



V1.2



LIB-319

WIRELESS RECEIVER INSTALLATION MANUAL

P ▲ R ▲ D O X[®]
S E C U R I T Y S Y S T E M S

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INTRODUCTION

Paradox is proud to introduce the Liberator wireless system. The Liberator system consists of an RF Receiver that can support up to 12 wireless transmitters (motion detectors and contact switches) and 12 remote controls, in conjunction with any Paradox Series control panel and with most other brands of control panels. Fully supervised, this system will provide the reliability of a traditional hard-wired system with the following advantages:

- Quick & simple installation
- Cost reduction due to ease of installation
- Minimal damage to property due to installation
- Also ideal for temporary installations

The wireless transmitters are battery operated and are programmed to send the following types of status signals to the receiver: zone open, zone restore, low battery, battery restore, tamper open and tamper restore. When a transmitter sends a signal, the receiver processes the signal, displays it on the keypad and toggles the appropriate zone output. If one of the receiver's twelve zone outputs is connected to a control panel input; when the output is toggled, the control panel will generate an alarm. The transmitters are also programmed to periodically send a check-in signal to confirm their presence and functionality. If the receiver does not receive any type of signal during the specified check-in period, it will display a check-in trouble and can optionally toggle a zone output indicating a transmitter problem.

1.1 About Paradox

Paradox Security Systems strives to design and manufacture the best security products money can buy. Our products are of the highest quality standards and most importantly meet the needs and expectations of our customers.

By refusing to settle for the limitations of existing technology, Paradox makes it clear, we are not interested in mirroring the products already on the market. Breaking down barriers to better technology is what innovation is all about.

The guiding principle behind Paradox research and development has always been to create security products that make sense. Whether the situation calls for a full

range of "intelligent" and easy to use control panels, efficient peripheral security devices, or "false alarm free" detectors. We continuously put all our resources into developing products that reflect our twin philosophies of innovation and user-friendliness. Now we invite you to reap the benefits.

1.2 Technical Specifications

- Manchester Decoding
- Diversity Antenna
- Error Detection & Correction
- Frequency: 902MHz-928MHz
- Range (line of sight): 1000m (3280ft.)
- Outputs: 12
- Service Keypad: Yes
- Data Rate: 10KB/s
- Sensitivity: -105dBm
- Current: 70mA
- Dimension (without antenna): 6"H x 6.5"L x 1.1"W
- Operating Temperature: 0°C - 50°C (32°F - 122°F)
- Operating Humidity: 85%
- Zone Output Current: 30mA

1.3 System Features

- Reflow Design
- No Tuned Circuit
- Tamper Switch
- Service Keypad Programming
- 12 zone outputs (Active Low)
- Plug & Play, Force and Switch Zone Assignment Modes
- Low Battery, Check-In and Tamper Supervision
- Trouble Indicator Mode
- Trouble Memory
- Beep on Trouble
- Signal Strength Indicator Mode

Liberator Wireless Motion Detector (LIB-474B):

- Dual Element Sensor
- Auto Pulse Signal Processing (Patented)
- Auto Temperature Compensation
- "No Dead Zone" Standard Lens
- LED Indicators for Detection (red) & Low Battery (yellow)
- Built-in Antenna
- Tamper Switch
- One 9V Alkaline Battery

Liberator Wireless Contact Switch (LIB-400B):

- Dual High Sensitivity Reed Switch
- External Switch Transmission (Normally Closed)
- Low Battery LED Indicator (yellow)
- Built-in Antenna
- Tamper Switch
- Three 1.5V "AAA" Alkaline Batteries

Liberator 4-Button Remote Control (LIB-349):

- Water Resistant
- Range: 30m (100ft.)
- Two 3V Lithium batteries (CR2016)
- Battery Life: Apprx. 1 to 2 years
- Power Transmission: 5mW
- Current Consumption: 18mA (transmission)

INSTALLATION

2.1 Location & Mounting

Mount the "receiver" on a wall, leaving at least 50mm (2") around the panel box to permit adequate ventilation/heat dissipation. Select a site that is not susceptible to drastic changes in temperature and avoid installing the receiving module near or in the path of strong RF fields, such as neon lights or computers. Also avoid installing the receiver on or near metal objects, circuit breaker boxes, air conditioners and heater ducts. As these devices may cause interference, reducing the receiver's sensitivity. We recommend installing the receiver in a centralized location on the main floor, avoid installing the receiver in the basement. When selecting an installation site please take into consideration that the maximum reception distance of the receiver is 1000m/3280ft. in line of sight. To avoid interference, install the transmitters a minimum of 1.5 meters (5 feet) away from the receiver.



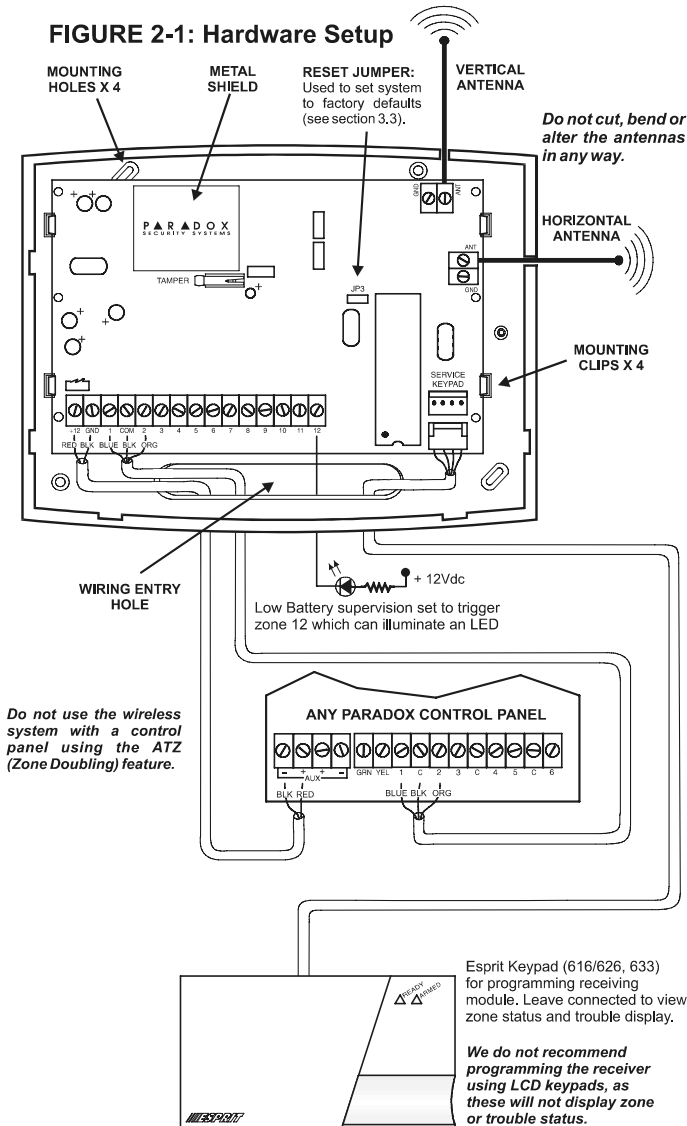
Do not cut, bend or alter the antennas or mount the receiver near or on metal as this may affect the sensitivity of the receiver!

Firmly screw the two antennas into the connectors marked "ANT" on the receiver as shown in figure 2-1. Using a drill or screwdriver, punch out the four mounting holes on the back plastic case. Align the six holes of the printed circuit board with the six pins on the back plastic mounting case and snap into place (see figure 2-1). If placed correctly, the antennas will lean directly over the grooves in the mounting case. After completing wiring as detailed in sections 2.2 to 2.4, run the wires through the entry hole on the back plastic case and screw the back of the plastic case onto the selected installation site. After programming and wiring the receiving module, affix the plastic cover and screw into place.

2.2 Power Connections

The receiver may be powered by the auxiliary terminals (12VDC) of the control panel. Simply connect the "AUX+" terminal of the control panel to the "+12" terminal of the receiver and the "AUX-" of the control panel to the "GND" of the receiver (see figure 2-1). If using an external power source please ensure that the "GND" of the receiver and the power source are connected to the "AUX-" terminal of the control panel.

FIGURE 2-1: Hardware Setup



2.3 Zone Output Wiring

The LIB-319 is **not a stand-alone alarm system**, it must be used in conjunction with another control panel. If you wish to generate an alarm when the output on the receiver is toggled, connect the receiver's zone outputs directly to the control panel inputs and the "COM" terminal of the receiver to the "COM" terminal of the control panel as shown in figure 2-1. Alternatively, the receiver's zone outputs can be connected to another device such as an LED or relay. When a transmitter generates an alarm condition, it will send a signal to the receiver which will toggle the appropriate zone output and if the receiver's zone outputs are connected to the control panel inputs, the control panel will generate an alarm. The receiver may also toggle the receiver's zone output if the transmitter sends a trouble signal (i.e. low battery), which the receiver has been programmed to supervise (see *Supervision Features* in section 6).



EOL resistors are not incorporated into the receiver's zone outputs. If your installation requires the use of EOL resistors, they must be added to the receiver's zone outputs



The Paradox ATZ (Zone Doubling) feature will not function with the wireless system.

2.4 Connecting Keypads

To program the receiver, you must connect a service keypad (616, 626, 633, 636 or 646) to the receiver. The keypad connected to the control panel will not display any trouble conditions nor can it be used to program the receiver. The control panel keypad will only display zone status if the receiver's zone output has been wired to a control panel's input as described in section 2.3. Using a keypad with a serial connector, connect the keypad to the serial terminal on the receiver labeled "service keypad" (see figure 2-1). The receiver's keypad will allow you to view the receiver's trouble status (see *Trouble Display Mode* in section 6.5) and zone status.



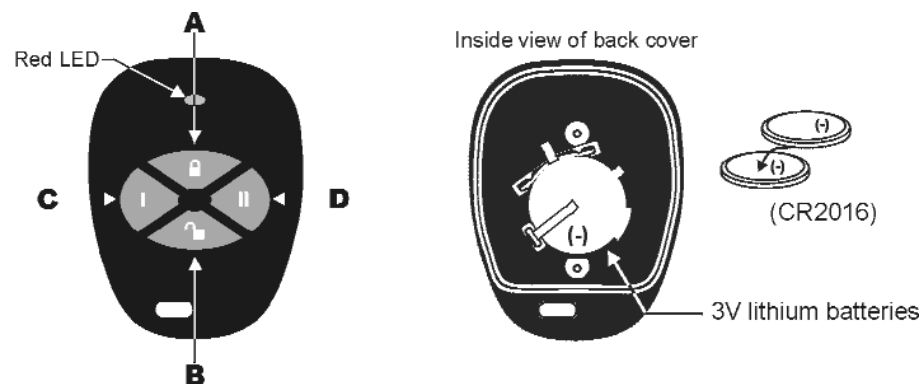
We do not recommend programming the receiver using LCD keypads, as these will not correctly display programming, zone or trouble status.

2.5 Hand-Held Remote Controls

The LIB-319 also supports the use of up to twelve remote controls. Whenever one or more remote controls are assigned to the Liberator (see section 5.1), the receiver reserves outputs 7 to 9 for the remote controls. These outputs are activated by pressing a specific button on assigned remote controls as shown in Figure 2. Please note that the same button on all remote controls will activate the same output. For example, if 5 remote controls have been assigned, pressing button B on any of the 5 remote controls will activate Zone Output 8.

These remote controls can transmit a signal up to a maximum of 30 meters (100ft). The remote controls are powered by two 3V lithium batteries. Occasionally this battery must be changed as shown in figure 2.

Figure 2: Remote Control



Remote Control Buttons:

Button A: Activates **Zone Output 7**
 Button B: Activates **Zone Output 8**
 Buttons A & B simultaneously: Activate **Zone Output 9**
 Buttons C & D: Not Used

To Replace the batteries:

1. Remove the two screws from the back of the remote control.
2. Remove the back cover.
3. Remove the old batteries.
4. Replace with two new 3V lithium batteries (CR2016) verifying proper polarity. The positive of the battery is inserted face down.

PROGRAMMING

To program the "Liberator" a keypad must be connected to the serial terminal marked "service keypad" on the receiver. The keypad connected to the control panel can not be used to program the receiver or use any of its modes. To program any data or information into the receiver's addresses, you must first enter the programming mode.

To enter the programming mode, press:
[ENTER] + Installer Code

After entering the programming mode, enter the **3-digit address** of the feature or option you would like to program. Then enter the **required data** for that particular address as defined by the programming card and the corresponding section in this manual.

3.1 Installer Code

Addresses 000 to 002 - Default: **747474**

The installer code is used to enter the receiver's programming mode, which allows you to program all the features, options and commands of the wireless system. The installer code is 6 digits in length and each digit can be any value from 0-9. If you wish to change the installer code press:

[ENTER] + current Installer Code + [0] [0] [0] + first 2 digits of new code + [0] [0] [1] + next 2 digits of new code + [0] [0] [2] + final 2 digits of new code + [ENTER]

3.2 Installer Lock

Address 020; [1] [4] [7]

Lock: Program 147 into address 020 to lock out any system resets. Hence, performing a hardware reset (see section 3.3) will not affect the current settings.

Unlock: To remove the installer lock, program any 3-digit value other than 147 into address 020.

3.3 System Reset

Performing a system reset will set all addresses including the installer code to factory default. The installer code will reset to 747474, all keys in address 014 will reset to off. **Address 010, 012 and the current zone assignments will not be affected.** To execute a system reset perform the following:

- 1) Make sure the installer lock is disabled (see section 3.2).
- 2) Remove the power connections ("12" & "GND") from the receiver.
- 3) Place a jumper on the reset pins (JP3) of the receiver.
- 4) Re-connect the power connections to the receiver.
- 5) Wait 10 seconds and remove the jumper.

ASSIGNING DETECTORS & DOOR CONTACTS

In order to trigger the receiver's zone outputs, each transmitter must be assigned to an available (empty) zone output. Every time the tamper switch on a transmitter is pressed, it will send its serial number to be registered in the selected zone output.

To enter a zone assignment mode, press:
[ENTER] + Installer Code + [MEM] + available Modes will flash (see below)

4.1 Automatic (Plug & Play) Zone Assignment

For U.S. versions, please refer to shaded box on the following page

[ENTER] + Installer Code + [MEM] + [1]

The receiver can be set to automatically assign transmitters to the receiver's zone outputs in chronological order. After entering this mode, the **[ENTER]** and **[MEM]** keys will flash to indicate that you can remain in this mode until you have completed all required zone assignments. The keypad will display the zones that have already been assigned by illuminating the corresponding key. Any unlit keys represent zone outputs that have not been assigned a transmitter or have been reserved (see *Supervision Features* in section 6 or *Remote Control Assignment* in section 5). When the tamper switch on a transmitter is pressed, the receiver will search for the first unused zone output (1 to 12) and assign the transmitter's serial number to that zone (illuminating the corresponding key). To exit the Automatic Zone Assignment Mode, press the **[ENTER]** or **[CLEAR]** key.

*Example: Two transmitters are being added to an installation consisting of four transmitters, which have been assigned zones 1 through 4. Set the receiver in Automatic Zone Assignment Mode by pressing **[ENTER] + Installer Code + [MEM] + [1]**. The **[ENTER]** and **[MEM]** keys will flash and keys **[1]** through **[4]** will be lit to indicate transmitters have been assigned to these zone outputs. When the tamper switch on one of the additional transmitters is pressed, the receiver will automatically program the transmitter into the next unused zone output, that being zone output 5. Press the tamper switch on the following additional transmitter and the receiver will program the transmitter's serial number into zone output 6. The **[5]** and **[6]** keys will illuminate to indicate successful zone assignment.*

Automatic Zone Assignment for U.S. Versions Only

[ENTER] + Installer Code + [MEM] + [1]

After entering this mode the [ENTER] key will turn on and the keypad will display the zones that have already been assigned by illuminating the corresponding key. Any unlit keys represent zone outputs that have not been assigned a transmitter or have been reserved (see *Supervision Features* in section 6 or *Remote Control Assignment* in section 5). Using the keypad, enter the 6-digit serial number of the transmitter you wish to assign. After entering the final digit, the receiver will search for the first unused zone output (1 to 12) and assign the transmitter's serial number to that zone illuminating the corresponding key. To exit the Automatic Zone Assignment Mode, press the [ENTER] or [CLEAR] key.

Please note that the transmitter's serial number can be located in its compartment or by using the *View Serial Number* mode (see section 4.4). Also note that you will receive a rejection beep if you enter a serial number that does not exist or that has already been assigned to a zone output.

4.2 Force Zone Assignment

For U.S. versions, please refer to shaded box on the following page

[ENTER] + Installer Code + [MEM] + [2]

The Force Assignment Mode allows you to assign a transmitter to a specific zone output. After entering this mode, the [ENTER] and [MEM] keys will flash to indicate that you can remain in this mode until you have completed all required zone assignments. The keypad will display the zone outputs that have already been assigned by illuminating the corresponding key. Any unlit keys represent zone outputs that have not been assigned. Press the key corresponding to the zone output you wish to program, the key will flash to indicate that it is ready to receive data. Press the tamper switch on the transmitter to program the serial number into the selected zone output. The key will remain lit to indicate that the serial number has been saved and assigned to the selected zone.



Please note, the Force Assignment Mode will not overwrite an existing zone assignment, if you wish to do so you must first erase it (see section 4.5) or switch the zone assignment with an empty zone (see section 4.3).

*Example: A transmitter is being added to an installation consisting of four transmitters, which have been assigned zone outputs 1-2 and zone outputs 5-6. Keys [1], [2], [5] and [6] will be lit to indicate these zone outputs have been assigned a transmitter. To assign the new transmitter to zone output 8, set the receiver in Force Zone Assignment Mode by pressing **[ENTER] + Installer Code + [MEM] + [2]**. The [ENTER] and [MEM] keys will flash. Press the **[8]** key (key will flash) to select zone output 8 and press the tamper switch on the transmitter to program its serial number into zone output 8. The [8] key will remain illuminated to indicate that programming was successful.*

Force Zone Assignment for U.S. Versions Only

[ENTER] + Installer Code + [MEM] + [2]

After entering this mode the [ENTER] key will turn on and the keypad will display the zones that have already been assigned by illuminating the corresponding key. Any unlit keys represent zone outputs that have not been assigned a transmitter or have been reserved (see *Supervision Features* in section 6 or *Remote Control Assignment* in section 5). Using the keypad, enter the 6-digit serial number of the transmitter you wish to assign. After entering the final digit, the [MEM] and [ENTER] keys will flash. Press the key corresponding to the zone output you wish to program, the key will remain lit to indicate that the serial number has been saved and assigned to the selected zone. To exit the Force Zone Assignment Mode, press the [ENTER] or [CLEAR] key.

Please note that the transmitter's serial number can be located in its compartment or by using the *View Serial Number* mode (see section 4.4). Also note that you will receive a rejection beep if you enter a serial number that does not exist or that has already been assigned to a zone output.

4.3 Switch Zone Assignment

[ENTER] + Installer Code + [MEM] + [3]

The Switch Zone Assignment Mode allows you to swap one zone assignment with another. After entering this mode the [ENTER] and [MEM] keys will flash and the keypad will display the zone outputs that have already been assigned, by illuminating the corresponding key. Any unlit keys represent zone outputs that have not been assigned. Press the key corresponding to the first zone output you wish

to switch (key will flash), followed by the key corresponding to the next zone output you wish to switch. The receiver will automatically copy the serial number from one zone output to the other and vice versa. Note that an assigned zone can be switched with a zone that has not been assigned (empty).



In this mode the receiver will not receive any type of transmission.

Example: Transmitter A has been assigned zone 1 and transmitter B has been assigned zone 4. You wish to switch transmitter A to zone 4 and transmitter B to zone 1. Set the receiver in Switch Zone Assignment Mode by pressing [ENTER] + Installer Code + [MEM] + [3]. The [ENTER] and [MEM] keys will flash. Then press the [1] key (key will flash) followed by the [4] key. Both keys will illuminate to indicate that transmitter A is now assigned to zone 4 and transmitter B is now assigned to zone 1.

4.4 View Transmitter Serial Numbers

[ENTER] + Installer Code + [MEM] + [4]

This mode displays the serial number of the selected transmitter one digit at a time by illuminating and extinguishing the key corresponding to the digit. If the transmitter has already been assigned, the key corresponding to its zone output will flash after displaying the serial number. After entering this mode, the [ENTER] and [MEM] keys will flash. The keypad will display the zones that have already been assigned by illuminating the corresponding key. Any unlit keys represent zone outputs that have not been assigned a transmitter. To view the serial number of a device that has been assigned, press one of the lit keys which correspond to an assigned zone output. To view the serial number of a transmitter which hasn't been assigned press and release the transmitter's tamper switch.

For example, serial number 135789 has been assigned to zone output 3. The keypad will illuminate the [1] key, then the key will extinguish. This will continue for each digit in the serial number [3], [5], [7], [8] and [9]. Then the [3] key will flash.

4.5 Erase Specific Zone

[ENTER] + Installer Code + [MEM] + [0]

An assigned zone can not be overwritten; you must first erase it in order to assign a new transmitter to that zone. To clear a zone, enter the erase zone mode by

pressing [ENTER] + Installer Code + [MEM] + [10]. After entering this mode the [ENTER] and [MEM] keys will flash and the keypad will display the zones that have already been assigned, by illuminating the corresponding key. Any unlit keys represent zones that have not been assigned. Press the key (must be lit) corresponding to the zone you wish to erase. The key will extinguish to indicate the zone assignment has been erased.



In this mode the receiver will not receive any type of transmission.

4.6 Zone Output State

Address 014; Keys [1] to [12] - Default: All Normally Closed

Once a transmitter has been assigned to a zone, you must define whether the receiver's zone output will be normally open or normally closed. In address 014 each key represents zone outputs 1 through 12. The associated zone output will be normally closed if the key is off and if the key is on, the associated zone output will be normally open. To do so press:

[ENTER] + Installer Code + [0] [1] [4] + On/Off status of keys [1] to [12] + [ENTER] to accept or [CLEAR] to cancel.

Address 014: Output State		
Default: All Normally Closed		
Key = Zone #		
Off = N.C.		On = N.O.
—	[1]	—
—	[2]	—
—	[3]	—
—	[4]	—
—	[5]	—
—	[6]	—
—	[7]	—
—	[8]	—
—	[9]	—
—	[10]	—
—	[11]	—
—	[12]	—

REMOTE CONTROL ASSIGNMENT

As soon as a remote control is assigned to the receiver, it will reserve zone outputs 7 to 9. These outputs are activated by pressing a specific button on any assigned remote control as explained in section 2.5 on page 8.



When using the remote controls, users must press the button(s) until the red LED on the remote control illuminates. This short delay (0.25 sec.) before sending a signal is to avoid any accidental transmissions. After pressing and holding a button continuously for five seconds, the remote control will no longer transmit any signals until the button is released and pressed again.



After activating a **LATCHED** output (7, 8 or 9), the receiver will ignore signals originating from the same button for two seconds. Pressing and holding the button will continuously reset the timer. This delay is to avoid unwanted output deactivation. When a receiver activates a **TIMED** output (7, 8 or 9), the receiver will start the output's assigned timer. If a button is pressed before the end of the timer, it will reset the timer. Pressing and holding the button will continuously reset the timer.

5.1 Automatic Remote Control Assignment

For U.S. versions, please refer to shaded text box on the following page
[ENTER] + Installer Code + [MEM] + [5]

After entering this mode, the **[ENTER]** and **[MEM]** keys will flash to indicate that you can remain in this mode until you have completed all required remote control assignments. The keypad will display how many remote controls have been assigned by illuminating keys [1] to [12]. **Please note that keys [1] to [12] represent the number of remote controls that can be assigned, they do not represent the receiver's zone outputs.** Any unlit keys represent remote controls that have not been assigned. When buttons A and B on a remote control are pressed (refer to section 2.5 on page 8), the receiver will assign the remote control's serial number to the receiver (illuminating the corresponding key). To exit the Automatic Remote Control Assignment Mode, press the **[ENTER]** or **[CLEAR]** key.



You will not be able to assign transmitters to zone outputs 7 to 9 if any remote controls have been assigned. If a remote control is assigned after a transmitter has already been assigned to a zone output, the receiver will erase the zone assignment and enable the remote controls.

Automatic Remote Control Assignment for U.S. Versions Only

[ENTER] + Installer Code + [MEM] + [5]

After entering this mode the **[ENTER]** key will turn on and the keypad will display the remote controls that have already been assigned by illuminating keys [1] to [12]. **Please note that keys [1] to [12] represent the number of remote controls that can be assigned, they do not represent the receiver's zone outputs.** Any unlit keys represent remote controls that have not been assigned. Using the keypad, enter the 6-digit serial number of the remote control you wish to assign. After entering the final digit, the receiver will assign the remote control's serial number to the receiver (illuminating the corresponding key). To exit the Automatic Zone Assignment Mode, press the **[ENTER]** or **[CLEAR]** key.

Please note that the remote control's serial number can be located in its compartment or by using the *View Remote Control Serial Number* mode (see section 5.2). Also note that you will receive a rejection beep if you enter a serial number that does not exist or that has already been assigned.

5.2 View Remote Control Serial Numbers

[ENTER] + Installer Code + [MEM] + [6]

This mode displays the serial number of the selected remote control one digit at a time by illuminating and extinguishing the key corresponding to the digit. If the remote control has already been assigned, the key corresponding to the location of the assigned remote control will flash after displaying the serial number. After entering this mode, the **[ENTER]** and **[MEM]** keys will flash. The keypad will display the remote controls that have already been assigned by illuminating the corresponding key. Any unlit keys represent remote controls that have not been assigned. To view the serial number of a device that has been assigned simply press one of the lit keys which correspond to an assigned zone output. To view the serial number of a remote control which hasn't been assigned press and release buttons A and B on the remote control (refer to section 2.5 on page 8).

For example, serial number 135789 has been assigned to location 3. The keypad will illuminate the [1] key, then the key will extinguish. This will continue for each digit in the serial number [3], [5], [7], [8] and [9]. Then the [3] key will flash.

5.3 Erase Remote Control Assignment

[ENTER] + Installer Code + [MEM] + [11]

An assigned remote control can not be overwritten. You must erase it before assigning a new remote control to that location. To clear a remote control assignment, press **[ENTER] + Installer Code + [MEM] + [11]**. After entering this mode the [ENTER] and [MEM] keys will flash and the keypad will display how many of the 12 locations have been assigned a remote control, by illuminating the corresponding key. Any unlit keys represent locations that have not been assigned a remote control. Press the key (must be lit) corresponding to the remote control location you wish to erase. The key will extinguish to indicate the remote control has been erased.



In this mode the receiver will not receive any type of transmission.

5.4 Program Outputs 7 to 9

Address 012; Keys [3] to [8] and Address 021 & 022

When one or more remote controls have been assigned to the receiver, it reserves outputs 7 to 9. These outputs are activated by pressing a specific button on any assigned remote control as explained in section 2.5 on page 8. Program the output to either latch until the button is pressed again or to latch until the selected timer has run-out as indicated by the table below.

★ = Default Setting

★ Output 7 is latched

★ Output 7 follows “seconds timer”

★ Output 8 is latched

★ Output 8 follows “seconds timer”

★ Output 9 is latched

★ Output 9 follows “seconds timer”

Address 012

Off Key On

—	[3]	—
—	[4]	—
—	[5]	—
—	[6]	—
—	[7]	—
—	[8]	—

Output 7 is Timed (see key [4])

Output 7 follows “minutes timer”

Output 8 is Timed (see key [6])

Output 8 follows “minutes timer”

Output 9 is Timed (see key [8])

Output 9 follows “minutes timer”

Address 021 = “Seconds Timer” (003 to 255 seconds)

Address 022 = “Minutes Timer” (001 to 255 minutes)

SUPERVISION FEATURES

6.1 Low Battery Supervision

Address 010; Keys [1] to [3]

The wireless transmitters function on two 3.6V Lithium batteries. When a transmitter detects a battery voltage of 6.5V or less, it will transmit a signal to the receiver indicating that the battery voltage is low. When the signal is received, the receiver will display this trouble condition on the service keypad as described in section 6.5, *Trouble Display Mode*. The yellow LED on the affected transmitter will begin to flash. The receiver can also be programmed to respond to a low battery signal by triggering zone 12 and/or by triggering the specific zone output from which the signal originated. Please refer to the table below to set the desired features.

Address 010 - Low Battery Supervision Features			
Key [1]	Key [2]	Key [3]	Feature
On	Off	Off	No Supervision
Off	Off	Off	* Trigger Zone 12 & Trigger Zone #
Off	On	On	Trigger Zone 12 Only
Off	On	Off	Trigger Zone # Only

*Default Setting

Trigger Zone Output 12:

The receiver reserves zone 12 to trigger every time a low battery is received from any of the transmitters. If zone output 12 is connected to a zone input on the control panel, the panel will then generate an alarm every time there is a low battery in the system. Alternatively, the output can be connected to another device such as an LED or relay.



You will not be able to assign a transmitter to zone output 12 if it is reserved for low battery supervision. If low battery supervision is enabled and set to trigger zone output 12 after a transmitter has already been assigned to zone output 12, the receiver will erase the zone assignment and enable low battery supervision.

Trigger Zone #:

When a transmitter sends a low battery signal, the receiver will trigger the zone output from which the signal originated.



When using this option, you will not be able to differentiate between an open zone and a low battery as they will both trigger the zone output.

6.2 Check-In Supervision

Address 010; Keys [4] & [5]

The receiver waits for each transmitter in the wireless system to send a transmitter status signal within a specified period in order to confirm their presence and functionality. If a signal is not received from any transmitter within the period specified by the *Check-In Timer* (see section 6.2.1), a trouble condition will be displayed on the receiver's service keypad as described in section 6.5, *Trouble Display Mode*. The receiver can also be programmed to respond to a check-in failure by triggering zone 11 and/or by triggering the specific zone output from which the signal was supposed to originate. Please refer to the table below to set the desired options.

Address 010 - Check-In Supervision Features		
Key [4]	Key [5]	Feature
Off	Off	* Trigger Zone 11 & Associated Zone #
On	Off	Trigger Associated Zone # Only
On	On	Trigger Zone 11 Only

*Default Setting

Trigger Zone Output 11:

If set to trigger zone output 11, the receiver reserves zone 11 to trigger every time a check-in failure is detected from any of the transmitters. If zone output 11 is connected to a zone input on the control panel, the control panel will then generate an alarm every time there is a check-in failure in the system. Alternatively, the output can be connected to another device such as an LED or relay.



You will not be able to assign a transmitter to zone output 11 if it is reserved for check-in supervision. If check-in supervision is enabled and set to trigger zone output 11 after a transmitter has already been assigned to zone output 11, the receiver will erase the zone assignment and enable check-in supervision.

Trigger Zone #:

If a transmitter has not sent any type of signal for the period defined by the check-in timer (see below), the receiver will trigger the zone output from which the signal was supposed to originate.



When using this option, you will not be able to differentiate between an open zone and a check-in failure as they will both trigger the zone output.

6.2.1 Check-In Timer

Address 012; Keys [1] & [2]

This timer represents the amount of time the receiver will wait for any kind of signal from a transmitter before generating a check-in failure. Please note that the receiver's Check-In Timer must be set to the same setting as all transmitter supervision settings. For example, if all the transmitters are set for high supervision the control panel must also be set for high supervision. The timer will reset for each transmitter whenever a signal is received from the transmitter.

	Off	Key	On	
* Check-In Supervision Enabled	—	[1]	—	Check-In Supervision Disabled
* Low Supervision (12 hours)	—	[2]	—	High Supervision (12 minutes)
				*Default Setting

6.3 Transmitter Tamper Supervision

Address 010; Keys [6] & [7]

Whenever a tamper switch, on a transmitter is opened (cover removed), the transmitter will send a tamper signal. When the signal is received, the receiver will display that trouble condition on the receiver's service keypad as described in the *Trouble Display Mode* section 6.5. The receiver can also be programmed to respond to a tamper failure by triggering zone 10 and/or by triggering the specific zone output from which the signal originated. Please refer to the table below to set the desired options.

Address 010 - Transmitter Tamper Supervision Features		
Key [6]	Key [7]	Feature
Off	Off	* Trigger Zone 10 & Associated Zone #
On	Off	Trigger Associated Zone # Only
On	On	Trigger Zone 10 Only

*Default Setting

Trigger Zone Output 10:

If set to trigger zone 10, the receiver reserves zone 10 to trigger every time a tamper signal is received from any of the transmitters. Note if used in conjunction with the receiver tamper supervision (see section 6.4), zone 10 will trigger every time a tamper is received from either a transmitter or the receiver. If zone output 10 is connected to a zone input on the control panel, the control panel will then generate an alarm every time there is a tamper failure in the system. Alternatively, the output can be connected to another device such as an LED or relay.



You will not be able to assign a transmitter to zone output 10 if it is reserved for transmitter tamper supervision. If transmitter tamper supervision is enabled and set to trigger zone output 10 after a transmitter has already been assigned to zone 10, the receiver will erase the zone assignment and enable transmitter tamper supervision.

Trigger Zone #:

When a transmitter sends a tamper signal, the receiver will trigger the zone output from which the signal originated.



When using Zone # only option, you will not be able to differentiate between an open zone and a tamper as they will both trigger the zone output.

6.4 Receiver Tamper Supervision

Address 010; Key [8]

Whenever the tamper switch on the receiver is opened (cover removed), the receiver will display that trouble condition on the receiver's service keypad as described in the *Trouble Display Mode* section 6.5. The receiver can also be programmed to respond to a tamper failure by triggering zone output 10. To enable

this feature turn the [8] key off in address 010, turn the [8] key on to disable Receiver Tamper Supervision.

Trigger Zone Output 10:

If set to trigger zone 10, the receiver reserves zone 10 to trigger every time there is a tamper on the receiver. Note if used in conjunction with the transmitter tamper supervision (see section 6.3), zone 10 will trigger every time a tamper is received from either a transmitter or the receiver. If zone output 10 is connected to a zone input on the control panel, the control panel will then generate an alarm every time there is a tamper failure in the system. Alternatively, the output can be connected to another device such as an LED or relay.



You will not be able to assign a transmitter to zone output 10 if it is reserved for receiver tamper supervision. If receiver tamper supervision is enabled and set to trigger zone output 10 after a transmitter has already been assigned to zone output 10, the receiver will erase the zone assignment and enable receiver tamper supervision.

VERY IMPORTANT!



If the receiver tamper supervision is enabled when installing the security system, please make sure the cover of the receiver is affixed or place a piece of tape over the tamper switch to hold it down. Otherwise, when verifying the functionality of the transmitters, the receiver will trigger zone output 10, which will appear as though the transmitter is not functioning.

6.5 Trouble Display Mode

Four trouble conditions are continuously monitored by the receiver, the status of which is displayed on the receiver's service keypad. When one of these trouble conditions occurs, the receiver will illuminate the [TRBL] key on the keypad. Press the [TRBL] key (key will flash) to view the current trouble condition(s) as described in the table below. To view the zones causing the trouble failure, press the desired trouble key [1] to [3] after which keys [1] through [12] represent zones 1 through 12. Any lit keys represent zones causing the trouble failure. The trouble display mode does not function with remote controls.

Press **[TRBL]** to view current Trouble Conditions:
Press **[MEM]** to view Trouble Conditions in memory:

[1] = Low Battery (transmitter voltage $\leq 6.5V$)
[2] = Check-In Problem (no signal from transmitter for a period of 12 min. or 12 hrs.)
[3] = Transmitter Tamper (tamper switch on transmitter open)
[4] = Receiver Tamper (tamper switch on receiver open)

If lit press trouble key [1] to [3] to view which zone(s) caused failure.

6.6 Trouble Memory

The “Liberator” keeps the trouble conditions listed in section 6.5 in memory. The **[MEM]** key will illuminate whenever there is a trouble condition in memory. To view the trouble condition(s) in memory, press the **[MEM]** key (**[MEM]** and **[TRBL]** keys will flash). Any lit keys represent trouble conditions that have occurred as described in the table in section 6.5. Press any lit key ([1] to [3]) to view which zones caused the trouble failure. After which keys [1] through [12] represent zones 1 through 12. Press the **[CLEAR]** key to exit and erase the memory of the trouble condition being viewed. Press the **[ENTER]** key to exit without erasing the trouble memory.

6.7 Beep On Trouble

If this feature is enabled, the keypad will emit an intermittent beep tone whenever a trouble condition occurs in the system. The intermittent beeps will only stop by pressing the **[TRBL]** or **[MEM]** key followed by pressing the **[CLEAR]** or **[ENTER]** key. The intermittent beeps will be re-initialized whenever the trouble condition ends and re-occurs. The beep on trouble can be independently programmed for each trouble condition as shown in the table below.

Address 010

[9] = Beep On Low Battery Trouble
[10] = Beep on Check-In Failure
[11] = Beep On Transmitter Tamper Trouble
Key On = Enabled / Key Off = Disabled

6.8 Signal Strength Indicator Mode

In order to verify if the signal from the transmitter to the receiver is strong enough to function properly, the receiver can display the relative signal strength on the receiver's keypad. To enter the signal strength indicator mode press the **[2ND]** key followed by the zone number (keys **[1]** to **[12]**) you wish to view. Illuminated keys represent zones that have been assigned a transmitter. After entering the desired zone, the illumination of keys [1] to [12] represent a relative display of the signal strength. If all twelve keys are lit, the reception of the selected zone is more than adequate. If only the [1] key is lit, the reception of the selected zone is weak. If no keys are lit, the selected zone has a check-in problem or the zone has not been assigned a transmitter. If the transmission is too weak, re-locating the transmitter by a few inches can greatly improve the reception. The signal strength indicator mode does not function with remote controls.

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