INOVONICS

Vision plus

SUPERVISED WIRELESS SECURITY SYSTEM

INSTALLATION MANUAL

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Section I - Introduction
WELCOME TO THE VISION PLUS

The Vision Plus security system was developed specifically to provide the ease and convenience of a wireless system with the reliability of a hardwire system. The reliability of the system is derived from Inovonics' superior RF data link which uses the 900 MHz frequency band and a proprietary data transmission scheme. Inovonics' transmission system provides both increased radiated output power from the transmitters and interference avoidance at the receiver. The transmitter's spread spectrum capability combined with diversity reception at the receiver and high speed data transmission provides the utmost in performance and reliability for data communications. This performance is augmented by a system that is very flexible in application, easy to install and easy to operate. Some of the features that make the Vision Plus one of the finest wireless security systems in the industry are:

- 48 point capability
- Per point programming
- *Frequency Agile*™ 900MHz spread spectrum transmission
- Diversity reception
- Signal strength monitoring
- Prompted programming
- Programmable alphanumeric display for each point
- Non-volatile transmitter memory
- Fully supervised
- High supervision rate
- High resistance to jamming and signal clashing
- Secondary receiver option
- Easy arming and wireless keypad options
- 4 x 2 reporting format
- Contact ID reporting format
- Up / Download capable

SYSTEM OVERVIEW

The **Vision Plus** system consists of the C2020 control/communicator panel, the FA400 RF receiver, and the C103 executive keypad/programmer. The system must be programmed to meet the needs of a specific installation. The executive keypad, the FA100 remote control, the FA102 wireless keypad or an installer-supplied hardwire keyswitch are used to arm and disarm the system.

The system has four arming levels - **OFF, HOME, AWAY,** and **CUSTOM.** These arming levels affect the response to devices programmed as **INTRUSION** points. All non-intrusion devices are monitored continually and the response to such points is unaffected by the arming level. The **OFF** mode deactivates the intrusion portion of the system. The **HOME** mode will cause the system to respond to alarm conditions transmitted by any intrusion point that is programmed to be active in the HOME mode. Typically, these are perimeter protection points providing security while the home is occupied. Similarly, the **AWAY** mode will cause the system to respond to any intrusion point that is programmed to be active in the AWAY mode. AWAY mode is intended for use when the home is unoccupied and the system is to be fully armed. The last mode, **CUSTOM,** allows for bypassing specific points for special applications such as a "night mode," where all but a very limited portion of the home is to be protected. For all intents and purposes, CUSTOM mode can be treated as AWAY mode, in that the system will respond to all intrusion points as if AWAY mode were active, except that those points that are specifically programmed for BYPASS in the CUSTOM mode will be ignored.

Arming levels are accessed using the executive keypad, remote control, or a keyswitch connected to one of the hardwire loops. The remote control provides for one-button arming and disarming. Since the remote control must be programmed into the system before it can be recognized, security is greatly enhanced. For higher security, the executive and wireless keypads require the entry of a 4-digit access code to allow disarming of the system. Up to 8 different access codes can be programmed into the system.

The system is fully supervised, continually checking the status of each point in the system for the state of the sensor/switch, the battery condition, and whether or not the point has been tampered. It also checks for operational presence of the points to ensure that the transmitters have not failed or been removed from the system.

When the intrusion portion of the system is OFF, the display on the executive keypad will indicate SYSTEM READY or SYSTEM NOT READY. A display of SYSTEM READY implies that there are no faults in the system and that the system is ready for operation. A display of SYSTEM NOT READY indicates the presence of a fault in the system. A fault can be a tampered, unsecured or inactive point, or a transmitter with a low battery. A fault could also be an AC power failure or a backup battery failure at the system panel.

The condition of the system may be reviewed at any time and from any mode by pressing the REVIEW button on the executive keypad. Current alarm and fault information will be displayed. Pressing the REVIEW key on a wireless keypad generates arming status tones from hardwire keypads and audio speakers.

SYSTEM COMPONENTS

The **Vision Plus** System includes the following components:

- C2020 Control / communicator panel (Required)
- C103 Hardwired executive keypad / programmer (Required)
- FA400 *Frequency Agile* ™ RF Receiver (Required)
- FA100 Remote control
- FA102 Wireless deluxe keypad
- FA200 Universal transmitter
- FA201 Smoke detector / transmitter
- FA204 Pendant transmitter
- FA206 Passive infrared detector (PIR) / transmitter
- FA207 Shatterpro (glassbreak detector) / transmitter
- FA210 Reduced-size universal transmitter

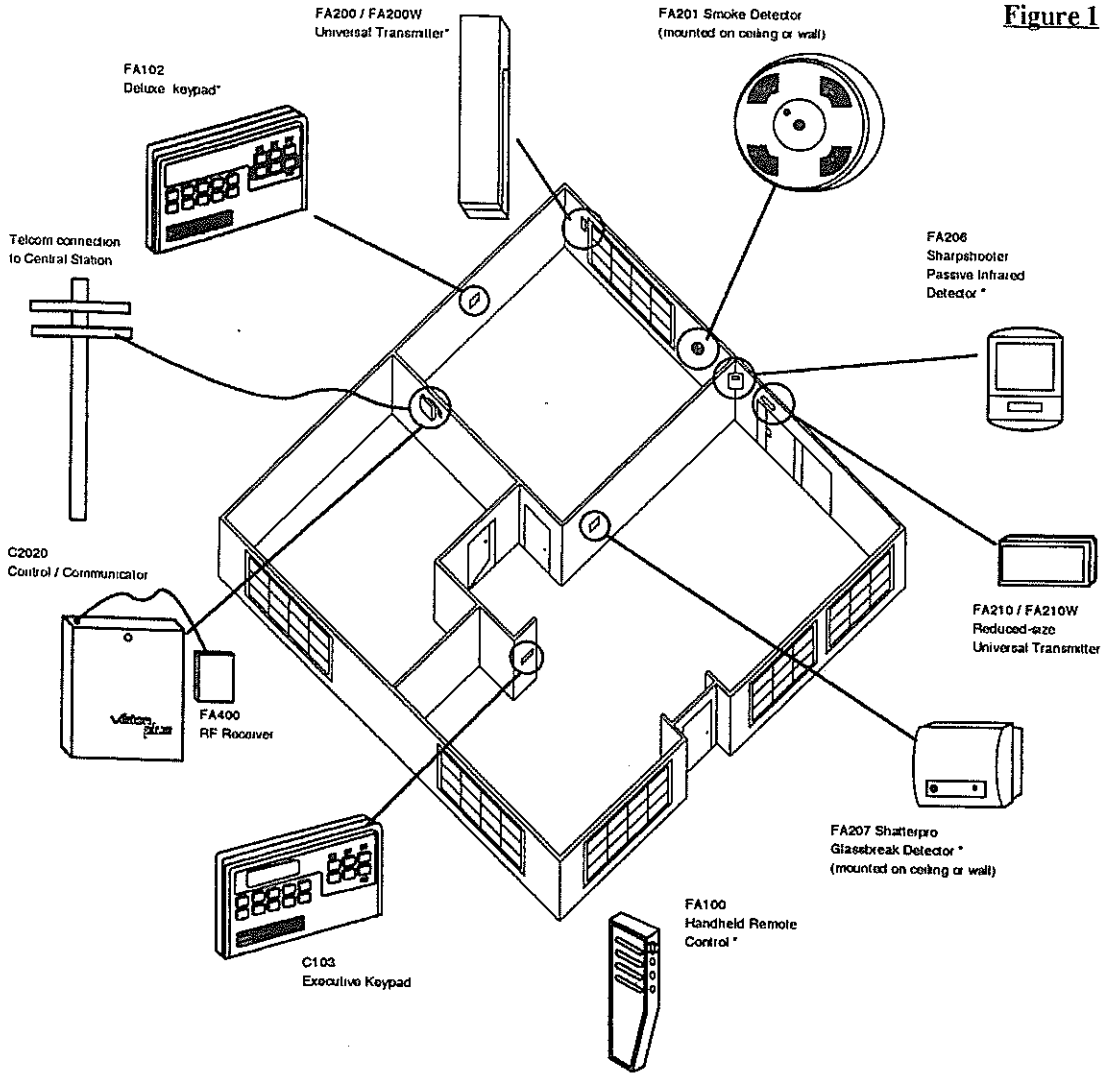


Figure 1

Section II - Installation
GENERAL INSTALLATION AND PROGRAMMING PROCEDURES

1. Plan the installation and fill out the programming worksheet. The programming worksheet provides an easy guide for configuring and entering information into the system. The worksheet should be retained for reference in the event the system requires service (see sample worksheet on pages 51, 52, and 53). If any hardwire loops are to be used, it may be more convenient to prewire them before the panel is installed.

2. Install the panel so the door opens downward. Connect the desired devices to the alarm and auxiliary relays. Connect an annunciation speaker if desired. The annunciation speaker **cannot** be used in parallel with the siren and must be 8 ohms. The sirens can use either the panel's regulated power supply, which provides 13.5 VDC at 1.5 amps/20 watts maximum, or an external power supply. Note that if two or more siren devices are connected to the same relay output, they should be wired in parallel rather than in series so that all of the devices will receive the correct supply voltage. Connect the earth ground terminal to an 8-foot copper-clad grounding spike (preferably unified with the grounding spikes for the power line and the telephone lines), using 14 gauge or thicker solid wire. Figure 2 illustrates basic panel connections, while Figure 3 illustrates basic system wiring using the panel's power supply to power the external siren.

3. Connect a C103 executive keypad to the panel. The executive keypad is permanently installed as a part of the system. The system will support up to 4 executive keypads, with a maximum combined wire run of 1000 feet. The maximum wire run to any single keypad is 250 feet.

4. Connect the FA400 receiver to the panel. The receiver can be located away from the panel to optimize reception, should the panel be mounted in a location that does not provide optimal RF reception. A second receiver can be added for large installations or where diverse or redundant reception is critical.

5. Mount an RJ31X or RJ38X telephone jack in a convenient location. In some areas, the RJ31X or RJ38X jack must be installed by the telephone company. You will need to give the phone company the FCC Registration number of the communicator (HCQUSA-73083-AL-E) and the ringer equivalence (0.2B).

6. Connect the backup battery and the AC power transformer to the panel. First, connect backup battery (not included) to the black (-) and red (+) panel leads. A 12 volt sealed lead acid battery rated at 4 amp hours is required. **If you do not connect a backup battery, the Vision Plus will show a system "trouble".** The AC power transformer (included) supplies 14 volts AC at 20 VA. Connect the transformer to the panel's AC terminals with 18 gauge or thicker wire, and secure the transformer to the wall with the mounting tab. The AC LED on the panel will light. For UL listed systems, the transformer must be mounted in the same room as the control unit.

7. Program the panel parameters using the executive keypad (see section III, Programming the Panel).

8. Label each transmitter and program using the executive keypad (see section III, Programming a Point).

9. Install each transmitter in the desired location and test transmitter (see section IV, Testing Transmitters).

10. Connect any hardwire loops and program them into the system as points one through six. **NOTE: Hardwire loop 1 (the powered hardwire loop) MUST have a 2.2K end-of-line resistor installed across the contacts of the last sensor in line in order to function properly.** Failure to install an end-of-line resistor will result in hardwire loop 1 always being reported as TAMPERED. Also, all sensors used with hardwire loop 1 MUST be 2-wire powered smoke detectors equipped with normally open contacts. ESL model 429C smoke detectors are recommended. No more than six hardwire smoke detectors may be used with hardwire loop 1. NOTE:

11. Enter and then exit the program mode from the executive keypad. Allow time for all transmitters to report in to the panel (at least two minutes), then review the system status by pressing the REVIEW key to confirm that all points have reported. Following an exit from program mode, any transmitter from which the system has not yet received a message will be considered inactive. Inactive conditions may be cleared using the CLEAR MEMORY function.

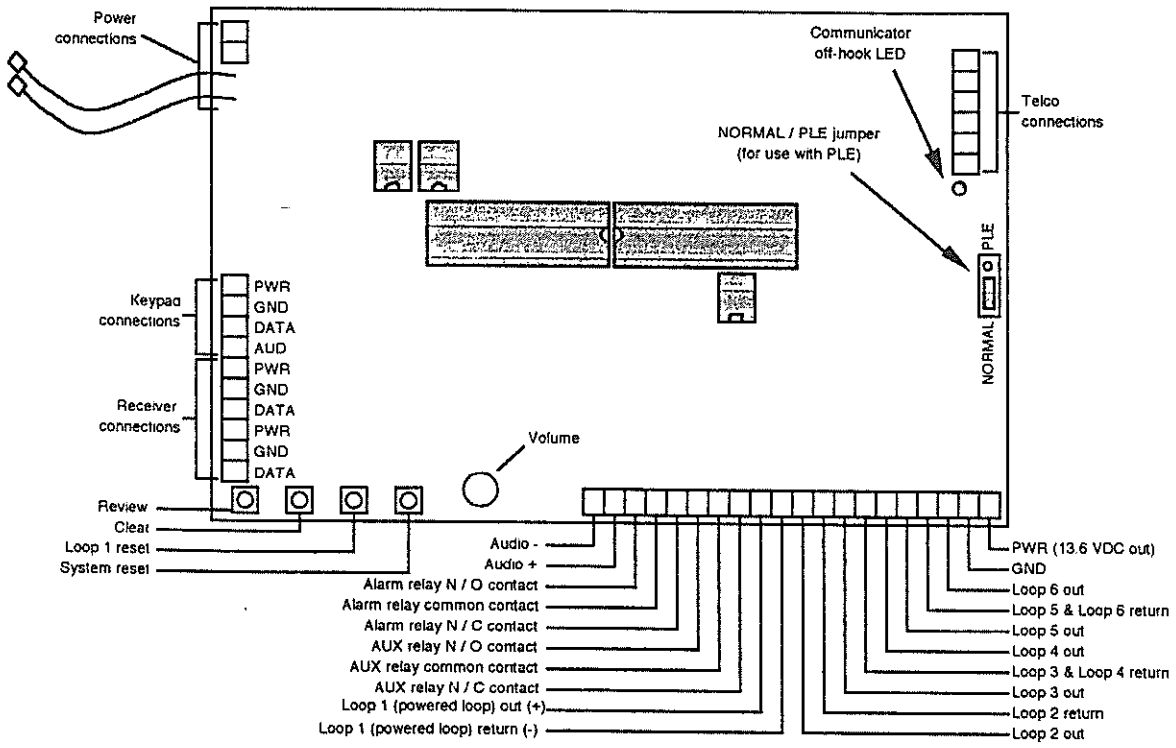
C2020 PANEL

The panel may be mounted in any location that is convenient for AC power and telephone access. The panel is powered by a 14 VAC transformer (included) and a 12 VDC backup battery. Any number of speakers may be connected to the AUDIO terminals, but care must be taken to insure that the total resistive load is not less than 8 ohms. Connecting speakers in series is the best way to assure this.

IMPORTANT: When connecting the communicator to the phone line, verify that the NORMAL/PLE jumper is set in the NORMAL position. If the the jumper is set in the PLE position the panel may be damaged by power surges.

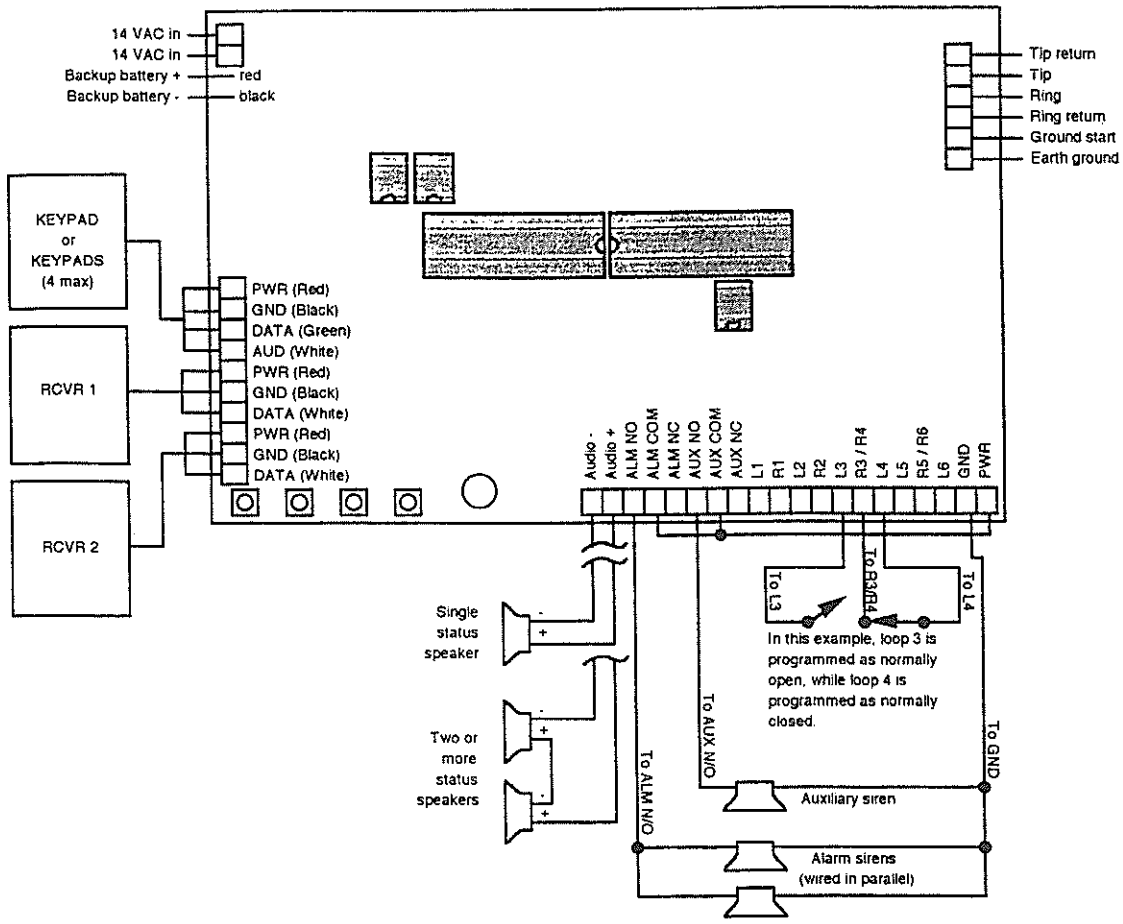
Figure 2 illustrates the connections available on the Vision Plus panel. A wiring diagram is provided in Figure 3 on page 3 to assist in making all the necessary connections.

Figure 2



C2020 PANEL (continued)

Figure 3



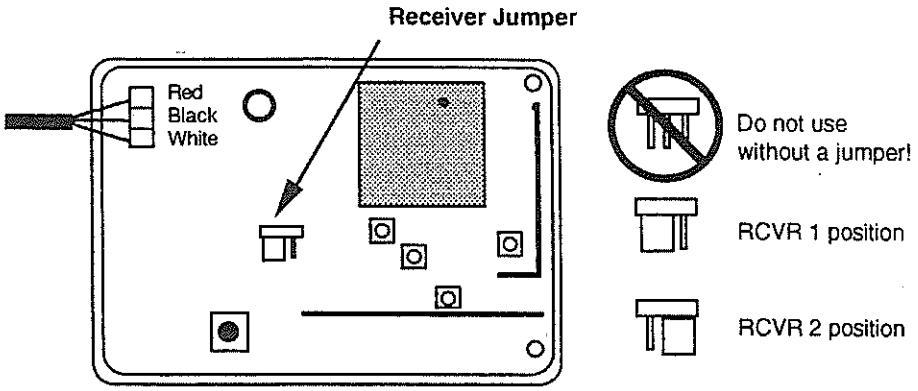
Note in this example that when more than one device is to be connected to a single relay (in this case, the alarm relay), the devices should be connected in parallel so that all devices receive the same amount of voltage from the panel. Also note that when more than one status speaker is connected to the audio terminals, the speakers must be wired in series to insure that the resistive load across the audio terminals is at least 8 ohms.

FA400 RF RECEIVER

The RF receiver can be mounted next to the panel or at a distance. In most installations, mounting the receiver next to the panel will be the best solution. If the installation requires the panel to be mounted in close proximity to large metal objects, it is advisable to move the receiver out away from the metal objects. The system can accommodate two receivers, should the installation be unusually large or an otherwise "tough" RF environment. The maximum combined wire run from the panel to all receivers connected to the system must not exceed 1000 feet combined. Shielded wire should **not** be used due to the distortion of data it causes.

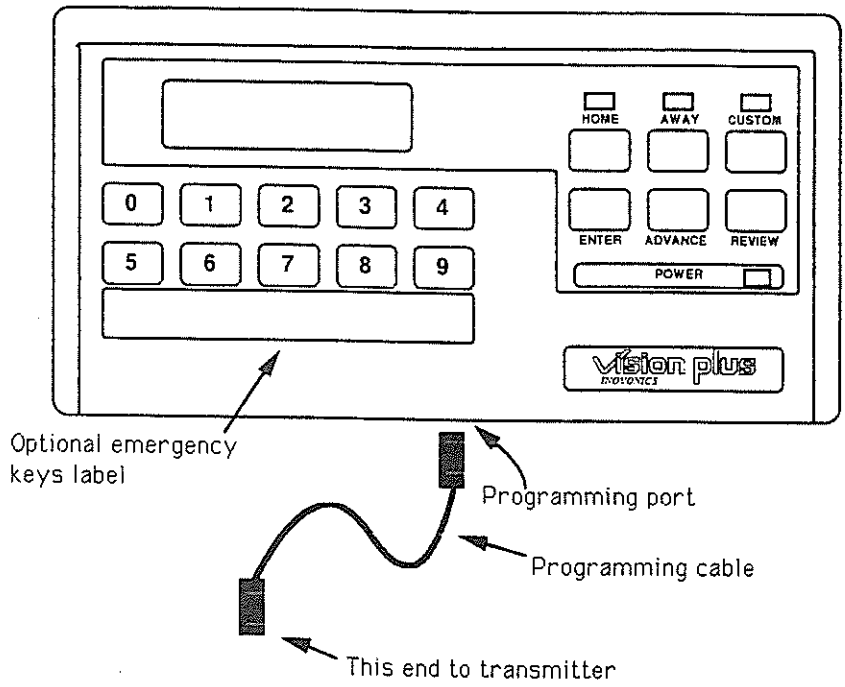
If only one receiver is to be used, it is only necessary to connect the three wires coming from the receiver to the panel as shown in Figure 3. If two receivers are used, remove the receiver covers by removing the four screws holding the case halves together. Locate the receiver jumper and place the shunt connector on one outside and center pin on the first receiver and place the connector on the opposite outside and center pin on the second receiver. The second receiver is connected to the panel in the RCVR 2 position. Replace the covers. The receivers can be mounted using the double-sided adhesive tape.

Figure 4



The executive keypad interfaces with the panel via four wires, which must be connected as shown in Figure 3 on page 3. The system will support up to 4 executive keypads, with a maximum combined wire run of 1000 feet. When programming transmitters, the programming cable connects to the 3 pin connector at the bottom edge of the keypad. The other end of the cable is connected to a transmitter to transfer program information.

Figure 5



Attaching the optional emergency keys label*

If your customer wishes to have a visual reminder of which keys on the executive keypad should be used in case of emergency, you may attach the optional emergency keys label as indicated in Figure 5. Note that if the emergency keys are to be used, the EZ ARMING option must be set to YES. The emergency keys are used by pressing ENTER followed by the emergency key corresponding to the type of alarm to be generated as follows:

Key	Alarm type	Key	Alarm type
Enter+5	Fire	Enter+7	Police
Enter+6	Emergency	Enter+8	Special

Thus, if EZ ARMING is set to YES and the user presses ENTER followed by the 5 key, the system will generate a fire alarm, just as if a 24-hour fire point has gone into alarm.

FIRE and POLICE alarms activate both the alarm relay and the audio output. SPECIAL and EMERGENCY alarms generate audio output, but do not trip the alarm relay.

The last key shown on the label, CHIME (Enter+9), toggles the door chime function on and off, and is always available, regardless of the setting of the EZ ARMING option.

The programming template

Mount the keypad by securing the back cover to the wall. Use a screwdriver to unlatch the tabs along the bottom edge of the cover, then secure the back cover to the wall with the screws and wall anchors provided. To reassemble the keypad, align the bottom edge of the unit with the bottom edge of the back cover, and snap the top into place. Also included with the control panel is the programming template. This is a heavy paper template which fits over the digit keys on the executive keypad to provide easy reference as to which alphanumeric characters are associated with which digit keys, to assist in programming point alphanumeric text descriptions.

The executive keypad will continually display the status of the system via the alphanumeric LCD display. Pressing the REVIEW key will cause any faults to be displayed. The point that went into alarm first since the last mode change will be displayed first, followed by all other alarmed points in numeric order rather than chronological order. Any point-related faults will then be displayed, followed by system faults such as AC failure, receiver failure, and so on.

By using the Master Code, the user can gain access to several special features. To access the functions enter your master code and then press the REVIEW key.

The following menu can be scrolled through using the advance key. Press the enter key to select the displayed option:

```
BYPASS POINTS
CLEAR MEMORY
REVIEW POINTS
REVIEW ALARMS
PROGRAM CODES
TEST TELCOM
RESET H/W SMOKES
```

BYPASS POINTS allows any point in the system that is not programmed as a 24-hour FIRE, MEDICAL†, or POLICE point to be bypassed. This is typically used to take a troublesome point out of the system until it can be serviced. It will remain bypassed until the next time the system is disarmed from an armed mode. The system will ignore all transmissions from points that have been bypassed.

CLEAR MEMORY clears latched fault information and transmitter signal strength information from the system. Latched faults are transmitter low battery, point alarm, and point tamper.

REVIEW POINTS allows the user to determine which points are programmed into the system.

REVIEW ALARMS displays system alarm information. For more information concerning the REVIEW ALARMS function, see "Reviewing Faults" on page 38.

Under the **PROGRAM CODES** menu, some user-defined parameters may be modified. These parameters are:

```
MASTER CODE
DURESS CODE
USER CODE (1-6)
DL CHECK - AUTO/RNGBK
CODE LIMIT
```

These parameters are programmed as if they were being entered from the PROGRAM PANEL menu. For more information concerning the programming user codes, see "Programming user codes" on page 19.

TEST TELCOM causes the communicator to attempt to call its programmed phone numbers and report a system test. For more information concerning the test telcom function, see "Testing the System" on page 35.

RESET H/W SMOKES resets hardwire loop 1. This will interrupt power to any sensors connected to the loop 1 terminals for two and a half seconds, to allow the sensors to reset in the event of an alarm or overload.

The Vision Plus security system is equipped with six hardwire loops for use in applications where hardwire points are required.

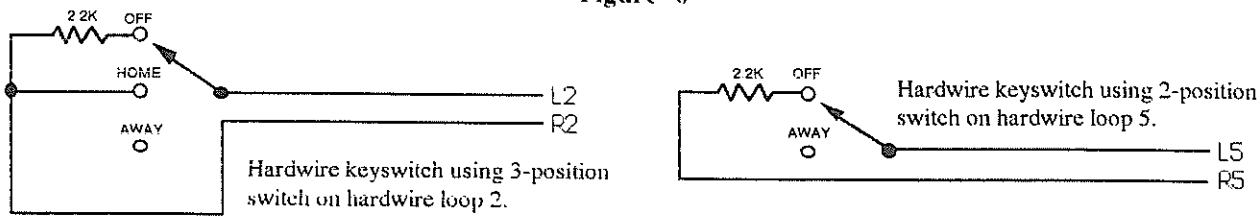
Hardwire loop one is a powered hardwire fire loop suitable for use with industry standard 2-wire smoke/fire detection sensors. Two wire smoke sensors connected to this loop must meet the following specifications:

Operating current (typical).....50 microamperes
Alarm current (typical).....3 milliamperes minimum
Maximum combined current drain before loop shutdown.....300 milliamperes
Minimum amount of time power must be removed from loop to reset sensor.....2 seconds

Because most two-wire smoke sensors draw approximately 50 milliamperes when they are in the alarm state, it is recommended that no more than six hardwire smoke detectors be connected to hardwire loop one. Inovonics recommends ESL model 429C two-wire smoke detectors for use with the Vision Plus system.

Hardwire loops two through six may be used with any normally open or normally closed contacts, and may be programmed as any Vision PLUS device type, other than KEYPAD. If a hardwire loop is programmed as a COMMAND device, it is assumed that the device will be used with a hardwired keyswitch as an arming device. Either a two-position or three-position keyswitch can be used, and should be connected as shown in Figure 6.

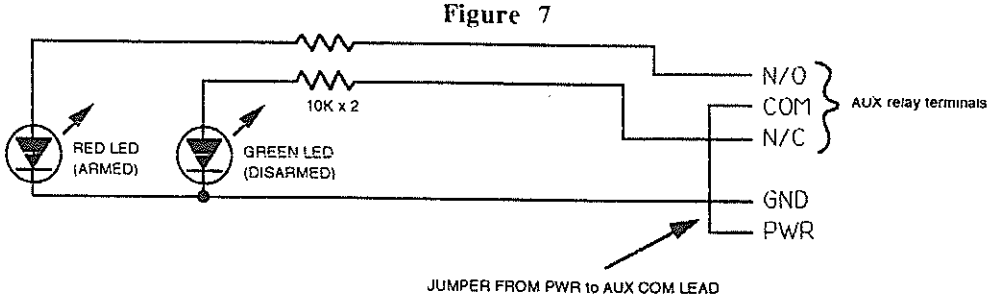
Figure 6



NOTE: If a hardwire keyswitch is selected as an arming device, no other arming devices should be used with the system. The reason for this is that if all power to the system should fail, as soon as power is restored, the system will enter the arming state determined by the hardwire keyswitch position, which may not necessarily be the same as the arming state that was active when power failed if other arming devices are used.

If a two-position keyswitch is used, it may be desirable to have a visual indication of the armed status of the system. To this end, the auxiliary relay may be programmed to close while the system is armed. The relay pulses if an alarm occurs while the system is armed. Two status LEDs (one for armed, and one for disarmed) may be connected to the system as shown in Figure 7. In order for the LEDs to operate properly, the AUX RELAY option under PROGRAM PANEL must be set to option 2.

Figure 7



FA100 REMOTE CONTROL

The remote control allows for "one button" arming and disarming of the system. It also provides a "panic button" for signaling a police emergency. In that it only transmits when one of its buttons is pressed, this transmitter is NOT supervised.

The remote control is powered by a high capacity lithium battery, with an expected life of 3 to 5 years.

To program a remote control, proceed as follows:

1. Remove the two screws holding the case together.

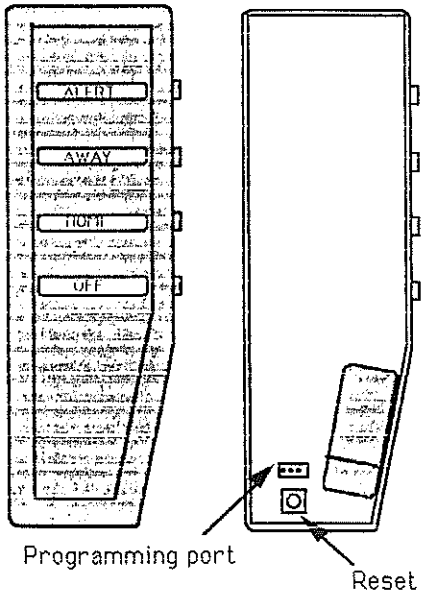
2. Label the unit with the numbered labels provided.

3. Complete the program data entry at the executive keypad (see PROGRAMMING A POINT, pg. 20). Continue as prompted by the display. When the display indicates "PLUG IN XMITTER", connect the programming cable from the executive keypad to the programming port on the transmitter. Press the transmitter reset button. When the programming operation has been confirmed by the executive keypad, disconnect the cable.

4. Test point to be sure it is functioning properly. While still in Program Mode, pressing the OFF, HOME, and AWAY buttons should cause the panel to "ping". Pressing the ALERT button should cause the panel to emit a "ding-dong" chime.

5. Reassemble the unit.

Figure 8



FA100 Command transmitter
Recommended Programming:

TYPE:	REMOTE
MONITORED:	YES
AUDIBLE:	YES
RELAY OUT:	YES
BATTERY:	3.0V Lithium

The deluxe keypad is used to provide additional security in arming and disarming the system. The FA102 keypad can be programmed as a supervised device. It also featrues low battery monitoring.

When the correct access code has been entered by pressing the appropriate digits, the HOME, AWAY or CUSTOM key may be pressed to arm the system. The Transmit LED will light and the keypad will emit a "ping" when a key is pressed. Proper entry of the access code--followed by pressing the OFF key--will disarm the system.

The keypad is powered by a high capacity lithium battery, with an expected life of 4-7 years. Factors affecting battery life include frequency of use and check-in period.

To program the deluxe keypad, proceed as follows:

1. Label the unit with the numbered labels provided.

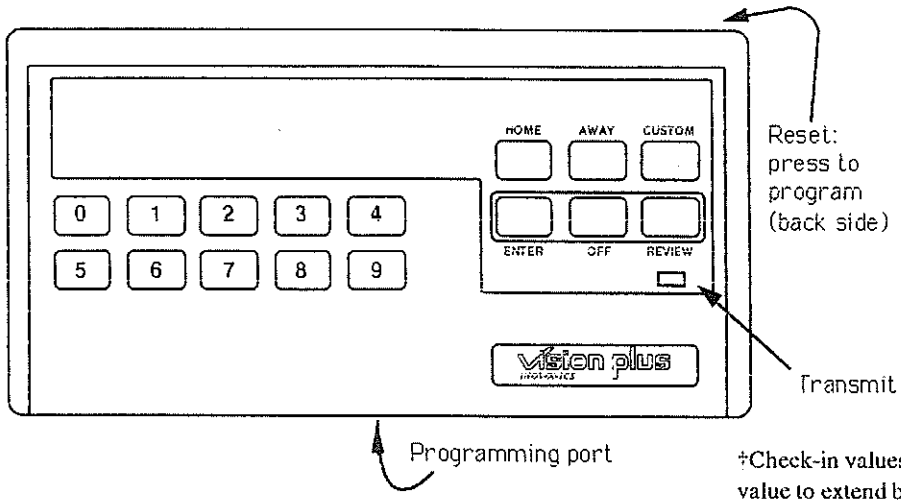
2. Complete the program data entry at the executive keypad (see PROGRAMMING A POINT, pg. 20). Continue as prompted by the display. When the display indicates "PLUG IN XMITTER", connect the programming cable from the executive keypad to the programming port on the transmitter.

3. Press the reset button on the back side of the keypad. When the programming operation has been confirmed by the executive keypad, disconnect the cable.

4. Test the point to be sure it is functioning properly Pressing any of the keys will cause the keypad to "chirp". Pressing any arming key will cause the executive keypad to "ping".

5. The keypad may be mounted to the wall using the screws provided.

Figure 9



FA102 Deluxe keypad Recommended Programming:

TYPE:	KEYPAD
MONITORED:	YES
AUDIBLE:	not applicable
RELAY OUT:	not applicable
CHECK-IN:	5 MINUTES†

†Check-in values are executed at 3-X programmed value to extend battery life. E.G., 5 min = 15 min.

FA200 & FA200W UNIVERSAL TRANSMITTERS

The universal transmitter will interface to any normally open or normally closed non-voltage driven switch which maintains closure for at least 1.5 seconds. If interfacing to an "open collector" type sensor switch, use care in connecting the common or ground lead from the switch to the negative (outside) terminal of the transmitter. The transmitter can reliably be used with up to 20 feet of wire between the transmitter and sensor/switch.

The wire loop going to the sensor/switch can be supervised against tampering by using the 2.2K end of line resistor provided. If the switch is normally open (in non-alarm state), the resistor should be placed in parallel with the switch. If the switch is normally closed , the resistor should be placed in series with the switch (see Figure 16, page 23).

The FA200W version of the universal transmitter has a built-in magnetic reed switch which operates in conjunction with an external magnet (provided). This eliminates the need to use an external switch although the FA200W can monitor both the internal switch as well as an external switch (N/O or N/C).

To install a universal transmitter, proceed as follows:

1. Remove the cover from the transmitter and connect the battery to the battery terminals.

2. Label the transmitter with one of the provided numbering labels.

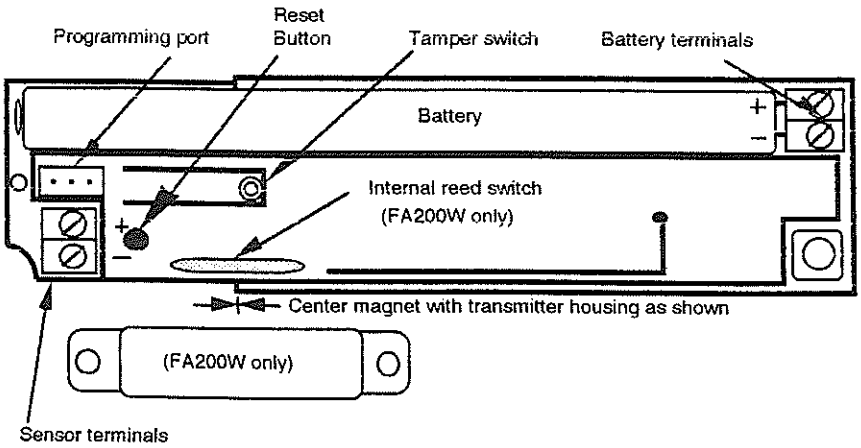
3. Complete the program data entry at the executive keypad (see PROGRAMMING A POINT, pg. 20). Continue as prompted by the display. When the display indicates "PLUG IN XMITTER", connect the programming cable from the executive keypad to the programming port on the transmitter. Press the transmitter reset button. When the programming operation has been confirmed by the executive keypad, disconnect the cable.

4. Replace the cover by positioning the narrow end of the cover to the base and closing the case.

5. Test point to be sure it is functioning properly. When the contacts are switched to the alarm state (open for transmitters programmed as N/C, closed for transmitters programmed as N/O, and magnet away from the transmitter for the FA200W) from the secure state, the panel will emit a "ding-dong" chime. Note that if the transmitter cover is not secured, the transmitter will be considered to be tampered, and no "ding-dong" chime will sound until the cover is secured correctly.

6. Use the screws and wall anchors included with the transmitter if the transmitter is to be mounted with screws or use the double-sided adhesive tape and mount the transmitter in the desired location. (Tape should only be used as a temporary means of mounting, and should NOT be used to secure the transmitter to drywall.)

Figure 10



FA200 / FA200W Universal transmitter Recommended Programming:

TYPE:	INTRUSION
HOME:	as appropriate
AWAY:	as appropriate
CUSTOM:	as appropriate
POINT LOOP:	as appropriate
EOL RESIST:	as appropriate
INT CNTCT:	FA200: NO FA200W: as needed
MONITORED:	YES
AUDIBLE:	YES
CHIME:	YES
CHECK-IN:	60sec

connecting the common or ground lead from the switch to the negative (outside) terminal of the transmitter. The transmitter can reliably be used with up to 20 feet of wire between the transmitter and sensor/switch. In UL listed systems, the contact and transmitter must both be mounted in the same room. If the transmitter is programmed as normally open without end-of-line supervision, the transmitter and contact must be within three feet of one another, with no intervening walls or barriers.

The wire loop going to the sensor/switch can be supervised against tampering by using the 2.2K end of line resistor provided. If the switch is normally open (in non-alarm state), the resistor should be placed in parallel with the switch. If the switch is normally closed , the resistor should be placed in series with the switch (see Figure 16, page 23).

The FA210W version of the reduced-size universal transmitter has 2 built-in magnetic reed switches which operate in conjunction with an external magnet (provided). The switches are located to permit either horizontal or vertical mounting of the FA210 unit. The corner of the housing enclosing the reed switches has a raised indicator over the vertical reed switch. The FA210W can monitor both the internal switch and an external switch (N/O or N/C).

To install a reduced-size universal transmitter, proceed as follows:

1. Remove the cover from the transmitter and connect the battery to the battery terminals.

2. Label the transmitter with one of the provided numbering labels.

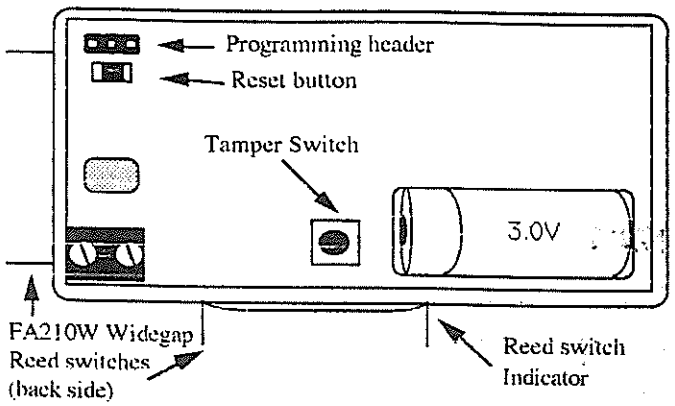
3. Complete the program data entry at the executive keypad (see PROGRAMMING A POINT, pg. 20). (Note: If using the FA210W with no external contacts, program the point loop to be N/O.) Continue as prompted by the display. When the display indicates "PLUG IN XMITTER", connect the programming cable from the executive keypad to the programming port on the transmitter. Press the transmitter reset button. When the programming operation has been confirmed by the executive keypad, disconnect the cable.

4. Replace the cover by positioning the narrow end of the cover to the base and closing the case.

5. Test point to be sure it is functioning properly. When the contacts are switched to the alarm state (open for transmitters programmed as N/C, closed for transmitters programmed as N/O, and magnet away from the transmitter for the FA200W) from the secure state, the panel will emit a "ding-dong" chime. Note that if the transmitter cover is not secured, the transmitter will be considered to be tampered, and no "ding-dong" chime will sound until the cover is secured correctly.

6. Use the screws and wall anchors included with the transmitter if the transmitter is to be mounted with screws or use the double-sided adhesive tape and mount the transmitter in the desired location. (Tape should only be used as a temporary means of mounting, and should NOT be used to secure the transmitter to drywall.)

Figure 11



FA210 / FA210W
Universal transmitter
Recommended Programming:

TYPE:	INTRUSION
HOME:	as appropriate
AWAY:	as appropriate
CUSTOM:	as appropriate
POINT LOOP:	as appropriate
EOL RESIST:	as appropriate
INT CNTCT:	FA210: NO FA210W: as needed
MONITORED:	YES
AUDIBLE:	YES
CHIME:	YES
CHECK-IN:	60sec

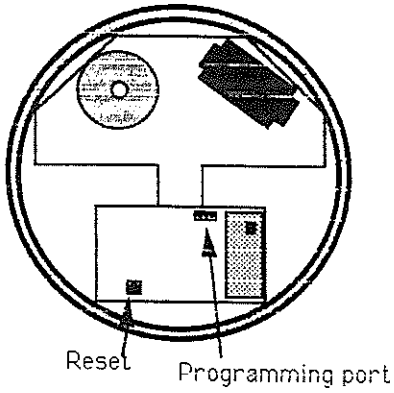
FA201 SMOKE DETECTOR
FA206 PIR DETECTOR
FA207 GLASSBREAK DETECTOR

The smoke detector, ShatterPro, and PIR use similar transmitters and are therefore programmed in the same manner.

To program the devices, proceed as follows:

1. Remove the cover of the device.
2. Install the battery or batteries.
3. Label the unit with a numbered label provided.
4. Remove the shunt connector from the programming port. **NOTE: No shunt will be present on the FA206 PIR transmitter.**
5. Complete the program data entry at the executive keypad (see PROGRAMMING A POINT, pg. 20). Continue as prompted by the display. When the display indicates "PLUG IN XMITTER", connect the programming cable from the executive keypad to the programming port on the transmitter. Press the transmitter reset button When the programming operation has been confirmed by the executive keypad, disconnect the cable.
6. Replace the shunt connector on the programming port. This is important since the smoke detector and ShatterPro are not equipped with tamper switches, and the transmitter will report a tamper condition if the shunt is not in place. The shunt should connect the center pin to either outside pin. **NOTE: No shunt should be installed on the FA206 PIR transmitter. Doing so will disable the tamper switch that is built into the PIR.**
7. Test point to be sure it is functioning properly. When the point is forced into the alarm state from the secure or non-alarm state, the panel will emit a "ding-dong" chime. Note that low battery annunciation will be sounded and reported by the control panel rather than by the individual units.
8. Mount the unit per manufacturer's instructions. Refer to page 57 for guidelines on smoke detector placement.

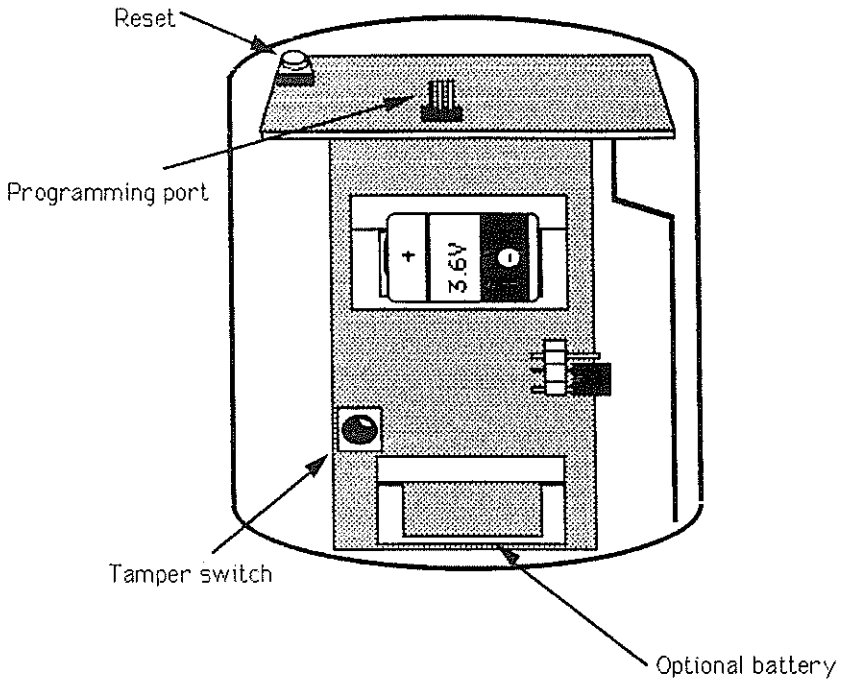
Figure 12



FA201 smoke detector Recommended Programming:

TYPE:	FIRE
POINT LOOP:	N/O
EOL RESIST:	NO
INT CNTCT:	NO
MONITORED:	YES
DELAYED:	as appropriate
CHECK-IN:	60sec

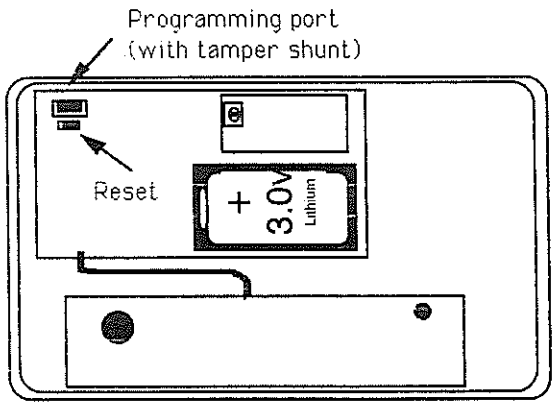
Figure 13



FA206 Sharpshooter PIR
Recommended Programming:

TYPE:	INTRUSION
HOME:	BYPASS
AWAY:	as appropriate
CUSTOM:	as appropriate
POINT LOOP:	N/C
EOL RESIST:	NO
INT CNTCT:	NO
MONITORED:	YES
AUDIBLE:	YES
CHIME:	NO
CHECK-IN:	60sec

Figure 14



FA207 Shatterpro
Recommended Programming:

TYPE:	INTRUSION
HOME:	BYPASS
AWAY:	INSTANT
CUSTOM:	as appropriate
POINT LOOP:	N/O
EOL RESIST:	NO
INT CNTCT:	NO
MONITORED:	YES
AUDIBLE:	YES
CHIME:	NO
CHECK-IN:	60sec

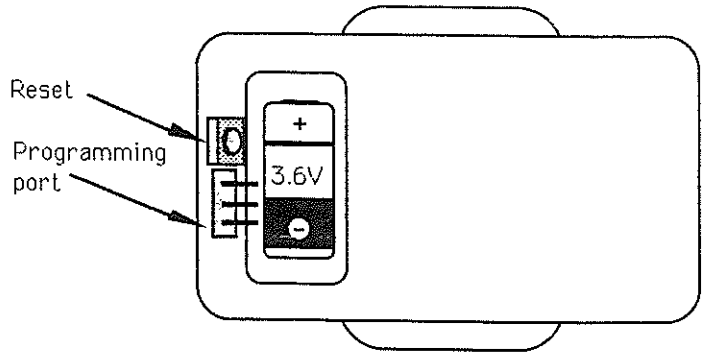
FA204 PENDANT TRANSMITTER

The pendant transmitter is available for use as a portable personal emergency (panic or police) signaling device. It can be programmed to be supervised or used in a non-supervised mode. To insure against false activation, the two buttons on either side of the transmitter must be pressed simultaneously for at least 1.5 seconds to cause an alarm transmission. The unit will then transmit continuously until the buttons are released.

To program the pendant transmitter, proceed as follows:

1. Remove the battery cover.
2. Insert the battery into the holder, being careful to observe polarity. The battery holder is marked with a (+) sign.
3. Label the transmitter with a numbered label provided.
4. Complete the program data entry at the executive keypad (see PROGRAMMING A POINT, pg. 20). Continue as prompted by the display. When the display indicates "PLUG IN XMITTER", connect the programming cable from the executive keypad to the programming port on the transmitter. Press the transmitter reset button. When the programming operation has been confirmed by the executive keypad, disconnect the cable.
5. Test point to be sure it is functioning properly. When the two buttons on the pendant are pressed, the panel will emit a "ding-dong" chime.
6. Replace the battery cover.

Figure 15



FA204 Pendant transmitter Recommended Programming:

TYPE:	as appropriate
POINT LOOP:	N/O
EOL RESIST:	NO
INT CNTCT:	NO
MONITORED:	YES
AUDIBLE:	as appropriate
RELAY OUT:	as appropriate
DELAYED:	NO
CHECK-IN:	60sec

PROGRAMMING

The system is programmed by entering information via the executive keypad. The executive keypad displays prompts and menus that lead you through the programming process in a clear, concise manner.

A programming worksheet is provided to help plan the system setup. Information can then be programmed into the system from the worksheet. It is important that the worksheet be retained for as long as the system is installed, as it will be of significant value should the system ever require service.

To enter the programming sequence, first enter the system MASTER CODE (factory default is 0000). The display should read, "SYSTEM OFF". Press the ADVANCE key. The display should become blank. Enter the dealer code (factory default is 3446). The display will indicate:

INSTALLATION PGM

Once in the installation program, the ADVANCE and ENTER keys become the means of ADVANCEing through the parameters and ENTERing data. The REVIEW key is the mechanism for backing out of a programming sequence and exiting program mode altogether. If you are unsure of the appropriate input or confused about the sequence, press the REVIEW key until you back out to a level you recognize.

With the display indicating INSTALLATION PGM, press the ADVANCE key to step through the menu selections. Repeatedly pressing ADVANCE will scroll through the following options:

PROGRAM PANEL
PROGRAM POINT
DELETE POINT
PROGRAM TELCOM
SIGNAL LEVEL

When the display indicates the desired function, press the ENTER key.

PROGRAMMING THE PANEL

From the INSTALLATION PGM menu, press ADVANCE until the display indicates:

```
PROGRAM PANEL
```

Press Enter to select panel program mode. The display will automatically bring up the first programming parameter:

```
SYSTEM ID - 000
```

The system ID is unique to the system and is provided to keep other systems in close proximity from interfering with each other. Using the digit keys (0-9), enter any number from 0 to 254 and press ENTER. The selected number should be displayed. If you want to change it, enter a different number and press ENTER. When satisfied with the setting, press ADVANCE.

```
SIREN TIME - 000
(0=cont) Minutes
```

Set the length of time in minutes for which relay activated devices should be active when an alarm occurs. An entry of 0 will cause no automatic cutoff.

Using the digit keys (0-9), enter any number from 0 to 254 and press ENTER. The selected number will be displayed. If you want to change it, enter a different number and press ENTER. When satisfied with the setting, press ADVANCE.

```
SPV WINDOW - 000
(0=none) Hours
```

Set the length of time in hours within which the panel must receive a report from each of the points in the system. An entry of 0 causes the system to not look for periodic reports from points. A 4 hour window is recommended.

Using the digit keys, enter any number from 0 to 100 and press ENTER. The selected number will be displayed. If you want to change it, enter a different number and press ENTER. When satisfied with the setting, press ADVANCE.

```
EZ ARMING - NO {YES}
ENTER to Change
```

Select whether or not the emergency and arming functions available on the executive keypad template may be accessed without entering a user code. The emergency options are fire, medical , police, and special, while the arming options are home, away, and custom. If EASY ARMING is set to YES, any of the alarm options may be accessed by pressing ENTER followed by the appropriate key on the keypad. The arming options may also be accessed by pressing ENTER followed by the appropriate key on the keypad, but if any faults exist (unsecure point, low backup battery, etc.), one-key arming is not possible unless FORCE ARM is set to YES. To select {YES or NO}, press ENTER until the desired setting is displayed, then press ADVANCE.

```
FORCE ARM - NO (Yes)
ENTER to Change
```

Select whether or not the system can be armed over faults such as an open door or window, or an inactive or tampered point. For ease of operation, selecting YES is recommended. To select {YES or NO}, press ENTER until the desired setting is displayed.

If YES is selected, it will be possible for the user to arm the system in spite of point faults, such as unsecured or inactive points. Faulted points will be bypassed, until such time as the fault is corrected. ARMING THE SYSTEM OVER SUCH FAULTS COMPROMISES THE SECURITY OF THE ENTIRE INSTALLATION. Note, however, that faulted points remain bypassed only as long as they remain faulted. For example, if a window is unsecured and the system is force armed, the window sensor is bypassed. If, after arming the system, the window is closed, the window sensor is once again active within the system, and if unsecured before the system is disarmed, it will cause an alarm if so programmed.

When the display indicates the desired setting, press ADVANCE.

```
ENTRY TIME - 000
(0=none) Seconds
```

Select the length of time in seconds that the system will wait after a point that is programmed as DELAYED in the current arming mode goes into alarm before the system initiates the alarm. This same delay time applies to 24 HOUR points programmed with DELAYED set to YES.

NOTE: If the entry time is an even number, the system will emit an audible "ping" each second while the entry time is expiring, as a warning to the user that the system is armed and will generate an alarm unless it is disarmed. If the entry time is an odd number, the system will remain silent while the entry time is expiring.

Using the digit keys (0-9), enter any number from 0 to 254 and press ENTER. The selected number will be displayed. If you want to change it, enter a different number and press ENTER. When satisfied with the setting, press ADVANCE.

```
EXIT TIME - 000
(0=none) Seconds
```

Select the length of time in seconds that the system will ignore INTRUSION reports after the system is armed to allow exiting of the premises.

Using the digit keys (0-9), enter any number from 0 to 254 and press ENTER. The selected number will be displayed. If you want to change it, enter a different number and press ENTER. When satisfied with the setting, press ADVANCE.

AUX RELAY - 000
Enter Number

Select one of nine options that will activate the auxiliary relay. The available options are listed below.

#	Option	Effect
000	Do not use auxiliary relay	Auxiliary relay will never close.
001	Entry and exit delay	Auxiliary relay will close during entry and exit delay.
002	System armed; Flash to indicate alarm	Auxiliary relay will close while the system is armed and will toggle (flash) at 1-second intervals during and after an alarm, until the system is disarmed.
003	FIRE alarm active	Auxiliary relay will close when a fire alarm is active.
004	Alarm on point 5	Auxiliary relay will close when an alarm is caused by point number 5.
005	Alarm on a point from 6 to 14	Auxiliary relay will close when an alarm is caused by any point from point 6 through point 14, inclusive.
006	Keypad SPECIAL alarm active	Auxiliary relay will close when a SPECIAL alarm is activated at the executive keypad by pressing ENTER+8.
007	User code 6 entered	Auxiliary relay will toggle each time user code 6 is entered.
008	Communicator failure	Auxiliary relay will close when the dialer cannot communicate with the designated central station, It will remain closed until the SYSTEM RESET is pressed or the RESET H/W SMOKE command is entered.
009	Transmitter inactive	Auxiliary relay will close if a point is declared inactive while the system is armed in Away mode.

Using the digit keys (0-9), enter any number from 0 to 9 and press ENTER. If 0 is chosen, the auxiliary relay will never activate. The selected number will be displayed. If you want to change it, enter a different number and press ENTER. When satisfied with the setting, press ADVANCE. **Note that if compliance with UL 985 is required, the AUX RELAY option must be set to 3.**

DEALER CODE
3446

Input any four digit access code for the dealer code. The dealer code does not allow arming and disarming of the system; it only allows access to the system programming mode after the Master code has been entered.

Press the digit keys to enter the dealer code. The numbers are displayed as each key is pressed. Pressing the ENTER key will have no effect. When the desired dealer code is displayed, press ADVANCE.

WARNING: Do NOT forget your dealer code. If it is forgotten, it will be impossible to re-enter the program mode. The dealer code CANNOT be cleared or reset by ANY MEANS other than returning the unit to the factory to have default settings reprogrammed into it.

PROGRAMMING USER CODES

From the SYSTEM READY or SYSTEM NOT READY prompt, enter the system maintenance mode by entering the master code and then pressing review when the display reads, "SYSTEM OFF", then press ADVANCE until the display reads:

```
PROGRAM CODES
ENTER to select
```

Press ENTER to select the PROGRAM CODES mode.

```
MASTER CODE
   0000
```

Input any four digit access code for the master code. The master code not only allows for arming and disarming the system, it also allows the user to review alarms, clear alarm and fault memory, test the communicator, and program user codes. NOTE: If the master code is forgotten, the only way to re-enter program mode will be to reset the master code using the RESET-REVIEW combination from the panel. This will reset the master code to 0000.

Press the digit keys to enter the master code. The numbers are displayed as each key is pressed. When the desired master code is displayed, press ADVANCE.

```
DURESS CODE
   ----
```

Input any four digit code that can be used to communicate a duress situation to the central monitoring station. The code can be used to arm the system and will visibly and audibly respond just as if any other user code were entered. If the communicator is programmed in the TELCOM section to call in a duress code, a duress code will be sent. If the TELCOM section is programmed to not respond to the duress code, the duress code can be used as a seventh user code. If you wish to make the duress code unusable, press the ENTER key four times. The code display will show "- - - -", meaning that the duress code is unprogrammed.

Press the digit keys to enter the duress code. The numbers are displayed as each key is pressed. Do not press the ENTER key at any time unless you intend to render the duress code unusable. When the desired duress code is displayed, press ADVANCE.

```
USER CODE (1-6)
   0000
```

Input any four digit access code to be used to arm and disarm the system. The number that is displayed is accepted as the access code. To make an existing user code unusable, simply press ENTER four times.
The code display will show "- - - -", meaning that the user code is unprogrammed.

Press the digit keys to enter the user code. The numbers are displayed as each key is pressed. Do NOT press the ENTER key at any time unless you intend to render the displayed code unusable. When the desired code is displayed, press ADVANCE twice.

```
CODE LIMIT - 000
(0=none) Hours
```

Select the length of time in hours that USER CODE 1 will remain valid. This allows a temporary USER CODE to be set. A value of 0 makes USER CODE 1 permanent.

Using the digit keys (0-9), enter any number from 0 to 254 and press ENTER. The selected number will be displayed. If you want to change it, enter a different number and press ENTER. When satisfied with the setting, press ADVANCE.

PROGRAMMING A POINT

From the INSTALLATION PGM menu, press ADVANCE until the display indicates

---

```
PROGRAM POINT
```

Press ENTER to select point programming mode.

```
SYSTEM ID  - XXX
```

The system ID is displayed only as confirmation that the system ID has been programmed. If system ID is correct, press ADVANCE. Otherwise, press REVIEW, enter the PROGRAM PANEL menu, and set the system ID to the correct value.

```
POINT # -
ENTER (1 to 48)
```

Enter a unique ID number for the point. It is not advisable to assign the same number to multiple transmitters, as this will render the transmitter supervision useless. Using the digit keys (0-9), enter any number from 1 to 48 and press ENTER. The selected number will be displayed. If you want to change it, enter a different number and press ENTER. When satisfied with the setting, press ADVANCE.

```
ENTER to Program
ADV to Review
```

Pressing ADVANCE will allow you to review and/or change all of the parameters for the point. ADVANCE will step through each parameter. Any parameter can be changed as described in this section, but to cause the information to be saved, press ADVANCE back to:

```
ENTER to Program
ADV to Review
```

Pressing ENTER at this prompt will cause the system save the information relevant to the point being programmed in nonvolatile memory, and if the point is not a hardwire loop, the system will prompt you to connect the transmitter to be programmed via the programming cable. For more information about the actual transmitter programming process, see page 26.

```
POINT # - XX
ENTER to change
```

At this point, if the point number displayed by the system is incorrect, press ENTER to return to the point number entry prompt. If the point number displayed is correct, press ADVANCE.

```
POINT # - XX TEXT
```

The "ENTER to change" will disappear, allowing a text description of the point to be entered. Each digit key (0-9) on the keypad will cycle through four characters, as shown on the programming template included with the control panel. Press ENTER to advance to the next letter of the description. If a mistake is made, press ENTER repeatedly until the cursor is below the character to be corrected. When the text description is satisfactory, press ADVANCE to go forward in programming.

```
HW LOOP - NO (YES)
ENTER to Change
```

If the point that you are programming is numbered one through six, the point may be programmed as a hardwire loop. Hardwire loops are points that are sensors that are wired directly to the panel.

NOTE: Hardwire loop number one is a powered hardwire loop, meaning that the panel provides 13 volts DC to whatever device is connected to hardwire loop 1. This loop must **ONLY** be used with fire or smoke sensors that are designed to be connected to 13 volt powered hardwire loops. The ESL model 429C two-wire smoke detector is recommended. Hardwire loop 1 **MUST** have a 2.2K end-of-line resistor installed across the contacts of the last sensor in line in order to function properly. Failure to install an end-of-line resistor will result in hardwire loop 1 always being reported as TAMPERED.

Hardwire loops are programmed the same way as wireless loops, except that hardwire loops are supervised differently than wireless points, so no check-in time can be programmed for hardwire loops. If a hardwire loop is programmed as a REMOTE, a keyswitch would be wired to the panel as a high-security arming device. Any 2- or 3-position keyswitch can be used. Consult page 7 for information on connection of hardwire keyswitches to the Vision PLUS panel.

Note: If faults exist, the system can't be armed with a hardwire keyswitch unless FORCE ARM is set to YES.

NOTE: If a hardwire keyswitch is used as an arming device, it should be the ONLY device used to arm and disarm the system. For more information, see page 7.

Press the ENTER key to change the selection. The selected option will be displayed. When the display indicates the desired selection, press ADVANCE.

This option does not apply to points 7 through 48, and is skipped.

```
TYPE - INTRUSION        (FIRE, MEDICAL†., POLICE, SPECIAL,
ENTER to Change          REMOTE, KEYPAD)
```

The Vision PLUS system has seven types of points. Each type has its own list of programmable parameters. Press ENTER to scroll through the various transmitter types. Once you have chosen the desired transmitter type, press ADVANCE to continue. In general, Inovonics' transmitters and sensors can be categorized as follows:

Model #	Description	Type
FA100	Handheld remote control	REMOTE
FA102	Deluxe wireless keypad	KEYPAD
FA200	Universal transmitter	INTRUSION / SPECIAL
FA200W	Universal transmitter with wide-gap magnetic contacts	INTRUSION / SPECIAL
FA201	Smoke detector	FIRE
FA204	Pendant transmitter	EMERGENCY / POLICE
FA206	Sharpshooter PIR	INTRUSION
FA207	Shatterpro	INTRUSION
FA210	Reduced-size universal transmitter	INTRUSION / SPECIAL
FA210W	Reduced-size universal transmitter with wide-gap magnetic contacts	INTRUSION / SPECIAL

NOTE: All NON-INTRUSION points are 24-hour points.

INTRUSION ONLY HOME - BYPASS (INSTANT, DELAY, FOLLOW)
ENTER to Change

The transmitter can be set for HOME mode operation as either BYPASSed, INSTANT, DELAYed, or FOLLOWer. Selecting BYPASS means that the system will not respond to an alarm transmission from that point when armed in the HOME mode. INSTANT means the system will respond instantly to an alarm signal from that point. Points programmed as DELAY will not cause an instant alarm if triggered; rather, they will cause the entry delay to begin to count down. If the entry delay expires before the system is disarmed, an alarm will be initiated. FOLLOW means that the system will follow the response of the previous point triggered or will respond instantly if this point is the first to report an alarm.

Press the ENTER key to change the selection. The selected option will be displayed. When the display indicates the desired selection, press ADVANCE.

INTRUSION ONLY AWAY - BYPASS (INSTANT, DELAY, FOLLOW)
ENTER to Change

As with HOME mode, the transmitter can be set for AWAY mode operation as either BYPASSed, INSTANT, DELAYed, or FOLLOWer.

Press the ENTER key to change the selection. The selected option will be displayed. When the display indicates the desired selection, press ADVANCE.

INTRUSION ONLY CUSTOM - INCLUDE (BYPASS)
ENTER to Change

An intrusion point in the system can be programmed to be INCLUDEd or BYPASSed when the system is armed in the CUSTOM mode. When armed in CUSTOM mode, the points will function according to the AWAY mode setting unless the BYPASS option is selected for custom.

Press the ENTER key to change the selection. The selected option will be displayed. When the display indicates the desired selection, press ADVANCE.

POINT LOOP - N/O (N/C)
ENTER to Change

The transmitter can be connected to either a normally open (N/O) or a normally closed (N/C) sensor or switch configuration. The configuration is determined by the non-alarm condition of the switch. For an FA200W or an FA210W , this option should be set to N/O if only the internal contacts are to be used.

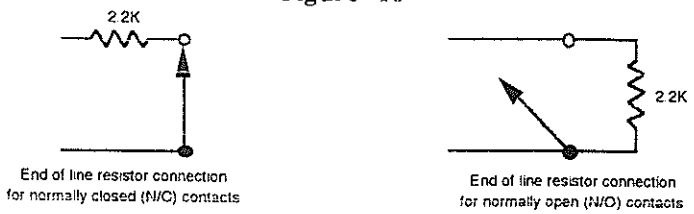
Press the ENTER key to change the selection. The selected option will be displayed. When the display indicates the desired selection, press ADVANCE.

This option is skipped if the TYPE is KEYPAD or REMOTE. If the point number is "1" and HW LOOP is set to "YES", this option is set to N/O automatically.

```
EOL RESIST - NO {YES}          [END OF LINE RESISTOR]
ENTER to Change
```

The switch connected to the transmitter can be tamper protected by use of a 2.2k end of line resistor. For a N/O switch, the resistor is placed in parallel with the switch. For a N/C switch, the resistor is placed in series. If loop tamper protection is required, select YES, if not, select NO. See diagram below.

Figure 16



Press the ENTER key to change the selection. The selected option will be displayed. When the display indicates the desired selection, press ADVANCE.

This option is skipped if the TYPE is KEYPAD or REMOTE. If the point number is 1 and HW LOOP is set to YES, this option is set to YES automatically.

```
INT CONTCT - NO {YES}          [INTERNAL CONTACTS]
ENTER to Change
```

The FA200W and the FA210W transmitters have an internal magnetic reed switch that is activated by a magnet placed next to the transmitter. If this option is required, select YES, otherwise select NO. The standard FA200 transmitter does not have an internal contact. When programming an FA200W or an FA210W, select YES if the internal contacts are to be used. Otherwise, select NO.

NOTE: Internal contacts may be used in conjunction with external contacts on the FA200W or the FA210W. For more information, see pages 10 ad 11.

Press the ENTER key to change the selection. The selected option will be displayed. When the display indicates the desired selection, press ADVANCE.

This option is skipped if the TYPE is KEYPAD or REMOTE, or if HW LOOP is set to YES.

```
MONITORED - NO {YES}
ENTER to Change
```

The YES/NO selection determines whether or not this specific point should be reported to the central monitoring station if it activates an alarm.

NOTE: For the setting of the MONITORED option to be meaningful, it is also necessary to set the TELCOM option under PROGRAM TELCOM to ENABLE. Otherwise, the communicator will be disabled.

Press the ENTER key to change the selection. The selected option will be displayed. When the display indicates the desired selection, press ADVANCE.

This option is always YES if the point number is 1 and HW LOOP is set to YES.

```
AUDIBLE - NO {YES}
ENTER to Change
```

This YES/NO selection determines whether or not this specific point should cause an audible alarm when an alarm signal is sent. Audible alarms are produced through the status speakers attached to the AUDIO terminals of the Vision PLUS panel, as well as through the speakers in any C103 executive keypads wired to the panel. In addition, the ALARM relay on the panel will close during an audible alarm. There are two types of audible alarms. The most common is three short tones, repeated every second. This indicates that one of two things has happened:

1) An alarm has occurred, whether from a 24-hour point, an intrusion point while the system was armed, or a keypad emergency.
2) One or more transmitters are tampered with system armed. Tamper conditions while the system is not armed cause a single ping trouble tone about every 7 seconds.

The second type of audible alarm is a one second tone, repeated every two seconds. This type of audible signal indicates that a fire alarm has occurred, and that the auxiliary relay has NOT been programmed to close in the event of a fire alarm.

NOTE: Setting this option to NO automatically causes the 24-hour point RELAY OUT option to also be set to NO.

Press the ENTER key to change the selection. The selected option will be displayed. When the display indicates the desired selection, press ADVANCE.

This option is always YES if TYPE is set to FIRE.

```
RELAY OUT - YES {NO}
ENTER to Change
```

If the RELAY OUT option is chosen by selecting YES, a 24-HOUR point will cause the ALARM relay to be activated upon transmission of an alarm signal. If NO is selected, a low level alert tone is generated by the panel and provided at the AUDIO outputs. This setting is skipped and is always set to NO if AUDIBLE was set to NO. This setting is also skipped but is always set to YES for FIRE devices.

Press the ENTER key to change the selection. The selected option will be displayed. When the display indicates the desired selection, press ADVANCE.

This option does not apply if TYPE is set to INTRUSION or if AUDIBLE (see above) is set to NO, and this option is always YES if TYPE is set to FIRE.

```
INTRUSION ONLY CHIME - NO {YES}
               ENTER to Change
```

This YES/NO selection determines whether or not this specific point should cause the chime tone to sound when the transmitter is activated while the system is OFF or if the POINT is bypassed in the HOME or CUSTOM mode.

Press the ENTER key to change the selection. The selected option will be displayed. When the display indicates the desired selection, press ADVANCE.

```
DELAYED - YES (NO)
ENTER to Change
```

Some 24-HOUR points can have a delayed alarm response. If this is desired, select YES, otherwise select NO. The amount of delay is the same as you programmed for the entry delay when programming the panel.

Press the ENTER key to change the selection. The selected option will be displayed. When the display indicates the desired selection, press ADVANCE.

This option is always NO if TYPE is set to POLICE or REMOTE, or if the point number is 1 and HW LOOP is set to YES.

```
CHECK IN - NONE (10sec, 30sec, 60sec, 5min)
ENTER to Change
```

Transmitters can be set to check in automatically every 10, 30 or 60 seconds, 5 minutes, or not at all. A setting of 10 seconds will yield the best overall system response, while a setting of 5 minutes will provide the longest battery life. The setting has no effect on the reliability of alarm transmissions.

Press the ENTER key to change the selection. The selected option will be displayed. When the display indicates the desired selection, press ADVANCE.

This option does not apply if HW LOOP is set to YES, or if TYPE is set to KEYPAD or REMOTE.

After all the information for a specific point has been entered, the display will prompt with:

```
ENTER to Program
ADV to Review
```

Pressing ADVANCE will allow review of all the parameters for the point. ADVANCE will step down through each parameter. Any parameter can be changed as previously described, but to cause the information to be saved you must ADVANCE back to:

```
ENTER to Program
ADV to Review
```

Pressing ENTER causes all the programmed information to be stored in the panel's nonvolatile memory. The system will now consider the point to be active and will begin supervision of the point and will bring up the prompt:

NOTE: Transmitter options which are not operation-specific can be changed via the C103 keypad or the downloader without re-programming the tranmitter. Transmitters **must** be re-programmed if TYPE, CHECK-IN, POINT LOOP, EOL or INT CONTCT are changed. Re-programming is not required to change TEXT, MONITORED, AUDIBLE, RELAY OUT, HOME, AWAY, CUSTOM or CHIME settings.

```
Plug in Xmitter
or press ADVANCE
```

Connect a programming cord to the executive keypad and then to the transmitter to load the transmitter with program information. Press the transmitter reset button. If programming of the transmitter is successful, the keypad will emit two short tones, and the display will indicate ACCOMPLISHED. Pressing ADVANCE will return programming to selecting a new point number.

This step is skipped if HW LOOP is set to YES.

To exit, press REVIEW.

DELETING A POINT

From the INSTALLATION PGM menu, press ADVANCE until the display indicates:

```
DELETE POINT
```

Press ENTER. The display will prompt for a Point #.

```
POINT # -
Enter (1 to 48)
```

Using the digit keys (0-9), enter any number from 1 to 48 and press ENTER. The selected number will be displayed. If you want to change it, re-enter a number and press ENTER. When satisfied with the setting, press ADVANCE. The display will indicate ACCOMPLISHED and the keypad will bleep to indicate that the point has been deleted. All programming for the point will be reset to factory default settings, and the system will cease supervision for the point until such time as it is reactivated using the PROGRAM POINT option.

The display will then prompt again for a Point #. Additional points may be deleted.

To exit, press REVIEW.

PROGRAMMING THE COMMUNICATOR

From the INSTALLATION PGM menu, press ADVANCE until the display indicates:

```
PROGRAM TELCOM
```

Press Enter.

Display will prompt with:

```
TELCOM - DISABLE {ENABLE}
ENTER to Change
```

The communicator can be disabled when not in use. All programming will be left intact so that TELCOM can be enabled when use is desired.

Press the ENTER key to change the selection. The selected option will be displayed. When the display indicates the desired selection, press ADVANCE.

```
DOWNLD - ENABLE  {DISABLE}
ENTER to Change
```

The downloader functions of the Vision Plus can be disabled if you do not intend to ever use the Vision Plus downloader software (available separately from Inovonics Corporation). If you do not intend to use the downloader functions of the panel, it is recommended that you set DOWNLD to DISABLE so that it will not be possible for an unauthorized individual to gain access to the panel using the Vision Plus downloader software. If DOWNLD is set to ENABLE, the panel will be set to automatically seize the phone line and answer an incoming call after 10 rings. The number of rings before pickup can be modified using the Vision Plus downloader software. (If a house phone is picked up when the downloader is attempting to connect with the panel, the phone must remain off hook for at least 7 seconds to allow the panel enough time to "hear" the downloader.) The DL CHECK option in the maintenance menu (page 6) allows users to determine whether the panel should check automatically for download attempts or should "listen in" only on ringbacks, i.e., when the phone rings within 120 seconds of a disconnection. If the phone rings within 120 seconds of the previous call--whether it was answered or not--the panel will "listen" for a downloader signal after programmed number of Rings Before Pickup.

RINGBACK EXAMPLE:

A homeowner has voice messaging telephone service. The installer has set Rings Before Pickup (RBP) to 3, and has enabled download and ringback.

The installer places the first call to the panel and lets the phone ring 1 time, then disconnects. The panel starts the 120-second countdown.

40 seconds later, the installer calls for the second time, via the downloader. If someone answers the phone, the panel listens immediately for the downloader. Otherwise, the panel begins to count rings. When RBP is reached, the panel seizes the line and listens for the downloader.

If 120 seconds elapses before RBP is reached, the call is no longer considered a ringback. The panel now considers the call a "first call" and will restart the 120-second ringback timer when the call is terminated.

Press the ENTER key to change the selection. The selected option will be displayed. When the display indicates the desired selection, press ADVANCE.

1st Ph#

If a phone number has not been previously set, the display will be blank and a number may be entered. If a phone number has already been set, it will be displayed. If it is correct, press ADVANCE. To change it, press ENTER. The existing number will be deleted and the display will be blank.

A phone number is entered one digit at a time by pressing the desired digit and pressing ENTER. Blank spaces, hyphens, or parentheses are not required and cannot be entered. If you make a mistake while entering the phone number, pressing ENTER alone will delete the last digit shown.

Special functions may be inserted into the phone number by using HEX codes. Hex digits can be entered by entering the decimal equivalent (A=10, B=11, C=12, D=13, E=14, F=15) and pressing ENTER. The special functions are listed below:

A (10) - This code is the same as a zero.

B (11) - Dial an '*'. This code should be used when a dial sequence requires the use of the '*' key on a touch-tone phone. In addition, if a 'B' is used as either of the last two digits of the phone number, the panel will actuate the ground start relay after dialing the central station to report an alarm signal. This facilitates the use of a two-way voice module for use when listen-in verification is desired for alarm signals.

C (12) - Dial a '#'. This code should be used when a dial sequence requires the use of the '#' key on a touch-tone phone. In addition, if a 'C' is used as the last digit of the phone number, it forces the panel to respond only to a 2300 Hz kiss-off tone when reporting to the central station.

D (13) - Wait for second dial tone. This code should be used when the dialer will need to dial out from a PBX or through a long distance service. When the dialer encounters this code, it will listen to the line and wait for a second dial tone to occur for up to seven seconds, after which time it will continue dialing the programmed number.

E (14) - 2 second pause. This code should be used when the dialer will need to pause while local telephone company or PBX equipment handles a special dialing code such as the "disable call waiting" code.

F (15) - 5 second pause. This code should be used when the dialer will need to pause for an extended period of time while local telephone company or PBX equipment handles a special dialing code such as a "speed dialing" code.

Examples:

1) Disable call waiting, dial central station (phone # 555-1212):

B70E5551212 (or) 1170E5551212

2) Dial out from local PBX (by dialing 9), wait for a second dial tone, dial central station (phone # 555-1212)

9D5551212

When the entry is complete, press ADVANCE.

2nd Ph#

If a phone number has not been previously set, the display will be blank and a number may be entered. If a phone number has already been set, it will be displayed. If it is correct, press ADVANCE. To change it, press ENTER. The existing number will be deleted and the display will be blank. Enter a new phone number as outlined for the 1st Ph# prompt.

ACCOUNT#

If an account number has not been previously set, the display will be blank and a number may be entered. If an account number has already been set, it will be displayed. If it is correct, press ADVANCE. To change it, press ENTER. The existing number will be deleted and the display will be blank.

A three or four digit account number is entered one digit at a time by pressing the desired digit and pressing ENTER. Hex digits can be entered by entering the decimal equivalent (A=10, B=11, C=12, D=13, E=14, F=15) and pressing ENTER. If you make a mistake while entering the account number, pressing ENTER alone will delete the last digit shown. When the correct account number is shown, press ADVANCE. As with phone numbers, the digit 'A' is the same as a zero. Leading zeros must be entered to fill the account number to the correct number of digits (ie. for 4x2, account number 23 must be entered as 0023). If leading zeros are not entered, trailing zeros will be added by the communicator to fill the account number to the correct number of digits (ie. for 4x2 format, account number 23 will report as 2300).

DIALING - PULSE {TT}
ENTER to Change

The communicator's dialing method can be selected either as PULSE (simulates a rotary telephone) or TT (touch-tone). TT is recommended unless the panel is installed in an area where touch-tone dialing is not available.

Press the ENTER key to change the selection. The selected option will be displayed. When the display indicates the desired selection, press ADVANCE.

SEQUENCE - 0 {1, 2, 3, 4}
ENTER to Change

Press ENTER to change the sequence in which the communicator will use its programmed phone numbers.

- 0 Dials first phone number only.
- 1 Dials first phone number and only dials second phone number if communication with central station at the first phone number fails.
- 2 Dials the second phone number only.
- 3 Dials first phone number and then second phone number regardless.
- 4 Split reporting (Note: default split reporting setting is for all conditions to be reported to both phone numbers. Split reporting settings may only be modified via the Vision Plus Downloader.)

The selected option will be displayed. When the display indicates the desired selection, press ADVANCE.

```
FORMAT - 3x1 {3x1 Ext, 4x2, 4x2 Map, Contact}
ENTER to Change
```

The communication format can be selected as either 3 x 1, 3 x 1 EXTended, 4 x 2, 4 x 2 Map or Contact ID.

3 x 1	Communicates the 3 digit account number and the type of alarm.
3 x 1 EXTended	Communicates the 3 digit account number, the type of alarm, and the ZONE in which the alarm occurred
4 x 2	Communicates the 4 digit account number, the type of alarm, and the ZONE in which the alarm occurred.
4 x 2 Map	Communicates the 4 digit account number, point alarms, restorals, and troubles by point numbersystem alarms and troubles by type, and openings and closings by user as a two digit trouble code.The first digit is sent as the condition code, and the second digit is sent as the zone. Thus, code C5 (system test) would report as condition code C for zone 5.
Contact	Ademco Contact ID format sends a data string including transmission code and point number. Transmission codes include type of alarm, point, system or communication troubles, openings and closings, bypasses and test reports. For further information, see page 42.

The communications format used will depend on the type of central station to which the panel will be reporting.

Press the ENTER key to change the selection. The selected option will be displayed. When the display indicates the desired selection, press ADVANCE.

```
PLS RATE - 10pps {20pps, 40pps}
ENTER to Change
```

The pulse rate can be selected as 10pps, 20pps, or 40pps. The pulses per second is determined by your receiver. If you are not sure, try the default setting of 10pps and then change if the data does not get through.

NOTE: Pulse rate does not apply to the Contact ID report format.

Press the ENTER key to change the selection. The selected option will be displayed. If the display indicates the desired selection, press ADVANCE.

```
ZONE TABLE
ENTER to Program
```

The Zone Table allows you to program a hexadecimal zone number between 1 and F for each of 48 points. The digits A through F are entered in the same manner as with the phone numbers and account number (A=10, B=11, etc.)

Press the ADVANCE key to change the point number. Type in the zone number using the number keys and press ENTER to enter it. For example, if the zone for point three is set to C and the code for alarm is 6, an alarm on point three will be reported as code 6 on zone C.

NOTE: If two or more points programmed with the same zone number report a trouble condition, ALL points programmed with that zone number must be restored to normal operating condition before a restoral for that zone will be reported to the central station.

Entering a zone number of zero for a particular point will cause alarms and trouble reports for that point NOT to be reported unless the report format is 4x2 map or 3x1.

The last option in the zone table is SYSTEM ZONE. This is the zone which will be associated with systemwide and panel events such as AC failure, Receiver failure, etc. For example, if the system zone is set to 9 (the factory default), and the code for AC failure is 3, an AC failure will be reported as code 3, zone 9.

NOTE: Zone numbers are NOT required when using 3x1, 4x2 MAP or CONTACT ID reporting formats.

Press REVIEW to exit.

```
CODE TABLE
ENTER to Program

      ALARM -          EMRGNCY -          RX FAIL -
 PT RESTORE -           POLICE -       RESTORE BB -
 PT TROUBLE -          SPECIAL -       RESTORE AC -
PT INACTIVE -           DURESS -       RESTORE RX -
PT LOW BATT -           CANCEL -      RESTORE SYS -
  PT BYPASS -        FORCE ARM -        DOWNLD OK -
     OPENING -     TELCOM TEST -      DOWNLD FAIL -
     CLOSING -         BB FAIL -
        FIRE -         AC FAIL -
```

These alarm or alert conditions can be assigned a hexadecimal code number from 1 to F or can be set to not report by assigning 0. The display will prompt for each condition. Using the digit keys (0-9), enter the code number and press ENTER. The selected number should be displayed. If you want to change it, re-enter a number and press ENTER. Note that codes A through F are entered in the same manner as with the phone numbers and account number (A=10, B=11, etc.)

When satisfied with the setting, press ADVANCE.

When using the 4x2 MAP or CONTACT ID report formats, only those events which have an event code that is NOT set to zero will have their corresponding codes sent to the central station. For example, if the event code for ALARM is set to zero, codes 01 through 33 on the 4x2 map table (Alarm point 1 through Alarm point 48) will not be reported. (If the Contact ID report format were being used, then burglary alarms [Code 130] would not be reported.)

COMMUNICATOR CODES

ALARM is reported upon full alarm activation from an intrusion point or when an intrusion point is tampered while the system is armed.

FIRE, EMERGENCY, POLICE and **SPECIAL** are reported upon full alarm activation of the appropriately assigned points or the corresponding keypad emergency alarm..

PT RESTORE is activated upon the restoral of a point from all alarm and/or trouble (low battery, tamper, and inactive) conditions to normal operating status.

PT TROUBLE is reported if a point is unsecured or tampered at the time the system is armed in the AWAY mode, or if a point is tampered while the system is disarmed. If a fire point is tampered, a trouble is reported, regardless of whether the system is armed.

PT INACTIVE is reported if a point is inactive at the time of arming or if a point becomes inactive while the system is armed in AWAY mode.

PT LOW BATT is reported when a transmitter reports a low battery or if a low battery condition exists on a point at the time the system is armed in the AWAY mode.

PT BYPASS is reported when a point is manually bypassed. When the system is armed, a PT BYPASS will be reported if the point is still bypassed.

CLOSING is reported at the time the system is armed in the AWAY mode. When a closing report is sent in the 3x1 extended or 4x2 report formats, the zone number corresponds to the code used to arm the system as follows:

Zone	Code used	Zone	Code used	Zone	Code used
1	User code 1	4	User code 4	7	Duress code
2	User code 2	5	User code 5	8	Master code
3	User code 3	6	User code 6	9	Special

Zone 9 (Special) indicates that the system was armed without a code either using EZ ARMING, a FA100 remote control, a keyswitch, or the system was armed remotely using the Vision Plus downloader.

OPENING is reported at the time the system is disarmed from the AWAY mode. When an opening report is sent in the 4x2 report format, the zone number corresponds to the code used to disarm the system in the same way as with closing reports (above).

DURESS is reported when the duress code is entered at a keypad (hardwired or wireless).

CANCEL is reported when the system is disarmed while an alarm is in progress.

FORCE ARM is reported if the system is armed in the AWAY mode over one or more points that have a trouble condition (unsecured, low battery, inactive, or tamper).

TELCOM TEST is reported when a TELCOM TEST is executed, or during a daily test report

BB FAIL is reported when the system backup battery voltage falls below operational levels.

AC FAIL is reported 60 seconds after an AC failure.

RX FAIL is reported if all of the receivers that are connected to the system fail to communicate with the control panel when the panel polls for the presence of active receivers.

RESTORE BB is reported when the system backup battery is restored to operating condition following a failure.

COMMUNICATOR CODES (continued)

RESTORE AC is reported when AC power has been restored to the panel.

RESTORE RX is reported when at least one receiver begins communicating with the panel after the system has reported a receiver failure.

RESTORE S Y S is reported when all system faults are cleared.

DOWNLD OK is reported after a successful download to the panel.

DOWNLD FAIL is reported after an invalid attempt to download to the panel.

CENTRAL STATION RECEIVER LIMITATIONS

Note that not all central station receivers can accept all report formats or report rates. In many cases, a receiver will be able to accept a given report format at some report rates, but not at others. Be aware of the following conditions that may occur, depending on the type of receiver being used:

- A report code of "A" may print as a zero; zeros may print as "A".
- Opening and closing reports as well as the 4x2 map format may not be interpreted properly if the central station is unaware of the Vision PLUS reporting conventions.
- Some central stations may not be able to interpret hex digits (codes B-F) as valid codes, zones, or account number digits.
- Some central stations may accept one or more of the Radionix hex formats (3x1, 3x1 EXTended, 4x2 or 4x2 Map), but not Contact ID, and vice versa.

Section IV - System maintenance
TESTING THE SYSTEM

The final step in the installation process is to test the system. The signal level of all the transmitters should be reviewed to insure that all points are communicating reliably, and the communicator should be tested to ensure that it can contact and communicate with the central station receiver that it has been programmed to dial.

From the executive keypad, enter the following sequence:

Master code (4 digits)
ADVANCE
Dealer code (4 digits).

The display will indicate INSTALLATION PGM. Press ADVANCE until the display indicates:

SIGNAL LEVEL

Press ENTER to select. By pressing ADVANCE, each point can be reviewed for signal level. The indication will be GOOD, WEAK, or NONE. An indication of GOOD means that there is adequate signal being received by the system to ensure reliable communications. If the indication is WEAK, the panel is having difficulty distinguishing a clear signal from the point from normal background noise, and corrective action should be taken. Try to reposition either the transmitter or receiver so that the signal path might be optimized. If this cannot be done easily or if there is not apparent reason for signal degradation, it may be necessary to add a secondary receiver to the system. An indication of NONE indicates that the point is a hardwire loop, or no signal has been received from the point, either due to an inactive transmitter or a transmitter that the system simply has not yet received since program mode was last exited. To exit, press REVIEW. Enter the master code and press REVIEW. The display will indicate BYPASS POINTS. Press ADVANCE until the display indicates:

TEST TELCOM

(This step may be skipped if TELCOM is disabled)

Press ENTER to select. The communicator will attempt to call its programmed phone numbers and report a system test. If the communicator is able to successfully report a system test to a central station, the keypad will display the message "SUCCESSFUL". If the communicator is unable to report a system test within two minutes or if you press a key on the keypad before the test is successful, the keypad display will indicate "*TELCOM FAILURE*". At this point, all system tests have been completed, so the system alarm memory should be cleared before the system is placed in active service. Enter the master code and press REVIEW. The display will indicate BYPASS POINTS. Press advance until the display indicates:

CLEAR MEMORY

Press ENTER to select. The system will clear its internal memory of any alarms and tampers that were generated during system testing so that the system will begin service with a "clean slate".

NOTE: It is important that the customer is shown how to test the system and is instructed to do so weekly.

TESTING TRANSMITTERS

After programming each transmitter, it is a good idea to test the transmitter to ensure that it is programmed properly. The procedure for testing a particular transmitter will vary, depending on the transmitter type. For each transmitter, locate and follow the appropriate test procedure in the following section. Note that all test procedures must be followed with the executive keypad in program mode (display indicates INSTALLATION PGM, PROGRAM PANEL, PROGRAM POINT, or any other program mode prompt).

FA100 remote control

With the executive keypad in program mode, press all four buttons on the transmitter. The off, home, and away buttons should cause the executive keypad to produce a "ping" when pressed, and the alert button should cause the executive keypad to chime.

FA102 deluxe wireless keypad

With the executive keypad in program mode, press each key on the FA102. Pressing any numeric key will cause the FA102 keypad to produce a "chirp" when pressed. Pressing HOME, AWAY, CUSTOM, OFF, or REVIEW will cause the FA102 keypad to "chirp" and will cause the C103 executive keypad to "bleep" as it receives transmission rounds from the FA102.

FA200 universal transmitter / FA210 reduced-size universal transmitter

Ensure that the transmitter's contacts are in their programmed normal state (closed for N/C, open for N/O). With the executive keypad in program mode, cause the transmitter to transmit an alarm message. If the transmitter is programmed for normally open contacts, this is accomplished by closing the contacts. If the transmitter is programmed for normally closed contacts, this is accomplished by opening the contacts. The executive keypad should emit the "ding-dong" chime tone.

FA200W universal transmitter / FA210W reduced-size universal transmitter

With the executive keypad in program mode, cause the transmitter to transmit an alarm message. If you are using the transmitter's internal contacts, this can be accomplished by first placing the supplied magnet alongside the transmitter as shown in the installation instructions for the FA200W and the FA210W, waiting a second or two, and then removing the magnet. The executive keypad should emit the chime tones. If you are not using the transmitter's internal contacts, follow testing procedures for the FA200 and the FA210 universal transmitters.

FA201 smoke detector

With the executive keypad in program mode, press and hold the test button on the smoke detector. When the smoke detector goes off, the executive keypad should chime.

FA204 pendant transmitter

With the executive keypad in program mode, press the two buttons on either side of the unit simultaneously. The executive keypad should chime.

FA206 passive infrared detector (PIR)

With the executive keypad in program mode, replace the unit's cover. For the next 90 seconds, the unit will be in "walk test" mode, meaning that it will report all alarms that occur. To test the unit, set it on a table and walk past it once or twice. When the red LED on the front of the PIR lights, the executive keypad should chime. If the executive keypad chimes only when the LED turns off, the transmitter is probably programmed for normally open contacts. Reset the transmitter and reprogram for normally closed contacts.

FA207 glassbreak detector

With the executive keypad in program mode, trigger the glassbreak detector either by using the Sentrol model 5709 or 5709C glassbreak testers. When the LED lights solidly, the executive keypad should chime.

REVIEWING FAULTS

To review the panel's alarm memory, enter the master code, and press **REVIEW**. The display should read, "BYPASS POINTS". Press **ADVANCE** until the display reads, "REVIEW ALARMS", then press the **ENTER** key. The panel will display all points that have gone into alarm since the last time the panel's alarm memory was cleared, using the CLEAR MEMORY option.

To review troubles, press **REVIEW** when the display indicates "SYSTEM NOT READY". If the display indicates "SYSTEM READY", then there are no faults to review.

If **ALARM** is displayed for a particular point, that point reported an alarm condition to the control panel (if the point is an intrusion point, the alarm occurred while the system was armed). This fault can only be cleared using the CLEAR MEMORY option.

If a point is displayed as **TAMPERED**, the most likely problems are that the transmitter has not been put back together securely, the end of line resistor is not installed properly, or a previous tamper has not been cleared from memory. This fault can only be cleared using the CLEAR MEMORY menu option.

If a point is displayed as **UNSECURED**, a sensor is in the faulted condition (a door or window is open, for example), or the point has not been properly programmed as either N/O or N/C. When the faulted condition is returned to normal, this trouble condition automatically clears.

If a point is displayed as **INACTIVE**, the system has not received a check-in message from the transmitter during the last supervision window (set via the SPV WINDOW programming option). Either the battery is dead, the transmitter is missing or broken, or the transmitter is not programmed or is programmed incorrectly. This trouble condition clears automatically when the system receives a check-in message from the transmitter. **Note: if ALL points are displayed as inactive, the fault may be a receiver failure.**

If a point is displayed as **LOW BATTERY**, the transmitter battery is nearing the end of its life and should be replaced. This fault can only be cleared using the CLEAR MEMORY menu option.

AC POWER Faulted means that AC power to the panel has failed. When power is restored, this trouble condition automatically clears.

BACKUP BATTERY Faulted means that the backup battery for the panel is low or missing. When the voltage on the system backup battery returns to operational limits, this trouble condition automatically clears.

Section V - Help
QUICK HELP

Entering the installation program: Using the digit keys, enter the master code. When the display reads "SYSTEM OFF", press ADVANCE. When the display becomes blank, enter the dealer code. For initial system installation, the master code will be 0000, and the dealer code will be 3446.

Entering maintenance mode: Using the digit keys, enter the master code. When the display reads, "SYSTEM OFF", press REVIEW.

Programming the panel: Enter the installation program as described above. Press ADVANCE until the display reads, "PROGRAM PANEL". Press ENTER. For further information, see pages 15-18.

Reprogramming a troublesome point: Enter the installation program as described above. Press ADVANCE until the display reads, "PROGRAM POINT". Press ENTER, followed by ADVANCE. Using the digit keys, enter the number of the troublesome point and press ENTER, followed by ADVANCE. If you wish to review the parameters for the point, press ADVANCE to advance through all of the programmed options, making any necessary changes. Press ENTER when the display reads, "ENTER TO PROGRAM". Connect the programming cable between the transmitter and the programming port on the executive keypad. Press the transmitter reset button. For further information, see pages 20-26.

Deleting a point: Press the reset button on the transmitter of the point to be deleted. Enter the installation program as described above. Press ADVANCE until the display reads, "DELETE POINT". Press ENTER. Using the digit keys, enter the number of the point you wish to delete from the system. Press ENTER followed by ADVANCE. The display will briefly read, "ACCOMPLISHED". When all necessary points have been deleted, press REVIEW twice to exit the installation program. For further information, see page 27.

Programming the communicator: Enter the installation program as described above. Press ADVANCE until the display reads, "PROGRAM TELCOM". Press ENTER. Use the ADVANCE key to advance through the communicator parameters, making any necessary changes. For further information, see pages 28-32.

Checking the transmitter signal levels: Enter the installation program as described above. Press ADVANCE until the display reads, "SIGNAL LEVEL". Press ENTER. Press ADVANCE to step through the signal levels for each point programmed into the system. When finished reviewing signal levels, press REVIEW twice to exit the installation program.

Clearing the panel's alarm memory: Enter maintenance mode as described above. Press ADVANCE until the display reads, "CLEAR MEMORY". Press ENTER. Clearing alarm memory will clear transmitter trouble conditions such as low battery as well as transmitter alarms.

Reviewing point faults: Press the REVIEW key when the display reads, "SYSTEM NOT READY". For further information, see page 38.

Reset master code to 0000: For use when the master code has been forgotten. Note that resetting the master code will NOT reset the dealer code. It is impossible to reset or otherwise change the dealer code without entering the installation program. Note also that resetting the master code also resets the downloader security codes in the panel, allowing the next person who calls using the downloader to have access to the panel, provided they know the panel's dealer code.

1. Press and hold the SYS RESET button on the panel.
2. Press and hold the REVIEW button on the panel.
3. Release the SYS RESET button. Panel will begin "ringing."
4. When the ringing stops, the panel should produce a single 'ping', indicating that the master code has been reset.
5. Release the REVIEW button.

Clear all programming: For use before performing an initial system installation, or when it is necessary to clear all programming information from the system. NOTE: Clearing all programming will NOT reset the dealer code. It is impossible to reset or otherwise change the dealer code without entering the installation program. Note also that clearing all programming also resets the downloader security codes in the panel, allowing the next person who calls using the downloader to have access to the panel, provided they know the panel's dealer code.

1. Press and hold the SYS RESET button on the panel.
2. Press and hold the REVIEW button on the panel.
3. Release the SYS RESET button. Panel will begin "ringing."
4. Quickly release the REVIEW button.
5. Press and hold the CLEAR button on the panel.
6. When the ringing stops, four tones will sound, indicating that all system programming has been cleared.
7. Release the CLEAR button.

Return all keypads to normal operating mode: For use when one or more keypads display the message "PROGRAM MODE", but none of the keypads connected to the system is actually in the installation program.

1. Press and hold the SYS RESET button on the panel.
2. Press and hold the LOOP RESET button on the panel.
3. Release the SYS RESET button.
4. Release the LOOP RESET button.

Turn door chime on or off: When the display reads, "SYSTEM READY" or "SYSTEM NOT READY", press ENTER, followed by 9. This will toggle the door chime on and off. When the door chime is on, the display will read, "*CHIME*" in the lower right corner.

Bypassing a point: Enter maintenance mode as described on page 39. The display should read, "BYPASS POINTS". Press ENTER. For each point that needs to be bypassed, enter the number of the point to bypass using the digit keys and press ENTER. When all required points have been bypassed, press REVIEW to exit maintenance mode.

Restoring a point that has been bypassed ("UnBypassing" a point): Enter maintenance mode as described on page 39. The display should read, "BYPASS POINTS". Press ENTER, followed by ADVANCE. When the display reads, "ENTR to del - nn", where nn is the number of the point you wish to restore to the system, press ENTER. When all required points have been restored, press REVIEW to exit maintenance mode. NOTE: Arming and then disarming the system will have the effect of restoring all bypassed points into the system.

Resetting the hardwire smoke detectors: There are two ways to reset the hardwire smokes:

1. Enter maintenance mode as described on page 39. Press ADVANCE until the display reads, "RESET H/W SMOKES". Press ENTER.
2. Press the LOOP RESET button on the control panel.

Determining which points are programmed: Enter maintenance mode as described on page 39. Press ADVANCE until the display reads, "REVIEW POINTS". Press ENTER. The display will go through all programmed points, displaying the text description (if programmed) for each.

Initiating download from panel: (Not intended for UL listed systems) For use in initiating a download session from the panel to the remote PC when a panel is connected to the telephone network through a key system or PBX.

1. Using the downloader software, load the customer record for the customer whose panel you will be using to initiate the download session, and select "Wait for call" from the command menu. Enter a sufficient amount of time for you to get to the panel and initiate the download, and click "OK".
2. Enter the installation program as described on page 39.
3. Press ADVANCE until the display indicates, "PROGRAM TELCOM", and press ENTER.
4. Press ADVANCE until the display indicates, "2nd PH#". Enter the phone number of the phone line which is connected to the downloader mode, using the method described on page 29.
5. Press ADVANCE to save the phone number in memory.
6. Press REVIEW until the display indicates, "SYSTEM READY", or, "SYSTEM NOT READY".
7. While holding the CLEAR button on the panel, press and release SYS RESET. The panel will dial the phone number programmed as PH #2, and attempt to initiate a download.

4x2 MAP REPORT FORMAT TRANSLATION TABLE

Code	Meaning
01	Alarm point 1
02	Alarm point 2
03	Alarm point 3
04	Alarm point 4
05	Alarm point 5
06	Alarm point 6
07	Alarm point 7
08	Alarm point 8
09	Alarm point 9
0B	Alarm point 10
0C	Alarm point 11
0D	Alarm point 12
0E	Alarm point 13
0F	Alarm point 14
10	Alarm point 15
11	Alarm point 16
12	Alarm point 17
13	Alarm point 18
14	Alarm point 19
15	Alarm point 20
16	Alarm point 21
17	Alarm point 22
18	Alarm point 23
19	Alarm point 24
1B	Alarm point 25
1C	Alarm point 26
1D	Alarm point 27
1E	Alarm point 28
1F	Alarm point 29
20	Alarm point 30
21	Alarm point 31
22	Alarm point 32
23	Alarm point 33
24	Alarm point 34
25	Alarm point 35
26	Alarm point 36
27	Alarm point 37
28	Alarm point 38
29	Alarm point 39
2B	Alarm point 40
2C	Alarm point 41
2D	Alarm point 42
2E	Alarm point 43
2F	Alarm point 44
30	Alarm point 45
31	Alarm point 46
32	Alarm point 47
33	Alarm point 48

Code	Meaning
34	Restoral point 1
35	Restoral point 2
36	Restoral point 3
37	Restoral point 4
38	Restoral point 5
39	Restoral point 6
3B	Restoral point 7
3C	Restoral point 8
3D	Restoral point 9
3E	Restoral point 10
3F	Restoral point 11
40	Restoral point 12
41	Restoral point 13
42	Restoral point 14
43	Restoral point 15
44	Restoral point 16
45	Restoral point 17
46	Restoral point 18
47	Restoral point 19
48	Restoral point 20
49	Restoral point 21
4B	Restoral point 22
4C	Restoral point 23
4D	Restoral point 24
4E	Restoral point 25
4F	Restoral point 26
50	Restoral point 27
51	Restoral point 28
52	Restoral point 29
53	Restoral point 30
54	Restoral point 31
55	Restoral point 32
56	Restoral point 33
57	Restoral point 34
58	Restoral point 35
59	Restoral point 36
5B	Restoral point 37
5C	Restoral point 38
5D	Restoral point 39
5E	Restoral point 40
5F	Restoral point 41
60	Restoral point 42
61	Restoral point 43
62	Restoral point 44
63	Restoral point 45
64	Restoral point 46
65	Restoral point 47
66	Restoral point 48

Code	Meaning
67	Trouble point 1
68	Trouble point 2
69	Trouble point 3
6B	Trouble point 4
6C	Trouble point 5
6D	Trouble point 6
6E	Trouble point 7
6F	Trouble point 8
70	Trouble point 9
71	Trouble point 10
72	Trouble point 11
73	Trouble point 12
74	Trouble point 13
75	Trouble point 14
76	Trouble point 15
77	Trouble point 16
78	Trouble point 17
79	Trouble point 18
7B	Trouble point 19
7C	Trouble point 20
7D	Trouble point 21
7E	Trouble point 22
7F	Trouble point 23
80	Trouble point 24
81	Trouble point 25
82	Trouble point 26
83	Trouble point 27
84	Trouble point 28
85	Trouble point 29
86	Trouble point 30
87	Trouble point 31
88	Trouble point 32
89	Trouble point 33
8B	Trouble point 34
8C	Trouble point 35
8D	Trouble point 36
8E	Trouble point 37
8F	Trouble point 38
90	Trouble point 39
91	Trouble point 40
92	Trouble point 41
93	Trouble point 42
94	Trouble point 43
95	Trouble point 44
96	Trouble point 45
97	Trouble point 46
98	Trouble point 47
99	Trouble point 48

Code	Meaning
9B	Opening - user 1
9C	Opening - user 2
9D	Opening - user 3
9E	Opening - user 4
9F	Opening - user 5
B0	Opening - user 6
B1	Opening - duress
B2	Opening - master
B3	Opening - special
B4	Closing - user 1
B5	Closing - user 2
B6	Closing - user 3
B7	Closing - user 4
B8	Closing - user 5
B9	Closing - user 6
BB	Closing - duress
BC	Closing - master
BD	Closing - special

Code	Meaning
BE	Keypad fire alarm
BF	Keypad medical† alarm
C0	Keypad police alarm
C1	Keypad special alarm
C2	Duress code entered
C3	System alarm canceled
C4	System force armed
C5	Communicator test
C6	System backup battery failure
C7	AC power failure
C8	Total system receiver failure
C9	System backup battery restoral
CB	AC power restoral
CC	System receiver restoral
CD	System restoral
CE	Successful download
CF	Invalid download attempt

CONTACT ID REPORT FORMAT TRANSLATION TABLE

Contact ID sends a data string in the following format:

aaaa 18 q xyz 00 0cc p

"aaaa" is a 4-digit system ID
"18" identifies the Contact ID format to the central station
"q" is an information qualifier (1= new event or opening, 3=new restore or closing)
"xyz" is the event code (see table below)
"00" is the zone ID (unused in Vision Plus Systems).
"0cc" is the point number (set to "000" for system status transmissions)
"p" is a checksum value

EXAMPLE: An alarm on burglary point 12 will send the following data string to the central station:
(System ID=9999, burglary alarm code=130, transmitter=012)

9 9 9 9 1 8 1 1 3 0 0 0 0 1 2 3

a a a a 1 8 q x y z 0 0 0 c c p

CONTACT ID CODE TABLE
(QXYZ)

ALARM	-	1100, 1110, 1120, 1130, 1150
PT RESTORE	-	3100, 3110, 3120, 3130, 3150
PT TROUBLE	-	1380
PT INACTIVE	-	1381
PT LOW BATT	-	1384
PT BYPASS	-	1571,1572,1573
OPENING	-	1401
CLOSING	-	3401
FIRE	-	1110
EMRGNCY	-	1100
POLICE	-	1120
SPECIAL	-	1150
DURESS	-	1121
CANCEL	-	1406
FORCE ARM	-	1300
TELCOM TEST	-	1602
BB FAIL	-	1302
AC FAIL	-	1301
RX FAIL	-	1355
RESTORE BB	-	3302
RESTORE AC	-	3301
RESTORE RX	-	3355
RESTORE SYS	-	3305
DOWNLD OK	-	1412
DOWNLD FAIL	-	1413

PHONE LINE HOOK-UP

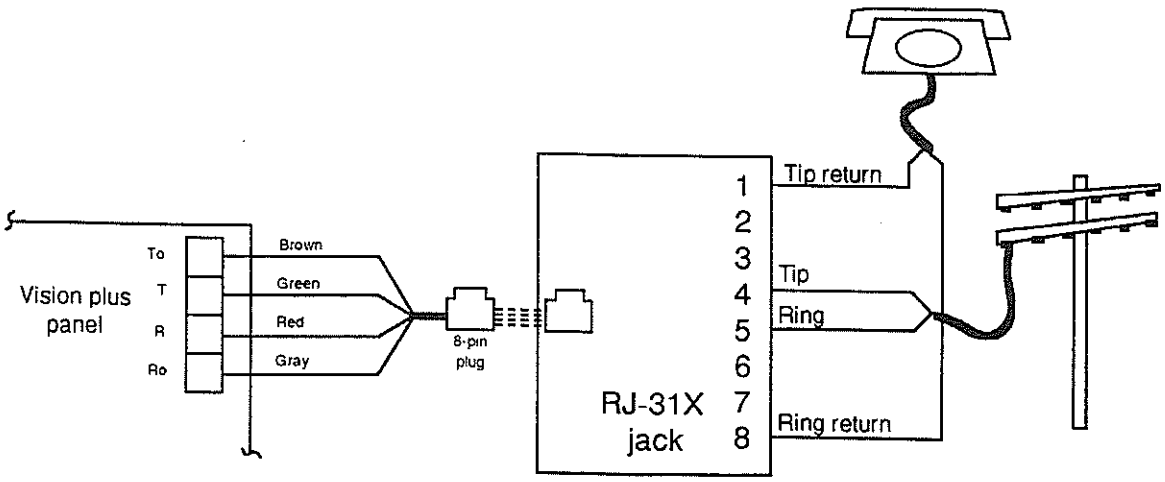
When connecting the Vision Plus control panel to the telephone line to provide alarm monitoring capability, it is usually desirable to have the control panel wired in such a way as to "seize" the telephone line for its use when it is attempting to communicate information to the central station. This prevents interruption of communication due to picking up of the phone by a person or device within the protected premises. By allowing the panel to seize the telephone line for its use, the installer greatly increases the effectiveness of the security system by making it more difficult for an intruder to interfere with communication.

To facilitate line seizure, the Vision Plus control panel features a seizure relay which causes connection of the telephone company lines to the house telephones under normal conditions, but which disconnects all house telephones from the telephone company lines when it is trying to communicate. On the Vision Plus panel, the T and R terminals are the inputs for the incoming tip and ring lines, while the To (Tip out) and Ro (Ring out) terminals are the outputs which go to the house telephones.

In all cases, to provide line seizure, it is necessary to ensure that the Vision Plus panel is the first device connected to the telephone company lines, so that the line seizure relay can properly disconnect the house telephones when the panel wants to communicate with the central station. In most areas, it is also necessary to use an RJ-31X or RJ-38X jack to allow disconnection of the panel by phone company personnel for troubleshooting purposes. Below is the wiring diagram for a standard RJ-31X jack and 8-conductor modular cable. Note that in some areas, it is necessary to have the RJ-31X jack installed by telephone company personnel. If this is the case in your area, your phone company will probably need the following information:

The type of jack required: RJ-31X or RJ-38X.
The telephone number of the line onto which the jack is to be installed, and location at which jack is to be installed.
Communicator FCC registration number: HCQUSA-73083-AL-E.
Communicator ringer equivalence: 0.2B.
Equipment manufacturer: Inovonics Corporation.

Figure 17

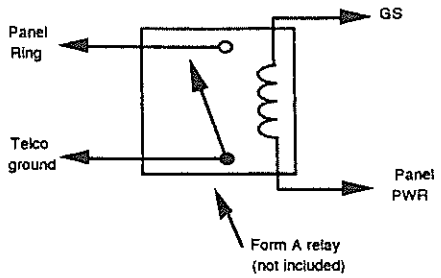


Vision Plus to RJ-31X connection

GROUND START CONNECTION*

In some areas, it may be necessary to connect a ground start relay to the Vision Plus panel in order for the telephone company's switching equipment to recognize that the panel wishes to dial on the phone line. This is only the case with older telephone switching equipment, and is not commonly necessary. The easiest way to distinguish telephone equipment that requires a ground start relay is by the number of wires going into each telephone at the premises. If there are 2 or 4 wires, ground start is probably not necessary. If there are 3 or 5 wires, ground start may be necessary, and you should contact the local telephone company for further information. To assist in making ground start connections, examine the diagram below.

Figure 18



Ground start relay connection

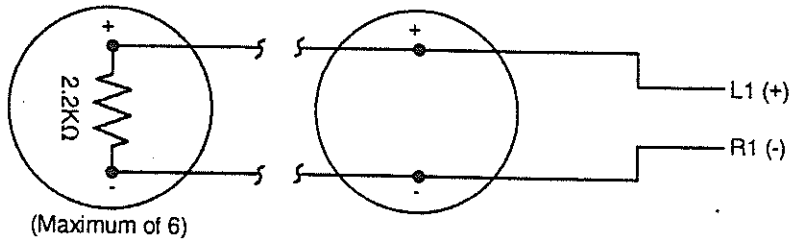
*Not intended for connection in UL listed systems.

POWERED HARDWIRE LOOP HOOK-UP*

Powered 2-wire hardwire smoke detectors may be used with the Vision Plus system. ESL model 429C smoke detectors are recommended.

When connecting 2-wire hardwire smoke detectors to the Vision Plus system, it is important to insure that the connections are made correctly. This will help prevent possible damage to the Vision Plus panel, and to the smoke detectors themselves. The following diagram illustrates correct hook-up for two 2-wire hardwire smoke detectors to the Vision Plus panel.

Figure 19



Notice that the two smoke detectors are connected in PARALLEL. This is because the smoke detectors function as normally open sensors, and will not function correctly if connected in series. Note also that a 2.2KΩ end-of-line resistor is REQUIRED to be connected across the terminals of the last sensor.

The Vision Plus powered hardwire loop works by sensing the amount of current being drawn by all of the devices to which it is connected. When this value exceeds a preset level, an alarm is generated. When a typical 2-wire smoke sensor is operating normally, it will draw a very small amount of current. If an alarm condition exists, however, a typical sensor will draw approximately 50 milliamperes. Since the preset threshold for the Vision Plus powered hardwire loop is approximately 3 milliamperes, this is sufficient to cause an alarm. Care should be taken to ensure that the total possible load of the powered hardwire loop does not exceed 300 milliamperes. Therefore, it is recommended that no more than six 2-wire smoke detectors be connected to hardwire loop 1.

*Not intended for use in UL listed systems

TROUBLESHOOTING - HARDWIRE KEYPADS

Only one keypress registers, then the keypad locks up.

- Make sure that the keypad you are using is the C103 hardwire keypad. C101-series keypads and slave receiver programmers (C104, FA104 or FA116) will not work.

- Make sure that the DATA (green) wire from the keypad is connected correctly to the Vision Plus panel, and is not shorted to GROUND or AUDIO.

Unable to access installation program.

- If display does not go blank after entering the master code and pressing ADVANCE, ensure that you are using the correct master code. If you cannot find the correct master code, perform a reset master code (see Quick Help)

- If display goes blank after entering the master code and pressing ADVANCE, but does not read "INSTALLATION PGM" after entering the installer code, ensure that you are using the correct installer code. Note that if you cannot find the correct installer code, there is no solution other than to have factory default settings programmed into the panel by returning it to the factory.

Keypad does not produce annunciation tones.

- If the keypad produces audible tones when its keys are pressed, but does not produce annunciation tones such as door chimes, entry/exit delays, arming tones, etc., make sure the AUDIO (white) wire from the keypad is connected correctly to the Vision Plus panel. If it is, adjust the volume control on the panel and keypad. If no tones are audible after adjusting volume, connect an 8Ω speaker between the AUDIO and GROUND terminals of the keypad terminal block on the panel, and listen for tones from the speaker. If no tones are audible through a speaker connected directly to the terminal block, contact Inovonics technical support.

Keypad does not produce any audible tones.

- If the keypad does not produce ANY tones, even when its keys are pressed, adjust the volume control in the keypad until the keypad begins to produce tones. If this fails, contact Inovonics technical support.

All keypads display "Program Mode".

- Press and release the SYS RESET button on the panel while holding the LOOP RESET button. Release the LOOP RESET button after panel produces a single 'ping'.

Keypad display reads "SYSTEM NOT READY" after a problem has been fixed.

- Perform a CLEAR MEMORY. Many faults are latching and can only be cleared manually. See "Quick Help" for more information.

Keypad display remains blank at all times.

- Make sure that the POWER (red) and GROUND (black) wires from the keypad are correctly connected to the Vision Plus panel. If the keypad has power, the POWER LED on the front of the keypad will be lit.

- Make sure that the Vision Plus panel has power (either the AC or BAT LED must be lit).

One-key arming and panic alarms do not function.

- Make sure the EZ ARMING option under PROGRAM PANEL is set to YES.

Door chime not working.

- If display does not read "*CHIME*", press ENTER followed by 9.

- If display reads "*CHIME*", make sure that the CHIME option for the point in question is set to YES.

- If display reads "*CHIME*", and point is programmed correctly, see "Keypad does not produce audible tones", above.

TROUBLESHOOTING Frequency Agile™ TRANSMITTERS

Transmitter will not take program from keypad.

- Make sure that the display reads "Plug in xmitter".
- Check transmitter battery voltage and make sure battery is installed correctly.

Keypad shows point is unsecure, even though it should be secured.

- Make sure point loop is programmed correctly for the point. Note that if you are using the internal contacts on an FA200W or FA210W widegap transmitter, and NOT using any external contacts, the point loop must be programmed as N/O.
- If you had very recently secured the point, wait a few minutes to allow the point to check in as secured.

Points are shown as INACTIVE.

- If you just exited from the installation program, allow two to three minutes for all transmitters to check in with the system.
- Make sure the receiver is functioning properly (look for flashing Decode and Valid LEDs when transmitters are triggered).
- Reprogram the transmitter or transmitters in question (by pressing transmitter reset button) to ensure panel/transmitter synchronization.
- Check the battery in the inactive point or points. Replace dead batteries and press transmitter reset to restore program.
- Ensure that the RF path from the transmitter's location to the receiver is not excessively long or obstructed by many large metal objects. If inactivity is caused by interference from the structure or other RF source, it may be necessary to add a second receiver to the system.

Four-button remote not functioning correctly.

- If LED lights when any button is pressed, point may be bypassed. Arm and disarm system, and check unit again. If unit still fails to function, reprogram transmitter to ensure panel/transmitter synchronization.
- If LED does not light when any buttons are pressed, check the battery. If battery is dead, replace battery and press reset button to reprogram the transmitter.
- If pressing buttons on remote causes LOW BATTERY, TAMPER, and/or UNSECURED display at keypad, unit is programmed as an intrusion point, not as a REMOTE. Change point programming and reprogram transmitter from executive keypad.

TROUBLESHOOTING - COMMUNICATOR

Communicator not dialing.

- Make sure that TELCOM is set to ENABLE.

- If you are using 3x1 EXTended, 4x2 reporting or Contact ID, make sure the zone table is programmed for all points you wish to have reported to the central station.

- Make sure that a code other than Ø is programmed for all conditions you wish to have reported to the central station.

- Make sure all points that are to be monitored by the central station are programmed for MONITORED=YES under PROGRAM POINT.

Communicator dials, but does not seize phone line.

- Make sure the panel is properly wired to seize the phone line (see "Phone line hook-up", page 43).

Communicator seizes line and dials, but cannot connect with central station.

- If the communicator is dialing a 1-800 number, it may be necessary to add a delay to the end of the phone number to allow for the extra time it can sometimes take a 1-800 call to be completed. Add up to 12 seconds of delay to the end of the phone number (F=5 seconds, E=2 seconds). For example, to add five seconds of delay to the end of the phone number 1-800-555-1212, change the entry from 18005551212 to 18005551212F. If adding delays does not help, contact Inovonics technical support.

- Make sure that the central station can accept the selected report format.

Communicator contacts central station, but seems to send incorrect codes.

- If the account number is incorrect, make sure ACCT NO is programmed with the correct number of digits (4 for 4x2 or 4x2 map, 3 for 3x1 or 3x1 EXTended).

- If first digit after the account number is correct but second is not, make sure zone table is programmed correctly.

- If second digit after the account number is correct but first it not, make sure code table is programmed correctly.

- If all dialer parameters are programmed correctly, make sure central station receiver is capable of receiving the report format you have selected. If the receiver should be able to handle the programmed format, but the data still seems to be incorrect, change the PLS RATE setting.

Customer hears a "click" on the line after they answer a call.

- The DOWNLOAD setting has been set to ENABLE. The panel is listening to the line to see if the incoming call is a download attempt. If the customer finds the "click" to be annoying, set the DL CHECK option in the maintenance menu (see page 6) to RNGBK, or set DOWNLOAD to DISABLE.

Customer subscribes to a voice messaging service which renders downloading impossible.

- Have the customer pick up their line after two rings, and hold the phone until it goes dead. Once you are on-line with the panel, set the ANSWER RINGS setting under the EDIT DIAL/REPORT FORMAT INFO screen to 3. This will, by default, force DL CHECK to RNGBK. For future downloads, the panel may be contacted by first dialing the customer and letting the phone ring once. Than hang up, and call back with the downloader. After three rings, the panel will pick up and attempt to perform a download. Note that when DL CHECK is set to RNGBK, the panel will never attempt to perform a download, except on the second of two calls that occur within 120 seconds of each other. See Page 28 for additional information regarding ringback.

TROUBLESHOOTING - PANEL

Relay not activating (no siren).

- Check siren wiring (see Figure 3, page 3).
- If wiring is correct, check siren by connecting it directly to the backup battery.
- If siren is operational, check voltage at PWR and GND terminals. Voltage should be 13.6 volts. Make sure siren does not draw more than 1.6 amps.
- If voltage is correct, ensure that points are programmed correctly. For INTRUSION points, the AUDIBLE setting must be programmed as YES, and for 24-HOUR points (POLICE, SPECIAL, REMOTE, etc.), both AUDIBLE and RELAY OUT must be set to YES.

Hardwire loop 1 not functioning correctly.

- If more than one smoke detector is connected, ensure that all of the units are connected in parallel (see page 45), and that there is an end-of-line resistor in parallel with the last unit.
- If you are not using ESL model 429C smoke detectors, the units may not be compatible with the Vision Plus panel.
- Ensure that the wiring to the sensors is intact.
- Sensors may need to be reset. Press the LOOP RESET button on the panel, or use the RESET H/W SMOKES option from the hardwire keypad (see "Quick Help", page 39).

Hardwire loops 2 through 6 not functioning correctly.

- Re-initialize the hardwire loops by pressing the SYS RESET button on the panel.
- Ensure that the wiring to the sensors is intact.

SPECIFICATIONS

Dimensions	13"H x 10.25"W x 2.75" D
Power transformer	14 VAC 20 VA
Alarm output	Form C relay, rated for 4A @ 28VDC or 1A @ 120VAC
Programmable auxiliary output	Form C relay, rated for 4A @ 28VDC or 1A @ 120VAC
Back-up battery (not included)	12VDC 4AH rechargeable
C2020 Panel current drain	85 mA
C103 Executive keypad current drain (each)	45 mA
FA400 Remote receiver current drain (each)	90 mA
Combined current drain (panel+1 executive keypad+1 remote receiver)	220 mA
Overload protection	Polyswitch self-regenerating fuses
Max current drain off 13.6V (PWR) terminal	1.3 A
Max current drain off keypad power terminal	1.3 A
Max current drain off RCVR power terminals (each)	250 mA
Max current drain to or from backup battery	1.3 A (total)
Powered hardwire loop maximum current drain	300 mA
Powered hardwire loop minimum alarm current drain	3 mA
Hardwire loop response time	50 milliseconds
Communicator ringer equivalence	0.2B
Communicator FCC registration number	HCQUSA-73083-AL-E
Operating temperature	32 to 122 degrees Fahrenheit (0 to 50 degrees centigrade)
Number of hardwire zones available	Up to 6 (1 powered fire, 5 non-powered)
Number of wireless points available	42 to 48, depending on number of hardwire zones used
Total number of points of protection available	48
Battery charging voltage	13.6V, with reverse polarity protection on battery connections
Backup battery low voltage threshold	11.0 V (nominal)
Time between backup battery load tests	1 hour
Microprocessor lock-up protection	Microprocessor operational watchdog circuit
Communicator report formats supported	3x1, 3x1 extended, 4x2, 4x2 MAP, CONTACT ID
Communicator report rates supported	10 PPS, 20 PPS, 40 PPS, 10 digits per second (Contact ID)
Communicator dialing formats available	Touch-tone ® or Rotary (pulse)
Maximum magnet gap for FA200W internal contact (on wood or steel)	1.25 inches
Maximum magnet gap for FA210W internal contact (on wood or steel)	1.00 inches

Sample Vision Plus Programming Worksheet

Name John Q. Public
Address 123 Any Street
City/State/Zip Anytown, USA 12345
Phone (555) 555-1212

Installer Local Security Co.
Date of installation 6-6-96
Panel location Utility Closet
Telco jack location Basement, Den

Program Panel

System I.D. 123 (0-254)
Siren time 10 (0-254 minutes)
SPV window 6 (0-100 hours)
EZ arming enabled Yes (yes/no)
Force arming enabled Yes (yes/no)
Entry Time 40 (0-254 seconds)
1, 3, 5, 7, or 9 as last digit of entry delay disables entry warning tones
Exit Time 40 (0-254 seconds)
Aux Relay Use 3 (0-8, 0=disabled)

1=Active during entry/exit delay
2=Active when armed / flash to indicate alarm
3=Active during FIRE alarm
4=Active during alarm on point 5
5=Active during alarm on point 6-14
6=Active during keypad SPECIAL alarm
7=Toggle when user code 6 entered
8=Latching after communicator failure
9=Active during inactive Tx in away mode

Code 1 limit 0 (0-254 hours)

User code 1	1163	User 1	Ms. Public
User code 2	2204	User 2	Billy
User code 3	9153	User 3	Mary
User code 4	6133	User 4	Grandpa
User code 5		User 5	
User code 6		User 6	
Duress code	5147		
Master code	0142		
Dealer code	3446		

DownLoad CHECK: Auto (AUTO / RiNGRacK)

Program Telcom

Telcom: [X] Enable [ ] Disable
Download: [X] Enable [ ] Disable
1st Phone # B70E5552121
2nd Phone #
A(10) = same as 0
B(11) = *
C(12) = #
D(13)=Wait for 2nd dial tone
E(14)=2 second pause
F(15)=5 second pause

Acct. # 2228
Dial: [ ] Pulse [ ] Tone
Sequence 0
0 = 1st number only
1 = 1st number preferred, 2nd as backup
2 = 2nd number only
3 = 1st and 2nd always
4 = Split reporting

Reporting Format: [ ] 3x1 [ ] 3x1 Ext [X] 4x2 [ ] 4x2 Map [ ] Contact ID
PLS Rate: [ ] 10pps [X] 20pps [ ] 40pps

Zone table 0-9 or A-F (0 = unprogrammed) [A=10 (reports as 0) B=11 C=12 D=13 E=14 F=15]

Point 1	1	Point 9	5	Point 17	5	Point 25	2	Point 33	1	Point 41	
Point 2		Point 10	2	Point 18	5	Point 26	2	Point 34	1	Point 42	
Point 3		Point 11		Point 19	5	Point 27		Point 35	6	Point 43	4
Point 4		Point 12	5	Point 20	5	Point 28	2	Point 36		Point 44	4
Point 5		Point 13	2	Point 21	3	Point 29	5	Point 37	6	Point 45	
Point 6		Point 14	2	Point 22	3	Point 30	3	Point 38		Point 46	
Point 7	5	Point 15	3	Point 23	2	Point 31	5	Point 39	7	Point 47	6
Point 8	5	Point 16		Point 24	2	Point 32		Point 40	7	Point 48	6

Zone assignment not required for 3x1, 4x2 MAP or CONTACT ID formats. Zones MUST be assigned for points to be monitored when using 3x1 EXTENDED or 4x2 formats. SYSTEM ZONE is zone associated with system events such as AC fail, BB fail, etc.

System zone 9

Code table 0-9 or A(10)-F (15) (0 = unprogrammed) For 4x2 MAP and Contact ID formats, enter a 1 for each condition to be reported.

Alarm	A	PT Bypass	E	Police	F	Telcom Test	4	Restore AC	1
PT Restore	1	Opening	D	Special	A	BB Fail	B	Restore RX	1
PT Trouble	8	Closing	C	Duress	A	AC Fail	B	Restore SYS	3
PT Inactv	8	Fire	6	Cancel	5	RX Fail	8	Dwnld OK	2
PT Low Batt	B	Emergency	7	Force Arm	9	Restore BB	1	Dwnld Fail	A

24-Hour Points

Sample

I.D. No.	Point Description	HW Loop	Type: Fire	Emergency	Police	Special	Remote	Keypad	Point Loop: N/O	N/C	Check if Yes: EOL RES	INT CNTCT	Monitored	Audible	Relay	Delayed	Check-In: None	10 Sec	30 Sec	60 Sec	5 Min
1	HW Smokes - Study	X	X																		
33	Kitchen Smoke		X						X				X			X				X	
34	Hall Smoke		X						X				X							X	
35	Grandpa Emergency			X					X				X	X	X						X
37	Bedside Panic				X				X				X	X	X					X	
39	Satellite Dish					X				X			X	X	X					X	
40	Gun Cabinet					X				X			X	X	X						X
47	Wireless Keypad							X													
48	Wireless Commander						X														

24-hour point suggested programming

Transmitter	TYPE	H/W LOOP	POINT LP	EOL RESIST	INT CNTCT	MONITORED	AUDIBLE	RELAY OUT	DELAYED	CHECK-IN
FA100 remote control	REMOTE	NO	--	--	--	YES	YES	YES	--	--
FA102 deluxe keypad*	KEYPAD	NO	--	--	--	YES	YES	YES	--	--
FA201 smoke detector	FIRE	NO	N/O	NO	NO	YES	--	--	as appropriate	60 sec
FA204 pendant panic	POLICE	NO	N/O	NO	NO	YES	YES	YES	--	60 sec
Hardwire keyswitch	REMOTE	YES	--	--	--	--	--	--	--	--
Hardwire smoke	FIRE	YES	--	--	--	--	--	--	--	--

Intrusion point suggested programming

Transmitter	HOME	AWAY	CUSTOM	H/W LOOP	POINT LP	EOL RESIST	INT CNTCT	MONITORED	AUDIBLE	CHIME	CHECK-IN
FA200 / FA200W universal	as appropriate	as appropriate	as appropriate	NO	as appropriate *	as appropriate *	YES	YES	YES	YES	60 sec
FA210 / 210W universal mini	as appropriate	as appropriate	as appropriate	NO	as appropriate	as appropriate	NO	YES	YES	YES	60 sec
FA207 Shatterpro	BYPASS	INSTANT	as appropriate	NO	N/O	NO	NO	YES	YES	NO	60 sec
FA206 Sharpshooter PIR	BYPASS	as appropriate	as appropriate	NO	N/C	NO	NO	YES	YES	NO	60 sec

* applies to EXTERNAL contacts only. If no external contacts are to be used, POINT LP should be set to N/O, and EOL RES should be set to NO.

Intrusion Points

Sample

I.D. No.	Point Description	HW Loop	Bypass	Home: Instant	Home: Delay	Home: Follow	Away: Bypass	Away: Instant	Away: Delay	Away: Follow	Custom: Bypass	Custom: Include	Point Loop: N/O	Point Loop: N/C	Check if Yes: EOL RES	Check if Yes: INT CNTCT	Check if Yes: Monitored	Check if Yes: Audible	Check if Yes: Chime	Check-In: None	Check-In: 10 Sec	Check-In: 30 Sec	Check-In: 60 Sec	Check-In: 5 Min
7	Front Door			X					X			X		X	X		X	X	X					X
8	Back Door								X		X			X	X		X	X	X					X
9	Garage Door								X		X			X	X		X	X	X					X
10	Veranda Door		X					X				X		X	X		X	X	X					X
12	Living Room PIR		X							X	X			X			X	X						X
13	Master BR PIR		X							X	X			X			X	X						X
14	Upstairs PIR		X							X	X			X			X	X						X
15	Family Room PIR		X							X	X			X			X	X						X
17	Large LR Window			X				X				X	X			X	X	X						X
18	Dining Rm Window			X				X				X	X			X	X	X						X
19	Kitchen Window			X				X				X	X			X	X	X						X
20	Study Window			X				X				X	X		X	X	X	X						X
21	Basement Windows			X				X				X	X		X	X	X	X						X
22	Family Rm Windows			X				X				X	X		X	X	X	X						X
23	Master BR Window		X					X				X	X			X	X	X						X
24	Billy's BR Window		X					X				X	X			X	X	X						X
25	Mary's BR Window		X					X				X	X			X	X	X						X
26	Grandpa's BR Window		X					X				X	X			X	X	X						X
28	Master BR ShatterPro			X				X				X	X				X	X						X
29	LR Shatterpro			X				X				X	X				X	X						X
30	Family Rm ShatterPro			X				X				X	X				X	X						X
31	Study ShatterPro			X				X				X	X				X	X						X
43	Poolhouse Door			X				X			X		X			X	X	X						X
44	Pool Gate			X				X			X		X			X	X	X						X

Sample Notes

- Telcom Phone #: "B70E" disables call waiting and pauses 2 seconds.

- Satellite dish transmitter is in PVC tube strapped to pedestal. Unscrew the cap.

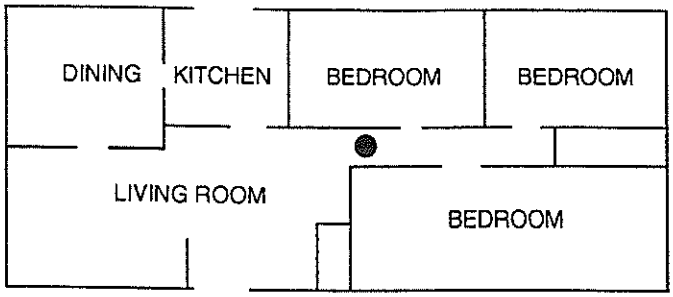
- Don't leave tools unguarded if Grandpa or Billy are home.

- Telcom test between 1:00 a.m. & 3:00a.m..

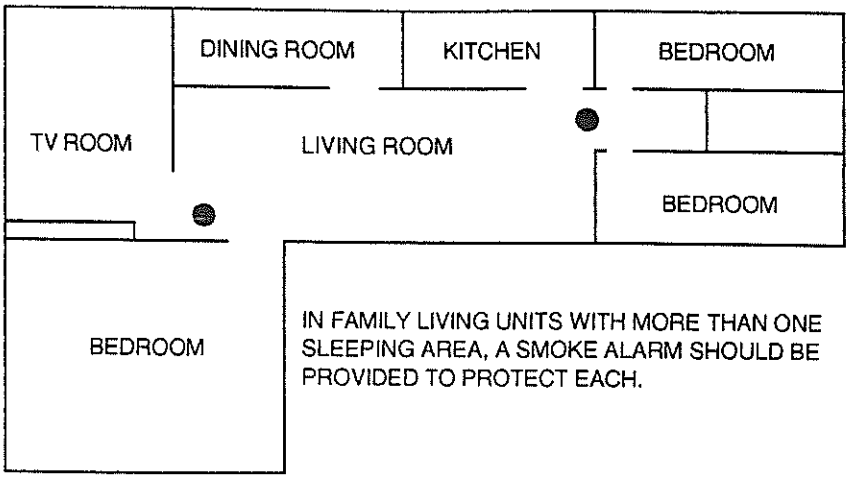
Smoke detector placement guidelines

Smoke detectors for use with the Vision Plus system shall be installed in accordance with National Fire Protection Association (NFPA) Standard 72. Refer to the following diagrams in placing smoke detectors:

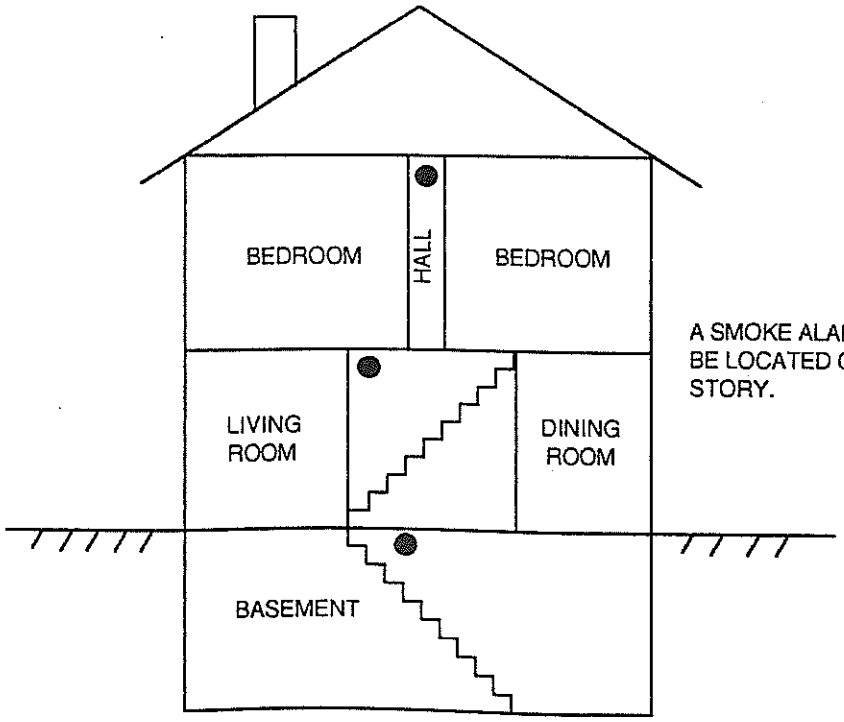
Figure 21



A SMOKE ALARM SHOULD BE LOCATED BETWEEN THE SLEEPING AREA AND THE REST OF THE FAMILY LIVING UNIT.



IN FAMILY LIVING UNITS WITH MORE THAN ONE SLEEPING AREA, A SMOKE ALARM SHOULD BE PROVIDED TO PROTECT EACH.



A SMOKE ALARM SHOULD BE LOCATED ON EACH STORY.

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