



**NAPCO**<sup>®</sup>  
NAPCO SECURITY SYSTEMS,  
INC.  
333 BAYVIEW AVENUE  
AMITYVILLE, NEW YORK 11701

SALES, REPAIRS & TECHNICAL SERVICE

## INSTALLATION INSTRUCTIONS

# GEM-RECV-XP8 Wireless Receiver for XP-Series and GEM-P800 Control Panels

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### DESCRIPTION

GEM-RECV-XP8 receiver is the hardwired interface to Napco's Wireless-Ready™ XP-Series and GEM-P800 Control Panels. The wireless system comprises an XP-400, XP-600 or GEM-P800 panel, at least one GEM-RECV-XP8 receiver and one or more companion transmitters. The transmitters may be wireless smoke detectors, space-protection devices, window/door sensors, or other devices that report zone status and supervision information to the receiver without the use of wires.

### THE GEM-RECV-XP8 RECEIVER

The GEM-RECV-XP8 will accommodate up to 8 wireless transmitters, 4 GEM-SMK wireless smoke detectors, and 4 GEM-KEYF Key-Fob transmitters. The receiver is connected to the keypad 3-wire bus. The receiver monitors each transmitter, updating transmitter status as reports are received, and conveys this information to the control panel. Also monitored is the elapsed time since the last report from each transmitter. If no report is received within a programmed time, the panel will issue a Supervisory Failure system trouble.

### COMPATIBLE TRANSMITTERS

Any of the following Napco wireless transmitters may be used with the GEM-RECV-XP8 receiver.

- **GEM-TRANS2 Window/Door Sensor.** This supervised, two-point transmitter provides an internal magnetic reed switch and/or terminals for one or two external normally-closed devices.
- **GEM-TRANS4 Window/Door Sensor.** As above, but 4 points.
- **GEM-PIR.** Dual-element passive infrared sensor.
- **GEM-DT.** Dual-technology PIR/microwave sensor.
- **GEM-SMK Smoke Detector.** Supervised smoke detector.
- **GEM-KEYF Key Fob Transmitter.** Keychain/pendant remote arming or emergency transmitter.
- **GEM-GB.** Glass-break sensor.

### SPECIFICATIONS, GEM-RECV-XP8 Receiver

Operating Temperature: 0°C to 49°C

Storage Temperature: -20°C to +85°C

Power Requirements: 12Vdc, 60mA (supplied by panel)

Wireless Ready™ is a trademark of Napco Security Systems, Inc.

Antenna: 1/4-wave (4)

Dimensions: 6" x 35/8" x 1 1/2" (HxWxD, less mounting tabs)

### ORDERING INFORMATION

**Note:** Batteries are included with all transmitters.

GEM-RECV-XP8	8-Point Receiver/Interface with four antennas
GEM-DT	Dual-technology PIR/Microwave sensor
GEM-GB	Glass-Break Detector
GEM-KEYF	Hand-Held Key Fob Pendant/Keychain Panic Button
GEM-PIR	Passive Infrared Transmitter
GEM-SMK	Supervised Smoke Detector
GEM-TRANS2	2-Point Window/Door Transmitter
GEM-TRANS4	4-Point Window/Door Transmitter
DL123A	Replacement Lithium Battery for GEM-TRANS2, GEM-PIR (2) and GEM-GB (2) (bulk packed)

### INSTALLATION

#### Designing the System

In planning the layout of the system, give careful consideration to the location of the receiver. Regardless of where the control panel is mounted, the receiver should be centrally located within the premises, that is, approximately equally distant from all transmitters. Choose a location as high above ground level as practical (attic installations are *not* recommended), keeping in mind that metal objects may adversely affect reception. Draw a layout of the system, identifying all proposed transmitter locations and anticipated receiver location. Also include notations indicating construction materials in use. Although wood and wallboard construction will have little effect upon signal strength at the receiver, concrete or brick can reduce signal strength by up to 35%, while steel-reinforced concrete or metal lath and plaster can reduce transmitter strength as much as 90%.

In installations where distant transmitters pose reception problems, two receivers (maximum) may be used. The panel will respond to receiver with the stronger signal. Both receivers are connected to the panel's 3-wire bus, but they must be addressed differently so that they can be identified by the control panel. This is accomplished by the placement of jumper JP1 at the lower-left corner of the board. Refer to

the *Wiring Diagram* for jumper configuration.

**Note:** Each receiver leaves the factory internally configured as #1. Therefore, if only one receiver is being used, address assignment is not required.

### Mounting and Wiring the Receiver

Allowing at least 9" at the top and 6" at the bottom for the antennas, mount the receiver using two screws suitable for the surface through the two mounting holes in the rear cover (see *Wiring Diagram*). Using 3-conductor cable, wire the receiver to the control panel in accordance with the following table.

GEM-RECV-XP8	XP-SERIES/GEM-P800 CONTROL PANEL
1 (+)	9 (REMOTE POWER +)
2 (—)	10 (REMOTE POWER —)
3 (DATA)	11 (GREEN)

Table 1. GEM-RECV-XP8 terminal connections to the panel

### GETTING UP AND RUNNING

Referring to the installation and programming instruction manuals for the control panel, enter

- the programming block number of the zone to which the transmitter will be mapped,
- the 7-digit RF ID Number (6-digit code:1-digit checksum number) printed on the transmitter. After the last digit is entered, the keypad will beep.
- the wireless point number.

**Note:** When programming the RF ID Number at the keypad,

press [\*][1] for "A"  
 press [\*][2] for "B"  
 press [\*][3] for "C"  
 press [\*][4] for "D"  
 press [\*][5] for "E"  
 press [\*][6] for "F".

Press [ON/OFF] to save. Press NEXT to continue.

**Key Fob Transmitters.** Referring to the programming instructions for the control panel, enter the following:

- an assigned Key Fob Transmitter number (1–4);
- the 7-digit hexadecimal RF ID number printed on the transmitter (enter all numbers and/or letters, including leading zeros, if any);
- Aux. 1 options (see programming worksheets)

### CHECKING TRANSMITTERS

The transmitter will send a report whenever it is tripped. It will also send a supervisory transmission about once every hour. If the receiver does not receive a report within a programmed time, an *RF Supervisory Failure* will be indicated at the keypad.

**Signal Strength.** The signal strength of any transmitter can be determined in the Fault-Find mode, as follows.

(a) Press [\*] [7] to enter the Fault-Find mode.

(b) The keypad will give a visual and audible indication of signal strength as shown in Table 2.

**Note:** After the audible indication times out, a ZONE LED will light to indicate the zone to which the transmitter is mapped.

VISUAL (ZONE LEDs)	AUDIBLE (KEYPAD TONE)	SIGNAL STRENGTH
NONE	1 ¼-SEC. BEEP	3 OR LESS
ZONE 1 ON	1 1-SEC. BEEP	4
ZONES 1 & 2 ON	2 1-SEC. BEEPS	5
ZONES 1–3 ON	3 1-SEC. BEEPS	6–7
ZONES 1–4 ON	4 1-SEC. BEEPS	8–10

Table 2. Keypad indications of signal strength

### WIRELESS SYSTEM TROUBLES

A system trouble will cause the yellow √ SYSTEM LED to come on and the keypad to sound a double-beep, which will repeat every ten seconds. Wireless system troubles are shown in Table 3. To identify the system trouble,

(a) Press the [√] Button; the yellow √SYSTEM LED will flash (with keypad sounder) and one or more Zone LEDs will come on.

(b) Count the number of √SYSTEM LED flashes (or beeps).

(c) Note the ZONE LED(s) that are on.

(d) Find the condition from Table 3.

√SYSTEM LED (# FLASHES)	ZONE LED(s) ON	SYSTEM TROUBLE CONDITION
2	3	Receiver tamper or data failure.
2	4	Receiver jam.
3	1–6	Transmitter low battery on zone(s) indicated.
4	1–6	Transmitter supervisory failure on zone(s) indicated.
5	1–4	Low battery, smoke detector 1–4.
6	1–4	Supervisory failure, smoke detector 1–4.
7	1–6	Wireless tamper; GEM--DT Self-test failure.

Table 3. Wireless System Troubles

**Note:** If a low-battery condition is indicated and all transmitters were installed at the same time, it is recommended that all transmitter batteries be replaced to avoid callbacks.

### RECEIVER LED INDICATIONS

#### Red LED (DS1)

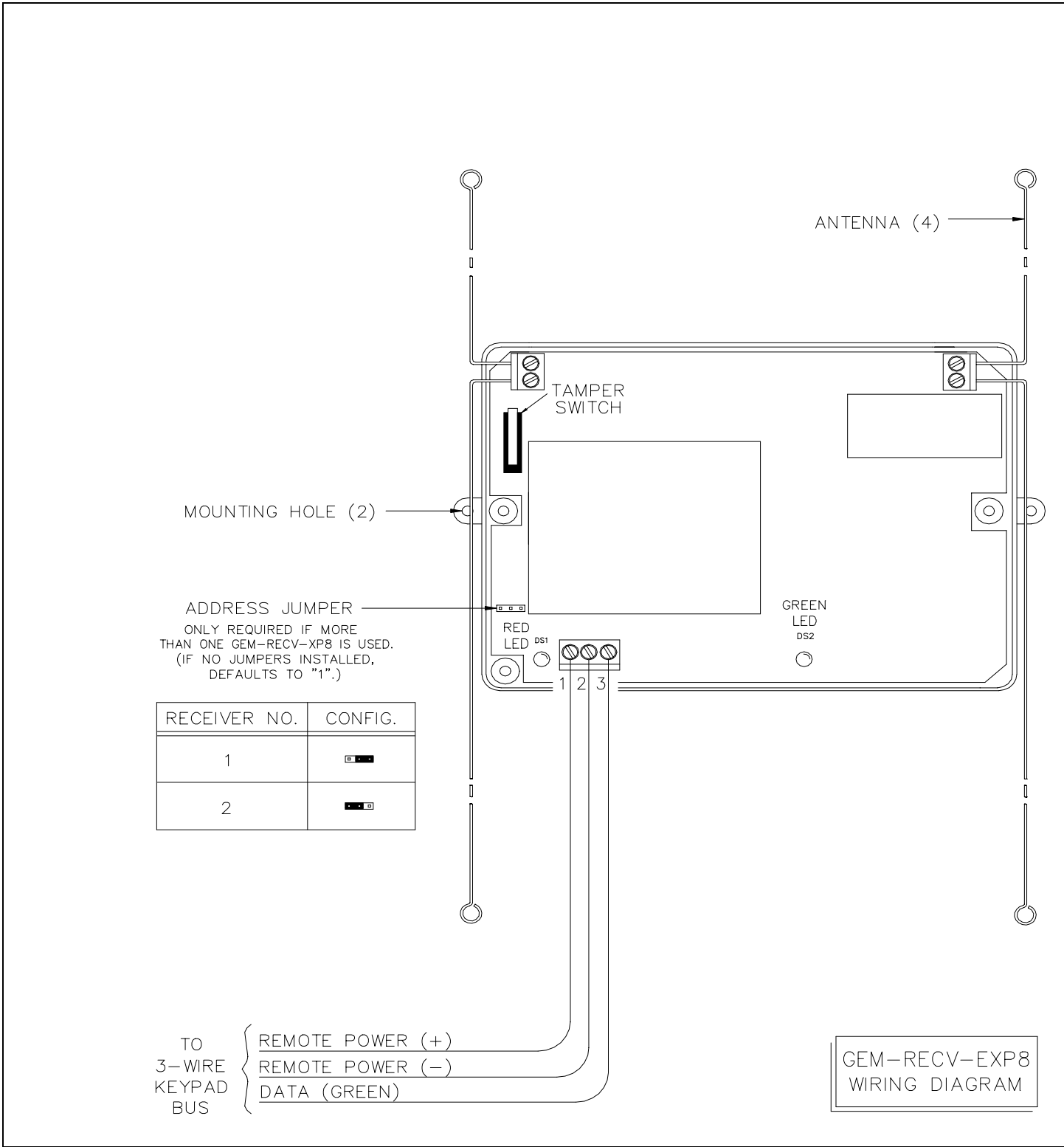
Functions of the red LED are shown in Table 4 below.

RED LED	RECEIVER CONDITION
OFF	No power.
ON	Powered, but not communicating with panel.
FLASHING	Powered and communicating with the panel.

Table 4. Red LED indications

#### Green LED (DS2)

The green LED will flash while receiving a transmission having a strength of 4 or greater, indicating a signal of sufficient strength. *Caution: A green LED display with no transmitters in operation is a sign of high ambient rf interference. If the green LED remains lit continuously, relocate the receiver.*



Caution: This equipment generates and uses radio-frequency energy. If not installed using conventional installation practices for rf devices, it may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference. However, there is no guarantee that interference will not occur in a particular installation. If it has been found to cause interference to radio or television reception, which can be determined by removing and reapplying ac and battery power to the equipment, the installer is encouraged to try to correct the interference by one or more of the following measures: reorient the receiving antenna; connect the power transformer to a different outlet so that the control panel and radio or television receiver are on different branch circuits; relocate the control panel with respect to the radio or television receiver.

## NAPCO LIMITED WARRANTY

NAPCO SECURITY SYSTEMS, INC. (NAPCO) warrants its products to be free from manufacturing defects in materials and workmanship for thirty-six months following the date of manufacture. NAPCO will, within said period, at its option, repair or replace any product failing to operate correctly without charge to the original purchaser or user.

This warranty shall not apply to any equipment, or any part thereof, which has been repaired by others, improperly installed, improperly used, abused, altered, damaged, subjected to acts of God, or on which any serial numbers have been altered, defaced or removed. Seller will not be responsible for any dismantling or reinstallation charges.

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Any action for breach of warranty, including but not limited to any implied warranty of merchantability, must be brought within the six months following the end of the warranty period. IN NO CASE SHALL NAPCO BE LIABLE TO ANYONE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR BREACH OF THIS OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, EVEN IF THE LOSS OR DAMAGE IS CAUSED BY THE SELLER'S OWN NEGLIGENCE OR FAULT.

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This warranty contains the entire warranty. It is the sole warranty and any prior agreements or representations, whether oral or written, are either merged herein or are expressly cancelled. NAPCO neither assumes, nor authorizes any other person purport-

ing to act on its behalf to modify, to change, or to assume for it, any other warranty or liability concerning its products.

In no event shall NAPCO be liable for an amount in excess of NAPCO's original selling price of the product, for any loss or damage, whether direct, indirect, incidental, consequential, or otherwise arising out of any failure of the product. Seller's warranty, as hereinabove set forth, shall not be enlarged, diminished or affected by and no obligation or liability shall arise or grow out of Seller's rendering of technical advice or service in connection with Buyer's order of the goods furnished hereunder.

NAPCO RECOMMENDS THAT THE ENTIRE SYSTEM BE COMPLETELY TESTED WEEKLY.

Warning: Despite frequent testing, and due to, but not limited to, any or all of the following; criminal tampering, electrical or communications disruption, it is possible for the system to fail to perform as expected. NAPCO does not represent that the product/system may not be compromised or circumvented; or that the product or system will prevent any personal injury or property loss by burglary, robbery, fire or otherwise; nor that the product or system will in all cases provide adequate warning or protection. A properly installed and maintained alarm may only reduce risk of burglary, robbery, fire or otherwise but it is not insurance or a guarantee that these events will not occur. CONSEQUENTLY, SELLER SHALL HAVE NO LIABILITY FOR ANY PERSONAL INJURY, PROPERTY DAMAGE, OR OTHER LOSS BASED ON A CLAIM THE PRODUCT FAILED TO GIVE WARNING. Therefore, the installer should in turn advise the consumer to take any and all precautions for his or her safety including, but not limited to, fleeing the premises and calling police or fire department, in order to mitigate the possibilities of harm and/or damage.

NAPCO is not an insurer of either the property or safety of the user's family or employees, and limits its liability for any loss or damage including incidental or consequential damages to NAPCO's original selling price of the product regardless of the cause of such loss or damage.

Some states do not allow limitations on how long an implied warranty lasts or do not allow the exclusion or limitation of incidental or consequential damages, or differentiate in their treatment of limitations of liability for ordinary or gross negligence, so the above limitations or exclusions may not apply to you. This Warranty gives you specific legal rights and you may also have other rights which vary from state to state.