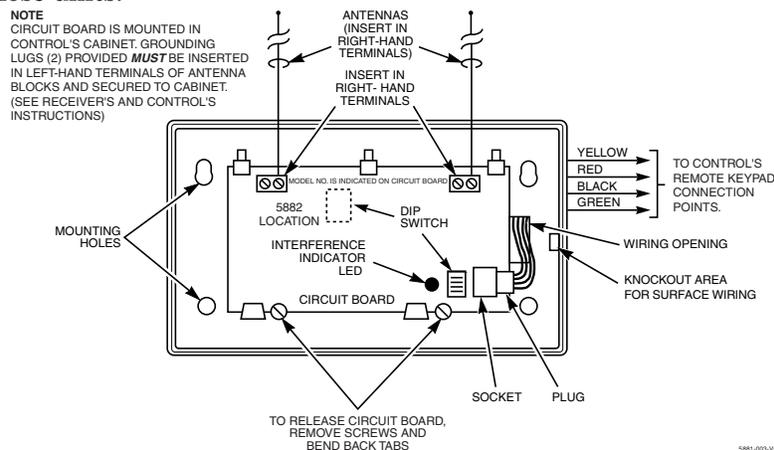


Figure 9. 5881/5882 RF Receiver (cover removed)

Installing a 5800TM Module

1. Mount the 5800TM next to the RF receiver (between one and two feet from the receiver's antennas) using its accompanying mounting bracket. Do not install within the control cabinet.
2. Connect the 5800TM to the control panel's keypad connection terminals as shown on the Summary of Connections diagram and set to address 28.

NOTES

- Use this module only if you are using one or more wireless bi-directional keypads or keyfobs with a wireless Receiver; 5800TM is not necessary if using a Transceiver (e.g., 5883).
- The 5800TM must be set to address 28 (cut red-W1 jumper).
- For additional information regarding the 5800TM, refer to the 5800TM's instructions.

Installing the Transmitters

1. To be sure reception of the transmitter's signal at the proposed mounting location is adequate, perform a Go/No Go Test, described in the **Testing the System** section.
2. Install transmitters in accordance with the instructions provided with each.
3. Set 5827, 5827BD, 5804BD wireless keypads to the programmed House ID (field *24), using its DIP switches (5827) or follow the instructions provided with the device.

ULC NOTE: In accordance with ULC standards, the RF supervision period for the VISTA-10P is three hours for Fire zones (Zone Type 9 and 16) and 12 hours for all other zone types.

NOTES

- Refer to the table of compatible devices at the back of this manual.
- Supervised transmitters[†] send check-in signals to the receiver at 70-90 minute intervals. If at least one check-in message is not received from each transmitter within a 12-hour period, the “missing” transmitter number(s) and “CHECK” is displayed.
- † Hand-held transmitters (e.g., 5802, 5802CP, 5804, 5804BD, 5827, 5827BD) do not send check-in signals.

UL The following transmitters are not intended for use in UL installations: 5802MN, 5802MN2, 5804, 5804BD, 5814, 5816TEMP, 5819, 5819WHS & BRS, and 5850.
The 5827BD and 5800TM can be used in UL Listed Residential Burglar installations.

Transmitter Battery Life

- See Wireless Transmitter paragraph in the *Limitations of This Alarm System* statement located at the end of this manual for information on transmitter battery life.
- Some transmitters (e.g., 5802 and 5802CP) contain long-life but non-replaceable batteries, and no battery installation is required. At the end of their life, the complete unit must be replaced (and a new serial number enrolled by the control).
- Button-type transmitters (such as 5801, 5802, and 5802CP) should be periodically tested for battery life.
- The 5802MN and 5804 Button Transmitters have replaceable batteries.

Do not install batteries in wireless transmitters until you are ready to enroll during system programming. After enrolling, batteries need not be removed.

Installing a Keyswitch

1. Connect the 4146 keyswitch's normally open momentary switch to a zone's terminals. Remove the 2000 ohm EOL resistor if connected across the selected zone.
2. Using a standard 4-wire keypad cable (N4632-4) as shown:
Connect the yellow and white keyswitch wires to trigger connector pin 3 (+12V).
Connect the Red and Green LED wires to the appropriate output 17/output 18 trigger connector pins.
3. Connect a 2000 ohm EOL resistor across the momentary switch.
4. You can wire an optional closed-circuit tamper switch (model 112) in series with the zone. If the switchplate is then removed from the wall, the tamper will open, disabling keyswitch operation until the system is next disarmed from the keypad.
If the tamper is opened when the system is armed, an alarm will occur.

NOTES

- Use 4146 keyswitch or any N.O. keyswitch.
- When using a keyswitch, the zone it is connected to is no longer available for use as a protective zone.
- Use *56 Menu mode to program the keyswitch zone and assign it zone type 77.
- Use *80 Menu mode to program the LED functions: program outputs 17 and 18 for system operation zone type 78 (red LED) and 79 (green LED) as appropriate (see **Output Device Programming** section).

UL A UL Listed keyswitch is required for fire installations and UL commercial and residential burglar alarm installations.

If a keyswitch is used on:

- an installation that transmits opening and closing signals, the keyswitch zone must be programmed to send opening and closing signals.
- a UL commercial burglar alarm installation, the keyswitch's tamper switch must be connected in to the alarm system. This tamper switch zone must also be programmed for Zone Type 05 – Trouble by Day / Alarm by Night.
- a fire alarm installation, the keyswitch must be located next to an alphanumeric display keypad.

The Ademco 4146 keyswitch is UL Listed.

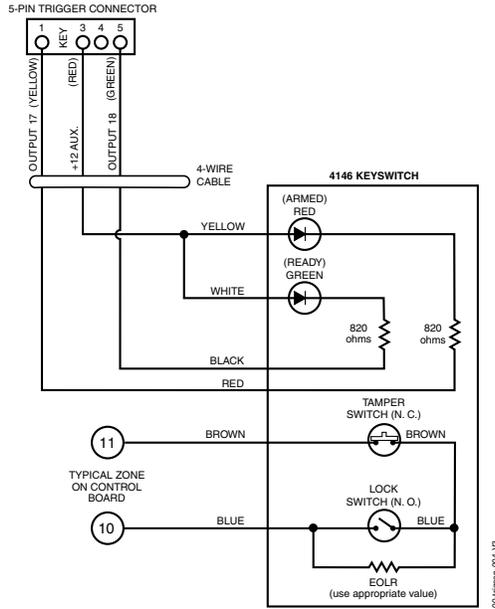


Figure 10. Keyswitch Wiring Connections

Connecting Relay Modules

1. Mount either remotely or in the control panel.
2. Connect to control's keypad terminals using the connector harness supplied with the module. Use standard 4-conductor twisted cable for long wiring runs.
3. Set the module's device address to address 12.
4. Connect the desired field wiring to the unit's relay contact terminals.

NOTES

- Use 4204 module.
- Supervision: 4204 module is supervised against removal. The module's device address is displayed as follows if a module is disconnected from the control's terminals, or if the module cover is removed and the tamper jumper is installed:
 Alpha: CHECK xx Wire Expansion
 FAULT xx Wire Expansion
 ALARM xx Wire Expansion
 Fixed-Glass: lxx (or 91 if field *199 set for 2-digit display); where "xx" is the module's address.
- If communication/tamper failure occurs on a device with zones wired to it, all zones on the device will be displayed.

UL For UL installation requirements, refer to the Installation Instructions for the 4204.

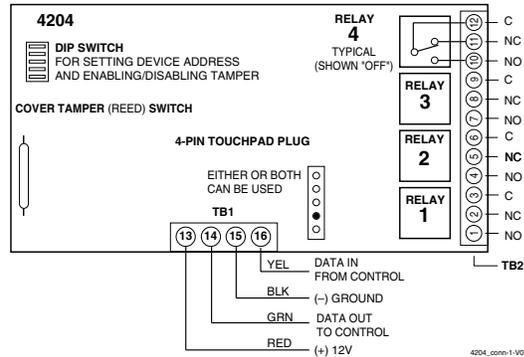


Figure 11. 4204 Connections to Control

On-Board Triggers

Connect field wiring to the desired trigger pin on the 8-pin trigger connector centrally located above the terminal strip.

You can use a 4-wire cable as shown (N4632-4, not supplied).

UL If on-board triggers are used, the wiring between the control unit and the UL Listed device must be run in conduit, be no more than 3 feet apart and have no intervening barriers or walls.

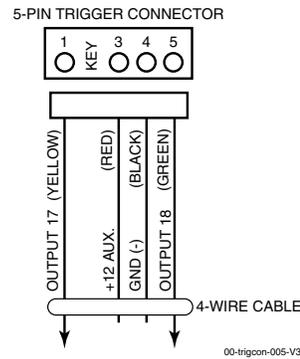


Figure 12.
On-Board Trigger Connector with 4-Wire Cable

NOTES

- There are two on-board triggers that can be used to activate output devices.
 - These outputs are normally high, and go low upon programmed condition.
 - Outputs can be programmed for inverted operation (normally low, go high) using *79 Menu mode.
 - Program these triggers using *80/*81 Menu modes as you would for any other relay output.
 - When using these outputs, note:
 - pin 1 = output number 17 (trigger 1):
 - 15 ohms to ground when closed (output low), open when off (output high, normal default); can be used to reset smoke detector power (must set “output normal low = yes” in *79 Menu mode, and set for zone type 54, fire zone reset, in *80 Menu mode); or can support 12V relay module[†] that draws less than 100mA
 - pin 5 = output number 18 (trigger 2):
 - 100 ohms to ground when closed (output low); open when off (output high, normal default); or can support 12V relay module that draws less than 20mA
- [†] e.g., Altronix AX-RBS

Phone Line/Phone Module Connections

1. Connect incoming phone line and handset wiring to the main terminal block (via an RJ31X jack) as shown in the Summary of Connections diagram at the back of this manual. Wire colors represent the colors of the cable to the RJ31X jack.
- If using a phone module, continue with the following steps.
2. Make 12V (+) and (-) and data in and data out connections from the phone module to the control, using the connector cable supplied with the phone module, then insert the keyed connector at the other end of the connector cable into the header on the phone module.
 3. Connect Phone Module terminals as shown below. Use an RJ31X jack with a direct-connect cord and make all connections exactly as shown.
 4. Caller ID Units: If a Caller ID unit is being used, connect the unit directly to the “Handset” terminals (21 & 22) on the control, as shown.

NOTES

- Use 4286 Phone Modules.
 - Compatibility: 4286 Phone Modules must have software version WA4286-15.1 or higher (refer to the label on the square 4286 microprocessor chip).
- Only one phone module can be used.
- The phone lines must be in service for the phone module to function, even when accessing the system from an on-premises phone.
- If you are also using an Audio Alarm Verification (AAV) unit, refer to *Audio Alarm Verification (AAV)* section for special wiring connections.

CAUTION: To reduce the risk of fire, use only No. 26 AWG or larger telecommunication line cord for phone line connections.

UL The 4286 module is UL Listed only for use on residential fire and UL residential burglar alarm installations.

Phone Module Problems

If no touch tones are produced following access to the security system from on-premises (this problem may arise in rare cases), it may be necessary to reverse the wires connected to terminals 3 and 4 on the phone module and the wires connected to terminals (21) & (22) on the control. The wiring diagram shows the wiring connections that will provide proper operation in most cases.

Connection to the incoming telco line via a RJ31X jack and direct-connect cord, as shown, is essential, even if the system is not connected to a central station. Otherwise the 4286 will not function and an error signal (fast busy signal) will occur when accessing the system via the phone.

The house phone lines (gray and brown wires) must be wired to the phone module terminals; not to the control terminals. Otherwise, an error signal (fast busy signal) will occur when trying to access the system from an on-premises phone.

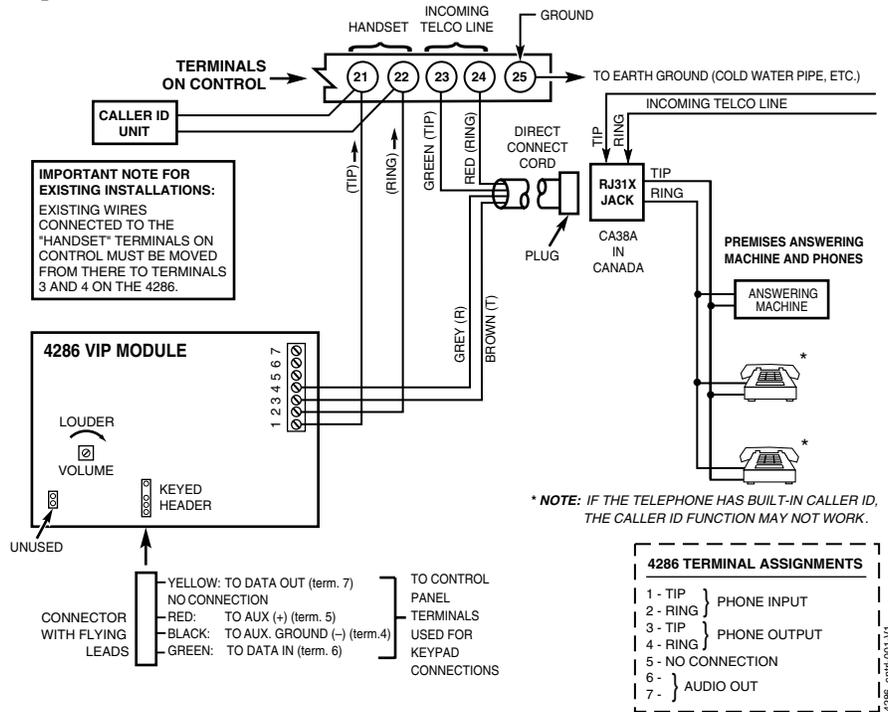


Figure 13. 4286 Phone Module Wiring Connections

Communication Device (Long Range Radio) Connections

Connect the data in/data out terminals and voltage input terminals of the communication device to the control's keypad connection points.

Set the device's address to "03" following the instructions provided with the device.

Use compatible communication devices (e.g., 7845GSM, 7845i-GSM, GSMV).

Audio Alarm Verification Connections (AAV, “listen-In”)

Using the UVS System with UVCM Module

Refer to the connection diagrams below. One diagram shows connections when a 4286 Phone Module is used, the other shows connections when the 4286 is not used.

Connections use one of the on-board triggers.

U UL installations using the AAV feature must use the ADEMCO UVCM module (part of the ADEMCO UVS system)

Suggested AAV Module: ADEMCO UVS (shown) or Eagle 1250

NOTES

- Set field *91 for AAV and program the appropriate output (output 17 or 18) using *80 Menu mode: select zone type 60 and output action 1 (close for 2 seconds) or action 2 (stay closed).
- For voice session monitoring, connect a zone to UVCM module terminals 6 & 7, and program the zone as zone type 81 (*56 Menu mode).

E.g., Using output 18 for the trigger, program an output function in *80 Menu mode as:

ZT = 60, Action = 1, Device = 18

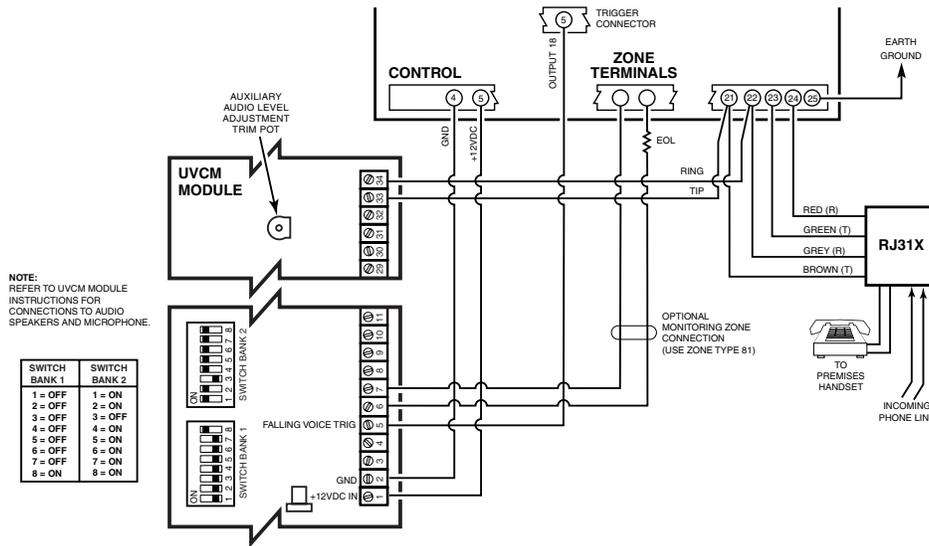


Figure 14. Connection of UVCM Unit When Not Using a 4286 Phone Module

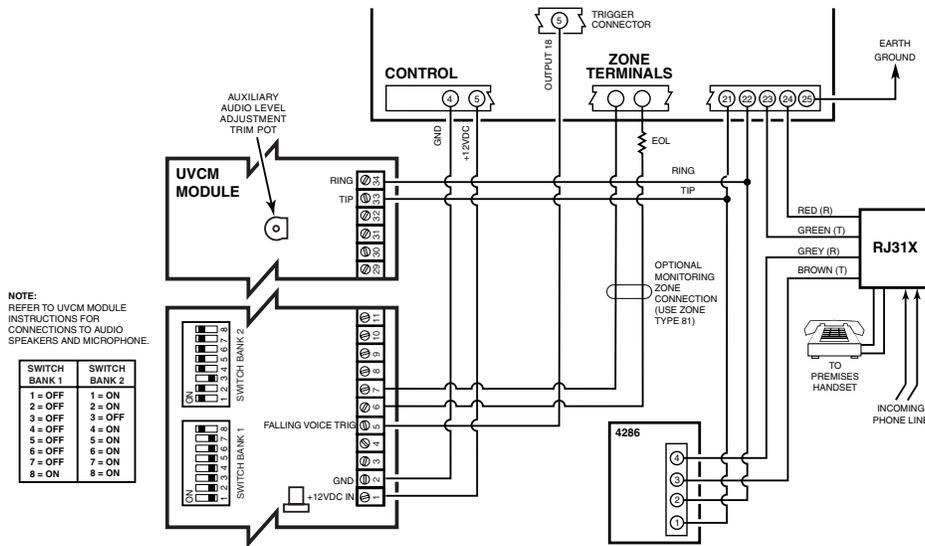


Figure 15. Connection of UVCM Unit When Using a 4286 Phone Module

Using the AVS System with AVS Module and AVST Remote Stations

The AVS system provides audio alarm verification via the phone line.

To use the AVS with this control, the AVS must be set for non-addressable mode by setting the module to address 31.

Refer to the instructions included with the AVS system for installation procedures.

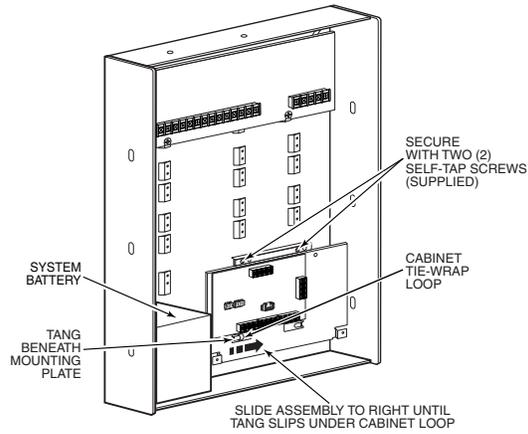
The following is a summary.

Mounting the AVS Base Unit

As shipped, the AVS Base unit board comes pre-mounted on its mounting bracket, which is designed to mount inside the control cabinet.

Refer to the diagram at right.

- Position the mounting plate/PC board assembly in the bottom of the control's cabinet.
- Slide the mounting plate to the right so that the plate's left-hand tang slides under the cabinet's tie-wrap loop.
- Secure the assembly to the cabinet using the two self-tapping screws provided.



BATTERY NOTE: When using a 7AH battery, mount the battery vertically on the bottom left-hand side of the cabinet, with the terminals facing down and right (negative terminal closest to the PC board bracket).

Programming the Control for AVS

- Enable the AVS operation by setting data field *91 for AAV operation.
- Use *80 Menu mode to program the connected AAV trigger output (output 17) and, if used, CO trigger output (output 18) as follows:

Output 17 for AAV trigger:

zone type (ZT) = 60 (AAV), action = 1 (close for 2 seconds), device = 17.

Output 18 for CO trigger (requires two output functions):

to activate: zone type (ZT) = 14 (CO), action = 2 (stay closed), device = 18.

to deactivate: zone type (ZT) = 22 (disarm, code + OFF), action = 0 (off), device = 18.

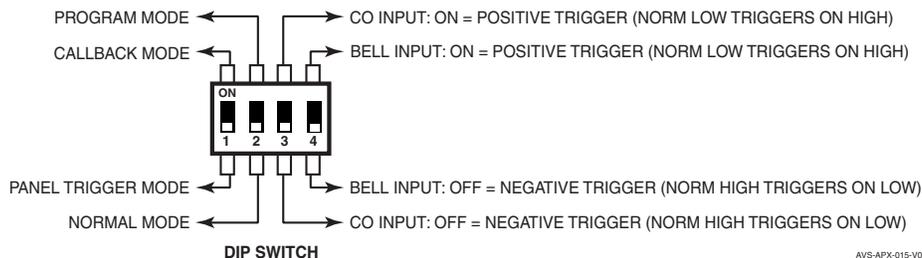
- Use *56 Menu mode to program the appropriate voice session monitoring zone as follows (zone 6 recommended): zone type = 81; hardwire type = 2 (NO, normally open)

Setting Base Unit DIP Switch Options

Use the 4-position DIP switch to select various installation options. The functions of the 4-position switches are described below. Switches in the up position are ON (ON is marked on the switch housing). Switches in the down position are OFF.

Use the 5-position DIP switch to set the module to non-addressable mode (all switches OFF).

Refer to the diagram below and set the 4-position DIP switch as required.



DIP SETTING NOTES:

Callback Mode: Central Station calls panel to initiate voice session.

Panel Trigger Mode: Voice session starts automatically following delivery of alarm report.

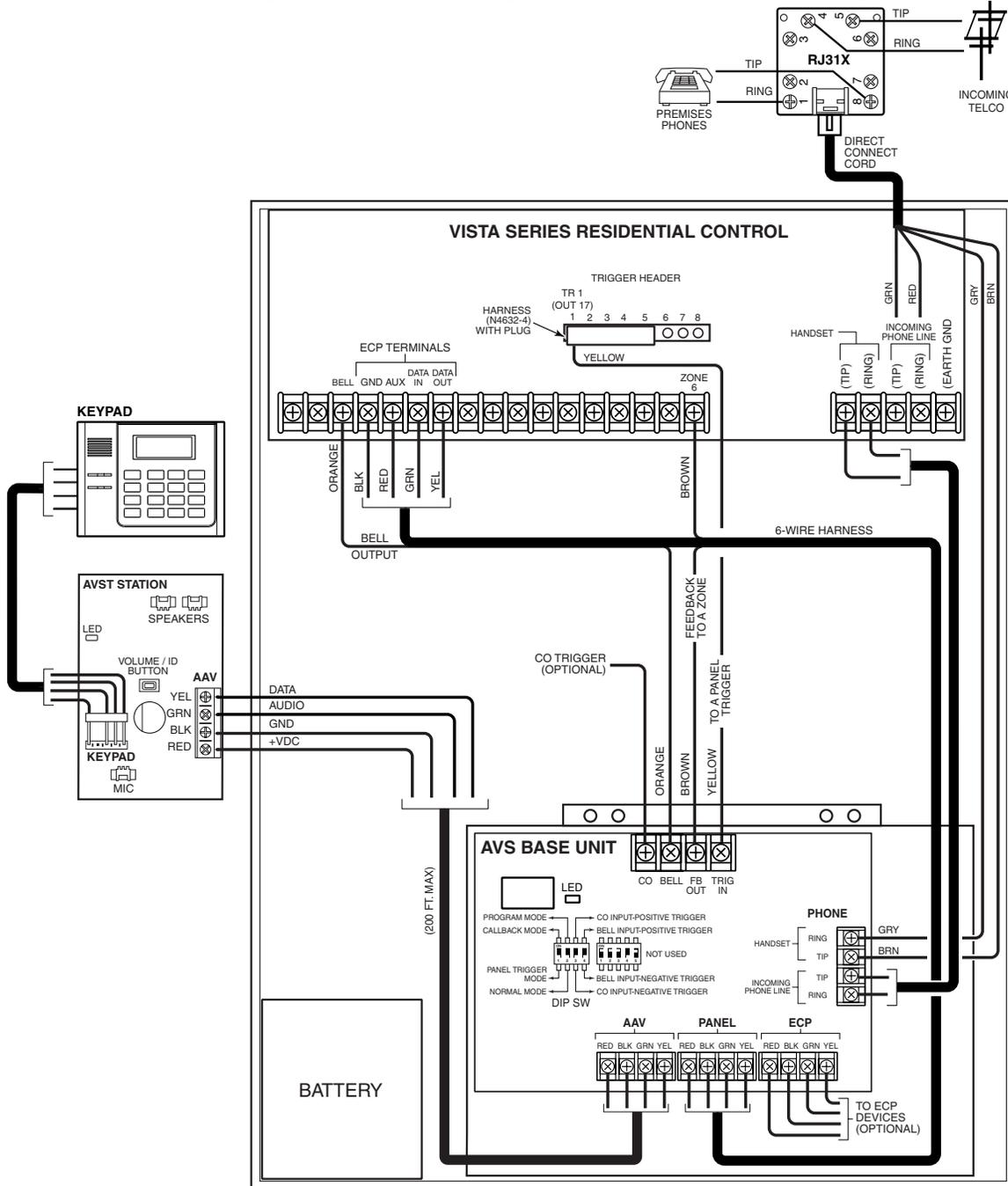
Program Mode: Set switch to ON to program the callback code.

Normal Mode: Set switch to OFF when programming of callback code is complete.

Trigger Inputs: Trigger Inputs: Positive trigger is normally low and triggers when signal goes high. Negative trigger is normally high and triggers when signal goes low.

Wiring the AVS to the Control

The AVS Base unit board has several terminal blocks for making connections to remote stations, telephone lines, and to the control panel. Refer to the diagram below and the instructions provided with the module.



AVS-012-V0

Figure 16. Connection of AVS Module

User Security Codes

The system supports up to 16 security codes, which can each be assigned one of 4 authority levels. The authority level determines the functions each code can perform as follows:

Authority Levels (authority levels can be assigned to users 3-16 only; users 1 and 2 cannot be changed)

Level	User No.	Functions
Installer	01	(default=4112) perform all security functions except can disarm only if used to arm; can enter program mode; can change System Master code; cannot assign any other user codes
System Master	02	(default 1234) only one system master code per system; can perform all security functions, add/delete users, change system master code, view event log, set system clock, program keypad macro, program scheduled events, activate output devices (triggers/relays)
0-User	03-16	perform security functions (arm, disarm, etc.) only; cannot add/delete users, view event log, set system clock or program scheduled events
1-Arm Only	see "user"	arm system only
2-Guest	see "user"	can disarm the system only if it was used to arm the system
3-Duress	see "user"	performs security functions, but also silently sends a duress message to the central station; reports as duress code user number.

Refer to the user guide for procedures on adding/deleting security codes and changing attributes. The following is a brief description of how to add user codes.

Changing the System Master code...

Using Installer code: Installer code + [8] + 02 + new code

Using current System Master code: System Master code + [8] + 02 + new code + new code again

Adding a User Code: Master code + [8] + 2-digit user no. + user's code

Deleting a User Code: Master code + [8] + 2-digit user no. + [#] [0]

Assigning Attributes: Master code + [8] + 2-digit user no. + [#] [attribute no.] + value

Attributes: Values

1 = Authority Level 0-3 (see Authority Level table above)

2 = Access Group 0-8 (0 = not assigned to a group)

3 = Not Used

4 = RF Zone No.; assigns user number to button type zone (keyfob) for arm/disarm.

(keyfob must be enrolled in system first; see *Wireless Key Templates* section)

5 = Open/Close Paging; 1 for yes, 0 for no

Summary Of Arming Modes

Arming Mode	Features for Each Arming Mode			
	Exit Delay	Entry Delay	Perimeter Armed	Interior Armed
AWAY	Yes	Yes	Yes	Yes
STAY	Yes	Yes	Yes	No
NIGHT-STAY	Yes	Yes	Yes	only those zones listed in Night-Stay zone list
INSTANT	Yes	No	Yes	No
MAXIMUM	Yes	No	Yes	Yes

Panic Keys

There are three Panic keys (A, B, and C) that, if programmed, can be used to manually initiate alarms and send a report to the central station by pressing and holding the appropriate key for at least 2 seconds. Each key can be programmed for 24-hour Silent, 24-hour Audible, Fire, or Personal Emergency responses.

Keys	Displayed as Zone
[A] (*/1)	95
[B] (*/#)	99
[C] (3/#)	96

IMPORTANT: For a Silent panic function (if programmed) to be of practical value, you must program a report code for the zone and the system must be connected to a central station.

Keypad Functions

The following is a brief list of system commands. For detailed information, see the User's Manual.

Voice Keypads (refer to the User Guide for specific procedures for activating and using these features)

The 6150V/6160V Voice Keypads provide the following features:

- Message Center, which lets the user record and playback one message.
- Voice Status, which can announce system status by using the STATUS key.
- Voice Chime, which can alert users to the opening of doors/windows while the system is disarmed.

Keypad Commands

Function	Description
Silence Burglary Alarms	Pressing any key will silence the keypad sounder for 10 seconds. Disarming the system (security code + OFF) silences both keypad and external sounders.
Silence Fire or Carbon Monoxide Alarms	Press the OFF [1] key to silence the keypad sounder and, for fire alarms, the external sounder. The detector sounding stops when the contaminated air is cleared from the detector; see the detector's instructions for further information.
Quick Arm	If enabled (field *21), you can press [#] in place of the system's security code, plus the desired arming key (Away, Stay, Instant, Maximum)
Single-Button arming	If programmed (*57 Function Key menu mode), lettered keys A-D can be used for arming, using options 3-AWAY, 4-STAY, 5-NIGHT-STAY, or 6-Step-Arming If used, no security code is required to arm the system.
Alarm Memory	When the system is disarmed, any zones that were in an alarm condition during the armed period will be displayed. To clear this display, simply repeat the disarm sequence (enter the security code and press the OFF key) again.
Arming Away	Enter code + AWAY [2] or simply press appropriate lettered key on the keypads (see "Single-Button Arming" above). If the "Auto-Stay Arm" feature is enabled (field *84) and the entry/exit door is not opened and closed within the programmed exit delay time, the system will automatically arm in STAY mode if armed from a wired keypad (non-RF device). If the door is opened and closed within the exit delay period, the system arms in AWAY mode.
Arming Stay	Enter code + STAY [3] or simply press appropriate key on the keypads (see "Single-Button Arming" above). See "Arming Away" above for Auto-Stay arming feature.
Arming Night-Stay	Enter code + STAY [3] + STAY [3] or simply press appropriate key on the keypads (see "Single-Button Arming" above).
Arming Instant	Enter code + INSTANT [7].
Arming Maximum	Enter code + MAXIMUM [4] or simply press appropriate lettered key on the keypads (see "Single-Button Arming" above).
Disarming	Enter code + OFF [1]. If entry delay or an alarm is active, you do not need to press OFF.
Bypassing Zones	Enter code + BYPASS [6] + zone number(s).
Forced (Quick) Bypass	To automatically bypass all faulted zones, use the "Quick Bypass" method. Enter code + BYPASS + [#], then wait for all open zones to be displayed. Arm when display indicates "ZONE BYPASSED" and "READY TO ARM".
Chime Mode	Enter code + CHIME [9]. To turn chime off, enter code + CHIME again.
Activate Output Devices	If relay outputs (via a 4204, or 4229) are used, two keypad entries available to the user are included. If programmed, these entries can be used to manually activate or deactivate the device(s) for starting or stopping some action, such as turning lights on or off, etc. These keypad entries are: [Security Code] + # + 7 + [2-digit Device #] activates (starts) that device. [Security Code] + # + 8 + [2-digit Device #] deactivates (stops) that device.

Testing the System



About Test Procedures

After the installation is complete, you should perform the following tests:

- System Test: Checks that all zones have been installed properly and the system properly responds to faults.
- Dialer Test: Checks that the phone connection to the central station is working properly.
- Go/No Go Test: Checks that transmissions can be received from transmitters. Should be performed before permanently mounting transmitters.
- RF Sniffer Mode: Checks that RF transmitter serial numbers have been properly entered into the system.
- Battery Tests: Automatic battery tests are performed by the system. See Automatic Battery Test paragraph for details.

System Test

With the system in the disarmed state, check that all zones are intact (not faulted). Doors and windows with contacts should be closed, PIRs should be covered (use a cloth to mask them temporarily if necessary). If a “NOT READY” message is displayed, press [*] to display the faulted zone(s). Restore faulted zone(s) if necessary, so that the “READY” message is displayed.

1. Enter Installer Code + 5 [TEST], then press “0” at the prompt to start Walk Test mode.

1=DIAL, 0=WALK	(no special display on Fixed-Word Display Keypads)
----------------	--

The following will be displayed:

TEST IN PROGRESS	(“dd” displayed on Fixed-Word Display Keypads)
------------------	--

A Contact ID report will also be sent (code 607)

2. Upon entering the system test mode, the outside sounder should sound for 1 second. If the backup battery is discharged or missing, the sounder may not turn on and a “LOW BATTERY” report will be transmitted with a “TEST” report. The keypad will beep about every 30 seconds as a reminder that the system is in the Test mode.

NOTE: Wireless motion detectors (Passive Infrared units) will send signals out only if they have been inactive for 3 minutes (conserves battery life).
3. Test all sensors using the procedure described in the User’s Guide “Testing the System” section and/or the each device’s instructions.
4. After checking sensors, turn off the test mode by entering installer code + OFF.

NOTE: Test mode automatically ends after 4 hours. During the final 5 minutes (after 3 hours 55 minutes of Test mode), the keypad emits a double-beep every 30 seconds to alert that the end of Test mode is nearing.

Checking Transmitter Enrollment (Sniffer Mode)

Use this mode to verify that all transmitters have been properly programmed.

1. Press [Installer code] + [#] + 3.

The keypads will display all zone numbers of wireless units programmed into the system. Fault each transmitter in turn, causing each one to send a signal. As the system receives a signal from each transmitter, the zone number of that transmitter disappears from the display.

NOTE: If the communicator is in the process of sending a report to the central station, the system will not go into the Sniffer mode. If so, wait a few minutes, and try again.
2. After all transmitters have been checked, exit the sniffer mode by: [Installer code] + OFF.

IMPORTANT: Sniffer mode does not automatically expire. You must manually exit Sniffer mode (by entering [Installer code] + OFF) to return to normal operation.

- NOTES:**
- All BR type units must physically be activated to clear the display.
 - When **one** button of a transmitter (RF, UR, or BR) is activated, all zones assigned to other buttons on that transmitter are cleared. This also applies to 5816 and 5817 transmitters, which have multiple loops (zones).
 - Any transmitter that is not “enrolled” will not turn off its zone number.

Go/No Go Test Mode

The Go/No Go Test verifies adequate RF signal strength from the proposed transmitter location, and allow you to reorient or relocate transmitters if necessary, before mounting the transmitters permanently. This mode is similar to the Transmitter Test mode, except that the wireless receiver gain is reduced. This will enable you to make sure that the RF signal from each transmitter is received with sufficient signal amplitude when the system is in the normal operating mode.

1. Enter [Installer code] + [#] + 4.
2. After you have placed transmitters in their desired locations and the approximate length of wire to be run to sensors is connected to the transmitter’s screw terminals (if used), fault each transmitter. Do not conduct this test with your hand wrapped around the transmitter.
 - a. The keypad beeps three times to indicate signal reception and displays the unit’s zone number.
 - b. If the keypad does not beep, you should reorient or move the transmitter to another location. Usually a few inches in either direction is all that is required.
4. If each transmitter produces the proper keypad response when it is faulted, you can then permanently mount each of the transmitters according to the instructions provided with them.
5. Exit the Go/No Go Test mode by entering: any user code + OFF.

Dialer Communication Test and Periodic Test Reports

Follow these steps to manually test the phone line integrity (test does not confirm report transmissions).

1. Enter Installer Code + 5 [TEST], then press “1” at the prompt to start the Dialer Test.

1=DIAL, 0=WALK	(no special display on Fixed-Word Display Keypads)
----------------	--

The following will be displayed (accompanied by 2 beeps) if test is successful:

PHONE OKAY	(“Cd” displayed on Fixed-Word Display Keypads) A Contact ID report will also be sent (code 601)
------------	--

If the dialer test is unsuccessful, the following is displayed:

COMM FAILURE	(“FC” displayed on Fixed-Word Display Keypads)
--------------	--

2. Enter Installer code + OFF to clear the display and exit.

Automatic Periodic Test Report

The system can be set to automatically send test reports (enabled in field *64; Contact ID code 602) at specified intervals.

Frequency of the reports is set in Scheduling mode (event 11) or by the following key commands:

installer code + [#] + 0 + 0 = test report sent every 24 hours

installer code + [#] + 0 + 1 = test report sent once per week

installer code + [#] + 0 + 2 = test report sent every 28 days

Each mode sets schedule 2 to the selected repeat option; first test report sent 12 hours after command.

To ensure that test reports are sent at the times expected, set the Real-Time Clock to the proper time **before** entering the test report schedule command.

Automatic Standby Battery Tests

1. An automatic test is conducted every 3 minutes to ensure that a standby battery is present and properly connected. If a battery is not present or is not properly connected, a “LOW BATTERY” message is displayed and, if so programmed, will be reported to the central station.
2. A battery capacity test is automatically conducted for 2 minutes every 4 hours, beginning 4 hours after exiting the Programming mode or after powering up the system. In addition, entry into the Test mode will also cause a battery capacity test to be initiated. If the battery cannot sustain a load, a “Low Battery” message is displayed and, if so programmed, will be reported to the central station.

Specifications & Accessories

SECURITY CONTROL

Physical: 12-1/2" W x 14-1/2" H x 3" D (318mm x 368mm x 76mm)

Electrical:

VOLTAGE INPUT: 16.5VAC from plug-in 25VA transformer, Ademco No. 1321 (in U.S.A.)

RECHARGEABLE BACKUP BATTERY: 12VDC, 4AH (sealed lead acid type).

Charging Voltage: 13.8VDC.

ALARM SOUNDER: 12V, 2.0 Amp output can drive 12V BELLS or can drive one or two 702 (series connected) self-contained 20-watt sirens. Do **not** connect two 702s in parallel.

AUXILIARY POWER OUTPUT: 12VDC, 600mA max.

NOTE: For UL installations, Alarm Sounder plus Auxiliary Power currents should not exceed 600mA total.

FUSE (if installed): Battery (3A) No. 90-12 (PC board may have a PTC device instead of a fuse. The PTC serves as an automatically resetting fuse.)

Maximum Zone Resistance: Zones 1-8 = 300 ohms excluding EOLR standard zones

Communication:

FORMAT SUPPORTED:

ADEMCO Express: 10 characters/sec, DTMF (TouchTone) Data Tones, 1400/2300Hz ACK, 1400Hz KISSOFF.

ADEMCO Low Speed: 10 pulses/sec, 1900Hz Data Tone, 1400Hz ACK/KISSOFF.

Radionics/SESCOA: 20 pulses/sec, 1800Hz Data Tone, 2300Hz ACK/KISSOFF.
Can report 0-9, B-F

Ademco Contact ID 10 characters/sec., DTMF (TouchTone) Data Tones, 1400/2300Hz ACK, 1400Hz KISSOFF.

LINE SEIZE: Double Pole

RINGER EQUIVALENCE: 0.1B

FCC REGISTRATION No.: 5GBUSA-44003-AL-E

COMPATIBLE DEVICES

Keypads: 6150, 6160, 6150V, 6160V

Wireless Receivers: 5881L/5882L: accepts up to 8 transmitters
5881M/5882M: accepts up to 16 transmitters
5800TM Transmitter Module (used with 5827BD Wireless 2-Way Keypad)
5883 Transceiver: accepts up to system maximum transmitters
6150RF Keypad/Transceiver: accepts up to 16 transmitters

Relay Module: 4204 RELAY MODULE

Phone Modules: 4286VIP PHONE MODULE

Communication Device: 7845GSM, 7845i-GSM, GSMV

Sounders: Ademco AB-12M 10" Motorized Bell & Box
1011BE12M 10" Motorized Bell & Box
702 Outdoor Siren
719 2-Channel Siren
713 High Power Speaker
746 Indoor Speaker
747 Indoor Siren
747PD Two-Tone Piezo Dynamic Indoor Siren
747UL Indoor Siren
748 Dual Tone Siren
749 Speaker/Horn
744 Siren Driver
745X3 Voice Siren Driver
705-820, 5-inch Round Speaker
713 Speaker
WAVE Speaker
WAVE2 Two-Tone Siren
WAVE2PD Two-Tone Piezo Dynamic Siren
5800WAVE Wireless Siren
System Sensor PA400B (beige); PA400R (red) Indoor Piezo Sounder

Regulatory Agency Statements

Federal Communications Commission (FCC) Part 15

The user shall not make any changes or modifications to the equipment unless authorized by the Installation Instructions or User's Manual. Unauthorized changes or modifications could void the user's authority to operate the equipment.

CLASS B DIGITAL DEVICE STATEMENT

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

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

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

FCC/IC STATEMENT

This device complies with Part 15 of the FCC rules and RSS 210 of Industry Canada. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Cet appareil est conforme à la partie 15 des règles de la FCC & de RSS 210 des Industries Canada. Son fonctionnement est soumis aux conditions suivantes: (1) Cet appareil ne doit pas causer d'interférences nuisibles. (2) Cet appareil doit accepter toute interférence reçue y compris les interférences causant une réception indésirable.

TELEPHONE/MODEM INTERFACE

FCC Part 68

This equipment complies with Part 68 of the FCC rules. On the front cover of this equipment is a label that contains the FCC registration number and Ringer Equivalence Number (REN). You must provide this information to the telephone company when requested.

This equipment uses the following USOC jack: RJ31X

This equipment may not be used on telephone-company-provided coin service. Connection to party lines is subject to state tariffs. This equipment is hearing-aid compatible.

Industry Canada

NOTICE: The Industry Canada Label identifies certified equipment. This certification means that the equipment meets telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company to request the user to disconnect the equipment.

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

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

Ringer Equivalence Number Notice:

The **Ringer Equivalence Number (REN)** assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5.

Industrie Canada

AVIS: L'étiquette d'Industrie Canada identifie le matériel homologué. Cette étiquette certifie que le matériel est conforme aux normes de protection, d'exploitation et de sécurité des réseaux de télécommunications, comme le prescrivent les documents concernant les exigences techniques relatives au matériel terminal. Le Ministère n'assure toutefois pas que le matériel fonctionnera à la satisfaction de l'utilisateur.

Avant d'installer ce matériel, l'utilisateur doit s'assurer qu'il est permis de le raccorder aux installations de l'entreprise locale de télécommunication. Le matériel doit également être installé en suivant une méthode acceptée de raccordement. L'abonné ne doit pas oublier qu'il est possible que la conformité aux conditions énoncées ci-dessus n'empêche pas la dégradation du service dans certaines situations.

Les réparations de matériel homologué doivent être coordonnées par un représentant désigné par le fournisseur. L'entreprise de télécommunications peut demander à l'utilisateur de débrancher un appareil à la suite de réparations ou de modifications effectuées par l'utilisateur ou à cause de mauvais fonctionnement.

Pour sa propre protection, l'utilisateur doit s'assurer que tous les fils de mise à la terre de la source d'énergie électrique, de lignes téléphoniques et des canalisations d'eau métalliques, s'il y en a, sont raccordés ensemble. Cette précaution est particulièrement importante dans les régions rurales.

Avertissement : L'utilisateur ne doit pas tenter de faire ces raccordements lui-même; il doit avoir recours à un service d'inspection des installations électriques, ou à un électricien, selon le cas.

AVIS : L'indice d'équivalence de la sonnerie (IES) assigné à chaque dispositif terminal indique le nombre maximal de terminaux qui peuvent être raccordés à une interface. La terminaison d'une interface téléphonique peut consister en une combinaison de quelques dispositifs, à la seule condition que la somme d'indices d'équivalence de la sonnerie de tous les dispositifs n'excède pas 5.

Limitations and Warranty

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 variety 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 solely by AC will not work if their AC power supply is cut off for any reason, however briefly.
- Signals sent by wireless transmitters may be blocked or reflected by metal before they reach the alarm receiver. Even if the signal path has been recently checked during a weekly test, blockage can occur if a metal object is moved into the path.
- 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 by 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. Finally, 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 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°F (32° to 40°C), the detection performance can decrease.
- Alarm warning devices such as sirens, bells or horns may not alert people or wake up sleepers if they are located on the other side of closed or partly open doors. If warning devices are located 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 appliance, or by passing traffic. Finally, alarm warning devices, however loud, may not warn hearing-impaired people.
- 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.

(Continued)

WARNING
THE LIMITATIONS OF THIS ALARM SYSTEM (Continued)

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 and transmitters are working properly. The security keypad (and remote keypad) should be tested as well.

Wireless transmitters (used in some systems) are designed to provide long battery life under normal operating conditions. Longevity of batteries may be as much as 4 to 7 years, depending on the environment, usage, and the specific wireless device being used. External factors such as humidity, high or low temperatures, as well as large swings in temperature, may all reduce the actual battery life in a given installation. This wireless system, however, can identify a true low-battery situation, thus allowing time to arrange a change of battery to maintain protection for that given point within the system.

Installing an alarm system may make the owner eligible for a lower insurance rate, 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.

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WARRANTY INFORMATION

For the latest warranty information, please go to:

www.honeywell.com/security/hsc/resources/wa

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