

1 Specifications

Electrical:

Voltage Input: 16.5 VAC 40 VA from supplied transformer

External Speaker: 10 Watt minimum, 8Ω horn type - Ademco 713 or equivalent. Total speaker load must be between 4Ω and 16Ω.

Internal Speaker: Speaker supplied in all compatible keypads. For stand-alone operation 10 Watt minimum, 8Ω - Ademco 746 or equivalent. Total speaker load must be between 4Ω and 16Ω. **For UL installations use a UL residential fire listed speaker.**

Auxiliary Power Output: 13.5VDC, 1.85 AMP max - **Not to be used in a UL installation**

Switched Fire Output: 13.5VDC, 1.85 AMP max
Two Wire Smoke Detectors: Up to 12 per system } **Not to exceed 10 mA in a UL installation**

Back-up Battery: 12VDC, 7AH gel cell. YUASA NP7-12 or equivalent.

For UL installations use 2 - batteries with SA5140-1 cable assembly

CAUTION: Total current draw of Auxiliary + Smoke + 4 wire bus power is not to exceed 2 Amps. **In UL installations total current draw must not exceed 400mA.** Test installation for 1 minute in alarm to ensure sufficient power.

Communicator:

Supports: 3/1, 4/1/1, 4/2 extended, Ademco Contact ID
49 report codes

DTMF and pulse dialing

DPDT line seizure

Two telephone numbers and two account codes, dial both numbers

Split reporting of selected codes

Alternate number dialing if primary number fails

Programmable number of dialing attempts

Programmable to enable or disable the communicator

Two-Way Voice:

Microphone inputs: 3 separate, individually controlled channels.

Microphone: 5V shielded 2 conductor omnidirectional electret condenser microphone.

Frequency response 50-10K. -64db sensitivity, TWM-25K or equivalent.

System Zones:

96 using the following inputs:

80 - programmable fully supervised wireless alarm points (with H series receiver)

16 - programmable fully supervised hardwire inputs on the control panel

64 - programmable fully supervised hardwire inputs on multiplexed expansion boards

1 - 2-wire smoke loop

8 - keypad alert

8 - wireless keypads (when available)

1 - local phone activation

1 - remote phone / phone line monitor activation

8 - X-10 sending units (**not permitted in UL installations**)

Auxiliary Outputs:

1 - Form C 10A 24VDC system relay

7 - Pull to ground, 12 volt, 100mA outputs, not to exceed 500mA total.

Not to be used in a UL installation

Speaker Output:

10 Watt internal siren driver with full speech

10 Watt external siren driver with full speech

Designed for use with 8Ω, 10 watt minimum speakers.

Total impedance for either driver not to drop below 4Ω

For UL installations use a UL residential fire listed sounder.

Smoke Detectors:	ESL 429 Series System Sensor 2112/24B System Sensor 2112/24BT System Sensor 2100 System Sensor 2100T	- 2 wire Photoelectric - 4 wire Photoelectric (Not permitted in a UL installation) - 4 wire Photoelectric (Not permitted in a UL installation) w/heat sensor - 2 wire Photoelectric (Not permitted in a UL installation) - 2 wire Photoelectric (Not permitted in a UL installation) w/heat sensor
Dimensions:	15.1" L x 13.05" W x 3.5" D w/ door.	
System Keypads:	Fully spoken enunciation of zones and system status 6 Programmable manual activations Lights and appliance control for home automation 3-way Monitor mode - Speech, Silence, Chime Dimensions: 7" x 4 3/4" x 1" deep	
Keypad Wiring:	4-wire bus -red and black - power -green and white - data 2-violet - audio No smaller than 24 gauge, up to 50', 22 gauge over 50' Microphone wire- 22 gauge, 2 conductor shielded	
Transient Protection:	Multiple level surge filters are on all zone inputs, power supply, keypad connection, siren outputs, auxiliary power supply, and the telephone interface. The circuit board is designed to provide spark gap protection to catch high voltage impulses at the wiring terminals. Protective ground planes surround sensitive areas preventing the spread of damaging voltage surges. Metal Oxide Varistors (MOV's) are in all critical areas to further reduce surges. Sidactors and PTC Thermistors protect the phone line input. Transient protection is most effective when the panel is earth grounded.	
Nonvolatile Memory:	Maintains programming options with no power to the control.	
System clock:	Time-of-day clock with a backup circuit designed to deliver continuous power for two weeks on a full charge.	
System Watchdog:	All precautions have been taken to prevent spurious operation of the control caused by voltage surges, however, temporary disruption of the microprocessor can occur, leading to improperly processed routines. The system is equipped with a watchdog circuit that watches processor operation and resets the microprocessor if an error should occur.	
Supervision:	The following trouble conditions are always monitored: Loss of AC power Backup battery low voltage Communicator failure Phone line loss High current conditions (system shorts) Zone expansion failure Receiver or bridge board failure (panel supervises bridge, bridge supervises receiver(s)) Transmitter supervision signals - trouble indication within 6 hours (if programmed)	
Advanced Features:	Home automation capability Phone access for both installer and end user Speech synthesis Alert memory in activation order Event log memory in activation order Audible RF test mode with serial number identification Unattended upload/download programming Serial Interface (RS-232) printer / automation interface Temporal fire notification tones	

1***Items Included With the Control Panel:***

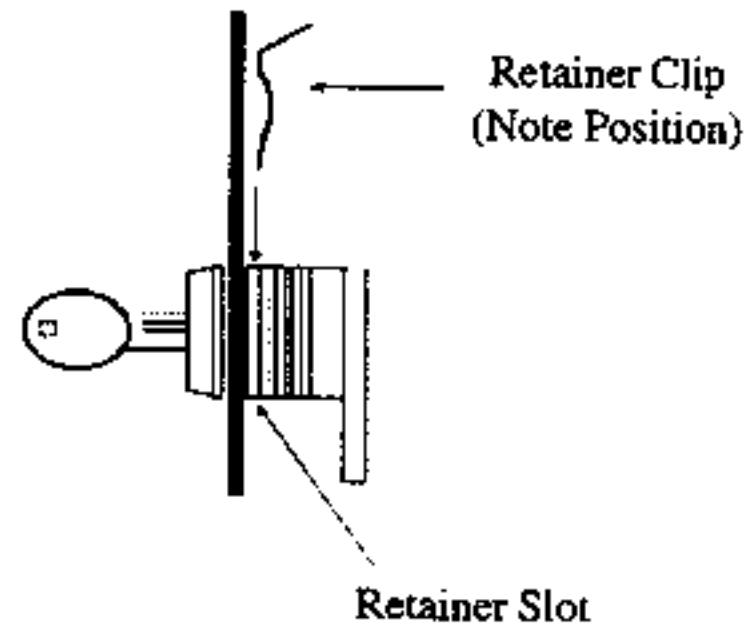
Please examine the contents of the shipping box for the following items:

- | | |
|--------------------------------|---------------------------------------|
| 1 - Control Panel | 1 - Lock, key, and retaining clip |
| 1 - 16.5 VAC 40 VA Transformer | 17 - 4.7K Ω 1/4 Watt Resistors |
| 1 - Auxiliary Output Harness | 3 - Plastic mounting clip |
| 1 - Microphone Harness | 1 - Package of 4 standoff screws |
| 1 - Installation Manual | 1 - Back up battery leads |
| 1 - Owners Manual | 2 - Wallet End User Instruction Cards |

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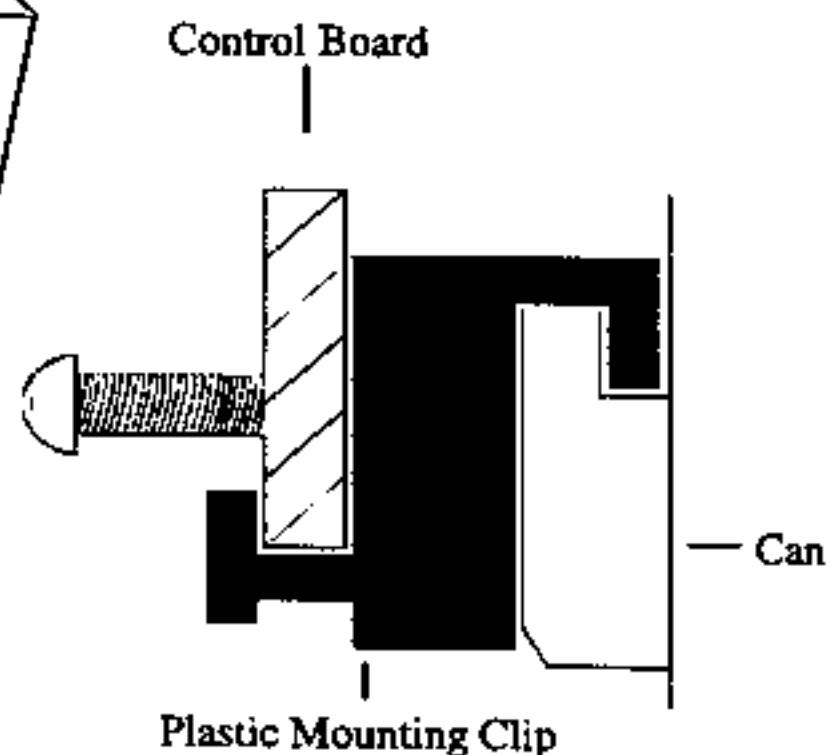
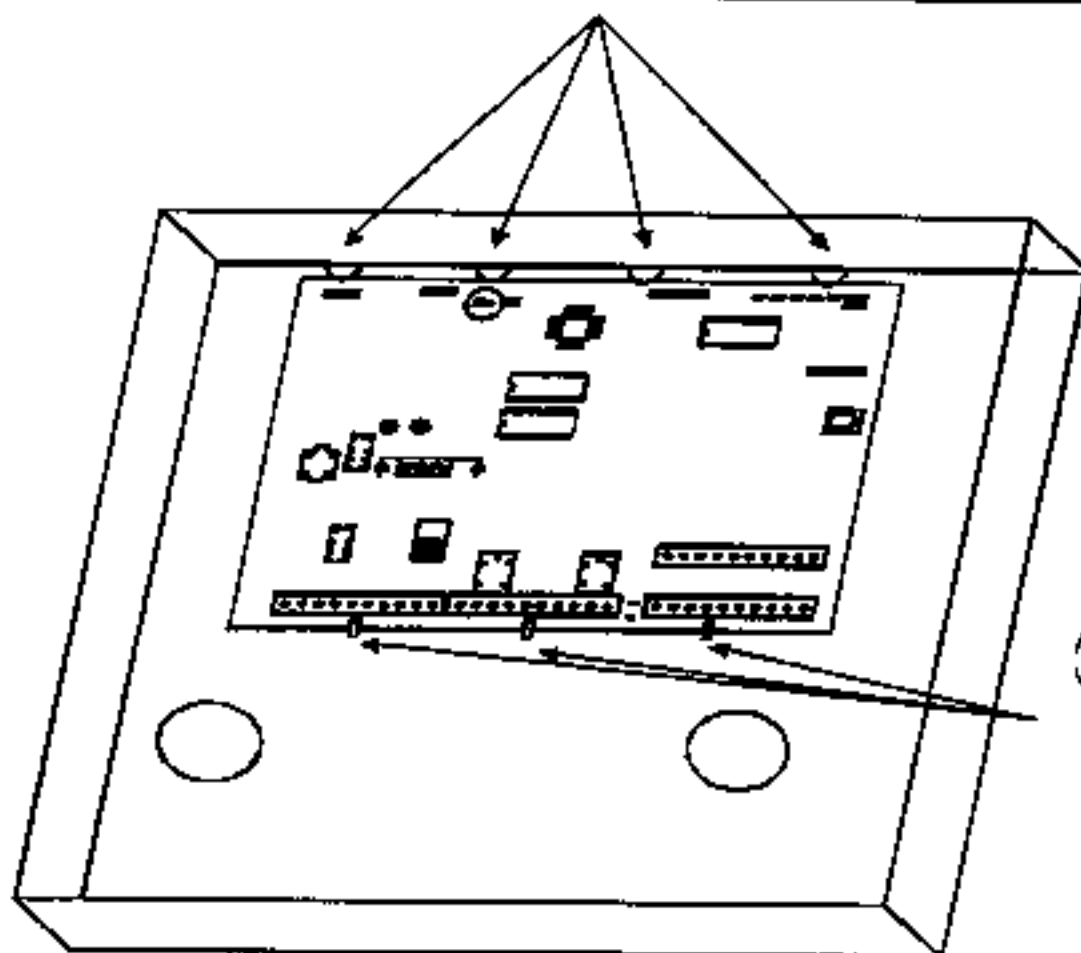
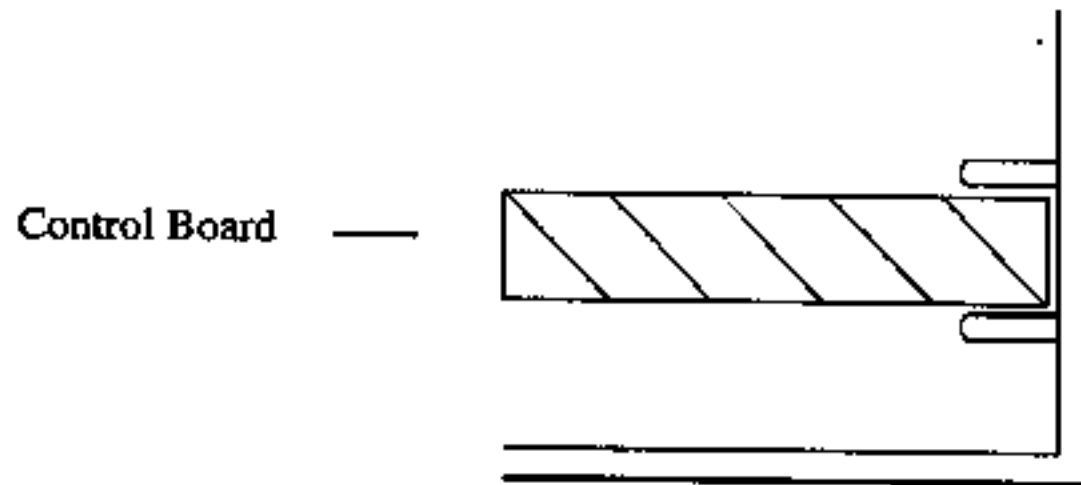
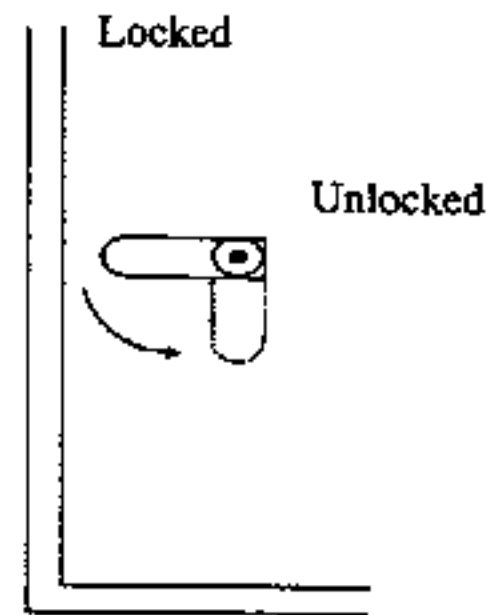
Inserting the Cabinet Lock

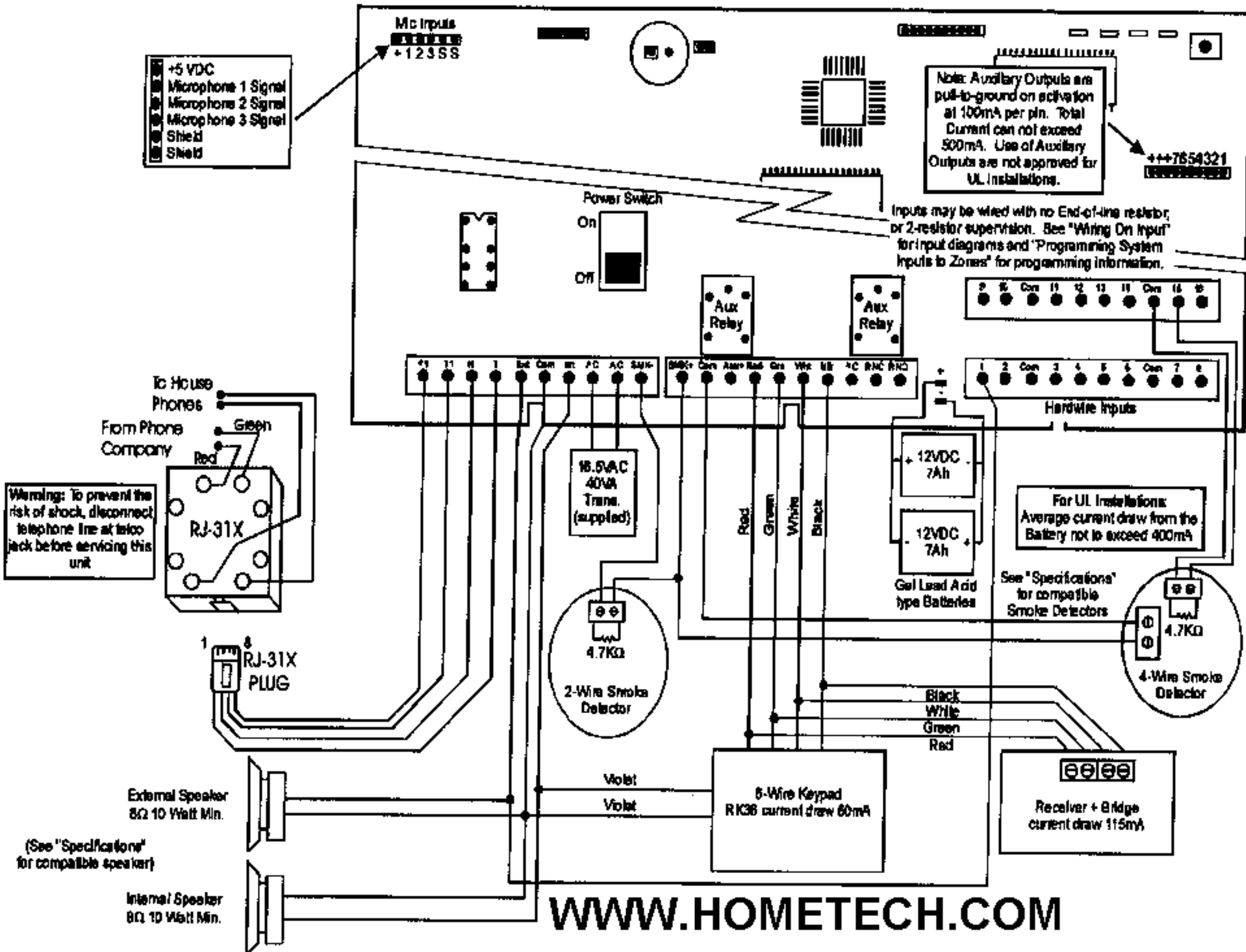
1. Remove the cabinet door
2. Remove the lock knockout from the control cabinet door. Insert the key into the lock. Position the lock in the hole making certain that the latch will make contact with the latch bracket when the door is closed.
3. Hold the lock steady, and insert the retainer clip into the retainer slots. Position the clip as illustrated in order to permit easy removal.



Mounting the Control Board

1. Hang the three (3) mounting clips (provided) on the raised cabinet (see below).
2. Insert the top of the circuit board into the slots at the top of the cabinet. Be certain that the board rests in the correct row (see below).
3. Swing the base of the board into the mounting clips and secure the board to the cabinet with the accompanying screws (see below).





- +5 VDC
- Microphone 1 Signal
- Microphone 2 Signal
- Microphone 3 Signal
- Shield
- Shield

Note: Auxiliary Outputs are pull-to-ground on activation at 100mA per pin. Total Current can not exceed 500mA. Use of Auxiliary Outputs are not approved for UL installations.

Inputs may be wired with no End-of-line resistor, or 2-resistor supervision. See "Wiring On Input" for input diagrams and "Programming System Inputs to Zones" for programming information.

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

For UL installations: Average current draw from the Battery not to exceed 400mA

See "Specifications" for compatible Smoke Detectors

Grounding:

In UL installations where the Speaker Supervision option is enabled, grounding is not permitted.

If grounding, it is recommended a system common be attached to a cold water pipe, 16ga. at 15 feet. Although cold water pipes have been the standard for earth ground, it is very common in modern construction that a cold water pipe does not provide an adequate ground due to the extensive use of PVC and other styles of "plastic" tubing. The best method for grounding the panel is to locate the panel in an area with easy access to the power company's earth ground.

Telephone Operation:

In the event of telephone operational problems, disconnect the control panel by removing the plug from the RJ31X (CA38A in Canada) wall jack. We recommend that you demonstrate disconnecting the phones on installation of the system. Do not disconnect the phone connection inside the control panel. Doing so will result in loss of your phone lines. If the regular phone works correctly after the control panel has been disconnected from the phone lines, the control panel has a problem and should be returned for repair. If upon disconnection of the control panel, there is still a problem on the line, notify the telephone company and request prompt repair service. The user may not under any circumstance (in or out of warranty) attempt any service or repairs to the system. It must be returned to the factory for all repairs.

Communicator:

Connection of the fire alarm signal to a fire alarm headquarters or a central station shall be permitted only with the permission of the local authority having jurisdiction. The burglary alarm signal shall not be connected to a police emergency number.

Codes:

This equipment should be installed in accordance with National Fire Protection Association's Standard 72 Chapter 2 (National Fire Protection Association, Battery March Park, Quincy, MA 02269). Printed information describing proper installation, operation, testing, maintenance, evacuation planning and repair service is to be provided with this equipment.

Compliance:

This device complies with part 15 of FCC rules. Operation is subject to the following two conditions: (1) It may not cause harmful interference. (2) It must accept any interference that may cause undesired operation.

Complies with Part 68 of the FCC rules for direct telephone interconnect.

FCC Registration Number: 107USA-74224-AL-T

Ringer Equivalence: 0.8

Use USOC RJ-31X telephone connection jack. Complies with ANSI/UL 1023 Household Burglary Alarm System Units and ANSI/UL 985 Household Fire Warning System Units.

Connections:

Use UL Listed Cable for all connections.

Testing:

Weekly testing is required to ensure proper operation of this system

Servicing:

To prevent the risk of shock, disconnect telephone line at telephone company supply jack before servicing this unit.

Battery:

Battery normally need not be replaced for at least 3 years. Use a 12 volt 7Ah battery (minimum). **For all UL installations use two 12 volt 7Ah batteries wired in parallel.**

1 System Terminals

- House Phones:** The R1 and T1 terminals provide telephone service to the house if the installation contains an RJ-31X terminal block for true phone line seizure.
- Telephone Company:** The incoming telephone service is wired through an RJ-31X jack to the R and T terminals on the control panel. If regular phone service is unavailable, the system will provide power and a distinct system tone to all in house phones.
- Speakers:** The control panel contains amplified internal and external siren drivers. Both internal and external speaker connections require 8Ω, 10 watt (minimum) speakers. The "EXT" and "COM" (speaker common) terminals provide full volume audio during activation. Mount the external speaker(s) in an area that is unaccessible to intruders and will provide a sufficient volume during an activation.
- The "INT" and "COM" terminals produce speech, low volume monitor beeps, keypad echo beeps, system status, pre-alarm warning, and a high volume alert during activation. Typically, in non UL installations, the speakers (16Ω) in the RK series keypads are used as the only source for providing internal system audio; however in a UL installation the RK series keypads must be supplemented with internal speakers (8Ω, 10 watt minimum) to provide the higher required decibel rating. See "Specifications" for compatible speakers.
- Wire all speakers in a series/parallel combination that does not allow the impedance for either the internal or external output to drop below 4Ω.
- Transformer (AC Power):** Use a 16.5 VAC, 40 VA transformer (supplied) to supply AC power. Do not connect the transformer to a switched AC outlet. If an AC failure occurs, after 1 minute (programmable) the system will speak "POWER OFF", the keypad power LED will turn off, and the keypad status LED will begin to flash. After requesting system status the system will speak "POWER OFF" and the status LED will become solid. AC failure and restore conditions can be transmitted to the central station.
- 2-Wire Smoke Detectors:** 2-wire smoke detectors are connected to the "SMK+" and "SMK-" terminals. Be certain to observe polarity. Smoke power reset is built into the panel by entering a valid full function user code followed by the "6" digit. A 4.7KΩ resistor must be wired in parallel with the last detector in the loop. If a resistor is not used, or if there is a break in the loop, a TROUBLE indication will occur. Up to 12 2-wire smoke detectors can be powered by the smoke power supply. A high current situation on the smoke power circuit can be indicated at the keypad and/or communicated to the central station.
- 4-Wire Smoke Detectors:** The "SMK+" terminal supplies up to 1.85 AMPs of power. A 4.7KΩ resistor must be wired in parallel with the detector and wired to a zone input. Power is drawn from the SMK+ and COM terminals. Smoke power reset is built into the panel and is reset by entering a valid full function user code followed by the 6 digit. A high current situation on the smoke power circuit can be indicated at the keypad and/or communicated to the central station.
- Auxiliary Power:** 12V+ Auxiliary power for hardwire devices such as motion detectors and glass break detectors is available on the "AUX" terminal. The auxiliary output is protected at 1.85 Amps. A high current situation can be indicated at the keypad and/or communicated to the central station.

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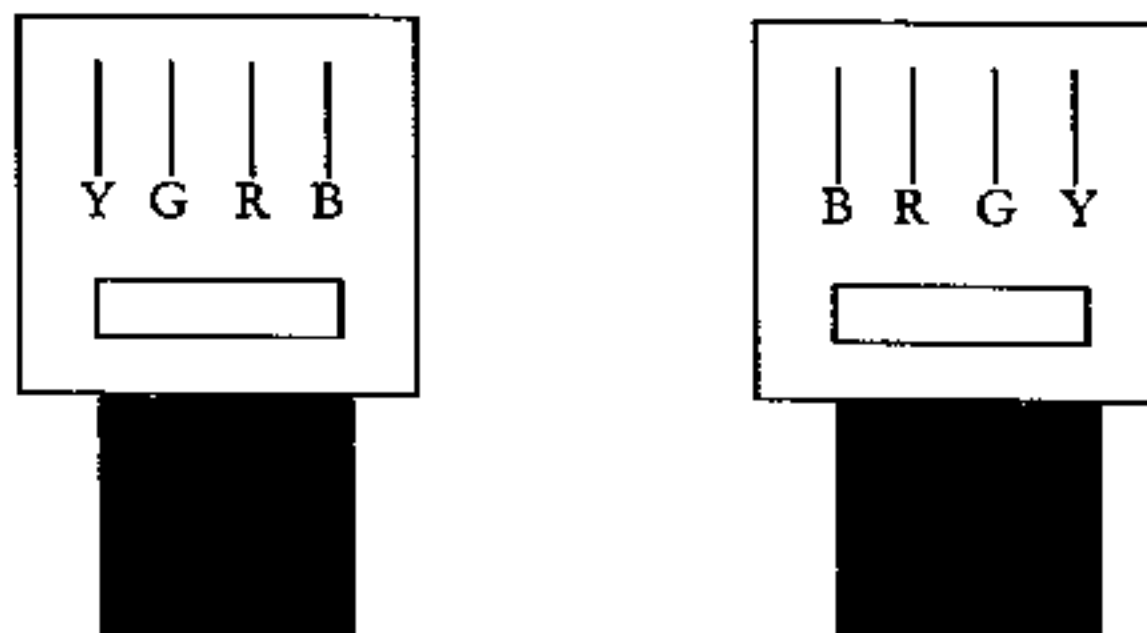
The Destiny-6100 is compatible with the ADEMCO 4140-BLK removable terminal strips. If necessary, these connectors allow for quick replacement of the control board.

- Keypad 4-wire Bus:** Connect corresponding 4-wire bus colored wires from peripheral devices to the appropriate terminals. Additional devices may be daisy chained or wired in parallel to the system board. The 4-wire bus is protected at 1.85 Amps. A high current situation can be communicated to the central station.
- Auxiliary Relay:** A programmable relay is available on the "RC", "RNC", and "RNO" terminals. Use "RC" for relay common, "RNC" for relay normally closed or "RNO" for relay normally open.
- Battery Leads:** Connect the red lead to the + battery terminal and the black lead to the - battery terminal. If enabled, the battery is tested every 180 seconds to ensure it is present and charged. A low battery condition can be indicated at the keypad and/or communicated to the central station.
- Auxiliary Outputs:** An auxiliary output wire harness is supplied for J4. There are 7 programmable output pins and 3 power pins. Pins 1-7 will provide a ground path when activated. Pins 8, 9 & 10 supply +12V DC. Do not exceed 100 mA per pin or 500mA total. These outputs are intended to drive relays with a coil impedance of 500Ω or greater or any other device requiring 100 mA or less. The outputs are not intended to power devices without the use of a relay. It is acceptable to power an LED when a 1 to 4.7KΩ, current limiting resistor is wired in series. **Use of Auxiliary Outputs is not permitted in a UL installation.** See Control Channel section for programming information.
- Microphone Input:** A microphone wire harness is supplied at J1. Consult the Specifications section to determine compatible microphones. Up to 3 microphones can be wired in parallel to each of the 3 microphone inputs. Please note, if multiple microphones are wired to a single microphone input, the microphones must be turned off and on as a group. It is recommended to only wire 1 microphone to each of the 3 input channels allowing a central station to have full control of each microphone during a two-way session. **Use of two-way voice is not permitted in a UL installation.**
- Power Switch:** Located in the center of the control board is a black slide switch which controls all power (including the battery) to the system. Up = ON; Down = OFF.
- Volume Adjustment:** The potentiometer marked "VOLUME" on the left side of the control board controls the volume level of any system generated speech and the key depression feedback beeps. Using a small screwdriver, turn the potentiometer to obtain the desired volume. Clockwise increases volume. This adjustment will not affect alarm notification volume from the speaker during an activation.
- Program Switch:** Located in the upper right corner of the control board, this switch is used to return the system to various defaults. Holding the button down and releasing after a specific number of "beeps" will activate different system functions:
- | beeps | Action |
|-------|--|
| 1 | Return user code 1 to default: 1,2,3,4 |
| 3 | Enter direct connect mode (Same as 9952 in program mode) |
| 5 | Return service (program) code default: 9,1,7,3 |
| 10 | Default panel |
| other | Three error beeps: no programming is affected. |
- Hardwire Inputs:** There are 16 hardware inputs on the control panel. Through programming, each input can be wired in one of three ways: with a 4.7KΩ end-of-line resistor (EOLR), without an EOLR, or with class-A 2-resistor supervision.

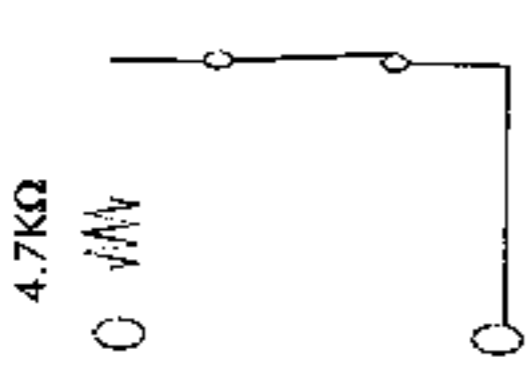
- 1** Two-Way Adjustment: The potentiometer marked "2-WAY VOL" controls the volume level of voice over the phone line to the inside speaker during two-way communication or paging. Using a small screwdriver, turn the potentiometer to obtain the desired volume. Clockwise increases volume. This adjustment will not affect alarm notification volume from the speaker during an activation. **Use of two-way voice is not permitted in a UL installation.**
- Upload / Download LED: At the top right of the board is a yellow LED labeled "U/D" which is illuminated when there is a modem to modem connection during upload or download.
- POWER LED: At the top right of the board is a red LED labeled "POWER" which is illuminated when the system is receiving power.
- STATUS LED: At the top right of the board is a green LED labeled "STATUS" which flashes to show the microprocessor is functioning. An incoming ring detection will cause this LED to flash very fast.
- Dial LED: At the top right of the board is a red LED labeled "DIAL" which is illuminated during digital communication and remote phone access. The Dial LED is used as a diagnostic tool to analyze communication problems. The number of flashes after a failed attempt correlates to the communication stage that caused the system to fail. See "Communicator Diagnostics" for more information.
- Phone LED: At the top right of the board is a green LED labeled "PHONE" which is illuminated when the system's supervision of the phone line verifies a valid phone line on "R" and "T." If the system does not confirm a phone line, the LED will turn off. Phone line failures can be indicated at the keypad as well as sound a local alarm. Phone line restoration can be communicated to the central station.
- X-10 TW-523 Interface: Plug a standard RJ-12 cord into J5 on the middle right side of the board when using the X-10 TW-523 (X-10 Pro PSC05) module for lighting options. The termination of the four wire connection will be another RJ-12 jack plugged into the TW-523. The cord must have four wires (see "X-10 interface Cord"). 2-wire cords will not work. **Use of X-10 is not permitted in a UL installation.** See Control Channel section for programming information.

X-10 Interface Cord

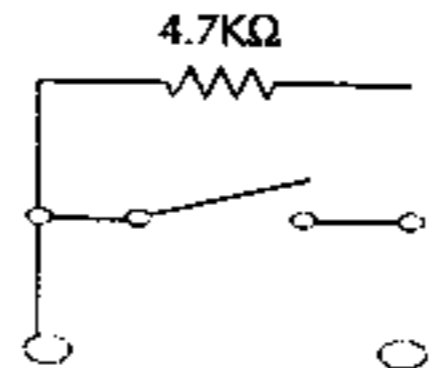
A 4-conductor phone cord must be used to connect an X-10 TW-523 (X10-Pro PSC05) to the interface jack on the control panel. Maximum cord length is 15 feet. The conductors must be in the following order:



Wiring an Input Using an End-of Line Resistor



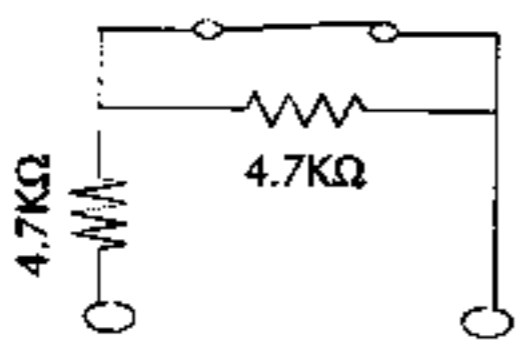
Normally Closed



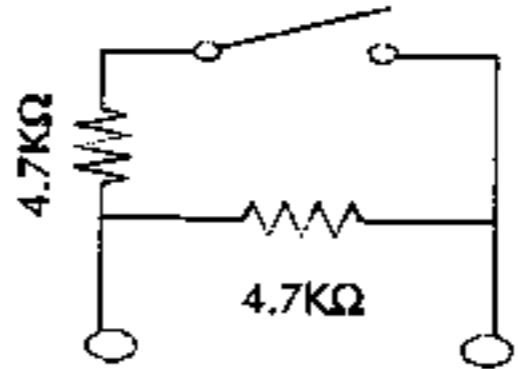
Normally Open

Single E.O.L Resistor: Traditional inputs are wired with a single end-of-line resistor. An open or short is treated as an open. A single end-of-line resistor is only effective if the resistor is placed after the last device wired in an input loop. This is the only suitable wiring method for smoke loops.

Wiring an Input Using 2 End-of Line Resistor Supervision



Normally Closed

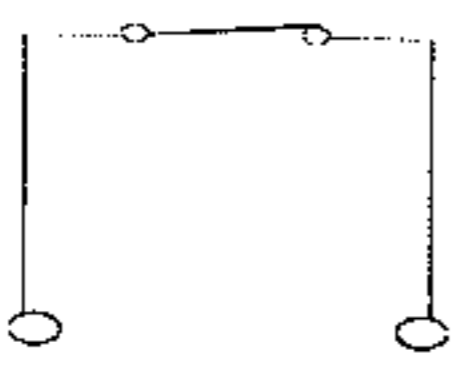


Normally Open

Only use 1 End-of-Line Resistor on smoke detector loops.

Two Resistor Supervision: This wiring arrangement allows the system to detect and handle open loops and shorts as a trouble condition. Through programming, trouble conditions can be communicated to the central station and show trouble status on a keypad.

Wiring an Input Using No End-of Line Resistors



Normally Closed

All inputs that do not use end-of-line resistors must be wired with a normally closed sensor

No End-of-Line Resistor: The option is recommended only for "non-perimeter" zones that do not require tamper protection. There is no tamper protection (other than a cut loop shows an open) without a resistor and all loops that do not use a resistor must be normally closed. **No End-of Line Resistor is not permitted in a UL installation.**