

1100XI In-Line Wireless Receiver

Description

The 1100XI In-Line Wireless 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 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. The attractive compact design allows the receiver to be mounted in public view to provide the best placement for RF operation. The wireless system is designed so only one 1100 receiver is used per panel.

Compatibility

- XR500 Series Command Processor™ panels using firmware Version 113 or higher
- XR100 Series Command Processor™ panels

What is Included

The 1100XI Wireless Receiver includes the following items:

- One Model 1100XI Wireless Receiver with housing
- One Optional Mounting Bracket
- One 4-wire Harness
- Hardware pack

Installing the 1100XI Receiver

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 and operation, refer to the LED Survey Operation section.

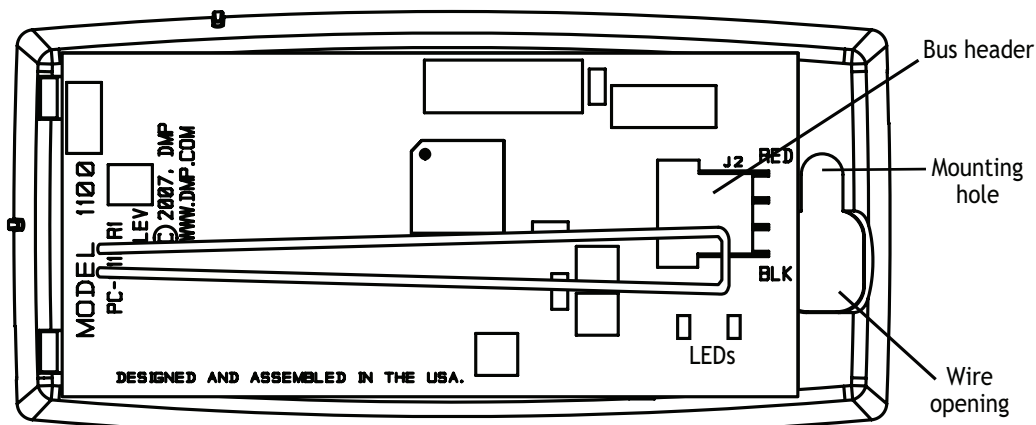


Figure 1: Receiver PCB

Wireless Bus Connection

The 1100XI Wireless Receiver 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 1100XI Wireless Receiver cannot operate if connected to the Keypad Bus.

Harness Connection

Refer to 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 from the J2 header on the 1100XI to the XR100/XR500 panel J22 LX header.
3. After power-up, briefly reset the panel using the J16 jumper to activate zone operation.
4. In System Options, program the House Code (1-50).

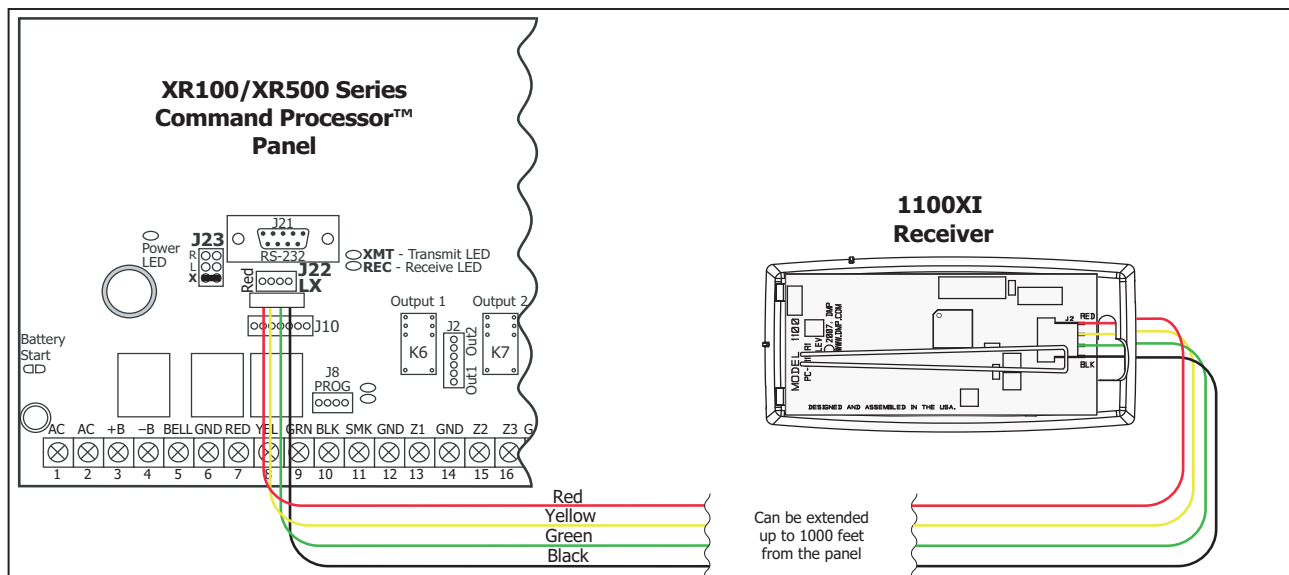


Figure 2: Wireless Bus Connection

Installing with the Optional Mounting Bracket

1. Secure the mounting bracket using the supplied screws or double-sided tape.
2. Remove the cover from the plastic housing by squeezing both ends toward each other or inserting a screwdriver in the slot at the end of the housing.
3. Connect the receiver to the panel keypad bus using the supplied 4-wire harness. Route the wires through the opening in the back of the housing.
4. Snap the cover back in place.
5. Line up the receiver base with the mounting bracket snap connectors and press the housing into place.

Note: For UL listed installations, do not use the optional mounting bracket. See Installing the Receiver without the Mounting Bracket.

Installing the Receiver without the Mounting Bracket

1. Remove the cover from the plastic housing by squeezing both ends toward each other or inserting a screwdriver in the slot at the end of the housing.
2. Connect the receiver to the panel keypad bus using the supplied 4-wire harness. Route the wires through the opening in the back of the housing.
3. Place one screw into the mounting hole location as shown in Figure 1 or use the optional double-sided tape and secure the housing to the surface.
4. Snap the cover back in place.

Note: For UL listed installations, do not use the optional double-sided tape.

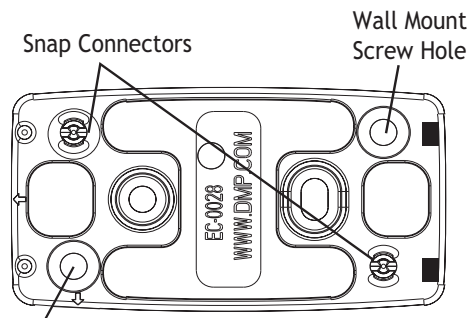


Figure 3: Optional Mounting Bracket

1100XI Receiver Operation

The 1100XI 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 when exiting panel programming. During the update, all wireless zones display as normal for approximately one minute, regardless of the actual state of the wireless device(s).

LED Operation

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

Operation
Green LED - Flashes to indicate data is being sent to the panel.
Red LED - Steady to indicate memory upload. Off when upload is complete.

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 1100XI 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 4-wire J3 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. (See Figure 3).
- Verify the 1100XI LEDs operate correctly as listed in 1100XI LED Operation.
- Verify transmitters have batteries correctly inserted.

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 XR500 Series Programming Guide (LT-0679) or XR100 Series Programming Guide (LT-0896) for complete wireless programming information.

UL Listing	Listed Accessories	Supervision Time
UL 1023 Household Burglary Alarm System Units Accessory	1100R Repeater 1101/1102/1103/1105 Universal Transmitters 1125/1127W/1127C PIR Motion Detector 1142 Two-Button Hold-Up Transmitter	60 60 60 60
UL 634 Connections and Switches for use with Burglar Alarm Systems Accessory	1100R Repeater 1101/1102/1103/1105 Universal Transmitters	60 60
UL 639 Intrusion Detection Units Accessory	1100R Repeater 1125/1127W/1127C PIR Motion Detector	60 60
UL 365 Police Station Connected Burglar Accessory	1100R Repeater 1103 Universal Transmitter	60 60
UL 609 Local Burglar Alarm Units and System Accessory	1100R Repeater 1103 Universal Transmitter	60 60
UL 1076 Proprietary Burglar Alarm Units Accessory	1100R Repeater 1103 Universal Transmitter	60 60
UL 1610 Central Station Burglar Alarm Units Accessory	1100R Repeater 1103 Universal Transmitter	60 60
UL 268 Smoke-Automatic Fire Detectors	1100R Repeater 1161/1162 Residential Smoke Detectors	3 3
UL 985 Household Fire Warning System Accessory	1100R Repeater 1101/1102/1105 Universal Transmitter	240 240

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

Attention! Older Cordless Telephones

Your wireless alarm system is comprised of a state-of-the-art two-way secure network created by sophisticated transmitters and receivers. It is compliant with all FCC rules as they pertain to 900 MHz Spread Spectrum devices which require devices to share the same frequencies. This creates a possibility of interference with other devices in your home.

It has been reported that certain older 900 MHz cordless telephones may on rare occasions experience interference (an audible clicking sound) while in use. (This may also occur with some 2.4 GHz and 5.8 GHz telephones as many still use 900 MHz frequencies). If this occurs on your cordless telephone, it may be resolved by selecting a different channel on your telephone. If your telephone does not have this selection, it can also be resolved by replacing your old cordless telephone with a DECT 6.0 cordless telephone.

What is DECT 6.0?

DECT 6.0 (Digital Enhanced Cordless Telecommunications) is the current standard for cordless telephones, and it provides several benefits over 900 MHz, 2.4 GHz and 5.8 GHz systems.

- No More Interference - unlike older cordless technology, DECT 6.0 telephones are virtually immune to household interference, and vice versa. If you have a wireless computer network in your home, DECT 6.0 won't disrupt internet use.
- Encrypted Privacy - DECT 6.0 has a layer of security that older cordless telephones just don't have. As information and identity theft is on the rise, DECT encryption helps keep your personal communications safe.
- Call Quality - Extra security isn't just for safety; it gives you clearer calls without crossover traffic.
- Battery Life - A DECT 6.0 phone will last as much as 30% longer than a 5.8 GHz phone.

More information can be found on DECT technology at www.DECT.org.

DECT 6.0 Cordless phones can be found at any major retailer including: Wal-Mart™, Target™, Best Buy™ & Radio Shack™.

* Product has not been investigated by UL.

Specifications

Operating Voltage	8.0 to 14 VDC
Current Draw	35mA
RF Power Rating	13mW
Frequency Range	903-927 MHz
Dimensions	
Receiver Case	3.3" L x 1.6" W x 1.2" H
Color	White
Housing Material	Flame retardant ABS

Patents

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

Listings and Approvals

California State Fire Marshal (CSFM)

FCC Part 15 Registration ID CCKPC0111

Industry Canada ID 5251A-PC0111

Underwriters Laboratories (UL) Listed

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 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 268	Smoke-Automatic Fire Detectors
ANSI/UL 985	Household Fire Warning System



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2500 North Partnership Boulevard

Springfield, Missouri 65803-8877