

Dear Tech-Man Subscriber:

ADEMCO apologizes for any misunderstanding that has arisen due to our recent decision to have our technical information removed from the Tech-Man web site. You may appreciate that one of our key concerns is to provide installing security dealers with timely and accurate information on our products, and we were concerned about the data posted to the Tech-Man web site. For obvious reasons, we also do not wish unauthorized individuals to have access to information on installing and configuring ADEMCO systems. These concerns were what prompted us to ask Tech-Man to stop posting ADEMCO installation instructions and user manuals.

Several of you have written us to ask that we reconsider this decision. We have. We will not require Tech-Man to remove the ADEMCO data. ADEMCO, however, is not responsible for the operation and maintenance of this site - thus we cannot guarantee the timeliness or accuracy of the information posted on the Tech-Man web site.

The ADEMCO web site is located at www.ademco.com and contains accurate timely data about our products. You may request a PIN number for access to the ADEMCO Technical Support web site and FAXBACK system.

If you need assistance on troubleshooting, or if you have other technical questions about our products not addressed in the information posted at our web site, please contact ADEMCO Technical Support at 800-645-7492.

Thank you for understanding.

Sincerely,

Herb Lustig

MARGIN LINES INDICATE PRINCIPAL CHANGES IN THIS ISSUE

I. INTRODUCTION:

The ADEMCO No. 4152 POINT PROTECTION CONTROL COMMUNICATOR is a microprocessor based security control that combines both control and communication functions into one package. It provides security for up to 29 protection points, each of which may be assigned to one of seven zone types. An eighth zone provides a Panic Duress feature when a special code is entered at a console.

NOTE 1: The No. 4152 is part of the VECTOR 2000 Digital Point Annunciation Alarm Control System described in the System's Owner's Manual.

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III. PRINCIPLE OF OPERATION:

The No. 4152 C-COM is connected to as many as 29 protection points through transponders which are connected by a single pair of wires. The control constantly polls and receives a response from each transponder regarding the status of the system. Some contact/motion detector transponders can monitor two separate points of protection, identify them uniquely and report on their status. The control will then take the appropriate action, if any, by displaying or sounding messages at the console, sounding external alarms or sending messages to the central station by phone line or, when equipped to do so, by other means (for example; long range radio, derived channel, etc.). Each of the 29 protection points can be assigned to a reporting zone (up to 8 can be used) in a built-in communicator.

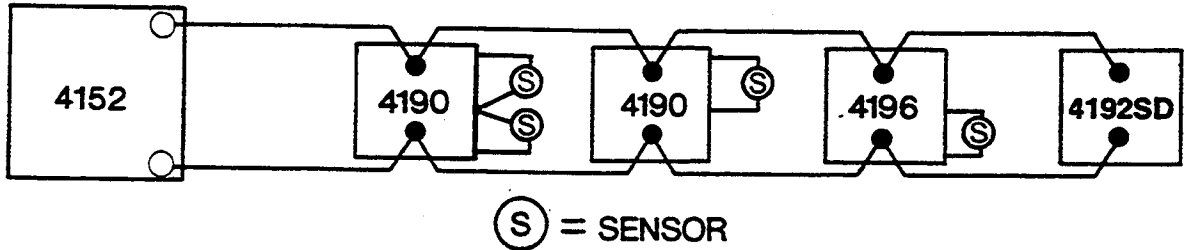


DIAGRAM 1. POLLING LOOP

IV. POINT PROTECTION EQUIPMENT:

The No. 4152 C-COM is a special control, designed to operate with a point protection polling loop. It should not be used to operate other kinds of alarm circuits, such as separate conventional wired zones. The No. 4152 can presently be used with the following equipment:

No. 4157/4137 SECURITY CONSOLE

The No. 4157/4137 CONSOLE provides all system status indications and permits all system control functions. The console is used to arm and disarm the burglary system, to assign and remove programmed selections, activate PANIC alarms, to provide protection point identification and to provide visible and audible system indications. Up to four No.4157 and up to six No. 4137 consoles can be supported.

No. 5330 ALPHA CONSOLE

This console serves as a link between the user and the security system. The console features a 32 character English language display to identify system messages using words instead of numbers. The console also features a backlit keypad for entering commands and can be used to create custom messages.

No. 4190WH DCID TRANSPONDER

This device permits the interface of any dry contact sensor (for example; magnetic contacts, foil, vibration sensors, motion detectors, smoke detectors, etc.) and provides the identification and status of the protection points to the No. 4152 C-COM. Each transponder supports two sensor loops (referred to as a left loop and a right loop). The left loop can support N.O. and N.C. contacts and the right loop supports N.C. contacts. A trouble or a fault detected by the transponder will be indicated at the console along with the location of the alarm. When smoke detectors, motion detectors or other devices requiring power are used that are not "matched components" from the Vector series, two additional wires must be run to power these devices.

No. 4192SD/SDT/CP SMOKE DETECTOR/TRANSPONDER

This addressable smoke detector reports to the control all troubles and faults and is provided in an ionization (No. 4192CP) and photoelectric configurations with/without integral 135°F (57° C) heat detectors (No. 4192SD, 4192SDT) and identifies the alarm location at the console. If other smoke detectors (4-wire type) are used in conjunction with the left loop of the 4190WH transponder, 2 additional wires must be run to power these detectors and a switch must be provided to interrupt the power to these detectors to reset them. The Vector series detectors are totally accommodated by the polling loop for their power and resetting and they draw less than 0.5 mA from the loop.

No. 4196 PIR/TRANSPONDER

This "matched" Passive Infrared detector responds to rapid changes of infrared energy associated with an intrusion into the protected area and reports the event to the control. The transponder built into the "matched" Vector Quad PIR also permits nearby closed circuit contacts to be interfaced to the unit, enhancing the economy of the transponder. The PIR has a nominal coverage of 35' x 35' (10.6m x 10.6m) and can be extended to 45' x 45' (13.7m x 13.7m) coverage by mounting adjustment. The PIR utilizes two dual detectors to achieve verified PIR operation. By mirror change, the 4196 can be adapted for long range (corridor) application, 70' x 16' (21.3m x 4.8m). This PIR is directly powered by the polling loop and no separate power wiring is required. If other motion detectors are used, separate power wiring is required.

No. 4275 PIR

This passive infrared motion detector is designed for use with the Vector system. It is a wall mounted unit which offers either wide angle [35' x 45' (10.6m x 13.7m)] or long range/curtain (narrow) area (21.3m x 3 m) protection (two separate mirrors are supplied). This PIR is directly powered by the polling loop and no separate power wiring is required.

No. 4194WH REMOTE POINT MODULE

This module is designed for use with a Vector system. It consists of a reed switch sensor/transponder assembly and a magnet. As a transponder, the unit uniquely identifies the status of the reed switch to the Vector control panel.

No. 4139WH REED CONTACT W/ RPM

This reed contact RPM is similar to the No. 4194 except that it is much smaller. This surface mounted contact comes supplied with a factory installed five foot zip cord which eliminates the terminals. The contact also has no DIP switches and is programmed by using a 4201 handheld programmer.

No. 4191WH REED CONTACT W/ RPM

This 1/2" diameter (12 mm) recessed mount contact comes supplied with a factory installed zip cord which eliminates any terminals and affords its compact size. It also has no DIP switches and is programmed using the No. 4201 Programmer.

No. 4208 EIGHT POINT REMOTE POINT MODULE

This module affords a more simple installation for companies who homerun their sensors to the control or who desire to group the sensors from an area of the protected premises onto one remote point module. Each module interfaces with and uniquely identifies up to eight protection loops to the control. Six of the loops can be used with either mechanical or reed contacts. The remaining two loops can be used with reed contacts only

No. 4152LM CLASS "A" POLLING ADAPTER

This add-on circuit board is used to provide additional security by enabling the polling loop to be connected Class 'A' where it can be polled even though the loop may be broken. This adapter may also be wired as a separate open ended loop to effectively double the length of the polling loops that can be supported (See SECTION "WIRING THE POLLING LOOP"). Use of this adapter does not increase the number of sensors that the system can uniquely identify.

V. OPERATION:

A point protection security system uses a computer based control panel connected to a single multiplex communication circuit called a polling loop. The polling loop consists of a run of paired wire (twisted is preferred, but is not mandatory) with multiple transponders (e.g. No. 4190WH, 4192SD, 4196) connected in parallel to each other. Sensor devices are connected to the transponders by a contact loop. Each contact loop forms a protection point. Vector 2000 supports up to 29 such protection points on the polling loop and monitors the condition of this loop for opens and shorts.

As the control receives individual sensor status, it checks the installer defined assignments stored in the EEPROM (Electrically Erasable PROM that retains its memory in the absence of power) to determine what action has to be taken. The control then responds accordingly with an appropriate alarm display, audible console annunciation, external sounder and/or dialer communication.

Each protection point is assigned a zone type by the installer for alarm response and for central station reporting. When the control receives a reply from a transponder, the microprocessor determines the zone type of the protection point and responds in a predefined manner. The following information describes the zone types and their associated responses.

ZONE 1 ENTRY/EXIT

ARMED STATE: In response to a burglary sensor fault from a point that has been designated "entry/exit", alarms are activated at the end of the timeout of the entry/exit timer. Separate entry and exit delay times are installer selected from 0 seconds to 225 seconds (in 15 second increments). Upon entry, a slowly beeping console warning signal is initiated. If [Code + OFF] is not keyed before the end of the timing cycle, an alarm is then initiated and the point in alarm is identified on the console. Either one alarm or multiple alarms per protection point (per armed period), is installer selectable as a systemwide selection. This zone is capable of reporting dialer RESTORE messages.

DISARMED STATE: A faulted sensor designated as "entry/exit" will result in the READY LED being extinguished. Depressing the READY key will cause the display of all faulted contacts. No dialer communication is initiated.

ZONE 2 PERIMETER

ARMED STATE: A faulted sensor that has been designated PERIMETER causes an instantaneous audible alarm, a latched display of the sensor ID number on the console, and a dialer report (installer defined). Either one alarm or multiple alarms per protection point (per armed period), installer selectable as a systemwide selection. Dialer RESTORE messages can be reported.

DISARMED STATE: A faulted sensor results in the READY LED being extinguished. Depressing the READY key causes the display of the ID number of all faulted sensors. No dialer communication is initiated.

ZONE 3 INTERIOR/FOLLOWER DELAY

ARMED STATE: All sensors assigned to the interior zone have exit delay. These sensors only have entry delay when a zone 1 (Entry/Exit) fault precedes this fault. Otherwise, any zone 3 fault produces an immediate audible alarm, a latched display and a dialer report (installer defined). Either one alarm or multiple alarms per protection point (per armed period), installer selectable as a systemwide selection. Dialer RESTORE messages can be reported for alarms.

DISARMED STATE: A faulted sensor results in the READY LED being extinguished. Depressing the READY key causes the display of the ID numbers of all faulted sensors. No dialer communication is initiated.

ZONE 4 TROUBLE BY DAY/ALARM BY NIGHT

ARMED STATE: A faulted sensor that has been designated as DAY/NIGHT causes an instantaneous audible alarm, a latched display of the ID number of the sensor, and a dialer report (installer defined). Either one alarm or multiple alarms per protection point (per armed period), installer selectable as a systemwide selection. Dialer RESTORE messages can be reported for alarms.

DISARMED STATE: A faulted sensor will result in a TROUBLE condition. The console will beep rapidly and display the ID number of all faulted sensors. The console TROUBLE LED will glow. The first trouble can initiate a dialer TROUBLE report. Subsequent TROUBLES, prior to a TROUBLE RESTORE, will not initiate additional dialer reports. When all TROUBLES have been removed, a system TROUBLE RESTORE message can be reported. Pressing any key silences the beeping. A subsequent entry [Code + OFF] clears the display.

ZONES 5 AND 6 24 HOUR ZONES

Operation is individually selectable for zones 5 and 6 from the below listed 24 hour modes:

SILENT: A faulted sensor initiates a dialer report (installer defined) with no local display and no sounders activated. Upon disarming, there will not be a memory indication of the faulted sensor. Faults in the disarmed state will result in the READY LED being extinguished. Dialer reports are limited by the sounder duration programmed selection. Only one dialer report will be issued per sounder duration defined period.

AUDIBLE: A faulted sensor initiates an audible alarm, a latched display of the ID number of the sensor and a dialer report (installer defined). Either one alarm or multiple alarms per protection point (until system is next disarmed/armed) is installer selectable as a systemwide selection. Dialer RESTORE messages can be reported.

AUXILIARY: Faulted contacts initiate a steady sounding at the console only, a latched display of the ID number of the sensor and a dialer report (installer defined). Either one alarm or multiple alarms per protection point (until system is next disarmed/armed), installer selectable as a systemwide selection. Dialer RESTORE messages can be reported.

ZONE 7 FIRE ZONE

Alarms (shorted thermostats or pull stations or activated smoke detectors) initiate a pulsed sounder alarm for a time duration defined by the installer. Concurrent fire and burglary alarms and troubles are displayed at the same time but the sounder will always give priority to fire alarms.

Fire zone protection points may not be bypassed. An open fire zone circuit (TROUBLE) WILL NOT prevent the arming of the burglary system.

Either one alarm or multiple alarms per protection point (until system is next disarmed/armed), installer selectable as systemwide selection. Contacts which have been subsequently faulted will be displayed at the console.

ZONE 8 DURESS (AMBUSH)

This is a zone only in the sense that it reports a message to the Central Station. To activate the DURESS feature, enter the first three numbers of the SECURITY CODE and increase the fourth digit by 1. (IMPORTANT! If the last SECURITY CODE digit is 9, the duress feature is disabled.)

The DURESS feature does not initiate any audible or visual signals, but reports a silent alarm. It does not cause a dialer RESTORE message to be transmitted.

TRANSPONDER TAMPER AND SUPERVISION

TAMPER Refers to the removal of a 4190WH TRANSPONDER cover. TAMPER detection will always result in a trouble signal if it occurs when the system is not armed and will display the ID number of the left loop of the affected transponder. If the system is armed and a tamper detection occurs when the left loop is utilized for burglary protection (zones 1-4), a burglary alarm will result. If the left loop is used for fire, panic or auxiliary, a tamper detection will result in a trouble signal. The implication of the latter is that a tamper fault during the armed mode will only result in a trouble if the left loop is used for non-burglary response even though the right loop is used for burglary detection.

SUPERVISION: Refers to non-responding transponders when there are no breaks in the polling loop. However, transponders situated between multiple breaks in a Class 'A' polling loop or transponders beyond a single break in an open ended polling loop will appear as supervision faults. SUPERVISION FAULT will always result in a trouble signal if it occurs when the system is not armed and will display the ID number of the left loop. If the system is armed and a supervision fault occurs when the left loop is utilized for burglary protection (zones 1-4), a burglary alarm will result. If the left loop is used for fire, panic, or auxiliary, a supervision fault will result in a trouble signal even though the right loop is used for burglary detection and the system is armed.

VI. INSTALLATION:

Installing a point protection system involves wiring the polling and contact loops, preparing and mounting the transponders; and programming, mounting and wiring the control. It is important that the installer completely read this section before attempting any of the installation procedures.

WIRING THE POLLING AND CONTACT LOOPS

Wiring the polling and contact loops first is the most efficient way to install a point protection system. By following this method, the installer not only establishes all circuits but also creates a programming plan. For this reason the installer should keep a record of what zone is to be assigned to each protection point and how that protection point is to perform.

The following should be considered when wiring the two types of loops:

1. It is good practice to separately bundle the polling loop wiring and the telephone line interface wiring and not put them in the same cable or in very close proximity to one another [less than 12 inches (305mm)]. Failure to do so has resulted in some instances of polling loop signals being coupled into the telephone lines, interfering with voice and data communication.

2. It is good practice to separately bundle the polling loop wiring and the siren/bell interface wiring and not put them in the same cable or in very close proximity to one another [less than 12 inches (305mm)]. Failure to do so has resulted in some instances of siren/bell electrical noise being coupled into polling loop, causing erroneous transponder trouble indications.

POLLING LOOP (twisted pair preferred)

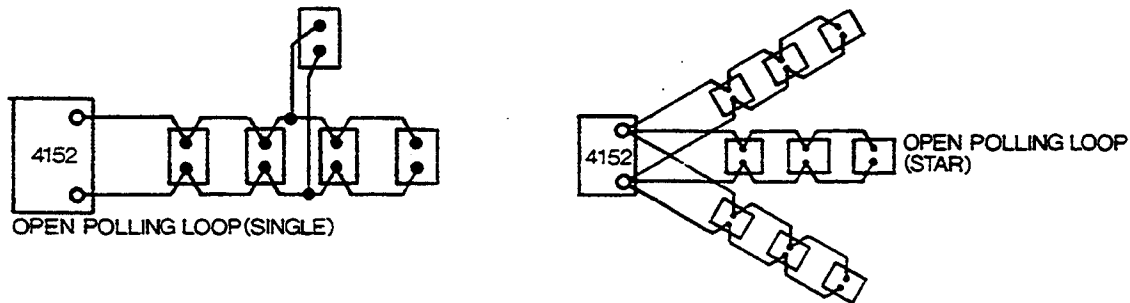
CONTACT LOOPS

GAUGE	MAXIMUM WIRE LENGTH PER RUN (ft)*	LEFT LOOP	
22.....	650 (198 m)	High Current =	22 gauge @ 1200 ft. (366 m).
20.....	950 (290 m)		High current cannot be
18.....	1500 (457 m)		used unless an external EOLR
16.....	2400 (732 m)		is used.
*If multiple wire runs are extended from the control, the maximum total length of wire that can be connected the polling loop is 4000 ft. (1219 m), independent of wire gauge.		Low Current =	22 gauge @ 200' (61 m) fast response;
			@ 1200' (366m) slow response.
		Right Loop =	22 gauge @ 1200' max. (366m) LOW CURRENT; use reed contacts only.

When a 4152LM Polling Adapter is used to create a separate open ended loop, an additional 4000ft.(1219 m) of polling loop wire can be run.

While the polling loop is being wired, don't forget to run a pair for the auxiliary power output if you are not using PIRs or smoke detectors of the VECTOR series.

Diagram 2 describes several methods of installing a polling loop:



The following wiring configurations are used with the addition of the 4152LM.

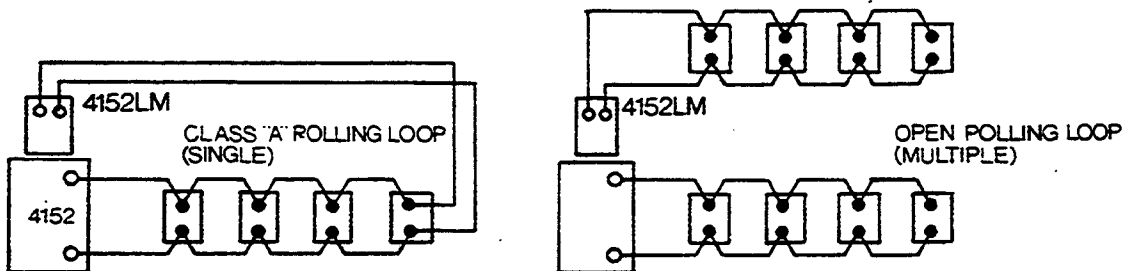


DIAGRAM 2. WIRING THE POLLING LOOP

No. 4190WH DCID TRANSPONDER PREPARATION

Preparing the DCID transponder for installation involves: (1) configuring the transponder for operation and (2) properly assigning an identification number to each transponder.

CONFIGURING THE TRANSPONDER

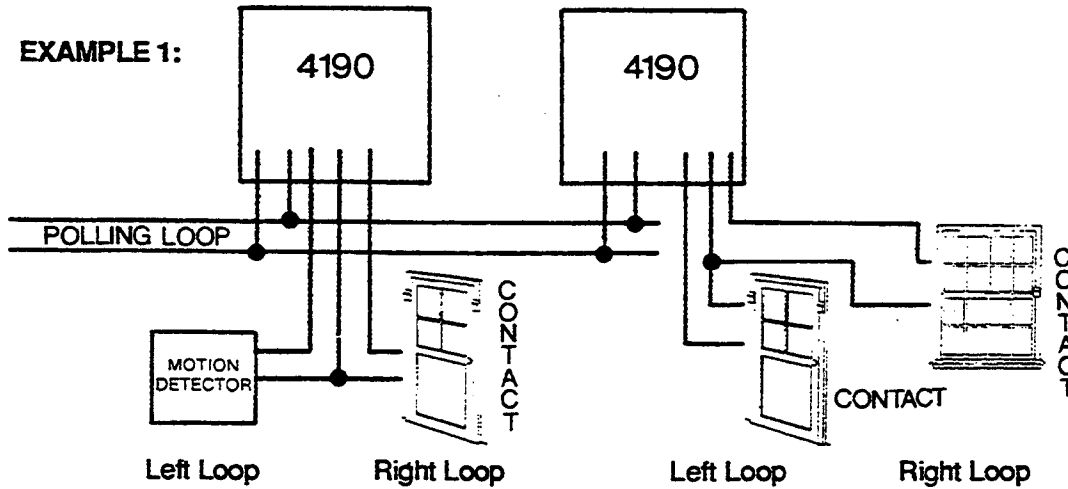
Each transponder can accommodate up to two sensor loops: a left loop and a right loop. The left loop may be configured to monitor N.O. and/or N.C. contacts. The right loop monitors N.C. contacts only. The left loop must always be used in order to have proper polling loop operation. The use of the right loop is optional. The following suggestions are helpful when configuring the left loop:

- When cutting an option jumper, be certain that BOTH SIDES of the jumper are cut to avoid accidental contact.
- Use the high current mode only when using mechanical contacts (e.g. No. 39 or other non-reed contacts). Leave the WHITE jumper intact when using the high current mode. Cut the WHITE jumper when using the low current mode for reed contacts.
- The current consumption of the entire polling loop cannot exceed 64 mA. Complete the worksheet in this section by describing each protection point and entering the current drain alongside each device.
- Although any number of sensors may be assigned to a transponder loop, avoid assigning too many contacts to any sensor loop (left or right) as this makes it difficult for the end user or your service personnel to identify a specific sensor that has been faulted.

SELECTING A TRANSPONDER ID NUMBER

When setting the transponder ID#, only the ID# for the left loop should be set at the DIP Switch. If the right loop is used, the control will automatically add (+1) one to the left loop ID# for right loop identification. If the right loop is not being used, the next transponder can be set to the next sequential number.

EXAMPLE 1:

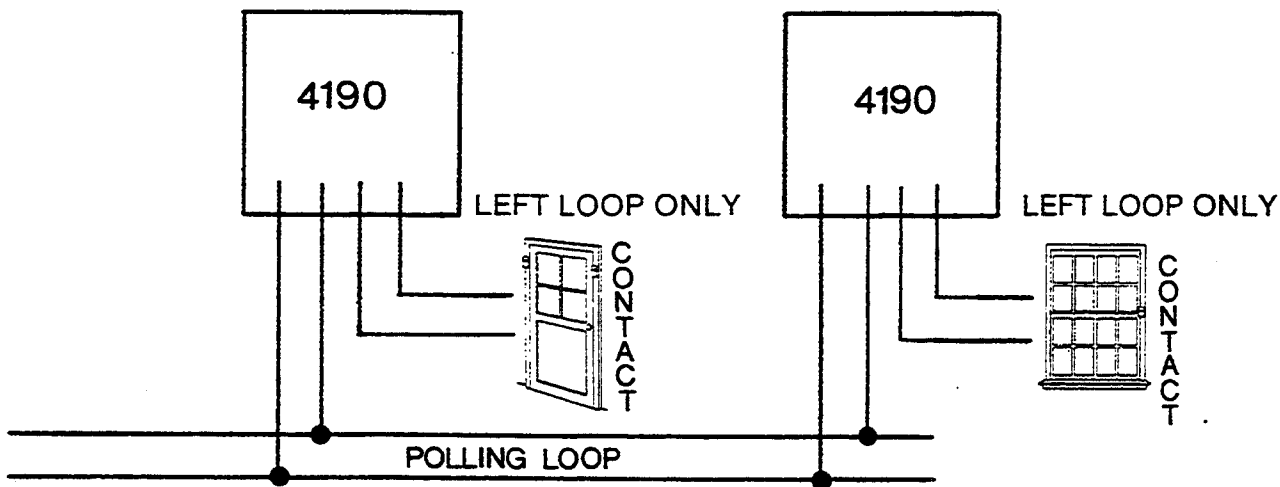


- Set this transponder's DIP switch to ID #1.
 - Left loop (MOTION DETECTOR) will be Point #1.
 - Right loop (DOOR) will automatically be set to be Point #2 when the control is programmed for this configuration.
- Set this transponder's DIP switch to ID #3.
 - Left loop (DOOR) will be point #3.
 - Right loop (WINDOW) will automatically be set to be Point #4 when the control is programmed for this configuration.

- CAUTIONS:**
1. NEVER set two transponders' DIP switches to the same ID #.
 2. NEVER assign two loops to the same ID # when programming the control.

EXAMPLE 2:

If only the left loop is used, DIP transponder switches can be set sequentially as the control will be programmed to know that the right loop is not being used.



- Set this transponder's DIP switch to ID #1.
- Since right loop is unused, no ID # will be assigned by the control.
- Set this transponder to #2.

HINTS:

- Right loop cannot be used without first using Left loop.
- Smoke Detector Transponders do not support a Right loop.
- Assign ID numbers with future expansion in mind. If many ID's are not being used, skip an ID number whenever the Right loop of a 4190WH or 4196 is NOT used. Right loop sensors can then be added later if an installation is being expanded without having to reprogram the DIP switches on any of the transponders and just by reprogramming of the control.
- The quickness with which the Vector series control/communicators can respond to a faulted sensor connected to a polling loop transponder can be maximized by taking a simple installation precaution. Make certain that all unused right loops on 4190WH and 4196 transponders are short circuited with a wire jumper.
- Assure that an interior follower sensor is always assigned to an RPM with an address one higher than the RPM connected to the nearby entry/exit sensor. Failure to do so could result in a false alarm if the Vector control communicates with the interior follower sensor RPM before it has noted the status of the associated entry sensor RPM. When that happens, the interior follower zone triggers an instant alarm because it does not yet know that there had been a prior intrusion through the entry/exit zone.

INSTALLING THE No. 4152 C-COM

Installing the No. 4152 C-COM involves wiring all connections and programming the control/communicator.

WIRING THE 4152

The following information describes the terminal connections of the control.

TERMINALS	DESCRIPTION
1(+), 2(-)	Connections for the polling loop. Be certain to use no more than the indicated maximum length of wire. All RPMs (that is, No. 4190WH DUAL POINT RPM, No. 4192SD/SDT/CP SMOKE DETECTOR/RPM, No. 4194WH/4139WH/4191WH REED CONTACT RPM, No. 4208 8 POINT RPM and the No. 4275/4196 PASSIVE INFRARED DETECTOR/RPM) are connected in parallel to each other. No more than 29 identifiable sensor loops may be connected to this polling loop, whether single, double or octuple sensor loop RPMs are used.
3, 4	AC input connections to the No. 1349 TRANSFORMER. Connect the transformer to a 24 hour unswitched 110V, 60Hz outlet.
5(-), 6(+)	Auxiliary power output: 12V @ 750 mA max. power (include the current available from terminal #14 to power consoles).
7(-), 8(+)	Alarm sounder wet output: 12V @ 1.5 A. For UL installations see Note regarding UL Installations.

WARNING!

Use only one 8 ohm speaker with a VECTOR system equipped with a No. 733 SIREN DRIVER. Multiple speakers may be used only when they are wired in series. Under no circumstances should multiple 8 ohm speakers be wired in parallel as the 4152 power supply is not capable of supplying the 3 (or more) amps required to power such a load. Although the No.733 is capable of powering such a configuration, the supporting control product cannot provide the required power.

Note Regarding UL Installations:

1. Sounding devices must be listed per UL 464 and have a marked rating of 85 decibels or more.
2. UL 609 installations: Sounding device must be listed "Burglar Alarm Sounding Device For Use In Listed Housing" and the bell must be listed Grade A (ex: AB12).
3. Maximum bell output power is 12V, at 1.5A.

9, 10, 11, 12	Telephone line connections. Use an RJ31X Direct Connect cord. #9 = Handset(Tip BROWN) #10 = Incoming Line (Tip GREEN) #11 = Incoming Line #12 = Handset (Ring GRAY) (Ring RED)
13	"DIALER ACTIVE" output (optional usage to light a remote LED) goes low when active.

14, 15, 16, 17 Console connections. When using multiple consoles, each console should be connected to these control terminals, **NOT DAISY CHAINED (HOME RUN TO EACH CONSOLE)**.

#14 = Power (RED) #15 = Data OUT (YELLOW)
 #16 = Data IN (GREEN) #17 = Ground (BLACK)

Refer to the following information when mounting the console away from the control panel.

<u>DISTANCE</u>	<u>GAUGE</u>
TO 220'	22
350'	20
550'	18

18 Ground Start Output to No. 675 Ground Start Module

19 Not Used

20 Earth Ground connection

699 INTERFACE PLUG Direct connection to the No. 699 PROGRAMMER for control/communicator programming.

ALARM TRIGGER INTERFACE This connector is used for direct connection to other output media (for example, No. 7620 Long Range Radio Transmitter, No. 698 Derived Channel Subscriber Terminal Unit, etc...)

RED Wire - Zones 1, 2, 3, 4 (burglary) and Zone 6 (should be used for audible panic) activated.

GREEN Wire - Zone 7 activated (fire)

WHITE Wire - Zone 5 (should be used for silent panic) and Zone 8 (duress) activated.

BLACK Wire - Ground

- NOTES:
1. All triggers are deactivated by CODE + OFF sequence. The duress trigger can be very short if the interval between keying the 4th digit of the code and the OFF key is short.
 2. All triggers activate immediately when an alarm is detected (no 16 second delay).

WIRING THE OPTIONAL 4152LM LOOP MODULE

- 1(+), 2(-) Connections to the polling loop. This polling loop may be **another** wiring run or it may be used as a return for the main loop (providing a Class "A" loop that is immune to a single open circuit). **NOTE: Adding the Loop Module does not increase the number of contact loops supported by the system beyond 29.**

INSTALLING AND WIRING KEYPADS

1. **Select a location for the keypad** that is convenient for entering commands and for receiving the various visual and audible system signals.
2. **Run wiring between the keypad and the control/communicator.** Use a 4-wire run (see the Summary of Connections diagram). Additional keypads may be connected in parallel with all keypads connected at the control panel. **DO NOT DAISY CHAIN KEYPADS!** See the section "Wiring the 4152" for further information.
3. **Mount the keypad as follows:** Remove the 2 screws, whose heads are behind the information compartment door on the front of the keypad, to allow removal of the back cover of the keypad.

In surface mount installations on a plaster/sheetrock wall.

Use the template provided to locate the 3 screw mounting holes (2 keyslot) and the wiring access hole. Drill the necessary holes, route the wiring in the wall through the access hole and mount the back of the keypad. Splice the wire run to the keypad's wires and push the interface wiring back into the wall. Replace the front cover/keypad assembly and screw it in place with the two screws previously removed.

In surface mount installations over a preinstalled standard electrical box (No. 4157BP backplate required)

Route the wiring from the electrical box through the access hole in a No. 4157BP backplate and screw mount the backplate to 2 screw holes in the electrical box.

Route the wiring through the access hole in the back cover of the keypad and hang this cover from its 2 keyslot holes on plastic posts protruding from the No. 4157BP backplate. Screw the back cover to the No. 4157BP using one screw. Splice the wire run to the keypad's wires and push the interface wiring back into the electrical box. Replace the front cover/keypad assembly and screw it in place with the two screws previously removed.

4. For information regarding flush mounting the console, see the instructions accompanying the console

INSTALLING VECTOR SYSTEMS NEAR AN INTERCOM SYSTEM

The polling loop and sensor loops connected to transponders (RPMs) can cause audio interference when installed too close to the wire running between the master station and remote stations of an intercom system. To avoid this problem, the following precautions must be taken:

- A minimum distance of three inches (76mm) must be maintained between the polling/sensor loop wires of the VECTOR security system and those of the intercom.
- Where it is not practical to maintain a three inch (76mm) minimum distance between the two systems, it is necessary to install shielded wiring for either the VECTOR polling and/or sensor loops or for the intercom system wiring (depending which was installed first). Whenever shielded wires are used, the shields must be earth grounded at the control or, in the case of the intercom, at the master unit.

If both the VECTOR and the intercom system are being installed at the same time, it may be easier to use shielded cable in the intercom system (See Diagram 6):

1. Shield the audio wiring running between the master station and remote stations which is in close proximity to VECTOR system wiring.
2. All shields must be grounded at the master intercom unit.
3. Observe all precautions established by the manufacturer.
4. Ground the master intercom unit to earth ground.

When using shielded cable with the VECTOR system (See Diagram 7):

1. When multiple wire runs are made from the polling connection on the control, the combined length of all runs is reduced from 4,000 ft (1219 m) to 2,000 ft (610 m) independent of wire gauge. The maximum length of any single run remains unchanged.
2. When using a 4152LM LOOP MODULE all of the aforementioned wire length restrictions must be observed.
3. When using a 4197 LINE EXTENDER MODULE all of the aforementioned wire length restrictions must be observed.
4. All sensor loop wiring in close proximity to intercom system wiring must utilize shielded cable. These cable lengths must comply with the restrictions presented in the installation instructions. There is no upper limit wire length reduction as there was with the polling loop cable.

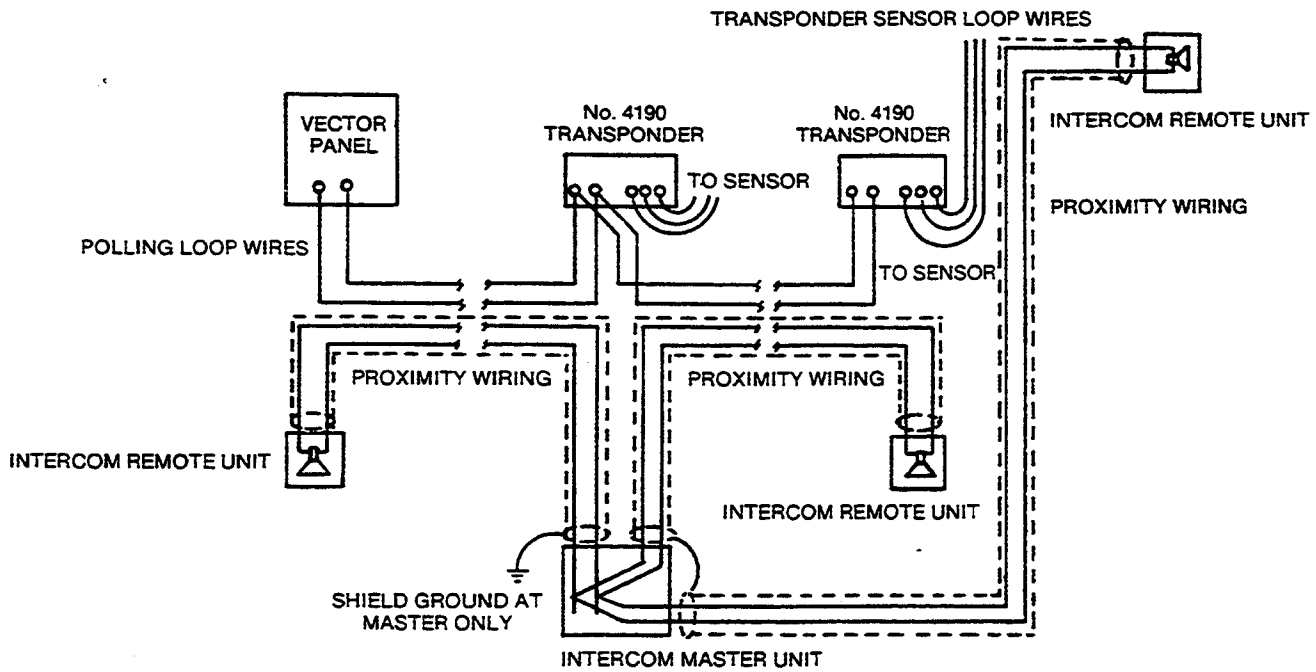


DIAGRAM 6: RECOMMENDED INSTALLATION AND GROUNDING TECHNIQUES FOR SHIELDED WIRING IN AN INTERCOM SYSTEM

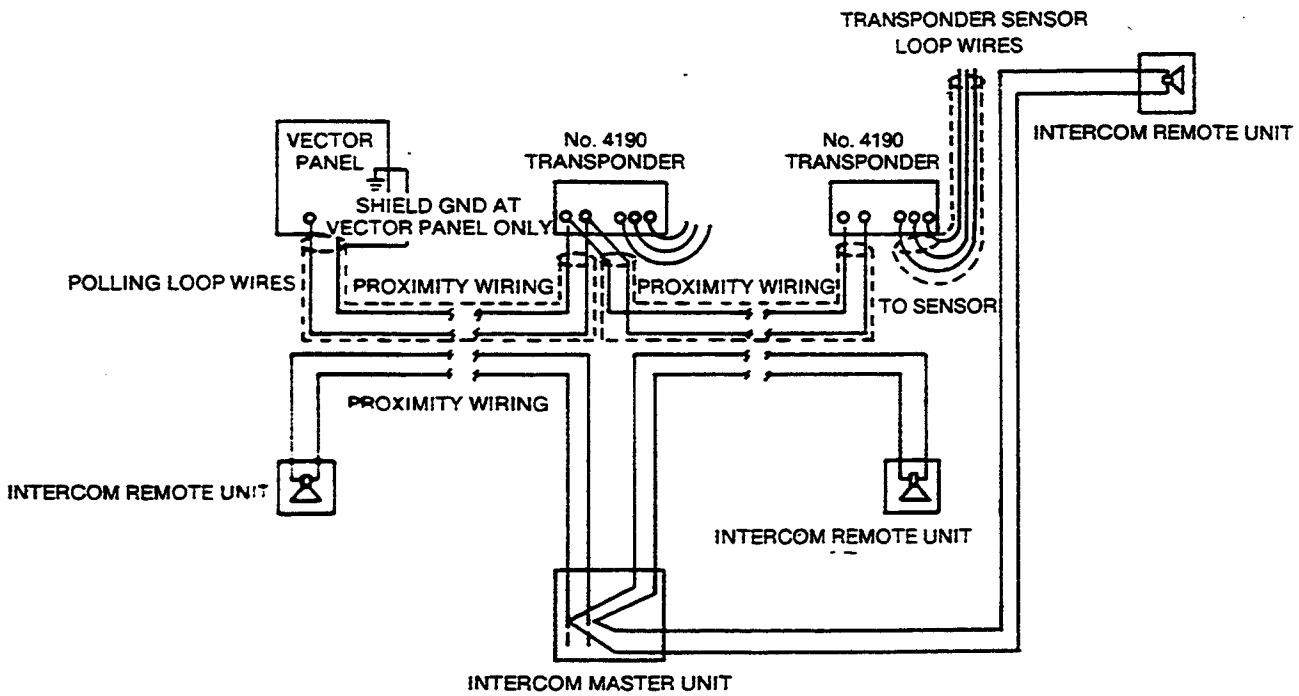


DIAGRAM 7: RECOMMENDED INSTALLATION AND GROUNDING TECHNIQUES FOR SHIELDED WIRE IN A VECTOR SYSTEM

PROGRAMMING THE No. 4152

How the 4152 C-COM performs is determined by the installer's programming. Programming may be done from the No. 4157 CONSOLE or from the No. 699 PROGRAMMER. (The No. 699 completes the programming much faster and is simpler to use because of its large alphanumeric English language display that prompts installer responses to questions. Information regarding the programmer is included with the No. 695-52 Programming Cartridge.) All required programming via the No. 4157 console is included on the worksheet which follows.

When programming from the console, consider the following:

- The system is factory programmed to a set of preset values, which can be altered by the installer to suit the specific needs of a particular installation or installation company. The preset values are detailed in the Factory Programming Table.
- Enter the programming mode by simultaneously depressing * # WITHIN 30 SECONDS AFTER POWER IS APPLIED TO THE CONTROL or subsequently by keying the code 4 + 1 + 5 + 2 followed by CODE + 0 depression. Once a master code is programmed, use it instead of 4152 (as 4152 is then no longer present) to gain access to the programming mode.
- When a data field has been completely programmed, the console will beep three times and then automatically proceed to and display the next data field address to be programmed.
- If the number of digits that you enter in the data field is less than the maximum permitted (for example phone number), then the console will display the last data entered. To proceed, the next data field address to be programmed must be entered (for example *05).
- If an address is improperly entered, the console will display "FC". If a program entry is improperly entered (for example a larger number than what is permitted), the console display will go blank. In either case, simply re-enter the number.
- Enter each address separately when you are first beginning to use the product to insure that the control is properly programmed. All entries may be changed as often as required.

The following list describes commands necessary for programming.

PROGRAMMING

ENTER PROGRAMMING MODE =

1. POWER UP (AC or DC) + Depress * and # simultaneously within 30 seconds.
2. INITIALLY: 4 + 1 + 5 + 2 + [CODE] Key + 0.
3. AFTER MASTER CODE IS PROGRAMMED: [Master Code] + [CODE] Key + 0.

NOTES: • Types 2 and 3 methods of entry to the programming mode are inhibited if the programming mode is exited via use of *98.

- Type 1 method of entry can always be used.

EXIT PROGRAMMING MODE =

*99 (allows re-entry to programming mode via Type 2 and 3 entry methods shown above).

*98 (inhibits reentry to programming mode via Type 2 and 3 entry method).

NOTE: When the programming mode is exited, a one minute set-up period must elapse before the system can properly function.

ADVANCE TO FIELD = * + ADDRESS (e.g. 01, 10, 21, etc.)
 PROGRAM FIELD = * + ADDRESS followed by data entries
 ERASE FIELDS = * + ADDRESS + * (only applies to Addresses 01-04)
 READ FIELD = # + ADDRESS
 RESTORE FACTORY PROGRAM
 SETTINGS = *90 (See Factory Programming Table).

SPECIAL MESSAGES

0C = Open Circuit (no communication to console) FC = Field Code Error

After powering up, the READY LED lights after 7 seconds. Enter the programming mode by simultaneously depressing *# within 30 seconds. The system is factory programmed with preset values (see table) that can be altered via the programming instructions that follow the table.

FACTORY PROGRAMMING TABLE

Factory predefined values serve two purposes:

- INSTALLER FAMILIARIZATION upon initial acquisition of the system.
- PROGRAMMING EFFORT REDUCTION if the installer accepts many of the preset values shown in the Table.

Installer familiarization usage permits a new customer for this product to quickly and easily set up a system for bench test so that familiarity can be achieved with the product and with some of the new aspects of operating a multiplexed polling loop system. An installer can set up four transponders spanning a variety of all possible alarm responses available from the system.

The preset values are defined below:

ADDRESS	FUNCTION	FACTORY PROGRAMMED VALUE
00	MASTER SECURITY CODE	4152
01	PABX ACCESS CODE	NONE = [0]
02	SUBSCRIBER ACCT NO.	NONE = [0]
03	PRIMARY PHONE NO.	NONE = [0]
04	SECONDARY PHONE NO.	NONE = [0]
05	SENSOR ZONE (ALARM RESPONSE) ASSIGNMENT	1=ENTRY/EXIT (BURGLARY) [1] 2=PERIMETER (BURGLARY) [2] 3=INTERIOR (BURGLARY) [3] 4=TROUBLE BY DAY/ALARM BY NIGHT (BURGLARY) [4] 5=24 HR PANIC [5] 6=24 HR. AUXILIARY [6] 7=FIRE [7] 8=NOT USED [0] 9-16=NOT USED [0]
06	SENSOR ZONE (ALARM RESPONSE) ASSIGNMENT	17-24=NOT USED [0]
07	SENSOR ZONE (ALARM RESPONSE) ASSIGNMENT	25-29=NOT USED [0]
08	SENSOR ZONE (ALARM RESPONSE) ASSIGNMENT	97 [POLLING LOOP SHORT]= TROUBLE BY DAY/ALARM BY NIGHT (BURG) [4] 98 [POLLING LOOP OPEN] = NOT USED [0] 99 [CONSOLE * # PANIC] = PANIC [5]

09	DIAL TONE WAIT	5 SECONDS [0]
10	SENSOR RIGHT LOOP ASSIGNMENT	1=LEFT [0] 2=RIGHT [1] 3=LEFT [0] 4=RIGHT [1] 5=LEFT [0] 6=RIGHT [1] 7=LEFT [0] 8=NOT USED [0] 9-16=All NOT USED [0s]
11	SENSOR LEFT LOOP/RIGHT LOOP ASSIGNMENT	17-24=All NOT USED [0s]
12	SENSOR LEFT LOOP/RIGHT LOOP ASSIGNMENT	25-29,97,98,99= All NOT USED [0s]
13	SENSOR LEFT LOOP/RIGHT LOOP ASSIGNMENT	30 SECONDS [0]
14	PRIMARY ACKNOWLEDGE WAIT	ADEMCO LOW SPEED [0]
15	PRIMARY TRANSMISSION FORMAT	30 SECONDS [0]
16	SECONDARY ACKNOWLEDGE WAIT	ADEMCO LOW SPEED [0]
17	SECONDARY TRANSMISSION FORMAT	STANDARD [0]
18	TROUBLE REPORT	STANDARD [0]
19	BYPASS REPORT	EXPANDED [1]
20	RESTORE REPORT	STANDARD [0]
21	LOW BATTERY REPORT	EXPANDED [1]
22	OPEN/CLOSE REPORT	
23	NON-ALARM ROUTING	PRIMARY PHONE NO. [0]
24	BACK-UP REPORTING	NO [0]
25	CONFIRMATION OF ARMING "DING" ENABLE	NO [0]
26	LOOP MODULE ENABLE	4152LM NOT USED [0]
27	MULTIPLE ALARMS PER SENSOR	YES [1]
28	NO FIRE TIME OUT	TIMEOUT [0]
	NOTE: Timeout is not allowed for any listed UL985 installation.	
29	LATCHED CONSOLE SOUNDER	NO [0]
30	DISABLE TAMPER	YES [1]
31	TEST REPORT ENABLE	NO [0]
32	TEST REPORT INTERVAL	24 HR. [1]
33	POWER-UP IN PREVIOUS STATE	YES [1]
34	ZONE ALARM REPORT CODES	ZONE 1 (E/E BURG) = 3 [03] ZONE 2 (PERIM. BURG.) = 3 [03] ZONE 3 (INTERIOR BURG.) = 3 [03] ZONE 4 (DAY/NITE BURG.) = 3 [03] ZONE 5 (PANIC) = 2 [02] ZONE 6 (24 HR AUX.) = 7 [07] ZONE 7 (FIRE) = 1 [01] ZONE 8 (DURESS) = 2 [02]

35 OTHER MESSAGE REPORTS

36 ENTRY DELAY
 37 EXIT DELAY
 38 SOUNDER DURATION
 39 BYPASS INDICATION
 40 ZONE 5 RESPONSE
 41 ZONE 6 RESPONSE
 42 ALARM REPORT
 43 FIRE INDICATION
 44 AC LOSS SOUNDING
 45 16 SEC. DIALER DELAY
 46 QUICK ARM
 47 4 DIGIT SUBS. ID ENABLE
 48 4th SUBS. ID DIGIT
 49 4 + 2 DIALER FORMAT
 50 UNUSED
 51 ZONE 1 RESTORE REPORT ENABLE
 52 ZONE 2 RESTORE REPORT ENABLE
 53 ZONE 3 RESTORE REPORT ENABLE
 54 ZONE 4 RESTORE REPORT ENABLE
 55 ZONE 5 RESTORE REPORT ENABLE
 56 ZONE 6 RESTORE REPORT ENABLE
 57 ZONE 7 RESTORE REPORT ENABLE
 58 SENSOR ASSIGNED TO PULSE COUNT
 CAPABILITY
 59 DIAL TONE DETECTION
 60 ALARM AFTER 4 HOURS OF AC LOSS
 61 UNUSED
 62 UNUSED

TROUBLE = F [15]
 TROUBLE DUMMY = F [15]
 BYPASS = D [13]
 BYPASS DUMMY = F [15]
 LOW BATTERY = 8 [08]
 LOW BATTERY DUMMY = 0 [00]
 RESTORE = E [14]
 CLOSE = C [12]
 OPEN = B [11]
 TEST = 9 [09]
 30 SECONDS [03]
 40 SECONDS [04]
 4 MINUTES [02]
 NOT DISPLAYED [0]
 SILENT [1]
 AUXILIARY [0]
 STANDARD [0]
 YES [1]
 NO [0]
 YES [1]
 YES [1]
 DISABLED [0]
 NONE [0]
 NO [0]
 DISABLED [0]
 DISABLED [0]
 DISABLED [0]
 DISABLED [0]
 DISABLED [0]
 DISABLED [0]
 DISABLED [0]
 DISABLED [0]
 DISABLED [0]
 FILLED WITH ZEROES [00]
 DIAL TONE DETECTION [0]
 NO ALARM [0]
 FOR PROPER OPERATION [0]
 NO [0]

SPECIFIC ADDRESS PROGRAMMING INSTRUCTIONS

FUNCTION ADDRESS

MASTER SECURITY
 CODE

*00

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Comments:

- Enter 4 digits 0-9 (entry of all 4 is mandatory)
- Using a "9" in the last position inhibits the ambush feature.
- Factory program = 4152

PABX ACCESS CODE

*01

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Comments:

- If not required, enter nothing and go to next address.
- Enter up to 3 digits, 0-9
- Only enter digits req'd. Do not fill unused spaces.
- Factory pgm = none (single zero when viewed)

SUBSCRIBER ACCT. No. *02

--	--	--	--	--	--

- COMMENTS:
- Enter up to 3 digits. Each digit requires a 2 digit entry so as to allow entry of hexadecimal digits (A-F).
 - Factory program = all zeroes
 - Use the following chart to determine the entry for each digit:

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

- For use of 4 digit subscriber account numbers, see address numbers 47 and 48.
- For use of 4 + 2 reporting format, see address numbers 48 and 49.

PRIMARY PHONE No. *03

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

- COMMENTS:
- Enter up to 16 digits, 0-9. Do not fill unused spaces.
 - Erase the field by entering *03*
 - Factory program = none (displays single zero when viewed).

SECONDARY PHONE No. *04

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

- COMMENTS:
- Enter up to 16 digits, 0-9. Do not fill unused spaces.
 - Erase the field by entering *04*
 - Factory program = none (displays single zero when viewed).

ASSIGN ZONE (ALARM RESPONSE) TO SENSORS

	1	2	3	4	5	6	7	8	
*05									SENSORS 1-8
	9	10	11	12	13	14	15	16	
*06									SENSORS 9-16
	17	18	19	20	21	22	23	24	
*07									SENSORS 17-24
	25	26	27	28	29	97	98	99	
*08									SENSORS 25-29 and 97,98,99

COMMENTS:

- All boxes must be filled with 0-7. Enter "0" in boxes referring to sensors not used.
- The first 29 boxes represent protection points. Assign zone types to each point.
- Factory program: 1 = Z1, 2 = Z2, 3 = Z3, 4 = Z4, 5 = Z5, 6 = Z6, 7 = Z7, 8-29 = not used, 97 = Z4, 98 = not used, 99 = Z5
- Assign zones from the following table:

- 0 = Assign for unused points
- 1 = Entry/exit (burg)
- 2 = Perimeter (burg)
- 3 = Interior follower (burg)
- 4 = Trouble by day/Alarm by night (burg)
- 5 = 24 hr (silent, audible or auxiliary)*
- 6 = 24 hr (silent, audible, or auxiliary)*
- 7 = Fire

***NOTE:** See address numbers 40 and 41 for selection of the kind of 24 hour zone response desired for types 5 and 6.

- "Sensors" 97 and 98 are allocated (and respond according to the zones assigned) to polling loop open (98) and polling loop short (97). Hint: use either zone 4 or one of the 24 hour zones as a response for these conditions. It is essential that a zone response be assigned for 97 to avoid system misoperation in the presence of a short.
- Assign zone 98 only when a 4152LM is used and the polling loop is wired as a class A loop. (See diagram 3). Otherwise, zone 98 will always display as faulted.
- **Caution:** If all locations are assigned as zeroes, the system is inoperative and the console will display "OC" when the programming mode is exited.

DIAL PAUSE

*09

COMMENTS:

- Enter digits 0-2. Factory program = 5 seconds.
- This feature determines the wait time for dial tone detection before dialing will commence if detection doesn't take place.
- Make selection from the following values:
 - 0 = 5 seconds
 - 1 = 11 seconds
 - 2 = 30 seconds

**DESIGNATE
RIGHT
LOOP USAGE**

	1	2	3	4	5	6	7	8	
*10									SENSORS 1-8
	9	10	11	12	13	14	15	16	
*11									SENSORS 9-16
	17	18	19	20	21	22	23	24	
*12									SENSORS 17-24
	25	26	27	28	29	97	98	99	
*13						0	0	0	SENSORS 25-29 and 97,98,99

COMMENTS: All boxes must be filled with 0 or 1 (1 if that sensor number is a right loop, 0 otherwise).

- Label all sensors as they appear on the polling loop. Example: if the first transponder uses both loops, then the first two boxes should be labeled 0 and 1. In each case, a left loop must be used; a right loop cannot be used alone (it can only be used in conjunction with a left loop).
- Factory program = 2, 4, 6 = right (1)
1,3,5,7,8-29, 97,98,99 = set to zero (0)

PRIMARY ACK WAIT

*14

COMMENTS:

- Enter 0 (30 seconds) or 1 (60 seconds).
- Factory program = 30 seconds
- Central station receiver "Acknowledge" wait time for primary phone number

PRIMARY TRANSMISSION FORMAT

*15

COMMENTS:

- Enter 0 (Ademco) or 1 (Sescoa/ Radionics)
- Factory program = Ademco
- For primary phone number
- When 4 + 2 format is selected (see address number 49), the selection in this field determines the pulse transmission rate (10 pulses/sec for Ademco and 20 pulses/sec for SESCOA/RADIONICS) and the acknowledge/kiss off frequency (1400 Hz for Ademco and 2300 Hz for SESCOA/RADIONICS).

**SECONDARY ACK
WAIT**

*16

COMMENTS:

- Enter 0 (30 seconds) or a 1 (60 seconds).
- Factory program = 30 seconds
- For secondary phone number

**SECONDARY TRANS-
MISSION FORMAT**

*17

COMMENTS:

- Enter 0 (Ademco) or a 1 (Sescoa/
Radionics)
- Factory program = Ademco
- For secondary phone number
- When 4 + 2 format is selected (see address
number 49), the selection in this field determines
the pulse transmission rate (10 pulses/sec for
Ademco and 20 pulses/sec for Sescoa/
Radionics) and the acknowledge/kiss off
frequency (1400 Hz for Ademco and 2300 Hz for
Sescoa/Radionics).

The reports in fields *18 through *22 may be designated to report either in standard or expanded format. In all cases, the standard message reports to the central station a subscriber ID number and a report (e.g. Alarm [see address *42], trouble, restore, open/close) code. The expanded message reports a subscriber ID number, the report code, followed by a second line where the report code is repeated three or four times (when 3+1 or 4+1 formats are used) and is trailed by the zone type (or user ID) related to that report.

Expanded trouble and restore reporting with channel numbers (i.e. Trouble Dummy for Trouble and Alarm Code for Restore) higher than 9 should not be used if 3+1 or 4+1 reporting formats are used and Ademco's No. 685 Digital Receiver is the message monitoring receiver at the central station. The 4+2 format should be used if numbers higher than 9 must be used. Failure to heed this advisory will result in the message being erroneously converted by the No. 685 into a meaningless message.

Report	3+1/4+1 Standard	3+1/4+1 Expanded	4+2 Standard	4+2 Expanded
Alarm	SSS(S) A	SSS(S) A AAA(A) Z	SSSS A0	SSSS AZ
Trouble	SSS(S) T	SSS(S) T TTT(T) Td	SSSS T0	SSSS TTd
Bypass	SSS(S) B	SSS(S) B BBB(B) Bd	SSSS B0	SSSS BBd
Low Battery	SSS(S) L	SSS(S) L LLL(L) Ld	SSSS L0	SSSS LLd
Open	SSS(S) O	SSS(S) O OOO(O) U	SSSS O0	SSSS OU
Close	SSS(S) C	SSS(S) C CCC(C) U	SSSS C0	SSSS CU
Test	SSS(S) Te	SSS(S) Te	SSSS Te0	SSSS Te0
Restore:				
Alarm	SSS(S) R	SSS(S) R RRR(R) A	SSSS R0	SSSS RA
Trouble	SSS(S) R	SSS(S) R RRR(R) Td	SSSS R0	SSSS RTd
Bypass	SSS(S) R	SSS(S) R RRR(R) Bd	SSSS R0	SSSS RBd
Low Battery	SSS(S) R	SSS(S) R RRR(R) Ld	SSSS R0	SSSS RLd

where: SSS or SSSS = Subscriber ID

A = Alarm Code
 0 = Zero
 Z = Zone Type
 T = Trouble Code
 Td = Trouble Dummy Code
 B = Bypass Code
 Bd = Bypass Dummy Code

where:

L = Low Battery Code
 Ld = Low Battery Dummy Code
 O = Open Code
 C = Close Code
 U = User Number
 Te = Test Code
 R = Restore Code

***NOTE: It is important that the dummy codes be made equal to their respective associated reporting code (ex: Trouble Dummy should be the same as the Trouble codes) if expanded reporting is used so that expanded restores can provide information readily usable by a central station operator.**

The following reports may be designated to report either in standard or expanded format. In all cases the standard message is reported to the central station a subscriber ID number and a report (e.g. ALARM [see Address *42], TROUBLE, RESTORE, OPEN/CLOSE) CODE. The expanded message reports a subscriber ID number, the report code, followed by a second line where the report code is repeated three times and is trailed by the zone type (or user ID) related to that report.

TROUBLE REPORT

*18



COMMENTS:

- Enter 0 (Standard) or 1 (Expanded)
- Factory program = Standard
- When expanded, a dummy code is transmitted in the 4th position of the 2nd transmission line (Zone ID is not transmitted)

BYPASS REPORT

*19



COMMENTS:

- Enter 0 (Standard) or 1 (Expanded)
- Factory program = Standard
- Bypassing a contact results in a restore report when all bypasses are removed.
- Fire sensors cannot be bypassed.
- When expanded, a dummy code is transmitted in the 4th position of the 2nd transmission line (Zone ID is not transmitted)

RESTORE REPORT

*20



COMMENTS:

- Enter 0 (Standard) or 1 (Expanded)
- Factory program = Expanded
- When a point of protection Alarm, Bypass or Trouble report is transmitted, a Restore report for any of those conditions is not issued unless all like conditions within a zone are Restored.
- When expanded, the zone type is transmitted in the last position of the 2nd transmission line (of the 1st transmission line if 4 + 2 format is used).
- Restore reports for each zone type alarm are individually selectable (see address numbers 51 through 57).

LOW BATTERY REPORT

*21



COMMENTS:

- Enter 0 (Standard) or 1 (Expanded)
- When expanded, a dummy code is transmitted in the 4th position of the 2nd transmission line
- Factory program = Standard

- OPEN/CLOSE REPORT** *22
- COMMENTS:**
- Enter 0 (Standard) or 1 (Expanded)
 - Factory program = Standard
 - When expanded, user ID (1-8) is transmitted in the last position of the 2nd transmission line (or of the 1st transmission line if 4 + 2 format is used)
- NON-ALARM ROUTING** *23
- COMMENTS:**
- Enter 0 (Primary phone no.) or 1 (Secondary phone no.)
 - Factory program = Primary phone no.
- BACKUP REPORTING** *24
- COMMENTS:**
- Enter 0 (Primary phone no. Report only) or 1 (Report all Primary phone number reports to Secondary no. too)
 - Factory program = Primary no. only
- CONFIRMATION OF ARMING "DING" ENABLE** *25
- COMMENTS:**
- Provides a 1/2 second sounding from the external sounder at end of exit time-out or at kissoff from closing report.
 - Enter 0 (no) or 1 (yes)
 - Mandatory selection for UL609 and UL1635 installations.
 - Factory program = no
- LOOP MODULE ENABLE** *26
- COMMENTS:**
- This selection prepares the system for use of the 4152LM loop module.
 - Enter 0 (4152LM not used) or 1 (4152LM used).
 - Factory program = not used
- MULTIPLE ALARMS** *27
- COMMENTS:**
- Enables the system to permit multiple alarms from a protection point during one armed period (as opposed to only one alarm)
 - Enter 0 (only one alarm from a sensor per armed period) or 1 (multiple alarms from each sensor but not more frequently than allowed by alarm time-out).
 - Factory program = multiple

NO FIRE TIME OUT

***28**



COMMENTS:

- Disables the sounder time out feature for any protection point designated as a fire zone so that fire sounding continues until the system is reset.
- Enter 0 (timeout) or 1 (no timeout).
- A selection of 1 is mandatory for a listed UL 985 fire installation.
- Factory program = timeout.

**LATCHED CONSOLE
SOUNDING FOR
BURGLARY**

***29**



COMMENTS:

- Enables the console sounder to sound steadily for a burglary alarm until the system is disarmed.
- Enter 0 (no sound) or 1 (latched steady sound)
- Factory program = no sound

DISABLE TAMPER

***30**



COMMENTS:

- When selected, all No. 4190WH transponder tamper messages are ignored by the control.
- Enter 0 (tamper enabled) or 1 (tamper ignored).
- Night tamper faults will be treated with the alarm response of the zone assigned to the left loop. For example, if the left loop is a burglary zone, then the tamper fault will cause a burglary alarm.
- Factory program = tamper ignored.

**TEST REPORT
ENABLE**

*31

COMMENTS:

- System produces a test message to the central station.
- First test message sent 12 hours after exiting the programming mode and then either every 24 (or 12) hours thereafter.
- Mandatory selection for UL1635 installation.
- Must be programmed in conjunction with data field #32 if enabled.
- Enter 0 (no report) or 1 (report enabled).
- Factory program = no report

**TEST REPORT
INTERVAL**

*32

COMMENTS:

- Determines time period between test reports and between automatic battery tests under load with AC derived power removed.
- Enter 0 (12 hrs) or 1 (24 hrs).
- Must be programmed in conjunction with data field *31.
- Factory program = 24 hrs.

**POWER-UP IN
PREVIOUS STATE**

*33

COMMENTS:

- If selected, on power-up, system will assume system status prior to power down. If not selected, it will power up disarmed.
- Enter 0 (no) or 1 (yes)
- When the system powers up armed, an alarm will be caused 1 minute after arming if contacts are faulted.
- Factory program = yes

**ZONES 1-8 ALARM
REPORT CODE**

*34

Enter all codes as double digits (e.g. 01 = 1, 02 = 2..., 10 = A, 11 = B, 12 = C, 13 = D, 14 = E, 15 = F) DISABLED = 0 (No Report)
Factory Program : Z1=3, Z2=3, Z3=3, Z4=3, Z5=2, Z6=7, Z7=1, Z8=2

COMMENTS:

- ZONE 1 (E/E BURG)
 - ZONE 2 (PER. BURG)
 - ZONE 3 (INT. BURG)
 - ZONE 4 (D/N BURG.)
 - ZONE 5 (24 HR AUD,SIL, OR AUX)
 - ZONE 6 (24 HR AUD,SIL, OR AUX)
 - ZONE 7 (FIRE)
 - ZONE 8 (DURESS)
- When 4 + 2 format is used, the codes assigned in address 34 represent the leading or first digit of the 2 digit event code. The 2nd digit of the event code is the number of the zone.
 - If the communicator within the 4152 is not used, program all codes in addresses 34 and 35 as 00.

OTHER MESSAGE REPORTS

***35**

TROUBLE
TROUBLE DUMMY
BYPASS
BYPASS DUMMY
LOW BATTERY
LOW BATTERY DUMMY
RESTORE
CLOSE
OPEN
TEST

COMMENTS:

- Enter all codes as double digits (see above)
- DISABLED = 00 (No Report)
- To disable RESTORE reports, program all codes in addresses 51 - 57 as 0.

FACTORY PROGRAM: See Table earlier in the section.

NOTE: When 4 + 2 format is used, the Trouble, Bypass, and Low Battery codes are used as the leading or first digit of the 2 digit event code. The Trouble Dummy, Bypass Dummy, and Low Battery Dummy codes are used as the 2nd digit. For restore, the Restore code is the first digit and the zone number is the 2nd digit. For Open/Close, the Open or Close code is the first digit and the user ID is the 2nd digit.

ENTRY DELAY

***36**

--	--

COMMENTS:

- Defines the time period between a zone 1 fault and the time when the alarm is sounded.
- Enter 00-15. Multiply by 15 seconds to determine time delay.
- In a listed UL609 commercial installation, a maximum of 60 seconds may be used.
- In a listed UL1023 household burglary installation, a maximum of 45 seconds may be used for an entry delay.
- Factory program = 30 secs.

EXIT DELAY

***37**

--	--

COMMENTS:

- Defines the time period after the system arming code is keyed when zones 1, 2, 3, and 4 are armed.
- Enter 00-15. Multiply by 15 seconds to determine time delay.
- In a listed UL1023 household burglary installation, a maximum of 60 seconds may be used for exit delay.
- Factory program = 40 secs.

SOUNDER DURATION

*38

COMMENTS:

- Defines the length of time a local external or internal alarm sounder will sound on all zones.
- Program data field *28 to assure no time out for fire zone alarms.
- Enter 00-15. Multiply by 2 minutes to determine sounder duration.
- In a UL609 installation, a minimum of 16 minutes must be used for sounder duration.
- In a listed UL1023 household burglary installation, a minimum of 4 minutes should be used for the alarm sounder duration.
- Factory program = 4 mins.

BYPASS INDICATION
(using numeric display)

*39

COMMENTS:

- Enables a display of "bb" whenever any sensor is bypassed.
- Enter 0 (no display) or 1 (display enabled).
- Mandatory selection for a Listed UL609 commercial installation.
- Factory program = display disabled.

ZONE 5 ALARM RESPONSE

*40

COMMENTS:

- Determines the type of 24 hour protection provided by sensors assigned to this zone.
- Enter 0 (24 hr auxiliary), 1 (24 hr silent), or 2 (24 hr audible)
- Factory program = silent

ZONE 6 ALARM RESPONSE

*41

COMMENTS:

- Determines the type of 24 hour protection provided by sensors assigned to this zone.
- Enter 0 (24 hr auxiliary), 1 (24 hr silent), or 2 (24 hr audible)
- Factory program = auxiliary

ALARM REPORT

*42

COMMENTS:

- Enter 0 (Standard report) or 1(Expanded report)
- Factory program = Standard
- When expanded, the zone type is transmitted in the last position of the 2nd transmission line (of the 1st transmission line if 4 + 2 format is used).

FIRE INDICATION
(using numeric display)

***43**



COMMENTS:

- Enables a display of "FI" whenever fire sensors are causing an alarm. When the alarm is silenced or times out, the "FI" display is replaced by display of the sensor numbers.
- Enter 0 (no "FI" display, only sensor numbers) or 1 ("FI" display enabled).
- Factory program = Display Enabled.

AC LOSS SOUNDING

***44**



COMMENTS:

- Determines if console sounding will occur when AC power is lost.
- Enter 0 (disabled) or 1 (enabled).
- Factory program = Disabled.

**16 SECOND DIALER
DELAY**

***45**



COMMENTS:

- Enables a 16 second dialer delay for fire/burglary alarm reports so that user created false alarms can be shut off before the central station is needlessly alerted.
- Enter 0 (disabled) or 1 (enabled).
- Factory program = Enabled.

QUICK ARM

***46**



COMMENTS:

- Enables arming of the burglary system in any mode without use of a security code [just # key depression followed by the command Away, Stay, Instant, or 4 (Maximum)]
- Enter 0 (disabled) or 1 (enabled).
- Factory program = enabled.

ENABLE 4 DIGIT *47
SUBSCRIBER ACCT. No.

COMMENTS:

- Enable usage of a 4 digit subscriber account number, such as in a 4 + 1 report, using either Ademco or SESCOA/Radionics format signalling.
- Enter 0 (disabled) or 1 (enabled)
- An entry in this field is not required if 4 + 2 transmission format is enabled in address *49
- Factory program = disabled.

SUBSCRIBER ACCT. *48
NO. 4TH DIGIT

COMMENTS:

- Enter the 4th subscriber account number digit (SS[S]), if used. This digit requires a 2 digit entry so as to allow entry of a hexadecimal digit (A-F).
- Use the following chart to determine the entry for each digit.
- Factory program = none

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

4 + 2 TRANS- *49
MISSION FORMAT

COMMENTS:

- Enables communication to both the primary and secondary phone number (if used) using a 4 + 2 transmission format.
- The primary and secondary format selections in address *15 and *17 (if secondary is used) are required to select the appropriate data transmission pulse rate and acknowledge/kiss off frequency.
- Enter 0 (disabled) or 1 (enabled).
- Factory program = disabled.
- The 1st digit of the event code is the code entered in address *34 or *35 and the 2nd digit is the zone type, user ID, or dummy expansion code (whichever is applicable to the individual report).
- Usage of the 4 + 2 format mandates the usage of expanded reporting for all reports. (See *18, *19, *20, *21, *22, *35, and *42 for addresses that must be appropriately set for expanded reporting).

- NOT USED** *50

 - No functional use, enter 0.

- ZONE 1 RESTORE REPORT** *51

COMMENTS:

 - Enables restore reporting for an entry/exit zone burglary alarm.
 - Enter 0 (disabled) or 1 (enabled).
 - Factory program = disabled.

- ZONE 2 RESTORE REPORT** *52

COMMENTS:

 - Enables restore reporting for a perimeter zone burglary alarm.
 - Enter 0 (disabled) or 1 (enabled).
 - Factory program disabled.

- ZONE 3 RESTORE REPORT** *53

COMMENTS:

 - Enables restore reporting for an interior zone burglary alarm.
 - Enter 0 (disabled) or 1 (enabled).
 - Factory program = disabled.

- ZONE 4 RESTORE REPORT** *54

COMMENTS:

 - Enables restore reporting for a day/night zone burglary alarm.
 - Enter 0 (disabled) or 1 (enabled).
 - Factory program = disabled.

- ZONE 5 RESTORE REPORT** *55

COMMENTS:

 - Enables restore reporting for the 24 hour alarm response selected for this zone.
 - Enter 0 (disabled) or 1 (enabled).
 - Factory program = disabled.

- ZONE 6 RESTORE REPORT** *56

COMMENTS:

 - Enables restore reporting for the 24 hour alarm response selected for this zone.
 - Enter 0 (disabled) or 1 (enabled)
 - Factory program = disabled.

- ZONE 7 RESTORE REPORT** *57

COMMENTS:

 - Enables restore reporting for a fire zone alarm.
 - Enter 0 (disabled) or 1 (enabled)
 - Factory program = disabled.

SENSORS ASSIGNED TO THE PULSE COUNT CAPABILITY

*58



IMPORTANT!

Pulse count has not been tested by UL for use in a UL609 commercial burglary installation.

- Up to five sensors (e.g. PIRs) in the address range of 01-15 can be assigned to receive false alarm protection signal processing via pulse count logic.

- If less than five sensors utilize pulse count, the unused locations must be filled with 00.

- The pulse count logic should not be enabled for sensors providing corridor/hallway coverage (using long range optics) or for wide area coverage sensors covering a doorway with only 1 or 2 beams.

- Factory Program = All 00s stored - No Pulse Count.

DIAL TONE DETECTION

*59



- Determines whether true dial tone detection is used or whether just delay before dialing (same delay as programmed in Field *09) is used. The latter may be necessary in high noise environment telco networks where noise can be confused with dial tone and premature dialing results.

- Enter 0 (Dial Tone Detection) or 1 (Pause for Dial Tone).

- Factory Program = Dial Tone Detection.

ALARM AFTER 4 HOURS OF AC LOSS

*60



COMMENTS:

- Mandatory for UL609 mercantile installations.

- Enter 0 (disabled) or 1 (enabled).

- Factory Program = 0 No Alarm

NOT USED

*61



COMMENTS:

- No functional use. Enter 0.

NOT USED

*62



- No functional use. Enter 0.

RESTORE FACTORY PROGRAM VALUES

*90

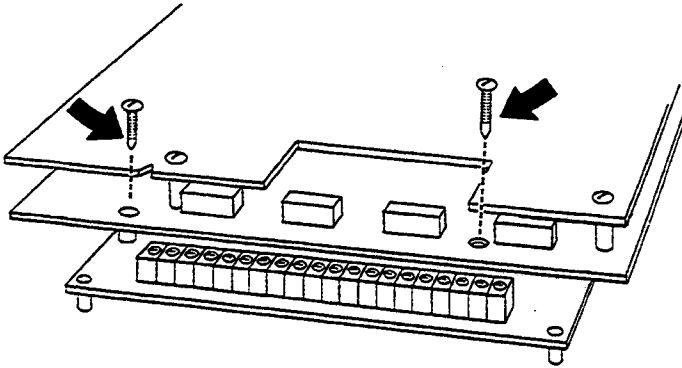
- No entries required or permitted.

Exit the programming mode by depressing *98 (if lock-out of keypad reentry to program mode without de-powering is desired) or *99.

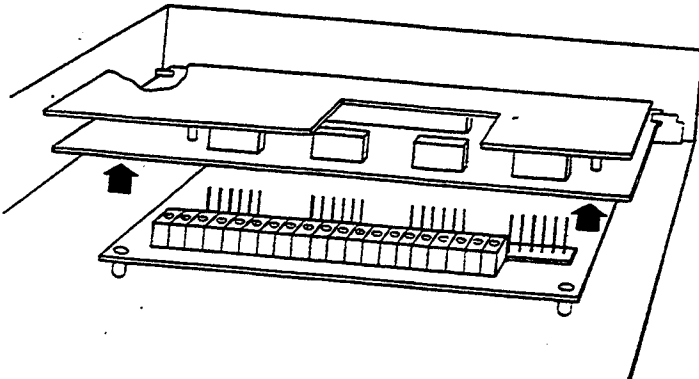
INSTALLING AND REMOVING CIRCUIT BOARDS

Removing a 4152 MAIN BOARD

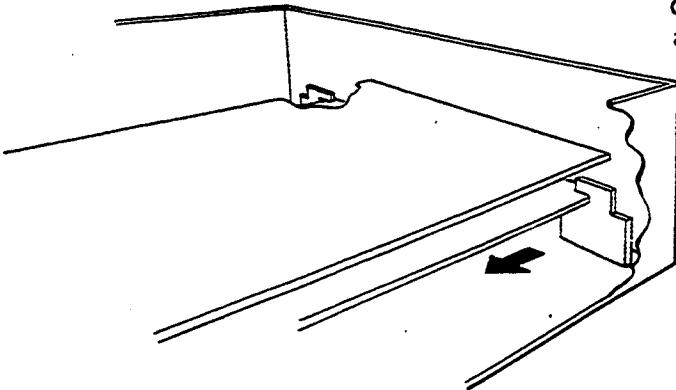
The main circuit board is removed and re-installed with the circuit board cover intact to protect the components from damage. Do not remove the cover. Make certain that all power to the system has been removed from the system before work begins. Re-install the board by reversing the following procedure.



Remove the mounting screws.

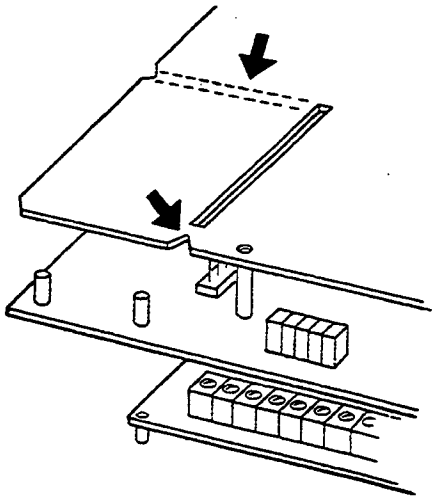


Lift and disconnect the circuit board from the square post connectors. Take care not to bend any of the connectors.

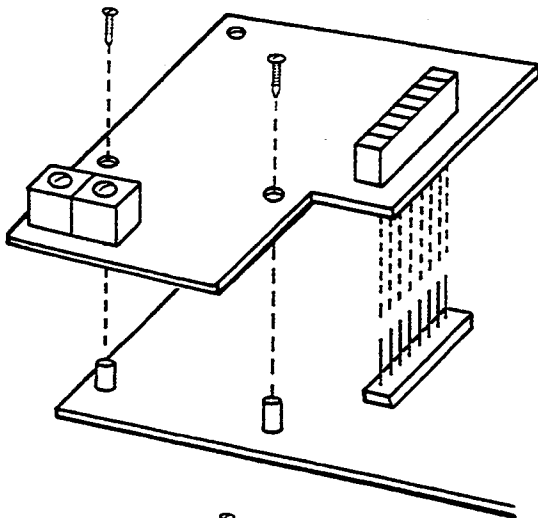


Remove the board by sliding it away from the slotted mounts.

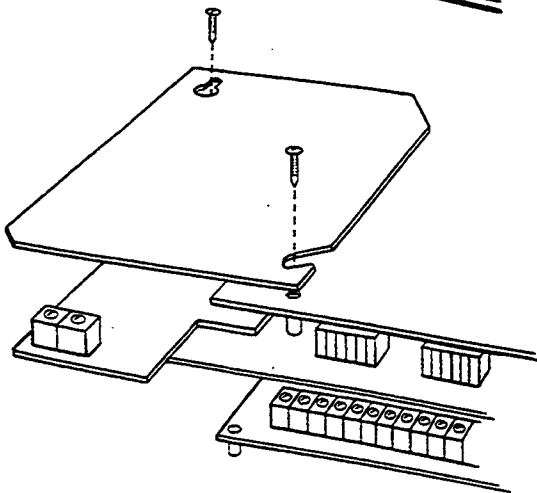
Installing a 4152LM



With a pair of diagonal cutters, cut the V-groove metal web. Remove the metal breakaway by bending it upward toward along the scored metal. Avoid touching the sharp metal edges.



Install the 4152LM by carefully inserting the square post connectors into the board. Take care not to insert the posts too far.



Install the new 4152LM circuit board cover.

USING No. 733 SIREN DRIVERS WITH VECTOR SYSTEMS

Use only one 8 ohm speaker with a VECTOR system equipped with a No. 733 SIREN DRIVER. Multiple speakers may be used only when they are wired in series. Under no circumstances should multiple 8 ohm speakers be wired in parallel as the 4152 power supply is not capable of supplying the 3 (or more) amps required to power such a load. Although the No. 733 is capable of powering such a configuration, the supporting control product cannot provide the required power.

BEFORE RELEASING THE SYSTEM

After installing all equipment, you must thoroughly test the system. After powering up, wait one minute before checking the contact loops.

- If the system is connected to a central station, notify them of a test in progress.
- Power up the system. The console will beep rapidly for approximately 10 seconds and stop. **WAIT FOR 1 MINUTE.**
- Arm the system.
- With the external sounder disconnected for this test, go to each protection point and fault the contact. Check window foil by momentarily removing (and replacing) a wire from the transponder. Check the entry delay. As each point is faulted, the corresponding ID number will appear on the console display.
- If the TAMPER option was selected, remove (and replace) the transponder covers. The corresponding ID numbers will appear on the console display.
- With the external sounder connected, enter the SECURITY CODE and TEST to test the battery and external sounders.
- Show the user how to perform all functions.

Notify central station of all tests and verify results.

VII. SERVICE:

RECALLING ALARM AND TROUBLE MESSAGES

The system will recall ten day's worth of ALARM and TROUBLE messages for display to service personnel with the following procedure:

Enter SECURITY CODE + 0

The memory will retain alarm and trouble reports ten days from the last alarm or trouble event, pinpointing their specific sensor location. If no subsequent events occur, then all previous events are automatically removed from memory. If new events occur within the ten day period, then all events are retained and the ten day cycle starts again.

After displaying all alarm and trouble reports, the memory is erased when this mode is exited, by entering **CODE + OFF.**

SPECIFICATIONS (CONT.)

No. 4196 QUAD/TRANSPONDER PIR

1. PHYSICAL: HEIGHT: 4-1/4" (108mm) WIDTH: 3-1/4" (83mm) DEPTH: 2-1/8" (54mm)
2. ELECTRICAL: VOLTAGE INPUT: 8 - 11V CURRENT DRAIN: 0.8 mA (OPERATING) 1 mA (ALARM)
3. RESPONSE TIME, RIGHT LOOP: 400 msec

No. 4275 PIR/TRANSPONDER

1. PHYSICAL: HEIGHT: 3.7" (94 mm) WIDTH: 3" (76 mm) DEPTH: 1.5" (38 mm)
2. ELECTRICAL: VOLTAGE INPUT: 8 - 11V CURRENT DRAIN: Less than 1 mA (LED inactive) 6 mA (LED active)

No. 4192CP IONIZATION DETECTOR

1. PHYSICAL: BASE DIA.: 5.0" (127mm) COVER HGT.: 3" (76 mm) COVER DIA. 3.15" (80 mm)
2. ELECTRICAL: VOLTAGE INPUT: 7 - 11VDC CURRENT DRAIN: Less than 320 uA (Standby) 230-400 uA (Active)

No. 4192SD PHOTOELECTRIC SMOKE DETECTOR

1. PHYSICAL: BASE DIA.: 5.0" (127mm) COVER HGT.: 3" (76 mm) COVER DIA. 3.15" (80 mm)
2. ELECTRICAL: VOLTAGE INPUT: 7 - 11VDC CURRENT DRAIN: Less than 320 uA (Standby) 230-400 uA (Active)

No. 4192SDT PHOTOELECTRIC SMOKE DETECTOR W/ BUILT-IN 135°F/57°C HEAT DETECTOR

1. PHYSICAL: BASE DIA.: 5.0" (127mm) COVER HGT.: 3" (76 mm) COVER DIA. 3.15" (80 mm)
2. ELECTRICAL: VOLTAGE INPUT: 7 - 11VDC CURRENT DRAIN: Less than 320 uA (Standby) 400 uA (Active)

No. 4194WH SURFACE MOUNT REED CONTACT/TRANSPONDER

1. PHYSICAL: LENGTH: 4.25" (108 mm) WIDTH: .625" (16 mm) HEIGHT: .75" (19 mm) GAP: .75" (19 mm)
2. ELECTRICAL: VOLTAGE INPUT: 8 - 11V CURRENT DRAIN: 0.5 mA

No. 4208 EIGHT POINT REMOTE POINT MODULE (TRANSPONDER)

1. PHYSICAL: HEIGHT: 7" (178 mm) WIDTH: 3.9" (98 mm) DEPTH: 1.4" (35 mm)
2. ELECTRICAL: VOLTAGE INPUT: 8 - 11V CURRENT DRAIN: 16 mA
3. RESPONSE TIME : 400 msec (slow) 10 msec (option for loops 1 and 2)

No. 4139WH SURFACE MOUNT REED CONTACT/TRANSPONDER

1. PHYSICAL: HEIGHT: .56" (14 mm) WIDTH: .50" (13 mm) LENGTH: 1.5" (64 mm) GAP: .875" (22 mm)
2. ELECTRICAL: VOLTAGE INPUT: 8 - 11V CURRENT DRAIN: 0.5mA

No. 4191WH RECESS MOUNT REED CONTACT/TRANSPONDER

1. PHYSICAL: DIAMETER: .50" (13 mm) LENGTH: 2" (51 mm) GAP: .875" (22 mm)
2. ELECTRICAL: VOLTAGE INPUT: 8 - 11V CURRENT DRAIN: 0.5mA

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.
- 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. Moreover, smoke detectors have sensing limitations. No smoke detector can sense every kind of fire every time. In general, detectors may not always warn about fires caused by carelessness and safety hazards like smoking in bed, violent explosions, escaping gas, improper storage of flammable materials, overloaded electrical circuits, children playing with matches, or arson. Depending on the nature of the fire and/or the locations 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 150°F, 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 sound on a different level of the residence from the bedrooms, then they are less likely to waken or alert people inside the bedrooms. Even persons who are awake may not hear the warning if the alarm is muffled 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 or waken deep sleepers.
- Telephone lines needed to transmit alarm signals from a premises to a central monitoring station may be out of service or temporarily out of service. Telephone lines are also subject to compromise by sophisticated intruders.
- This equipment, like other electrical devices, is subject to component failure. Even though this equipment is designed to last as long as 10 years, the electronic components could fail at any time.

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

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

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

TO THE INSTALLER

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

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

"FEDERAL COMMUNICATIONS COMMISSION (FCC) STATEMENT"

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

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

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

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

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

"Interference Handbook."

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

IN THE EVENT OF TELEPHONE OPERATIONAL PROBLEMS

In the event of telephone operational problems, disconnect the control/communicator by removing the plug from the RJ31X jack. We recommend that the installer demonstrate disconnecting the phones on installation of the system. Do not disconnect the phone connection inside the control/communicator. Doing so will result in the loss of the phone lines. If the regular phone works correctly after the control/communicator has been disconnected from the phone lines, the control/communicator has a problem and should

be returned for repair.

If upon disconnection of the control/communicator, there is still a problem on your line, notify the telephone company that they have a problem and request prompt repair service. The user may not under any circumstances (in or out of warranty) attempt any service or repairs on the system. It must be returned to the factory or an authorized service agency for all repairs.

ADEMCO LIMITED WARRANTY

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

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

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

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



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