

## 1100XH High Power Wireless Receiver

### Description

The 1100XH High Power Wireless Receiver provides two-way, supervised communication using 900 MHz frequency hopping-spread-spectrum technology. The receiver provides additional transmit and receive amplification for improved performance at greater distance or harsh building environments. The receiver can be hard-wire mounted up to 1,000 feet from the panel enclosure and provides up to 500 wireless zones for XR500 Series Command Processor™ panels and up to 100 wireless zones for XR100 Series Command Processor™ Panels.

### What is Included

The receiver includes the following items:

- One Model 1100XH High Power Wireless Receiver
- Hardware pack

### Compatibility

The 1100XH is compatible with any XR500 Series Command Processor™ panels using firmware Version 113 or higher and XR100 Series Command Processor™ panels. No specific receiver programming is required. Once installed, a panel programmed with wireless information automatically recognizes the wireless receiver. The system is designed so only one 1100 receiver is used per panel.

### Installing the Wireless Receiver

Choose an optimum location to mount the receiver. The receiver is typically mounted at a distance not to exceed 1000 feet away from the panel enclosure. A location should be selected that will be centrally located between the 1100 Series transmitters used in the installation. Install the receiver away from large metal objects. Mounting the receiver on or near metal surfaces impairs performance. Do not use shielded wire between the panel and receiver. When selecting the proper mounting location of a transmitter, refer to the LED Survey Operation section.

Remove the cover from the plastic housing by squeezing both sides toward each other. Secure the receiver to the wall in the desired location installing the supplied screws in the mounting hole locations as shown in Figure 1. Snap the cover back on the unit. The panel immediately recognizes the 1100XH Receiver if the panel is programmed with a house code.

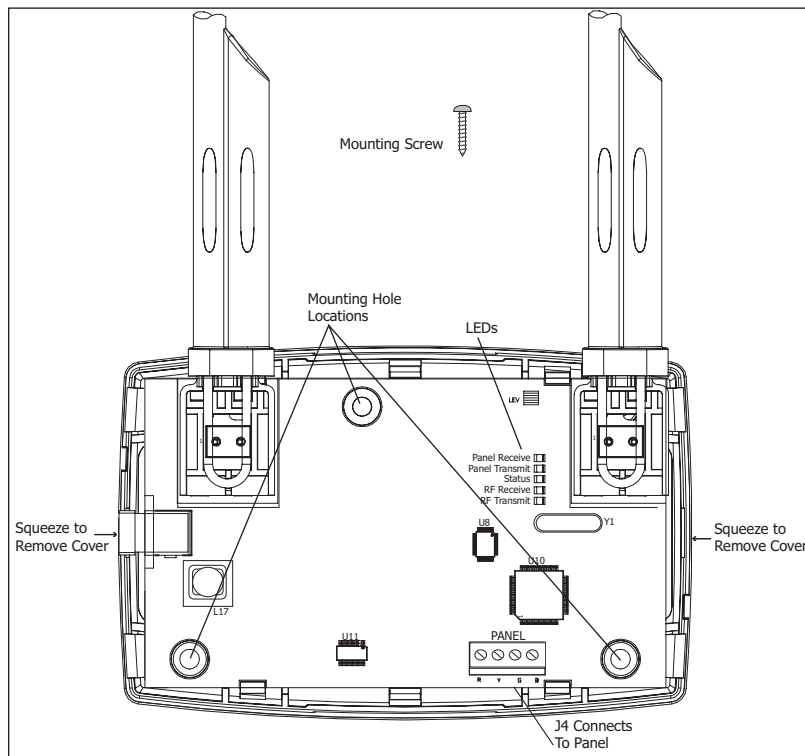


Figure 1: Receiver PCB

## Wireless Bus Connection

The 1100XH easily interfaces with the XR500 Series Command Processor™ panels and XR100 Series Command Processor™ panels using the on-board DMP Wireless Bus connection (J22).

**Note:** The 1100XH High Power Wireless Receiver cannot operate if connected to the Keypad Bus.

## Harness Connection

Refer to Figure 2, the XR500 Series Installation Guide (LT-0681), the XR500 Series Programming Guide (LT-0679), the XR100 Series Installation Guide (LT-0899), the XR100 Series Programming Guide (LT-0896), and use the following steps to connect the panel and receiver:

1. Install a jumper across the header pins next to the letter “X” on the XR100/XR500 panel J23 header to enable on-board DMP Wireless operation.
2. Connect the J4 header on the 1100XH to the XR100/XR500 panel J22 LX header.
3. After power-up, briefly reset the panel using the J16 jumper to activate wireless zone operation.
4. In System Options, program the House Code (1-50). In Zone Information, program the wireless zones.

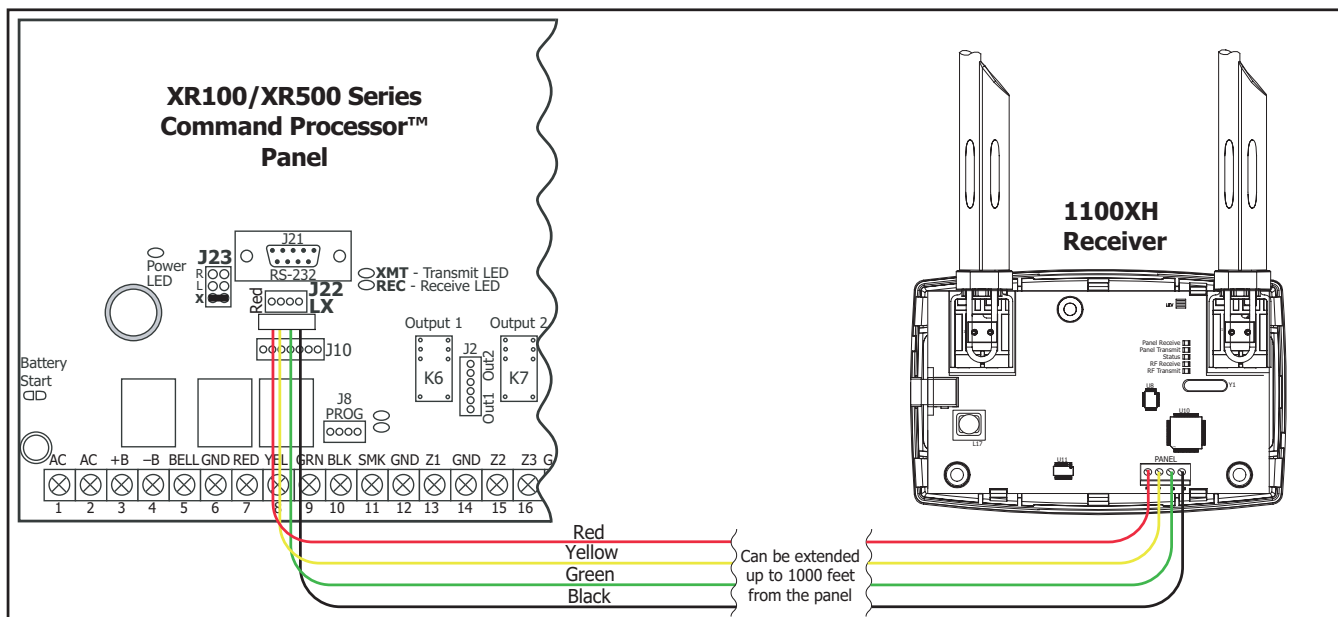


Figure 2: XR100 or XR500 DMP Wireless Bus Connection

## 1100XH Receiver Operation

The 1100XH receiver automatically sends the panel house code to wireless transmitters when the unique transmitter serial number is programmed into the panel. The house code identifies the panel, receiver, and transmitters to each other. The receiver only listens for transmissions using the specified house code and/or programmed transmitter serial number.

**Note:** When setting up a wireless system, it is recommended to program zones and connect the receiver before installing batteries in the transmitters.

Transmitters can be programmed for supervised or unsupervised operation. When programmed as supervised, the transmitter must communicate with the receiver within the programmed number of minutes. If the transmitter fails to communicate, the panel displays a missing condition.

**Note:** When a receiver is installed, powered up, or the panel is reset, the supervision time for transmitters is reset. If the receiver has been powered down for more than one hour, wireless transmitters may take up to an additional hour to send a supervision message unless tripped, tampered, or powered up. This operation extends battery life for transmitters. A missing message may display on the keypad until the transmitter sends a supervision message.

When any wireless zone programming is changed in the panel, receiver zone programming is updated. At that point, all wireless zones display as normal for approximately one minute, regardless of the actual state of the contact.

## 1100XH LED Operation

Six LEDs display receiver operation and activity. Refer to the table below as required.

Label	Operation
PNL RX	Flashes yellow to indicate data is being received from the panel.
PNL TX	Flashes green to indicate data is being sent to the panel.
STATUS	Steady red to indicate memory upload. Off when upload is complete.
RF RXD	Flashes yellow to indicate data is being received from a transmitter.
RF TXD	Flashes green to indicate data is being sent to a transmitter.

## Transmitter Survey LED Operation

DMP 1100 Series transmitters provide Two-way (transmit acknowledge) operation. This advanced data protocol allows each transmitter to confirm that each of its messages (alarm, checkin, tamper, low battery) are received and acknowledged by the 1100 Series receiver. The confirmation is indicated visually by use of an LED on each transmitter. This Survey LED should be used during installation to test each transmitter for proper operation. A full definition of the Survey LED follows.

The red LED on an 1100 Series transmitter turns on when the processor wakes up to send a message. Then after a series of communication steps are completed (successful or not), the LED turns off when the processor goes back to sleep. 99.9% of the time the processor is asleep in normal operation. The following list summarizes various indications that can be observed on the LED and a definition for each. Note this is for a single message. Example, pressing and holding the tamper switch.

### Single 1/16 second flash

- Processor wakes up
- Transmitter receives immediate synchronization from receiver
- Transmitter transmits
- Transmitter receives immediate acknowledgement from receiver
- Processor goes to sleep

### Single Pulse greater than 1/16 second but shorter than 8 seconds

- Processor wakes up
- Transmitter receives synchronization from receiver - possibly not immediate
- Transmitter transmits
- Transmitter receives acknowledgement from receiver - possibly not immediate
- Processor goes to sleep

### Steady for 8 seconds

- Processor wakes up
- Transmitter never receives synchronization from receiver, or might receive synchronization
- Transmitter transmits if synchronization was received
- Transmitter never receives any further data from receiver
- Processor times out and goes to sleep

### Multiple short flashes

- Processor wakes up
- Transmitter receives synchronization from receiver
- Transmitter transmits
- Transmitter receives data from receiver, but not a valid acknowledgement
- Processor briefly goes to sleep
- Entire sequence is repeated, each short flash indicates a cycle

## Troubleshooting Using the Transmitter Survey LED

If a transmitter is unable to reliably communicate a message to the receiver, or is reported as missing, the Survey LED can be used to help diagnose the issue. If the missing transmitter cannot be explained by obvious reasons such as a damaged transmitter, failed battery, or changes in building construction; then the Survey LED should be used.

To use the Survey LED operation to help diagnose a field issue, complete the following steps on an 1100 Series transmitter. Repeat the following sequence 5 times and write down the LED operation for each tamper switch action.

- Press and hold the tamper switch
- Observe the LED until it turns off for at least 5 seconds
- Release the tamper switch
- Observe the LED until it turns off for at least 5 seconds

You now have observed the LED 10 times. Based on the results you have recorded use the list below to assist in troubleshooting.

**LED turns on a single time for less than 1 second 8 to 10 times.**

- System is working properly

**LED turns on for more than 1 second 3 to 9 times.**

- The transmitter or receiver needs to be relocated

**LED turns on for more than 1 second all 10 times.**

- The receiver is not turned on, or is not operating
- The transmitter is not programmed into the receiver
- The transmitter or receiver needs to be relocated

**LED flashes multiple times with a single tamper press or release 3 to 10 times.**

- The transmitter or receiver needs to be relocated

**LED never turns on.**

- The transmitter battery is dead
- The tamper switch is being pressed or released too quickly
- The tamper switch or other part of the transmitter is broken

**LED stays on constantly and is dim**

- The transmitter battery is almost dead
- The transmitter is broken

## General Wireless Troubleshooting

If ALL wireless devices do not operate, refer to the following checklist:

- Verify the receiver is an 1100XH and the panel is an XR500 Series with firmware Version 113 or higher or an XR100 Series panel.
- Verify the XR100/XR500 panel J23 jumper is in the "X" position and the J4 connector from the receiver is connected to J22 of the panel.
- Briefly reset panel using J16 jumper to activate wireless operation and wait one minute to test wireless zone(s).
- Verify the House Code (1-50) is programmed in System Options.
- Verify appropriate zone numbers are assigned as wireless zones.
- Verify that the XR100/XR500 panel XMIT and REC LEDs alternately flash on and off at a rate of 1/4 second each. If the LEDs are On steady or Off, the panel and receiver are not communicating properly.
- Verify the 1100XH LEDs operate correctly as listed in 1100XH LED Operation.
- Verify transmitters have batteries correctly inserted.

## FCC Information

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications made by the user and not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**Note:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**Note:** The 1100 Series wireless system is a two-way supervised wireless design. It is compliant with FCC rules as they pertain to 900 MHz Spread Spectrum devices. In rare instances it has been observed that certain 900 MHz cordless telephones may occasionally experience a clicking sound on the telephone while in use. If this occurs, it may be resolved by selecting a different channel on the cordless telephone, or replacing the cordless phone with a different brand or model of 900 MHz telephone or other cordless telephone.

To comply with RF exposure requirements, a minimum separation distance of 20cm must be maintained between the antenna and all persons.

### Specifications

Operating Voltage 8.0 to 14 VDC  
Current Draw xxmA  
Power Rating 720mW  
Frequency Range 903-927 MHz  
Dimensions  
Receiver Housing 4.65" L x 3.1" W x 1.4" H  
Antennas 8.6" H  
Color White  
Housing Material Flame retardant ABS

### Patents

U. S. Patent No. 7,239,236

### Listings and Approvals

FCC Part 15 Registration ID CCKPC0114  
IC Registration ID 5251A-PC0114



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