Technical Manual

wireless GUARDIAN

Hybrid Security System

LIT-CP2130-INSTALL **REV 02714B**

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Inovonics Wireless Corporation
315 CTC Blvd
Louisville, Colorado 80301
Phone 303.939.9336
Fax 303.939.8977
Toll-free 1.800.782.2709
E-mail sales@inovonics.com

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Installation Program Men u

Master code (default = 0000), ADV, Dealer code (default = 3446)

Program Panel

- **System ID (0-254)**
- **Siren Time (0-254 minutes)**
- **SPV Window (0-100 hours)**
- **EZ arming (Yes/No)**
- **Force arming (Yes/No)**
- **Entry time (0-254 seconds; odd=warning)**
- **Exit time (0-254 seconds)**
- **Aux output (0-9; 0= disabled)**
- **Dealer code (000-999; 3446=default)**

Program Point

- **System ID (display only)**
- **Pt# (1-48)**
- **Text**
- **HW Loop**
- **Type**
  - Intrusion
    - Stay
      - Bypass
      - Instant
      - Delayed
      - Follow
    - Away
      - Bypass
      - Instant
      - Delayed
      - Follow
    - Custom
      - Include
      - Bypass
  - Fire
  - Emergency
  - Police
  - Special
  - Remote
  - Keypad
- **Tx Type (N/C or N/O)**
- **EOL Resist**
- **INT Reed**
- **Monitored**
- **Audible**
- **Output On (24-hour points only)**
- **Chime**
- **Check-In**
  - none
  - 10 seconds
  - 30 seconds
  - 60 seconds
  - 5 minutes

(For a complete list of point options, see Table2, "Programming Options for each point type," on page 14.)

Delete Point

- **Pt #**

Program Telcom

- **Telcom Enable**
- **Download Enable**
- **1st phone #**
- **2nd phone #**
- **Account #**
- **Dialing (Pulse/Tone)**
- **Sequence**
- **Format**
  - 3x1
  - 3x1 EXT
  - 4x2
  - 4x2 map
  - Contact ID
- **Pulse Rate**
- **Zone Table**
- **Code Table**

Signal Level

Maintenance Mode Menu

Master code (default = 0000), REVIEW

Bypasss Points
- **Point #**

Clear Memory

Review Points

Review Alarms

Program Codes
- **Master code**
- **Duress code**
- **User code (1-6)**
- **DL Check**
- **Code Limit**

Test Telcom

Reset H/W Smokes

Quick Help

How To Use This Manual

Text Conventions:

Keypad Button: **[ADV]**
KeypadDisplay: *--SYSTEM OFF--*
User entry: **Master Code**

Default Codes

Master Code = **0000**
Dealer Code = **3446**

BeforeYou Program A Panel

✔ See the Sample Programming Worksheet in the Appendix.

✍ FILL OUT A PROGRAMMING WORKSHEET.

Enter Installation Program

1. **Master Code** ☞ *--SYSTEM OFF--*
2. **[ADV]** ☞ *-- BLANK DISPLAY--*
3. **Dealer Code** ☞ *--INSTALLATION PROGRAM--*

Enter Maintenance Mode

1. **Master Code** ☞ *--SYSTEM OFF--*
2. **[REVIEW]** ☞ *-- BYPASS POINTS--*

Turn Off Alarms

Master Code or **User Code**

Program the Panel

1.	**Master Code**	☞	*--SYSTEM OFF--*
2.	**[ADV]**	☞	*-- BLANK DISPLAY--*
3.	**Dealer Code**	☞	*--INSTALLATION PROGRAM--*
4.	**[ADV]**	☞	*--PROGRAM PANEL--*
5.	**[ENTER]**	☞	*--SYSTEM ID--*

Program a Point

1.	**Master Code**	☞	*--SYSTEM OFF--*
2.	**[ADV]**	☞	*-- BLANK DISPLAY--*
3.	**Dealer Code**	☞	*--INSTALLATION PROGRAM--*
4.	**[ADV][ADV]**	☞	*--PROGRAM POINT--*
5.	**[ENTER]**	☞	*-SYSTEM ID--*
6.	**[ADV]**	☞	*-- POINT # ---*

Delete a Point

1.	**Master Code**	☞	*--SYSTEM OFF--*
2.	**[ADV]**	☞	*-- BLANK DISPLAY--*
3.	**Dealer Code**	☞	*--INSTALLATION PROGRAM--*
4.	**[ADV][ADV][ADV]**	☞	*--DELETE POINT--*
5.	**[ENTER]**	☞	*--POINT # ---*

Program the Communicator

1. **Master Code** ☞ *--SYSTEM OFF--*
2. **[ADV]** ☞ *-- BLANK DISPLAY--*
3. **Dealer Code** ☞ *--INSTALLATION PROGRAM--*
4. **[ADV][ADV][ADV][ADV]** ☞ *--PROGRAM TELCOM --*
5. **[ENTER]** ☞ *--TELCOM-ENABLE---*

Check Signal Levels

1. **Master Code** ☞ *--SYSTEM OFF--*
2. **[ADV]** ☞ *-- BLANK DISPLAY--*
3. **Dealer Code** ☞ *--INSTALLATION PROGRAM--*
4. **[ADV][ADV][ADV][ADV][ADV]** ☞ *--SIGNAL LEVEL--*
5. **[ENTER]** ☞ *--POINT # 01 GOOD---*

Review Point Faults

1. **[REVIEW]** ☞ *-- SYSTEM NOT READY--*

Bypass Points

1. **Master Code** ☞ *--SYSTEM OFF--*
2. **[REVIEW]** ☞ *-- BYPASS POINTS--*
3. **[ENTER]** ☞ *--POINT # – ---*

When all points to be bypassed are entered, **[REVIEW]**

Clear Alarm Memory

1. **Master Code** ☞ *--SYSTEM OFF--*
2. **[REVIEW]** ☞ *-- BYPASS POINTS--*
3. **[ADV]** ☞ *--CLEAR MEMORY ---*
4. **[ENTER]** ☞ *--SYSTEM READY ---*

Reset the Master Code to "0000"

On the Control Panel:

1. Press and hold **[RESET]**
2. Press and hold **[REVIEW]**
3. Release **[RESET]**. Panel will begin "ringing".
4. When the ringing stops, the panel will emit a single "ping" indicating that the Master Code has been reset.
5. Release **[REVIEW]**.

Lost Dealer Code:

The Dealer Code can only be changed through the Installation Program, which means that the current Dealer Code must be known to the programmer. If the current Dealer Code is not known, it cannot be reset or recovered, except by returning the Wireless Guardian panel to Inovonics Corporation.

- **Dealers acquiring service responsibility for previously installed panels must obtain the Dealer Code from the previous service provider, or should arrange for the previous provider to change the Dealer Code back to default value (3446) when terminating service.**

Clear All Programming

Resets all programming and codes to default settings **EXCEPT THE DEALER CODE.** The dealer code can ONLY be changed in the Installation Program. Also clears download security codes in the panel, allowing download access to the panel, with only the correct dealer code.

On the Control Panel:

1. Press and hold **[RESET]**
2. Press and hold **[REVIEW]**
3. Release **[RESET]**. Panel will begin "ringing".
4. While the panel is ringing, release **[REVIEW],** press and hold **[CLEAR].**
5. When the ringing stops, four tones will sound, indicating that all system programming has been cleared.
6. Release **[CLEAR]** .

Return Keypads To Normal Mode

Keypads which are "locked up" and display *--PROGRAM MODE--* can be re-activated by the following sequence.

On the Control Panel:

1. Press and hold **[RESET].**
2. Press and hold **[LOOP RESET].**
3. Release **[RESET]**.
4. Release **[LOOP RESET**].

Forcing the panel to seize the phone line when being called by a downloader

1. This procedure must be coordinated between the technician on site and the downloader operator. It is used when unknown problems prevent automatic downloader access to the panel.
2. The technician will wait for the downloader to call the panel. If house phones cannot be heard from the panel, watch for the gas discharge tube by the telcom terminal to flash.
    - If the following sequence is performed *before* the downloader calls the panel, the panel will seize the line for approximately 3 minutes, and the downloader will get a busy signal. Press **[RESET]** to disconnect the panel.
3. Press and hold **[CLEAR].**
4. Press and release **[RESET].**
5. Release **[CLEAR]**.
6. The downloader and panel will be connected, and control passes to the downloader.

Speeding up downloader connnection with someone on site

NOTE: The above procedure should not be necessary if you do the following:

1. If DLCHECK = AUTO, perform HW Loop reset, or press the panel "Reset" button.
2. When the phone rings, answer the phone. (If the phone is allowed to ring, the panel will wait for 10 rings before listening for the downloader.)
3. Keep the phone receiver offhook until the panel seizes the line.
4. Hang up the house phone after the panel seizes the line. (The phone will "go dead".)

System Specifications

Panel Dimensions ..... 13” x 10.75” x 3”

Power transformer ..... 14VAC 20 VA

Alarm output ..... Common open collector 1A 24VDC

Programmable auxiliary output ..... Common open collector 1A 24VDC

Backup battery (not included) ..... 12VDC 4AH rechargeable

Wireless Guardian panel current drain ..... 100mA typical

KP130 hardwire keypad current drain (each) ..... 80mA typical

Overload protection ..... Polyswitch self-regenerating fuses

Max current draw off 13.5V (PWR) terminal 1.3A

Powered hardwire loop minimum alarm current drain ..... 3 mA

Hardwire loop response time ..... 50 ms

Operating temperature..... 32 to 122 degrees Fahrenheit (0 to 50 degrees centigrade)

Number of hardwire zones available ..... Up to 4 (1 powered, 3 non-powered)

Number of wireless points available .. 44-48, depending on number of hardwire loops

Part Numbers

Wireless Guardian Control Panel CP2130

Hardwire keypad KP130

Wireless keypad FA130

Backup battery (not included) BAT602

System Overview

How wireless security systems work

The Wireless Guardian is a complete security system. It is “wireless” because 900MHz Frequency Agile™ transmitters send alarm and status information to a receiver built into the control panel. The control panel reacts to incoming data according to its programming. It displays information on the system’s keypads, activates outputs, and can dial Central Monitoring stations.

Inovonics strongly recommends transmitter supervision

The critical factor in the reliability and integrity of wireless security systems is the ability to know the status of transmitters. Inovonics has pioneered transmission technologies that create extremely reliable transmission links. Inovonics transmitters send supervisory check-in signals to receivers at programmed intervals, from 10 seconds to 5 minutes. If the receiver fails to receive at least one of these signals in a predetermined interval--called the Supervision Window--it generates a trouble signal, indicating that the transmitter is “Inactive”. In addition, Inovonics transmitters include data about battery strength, switch status and tamper condition in their check-in reports.

The reliability of the system is based on massive redundancy. For example, a transmitter which checks in every 10 seconds sends 360 transmissions during a 1-hour supervisory window, 1440 during a 4-hour supervisory window. Only **one** transmission needs to get through to maintain supervision! Check-in transmissions are sent only once per interval. If a tamper or low battery is detected, multiple transmission ”rounds” are sent immediately. If an alarm condition occurs, even more rounds are sent. Multiple-round transmissions have extremely high chances of being promptly decoded by the receiver.

System Overview (Continued)

2 categories of alarm devices

Wireless transmitters, as well as hardwire sensors, are programmed to be in one of two categories, Intrusion Points or 24-Hour Points.

Intrusion Points

"**Intrusion**" points can be "armed" or "disarmed" at the discretion of the user. The Wireless Guardian system offers users three arming modes, called Stay, Away and Custom. The system can be programmed to respond to or to ignore each transmitter, depending upon which mode it is armed in.

24-Hour Points

By contrast, the other category of devices are "**24-hour**" points—defined as Fire, Medical, Police, Special or Remote. Whether the system is armed or disarmed, these devices will cause an alarm if activated. The system will always respond to these devices. The type of response is programmable.

System Overview (Continued)

Keypads

Users have full-time access to the system through the KP130 keypads. These keypads are wired to the control panel, and display status reports. Installers use the keypad to program and test the system. Users may review status of the system, set user codes bypass points and clear faults. The Wireless Guardian System will always indicate either "SYSTEM READY' or "SYSTEM NOT READY". Press the **[REVIEW]** button to view conditions that preclude a ready condition.

Arming modes

The Wireless Guardian System has six arming conditions which affect transmitters defined as Intrusion points.

OFF: The system will disregard alarms from all Intrusion transmitters.

AWAY: All Intrusion transmitters to be enabled during AWAY mode arming will cause alarms when tripped. Typically, this arming mode activates all transmitters in the system.

STAY (Delayed or Instant): All Intrusion transmitters to be enabled during STAY mode arming will cause alarms when tripped. Typically this mode arms perimeter points, permitting people to move around in the interior of the protected site. Pressing **[STAY]** twice during arming puts the system into Instant mode. In Instant mode no entry or exit delays are permitted.

CUSTOM (Delayed or Instant): All Intrusion transmitters to be enabled during CUSTOM mode arming will cause alarms when tripped. This arming mode allows variations upon the AWAY mode. Transmitters active in AWAY mode can be chosen or bypassed. Pressing **[CUSTOM]** twice during arming puts the system into Instant mode. In Instant mode no entry or exit delays are permitted.

System Overview (Continued)

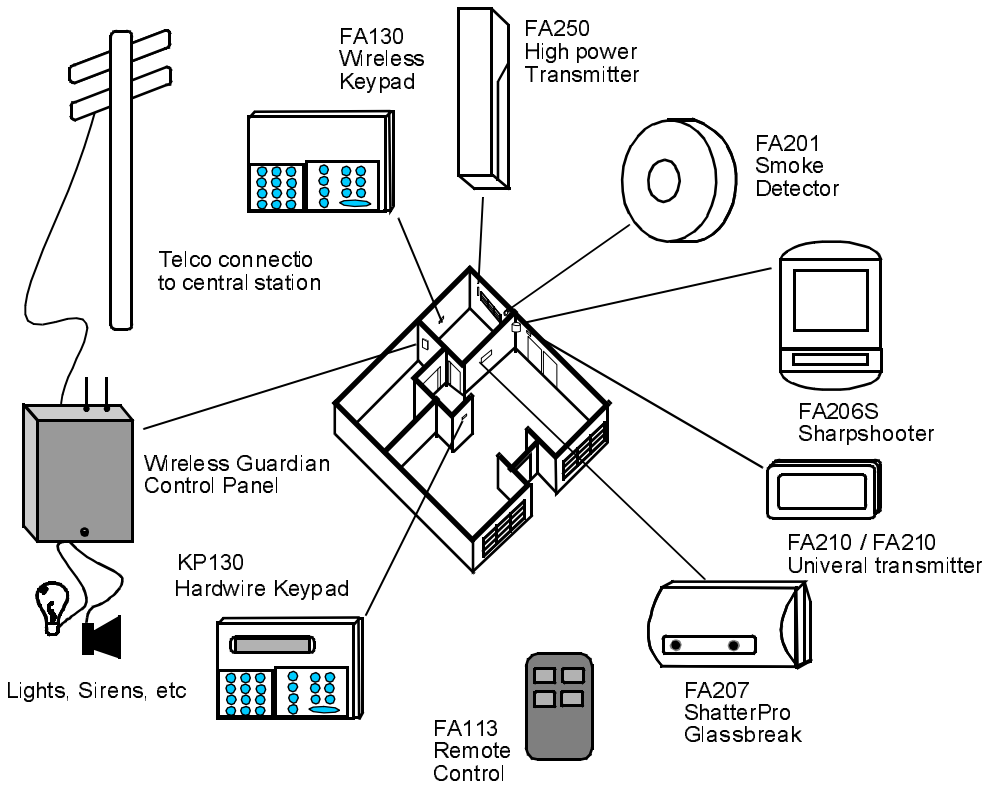
Features

The Wireless Guardian System can accommodate up to 48 wireless transmitters, or 44 transmitters with 3 hardwire loops and 1 powered hardwire loop. The system outputs local audio warning and advisory tones via the KP130 hardwire keypad, and has one alarm and one auxiliary output, which can be configured to drive sirens or other external warning devices.

System Components

The central components of the Wireless Guardian System are the receiver - controller, KP130 keypad (input and display), output and transmitters. The Wireless Guardian System integrates receiver, controller and output functions into one product, the CP2130 controller. The controller also includes a telephone dialer section which permits interface with security monitoring services.

FIGURE 1 Wireless Guardian system components



Programming the Panel

Overview

Programming the Wireless Guardian system lets installers match the system to the needs of the application. There are 2 basic steps. First, the panel is programmed with operational information needed to interpret data from transmitters, to interface with output devices and to communicate with central stations. Next, transmitters are assigned point numbers and operating parameters. Panel programming defines the Wireless Guardian System. The panel is configured to respond to information coming in from transmitters. Transmitters are defined and programmed. Dialer functions are defined. Transmitter points can be deleted. System tests can be conducted and signal strength can be measured.

Protect programming

Access to programming should be carefully protected by installers. The dealer code should be changed from the default value (3446) to protect programming from unauthorized users.

Plan the installation

Installers should have a clear idea of the typical use of the system. This affects configuration of the system, as well as determining values of certain options that can be programmed into the system.

Fill out a programming worksheet

Working from the programming worksheet allows programmers to consider the system in its entirety. It is easier to organize transmitter assignments. It can make installation more efficient and logical. The programming worksheet also assists programmers and installers in obtaining the information they need for a successful installation.

Proceed methodically

As much as possible, organize the programming and installation in a way that makes later revisions easier. Note that transmitters do not have to be programmed in sequence. This allows the programmer to reserve point numbers, for example, for certain types of transmitters or control devices. For example, reserve points 1-4 for hardwire inputs, assign intrusion points from 1- 24, 24-hour points from 25-40 and arming devices (remotes and wireless keypads) from 41-48.

***CAUTION*:**
Always program the panel BEFORE programming transmitters.

If the System ID is changed after transmitters are programmed, the system will ignore them!

When in doubt, call Inovonics

Contact Inovonics Technical Service for any special situations that may arise.

800-782-2709
www.inovonics.com
support@inovonics.com

Getting into Programming Mode

Access to programming requires the Master Code and the Dealer code. Until the default codes are changed by the programmer, the default codes are in effect. (Master = 0000, Installer = 3446).

Once in Program Mode, move among menu headings by pressing the **[ADV]** button. See the menu headings map at the beginning of this manual.

The **[ENTER]** button selects a choice.

The **[REVIEW]** button exits the current menu level. Exiting the top level also exits Program Mode.

Enter Installation Program

1. **Master Code** ☞ *--SYSTEM OFF--*
2. **[ADV]** ☞ *-- BLANK DISPLAY--*
3. **Dealer Code** ☞ *--INSTALLATION PROGRAM--*

System ID

The System ID is a value that is programmed into transmitters and included in each transmission with the transmitter's point number as a means of keeping nearby systems from interfering with each other. The control panel attempts to "decode" any 900MHz transmissions. When it receives a transmission which is formatted as an Inovonics signal and has a System ID matching its own, it processes the dataas a "Valid" transmission.

New panels have a default code of "0000". Be sure to change this value for the security of the system.

To enter, use the digit keys to enter a value from 0 to 254 and press [ENTER]. To change the number, re-enter the digits and press [ENTER]. Press [ADV] when finished.

NOTE: If the System ID is changed after transmitters have been programmed, the system will no longer recognize those transmitters. Either the old System ID will have to be restored or all transmitters will have to be re-programmed.

Siren time

To enter, use the digit keys to enter a value from 0 to 254 and press [ENTER]. To change the number, re-enter the digits and press [ENTER]. Press [ADV] when finished.

Siren time is the duration (in minutes) that the alarm output will be active when an alarm occurs. Setting the value to "0" results in continuous output. Many standard installations require at least a 4-minute siren time.

Supervision Window (SPV Window)

Enter any value from 0 to 254 hours. A zero ("0") value causes the system to ignore all supervisory signals from transmitters. Default setting is 4 hours.

The Supervision Window is a period of time during which the Wireless Guardian System is required to receive at least one check-in signal from every supervised device in the system.

Since supervised transmitters will send check-in transmissions at 10-, 30- or 5-minute intervals, this means that in the recommended 4-hour Supervisory Window, the controller needs to get only 1 check-in signal out of the 240 that are sent by a transmitter with a 60-second check-in.

This extremely high ratio of check-in signals is a fundamental part of Inovonics reliability. In a worst case scenario, a transmitter that failed totally immediately after getting a successful check-in to the controller at the beginning of a supervision cycle would be considered active for the remainder of the current supervision period, but would be reported Inactive at the completion of the *next* supervision window.

Alarm transmissions are repeated multiple times. This creates a high probability that the signal will be captured by the receiver. Any single-round status transmission has a lower probability of capture, but over the period of time of a supervision window, there is very high likelihood of success. Using single-round transmissions also keeps the local 900MHz environment relatively clear, and is more conducive to successful response to an alarm transmission.

EZ arming

Press **[ENTER]** for "No" or "Yes". Press **[ADV]** to accept the selection.

EZ arming enables two features of the Wireless Guardian System.

1) EZ arming permits users to arm the system from either the hardwire or wirelesss keypads by pressing **[ENTER],** followed by the **[STAY]**, **[AWAY]**, or **[CUSTOM]** key. No user code is required to arm the system.

- User codes *are* always required to disarm the system from keypads.
- Remote devices require only one keypress.

2) EZ arming also permits user to send alarms from KP130 and FA130 keypads, by pressing **[ENTER]** followed by **[FIRE]**, **[POLICE]**, **[SPECIAL]** or **[EMERGENCY]** keys.

Force arming

Press **[ENTER]** for "No" or "Yes". Press **[ADV]** to accept the selection.

Enabling Force Arm permits the system to go into an arming mode in spite of faults such as open doors, or an inactive or troubled point.

In many applications force arming is an acceptable and desirable option. However, arming the system over faults compromises the security of the installation. Many installers and users prefer force arming to being unable to arm the system until problems have been corrected. Homeowners anxious to leave for work usually prefer force arming to leaving the system unarmed.

Note that faulted points are ignored for only as long as they remain faulted. If the fault is corrected after the system is force armed, the point immediately becomes active, and will create alarms or troubles normally.

Force arming even arms over 24-hour points (such as Fire loops) which cannot otherwise be bypassed.

Entry time

Enter a value from 0 to 254. Press **[ENTER]**. Press **[ADV]** to accept.

Entry time is 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 with DELAYED set to YES.

Audible or silent entry warning

If the entry time is an even number, thesystem will sound a "ping" every 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.**

Exit time

Enter a value from 0 to 254. Press **[ENTER]**. Press **[ADV]** to accept.

Exit time is the time in seconds that the system will ignore intrusion sensors after the system is armed. (24-hour points will NOT be ignored.) This is the time allowed to exit the premises. Programmers should try to provide adequate—but not excessive—exit times, as systems are vulnerable to surreptitious entry during the exit interval.

Instant Alarm Feature in Stay Mode and Custom Mode

Users can cause the system to ignore entry and exit timesin STAY or CUSTOM modes by pressing the **[STAY]** or **[CUSTOM]** key twice when arming the system. This means that activation of any sensor will cause an immediate alarm.

Follower Mode for PIRs

PIR motion detectors are often located in places where they can "see" areas between a delay entry point and a keypad. It is recommended in these cases to program the PIRs as Follower devices, instead of Delay devices. Follower mode makes the PIR observe an entry time, if a delay point is tripped before the PIR is activated. If, however the PIR is activated when no delay time has been initiated—such as unauthorized entry—it will go into alarm immediately. This offers better site protection than simply making the PIR a delayed device.

Aux output

Enter a value from 0 to 9, selecting options from the table below. This value determines conditions which will activate the AUX output on the Wireless Guardian System.

TABLE 1. Auxiliary Output options

Option #	Option	Effect
000	Do not use aux output	Auxiliary output will never activate.
001	Entry and Exit delay	Aux output will activate during entry and exit delay
002	System armed: flash to indicate alarm	Aux output will activate while system is armed. If an alarm occurs, the output will toggle (flash) at 1-second intervals until the system is disarmed. Used for remote warning of alarm during user absence.
003	FIRE alarm active	Aux output will activate when a fire alarm is active. Used with 2-way sirens or separate fire annuciation. **Alarm output will not activate if this option is selected.**
004	Alarm on Point 5	Aux output will activate when an alarm occurs on Point 5. Used for special response or warnings.
005	Alarm on points 6-14	Aux output will activate on alarms from points 6 through 14. Used for special applications or responses.
006	Keypad Special ALARM	Aux output will activate when the keypad **[SPECIAL]** is activated. (EZ arming required.)
007	User code 6	Aux output will activate each time user code 6 is entered. Could be used to activate special device.
008	Communicator failure	Aux output activates when the dialer cannot communicate with the designated central station. It will remain activated until the SYSTEM RESET is pressed, or the RESET H/W SMOKE command is entered.
009	Transmitter inactive	Aux output activates if a point is declared inactive while the system is armed in Away mode.

Dealer Code

Enter any 4-digit access code. Pressing **[ENTER]** will have no effect. When the desired code is displayed, press **[ADV]**.

The dealer code does not allow arming or disarming of the system. It allows access to the system programming mode after the Master Code has been entered.

DO NOT FORGET THE DEALER CODE!

Without the code, it is impossible to re-enter program mode. The dealer code cannot be reset in the field, or retrieved via downloader. Lost dealer codes necessitate sending the Wireless Guardian System control panel back to Inovonics to be reprogrammed.

Programming points

Overview

A programmed transmitter is a "point" (so are hardwire loops)

Every transmitter is assigned a unique identification number. When programmed, transmitters are customarily referred to as "points". The two terms may be used interchangeably. (A programmed hardwire loop is also called a "point".)

Point programming sets options for the transmitters and the control panel

Programming a point defines the options that will be "downloaded "to a transmitter when it is connected to the control panel via the keypad as the final step of programming the transmitter. Data for each transmitter is stored in the control panel's EEPROM memory, and can be loaded into a transmitter. This data includes instructions for both the transmitter (how it should define alarms, how often it should check-in, whether it should look for end of line resistors) and the control panel (when to ignore the transmitter, which outputs to activate, when and if to report information from the transmitter to the central station.)

Every transmitter has a unique identification

Programmed transmitters identify themselves to their specific receiver/control panel by beginning all transmissions with their System ID and their Point ID numbers. If the System ID does not match, the control panel ignores the message.

Programming follows a logical sequence

The definition of a point begins with assigning a unique point number to the transmitter. This is vital to be able to identify alarm and trouble messages originating with the transmitter. The controller needs to know first whether a point is hardwire (points 1-4) or wireless. Next, the controller needs to differentiate between Intrusion points, which are subject to the arming modes of the system, or 24-hour points, which are always enabled.

Options differ according to point "type"

Depending upon the type of point, the Program Point menu guides programmers through a series of appropriate options.

Transferring data

[ENTER] toggles options, [ADV] moves on to the next heading

At each programming option, the programmer can press **[ENTER]** to switch between choices or press **[ADV]** to move to the next option.

When programming options are complete, prompts will guide the programmer

At the conclusion of the option selection process, the programmer will be given the choice of accepting the options or stepping through them again.

```
[ENTER] TO PROGRAM
ADV REVIEW
```

When they are accepted, the programmer is prompted to connect the transmitter to the KP130 keypad, using the programming cable.

```
PLUG IN XMITTER
OR PRESS ADVANCE
```

When the transmitter is connected, the transmitter reset button is pressed. This initiates the transfer of data from the receiver to the transmitter. When complete, the keypad will emit a "ping".

The controller acknowledges successful transfer of the information, and returns to the head of the Program Point menu, ready for another point to be programmed.

```
POINT #  - NN
ACCOMPLISHED
```

Using [REVIEW] in programming mode

Press **[REVIEW]** to retreat back to the beginning of an option cycle, or to exit the current level. Pressing **[REVIEW]** twice will exit Installation Program completely.

System ID

Enter Installation Program, **[ADV]** to "Program Point". Press [ENTER].

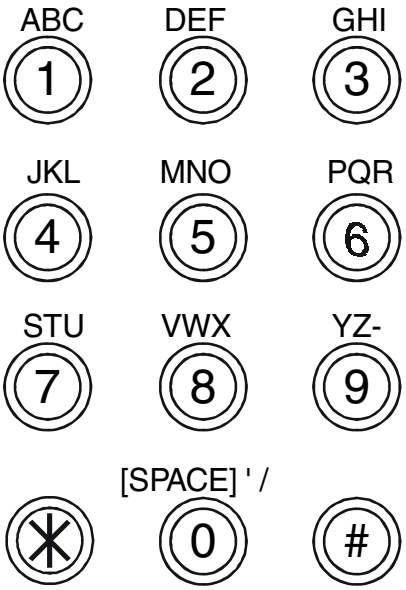
The Display will show the System ID. This is for information only and cannot be changed at this place in the program. Press **[ADV]** to begin programming.

Pt #

Enter the point number, then press **[ENTER]**. Press **[ADV]**. Point number assignments can make installation and programming easier. It is good practice, for example, to not assign points 1 through 4 to wireless transmitters, in the event that hardwired points may be added to the system later. Some programmers prefer grouping transmitters, leaving unassigned point numbers in sequences that can be added later. Points need not be sequential, if it helps structure the system.

Pt # nn Text

Enter up to 16 alphanumeric characters to describe the point. Each numeric key on the keypad has three alphabetic characters assigned to it. Press the key repeatedly until the desired character is displayed. Press **[ENTER]** to advance to the next character and to create word separations. After entering the last character, press **[ENTER]** to save the character.



Hardwire loops

HW LOOP - NO (YES)

If the point entered above is 1 through 4, the system wants to know if this will be a hardwire point. If it is, press **[ENTER]** to toggle the point to YES. Transmitter options presented will automatically eliminate features that apply only to wireless transmitters, such as Check-in time and internal contacts.

If a hardwire loop is programmed as type “Remote”, a keyswitch can be wired to the panel as an arming device. **If a hardwire switch is installed, it should be the *only* device used to arm and disarm the system.** See Figure 7, “Keyswitch wiring examples,” on page48.

Powered Hardwire Loop

Hardwire Loop 1 is a powered loop.

Hardwire loop number 1 is a powered hardwire loop, meaning that the panel provides 13VDC to whatever device is connected to the loop. This loop must ONLY be used with fire or smoke sensors that are designed to be connected to 13VDC loops. The ESL model 429C 2-wire smoke detector is recommended. Hardwire loop 1 MUST have a 2.2K 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.

Point Types

Seven types of points can be selected. One type is Intrusion, and six are 24-hour devices. All types have the options of being monitored (activating the dialer), in addition to standard options.

According to the type selected, users will be guided through a custom list of transmitter options for each type. See Table2, " Programming Options for each point type," on page14.

Intrusion

Intrusion points are those which the system will ignore when the system is disarmed. They can have specific assignments in each of the 3 arming modes, can activate the dialer, the alarm or auxiliary output, and can chime when tripped when the system is disarmed.

Fire

Fire is a 24-hour point that always causes an keypad alarm and trips the alarm output with a 1-second pulse. The system can also be programmed to have fire points trip the Aux output. Fire points can be delayed for the interval of the exit time, to reduce false alarms due to transient events, like minor smoke from cooking or steam escaping a bathroom.

- When the Aux Fire option is selected, the Alarm output will NOT trip for fire alarms.
- The Aux output does not pulse.

Emergency

Emergency is a 24-hour point that can be silent or audible, may or may not be delayed and may or may not trip the output.

Police

Police is a 24-hour alarm that cannot be delayed. It may be silent or audible.

Special

Special points are usually assigned to sensors or switches that require special 24-hour response. Examples might include sump pump switches, power failure detectors or temperature sensors. Special points can also be programmed to delay activation. If repeaters are supervised by a system, they should be designated as Special points.

Remote

The FA113 and FA100 Remote arming devices are programmed as "Remote". These units arm and disarm the system and can generate a police panic alarm.

Keypad

Keypad is applied only to the FA130 wireless keypad. This device can arm and disarm the system and generate a police panic.

TABLE 2. Programming Options for each point type

Point Types						
INTRUSION	FIRE	EMERGENCY	POLICE	SPECIAL	REMOTE	KEYPAD
Sta Instant Delay Follow Bypass	***Tx Type*** N/C <> N/O	***Tx Type*** N/C <> N/O	***Tx Type*** N/C <> N/O	***Tx Type*** N/C <> N/O	***Monitored*** No <>Yes	***Monitored*** No <>Yes
Away Instant Delay Follow Bypass	***EOL Resist*** No <>Yes	***EOL Resist*** No <>Yes	***EOL Resist*** No <>Yes	***EOL Resist*** No <>Yes	***Audible*** Yes <> No	***Audible*** Yes <> No
Custom Include Bypass	***Intnl Reed*** No <>Yes	***Intnl Reed*** No <>Yes	***Intnl Reed*** No <>Yes	***Intnl Reed*** No <>Yes	***Output On*** (Audible = Yes) Yes <> No	***Output On*** (Audible = Yes) Yes <> No
Tx Type N/C <> N/O	***Monitored*** No <>Yes	***Monitored*** No <>Yes	***Monitored*** No <>Yes	***Monitored*** No <>Yes	NOTE: Remotes are NOT supervised.	***Check In*** None 10 sec 30 sec 60 sec 5 min
EOL Resist No <>Yes	***Delayed*** Yes <> No	***Audible*** Yes <> No	***Audible*** Yes <> No	***Audible*** Yes <> No		
Intnl Reed No <>Yes	***Check In*** None 10 sec 30 sec 60 sec 5 min	***Output On*** (Audible =Yes) Yes <> No	***Output On*** (Audible = Yes) Yes <> No	***Output On*** (Audible = Yes) Yes <> No		
Monitored No <>Yes		***Delayed*** Yes <> No	***Check In*** None 10 sec 30 sec 60 sec 5 min	***Delayed*** Yes <> No		
Audible Yes <> No		***Check In*** None 10 sec 30 sec 60 sec 5 min		***Check In*** None 10 sec 30 sec 60 sec 5 min		
Chime Yes <> No						
Check In None 10 sec 30 sec 60 sec 5 min						

"[ENTER] to Program / ADV to Review": Press [ENTER]
"Plug in xmitter or Press Advance": Connect the transmitter and press the transmitter reset button.
The keypad will "ping" to indicate successful programming.

Arming modes	Every intrusion point can be armed in one of 3 modes, STAY, AWAY or CUSTOM. Each mode has several arming configurations, as shown in Table 2, “Programming Options for each point type,” on page14.
STAY-**BYPASS**	The point will be ignored when the system is armed in STAY mode.
STAY-**INSTANT**	Alarms during STAY arm mode will cause an immediate alarm response.
STAY-**DELAY**	If the system is not disarmed before the Entry time expires, an alarm response will occur.
STAY-**FOLLOW**	If a Delay point is tripped before a Follow point is tripped, the Follow point will not create an alarm during the Entry time period. For example, PIRs which can detect motion from an entry door to a keypad are often programmed to Follow. If no delay point is activated however, the point will cause an instant alarm when tripped.
AWAY-**BYPASS**	The point will be ignored when the system is armed in AWAY mode.
AWAY-**INSTANT**	Alarms during AWAY arm mode will cause instant alarm response.
AWAY-**DELAY**	If the system is not disarmed before the Entry time expires, an alarm response will occur.
AWAY-**FOLLOW**	If a Delay point is tripped before the Follow point is tripped, the Follow point will not create an alarm during the Entry time period.
CUSTOM-**INCLUDE**	When included in CUSTOM arming mode, points will function according to their AWAY setting. Points bypassed in AWAY mode are not available to CUSTOM mode.
CUSTOM-**BYPASS**	When bypassed in CUSTOM mode, points can be excluded from the configuration determined by AWAY mode. This permits users a variation of AWAY programming. For example, CUSTOM mode might be used to permit a cleaning crew access to a particular area, while keeping all security devices on-line elsewhere on site.

Programming Transmitter Options

Transmitter type

Transmitter type, or point loop, is a critical option assigned to each transmitter. Universal transmitters (FA200, FA210 and FA250) can be programmed for either Normally Open (N/0) or Normally Closed (N/C) contacts. All other transmitters require specific Tx Type settings. **Consult Transmitter data sheets for correct settings.** (As a rule of thumb, PIRs are N/C, all other devices (pendants, smokes and glassbreaks) are N/O.

N/O or N/C is determined by the non-alarm condition of the contacts attached to a universal transmitter. When using the widegap magnet (reed switch) option on the FA200W and the FA210W, the Tx Type option **must** be N/O, unless a separate, N/C contact is being wired to the transmitters external contacts.

If the Tx Type setting of a transmitter is incorrect, the unit will seem to operate "backwards": It will be in alarm during normal conditions and restore when tripped.

EOL

This option should be YES only when the 2.2K resistor supplied by Inovonics is being used in the contact loop of the transmitter, to monitor wire tamper conditions. In N/O loops, the resistor must be installed in parallel with the circuit. In N/C loops, it should be installed in series with the loop.

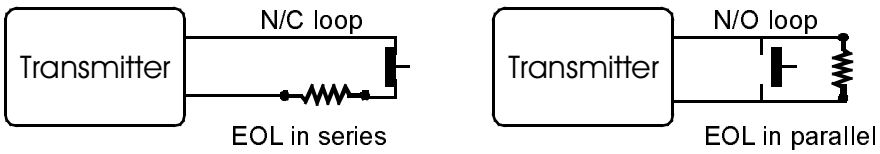


FIGURE 2 End of line resistor configuration

Internal reed

FA200W and FA210W transmitters have an internal magnetic reed switch that is activated when a magnet switch is near the transmtiter. If this option is used, select YES, otherwise—and for all other transmitter types—select NO.

IMPORTANT: If the internal reed switch is being used, and if no switch or sensor is attached to the external contacts, TX TYPE must be set to N/O. (If it is set to Normally Closed with nothing attached to the contacts, the transmitter will be reported unsecured.)

Monitored

YES / NO determines if alarms on this point should be reported to the central monitoring station. NO means that any activity on this point will NOT be reported, regardless of telcom settings.

For this selection to have the desired effect, of course, Telcom programming must be complete, the dialer must be enabled, and appropriate choices must be made in Zone and or Code tables.

Audible

YES / NO determines if alarm transmissions from a transmitter will produce tones and signals through the FA130 keypad.

When AUDIBLE is “Yes”, the OUTPUT ON option is presented for all 24-hour points, except Fire. This setting is automatically set to YES for FIRE type points and cannot be changed.

Output on

This option for Emergency, Police, Special, Remote and Keypad 24-hour points selects whether or not the alarm output will 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 on keypads.

This setting is automatically set to YES for FIRE type points and does not appear as an option.

Chime **(Intrusion types only)** 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 **STAY, AWAY** or **CUSTOM** mode.

Delayed **(24-hr only)** Determines if a 24-hour point will have a delayed alarm response. Fire, Emergency and Special can be delayed. Police, Remote and Keypad cannot. The delay interval is set by set by the Program Panel / Entry Time option.

Check-in Transmitters can be set to check in automatically every 10, 30, 60 seconds, 5 minutes or not at all. Longer check-in times extend battery life, though not proportionally. Shorter check-in intervals should be used if the system Supervisory Window interval must be reduced. This maintains as high a check-in to supervision window ratio as possible. Shorter intervals may also prevent inadvertent inactive trouble declarations by the panel, in cases in which signal strength may be reduced by conditions on site.

Check-in considerations

Supervision is critical

Supervision is the foundation of Inovonics reliability. Check-in time is a critical component. **Selecting NONE as a check-in interval is not recommended.** For typical applications, Inovonics recommends programming transmitters for 5-minute check-in in conjunction with a 4-hour supervision window.

Even in cases where portable transmitters will be out of range of the system for extended periods, there are programming options that will permit some level of supervision to be maintained. Contact Inovonics Technical Service for assistance in special applications.

Check-ins are single-round transmissions

Check-in settings have no effect on the reliability of alarm response. Check-in transmissions are single-round messages. Alarm transmissions are sent redundantly: each message is repeated numerous times on different frequencies. Inovonics' Spread Spectrum 900MH Frequency Agile™ technology makes it virtually impossible for a single source of interference to block all of the alarm transmissions. Since check-in signals are single rounds, any given round may be weakened or mis-directed by changing conditions, but since the control panel needs only to get ONE check-in per supervisory window, and a recommended ration of check-in to Supervisory window (5-minute check-in, 4-hour Supervisory window) is 60-to-1, it becomes statistically unlikely for random causes to keep a transmitter from checking-in.

What about portable transmitters?

Several strategies may be employed to supervise units which are taken off-site. One is to increase the period of the supervisory window to include the likely duration of removal of a transmitter from the site. Another option is to "trick" system into not expecting check-ins from a transmitter, but to program the transmitter to check-in. The point won't be reported Inactive, but will continue to send check-ins, which will include trouble conditions—such as low battery—which may occur while the transmitter is out of range.

Loading Programming into the Transmitter

When all transmitter options have been entered, the display will read:

```
ENTER TO PROGRAM
ADV TO REVIEW
```

Pres [ADV] to cycle through options

To make changes to any of the options, or to double-check the settings, press **[ADV]**. The display will go back through the options, which can be changed or accepted.

Press [ENTER] to program

Pressing **[ENTER]** programs the control panel's memory. The changes made to the point programming now reside in the control panel, and will be available to the programmer for further revision and review.

When **[ENTER]** is pressed, the display will show "PLUG IN XMITTER OR PRESS [ADV]".

Press [ADV]

If transmitters are not available to be programmed at the time that programming is being done, press **[ADV]** to activate the point. The system registers the point as being present, and will begin to look for check-in transmissions. If a transmitter is not programmed within the period of the supervisory window, the point will be declared Inactive. This situation will automatically clear when the transmitter is programmed and checks in.

Plug in xmitter

Connect the transmitter to the hardwire keypad via the programming cable. It does not matter which way the programming cable is placed on either 3-pin connector.

Press the transmitter's RESET button. This causes the control panel to program information to the transmitter. When this operation is successful, the display will show ACCOMPLISHED.

To locate 3-pin connectors or transmitter reset buttons, refer to the transmitter data sheets in the appendix of this manual.

This step is skipped if HW LOOP is set to YES. The display will automatically prompt for another point to be programmed.

Re-programming transmitters

When to re-program Transmitters

Transmitters have to be re-programmed (via the programming cable) when operation-specific options are changed. If SYS ID, TX TYPE, CHECK-IN, EOL or INT CONTCT are changed, the new information must be down-loaded into the transmitter.

When NOT to re-program Transmitters

Transmitters do NOT have to be re-programmed if TEXT, MONITORED, AUDIBLE, OUTPUT ON, STAY, AWAY, CUSTOM or CHIME settings are changed. In these cases, the programmer should select "Enter to Program" after making the changes, then should press **[ADV]** instead of connecting the transmitter.

Also, transmitters do not have to be re-programmed when batteries are changed.

After new batteries are installed, press the transmitter reset button.

Deleting Points

When to delete points

Deleting a point tells the control panel that no further transmissions are to be expected from that point. Supervision for that point is ended. Programming information for the point is reset to factory defaults. The panel will no longer respond to messages from the transmitter.

How to delete points

Points are deleted from the Installation Program as follows.

1. **Master Code** ☞ *--SYSTEM OFF--*
2. **[ADV]** ☞ *-- BLANK DISPLAY--*
3. **Dealer Code** ☞ *--INSTALLATION PROGRAM--*
4. **[ADV] [ADV] [ADV]** ☞ *--DELETE POINT--*
5. **[ENTER]** ☞ *--POINT # ---*

Enter the number using the digit keys. Press **[ENTER]** to accept the number. If desired to change the number, enter a new number and press **[ENTER]** again.

6. **[ADV]** ☞ *-- ACCOMPLISHED--*

The point is now deleted from the system, and is available to be re-programmed.

RECOMMENDATION: **Remove batteries from transmitters which are deleted from the system.** If the deleted point number is re-assigned to another transmitter, the original transmitter can still activate the point and create troubleshooting headaches for the installer. Pressing the transmitter reset button does NOT clear the transmitter programming.

Programming Telcom

Overview

The Program Telcom section configures the Wireless Guardian System to communicate with a central monitoring station. When an event occurs which is programmed to be Monitored, the Wireless Guardian System seizes the phone line and connects with the monitoring service. The system can call backup monitoring services and can communicate in various data transfer formats.

- ➔ 3x1 format
- ➔ 3x1 EXTended format
- ➔ 4x2 format
- ➔ 4x2 map format
- ➔ Contact ID format

Program Telcom

From the Installation Program prompt, press **[ADV]** until PROGRAM TELCOM is displayed. Press **[ENTER]**.

Sequence of telcom options:

- Telcom -Enable / Disable
- Download -Enable / Disable
- 1st Phone number
- 2nd Phone number
- Account #
- Dialing- Pulse / TT
- Sequence -0(1,2,3,4)
- Format-3x1 (3x1EXT, 4x2, 4x2 map, Contact)
- PLS rate-10pps (20pps, 40pps)
- Zone table
- Code Table

TELCOM - DISABLE (ENABLE)

Press **[ENTER]** to change status. When disabled, the Wireless Guardian System will make no attempt to dial out to a central station, regardless of how any other section is programmed.

Downloader Enable

Permits the Wireless Guardian System to be accessed by an Inovonics Downloader. Downloader access is restricted by means of serial number access codes after initial contact is made. If the system will not be downloaded by either the installer/dealer or Inovonics Technical Services, this feature should be disabled.

When Downloader is Enabled, the panel will automatically check for Download handshake tones after 10 unanswered rings. The panel will also "listen in" to all calls that are answered, briefly monitoring for the Download handshake signal tone.

The DL CHECK option in Maintenance mode lets users determine if the panel should listen in automatically for download attempts, or should listen in only on "ringbacks" (calls that occur within 120 seconds of a previous disconnection).

Ringback Mode is used when users have phone services such as voice messaging or automatic answering machines that might interfere with the panel's ability to determine a legitimate download attempt.

Using the Downloader, installers can manipulate settings such as Rings Before Pickup and DL CHECK to permit downloader access to most systems, regardless of phone accessories.

WHENEVER THE DL CHECK OPTION IS CHANGED, THE "RESET" BUTTON ON THE CONTROL PANEL CIRCUIT BOARD MUST BE PUSHED TO MAKE THE CHANGE TAKE EFFECT.

How to get downloader software

Downloader software is available from Inovonics Corporation. Contact Inovonics Technical Service for information on modem compatibility.

1st phone number

If a phone number has not been previously used, 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 **[ADV]**. 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 (hexadecimal) codes. Hex digits are 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 zero.

B(11)-Dial an "*". This code should be used when a dial sequence requires the use of the asterisk key on a touchtone 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 "pound-sign" on a touchtone 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 a 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 hands a special dialing code such as a "speed dialing" code. Note: pauses may be used consecutively to extend pause period, as needed. For example a 12-second delay would be coded "FFE".

Example:

1) Disable call waiting, dial central station (phone number 555-1212): B70E5551212 (or) 1170E5551212

2) Dial out from local PBX by dialing '9'; wait for a second tone; dial central station (phone number 555-1212) 9D5551212

2nd phone #

Enter a phone number, if alternate or backup central station numbers are to be used.

Account #

A three or four digit number is entered one digit at a time by pressing the desired digit and pressing **[ENTER]**. When the correct account number is shown, press **[ADV]**. As with phone numbers, the hex digit 'A' is the same as a zero.

Leading zeros must be entered to fill the account number to the correct number of digits. For instance, in 4x2 format, 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. In the example above, if "23" was entered as the account number, the communicator will identify it to the central station as account '2300'.

Dialing (pulse or TT)

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

Sequence (0,1,2,3,4)

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

0) Dials the first phone number only

1) Dials the first phone number. Dials second phone number ONLY 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 is for all conditions to be reported to both phone numbers. Split reporting settings may only be modified via the Wireless Guardian System Downloader.)

Central station limitations

Some central station receivers cannot interpret all formats supported by the Wireless Guardian System or may not be able to operate at higher report rates. Following are some conditions that may occur, indicating limitations in the central monitoring equipment.

- A report of “A” may print as a zero; zeros may report 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 Wireless Guardian System reporting conventions.
- Some central stations may not be able to interpret hexadecimal digit (codes B-F) as valid code, zone or account number digits.
- Some central stations may accept one or more of the Radionics hex formats (3x1, 3x1EXT, 4x2 or 4x2 map) but may not accept Contact ID. Others may have no problem with Contact ID, but not work will with the Radionics/Inovonics formats.

Format options

The Wireless Guardian System can communicate with central stations in 5 different communication formats. Choice of format is usually determined by the type of data that the central station can process, and the types of information that the installer wishes to convey to the station.

Format- 3x1

"Three-by-one" sends a 3-digit account number and the type of alarm as chosen in the Code Table.

Format- 3x1EXT

"Three-by-one extended" sends a 3-digit account number, the type of alarm and the ZONE in which the alarm occurred as chosen in the Zone Table.

Format- 4x2

"Four-by-two" sends a 4-digit account number, the type of alarm and the ZONE in which the alarm occurred.

Format- 4x2 MAP

"Four-by-two map" sends a 4-digit account number and a 2-digit code that identifies by point alarms, restorals and troubles. 2-digit codes also indicate specific system conditions and events. See the 4x2 Map Code Table, Table, "4x2 Map Format Translation Table," on page 69.

Format- CONTACT ID

"Contact ID" sends a standard format Ademco contact ID data string including transmission code and point number. Transmission codes include type of alarm, point, system or communication troubles, opening and closing, bypass and test reports. For further information, see Figure, "Contact ID Report Format Translation Table," on page 70.

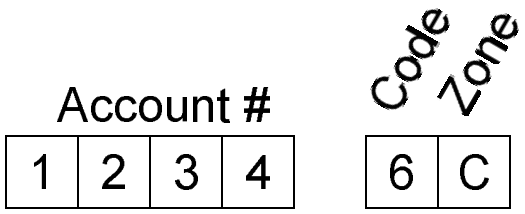
Pulse Rate

Pulse rate, in pps (pulses per second) is the rate at which data is communicated between control panel and central station. Most modern stations can support higher rates of exchange, but if information appears erratic, try 10pps.

Zone Table

The zone table allows the programmer to assign one of 16 hexadecimal zone numbers to each of the 48 points in the system. Hex digits 'A' through' F' are entered in the same manner as phone and account numbers. (A=10, B=11, etc.).

Press **[ENTER]** to enter Zone table programming. Press **[ADV]** to change the point number. Type in the zone number using the number keys and press **[ENTER]**. For example, if point 3 is assigned to zone C, and if the Code Table selection for alarm is '6', then an alarm on point 3 would be reported to the central station (in formats 3x1EXT or 4x2) as '6C'.



NOTE: The Zone Table is used ONLY by 3x1EXT and 4x2 formats

Values in the table are ignored by any other formats. **When using any other format, skip the Zone Table.**

NOTE: more than one point are usually assigned to the same zone, primarily because there are usually more points in the system than there are zones available. If two or more points assigned to the same zone report a trouble condition, ALL points programed with that zone number must be restored to normal operating condition before a restoral for that zone will be reported to the central station.

The final option in the zone table is SYSTEM ZONE. This is the zone reported with panel and system events, such as AC, receiver, backup battery and download failures and restorals.

Code Table

The Code Table assigns one of 16 hexadecimal numbers to a list of alarm, test and trouble conditions. Hex values 'A' through 'F' are entered in the same manner as for phone, account numbers (A=10, B=11, etc.).

When using 4x2 Map or Contact ID report formats, only events with a non-zero codes will be reported. Typically, programmers use '1' to enable reporting of a condition, and leave all non-reported events as '0'.

Following is a list of code conditions, with definitions of function:

Alarm

A transmitter has been tripped, or has been tampered while the system is armed.

Pt Restore

A transmitter has been restored to normal status from alarm and/or trouble (low battery, tamper or inactive).

Pt Trouble

A transmitter is unsecure (tripped) or tampered at the time the system is armed in the **AWAY** mode, or a transmitter has been 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

A transmitter is inactive at the time the system is armed, or has become active while the system is armed in the **AWAY** mode.

Pt Low Batt

A transmitter has reported 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

A transmitter has been manually bypassed. When the system is armed, a PT BYPASS will be reported if the point is still bypassed.

Closing codes

The system has been armed in the **AWAY** mode. When a closing report is sent in the 3x1EXT or 4x2 formats, the zone number indicates which code was used to arm the system, according to the following list:

Zone	Code Used	Zone	Code Used	Zone	Code Used
1	User code1	4	User code 4	7	Duress
2	User code 2	5	User code 5	8	Master
3	User code 3	6	User code 6	9	Special

Zone 9 **(SPECIAL)** indicates that the system was armed without a code, using EZ ARMING, an FA113 remote control or a keyswitch. Arming the system remotely via the Wireless Guardian System Downloader will also cause a Zone 9 report.

Opening	The system has been disarmed from the **AWAY** mode. When sent in 3x1EXT or 4x2 format, the zone will indicate the method of disarming, as shown above.
Duress	The system DURESS code has been entered at a keypad.
Cancel	The system has been disarmed while an alarm is in progress.
Force Arm	The system has been armed in **AWAY** mode over one or more points that have a trouble condition (unsecured, inactive, low battery or tampered.
Telcom Test	A telcom test has been sent in,. Also sent during daily test report.
BB Fail	Backup battery voltage has fallen below operational level.
AC Fail	AC power has been interrupted for more than 60 seconds.
RX Fail	The receiver has failed to communicate with the control panel when polled by the panel for status.
Restore BB	Voltage on the backup battery has risen to operational level.
Restore AC	AC power has been restored to the panel.
Restore RX	The receiver has begun communicating with the control panel following the report of a receiver failure.
Restore SYS	All system faults have been cleared.
Downld OK	A successful download session has been completed.
Downld Fail	An invalid / unsuccessful attempt has been made to download the panel.

Maintenance Mode

Maintenance mode is for the user.

Programming mode is for the installer

Maintenance mode allows users to perform specific system maintenance functions, temporarily bypass trouble points and to program user codes. Maintenance mode is accessed by using the system master code. It is recommended that as few users of the system as possible be given the Master Code, in order to maintain system security. Properly used, maintenance mode provides information about the status and operation of the security system.

What [REVIEW] shows

Whenever the keypad displays the message "*SYSTEM NOT READY*", users can press the **[REVIEW]** button to see what conditions have been detected. Conditions that prevent the system from being ready include points unsecured, points that have a low battery, have been tampered or that have been reported to be inactive. Intrusion points which are in a tripped state—such as an open door—will be reported as *UNSECURED*. Note that no code is needed to press the **[REVIEW]** button.

Alarm

A point has gone into alarm, but has not been reset /acknowledged by the CLEAR MEMORY procedure.

Tampered

A transmitter has reported a tamper condition which has not been reset via the CLEAR MEMORY procedure. Tamper faults can be caused by activation of tamper switches or violation of EOL resistors.

Unsecured

A sensor is in the faulted condition. (For example, a door or window is open.) If no apparent cause is found after newly programming a point, th external Tx Type may have been programmed incorrectly.

System Status

Inactive

The system has not received a check-in from the transmitter during the last supervision window. This condition clears automatically if a signal is received from the transmitter. Causes include dead batteries, damaged transmitters or incorrect programming.

Note: If all transmitters are reported inactive, the problem may be receiver failure. All transmitters WILL be reported inactive when Installation Program mode is exited. This is a normal diagnostic event. It may be necessary to wait up to 10 minutes (in larger systems) for all transmitters to check-in. This is an important system test, and should not be terminated prematurely by performing a CLEAR MEMORY.

Low Battery

A transmitter has detected a low battery condition. The battery should be replace within approximately 2 weeks. This fault can only be reset via CLEAR MEMORY

AC power faulted

AC power to the panel has failed. The system is operating on backup battery power. This condition will clear automatically.

Backup battery faulted

The backup battery has low voltage or is missing. When voltage returns to operational limits, the condition clears automatically.

"What is that darned pinging?"

A single "ping" which occurs at about a 2-second interval indicates that a trouble condition has been noticed by the panel. Attend to the condition and CLEAR MEMORY

System Status (continued)

Bypass Points

Users may bypass points which are in a fault condition, or may want a particular sensor ignored temporarily.

1. **Master Code** ☞ *--SYSTEM OFF--*
2. **[REVIEW]** ☞ *-- BYPASS POINTS--*
3. **[ENTER]** ☞ *--POINT # – ---*
4. **Point #nn [ENTER]** ☞ *--POINT # – NN*

Repeat Step 4 for all points to be bypassed. When all points to be bypassed are entered press **[REVIEW]**

FIRE, EMERGENCY and POLICE points cannot be bypassed.

Points can only be bypassed for one arming cycle. This means that the point will be ignored by the system from the time it is bypassed, through the next period that the system is armed. When the system is disarmed again, the point will again be active. If it is desired to remove a point from a system for a longer period, it is necessary to DELETE the point from the system.

Restoring a bypassed point

If a point is mistakenly bypassed or if the fault is corrected, the point may be "un-bypassed" by entering Maintenance Mode, and pressing **[ENTER]** at the *BYPASS POINTS* heading. Press **[ADV]**. When prompted to "ENTER to del -nn" (where 'nn' is the point to be restored) press **[ENTER]**. This "deletes" the point from the list of transmitters to be bypassed. (This does NOT delete the point from system programming.) Only points which are currently bypassed will be displayed.

TIP: All bypassed points can be restored quickly by arming and disarming the system.

Clear Memory

Press **[ADV]** once after entering Maintenance mode. The display will show *CLEAR MEMOR* . Press **[ENTER]**. The system clears its internal memory of any alarms or faults. This "reboots" the system memory. "System Ready" will be displayed, until the control panel receives current information of troubles.

Note that performing CLEAR MEMORY to remove INACTIVE trouble conditions does not "fix" Inactive transmitters. The fault will not be reported again until expiration of the supervisory window, which in typical cases may be as long as 4 to 8 hours. If a CLEAR MEMORY is performed with INACTIVE faults indicated, the installer should conduct a transmitter test or check signal levels to make sure that transmitters are active.

CLEAR MEMORY should be performed regularly by users to keep system status information current. It is routinely used to reset temporary conditions. After alarms have occurred, it is necessary to perform CLEAR MEMORY to reset the system to normal operating mode.

Clear Memory procedure

1. **Master Code** ☞ *--SYSTEM OFF--*
2. **[REVIEW]** ☞ *-- BYPASS POINTS--*
3. **[ADV]** ☞ *--CLEAR MEMORY ---*
4. **[ENTER]** ☞ *--SYSTEM READY ---*

Review Points

Enter Maintenance Mode. Press Advance until the display shows “Review Points”. Press **[ENTER]**. The display will scroll through all points programmed into the system, with the text descriptions of transmitter.

REVIEW POINTS shows only what points are programmed into the system. It does not indicate status of those points.

Review Alarms

Enter Maintenance Mode. Press Advance until the display shows “Review Alarms”. Press **[ENTER]**. The display will scroll through all alarms which have occurred since the last time a CLEAR MEMORY was performed, with the text descriptions of transmitter.

Program Codes

Enter Maintenance Mode. Press **[ADV]** until the display shows “Program Codes”. Press **[ENTER]**. Press **[ADV]** to move from option to option.

This feature allows users with the Master Code to define and change codes used to arm and disarm the system, to set a time limit on User Code 1 (a “temporary” or "expiring" code), and to change the way the Downloader feature monitors incoming calls.

To enter codes, press the digit keys until desired code is displayed. Then, press **[ADV]- [ADV]**. Do not press **[ENTER]** at any time, unless intending to make codes unusable.

Master Code

The Master Code is a 4-digit code that authorizes the user to arm and disarm the system, and to access the features of the Maintenance Mode. If the Master Code is forgotten, it can be restored to factory default value using a sequence of buttons on the control panel. See “Reset the Master Code to “0000”” on pagex.

Duress Code

The Duress Code is a 4-digit code that arms and disarms the system like any other user code. If the communicator is programmed to call in duress codes, the central monitoring station will be alerted to a duress situation. If the communicator is not programmed to respond to the duress code, the code can be used as a 7th user code. To make the Duress code unusable, press **[ENTER]** four times. The display will show “- - - -”, indicating that the code is unprogrammed.

User Code (1-6)

User Codes are 4-digit codes that give authorizion to arm and disarm the system. 3x1EXT and 4x2 telcom reporting formats identify which codes are used to arm the system.

USER CODE 1 can be configured as a temporary code. If a non-zero value is entered in the CODE LIMIT parameter, User Code 1 will be effective only during the time period selected, between 1 and 254 hours. This is used to give individuals temporary ability to arm and disarm a system which expires after a set period.

DL Check - Auto/Rngbk

Users select whether the panel should check automatically for download attempts or should "listen in" only on ringbacks, i.e., when then phone rings within 120 seconds of an initial call.

This option should be set with the advice of the system programmer and downloader technicians. This option allows download access to systems that are otherwise inaccessible due to voice messaging or answering machines. It is also used when users can hear the "click" as the panel comes on-line to listen for downloader handshake tones.

Note: This option is available only when Download is enabled from Program Telcom.

NOTE: Whenever the DL CHECK option is changed, the "Reset " button on th control panel circuit board must be pressed to make the change take effect.

Test Telcom

Causes the communicator to attempt to call its programmed phone numbers and report a system test.

Reset H/W Smokes

When hardwire smoke detectors on Loop 1 have been tripped, they must be reset. Enter Maintenance Mode, advance to *RESET H/W SMOKE* , press **[ENTER]**.

Loop 1 can also be reset by pressing the LOOP RESET button on the control panel.

Notes

Installing the Wireless Guardian syste

Installation sequence

Plan the installation

Determine types and locations of transmitters that will be needed. Determine where the control panel / receiver will be located. Decide how many hard-wired keypads are desired, and where they will be located. Locate wireless keypads, if desired.

Conduct a site survey, if there is any question about range. If needed, identify potential sites for repeaters.

Fill out the programming worksheet

The worksheet is an invaluable guide in configuring the system and guiding installation. It should be retained for reference for future service.

Pre-wire

Install wiring needed for AC power, hardwire loops, hardwire keypads and output devices. Install special wiring runs from sensors or contacts that will be connected to transmitters. Use only unshielded wire. Inovonics recommends 22 gauge wire for most applications.

Install the control panel

Locate the panel away from metal equipment, if possible. The panel door should open downward. Connect output devices to the alarm and auxiliary outputs. Connect the earth ground to an 8-foot copper-clad grounding spike (preferably unified with spikes for the power and telephone lines), using 14-gauge or thicker solid copper wire. See Figure3, “ The Wireless Guardian Control Panel Terminal Assignments,” on page 43. Attach the antennas to the connectors so that they protrude through the antenna holes in the housing.

Connect a KP130 keypad

The system will support up to 4 keypads with a maximum combined wire run of 1000 feet.

Installation Sequence (continued)

Connect hardwire loops

Connect any hardwire loops that will be used in the system. Program them as needed in Points 1-4. Loop 1 is powered loop, and MUST have a 2.2K end-of-line resistor across the contacts of the last sensor to work properly. Without this resistor, the loop will be reported as Tampered. All sensors on Loop 1 must be 2-wire powered smoke detectors with normally open contacts.

Mount the telephone jack

Mount an RJ31X or RJ38X telephone jack in a convenient location In some areas, the jacks must be installed by the telephone company.

Connect battery and AC power

First, connect the backup battery (not supplied with the system) to the '+' and '-' terminals on the board. A 12-volt sealed lead acid battery rated at 4 amphours is required. **If you do not connect a backup battery, the Wireless Guardian System will show a system trouble.**

Connect the AC power transformer to the panel with 18/2 AWG wire (recommended), and secure the transformer to the wall socket with the mounting tab. The AC LED on the panel will light. See Figure3 on page43.

Program the panel

Use the KP130 keypad. If programming is to be done by downloader, the installer will have to enable the downloader in theTelcom section of the Installation Program.

Program transmitters

Label transmitters and program them according to the programming worksheet.

Install transmitters

Mount the transmitters. Walk-test PIRs.

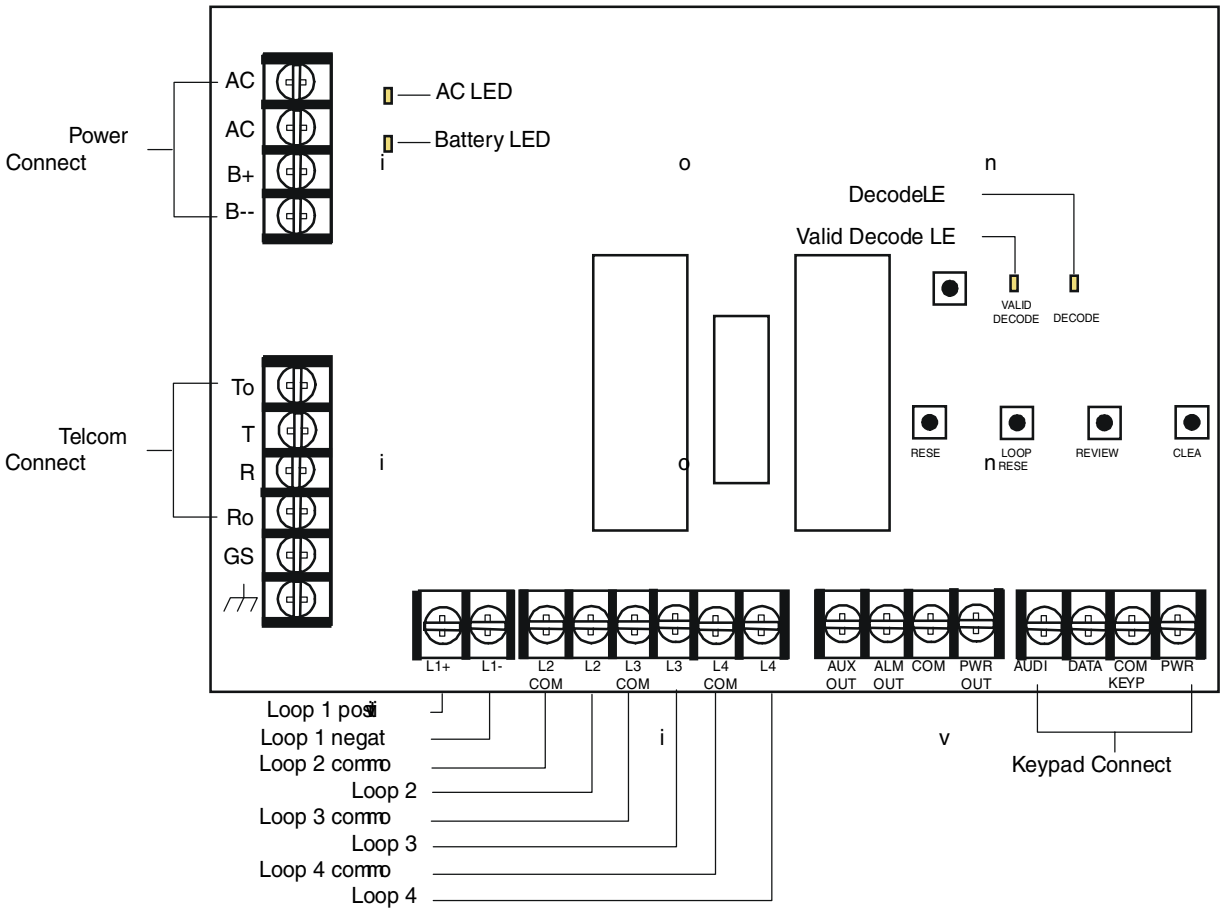
Test the system

Test the system and transmitters as described. See "Testing the system" on page 52.

The Wireless Guardian Control Panel

The primary components of the Wireless Guardian control panel are identified below. Note that most functions are indicated with markings on the board.

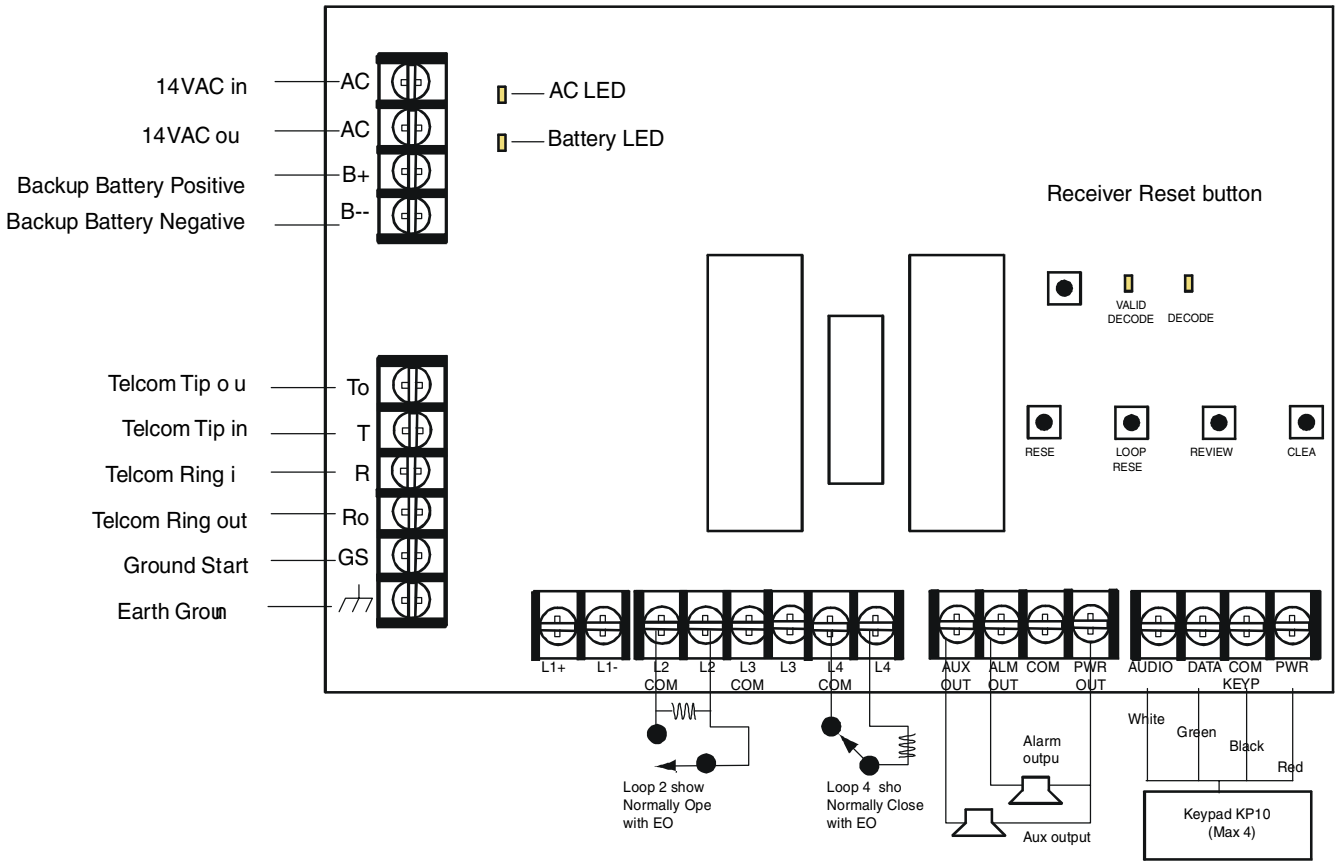
FIGURE 3 The Wireless Guardian Control Panel Terminal Assignments



Control panel input and output hookups

The Wireless Guardian will support up to 4 KP130 hardwire keypads. The maximum total wire run to all keypads can be 1000 feet using unshielded 22 gauge wire.

FIGURE 4 The Wireless Guardian Control Panel Typical Wiring



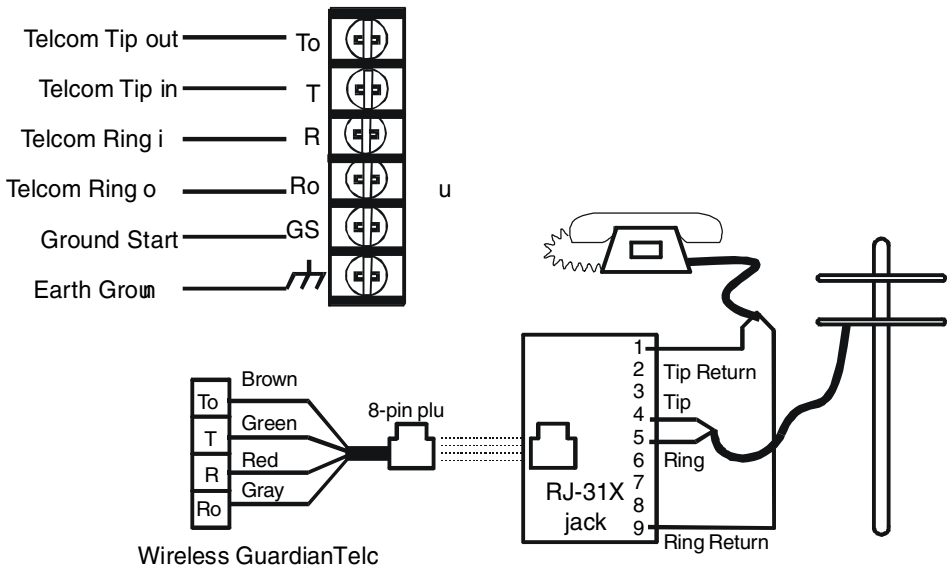
Telephone line hookups

Wiring the panel to the telephone line

Unless a dedicated telephone line is available to the Wireless Guardian System for communication with the central station, it is desirable to have the control panel wired into the telephone service in such a way that it will "seize" the phone line when it needs to communicate with the central station. This means that the panel dialer is installed "upstream" of any other telephones on the circuit. When the panel needs to call in to the station, a relay on the control panel activates to immediately connect the panel with the outside phone line. All other phone outlets on the line are disconnected, and cannot interrupt the panel's communication. The Wireless Guardian seizure relay has 4 terminals. T (tip) and R (ring) are the incoming tip and ring lines from the phone service. To (Tip out) and Ro (Ring out) are terminals connecting the incoming tip and ring to house or "downstream" phones. In normal operation, there is a closed loop between the terminals, leaving the house phones active.

This configuration also prevents intruders from defeating the communicator by simply taking a house phone off-hook.

FIGURE 5 Telephone hookups



Telephone line hookups (continued)

Line seizure

In all cases, to provide line seizure, it is necessary to ensure that the Wireless Guardian System 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.

Telco jack installation

In most areas, it is also necessary to use an RJ31X or RJ38X jack and 8-conductor modular cable. In some areas it is necessary to have the RJ jacks installed by the telephone company. If this is the case, the phone company may need the telephone number of the line on which the jack is to be installed and the location at which the jack is to be installed.

Hardwire loop hookups

Powered loop hookup

Powered 2-wire hardwire smoke detectors may be used with the Wireless Guardian System. ESL model 429C smoke detectors are recommended.

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

Smokes must be connected in parallel

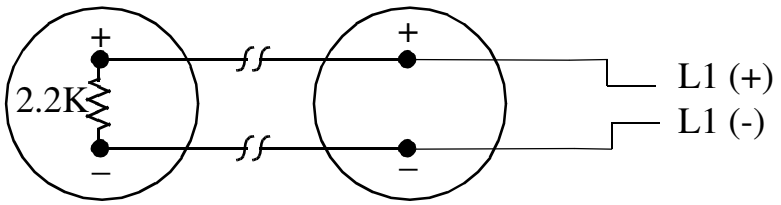


FIGURE 6 Parallel connection of hardwire smoke detectors

2.2K resistor must be used on last device

Note that the smoke detectors are connectedIN 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 2.2K end-of-line resistor is REQUIRED to be connected across the terminals of the last sensor.

How Loop 1 senses alarms

The Wireless Guardian System 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 Wireless Guardian System powered hardwire loop is approximately 3mA, this is enough to cause an alarm.

Hardwire loops 2-4

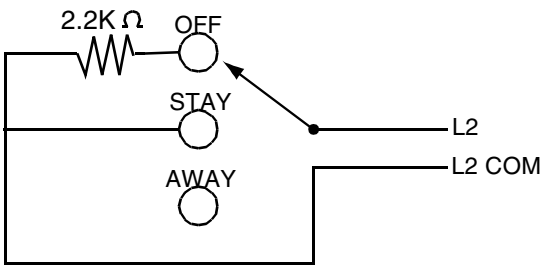
Hardwire loops 2–4

These loops may be used with any normally open or normally closed contacts, and may be programmed as any Wireless Guardian System device type, except KEYPAD.

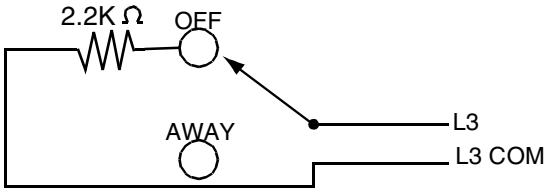
Keyswitch arming

If a hardwire loop is programmed as a REMOTE device, it is assumed that the device will be used with a hardwired keyswitch arming device. Either a 2-position or 3-position keyswitch can be used, and should be connected as shown here.

FIGURE 7 Keyswitch wiring examples



Hardwire keyswitch using 3-position switch on hardwire loop 2.



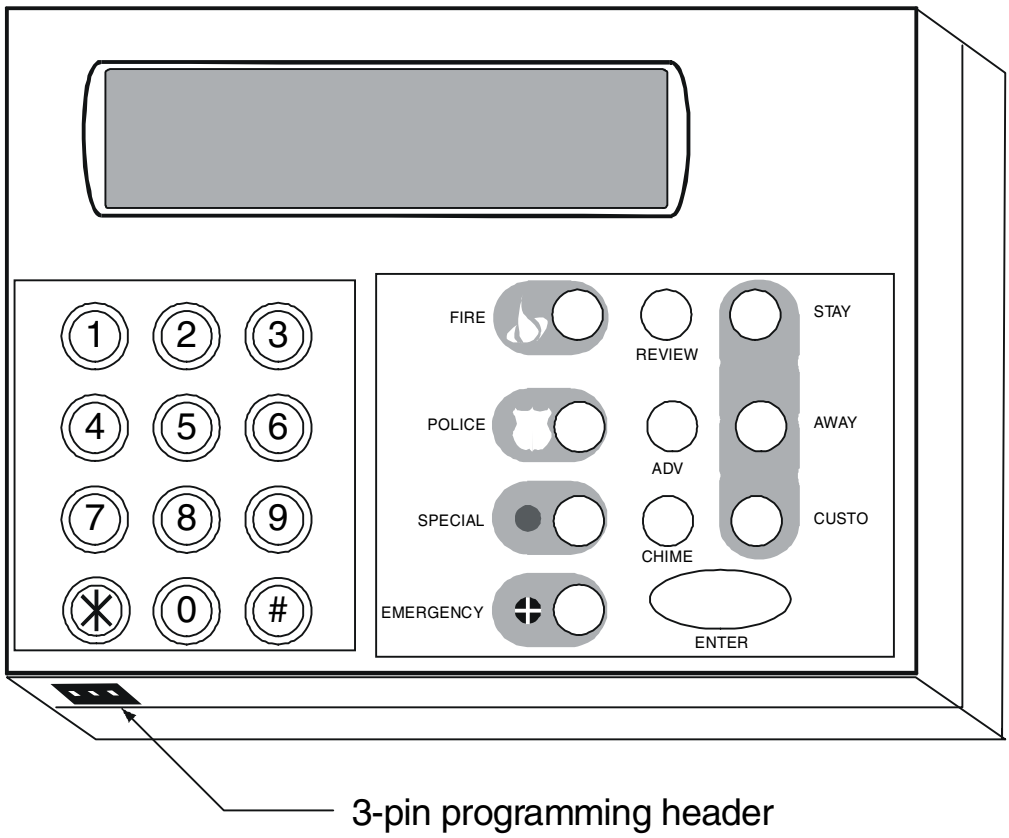
Hardwire keyswitch using 2-position switch on hardwire loop 3.

KP130 hardwire keypad

Operation of the keypad

The KP130 hardwire keypad interfaces with the panel via four wires, which must be connected as shown in Figure4, “ The Wireless Guardian Control Panel Typical Wiring,” on page44. The system will support up to 4 keypads, with a maximum combined wire run of 1000 feet. When programming transmitters, the programming cable connects to the 3-pin header on the keypad as shown below.

FIGURE 8 KP130 Hardwire Keypad



FA130 wireless keypad

What the FA130 can do

FA130 wireless keypads allow users to be able to arm and disarm their system from locations where it is not possible to run wiring. The FA130 requires the entry of codes to achieve disarming, and can be armed with a code or with the EZ ARM sequence. The use of control codes makes it more secure than one-button remote arming devices.

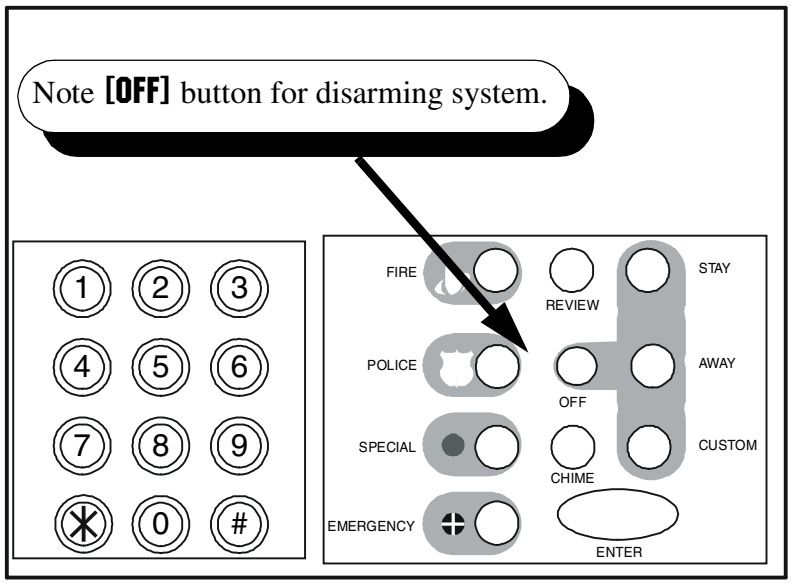


FIGURE 9 FA130 wireless keypad

What the FA130 cannot do

Wireless keypads are one-way devices. That is, they get no information FROM the control panel. Accordingly there is no LCD display on wireless keypads. The FA130 cannot be used to program transmitters.

Mounting the keypad

The housing can be screw-mounted to any wall.

Programming the keypad

The keypad is assigned a point number and programmed like any other transmitter. The board inside the housing has a reset button and programming header.

Installing transmitters

What programming transmitters does

Transmitter programming is a process which takes information programmed into the control panel which defines how the transmitter will be configured and how the system is to respond to alarm and fault messages from the transmitters, and "teaches" the transmitter the relevant data it needs to operate. Transmitters must be taught the System ID, a unique point ID number, how often to check-in, and how to respond to other programmed settings.

Inovonics transmitters receive this information by being connected to the hardwire keypad via a programming cable when the system is in programming mode. The installer is prompted to plug in the transmitter at an appropriate time, and to press the transmitter reset button. This signals the panel to "dump" its programming data into the receiver, and signals the transmitter to receive and store the data.

FA-Series transmitters

Inovonics FA-series "Frequency Agile" transmitters have non-volatile memory. Once they are programmed, data is not lost if the transmitter loses power for an extended period. When fresh power is applied, pressing the reset button re-initializes the last program taught to the transmitter.

C-Series transmitters are not compatible with the Wireless Guardian

Inovonic's first-generation "C-series" transmitters cannot be used with the Wireless Guardian System.

Testing the syste

Signal Level

What must be tested

The final step in the installation process—or in any substantial system change— is to test the system. The installer should check signal level of each transmitter, and the communicator should be tested to demonstrate a viable communication link with the central station.

A thorough test will uncover most of the common errors made during installation and programming a new panel.

Testing Signal Level

Enter Installation Program. (Master Code-**[ADV]**-Dealer Code). Press **[ADV]** until *SIGNAL LEVEL* is displayed. Press **[ENTER]**. Press **[ADV]** to review each transmitter. Initially, some or all of the transmitters may show a "None". This is because the unit has not checked-in yet. If possible, have an assistant actually trip each transmitter. This gives the most accurate signal level reading. Points which do not check-in after a reasonable period, or after being tripped should be re-programmed and re-tested.

Interpreting results

Results will be *GOOD* or *WEAK*, depending upon an algorithm that the panel uses to assess signal strength. Transmitters which show a *WEAK* signal based on a check-in transmission should be checked by tripping the transmitter. Tripping a transmitter sends multiple rounds to the receiver. If signal level still reads *WEAK* when a device is tripped, the installer should troubleshoot the cause of the marginal signal. Sometimes a transmitter just needs to be re-oriented with respect to the receiver. In severe cases, repeaters may be needed in the system to guarantee a strong transmission link. Occasionally, installers may want to use the FA250 high-power transmitter to overcome a particular problem on site.

Exiting Signal Level Test

When satisfied with signal level results, exit Installation Program by pressing **[REVIEW] [REVIEW]**. The display will read *SYSTEM NOT READY*. This is because the system checks for transmitters every time it leaves programming mode. It is good practice to wait 10 to fifteen minutes for the transmitters to check back in. The display will show *SYSTEM READY*.

Testing the communicator

(*Skip ifTelcom is disabled.*) When the installation has checked out successfully on the site, the communications link with the central station should be tested. It is advisable to inform the central station that the system is being tested. The communicator will attempt to call its programmed phone numbers and report a system test.

1. **Master Code** ☞ *--SYSTEM OFF--*
2. **[REVIEW]** ☞ *-- BYPASS POINTS--*
3. **[ADV][ADV][ADV] [ADV][ADV]** ☞ *--TEST TELCOM ---*
4. **[ENTER]** ☞ *--WAITING ---*

If the test report is successful, the display will show *SUCCESSFUL*. If the communicator is unable to report a system test within two minutes or if a keypad key is pressed before the test is complete, the display will show *TELCOM FAILURE*.

Concluding the system test

At this point all system tests have been completed. Perform a Clear Memory.

1. **Master Code** ☞ *--SYSTEM OFF--*
2. **[REVIEW]** ☞ *-- BYPASS POINTS--*
3. **[ADV]** ☞ *--CLEAR MEMORY ---*
4. **[ENTER]** ☞ *--SYSTEM READY ---*

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

IMPORTANT: Show the customer how to test the system, and recommend that tests be conducted every week.

Appendix

Frequency Agile® Transmitters: Installation, Programming and Data

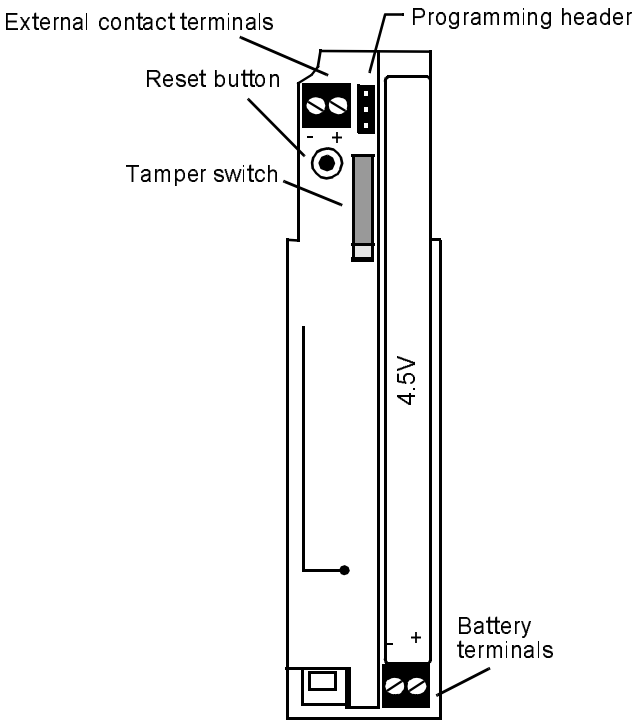
Telcom format tables

Programming Worksheet

Sample Programming Worksheet

Warranty and Disclaimer

FA200
Universal Transmitter



Suggested programming

TYPE:	Intrusion
HOME:	as appropriate
AWAY:	as appropriate
CUSTOM:	as appropriate
TX TYPE:	as appropriate
EOL RESISTOR:	as appropriate
INTERNAL REED:	No
MONITORED:	Yes
AUDIBLE:	Yes
CHIME:	Yes
CHECK-IN:	5 minutes
Dimensions:	1.25" 6.00" x 0.750"
Battery:	4.5V alkaline battery pack
Battery Part #:	BAT601

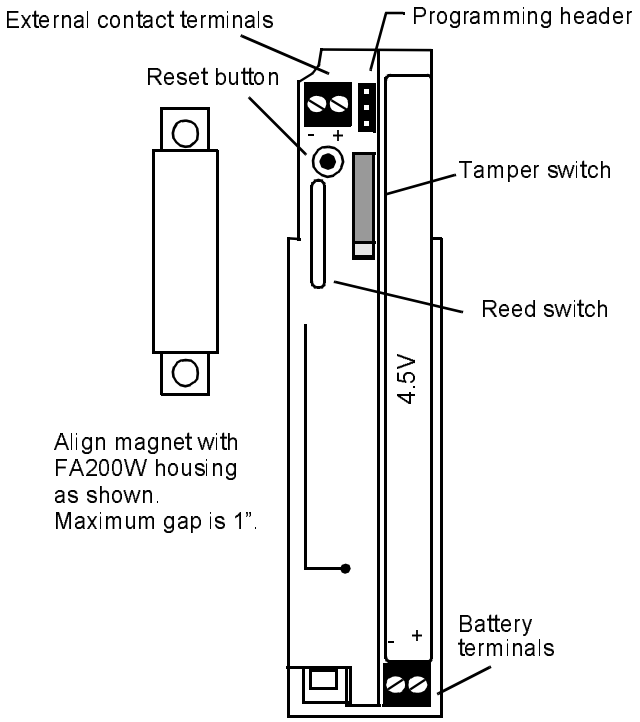
The FA200 transmitter will interface to any normally open (N/O) or normally closed (N/C) non-voltage-driven switch which maintains closure for at least 1.5 seconds. If interfacing to an "open collector" type sensor switch, use care in connecting the common or ground lead from the switch to the negative (outside) terminal of the transmitter. The FA200 can reliably be used with up to 10 feet of wire between the transmitter and the 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), 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.

Installation and Programming

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 hardwire keypad. Continue with programming until prompted "Plug in xmitter or press ADVANCE".
4. Connect the transmitter to the keypad, using the programming cable.
5. Press the transmitter reset button. Refer to the figure above. TheFA200 reset button must be pressed with an instrument small enough to reach through the hole in the plastic shroud.
6. Replace the cover of the transmitter by positioning the narrow end of the cover to the base and closing the case.
7. Test the point immediately after programming, while still in programming mode. When the contacts are switched to the alarm state (open for N/C contacts, closed for N/O contacts) the keypad will emit a "ding-dong" two-tone chime. Note that if the transmitter cover is not secured, the transmitter will be considered to be tampered, and no chime will sound until the cover is secured correctly.
8. Use the screws and wall anchors provided with the transmitter.

FA200W
Universal Widegap Transmitter



Suggested programming

TYPE:	Intrusion
HOME:	as appropriate
AWAY:	as appropriate
CUSTOM:	as appropriate
TX TYPE:	as appropriate
EOL RESISTOR:	as appropriate
INTERNAL REED:	Yes (typically)
MONITORED:	Yes
AUDIBLE:	Yes
CHIME:	Yes
CHECK-IN:	60second
Dimensions:	1.25" x 6.00" x 0.750"
Battery:	4.5V alkaline battery pack
Battery Part #:	BAT601

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 will as an external switch (N/O or N/C).

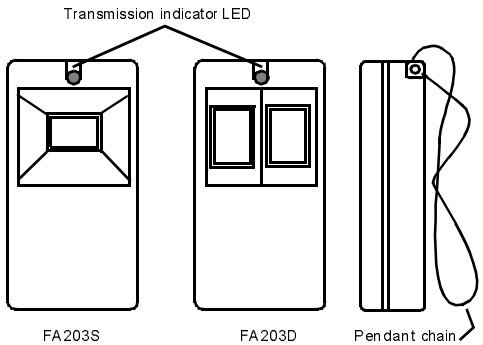
The FA200W transmitter will interface to any normally open (N/O) or normally closed (N/C) non-voltage-driven switch which maintains closure for at least 1.5 seconds. If interfacing to an "open collector" type sensor switch, use care in connecting the common or ground lead from the switch to the negative (outside) terminal of the transmitter. The FA200W can reliably be used with up to 10 feet of wire between the transmitter and the switch.

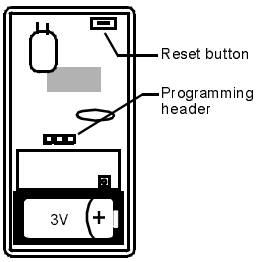
The wire loop going to the sensor/switch can be supervised against tampering by using the 2.2K end of line resistor provided. If the switch is normally open (in non-alarm), the resistor should be placed in parallel with the switch. If the switch is normally closed, the resistor should be placed in series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

Installation and Programming

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 hardwire keypad. Continue with programming until prompted "Plug in xmitter or pressADVANCE".
4. Connect the transmitter to the keypad, using the programming cable.
5. Press the transmitter reset button. Refer to the figure above. The FA200W reset button must be pressed with an instrument small enough to reach through the hole in the plastic shroud.
6. Replace the cover of the transmitter by positioning the narrow end of the cover to the base and closing the case.
7. Test the point immediately after programming, while still in programming mode. When the contacts are switched to the alarm state (open for N/C contacts, closed for N/O contacts) the keypad will emit a "ding-dong" two-tone chime. Note that if the transmitter cover is not secured, the transmitter will be considered to be tampered, and no chime will sound until the cover is secured correctly.
8. Use the screws and wall anchors provided with the transmitter, or use the adhesive tape to mount the transmitter in its designated location. (Double-sided tape is NOT recommended, except for temporary mounting, and should NEVER be used on drywall.)

FA203S / FA203D
Pendant Transmitter





Suggested programming

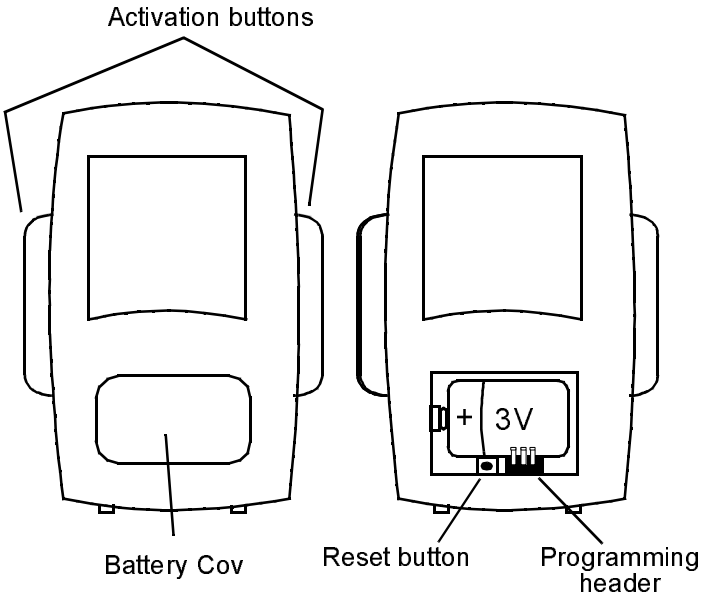
TYPE:	Police / Emergency / Special
TX TYPE:	N/O
EOL:	No
INTERNAL REED:	No
MONITORED:	Yes
AUDIBLE:	Yes
	CHECK-IN: 5 minutes
Dimensions:	3.1" x 1.6" x 0.75"
Battery:	3.0V lithium Sanyo or Panasonic CR2
Battery Part #:	BAT608

The FA203S is a pendant transmitter intended for use as a portable personal emergency signaling device. It should always be programmed to be supervised. Contact Inovonics TechnicalService for special applications. The FA203S is activated by pressing its single button. For additional protection against accidental activation, the FA203D has two buttons which must be pressed simultaneously to activate the transmitter.

Installation and Programming

1. Open the transmitter housing by carefully prying a small screwdriver in the designated locations.
2. If replacing the battery, insert it into the holder, being careful to observe polarity. The battery holder is marked with a "+" indicator.
3. Label the transmitter wiht a numbered label.
4. Complete the program data entry at the hardwire KP130 keypad. Continue with programming until prompted "Plug in xmitter or press ADVANCE".
5. Connect the programming cable from the executive keypad to the programming port on the transmitter.
6. Press the transmitter reset button. When the programming operation has been confirmed by the keypad, disconnect the cable.
7. Test the point to be sure it is functioning properly. When the transmitter is activated, the panel will emit a "ding-dong" chime.
8. Close the housing cover securely.

FA204
Pendant Transmitter



Suggested programming

TYPE:	Police / Emergency / Special
TX TYPE:	N/O
EOL:	No
INTERNAL REED:	No
MONITORED:	Yes
AUDIBLE:	Yes
CHECK-IN:	5 minutes
Dimensions:	3." x 1.6" x 0.75"
Battery:	3.0V lithium Sanyo 14250
Battery Part #:	BAT607

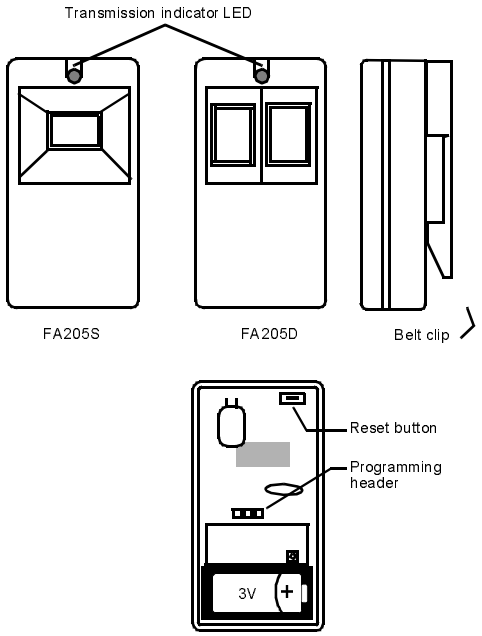
Note: The only battery recommended for the FA204 is the BAT607 purchased from Inovonics or its authorized distributors and dealers.

The FA204 is a pendant transmitter intended for use as a portable personal emergency signaling device. It should always be programmed to be supervised. Contact Inovonics Technical Service for special applications. For additional protection against accidental activation the FA204 has two buttons which must be pressed simultaneously for at least 1.5 seconds to activate the transmitter. The unit will transmit continuously until the buttons are released.

Installation and Programming

1. Remove the battery cover.
2. If replacing the battery, insert it into the holder, being careful to observe polarity. The battery holder is marked with a "+" indicator.
3. Label the transmitter with a numbered label.
4. Complete the program data entry at the hardwire KP130 keypad. Continue with programming until prompted "Plug in xmitter or press ADVANCE".
5. Connect the programming cable from the executive keypad to the programming port on the transmitter.
6. Press the transmitter reset button. When the programming operation has been confirmed by the keypad, disconnect the cable.
7. Test the point to be sure it is functioning properly. When the transmitter is activated, the panel will emit a "ding-dong" chime.
8. Replace the battery cover.

FA205S / FA205D
Pendant Transmitter



Suggested programming

TYPE:	Police / Emergency / Special
TX TYPE:	N/O
EOL:	No
INTERNAL REED:	No
MONITORED:	Yes
AUDIBLE:	Yes
CHECK-IN:	5 minutes
Dimensions:	3." x 1.6" x 0.75"
Battery:	3.0V lithium Sanyo or Panasonic CR2
Battery Part #:	BAT608

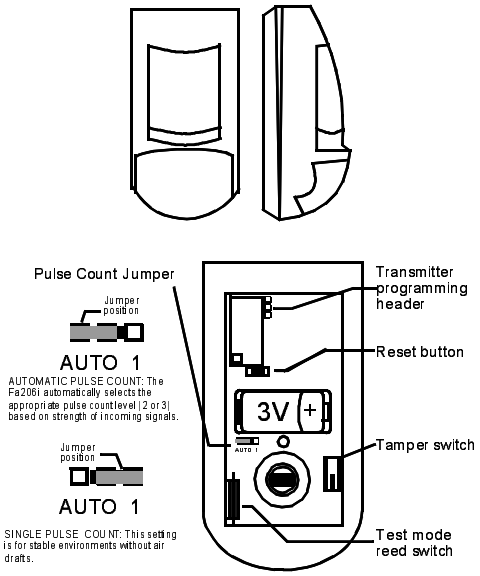
The FA205S is a beltclip transmitter intended for use as a portable personal emergency signaling device. It should always be programmed to be supervised. Contact Inovonics Technical Service for special applications. It is activated by pressing its single button. For additional protection against accidental activation the FA205D has two buttons which must be pressed simultaneously to activate the transmitter.

The FA205S and FA205D can be converted from clip-on style to belt loop style by securing the belt clip with the screw provided.

Installation and Programming

1. Open the transmitter housing by carefully prying a small screwdriver in the designated locations.
2. If replacing the battery, insert it into the holder, being careful to observe polarity. The battery holder is marked with a "+" indicator.
3. Label the transmitter with a numbered label.
4. Complete the program data entry at the hardwire KP130 keypad. Continue with programming until prompted "Plug in xmitter or press ADVANCE".
5. Connect the programming cable from the executive keypad to the programming port on the transmitter.
6. Press the transmitter reset button. When the programming operation has been confirmed by the keypad, disconnect the cable.
7. Test the point to be sure it is functioning properly. When the transmitter is activated, the panel will emit a "ding-dong" chime.
8. Close the housing cover securely.

FA206I
Inovonics PIR motion detector



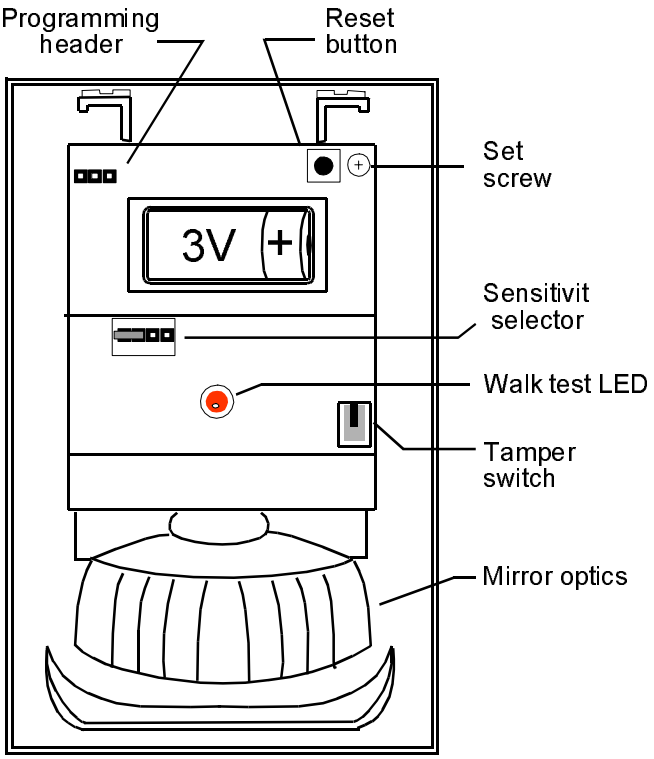
Suggested programming

TYPE:	Intrusion
TX TYPE:	N/C
EOL:	No
INTERNAL REED:	No
MONITORED:	Yes
AUDIBLE:	Yes
CHIME:	No
CHECK-IN:	5 minutes
Dimensions:	2." x 5." x 2."
Battery:	3.0V lithium Duracell DL123A
Typical Battery life:	2 years
Battery Part #:	BAT604

The FA206I is Inovonics' own brand PIR. It features a newly styled, rounded design. The FA206I is a low-current motion detector highly sensitive to moving heat (infrared) sources. It features increased immunity to RFI, vibration, static, lightning, ambient temperature changes and other common causes of false alarms.

Installation and Programming

1. Remove theFA206I cover. Insert a small flat-blade screwdriver about 1/4-inch at the tab on the bottom of the unit. The screwdriver will enter the slot at about a 45° angle. Pry downward on the handle of the screwdriver until the latch holding the cover to the housing base releases.
2. Complete the program data entry at the hardwire KP130 keypad. Continue with programming until prompted "Plug in xmitter or press ADVANCE".
3. Connect the programming cable between the FA206I and the KP130 keypad.
4. Press the transmitter reset button.
5. When programming is complete, disconnect the programming cable and replace the FA206I cover.
6. Follow walk test and transmission test procedures as described in the FA206I manual.



FA206DS
PIR motion detector

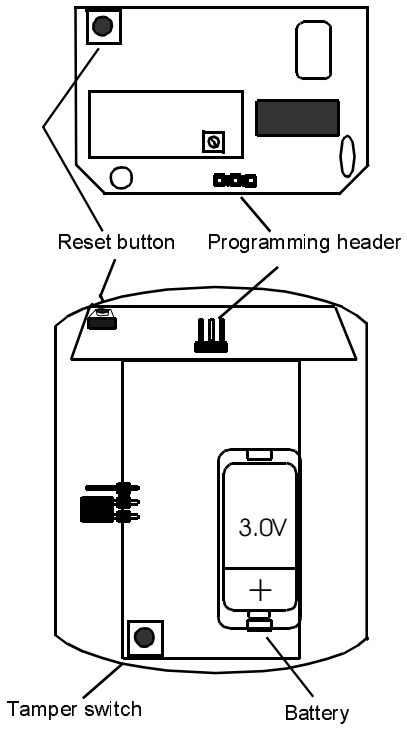
Suggested programming

TYPE:	Intrusion
TX TYPE:	N/C
EOL:	No
INTERNAL REED:	No
MONITORED:	Yes
AUDIBLE:	Yes
CHIME:	No
CHECK-IN:	5 minutes
Dimensions:	2." x 5." x 2."
Battery:	3.0V lithium Duracell DL123A
Battery Part #:	BAT604

The 206DS is a Detection Systems DS-775RF PIR incorporating an Inovonics transmitter. Theunit operates on a single 3.0V lithium battery. The 206DS offers both a high detection rate and high immunity to false alarms. The three-minute "sleep" time after alarm detection maximizes battery life in high traffic applications. Pointable mirror inside tamper-protected case ensures the PIR cannot be deliberately "mis-aimed".

Installation and Programming

1. Remove theFA206DS cover.
2. Insert battery, if necessary. Observe correct polarity of the battery, as indicated by markings on battery housing.
3. Complete the program data entry at the hardwire KP130 keypad. Continue with programming until prompted "Plug in xmitter or press ADVANCE".
4. Connect the programming cable between the FA206DS and the KP130 keypad.
5. Press the transmitter reset button.
6. When programming is complete, disconnect the programming cable and replace the FA206DS cover.
7. Follow walk test and transmission test procedures as described in the FA206DS manual.



FA206S
PIR motion detector

Suggested programming

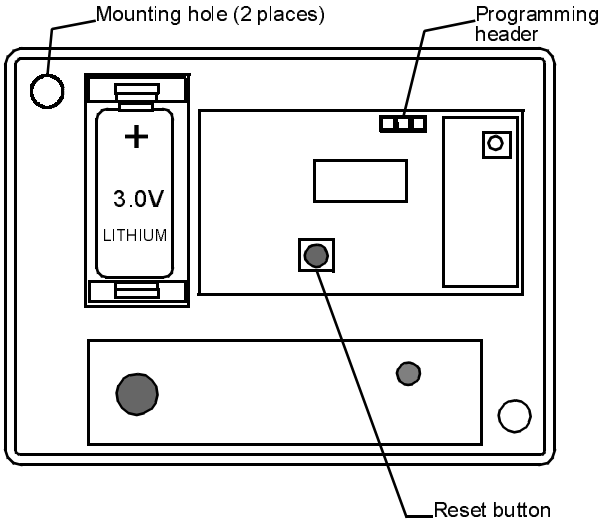
TYPE:	Intrusion
TX TYPE:	N/C
EOL:	No
INTERNAL REED:	No
MONITORED:	Yes
AUDIBLE:	Yes
CHIME:	No
CHECK-IN:	5 minutes
Dimensions:	3.7" x2.8" x 2.4"
Battery:	3.0V lithium Duracell DL123A
Battery Part #:	BAT604

Sentrol's premier Sharpshooter PIR, the FA206S is a low-current motion detector highly sensitive to moving heat (infrared) sources. It features increased immunity to RFI, vibration, static, lightning, ambient temperature changes and other common causes of false alarms.

Installation and Programming

1. Remove the FA206S cover.
2. Insert battery, if necessary. Observe correct polarity of the battery, as indicated by markings on battery housing.
3. Complete the program data entry at the hardwire KP130 keypad. Continue with programming until prompted "Plug in xmitter or press ADVANCE".
4. Connect the programming cable between the FA206S and the KP130 keypad.
5. Press the transmitter reset button.
6. When programming is complete, disconnect the programming cable and replace the FA206S cover.
7. Follow walk test and transmission test procedures as described in the FA206S manual.

FA207
Glassbreak detector



Suggested programming

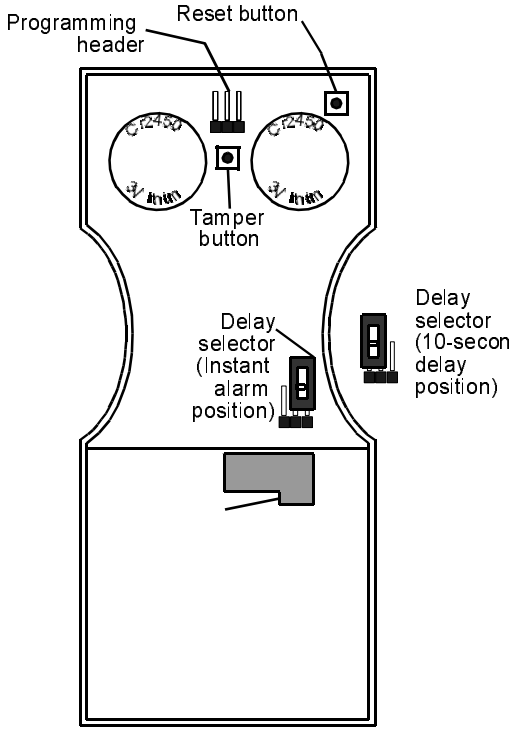
TYPE:	Intrusion
TX TYPE:	N/O
EOL:	No
INTERNAL REED:	No
MONITORED:	Yes
AUDIBLE:	Yes
CHIME:	No
CHECK-IN:	5 minutes
Dimensions:	4.2" x 3.1" x 1.6"
Battery:	3.0V lithium Duracell DL123A
Battery Part #:	BAT604

Note: Remove jumper from programming header to program, replace jumper after programming.

The FA207 utilizes Sentrol's ShatterPro II technology for proven performance. The ShatterPro II uses Sentrol's Pattern Recognition Technology™ to provide extended range, automatic test, and end-user features. Battery is user-replaceable.

Installation and Programming

1. Remove the jumper from the programming header.
2. Complete the program data entry at the hardwire KP130 keypad. Continue with programming until prompted "Plug in xmitter or pressADVANCE".
3. Connect the programming cable between the FA207 and the KP130 keypad.
4. Press Reset button on transmitter.
5. Disconnect cable and replace jumper on the center ping and either outside pin of the programming port.
6. Test the transmitter according to procedures in the FA207 installation manual.



FA209
Billtrap transmitter

Suggested programming

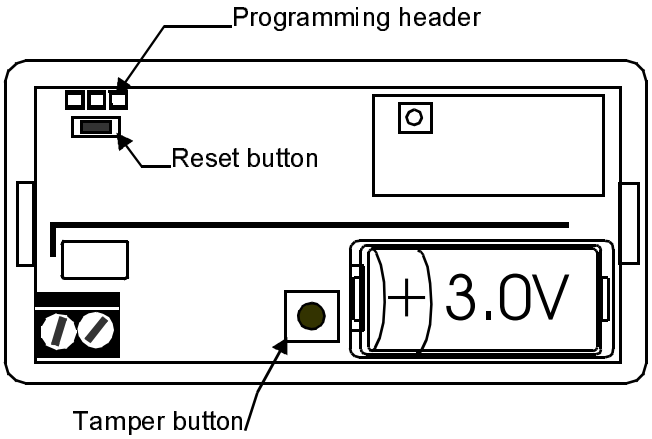
TYPE:	Police / Special
TX TYPE:	N/O
EOL:	No
INTERNAL REED:	No
MONITORED:	Yes
AUDIBLE:	Yes
CHIME:	No
CHECK-IN:	5 minutes
Dimensions:	2.6" x 6.1" x 0.75"
Battery (Quantity 2):	3.0V lithium CR2450N
Battery Part #:	BAT609

The FA209 is a wireless billtrap transmitter with a thin profile and the ruggedness of a hardwire bill-trap. 900MHz technology allows the FA209to be fully-supervised—even in a metal cash drawer—and provides easy drawer removal for the end-user. Choice of instant transmission or delayed transmission to minimize false alarms.

Installation and Programming

1. Remove the bottom plate.
2. Set Delay Selector jumper.
3. Complete the program data entry at the hardwire KP130 keypad. Continue with programming until prompted “Plug in xmitter or pressADVANCE”.
4. Connect the programming cable between the FA209 and the KP130 keypad.
5. Press the transmitter Reset button.
6. Disconnect the programming cable.
7. Re-attach the bottom plate.
8. Mount the billtrap in the cash drawer.
9. Place the trigger bill in the billtrap.

FA210
Reduced-size universal transmitter



Suggested programming

TYPE:	Intrusion
TX TYPE:	as needed
EOL :	as needed
INTERNAL REED:	No
MONITORED:	Yes
AUDIBLE:	Yes
CHIME:	Yes
CHECK-IN:	5 minutes

Dimensions:	3.5" x 1.7" x 0.92"
Battery:	3.0V Duracell DL123A
Battery Part #:	BAT604
Typical battery life:	4 years

The FA210 universal transmitter can be used with any standard contact or sensor. It comes with case tamper and will support an end-of-line resistor (EOL). The transmitter can be reliably used with contacts up to 10 feet from the transmitter.

Note: If connecting to an "open collector" type sensor switch, use care in connecting the common of ground lead from the switch to the negative (outside) terminal of the transmitter.

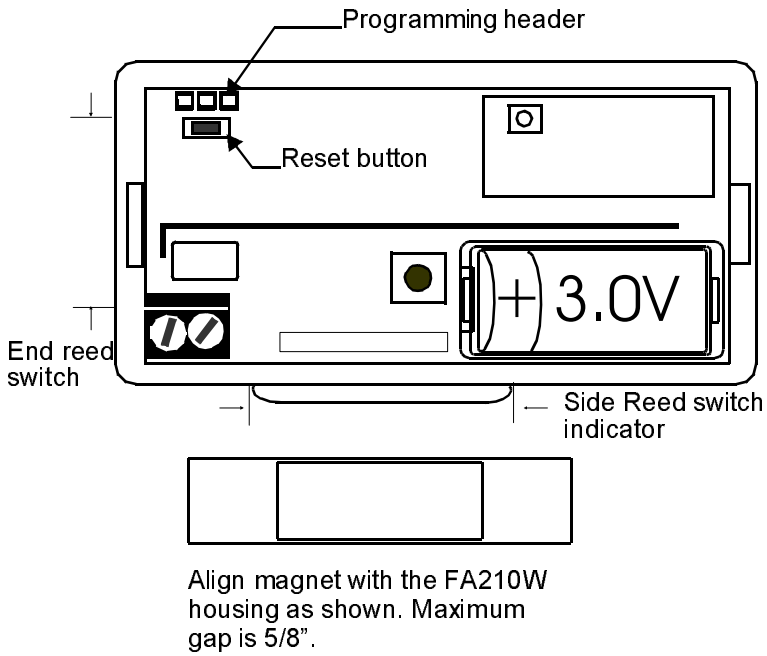
Installation and Programming

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 hardwire keypad. Continue with programming until prompted "Plug in xmitter or pressADVANCE".
4. Connect the transmitter to the keypad, using the programming cable.
5. Press the transmitter reset button. Refer to the figure above.
6. Replace the cover.
7. Test the point immediately after programming, while still in programming mode. When the contacts are switched to the alarm state (open for N/C contacts, closed for N/O contacts) the keypad will emit a "ding-dong" two-tone chime. Note that if the transmitter cover is not secured, the transmitter will be considered to be tampered, and no chime will sound until the cover is secured correctly.

Use the screws and wall anchors provided to mount the transmitter mounting bracket in its designated location.

Fit the FA210 over the latches on the mounting bracket and slide the housing toward the corner tabs to lock in place.

FA210W
Reduced-size universal widegap transmitter



Align magnet with the FA210W housing as shown. Maximum gap is 5/8".

Suggested programming

TYPE:	Intrusion
TX TYPE:	as needed
EOL Resistor:	as needed
INTERNAL REED:	Yes (typically)
MONITORED:	Yes
AUDIBLE:	Yes
CHIME:	Yes
CHECK-IN:	5 minutes
Dimensions:	3.5" x 1.7" x 0.92"
Battery:	3.0V Duracell DL123A
Battery Part #:	BAT604
Typical battery life:	4 years

The FA210W universal widegap transmitter can be used with any standard contact or sensor. It comes with case tamper and will support end-of-line resistor. The transmitter can be reliably used with contacts up to 10 feet from the transmitter.

The FA210W includes two built-in magnetic reed switches. If the "Internal Reedinternal reed" option is "Yes", the transmitter will trip when the widegap magnet is removed from proximity to either of the reed switches.

Note: The FA210W can be programmed to monitor both the Internal Reed and the external contact loops. When using internal contacts only, the External Contact option must be set to N/O.

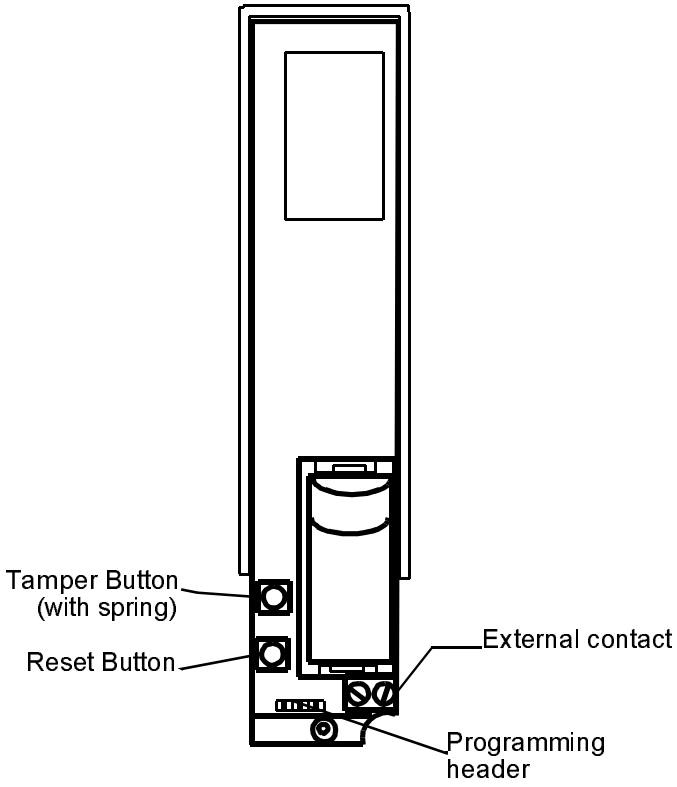
Installation and Programming

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 hardwire keypad. Continue with programming until prompted "Plug in xmitter or pressADVANCE".
4. Connect the transmitter to the keypad, using the programming cable.
5. Press the transmitter reset button. Refer to the figure above.
6. Replace the cover.
7. Test the point immediately after programming, while still in programming mode. When the contacts are switched to the alarm state (open for N/C contacts, closed for N/O contacts) the keypad will emit a "ding-dong" two-tone chime. Note that if the transmitter cover is not secured, the transmitter will be considered to be tampered, and no chime will sound until the cover is secured correctly.

Use the screws and wall anchors provided to mount the transmitter mounting bracket in its designated location.

Fit the FA210W over the latches on the mounting bracket and slide the housing toward the corner tabs to lock in place.

FA250
High power universal transmitter



Suggested programming

TYPE:	Intrusion
TX TYPE:	as needed
EOL:	as needed
INTERNAL REED:	No
MONITORED:	Yes
AUDIBLE:	Yes
CHIME:	Yes
CHECK-IN:	5 minutes
Dimensions:	1.2" x 6.0" x 0.75"
Battery:	3.0V Duracell DL123A
Battery Part #:	BAT604
Typical battery life:	2 years

The FA250 has the same functions as the FA200 and FA210 universal transmitters, but has over 30 times the power and at least 4 times the range. Typical line-of sight range is 2 miles.

Installation

1. The transmitter assembly is held in the housing by the PCB retaining clip engaging in the housing latch cutout. Pull the clip out of the latch and lift the transmitter out of the housing.
2. Remove the transmitter from the housing and use the screws and wall anchors provided to mount the housing.
3. To re-install the transmitter, slip the unit into the housing under the PCB stops. Press the transmitter assembly into the housing until the retaining clip clicks into the housing latch cutout.

Programming

1. Complete the program data entry at the hard-wire KP130 keypad. Continue with programming until prompted “Plug in xmitter or press ADVANCE”.
2. Connect the programming cable between the FA250 and the KP130 keypad.
3. Press the reset button on the transmitter.
4. When programming is complete, disconnect the programming cable.
5. Re-install housing cover.

4x2 Map Format Translation Table

CODE	EVENT
01	Alarm point 01
02	Alarm point 02
03	Alarm point 03
04	Alarm point 04
05	Alarm point 05
06	Alarm point 06
07	Alarm point 07
08	Alarm point 08
09	Alarm point 09
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	EVENT
34	Restoral point 01
35	Restoral point 02
36	Restoral point 03
37	Restoral point 04
38	Restoral point 05
39	Restoral point 06
3B	Restoral point 07
3C	Restoral point 08
3D	Restoral point 09
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
19	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	EVENT
67	Trouble point 01
68	Trouble point 02
69	Trouble point 03
6B	Trouble point 04
6C	Trouble point 05
6D	Trouble point 06
6E	Trouble point 07
6F	Trouble point 08
70	Trouble point 09
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	EVENT
9B	Opening -User l
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	EVENT
BE	Keypad fire alarm
BF	Keypad emergency 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 poer 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, burglarly 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)

ALAR	**-**	**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**
EMERGNCY	**-**	**1100**
POLICE	**-**	**1120**
SPECIAL	**-**	**1150**
DURESS	**-**	**1121**
CANCEL	**-**	**1406**
FORCE AR	**-**	**1300**
TELCOM TEST	**-**	**1602**
BBFAIL	**-**	**1302**
AC FAIL	**-**	**1301**
RXFAIL	**-**	**1355**
RESTORE BB	**-**	**3302**
RESTORE AC	**-**	**3301**
RESTORE RX	**-**	**3355**
RESTORE SYS	**-**	**3305**
DOWNLD OK	**-**	**1412**
DOWNLD FAIL	**-**	**1413**

Wireless Guardian Programming Worksheet

Name _____ Installer _____

Address _____ Date of Installation _____

City/State/ZIP _____ Panel Location _____

Phone _____ Telco jack location _____

Program Panel

System ID _____ (0-254)

Siren Time _____ (0-254 minutes)

SPV Window _____ (0-100 hours)

EZ arming enabled _____ (yes/no)

Force arming enabled _____ (yes/no)

Entry time _____ (0-254 seconds)

If last digit is odd number, entry warning is disabled.

Exit time _____ (0-254 seconds)

Aux Output use _____ (0-9; 0= disabled)

1=active during entry/exit delay

2=active when armed / flash on alarm

3=active during FIRE alarm

4=Active during alarm on pt 5

5=active during alarm on points 6-14

6=active during keypad SPECIAL alarm

7=toggle when user code 6 is entered

8=latching after communicator failure

9=Active during inactive Tx in away mode

Code Limit _____ (0-254 hours)

User code 1 _____

User code 2 _____

User code 3 _____

User code 4 _____

User code 5 _____

User code 6 _____

Duress code _____

Master code _____

Dealer code _____

User 1 _____

User 2 _____

User 3 _____

User 4 _____

User 5 _____

User 6 _____

_____ Download Check (Auto or Ringback)

Program Telcom

Telcom: Enable ____ Disable____

Download: Enable ____ Disable____

1st Phone #_____

2nd Phone #_____

A(10)=same as 0 B(11)=* C(12)=# D(13)=Wait for 2nd dial tone

E(14)=2-sec pause F(15)=5-sec pause

Acct#_____

Dial: ____ Pulse ____Tone

Sequence_____

0=1st # only 2=2nd # only

1=1st # preferred, 3=1st and 2nd always

2nd as backup 4=Split reporting

Reporting Formats: 3x1____ 3x1ext____

4x2____ 4x2 map____

Contact ID_____

PLS Rate:____10pps____20pps_____40pps

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

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

Zone assignment not required for 3x1, 4x2 map or Contact ID formats. Zones MUST be assigned for points to be monitored when using 3x1EXT or 4x2 formats. SYSTEM ZONE is associated with system events such as AC fail, BB fail, etc. System zone _____

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	_____	PT Bypass	_____	Police	_____	Telcom Test	_____	Restore AC	_____
PT Restore	_____	Opening	_____	Special	_____	BB Fail	_____	Restore RX	_____
PT Trouble	_____	Closing	_____	Duress	_____	AC Fail	_____	Restore SYS	_____
PT Inactv	_____	Fire	_____	Cancel	_____	RX Fail	_____	Dwnld OK	_____
PT Low Batt	_____	Emergency	_____	Force Arm	_____	Restore BB	_____	Dwnld Fail	_____

24-Hour points

ID #	POINT DESCRIPTION	HW Loop	Type						Tx Type		Options: Check if "Yes"						Check-In				
			Fire	Emergency	Police	Special	Remote	Keypad	N/O	N/C	EOL Res	Intl Reed	Monitored	Audible	Output On	Delayed	None	10 seconds	30 seconds	60 seconds	5 minutes

24-Hour point suggested programming

Transmitter	TYPE	H/W	Tx Type	EOL	INTL	MONI-	AUDIBLE	OUTPUT	DELAYED	CHECK-
FA113 remote	REMOTE	No	--	--	--	Yes	Yes	Yes	--	--
FA130 Remote	KEYPAD	No	--	--	--	Yes	Yes	Yes	--	--
FA201 Smoke	FIRE	No	N/O	No	No	Yes	--	--	as needed	60 sec
FA204 Pendant	POLICE	No	N/O	No	No	Yes	Yes	Yes	--	60 sec
FA209 Billtrap	Police/Spe-	No	N/O	No	No	Yes	Yes	Yes	--	60 sec
FA216 Temp sensor	SPECIAL	No	N/O	No	No	Yes	Yes	Yes	--	60 sec
Hardwire Keywitch	REMOTE	Yes	--	--	--	--	--	--	--	--
Hardwire Smoke	FIRE	Yes	--	--	--	--	--	--	--	--

Intrusion point suggested programming

Transmitter	HOME	AWAY	CUSTOM	H/W LOOP	TX TYPE	EOL RESIST	INTL REED	MONI-	AUDIBLE	CHIME	CHECK-IN
FA200/FA200W	as needed	as needed	as needed	No	as	as	as needed	Yes	Yes	Yes	60 sec
FA210/FA210	as needed	as needed	as needed	No	as	as	as needed	Yes	Yes	Yes	60 sec
FA207 Shatterpro	BYPASS	INSTANT	as needed	No	N/O	No	No	Yes	Yes	No	60 sec
FA206(S)(DS)(I)PIR	BYPASS	as needed	as needed	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 set to N/O, and EOL RES should be s et to No.

Programming Worksheet

Intrusion points

			Home				Away				Custom		Tx Type		Options: Check if "Yes"					Check-In				
ID #	POINT DESCRIPTION	HW Loop	Bypass	Instant	Delay	Follow	Bypass	Instant	Delay	Follow	Bypass	Include	N/O	N/C	EOL RES	Intl Reed	Monitored	Audible	Chime	None	10 seconds	30 seconds	60 seconds	5 minutes

Sample Programming Worksheet

Name	**John Q. Public**	Installer	**Local Security Co.**
Address	**123 Any Street**	Date of Installation	**6-6-98**
City/State/ZIP	**Anytown, USA, 12345**	Panel Location	**Utility Closet**
Phone	**555-555-1212**	Telco jack location	**Basement den**

Program Panel

System ID	**123**	(0-254)	Code Limit	**0**	(0-254 hours)		
Siren Time	**10**	(0-254 minutes)	User code 1	**1163**		User 1	**Ms. Public**
SPV Window	**6**	(0-100 hours)	User code 2	**2204**		User 2	**Billy**
EZ arming enabled	**Yes**	(yes/no)	User code 3	**9153**		User 3	**Mary**
Force arming enabled	**Yes**	(yes/no)	User code 4	**6133**		User 4	**Grandpa**
Entry time	**40**	(0-254 seconds)	User code 5			User 5	
If last digit is odd number, entry warning is disabled.			User code 6			User 6	
Exit time	**40**	(0-254 seconds)	Duress code	**5147**			
Aux Output use	**3**	(0-9; 0= disabled)	Master code	**0142**		**Auto**	Download Check
1=active during entry/exit delay		5=active during alarm on points 6-14	Dealer code	**3446**			(Auto or Ringback)
2=active when armed / flash on alarm		6=active during keypad SPECIAL alarm					
3=active during FIRE alarm		7=toggle when user code 6 is entered					
4=Active during alarm on pt 5		8=latching after communicator failure					
		9=Active during inactive Tx in away mode					

Program Telcom

Telcom: Enable _✔_ Disable____ **Acct#_____** **Reporting Formats: 3x1____ 3x1ext____**

Download: Enable __✔__ Disable____ **Dial: ____ Pulse __✔__Tone** **4x2____ 4x2 map___✔**

1st Phone #_B70E5552121_____ **Sequence__0__** **Contact ID_____**

2nd Phone #_____ **0=1st # only 2=2nd # only** **PLS Rate:____10pps____20pps_____40pps**

A(10)=same as 0 B(11)=* C(12)=# D(13)=Wait for 2nd dial tone **1=1st # preferred, 3=1st and 2nd always**

E(14)=2-sec pause F(15)=5-sec pause **2nd as backup 4=Split reporting**

Zone Table 0-9 or A(10)-F(15) (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	3	Point 39	7	Point 47	6
Point 8	5	Point 16		Point 24	2	Point 32		Point 40	7	Point 48	6
										System zone	9

Zone assignment not required for 3x1, 4x2 map or Contact ID formats. Zones MUST be assigned for points to be monitored when using 3x1EXT or 4x2 formats. SYSTEM ZONE is associated with system events such as AC fail, BB fail, etc.

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

Sample Programming Worksheet

24-Hour points

ID #	POINT DESCRIPTION	HW Loop	Type						Tx Type		Options: Check if "Yes"						Check-In				
			Fire	Emergency	Police	Special	Remote	Keypad	N/O	N/C	EOL Res	Intl Reed	Monitored	Audible	Output On	Delayed	None	10 seconds	30 seconds	60 seconds	5 minutes
1	HW Smokes-Study	✖	✖																		
33	Kitchen Smoke		✖						✖				✖			✖				✖	
34	Hall Smoke		✖						✖				✖							✖	
35	Grandpa Emergency			✖					✖				✖	✖	✖						✖
37	Bedside Panic				✖				✖				✖	✖	✖					✖	
39	Satellite Dish					✖				✖			✖	✖	✖					✖	
40	Gun Cabinet					✖				✖			✖	✖	✖						✖
47	Wireless Keypad-Master suite							✖													
48	Wireless Commander						✖														

24-Hour point suggested programming

Transmitter	TYPE	H/W	Tx TypeP	EOL	INTL	MONI-	AUDIBLE	OUTPUT	DELAYED	CHECK-
FA113 remote	REMOTE	No	--	--	--	Yes	Yes	Yes	--	--
FA130 Remote	KEYPAD	No	--	--	--	Yes	Yes	Yes	--	--
FA201 Smoke	FIRE	No	N/O	No	No	Yes	--	--	as needed	60 sec
FA204 Pendant	POLICE	No	N/O	No	No	Yes	Yes	Yes	--	60 sec
FA209 Billtrap	Police/Spe-	No	N/O	No	No	Yes	Yes	Yes	--	60 sec
FA216 Temp sensor	SPECIAL	No	N/O	No	No	Yes	Yes	Yes	--	60 sec
Hardwire Keywitch	REMOTE	Yes	--	--	--	--	--	--	--	--
Hardwire Smoke	FIRE	Yes	--	--	--	--	--	--	--	--

Intrusion point suggested programming

Transmitter	HOME	AWAY	CUSTO	H/W LOOP	TX TYPE	EOL RESIST	INTL REED	MONI-	AUDIBLE	CHIME	CHECK-IN
FA200/FA200W	as needed	as needed	as needed	No	as	as	as needed	Yes	Yes	Yes	60 sec
FA210/FA210	as needed	as needed	as needed	No	as	as	as needed	Yes	Yes	Yes	60 sec
FA207 Shatterpro	BYPASS	INSTANT	as needed	No	N/O	No	No	Yes	Yes	No	60 sec
FA206(S)(DS)(I)PIR	BYPASS	as needed	as needed	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 set to N/O, and EOL RES should be s et to No.

Sample Programming Worksheet

Intrusion points

ID #	POINT DESCRIPTION	HW Loop	Home				Away				Custom		Tx Type		Options: Check if "Yes"					Check-In				
			Bypass	Instant	Delay	Follow	Bypass	Instant	Delay	Follow	Bypass	Include	N/O	N/C	EOL RES	Intl Reed	Monitored	Audible	Chime	None	10 seconds	30 seconds	60 seconds	5 minutes
3	Front door	✖		✖					✖			✖		✖	✖		✖	✖	✖					✖
4	Back door	✖		✖					✖		✖			✖	✖		✖	✖	✖					✖
9	Garage door			✖					✖		✖			✖	✖		✖	✖	✖					✖
10	Veranda door		✖					✖				✖		✖	✖		✖	✖	✖					✖
12	Living room PIR		✖							✖	✖			✖			✖	✖						✖
13	Master BR PIR		✖							✖	✖			✖			✖	✖						✖
14	Upstairs PIR		✖							✖	✖			✖			✖	✖						✖
15	Family room PIR		✖							✖	✖			✖			✖	✖						✖
17	Large LR window			✖				✖				✖	✖				✖	✖						✖
18	Dining room window			✖				✖				✖	✖			✖	✖	✖						✖
19	Kitchen window			✖				✖				✖	✖			✖	✖	✖						✖
20	Study window			✖				✖				✖	✖			✖	✖	✖						✖
21	Basement windows			✖				✖				✖	✖		✖	✖	✖	✖						✖
22	Family room windows			✖				✖				✖	✖		✖	✖	✖	✖						✖
23	Master BR window		✖					✖				✖	✖		✖	✖	✖	✖						✖
24	Billy's BR window		✖					✖				✖	✖			✖	✖	✖						✖
25	Mary's BR window		✖					✖				✖	✖			✖	✖	✖						✖
26	Grandpa's BR window		✖					✖				✖	✖			✖	✖	✖						✖
28	Master BR glassbreak			✖				✖				✖	✖				✖	✖						✖
29	LR glassbreak			✖				✖				✖	✖				✖	✖						✖
30	Family room glassbreak			✖				✖				✖	✖				✖	✖						✖
31	Study glassbreak			✖				✖				✖	✖				✖	✖						✖
43	Poolhouse door			✖				✖			✖		✖				✖	✖						✖
44	Pool gate			✖				✖			✖		✖				✖	✖						✖

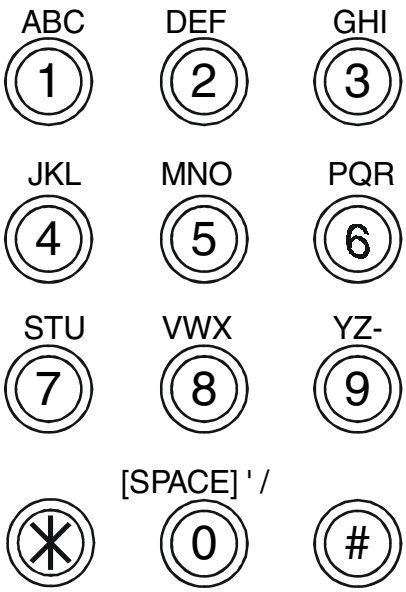
Sample Notes

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

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

Telcom test 1:00a.m.

Keypad Template



Warranty & Disclaimer

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The User recognizes that a properly installed and maintained security system may only reduce the risk of events such as burglary, robbery, personal injury and fire. It does not insure or guarantee that there will be no death, personal damage and/or damage to property as a result. **Inovonics does not claim that the Product may not be compromised and/or circumvented, or that the Product will prevent any death, personal and/or bodily injury and/or damage to property resulting from burglary, robbery, fire or otherwise, or that the Product will in all cases provide adequate warning or protection.**

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Warning: The User should follow all installation, operation and maintenance instructions. The User is strongly advised to conduct Product and systems tests at least once each week. Changes in environmental conditions, electric or electronic disruptions and tampering, may cause the Product to not perform as expected.

Warning: Inovonics warrants its Product to the User. The User is responsible for exercising all due prudence and taking necessary precautions for the safety and protection of lives and property wherever Inovonics Products are installed. Inovonics strongly advises the User to program Products to be supervised whenever used in applications affecting life safety. Users are warned that unsupervised devices are subject to undetected failure due to malfunction, battery failure, tampering, or changes in environment.

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