Instruction Manual

DSC®

PowerSeries™

SECURITY SYSTEM

RF5132-433

Version 5.0

Warning – This manual contains information on limitations regarding product use and function and information on the limitations as to liability of the manufacturer.

Attention – Ce manuel contient des informations sur les restrictions concernant le fonctionnement et l'utilisation du produit et des informations sur les restrictions en ce qui concerne la responsabilité du fabricant. La totalité du manuel doit être lu attentivement.

Advertencia – Por favor consulte el Manual de Instrucciones del Sistema para más información acerca de las limitaciones conrelación al uso y funcionamiento del producto e información acerca de las limitaciones como la responsabilidad del fabricante.

Importante – Questo manuale contiene informazioni sulle limitazioni riguardanti l'uso e la funzione del prodotto, ed informazioni circa i limiti di responsabilità del produttore. Si consiglia di leggere attentamente l'intero manuale.

Warning Please Read Carefully

Note to Installers

This warning contains vital information. As the only individual in contact with system users, it is your responsibility to bring each item in this warning to the attention of the users of this system.

System Failures

This system has been carefully designed to be as effective as possible. There are circumstances, however, involving fire, burglary, or other types of emergencies where it may not provide protection. Any alarm system of any type may be compromised deliberately or may fail to operate as expected for a variety of reasons. Some but not all of these reasons may be:

- **Inadequate Installation**

A security system must be installed properly in order to provide adequate protection. Every installation should be evaluated by a security professional to ensure that all access points and areas are covered. Locks and latches on windows and doors must be secure and operate as intended. Windows, doors, walls, ceilings and other building materials must be of sufficient strength and construction to provide the level of protection expected. A reevaluation must be done during and after any construction activity. An evaluation by the fire and/or police department is highly recommended if this service is available.

- **Criminal Knowledge**

This system contains security features which were known to be effective at the time of manufacture. It is possible for persons with criminal intent to develop techniques which reduce the effectiveness of these features. It is important that a security system be reviewed periodically to ensure that its features remain effective and that it be updated or replaced if it is found that it does not provide the protection expected.

- **Access by Intruders**

Intruders may enter through an unprotected access point, circumvent a sensing device, evade detection by moving through an area of insufficient coverage, disconnect a warning device, or interfere with or prevent the proper operation of the system.

- **Power Failure**

Control units, intrusion detectors, smoke detectors and many other security devices require an adequate power supply for proper operation. If a device operates from batteries, it is possible for the batteries to fail. Even if the batteries have not failed, they must be charged, in good condition and installed correctly. If a device operates only by AC power, any interruption, however brief, will render that device inoperative while it does not have power. Power interruptions of any length are often accompanied by voltage fluctuations which may damage electronic equipment such as a security system. After a power interruption has occurred, immediately conduct a complete system test to ensure that the system operates as intended.

- **Failure of Replaceable Batteries**

This system's wireless transmitters have been designed to provide several years of battery life under normal conditions. The expected battery life is a function of the device environment, usage and type. Ambient conditions such as high humidity, high or low temperatures, or large temperature fluctuations may reduce the expected battery life. While each transmitting device has a low battery monitor which identifies when the batteries need to be replaced, this monitor may fail to operate as expected. Regular testing and maintenance will keep the system in good operating condition.

- **Compromise of Radio Frequency (Wireless) Devices**

Signals may not reach the receiver under all circumstances which could include metal objects placed on or near the radio path or deliberate jamming or other inadvertent radio signal interference.

- **System Users**

A user may not be able to operate a panic or emergency switch possibly due to permanent or temporary physical disability, inability to reach the device in time, or unfamiliarity with the correct operation. It is important that all system users be trained in the correct operation of the alarm system and that they know how to respond when the system indicates an alarm.

- **Smoke Detectors**

Smoke detectors that are a part of this system may not properly alert occupants of a fire for a number of reasons, some of which follow. The smoke detectors may have been improperly installed or positioned. Smoke may not be able to reach the smoke detectors, such as when the fire is in a chimney, walls or roofs, or on the other side of closed doors.

Smoke detectors may not detect smoke from fires on another level of the residence or building.

Every fire is different in the amount of smoke produced and the rate of burning. Smoke detectors cannot sense all types of fires equally well. Smoke detectors may not provide timely warning of fires caused by carelessness or safety hazards such as smoking in bed, violent explosions, escaping gas, improper storage of flammable materials, overloaded electrical circuits, children playing with matches or arson.

Even if the smoke detector operates as intended, there may be circumstances when there is insufficient warning to allow all occupants to escape in time to avoid injury or death.

- **Motion Detectors**

Motion detectors can only detect motion within the designated areas as shown in their respective installation instructions. They cannot discriminate between intruders and intended occupants. Motion detectors do not provide volumetric area protection. They have multiple beams of detection and motion can only be detected in unobstructed areas covered by these beams. They cannot detect motion which occurs behind walls, ceilings, floor, closed doors, glass partitions, glass doors or windows. Any type of tampering whether intentional or unintentional such as masking, painting, or spraying of any material on the lenses, mirrors, windows or any other part of the detection system will impair its proper operation.

Passive infrared motion detectors operate by sensing changes in temperature. However their effectiveness can be reduced when the ambient temperature rises near or above body temperature or if there are intentional or unintentional sources of heat in or near the detection area. Some of these heat sources could be heaters, radiators, stoves, barbeques, fireplaces, sunlight, steam vents, lighting and so on.

- **Warning Devices**

Warning devices such as sirens, bells, horns, or strobes may not warn people or waken someone sleeping if there is an intervening wall or door. If warning devices are located on a different level of the residence or premise, then it is less likely that the occupants will be alerted or awakened. Audible warning devices may be interfered with by other noise sources such as stereos, radios, televisions, air conditioners or other appliances, or passing traffic. Audible warning devices, however loud, may not be heard by a hearing-impaired person.

- **Telephone Lines**

If telephone lines are used to transmit alarms, they may be out of service or busy for certain periods of time. Also an intruder may cut the telephone line or defeat its operation by more sophisticated means which may be difficult to detect.

- **Insufficient Time**

There may be circumstances when the system will operate as intended, yet the occupants will not be protected from the emergency due to their inability to respond to the warnings in a timely manner. If the system is monitored, the response may not occur in time to protect the occupants or their belongings.

- **Component Failure**

Although every effort has been made to make this system as reliable as possible, the system may fail to function as intended due to the failure of a component.

- **Inadequate Testing**

Most problems that would prevent an alarm system from operating as intended can be found by regular testing and maintenance. The complete system should be tested weekly and immediately after a break-in, an attempted break-in, a fire, a storm, an earthquake, an accident, or any kind of construction activity inside or outside the premises. The testing should include all sensing devices, keypads, consoles, alarm indicating devices and any other operational devices that are part of the system.

- **Security and Insurance**

Regardless of its capabilities, an alarm system is not a substitute for property or life insurance. An alarm system also is not a substitute for property owners, renters, or other occupants to act prudently to prevent or minimize the harmful effects of an emergency situation.marché en cours du produit de remplacement sera facturé pour chaque unité de remplacement.

Table of Contents

This manual shall be used in conjunction with the Installation Manual of the alarm control panel.

Section 1: Introduction

This manual describes how to install, program and maintain the RF5132-433.

Before you install the RF5132-433 module, you should complete the following steps in your system installation:

1. Plan the installation and wiring of the security system (see your system *Installation Manual*).
2. Install the control panel, and install and enroll at least one keypad to use for programming.
3. Install and enroll any hardwired zone expander modules (PC5108) you plan to use.

Program the RF5132-433 from a system keypad or using downloading software on a remote computer. Read your system *Installation Manual* for more information.

1.1 What's New to Version 5.X

1. Section 2.3 Connect the RF5132-433 Receiver - a fifth terminal was added to the RF5132-433 which should remain unused.
2. Section 2.4 Tamper - programmable wall and case tamper for RF5132-433.
3. Section 3.5 LED - addition of LEDs to assist in installation.
4. Section 6.1 Trouble Conditions - addition of RF delinquency (EU only).
5. Programming Sections [61] - [69] - 8 partition support for wireless devices.
6. RF5132-433 v5.0 DLS Driver Pack is required for this product.

1.2 How to Use this Manual

Read this manual before you begin installing the RF5132-433. To install and set up the RF5132-433 and wireless devices, follow these steps. Refer to the sections listed below.

1. Temporarily mount and wire the RF5132-433 module (see Section 2).
2. Enroll and program wireless devices (see Section 3).
3. Complete zone and other programming on the system (see Section 4).
4. Test the placement of all the wireless devices (see Section 5).
5. Permanently mount the RF5132-433 receiver and wireless devices (see Section 5).

For additional information on trouble conditions, RF jamming signal detection and battery replacement, see Section 6. For help with troubleshooting, see Section 7.

1.3 Specifications and Features

• Current Draw: 50 mA
• Frequency: 433 MHz
• Zones - receiver can receive signals from up to 32 wireless zones and 16 wireless keys
• Supervisory - programmable supervisory window
• Location
  - can be wired up to 750 ft. / 230 m from the main panel with 22 gauge wire
  - connects to Keybus
  - for longer wire runs, thicker gauge wire must be used.
• Compatibility: The RF5132-433 v5.X can be connected to the following panels: PC501X, PC5020, PC1555, PC580, PC1616, PC1832, PC1864.
• Operating temperature: 0-50°C / 32-122°F
• Separate built-in wall and case tamper

1.4 Compatible Wireless Devices
Please refer to the Instruction sheets of the following devices for more information.
The RF5132-433 v5.X can receive signals from the following devices:

- WLS904L-433 Motion Detector
- WLS904PL-433 Pet Immune PIR
- WLS906-433 Smoke Detector
- WLS912L-433 Glass Break Detector
- WLS914-433 Pet Immune PIR
- WLS919-433 Wireless Key
- WLS925L-433 Mini Door/Window Contact
- WS4916 Smoke Detector
- WS4938 Panic Button
- WS4939 Wireless Key
- WS4949 2-Button Wireless Key
- WS4959 5-Button Wireless Key
- WS4969 Wireless Key with LED

1.5 Safety Instructions
- This equipment shall be installed by Service Persons only (service person is defined as a person having the appropriate technical training and experience necessary to be aware of hazards to which that person may be exposed in performing a task and of measures to minimize the risks to that person or other persons). It shall be installed and used within an environment that provides the pollution degree max 2, over voltages category II, in non-hazardous, indoor locations only.
- Secure the receiver to the building structure before applying power to the alarm controller.
- Use at least two screws and/or adequate mounting means to secure the receiver to the building structure (e.g. Screws # $6 \times 3/4$" flat Philips).

Section 2: RF5132-433 Set Up & Wiring

This section describes how to set up and wire the RF5132-433 module.

2.1 Unpack the RF5132-433
Check that the following parts are in your RF5132-433 package:
- RF5132-433 PCB
- Hardware for mounting the cabinet
- RF5132-433 plastic cabinet

2.2 Choose a Mounting Location for the RF5132-433
NOTE: Mount the RF5132-433 receiver and wireless devices after you have done placement tests with the wireless devices (see sections 5.1 and 5.2).

Find a place that is:
- Dry
- Within operating temperature range
- Central to the proposed placement of all wireless devices
- As high as possible
- Far from sources of interference, including: electrical noise (computers, televisions and electric motors in appliances and heating and air conditioning units); large metal objects like heating ducts and plumbing which may shield the electro-magnetic waves.

For proper unit tamper operation, the surface that the RF5132-433 is installed onto should be smooth and free of obstructions that allows access to the rear of the unit.

Make sure that electrical wires will not run over and under the module when it is mounted.

When mounting the RF5132-433 in a basement, place the module as high and as close to the underside of the first floor as possible. The range of the module will be reduced if the unit is mounted below ground level.

2.3 Connect the RF5132-433 Receiver
CAUTION: Remove all power from the system while connecting modules to the Keybus.

Connect the RF5132-433 to the four-wire Keybus of the control panel according to the following diagram.

After you have completed the wiring, reconnect the power to the security system.

The RF5132-433 has a fifth terminal labeled 'GND', which should remain unused.

Now that you have wired the RF5132-433, you should enroll and program the wireless devices. See section 3 for instructions.
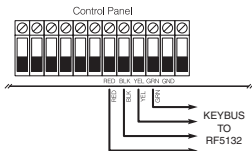
2.4 Tamper
The unit incorporates separate built-in wall and case tampers. The tampers are disabled by default on the NA version (Default on EU version: Active). Section [90] option 3 and 4 can enable or disable the tampers.

When properly installed the wall tamper will be depressed by the wall where the RF5132-433 is installed on. The wall tamper activates when the unit is removed from the wall. The case tamper activates when the case is opened and restores when the case is closed.

Section 3: Receiver Programming

Enroll & Program Devices

This section describes how to enroll and program:

- wireless devices using zones (WLS904PL-433, WLS906-433, WS4916, WLS912L-433, WLS914-433, WS4938, WLS925L-433)
- wireless keys (WLS919-433, WS49X9)

For more information on these devices, read the instruction sheet included with each device.

3.1 Identified Wireless Keys

Reporting by the system of openings/closings by individual wireless keys and command output [*][7] activation by wireless key buttons may be supported on certain control panels. To do this, the system will reserve access codes 17 – 32 for wireless keys 01-16 respectively. You must program one access code for each wireless key (using [*][5] access code programming) for this feature to work correctly.

NOTE: Program these access codes on the system after you have connected the RF5132-433 to the Keybus (see section 2.4).

Refer to your system Installation Manual for information on access code programming.

Opening/Closing By Wireless Key Reporting

NOTE: The Identified Wireless Key Closing option is only available with the PC5020, PC1616, PC1864, PC501X v2.0 and higher, PC1555(MX), PC580/585 v2.0 and higher.

To enable the reporting of openings and closings by identified wireless keys:

- Make sure the control panel is v2.0 or higher
- Program a valid access code for each key
- Program a closing and opening reporting code for each key's access code
- Turn off the Quick Arm option in section [015] option [4] of the control panel programming

To ensure that an unidentified wireless key cannot disarm the system, turn off section [017], option [1] (in the control panel programming). This option is available in control panels with software *version 2.1 or higher*.

3.2 A Note about Electronic Serial Numbers (ESN)

An electronic serial number (ESN) is printed on each wireless device. ESNs are used to enroll the wireless devices with the RF5132-433 receiver.

In order to reduce the occurrence of wireless devices with the same serial number, 6-digit serial numbers are printed on the back of each wireless device. The 6-digit serial numbers include hexadecimal digits. For instructions on programming hexadecimal numbers, see your system Installation Manual, Section 4: How to Program.

NOTE: 6-digit serial numbers are only supported on the following control panels: PC5020, PC1616, PC1832, PC1864, PC501X v2.0 & higher, PC1555(MX), PC580/585.

3.3 Enroll Wireless Devices Using Zones

Enroll wireless devices which use zones (universal transmitters, motion detectors, smoke detectors, and panic pendants):

1. At a system keypad, enter [*][8][Installer's code] to go into the installer's programming section.
2. Enter programming section [804].

3. Enter the 2-digit number corresponding to the zone the device is to occupy ([01] to [32]).
   NOTE: *Hardwired and wireless devices cannot be assigned to the same zone. PC5108 zone expander modules occupy zones in 2 groups of 4 (e.g. zones 9-12 and zones 13-16). None of the zones assigned to a PC5108 module may be used for wireless devices. For more information on zone assignment, consult your system Installation Manual.*
4. Enter the device ESN. The entry must be 6 digits.
5. The device is now enrolled on the system. Record the serial number and the assigned zone number in the programming worksheets in the back of this manual.
6. Continue with steps 3 - 5 until you have enrolled all wireless devices.
7. To exit press [#].
NOTE: The devices will not work properly until you complete zone and partition programming (see section 4).

3.4 Enroll & Program Wireless Keys
For wireless keys to work on the system, you need to enroll them and then program the function buttons, if the default values are not the functions desired. Wireless keys are not assigned to zones and require no zone programming. You can enroll up to 16 wireless keys on the system.

Enroll Wireless Keys
1. Enter [*][8][Installer's Code] to go to the installer's programming section.
2. Enter programming section [804].
3. Enter a 2-digit number [41]-[56] to program the wireless key serial number. These numbers correspond to wireless key numbers 01- 16.
4. Enter the device ESN. The entry must be six digits.
5. The key is now enrolled on the system. Record the serial number and the assigned slot number in the programming worksheets in the back of this manual.
6. Repeat steps 3 - 5 until all wireless keys have been enrolled.
7. **(PC5020/PC1616/PC1832/PC1864/PC501X only)** By default, all wireless keys are assigned to Partition 1. To assign keys to different partition, see programming section [69].
   NOTE: *A wireless key can only be assigned to one partition.*
8. To exit press [#].

Programming the Wireless Keys Function Buttons
Wireless keys have four programmable function buttons. Default functions have been assigned, but you may program other functions if desired. After the functions are programmed, when you press and hold one of the four buttons for one second, the system will execute the programmed function.
For systems using partitions (PC5020/PC1616/PC1832/PC1864/PC501X only): All wireless keys assigned to Partition 1 will have the four functions programmed in section [61]. All wireless keys assigned to Partition 2-8 will have the four functions programmed in section [62-68]. For example, if function button 1 in Section [61] is programmed for Stay arming, then pressing the first button on any wireless key assigned to Partition 1 will Stay arm Partition 1.
NOTE: Wireless keys will not work when the partition they are assigned to is being accessed for zone bypassing or programming.
1. At a system keypad, enter [*][8][Installer's Code].
2. Enter programming section [804].

3. Enter programming section [61] to [68] for partitions 1 to 8.
4. For each of the 4 function buttons, enter the 2-digit number of the function you want to select. See the programming worksheets in the back of this manual for a list of function key options.
5. Record your programming choices in the worksheets in the back of the manual.
6. To exit press [#].

3.5 RF5132-433 LEDs

The RF5132-433 v5.0 features two LEDs to help with the installation of devices and troubleshoot the operation of the unit. In normal operation the LEDs will indicate if the signal received is from an enrolled device or not.

• The green LED will flash when receiving a signal from an enrolled device.

• The red LED will flash when receiving a signal from a non-enrolled device.

Alternatively, when the panel is in placement test mode, the green LED will only flash for the specific serial number entered. All other signals (including signals from valid enrolled devices) will flash red.

3.6 Deleting Wireless Devices

To remove a wireless device from the system, follow the guideline for adding a wireless device. Program the ESN as [000000]. The wireless device for the zone will be removed.

Now that you have enrolled all the wireless devices, you will need to program the system to work properly with the devices. See section 4 for more information.

Section 4: Other Programming

4.1 Program Zones and Partitions

Now that you have enrolled the wireless devices, you should complete all zone programming on the system. Although the exact programming required varies depending on which control panel the RF5132-433 is connected to, you should check that the following programming areas are completed correctly for each wireless zone:

• Enable zones and/or assign zones to one or more partitions (programming sections [202]-[205] or [202] to [265] for the PC5020/PC1616/PC1864).
• Program the definition for each zone (programming sections [001]-[004]).
• Enable the wireless zone attribute for each wireless zone (PC580, PC1555, PC1616, PC1832, PC1864, PC501X v2.0, PC5020 v3.0 and higher only) (sections [101]-[132]).

See your system Installation Manual, for more information on each of the above programming sections.

4.2 Enable RF5132-433 Supervision

The control panel will supervise the RF5132-433 receiver via the Keybus after at least one device has been enrolled on the module (see section 3.2 "Enrolling Wireless Devices").

To activate module supervision, after you enroll the first device(s):
1. Exit and then re-enter installer's programming
2. Enter programming section [902]. Wait approximately 1 minute.
3. To exit press [#].

The system will generate a General System Supervisory trouble if the module is removed from the Keybus. If you need to remove the RF5132-433 module from an existing system, you will have to disable supervision of the RF5132-433.

NOTE: Deleting all devices from the RF5132-433 or defaulting the RF5132-433 will cause a supervisory fault

To disable RF5132-433 supervision:
1. Disconnect the RF5132-433 from the Keybus
2. Enter [*][8][Installer Code]
3. Enter [902]. The control panel will clear all supervision and re-scan the system for connected modules. The scan will take approximately one minute.
4. To exit press [#].

To review which modules the control panel is currently supervising:
1. Enter [*][8][Installer's Code]
2. Enter [903] to display all modules. On a LED 32 zone keypad, light [17] will indicate that the RF5132-433 is present on the system. On LCD keypads, scroll until the module name appears on the display.
3. To exit press [#].

If the RF5132-433 module does not show on the keypad, one of the following conditions may be present:
• the module is not connected properly to the Keybus
• there is a problem with the Keybus wiring run
• the module does not have enough power
• no devices have been enrolled on the RF5132-433

4.3 Enable Supervision of Wireless Zones

NOTE: (for PC5010 v1.x control panels only) In order for wireless zones to be supervised, you must enable Double End of Line (DEOL) supervision in the PC5010 control panel. For more information, refer to your Installation Manual.

NOTE: (PC5020, PC1616, PC1832, PC1864, PC501X, PC1555, PC580 v2.0 and higher only) For wireless supervision to work, you must enable the wireless zone attribute on all wireless zones (sections [101] to [132], option [8] ON).

Wireless Supervisory Window

Each wireless device (excluding wireless keys) will send a supervisory signal periodically. If the receiver does not receive a signal within the time programmed for the Wireless Supervisory Window, it will generate a supervisory fault.

To program the wireless supervisory window:
1. Enter [*][8][Installer Code] to enter Installer Programming.
2. Enter [804] to enter the RF5132-433 Module Programming.
3. Enter section [81].
4. Enter the time period for the supervisory window. The window is programmed in 15 minute increments. The default programming is:
    • 96 (x15minutes), which is equal to 24 hours for NA version, or
    • 10 (x15minutes), which is equal to 2.5 hours for EU version.
    Valid entries are (10) to (96), equal to 2.5 to 24 hours.
5. To exit press [#].

NOTE: Supervision must be enabled for RF Delinquency.

Disable/Enable Zone Supervision

All wireless zones have supervision enabled by default. To disable supervision for any zone, enter the following at any system keypad:
1. Enter [*][8][Installer Code] to enter Installer Programming.
2. Enter [804] to enter the RF5132-433 Module Programming.
3. Enter sections [82], [83], [84] and [85]. Enable or disable supervision for each wireless zone by turning each relevant option on or off.
4. To exit press [#].

4.4 RF Jam Detect Zone

For RF jamming detection to work, you must select an unused zone to be used as the RF Jam Detect zone. When the receiver detects an attempt to jam the RF signal, the RF Jam Detect zone will be violated and the system will generate a tamper signal. When the jamming signal is gone, the RF Jam Detect zone closes and the system sends a tamper restore signal.

To enable RF jamming detection by zone:
1. Enter [*][8] [Installer's Code].
2. Enter programming section [804].
3. Select an unused zone to be the RF Jam Detect zone. Enter the 2-digit number ([01] to [32]) of the RF Jam Detect zone on the keypad, then program the serial number as [200000].
4. Enter section [93]. Enter the 2-digit number of the RF Jam Detect zone ([01] to [32]) in the programming section.

5. Disable supervision for the RF Jam detect zone by turning the relevant option off in section [82], [83], [84] or [85]. (See section 4.3 for more information.)
6. RF jamming detection is now enabled. To exit Installer programming, press [#].

NOTE: For UL Listed installations, the RF Jam feature must be enabled - Section [804], subsection [90], Option [7] OFF. Ensure the wireless bit is enabled and jam bit in section [90] is disabled.

4.5 RF5132-433 Software Default

Returning the RF5132-433 programming to factory default settings is a quick way to remove all the enrolled devices from the system and reset all the programming in section [804].

NOTE: Performing this procedure will not change any programming sections except [804]. Resetting the control panel to factory default settings will not return the RF5132-433 module to factory default settings.

To restore the RF5132-433 programming to the factory default settings:

1. Enter [*][8] [Installer's Code].
2. Enter programming section [996].
3. Enter the Installer's Code, followed by [996] again. The software for the RF5132-433 will be restored to its factory default settings.
4. To continue programming the unit, exit installer's programming by pressing [#] and then re-enter installer's programming by entering [*][8] [Installer's Code].

For instructions on restoring the default programming of the control panel or any other connected module, see your system Installation Manual.

4.6 Deleting Wireless Devices

To remove a wireless device from the system, follow the guideline for enrolling a wireless device (see section 3.2). Program the ESN as [000000]. The wireless device for the zone will be removed.

NOTE: You may need to remove power from the panel in order to clear troubles caused by deleted zones.

Now that you have completed all RF5132-433 related programming, you can test and mount the receiver and devices. See section 5 for more information.

5.1 Test the Reception of Wireless Devices

It is very important to test the proposed placement of each wireless device before it is mounted. Following these steps will test the signal strength between the RF5132-433 and the wireless devices.

You can test all of the devices together (global placement testing) or test each device individually. To test all the devices together, see 'Testing All Wireless Devices Together' below. To test wireless devices individually, see 'Testing Individual Devices'.

NOTE: After you have enrolled the wireless devices, you must exit and then re-enter Installer's Programming at least once before you can perform a placement test.

Testing All Wireless Devices Together:

1. Temporarily put the wireless devices in the places you want to mount them.
2. At a system keypad, enter [*][8][Installer Code].
3. Enable the Global Module Placement test by entering section [804]. Then enter sub-section [90] and turn on option [8].
4. Press [#] twice.
5. Enter programming section [904], then enter [01].
6. Activate one of the devices being tested until a result is displayed on the keypad or sounded by the keypad or bell:

   Motion Detectors: To perform a Placement Test on the WLS904P-433, remove the detector from the back plate and then replace it. Once the detector is replaced on the back plate the LED on the detector will flash rapidly 5 times (4 times for the WLS914-433) to indicate that it has sent a transmission. The panel will show and/or sound the result of the placement test on the keypad. To perform a 2nd and 3rd test, repeat this procedure. ***Carefully replace the backplate onto the detector, ensuring that "TOP" is facing upward, or you may damage the tamper switch.***

   NOTE: *When you remove the detector from the backplate (tamper the unit), the detector will also be put into "Detector Walk Test" mode. While in Walk Test mode the detector will activate the LED when motion is detected. The detector will also send a signal to the receiver 5 seconds after motion is detected, indicated by 5 rapid flashes of the LED. The LED will only work in this fashion for 10 motion detections after a tamper/restore. Note that the panel will ignore these transmission signals with respect to a placement test. The only way in which the panel will acknowledge a placement test is if the backplate has, each time, been removed and restored.*

   Smoke Detector: Remove the detector from its backplate, wait 5 seconds and re-attach it, or hold a magnet near the raised line on the outer rim, then remove it.

   Door/Window Transmitter: Open the contact by moving the magnet away from the unit. The keypad will show/sound the test result. After the first test result has been generated (about 10 seconds) close the contact to generate another test result. If the unit is attached to a door or a window, open and close the door or window to activate the device.

   Glassbreak Detector: Press and hold the test mode tab for 5 seconds. Release the test mode tab. The keypad will display the test result.

Read the test results at the keypad::

Result	LED Keypad	LCD Keypad	Buzzer/Bell
Good	Light 1 On Steady	"Good"	1 Beep/Squawk
Bad	Light 3 On Steady	"Bad"	3 Beeps/Squawks

Activate the device until you get 3 'good' results in a row.
You may mount the WLS devices where results were good.
Devices indicating a bad result must be moved to another location. You may only have to move the device a few inches to correct a bad result.
Do not mount any device where a "bad" test result was indicated.

7. *Go to the next device to be tested and activate it until the test result is displayed/sounded.*
   NOTE: *Wait until the placement test of one device is shown/sounded before beginning to test the next device.*
   Continue to test the devices until both the RF5132-433 and the devices are in good locations. If several wireless devices produce 'bad' test results, you may need to move the RF5132-433 to a better location. (See section 2.2 for tips on finding a location for the RF5132-433.)

8. *To exit the placement test and return to installer programming, press [#] twice.*

Testing Individual Devices:
1. Temporarily place the device where you want to mount it.
2. At a system keypad, enter [*][8][Installer Code].
3. Enter programming section [904].
4. Ensure option 8 in section [90] is disabled.
5. Enter the 2-digit zone number for the device to be tested.
6. Activate the device being tested until a result is displayed on the keypad or sounded by the keypad or bell. (Same as step 5 in the Global Placement Test section, previous page.)
7. To test another device, press [#] once, then repeat steps 4 - 5. Continue to test the devices until both the RF5132-433 and the devices are in good locations.
   If several wireless devices produce 'bad' test results, you may need to move the RF5132-433 to a better location. (See section 2.2 for tips on finding a location for the RF5132-433.)
8. To exit the placement test and installer programming, press [#] twice.

Testing Individual Wireless Keys:
Do not use the individual device test described above to test the wireless keys. To ensure that the RF5132-433 receiver is receiving transmissions from these devices, use the function keys on these devices at several different points in the installation.

5.2 Mount the RF5132-433 and Wireless Devices
When you have tested reception of the RF5132-433 with all the wireless devices (see section 5.1) and you have a good mounting location, mount the RF5132-433:
1. Pull the Keybus wires through the hole at the bottom of the cabinet.
2. Mount the cabinet securely to the wall.

Mount the Devices

If you have conducted the placement test described in section 5.1 and got 3 'good' results in a row for each device, you can mount the wireless devices. See the Installation Sheet for each device for mounting instructions.

Now that your RF5132-433 and wireless devices are mounted and working properly, read section 6 for information on potential wireless trouble conditions, RF jamming signals, and battery replacement.

Section 6: Additional Notes

6.1 Trouble Conditions

The control panel always watches for possible trouble conditions. If a trouble condition occurs, the keypad "Trouble" light will turn on and the keypad will beep. Press [*][2] to display the trouble conditions.

The following trouble conditions apply to the RF5132-433 and/or any enrolled devices.

- **General System Tamper** (on Power panels v.2.01 and below) - This trouble is generated when the RF5132-433 detects an RF Jamming condition.
- **General System Supervisory** - This trouble will be generated if the panel loses communication with any module connected to the Keybus. The event buffer will log a detailed description of the event.
- **Device Low Battery** - This trouble is generated when a wireless device exhibits a low battery condition. Press [7] one, two, or three times to view which devices are experiencing battery failure. An LED keypad will indicate battery failure using zone lights 1 to 8.
- **Zone Tamper** - This trouble is generated when an enrolled wireless device is removed from its mounting location.
- **Zone Fault** - Each wireless device will send a supervisory signal every 64 minutes (15 minutes for EU). If the receiver does not receive a signal within the time programmed for the Wireless Supervisory Window, it will generate a zone fault.
- **RF Delinquency (EU only)** - Each wireless zone will send a supervisory signal every 15 minutes. If the receiver does not receive a signal within 15 minutes, it will generate a RF Delinquency Trouble for that zone. This condition exists only on PC1614/PC1832/PC1864 panels v4.1.

6.2 Jamming Signal Detection

The RF5132-433 receiver detects jamming signals that can prevent the receiver from properly receiving transmissions from enrolled devices. See section 4.4 "RF Jam Detect Zone" for information on jamming signal detection programming.

NOTE: For UL Listed installations, the RF Jam feature must be enabled - Section [804], subsection [90], Option [7] OFF.

6.3 Wireless Zone Low Battery Transmission

Within any transmission, the device will indicate the status of the battery. If a battery is low, the system will indicate a Device Low Battery trouble.

The system will delay reporting the event to the central station for the number of days programmed for Zone Low **Battery Transmission Delay** in section [370] of the panel. This will prevent unnecessary reporting of the event if the user has been instructed on how to replace batteries.

Replacing Batteries in Wireless Devices

1. Refer to the battery installation instructions on the installation sheet of each device. Be sure to note the proper orientation of the batteries as you install them.
2. When the fresh batteries are in place and the device tamper is restored, the device sends a battery trouble restoral signal to the RF5132-433. The battery trouble is now clear and the device should function normally.

NOTE: When batteries in one device need to be replaced, the batteries in all devices may need to be replaced at the same time.

Section 7: Troubleshooting

The RF5132-433 v5.0 features two LEDs to help and with the installation of devices troubleshoot the operation of the unit. In normal operation the LEDs will indicate if the signal received is from an enrolled device or not.
- The green LED will flash when receiving a signal from an enrolled device.
- The red LED will flash when receiving a signal from a non-enrolled device.

Alternatively, when the panel is in placement test mode, the green LED will only flash for the specific serial number entered. All other signals (including signals from valid enrolled devices) will flash red.

1. When I enter the 2-digit zone number for adding a wireless device, the keypad gives me a long beep.

ESNs can be entered only when a RF5132-433 wireless receiver is connected to the Keybus. See section 2 for instructions on setting up and wiring the RF5132-433 module.

2. I have entered the ESN for the device but when I violate the device, the zone does not show open on the keypad.

Check the following:
- Ensure the ESN has been entered correctly
- Ensure that the zone is enabled for the partition (if partition programming is used).
- Ensure that the wireless zone is not assigned to a zone used by PC5108 modules, an on-board zone, or a keypad zone.
- Ensure that the zone is programmed for something other than "Null Operation", and that the wireless zone attribute is turned on.

3. When I try a module placement test I get no result or 'bad' results.

Check the following (see sections 5.1 and 5.2 for more information on testing devices):
- Verify that you are testing the correct zone.
- Verify that the correct ESN was entered when the device was enrolled.
- Verify that the device is in range of the RF5132-433. Try testing the device in the same room as the receiver.
- Confirm that the RF5132-433 is properly connected to the Keybus (see section 2 for RF5132-433 set up and wiring instructions).
- Check that you are testing the zone correctly (see sections 5.1 and 5.2 for testing instructions).
- Check that the batteries are working and installed correctly.
- Look for large metal objects that may be preventing the signal from reaching the RF5132-433.

The device must be located where consistent 'good' results are obtained. If several devices show 'bad' results, move the receiver. See section 2.2 for tips on choosing a mounting location for the RF5132-433.

4. The LED on the motion detector does not turn on when I walk in front of the unit.

The LED is for walk test purposes only. See your Wireless PIR Instruction Sheet for walk test instructions.

Section 8: Programming Worksheets

[804] RF5132-433 Wireless Expansion Programming
• 6-digit entry is required. See Section 3.2 "A note on Electronic Serial Numbers" for details on programming 6-digit serial numbers.

Zone Serial Numbers
Default = 000000

[01]	Zone 1	⌞_⌞_⌞_⌞_⌞_⌞	[17]	Zone 17	⌞_⌞_⌞_⌞_⌞_⌞
[02]	Zone 2	⌞_⌞_⌞_⌞_⌞_⌞	[18]	Zone 18	⌞_⌞_⌞_⌞_⌞_⌞
[03]	Zone 3	⌞_⌞_⌞_⌞_⌞_⌞	[19]	Zone 19	⌞_⌞_⌞_⌞_⌞_⌞
[04]	Zone 4	⌞_⌞_⌞_⌞_⌞_⌞	[20]	Zone 20	⌞_⌞_⌞_⌞_⌞_⌞
[05]	Zone 5	⌞_⌞_⌞_⌞_⌞_⌞	[21]	Zone 21	⌞_⌞_⌞_⌞_⌞_⌞
[06]	Zone 6	⌞_⌞_⌞_⌞_⌞_⌞	[22]	Zone 22	⌞_⌞_⌞_⌞_⌞_⌞
[07]	Zone 7	⌞_⌞_⌞_⌞_⌞_⌞	[23]	Zone 23	⌞_⌞_⌞_⌞_⌞_⌞
[08]	Zone 8	⌞_⌞_⌞_⌞_⌞_⌞	[24]	Zone 24	⌞_⌞_⌞_⌞_⌞_⌞
[09]	Zone 9	⌞_⌞_⌞_⌞_⌞_⌞	[25]	Zone 25	⌞_⌞_⌞_⌞_⌞_⌞
[10]	Zone 10	⌞_⌞_⌞_⌞_⌞_⌞	[26]	Zone 26	⌞_⌞_⌞_⌞_⌞_⌞
[11]	Zone 11	⌞_⌞_⌞_⌞_⌞_⌞	[27]	Zone 27	⌞_⌞_⌞_⌞_⌞_⌞
[12]	Zone 12	⌞_⌞_⌞_⌞_⌞_⌞	[28]	Zone 28	⌞_⌞_⌞_⌞_⌞_⌞
[13]	Zone 13	⌞_⌞_⌞_⌞_⌞_⌞	[29]	Zone 29	⌞_⌞_⌞_⌞_⌞_⌞
[14]	Zone 14	⌞_⌞_⌞_⌞_⌞_⌞	[30]	Zone 31	⌞_⌞_⌞_⌞_⌞_⌞
[15]	Zone 15	⌞_⌞_⌞_⌞_⌞_⌞	[31]	Zone 31	⌞_⌞_⌞_⌞_⌞_⌞
[16]	Zone 16	⌞_⌞_⌞_⌞_⌞_⌞	[32]	Zone 32	⌞_⌞_⌞_⌞_⌞_⌞

Wireless Key Serial Numbers
Default = 000000

[41]	Key 01	⌞_⌞_⌞_⌞_⌞_⌞	[49]	Key 09	⌞_⌞_⌞_⌞_⌞_⌞
[42]	Key 02	⌞_⌞_⌞_⌞_⌞_⌞	[50]	Key 10	⌞_⌞_⌞_⌞_⌞_⌞
[43]	Key 03	⌞_⌞_⌞_⌞_⌞_⌞	[51]	Key 11	⌞_⌞_⌞_⌞_⌞_⌞
[44]	Key 04	⌞_⌞_⌞_⌞_⌞_⌞	[52]	Key 12	⌞_⌞_⌞_⌞_⌞_⌞
[45]	Key 05	⌞_⌞_⌞_⌞_⌞_⌞	[53]	Key 13	⌞_⌞_⌞_⌞_⌞_⌞
[46]	Key 06	⌞_⌞_⌞_⌞_⌞_⌞	[54]	Key 14	⌞_⌞_⌞_⌞_⌞_⌞
[47]	Key 07	⌞_⌞_⌞_⌞_⌞_⌞	[55]	Key 15	⌞_⌞_⌞_⌞_⌞_⌞
[48]	Key 08	⌞_⌞_⌞_⌞_⌞_⌞	[56]	Key 16	⌞_⌞_⌞_⌞_⌞_⌞

Wireless Key Function Key Options

Entry	Key Description	Entry	Key Description
00	Null Key	16	[*][0] Quick Exit
01-02	For Future Use	17	[*][1] Reactivate Stay/Away
03	Stay Arm	18	For Future Use
04	Away Arm	19	[*][7][3] Command Output #3
05	[*][9] No-Entry Arm	20	For Future Use
06	Chime ON/OFF	21	[*][7][4] Command Output #4
07	[*][6][---][4] System Test	22-26	For Future Use
08-12	For Future Use	27	Disarm (OFF)
13	[*][7][1] Command Output #1	28	For Future Use
14	For Future Use	29	Auxiliary Alarm
15	For Future Use	30	Panic Alarm

Wireless Key Options

Partition 1 Wireless Key Options

[61] Function Key 1	Default: 03	I___I___I	Function Key 3	Default: 27	I___I___I
Function Key 2	Default: 04	I___I___I	Function Key 4	Default: 30	I___I___I

Partition 2 Wireless Key Options

[62] Function Key 1	Default: 03	I___I___I	Function Key 3	Default: 27	I___I___I
Function Key 2	Default: 04	I___I___I	Function Key 4	Default: 30	I___I___I

Partition 3 Wireless Key Options

[63] Function Key 1	Default: 03	I___I___I	Function Key 3	Default: 27	I___I___I
Function Key 2	Default: 04	I___I___I	Function Key 4	Default: 30	I___I___I

Partition 4 Wireless Key Options

[64] Function Key 1	Default: 03	I___I___I	Function Key 3	Default: 27	I___I___I
Function Key 2	Default: 04	I___I___I	Function Key 4	Default: 30	I___I___I

Partition 5 Wireless Key Options

[65] Function Key 1	Default: 03	I___I___I	Function Key 3	Default: 27	I___I___I
Function Key 2	Default: 04	I___I___I	Function Key 4	Default: 30	I___I___I

Partition 6 Wireless Key Options

[66] Function Key 1	Default: 03	I___I___I	Function Key 3	Default: 27	I___I___I
Function Key 2	Default: 04	I___I___I	Function Key 4	Default: 30	I___I___I

Partition 7 Wireless Key Options

[67] Function Key 1 Default: 03 |___|___| Function Key 3 Default: 27 |___|___|

Function Key 2 Default: 04 |___|___| Function Key 4 Default: 30 |___|___|

Partition 8 Wireless Key Options

[68] Function Key 1 Default: 03 |___|___| Function Key 3 Default: 27 |___|___|

Function Key 2 Default: 04 |___|___| Function Key 4 Default: 30 |___|___|

[69] Wireless Keys (1-16) Partition Assignments (Default = 01)

Wireless Key 01	|__|__|	Wireless Key 09	|__|__|
Wireless Key 02	|__|__|	Wireless Key 10	|__|__|
Wireless Key 03	|__|__|	Wireless Key 11	|__|__|
Wireless Key 04	|__|__|	Wireless Key12	|__|__|
Wireless Key 05	|__|__|	Wireless Key13	|__|__|
Wireless Key 06	|__|__|	Wireless Key14	|__|__|
Wireless Key 07	|__|__|	Wireless Key 15	|__|__|
Wireless Key 08	|__|__|	Wireless Key 16	|__|__|

Supervision

[81] Wireless Supervisory Window (Default = 96)

|___|___| The window is programmed in 15 minute increments.

The default programming is:

- 96 (x15minutes), which is equal to 24 hours for NA version, or
- 10 (x15minutes), which is equal to 2.5 hours for EU version.

Valid entries are (10) to (96), equal to 2.5 to 24 hours.

[82] Zone Device Supervision Options (1-8)

Default = ON		Option ON	Option OFF
|___|	Option 1	Zone 01 Supervision Enabled	Disabled
|___|	Option 2	Zone 02 Supervision Enabled	Disabled
|___|	Option 3	Zone 03 Supervision Enabled	Disabled
|___|	Option 4	Zone 04 Supervision Enabled	Disabled
|___|	Option 5	Zone 05 Supervision Enabled	Disabled
|___|	Option 6	Zone 06 Supervision Enabled	Disabled
|___|	Option 7	Zone 07 Supervision Enabled	Disabled
|___|	Option 8	Zone 08 Supervision Enabled	Disabled

[83] Zone Device Supervision Options (9-16)

Default = ON		Option ON	Option OFF
I____I	Option 1	Zone 09 Supervision Enabled	Disabled
I____I	Option 2	Zone 10 Supervision Enabled	Disabled
I____I	Option 3	Zone 11 Supervision Enabled	Disabled
I____I	Option 4	Zone 12 Supervision Enabled	Disabled
I____I	Option 5	Zone 13 Supervision Enabled	Disabled
I____I	Option 6	Zone 14 Supervision Enabled	Disabled
I____I	Option 7	Zone 15 Supervision Enabled	Disabled
I____I	Option 8	Zone 16 Supervision Enabled	Disabled

[84] Zone Device Supervision Options (17-24)

Default = ON		Option ON	Option OFF
I____I	Option 1	Zone 17 Supervision Enabled	Disabled
I____I	Option 2	Zone 18 Supervision Enabled	Disabled
I____I	Option 3	Zone 19 Supervision Enabled	Disabled
I____I	Option 4	Zone 20Supervision Enabled	Disabled
I____I	Option 5	Zone 21 Supervision Enabled	Disabled
I____I	Option 6	Zone 22 Supervision Enabled	Disabled
I____I	Option 7	Zone 23 Supervision Enabled	Disabled
I____I	Option 8	Zone 24 Supervision Enabled	Disabled

[85] Zone Device Supervision Options (25-32)

Default = ON		Option ON	Option OFF
I____I	Option 1	Zone 25Supervision Enabled	Disabled
I____I	Option 2	Zone 26 Supervision Enabled	Disabled
I____I	Option 3	Zone 27 Supervision Enabled	Disabled
I____I	Option 4	Zone 28 Supervision Enabled	Disabled
I____I	Option 5	Zone 29 Supervision Enabled	Disabled
I____I	Option 6	Zone 30 Supervision Enabled	Disabled
I____I	Option 7	Zone 31 Supervision Enabled	Disabled
I____I	Option 8	Zone 32 Supervision Enabled	Disabled

[90] Other Options

Default		Option(s)	Option ON	Option OFF
NA	EU			
Off	Off	1-2	For Future Use	
On	Off	3	Wall Tamper Disabled	Wall Tamper Enabled
On	Off	4	Case Tamper Disabled	Case Tamper Enabled
On	Off	5	RF Delinquency Disabled	RF Delinquency Enabled
Off	Off	6	For Future Use	
On	Off	7	RF Jam Detect Disabled	RF Jam Detect Enabled
Off	Off	8	Global Placement Test	Individual Placement Test

RF Jamming Detection
[93] RF Jam Detect Zone (Default = 00)

|____|____| Select an unused zone that will be violated when a jamming signal is detected

(Valid entries = 01 - 32, 00 = RF Jam detect disabled.)

NOTE: For UL Listed installations, the RF Jam feature must be enabled - Section [804], subsection [90], Option [7] OFF.
NOTE: For DD243 installations, the RF delinquency feature should be enabled - Section [804], subsection [90], Option [5] OFF.