

1100X Wireless Receivers

Description

The 1100X Wireless Receiver is compatible with all DMP wireless devices. The receiver provides two-way, supervised communication using 900 MHz frequency hopping-spread-spectrum technology. The receiver can be mounted up to 1,000 feet from the panel enclosure. The receiver provides up to 500 wireless zones. Refer to the panel installation guide for number of available wireless zones.

Compatibility

- XR150/XR550 Series panels

What is Included

- One Model 1100X Wireless Receiver
- One 4-wire Harness
- Hardware pack

Compliance Instructions

For applications that must conform to a National Recognized Testing Laboratory certificated system, please see the Listed Compliance Specifications section at the end of this guide for additional instructions.

Installing the Wireless Receiver

Selecting a Location

Choose an optimum location to mount the receiver. The 1100X Wireless Receiver is typically mounted at a distance not to exceed 1000 feet away from the panel enclosure. A location should be selected that is 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 of the specific installation guide for the transmitter being installed.

Tamper Switches

The 1100X is equipped with a case tamper and a wall tamper.

Mounting the Receiver

1. Remove the cover from the plastic housing by squeezing both sides toward each other.
2. Secure the receiver to the wall ensuring the two antennas are pointing up and the wall tamper switch makes proper contact with the wall. Use the supplied screws in the mounting hole locations as shown in Figure 1.

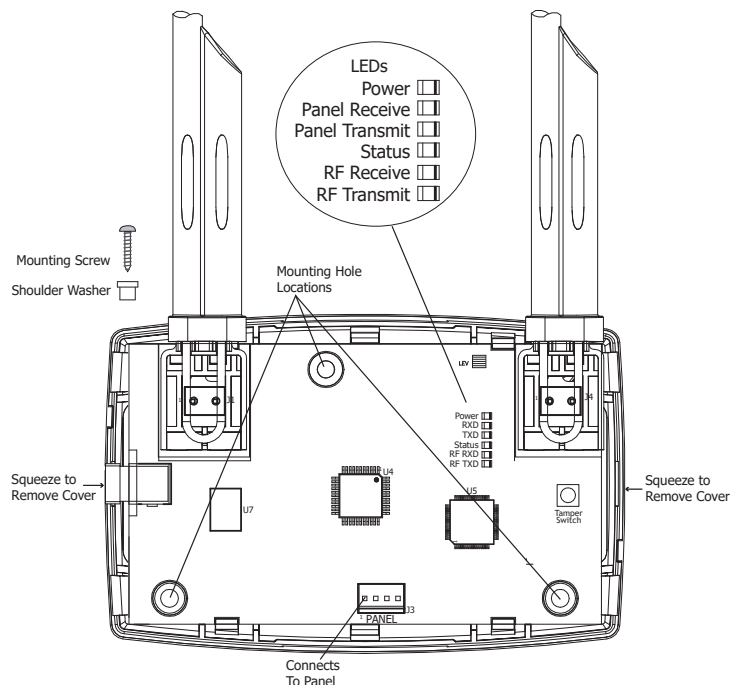


Figure 1: Receiver PCB

Wireless Bus Connection

On XR150/XR550 Series panels, the 1100X interfaces using the on-board X-Bus connection.

Note: The 1100X Wireless Receiver cannot operate if connected to the Keypad Bus.

Harness Connection XR150/XR550 panels

1. Connect the PANEL header on the 1100X to the XR150/XR550 panel X-BUS header.
2. After power-up, briefly reset the panel using the RESET jumper to activate wireless zone operation.
3. In System Options, program the House Code (1-50). In Zone Information, program the wireless zones.
3. Snap the cover back on the unit. The panel immediately recognizes the 1100X Receiver if the panel is programmed with a house code.

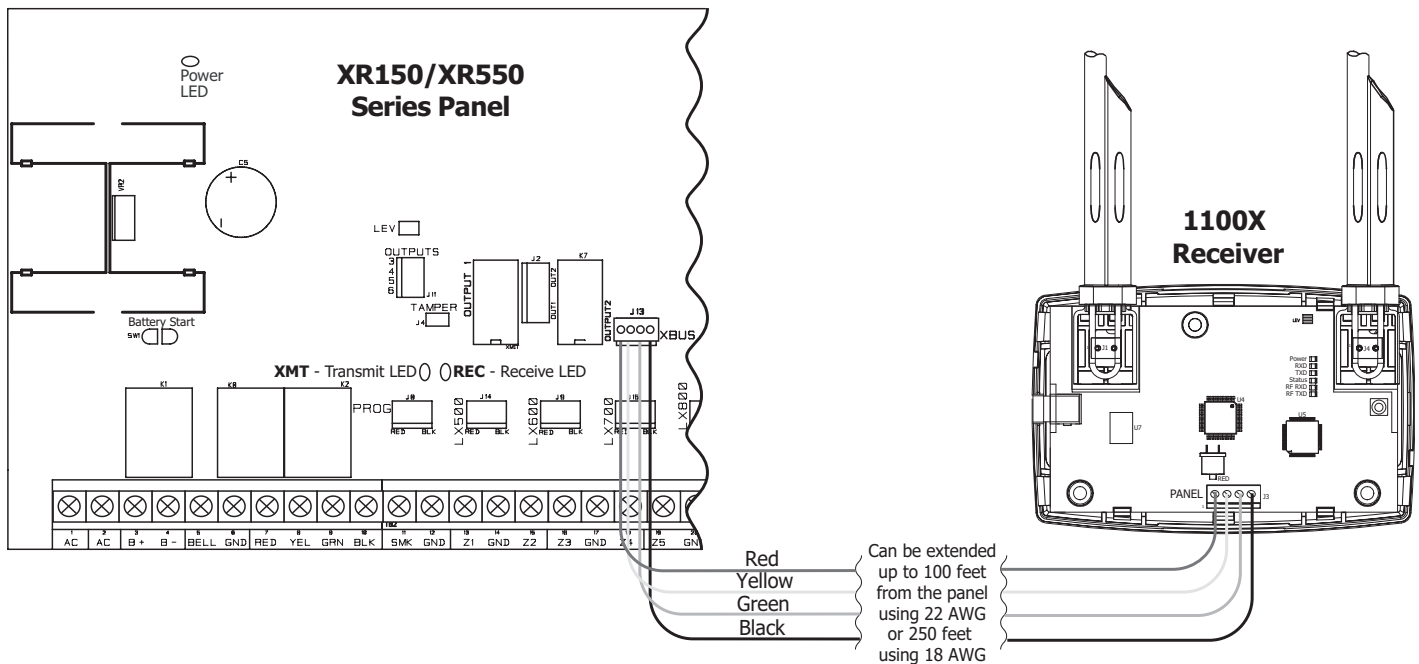


Figure 2: XR150/XR550 DMP Wireless Bus Connection

1100X Receiver Operation

The 1100X 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 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.

1100X LED Operation

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

PCB LEDs	Label	Operation
Power	POWER	Steady green to indicate there is power to the receiver.
RXD	RXD	Flashes yellow to indicate data is being received from the panel.
TXD	TXD	Flashes green to indicate data is being sent to the panel.
Status	STATUS	Steady red to indicate memory upload. Off when upload is complete.
RF RXD	RF RXD	Flashes yellow to indicate data is being received from a transmitter.
RF TXD	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 1100X and the panel is an XR150/XR550 Series panel.
or
Verify the PANEL header from the receiver is connected to XBUS header on the XR150/XR550 panel.
- Briefly reset panel using RESET 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 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. (See Figure 3).
- Verify the 1100X LEDs operate correctly as listed in 1100X LED Operation.
- Verify transmitters have batteries correctly inserted.

Listed Compliance Specifications

Commercial Fire

Transmitters must be programmed as supervised. Refer to the Transmitter Supervision Time table for the supervision time.

The maximum line impedance of the 4-wire bus is 16.2 Ohms for 1000 feet.

The recommended wire gauge for panel to receiver connection is 22 AWG.

After all transmitters are in position, the WLS option of the panel's Walk Test must be operated and all transmitters programmed for Fire (FI) or Supervisory (SV) must show that their checkin message was received. Refer to the panel programming guide for Trip Counter for DMP Wireless check-in Test (WLS) which describes that both numbers of the counter must match. If not and a failed wireless zone is displayed at END, decrease that transmitters range with the receiver and perform the WLS Walk Test again.

Transmitter Supervision Time

For UL Listed installations, program the transmitter supervision time in panel zone programming as listed in the following table. Refer to the panel programming guide for complete wireless programming information.

UL Listing	Listed Accessories	Supervision Time
UL 1023 Household Burglary Alarm System Units Accessory	1100R Repeater 1101/1102/1103/1106 Universal Transmitters 1127W/1127C PIR Motion Detector 1135 Wireless Sounder 1142 Two-Button Hold-Up Transmitter 9060/9063 Wireless Keypad	60
UL 636 Holdup Alarm Units and Systems Accessory	1142 Two-Button Hold-Up Transmitter	60
UL 634 Connections and Switches for use with Burglar Alarm Systems Accessory	1100R Repeater 1101/1102/1103/1106 Universal Transmitters	60
UL 639 Intrusion Detection Units Accessory	1100R Repeater 1127W/1127C PIR Motion Detector	60
UL 365 Police Station Connected Burglar Accessory	1100R Repeater 1103 Universal Transmitter	60
UL 609 Local Burglar Alarm Units and System Accessory	1100R Repeater 1103 Universal Transmitter	60
UL 1076 Proprietary Burglar Alarm Units Accessory	1100R Repeater 1103 Universal Transmitter	60
UL 1610 Central Station Burglar Alarm Units Accessory	1100R Repeater 1103 Universal Transmitter 1135 Wireless Sounder 9060/9063 Wireless Keypad	60
UL 268 Smoke-Automatic Fire Detectors	1100R Repeater 1164 Wireless Synchronized Smoke Detector	3
UL 521 Heat Detectors for Fire Protective Signaling Systems	1100R Repeater 1183-135F/1183-135R Heat Detector	3
UL 985 Household Fire Warning System Accessory	1100R Repeater 1135 Wireless Sounder 9060/9063 Wireless Keypad	240
UL 864 Fire Protective Signaling Systems	1103 Universal Transmitter 1100R Repeater	3
UL 2075 Gas and Vapor Detectors and Sensors	1184 Wireless Carbon Monoxide Detector	240

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 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 distance of 20cm must be maintained between the antenna and all persons.

Industry Canada Information

This device complies with Industry Canada Licence-exempt RSS standard(s). Operation is subject to the following two conditions:


1. This device may not cause interference, and
2. this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

1. l'appareil ne doit pas produire de brouillage, et
2. l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This system has been evaluated for RF Exposure per RSS-102 and is in compliance with the limits specified by Health Canada Safety Code 6. The system must be installed at a minimum separation distance from the antenna to a general bystander of 7.87 inches (20 cm) to maintain compliance with the General Population limits.

L'exposition aux radiofréquences de ce système a été évaluée selon la norme RSS-102 et est jugée conforme aux limites établies par le Code de sécurité 6 de Santé Canada. Le système doit être installé à une distance minimale de 7.87 pouces (20 cm) séparant l'antenne d'une personne présente en conformité avec les limites permises d'exposition du grand public.

<h3>Specifications</h3> <table border="0"> <tr><td>Operating Voltage</td><td>8.0 to 14VDC</td></tr> <tr><td>Current Draw</td><td>46mA</td></tr> <tr><td>RF Power Rating</td><td>27mW</td></tr> <tr><td>Frequency Range</td><td>905-924 MHz</td></tr> <tr><td>Dimensions</td><td></td></tr> <tr><td> Receiver Housing</td><td>4.65" L x 3.1" W x 1.4" H</td></tr> <tr><td> Antennas</td><td>8.6" H</td></tr> <tr><td>Color</td><td>White</td></tr> <tr><td>Housing Material</td><td>Flame retardant ABS</td></tr> </table> <h3>Patents</h3> <p>U. S. Patent No. 7,239,236</p>	Operating Voltage	8.0 to 14VDC	Current Draw	46mA	RF Power Rating	27mW	Frequency Range	905-924 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	<h3>Certifications</h3> <p>California State Fire Marshal (CSFM) FCC Part 15: CCK1100 Industry Canada: 5251A-PC0082 New York City (FDNY COA #6167) Underwriters Laboratory (UL) Listed</p> <table border="0"> <tr><td>ANSI/UL 365</td><td>Police Station Connected Burglar</td></tr> <tr><td>ANSI/UL 609</td><td>Local Burglar Alarm Units and Systems</td></tr> <tr><td>ANSI/UL 634</td><td>Connections and Switches for use with Burglar Alarm Systems Accessory</td></tr> <tr><td>ANSI/UL 636</td><td>Holdup Alarm Units and System</td></tr> <tr><td>ANSI/UL 639</td><td>Intrusion Detection Units Accessory</td></tr> <tr><td>ANSI/UL 1023</td><td>Household Burglar Alarm System Units</td></tr> <tr><td>ANSI/UL 1076</td><td>Proprietary Burglar Alarm Units</td></tr> <tr><td>ANSI/UL 1610</td><td>Central Station Burglar Alarm Units</td></tr> <tr><td>ANSI/UL 864</td><td>Fire Protective Signaling Systems</td></tr> <tr><td>ANSI/UL 985</td><td>Household Fire Warning System</td></tr> </table>	ANSI/UL 365	Police Station Connected Burglar	ANSI/UL 609	Local Burglar Alarm Units and Systems	ANSI/UL 634	Connections and Switches for use with Burglar Alarm Systems Accessory	ANSI/UL 636	Holdup Alarm Units and System	ANSI/UL 639	Intrusion Detection Units Accessory	ANSI/UL 1023	Household Burglar Alarm System Units	ANSI/UL 1076	Proprietary Burglar Alarm Units	ANSI/UL 1610	Central Station Burglar Alarm Units	ANSI/UL 864	Fire Protective Signaling Systems	ANSI/UL 985	Household Fire Warning System
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