NAPCO®

# GEM-P800

## Control Panel/Communicator

## Installation Instructions

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## General Information

The GEMINI GEM-P800 control panel provides up to 6 wired zones, 8 wireless zones and a 2-wire fire zone. Up to eight 4-digit user codes can be programmed. Ambush, when selected, uses User 8 code as an Ambush code.

The GEM-P800 is wireless ready when used with a GEM-RECV-XP8 receiver. The control panel can support up to 8 wireless zones, 4 wireless smoke detectors and 4 Key Fobs.

The GEM-RP8 keypad provides complete control of the GEM-P800 control panel. Information on system status, bypassed zones, system troubles etc. can be viewed at the keypad.

The control panel can be easily and quickly programmed from the keypad or the panel can be downloaded to using PCD3000 software and a PCI 2000/3000 interface.

## Specifications

| | |
|---|---|
| **Operating Temperature:** | 0-49°C (32-120°F) |
| **Required Transformer:** | NAPCO TRF12 OR<br>BASLER 16.5 VDC 20VA |
| **Loop Voltage:** | 5 Volts |
| **Loop Current :** | Zones 1, 2, 3: .9 mA<br>Zones 4, 5, 6: .5 mA |
| **Loop Resistance:** | 100 Ω max. |
| **Alarm Output** | Burg:12 VDC, 2A Max.<br>Fire:12 VDC, 125 mA |
| **Combined Standby Current:** | 500 mA maximum |
| (Remote PWR, AUX Output, Fire PWR) | |
| **Current Limiting** | Burg/Fire: 2.25 A<br>AUX Power: 750 mA |
| **Housing Dimensions:** | $10^5/_{16}$" x $8^3/_8$" x 3"6<br>(26.2x21.3x7.6) HxWxD |
| **Shipping Weight:** | GEM-P800/4 15.5 lbs |
| **Required Battery:** | 12V 4 AH Rechargeable |
| **Max number of keypads:** | 4 |
| **Max number of receivers:** | 2 |

## GEM-P800 Features

**Control Panel**

- 8 Zones
- 2-wire Fire Zone
- 3 Keypad Panics
- Wireless Ready
- Bell Supervision
- Line Cut Detection
- Answering Machine Override

**Communicator**

- 2 Telephone Numbers
- Backup Reporting
- Pager Format
- Point ID Format

## Ordering Information

| | |
|---|---|
| GEM-P800/4 | 8 zone Control Panel with 2-wire fire (4 Pack) |
| GEM-RP8 | Keypad |
| EOL2.2K | End-of- Line Resistor/Zone Doubling |
| 3.9K | Zone Doubling Resistor |
| OI219 | Operating Instructions GEM-P800 |
| WI851 | Programming Instructions GEM-P800 |

## Optional Accessories

| | |
|---|---|
| GEM-RECV-XP8: | Wireless Receiver, 8 zones |
| GEM-TRANS2 | Window/Door Transmitter |
| GEM-KEYF: | Key Fob Transmitter |
| GEM-SMK: | Wireless Smoke Detector |
| GEM-PIR: | Wireless PIR |
| GEM-DT: | Wireless Dual-Technology Sensor |
| GEM-GB: | Wireless Glass-Break Detector |
| RB1000 | Relay Board |
| Veriphone: | Audio Verification Module |
| PCD3000: | Downloading Software for IBM PC Compatibles |
| PCI2000/3000: | Software with Interface for IBM PC Compatibles |

# Installation

### Mounting the Panel

Mount the Panel close to an unswitched AC source, a cold-water pipe ground, and a telephone line connection.

### Mounting the Keypad

A keypad should be located near an exit/entry door.

To remove the keypad from the backplate, insert a small screwdriver into the square hole at the bottom of the keypad. Pull up on the screwdriver to pop off the cover.

Up to 4 keypads can be connected on individual wire runs with #22 AWG wire with a maximum total cable length of 1000 feet. Each keypad draws approximately 65 mA.

| Keypad Wire Color | Control Panel Terminal |
|---|---|
| RED | 12 (+PWR) |
| BLACK | 13 (GND) |
| GREEN | 14 (GREEN) |

**TABLE 1** Keypad Wiring

### Typical Fire Installation

(Where permitted by local codes)

Install smoke detectors outside each sleeping area and on each floor, including the basement. Install the living room and basement smoke detectors near the stairway of the next upper level.

For increased protection, additional detectors should be installed in areas other than those required, such as the dining room, bedrooms and utility room. Heat detector, rather that smoke detectors, are recommended in kitchens, attics, and garages due to conditions that may result in false alarms and improper operation.

Refer to NFPA Standard 74 (National Fire Protection Association, Batterymarch Park, Quincy, MA 02269) for additional information, including proper mounting methods.

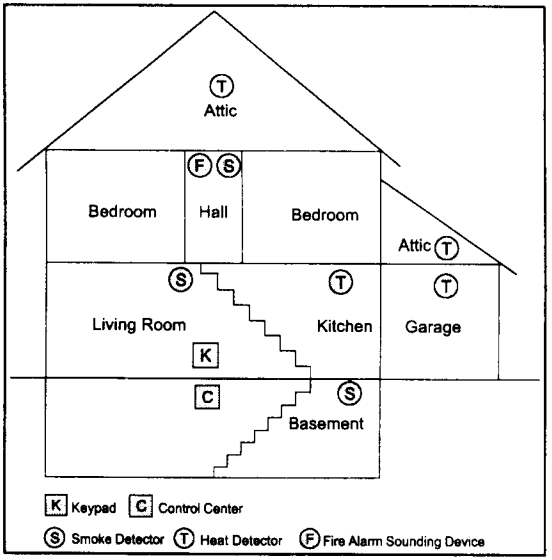



**FIGURE 1** Typical Fire Installation

# Wiring

### Grounding the Panel

Connect the control-panel EARTH GROUND screw to a metal cold-water pipe. Do not use a gas pipe, plastic pipe or AC ground connections. Use at least #16 AWG wire. Also connect the circuit board to the metal enclosure. Connect a wire with a ground lug crimped or soldered onto one end of the EARTH GROUND screw to the cabinet.

### AC Power and Battery Wiring

Complete all wiring before connecting the battery or AC Power. Do not plug the transformer into a switched outlet.

### Telephone Wiring

Wire as shown in the wiring diagram in the back of this manual.

**WARNING**

The FCC restricts the use of this equipment on certain telephone lines. Read the FCC statement on the back of this manual to ensure compliance.

**Burglary Zone Wiring**

Wire zones as shown in the wiring diagram at the back of this manual. All resistor must be installed, even if the zone is not used. If required unsupervised open circuit devices may used instead of closed circuit devices, program the zone as an *Open Circuit Zone*.

**2-Wire Fire Zone Wiring**

Wire the Fire zone as shown in the Wiring Diagram in the back of this manual. An EOL resistor must be installed, even if the fire zone is not used.

**PGM Wiring**

The PGM is a switched negative output that is activated depending on the programming option that has been selected (Programming Blocks 08, 23-25). Connect the device controlled by the PGM between +PWR and the PGM terminal (maximum load of 50 mA).

## Keypad Operation

Keypad zone LEDs indicate zone status. ARMED, READY and ⚠SYSTEM LEDs provide system status. The keypad sounder provides feedback beeps for correct and incorrect entries.

## Keypad Sounder

**3 QUICK BEEPS**

Panel Armed (System ON)
Chime ON
Fault Find Mode ON
Keypad Sounder ON
Zone Bypassed

**6 QUICK BEEPS**

Panel Disarmed (System OFF)
Chime OFF
Fault Find Mode OFF
Keypad Sounder OFF
Zone Un-Bypassed

**1 SECOND STEADY TONE**

Incorrect Code Entered
Invalid key entry

**4 LONG BEEPS** (PRIORITY CONDITION)

Entering a Arm Code with a faulted zone (Not an Auto-Bypass Reentry Zone).

Entering a Arm Code when the Bell or PGM is ON (Bell and PGM will turn OFF).

## Keypad LEDs

**ARMED LED DEFINITION**

| | |
|---|---|
| Armed | ON |
| Instant Mode | Rapid Flash |
| Zone in Alarm | Flashing |

**READY LED DEFINITION**

| | |
|---|---|
| Ready to be Armed | ON |
| Zone faulted | OFF |

**⚠TROUBLE LED DEFINITION**

| | |
|---|---|
| AC Failure | Flashing |
| System Trouble(s) | ON |

**🔥FIRE LED DEFINITION**

| | |
|---|---|
| Fire Alarm | Flashing |
| Fire Alarm Memory/*Fire Trouble | ON |

**AC LED DEFINITION**

| | |
|---|---|
| AC Present | ON |
| AC Failure | OFF |

**ZONE LED DEFINITION**

| | |
|---|---|
| Faulted Zone | ON |
| Bypassed Zone | Slow Flash |
| Zone in Alarm | Flashing |

*Displayed as Fire Trouble only if *Fire Trouble on Fire LED* has been selected (Programming Block [96-4]).

# Panel Operation

**Arming** (System ON)

Before arming the system close all protected zones (unless programmed as *Auto-Bypass Reentry Zones*). Enter a 4-digit Arm/Disarm code, followed by the [#] key, the keypad will provide a feedback beep for each key pressed. If a valid Arm/Disarm code is entered the keypad will beep 3 times. If an incorrect Arm/Disarm code is entered the keypad will sound a 1-second tone indicating an incorrect entry.

**Arming without Entry Delay (Instant Mode)**

Enter the [INSTANT] key to eliminate the entry delay. The *ARMED LED* will flash rapidly to indicate the panel is in Instant Mode. If an *Exit/Entry Zone* is tripped while the panel is in Instant Mode the panel will go into alarm immediately.

**Disarming** (System OFF)

After entering the premises through an *Exit/Entry Zone* Enter a valid Arm/Disarm code. If a valid Arm/Disarm code is entered the keypad will beep 6 times indicating the panel has been disarmed. The red Armed LED will go out. If an incorrect Arm/Disarm is entered the keypad will sound a 1-second tone indicating an incorrect entry, press the [RESET] key and re-enter the code.

**Disarming after an Alarm**

1. The armed LED and the zone(s) that caused the alarm will be be flashing. Disarm the panel. The system is currently not detecting zone faults. The zone(s) that caused the alarm will continue to flash. The Ready and ⚠SYSTEM TRBL LEDs are out indicating:

   The system is displaying **Alarm Memory**.

2. Press the [RESET] key to clear **Alarm Memory**.

**Automatic Bypassing - Home/Away with Delay Zones**

This zone type has the following operation depending on whether the *Exit/Entry Zone* has been violated during the *Exit Delay Time*.

**Home**

If an *Exit/Entry Zone* has <u>not</u> been violated during the *Exit Delay Time*, zones selected as *Home/Away with Delay Zones* will be bypassed automatically.

**Away with Delay**

If an *Exit/Entry Zone* <u>is</u> violated during the *Exit Delay Time*, *Home/Away with Delay Zones* will have a fixed 20-second **entry delay** when violated before an *Exit/Entry Zone*.

**Note:** If a fixed **entry delay** is not desired also program zone(s) as an *Exit/Entry Follower Zone(s)*. Zones will go into immediate alarm if violated before an *Exit/Entry Zone*.

**Bypassing a zone**

Press the [BYPASS] key then the zone number. While the panel is DISARMED the bypassed zone LED will flash slowly indicating the zone has been bypassed. While the panel is ARMED the bypassed zones will only be displayed if the *Display Bypassed* option has been selected.

**Unbypassing a zone** (Disarmed only)

Press the [BYPASS] key then the number of the zone to be unbypassed.

**Group Bypass**

Press the [INTERIOR] key after arming the panel anytime within the **Exit Delay Time** to Bypass all *Exit/Entry Follower Zones*.

## User Program Mode

User 1 Arm/Disarm code is also used to program User Codes 1 - 8. If *User 1 Code Lockout* has been programmed the User 1 Code cannot be re-programmed by the user.

### Entering User Program Mode

Press [FUNCTION] [8A] User 1 Code [ON/OFF]

ARMED, READY AND ⚠SYSTEM TROUBLE LEDS WILL FLASH

### Programming a User Arm/Disarm Code

Up to 8 users codes can be programmed. To program a User Code press the number of the User Gode to be programmed, enter a 4-digit Arm/Disarm code, the keypad will beep 4 times confirming a valid entry.

| Zone LED | Meaning |
|---|---|
| OFF | User Arm/Disarm Code not programmed |
| Flashing | User Arm/Code is currently being programmed |
| Steady | User Arm/Disarm Code has been programmed |

**TABLE 2** Zone Led Definition

### Deleting a User Code

Press the number of the User to be deleted. Press the [INSTANT] key, the LED associated with the user will now be OFF.

### Exiting User Program Mode

To exit User Program Mode press the [RESET] key.

## GEM-P800 Commands

## User Commands

### [FUNCTION] [1] Bell Test

Enter this command to turn on the Bell, keypad sounder and keypad LEDs for 2 seconds. The battery is tested during a Bell Test and also automatically every *24 hours to ensure proper battery operation under load. The Alarm output requires a battery in order to supply the specified output. If the battery cannot sustain the load, a low battery indication will be displayed.

*A battery test occurs every 4 hours when *Household Fire* [96-3] has been selected.

### [FUNCTION] [0] Easy Arm

Enter this code to arm the panel. To disarm the panel a valid Arm/Disarm code must be entered.

### [INTERIOR] Interior

Enter this command to bypass all *Exit/Entry Follower zones.*

### [INSTANT] Instant

Enter this command before or after arming to remove the entry delay on *Entry/Exit Zones.* The keypad *ARMED LED* will flicker rapidly.

### [FUNCTION] [5] Chime ON/OFF

Enter this command to turn chime ON/OFF. The Keypad will chime on any zone that has not been selected as an *Exit/Entry Follower Zone* or *Home/Away with Delay Zones.*

### [FUNCTION] [8A] User 1 Code - User Program Mode

### [FUNCTION] [9P] Keypad Sleep Mode ON/OFF

Enter this command to turn the keypad sounder ON/OFF. When the keypad is in Sleep mode all keypad sounds will be silenced except for keypad tactile beeps.

## User Commands - Optional

**FUNCTION 0 Easy Exit**

If enabled in Dealer programming, enter this command while the panel is Armed to allow 3 minutes to exit the premises through *Exit/ Entry* and *Exit /Entry Follower Zones.*

Note: If FUNCTION 0 is Entered during **Exit Time,** *Home/Away with Delay Zones* will be automatically bypassed, even if the *Exit/Entry Zone* is violated .

**FUNCTION 3 Access on PGM**

If enabled in Dealer programming, enter this command to activate the PGM output (Terminal 15) for 5 seconds.

## Dealer Commands

**FUNCTION 6 Download** (Programming Required)

Establish a connection between the PCD phone line and the Control Panel phone line. When ready, tell the installer to arm then disarm the system, then enter FUNCTION 6 in order to establish a connection. Phone connection to installer will go "dead" as downloader and panel connect.

**FUNCTION 7F Fault Find ON/OFF**

**Hardwired Zone Operation**

Enter this command to turn Fault Find ON/ OFF. While in Fault Find mode the loop response for all zones will be set to the faster response of 40 ms. The keypad will beep for .25-second when hardwired zones are faulted and for 1-second when zones are restored.

**Wireless Operation (Signal Strength)**

While in Fault Find mode the signal strength of a transmitter can be determined. The signal strength will be displayed on the keypad LEDs by turning on the zone LEDs as shown in Figure 2.

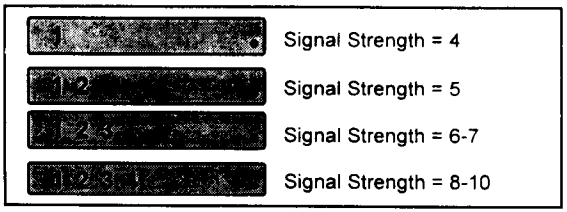



**FIGURE 2** Visual Signal Strength Indication

The keypad will beep out a number, from 1-4, corresponding to the signal strength of the transmitter. See Table 3 below. Each beep is 1-second long. The keypad will sound a short beep for transmitters with signal strengths of 3 or less.

| SIGNAL STRENGTH | KEYPAD SOUNDER |
|---|---|
| 3 or less | .25s BEEP |
| 4 | BEEP |
| 5 | BEEP BEEP |
| 6-7 | BEEP BEEP BEEP |
| 8-10 | BEEP BEEP BEEP BEEP |

**TABLE 3** Audible Signal Strength Indication

## Programming the Panel

Refer to GEM-P800 Programming Instructions (WI847)

**Defaulting the Panel**

1. Remove power from the panel.
2. Remove all wiring from terminal 15 (PGM) and terminal 3.
3. Connect terminal 15 (PGM) to terminal 3.
4. Apply power to the XP-600 control panel.
5. After a few seconds the ARMED, READY and ⚠SYSTEM TROUBLE LEDs will flash.
6. The keypad will beep 3 times indicating the panel default values have been loaded.
7. Remove wiring between terminal 15 (PGM) and terminal 3.
8. Reinstall original wiring for terminal 15 (PGM) and terminal 3.

**Note:** Any programming in *Dealer Options* [96] will not be defaulted. If *Dealer Code Lockout* has been programmed the panel will not default the Dealer Code.

## Zone Features

**[00] Exit/Entry Zones**

Delay allows exit and entry through an *Entry/Exit Zone* after the system is armed without setting off an immediate alarm. *Exit Delay* allows the user to leave the premises after arming. *Entry Delay* allows the user time to enter and disarm. The entry delay may be canceled by pressing [INSTANT]

**[01] Home/Away with Delay Zones**

Zones that automatically bypass at the expiration of the exit delay if the *EXIT/ENTRY zone(s)* are not violated during the exit delay.

If *Exit/Entry zone(s)* are violated during the exit delay, zones programmed as *Home/Away with Delay Zone(s)* will have a fixed 20-second entry delay, if violated before the Exit/Entry zone.

To eliminate this fixed 20-second entry delay also program zones as *Exit/Entry Follower Zones* [02].

**[02] Exit/Entry Follower Zones**

Allows exit through an *Entry/Exit Zone* [01] after the panel is armed without setting off an immediate alarm and allows entry only if an *Exit/Entry Zone* has been violated first. Entry Delay allows the user time to enter and disarm. The entry delay may be canceled by pressing [INSTANT].

**Group Bypassing** - Zones programmed as *Exit/Entry Follower Zones* will be Group bypassed if the [INTERIOR] key is pressed within the **Exit Delay**.

**Auto Interior Bypassing** - Also program zones as *Home/Away with Delay* zone to automatically bypass at the expiration of the exit delay if the *EXIT/ENTRY zone(s)* are not violated during the exit delay.

**[03] Auto-Bypass Reentry Zones**

Zones programmed as this zone type are permitted to be faulted at the time of arming. Once the zone is restored while the control panel is still armed, the zone will automatically be unbypassed and any subsequent violations of the zone will cause an alarm condition.

**[04] 24-Hour Protection**

A zone that provides protection at all times, whether or not the system is armed.

**[05] 40 ms Loop Response**

Normally loop response is 750 ms, select this option to change the loop response to 40 ms. The slower the loop response, the less sensitive the system will be to intermittents (swingers).

**[06] Open Circuit Zones**

Program this zone type if unsupervised normally open circuit devices are required.

**[07] Burg (Steady) Output**

Enables the Bell Output on a zone trip for each zone selected. The Bell Output will remain ON for the length of time programmed for *Burg (Steady) Time-out* or it will remain ON until turned off by entering a valid Arm/Disarm Code; 0 means output will stay ON until reset.

**[08] PGM Output**

Enables the PGM Output on a zone trip for each zone selected. The PGM Output will remain ON until reset. Do not program with any other PGM option except *Audio Verification* [23-1].

## System Times

**[10] Exit Delay**

The delay time which permits exit through an *Exit/Entry Zone* [00] after the system is armed, allowing a user to leave the premises without setting off an immediate alarm. Exit Delay may be programmed for up to 255 seconds (4¼ minutes); a value of 0 defaults to 60 seconds.

**[11] Entry Delay**

Delay time permits entry through Exit/Entry Zone(s) after the system is armed without setting off an immediate alarm. Entry delay allows the user time to enter and disarm the system. Upon entering, the keypad sounder will sound a steady tone to remind the user to disarm the system. *Entry Delay* [11] time may be programmed for up to 255 seconds (4¼ minutes); a value of 0 defaults to 30 seconds. Entry delay may be canceled by pressing [INSTANT] before or after arming. When armed with Instant protection, the red Armed LED will flash rapidly on the keypad.

**[12] Burg (Steady) Output Time-out**

Can be programmed from 1 to 255 min (4¼ hours); 0 means output will stay ON until until turned off by entering an Arm/Disarm Code.

**[13] Fire (Pulsed) Output Time-out**

Can be programmed from 1 to 255 min (4¼ hours); 0 means output will stay ON until until turned off by entering an Arm/Disarm Code.

**[14] Test Timer Interval**

Program the interval, in days, between Test Timer reports. Test Timer Interval may be programmed from 1 to 255 days.

**[15] Line Cut Time-to-Fail**

Enable this feature by programming the delay time required to declare a line cut failure. Programming 000 will disable line cut detection.

**[16] Wireless Supervisory Timer**

A transmitter will send a transmission every time it is tripped; when there is no activity, the transmitter sends a supervisory transmission about once an hour. If the receiver does not receive any signal (either a trip or a status) from a transmitter in the time specified, a system trouble `RF Supervisory Failure' will be indicated at the keypad. Timer is programmable from 1-26 hours; 0 means NO supervision.

**[17] Wireless Smoke Supervisory Timer**

A smoke detector will send a transmission every time it is tripped; when there is NO activity, the smoke detector sends a supervisory transmission about once an hour. If the receiver does not receive any signal (either a trip or a status) from a transmitter in the time specified, a system trouble `RF Supervisory Failure' will be indicated at the keypad. Timer is programmable from 1-8 hours; 0 means NO supervision.

## System Features

**[20] Keypad Features**

**(1) Enable Keypad Fire** ([7F] [*])

**(2) Enable Keypad AUX** ([8A] [*])

**(3) Enable Keypad Panic** ([9P] [*])

**(4) Enable Ambush**. If enabled, the 8th User Code will send an Ambush report when entered to disarm the system. Program *Ambush Report Code* [66] and *User 6 Arm/Disarm Code*. Select reporting to Telco 1 or Telco 3 [36-2][56-2].

**[21] Keypad Features**

**(1) Audible Panic** - Keypad Panic will not turn the Bell on unless this option is programmed.

**(2) Exit/Entry with Urgency** - select to give an audible indication of Exit and Entry times. During the last 10 seconds of entry and exit time the keypad sounds a distinct sound to indicate the premises must be left or the panel must be disarmed.

**(3) Display Bypassed** (Armed) - Select to display bypassed zones while the panel is armed.

**(4) Reserved**

**[22] Miscellaneous Features**

**(1) Abort Delay** - Program to allow a 15 second Delay (except *24 Hour Zones)* after a zone trip before reporting. Disarm the system within 15 seconds to prevent reporting.

**(2) Easy Exit** - Enables [FUNCTION] [0] command.

While the system is armed entering this command allows 3 minutes to Exit through *Exit/Entry* and *Exit/Entry Follower Zones*.

**(3) Swinger Shutdown** - Automatically disable armed zones with excessive alarm/restores. For non-*24-Hour Protection zones*: will allow only 3 alarms and 2 restores per zone per arming before the zone is disabled.

**(4) Bell on Line Cut** (Armed) - Program to turn the Bell Output on if the telephone line has been cut while the panel is armed.

**[23] PGM Features**

**(1) Audio Verification** - Program to activate the PGM during reporting. Select specific zones for audio verification by programming the required zones in *PGM Output* [08]. Connect the PGM to the Veriphone trigger low input.

**(2) Access Output** - Activates the PGM output for 5 seconds using the [FUNCTION] [3] command.

**(3) Follow Keypad Sounder** - The following keypad sounds will activate the PGM output: Entry Sounder, Keypad Pulsing Sounder, Keypad Output on Alarm, Chime, Fault Find.

**(4) Key Fob Chirp** - Program to chirp the PGM Output two times when the panel is armed or one time when the panel is disarmed. Wire as shown in Figure 3.

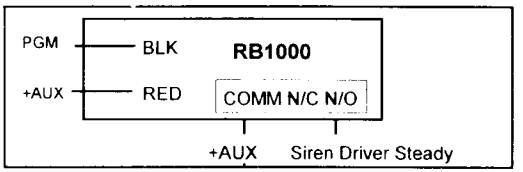



**FIGURE 3** Key Fob Chirp Wiring

**[24] PGM Features**

**(1) Fire** - Program to activate the PGM on a *Fire* alarm.

**(2) AUX** - Program to activate the PGM on a *AUX* alarm.

**(3) Panic** - Program to activate the PGM on a *Panic* alarm.

**(4) Test Timer** - Program to activate the PGM during a *Test Timer* report.

**[25] PGM Features**

**(1) AC Fail** - Program to activate the PGM on the loss of AC.

**(2) Low Battery** - Program to activate the PGM on a *Low Battery* condition.

**(3) Fire Trouble** - Program to activate the PGM on a *Fire Trouble* condition.

**(4) Armed** - Program to activate the PGM when the panel is Armed. The PGM output will flash when the panel has gone into alarm.

## Telephone Number 1 Programming

**[30] Subscriber ID Number**

For 4/2 format enter a 4 digit number. If 3/1 format is required enter a 3 digit number then press the [INSTANT] key to blank the last digit.

**[31] Telephone Number 1**

Program the phone number to be dialed for Telephone Number 1, program the number directly, just as it is entered on a TouchTone phone. A fixed dial tone detection (E) is included prior to the *Dialing Prefix* [44]. Programming an E is not required for Telco 1, Telco 2 and Telco 3. If dial tone detection is not required select *No Dial Tone Detection* [46-1]. To program any additional delay enter a "D" in the phone number. Use the [INSTANT] key to blank out remaining digits in the phone number.

**[32] Receiver Format**

Select the receiver format used to report for Telephone Number 1:

| | |
|---|---|
| [1] Ademco Slow | [5] Reserved |
| [2] Radionics Slow | [6] Point ID |
| [3] Silent Knight Fast | [7] Pager |
| [4] Universal High Speed | |

If Pager Foramt has been selected refer to Pager Programming - Leading and Trailing Digits ([47] and [48]).

**[33] Receiver Options**

**(1) 2300 Hz HS/Kissoff** - Select 2300 Hz Handshake and Kissoff.

**(2) Sumcheck** - Only used for the following Receiver Formats: Ademco Slow, Radionics Fast, Silent Knight Fast and Universal High Speed. This is a sophisticated data format used to enhance the speed and check the accuracy of the received transmission. This format should be used whenever the central station has this capability. Instead of sending a second round to verify correct data, the panel sends a Sumcheck digit after sending the *Subscriber ID* and *Alarm Code*.

**(3) Single Digit** - 3/1 Format. 3-digit Subscriber ID number and a 1-digit Alarm Code will be transmitted.

**(4) No Handshake/Pager Extend** - The meaning of this option is dependent on Receiver Format programming.

**No Handshake** (All receiver formats except Pager Format)
If programmed no Handshake is required.

**Pager Extend** (Pager Format Selected)
If pager format is selected the digits in *telephone number 2* will be added on to *telephone number 1* and *telephone number 3*. If selected do not program backup reporting.

**[34] Zone Report, Telco 1**

Select zone(s) required to send an alarm report to Telephone Number 1.

**[35] Zone Restore, Telco 1**

Select zone(s) required to send a restore report to Telephone Number 1. The zones will send a restore after Bell time-out, unless programmed as silent zones.

**[36] System Reporting, Telco 1**

**(1) Keypad Fire** - Program to activate a Keypad *Fire* report ([7F] [*]).

**(2) AUX/AMBUSH** - Program to activate an *AUX* or *AMBUSH* report ([8A] [*]).

**(3) Panic** - Program to activate a *Panic* report ([9P] [*]).

**(4) Test Timer** - Program to activate a *Test Timer* report.

**[37] System Reporting, Telco 1**

**(1) AC Fail** - Program to activate an *AC Fail* report.

**(2) Low Battery** - Program to activate a *Low Battery* report.

**(3) Fire Trouble** - Program to activate a *Fire Trouble* report.

**(4) Fire** - Program to activate a *Fire* report.

**[38] System Restores, Telco 1**

**(1) AC Restore** - Program to activate an *AC Restore* report.

**(2) Battery Restore** - Program to activate a *Battery Restore* report.

**(3) Fire Trouble Restore** - Program to activate a *Fire Trouble Restore* report.

**(4) Fire Restore** - Program to activate a *Fire Restore* report.

**[39] Opening/Closing Report, Telco 1**

Select users required to send opening and closing reports to Telephone Number 1.

## Backup Telephone Programming

**[40] Subscriber ID Number (Telco 2)**

For 4/2 format enter a 4 digit number. If 3/1 format is required enter a 3 digit number then press the [INSTANT] key.

## Communicator Features

**[41] Telephone Number 2**

Program the phone number to be dialed for Telephone Number 2. A fixed dial tone detection (E) is included prior to the *Dialing Prefix* [44]. Dial tone detection can be disabled by programming *No Dial Tone Detection* [46]. To program any additional delay enter a "D" where required in the phone number.

**[42] Receiver Format (Telco 2)**

Select the format that will be used to report for Telco 2 (Backup reporting). Refer to section [32].

**[43] Receiver Options (Telco 2)**

Refer to section [33] Receiver Options.

**[44] Dialing Prefix**

Dialing prefix for Telco 1, Telco 2, and Telco 3. Program if using an Outside access number.

**[45] Communicator Features**

**(1) Communicator Enabled** - Program to enable the communicator.

**(2) DTMF with Rotary Backup** - The first attempt to communicate is dialed using the TouchTone method of dialing, subsequent attempts are dialed using the pulse method of dialing. Disable this feature to dial using only rotary dialing.

**(3) DTMF only** - All attempts to communicate dial using the TouchTone method of dialing.

**(4) Backup Reporting to Telco 2** - After 2 attempts are made to communicate to *Telco 1 the* backup phone number is dialed (*Telco 2*).

**[46] Communicator Options**

**(1) No Dial Tone Detection** - Program to disable dial tone detection for *Telco 1*, *Telco 2* and *Telco 3*.

**(2) Reserved**

**(3) Reserved**

**(4) Reserved**

## Pager Programming

If Pager Format ([32]and/or[42]and/or[52] = 7) is selected, pager data will be displayed as shown in Figure 4 below. If *Pager Format* is selected 4/2 format must be programmed and Sumcheck is not permitted. If a PIN number is required refer to Leading Digits [47].

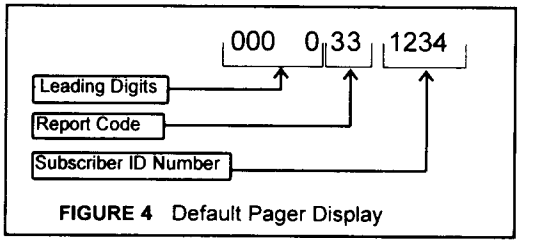



**FIGURE 4** Default Pager Display

Pager Alarm data is the same as 4/2 format with the exception that the 2 digit Report Code is transmitted before the 4 digit Subscriber ID. **Note:** Digits in Report Codes and subscriber IDs that are programmed with "B" through "F" will be converted to "0"s.

**[47] Leading Digits**

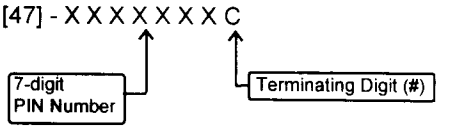
**Pager PIN Number** - If a PIN number is required by the paging system, program the PIN number in the *Leading Digits* location. See sample program below.

If a 7-digit PIN number is required, program the panel as follows:

[31]/[41]/[51] - Pager Telephone number

[32]/[42/[52] - Select Pager Format

[47] - X X X X X X X C




*Leading* and *Trailing* digits can be letters B, C or D. B = the * button on a telephone, C = the # button on a telephone, D = 2 second delay.

**[48] Trailing Digits**

Refer to section [47].

**[49] Pager Options**

**(1) Skip Alarm Data** - Once pager format is selected, program this option to skip alarm data. If this option is selected all the programmed *Leading* and *Trailing digits* are sent but the event code and subscriber ID are not transmitted.

**(2) Reserved**

**(3) Reserved**

**(4) Reserved**

## Telephone Number 3 Programming

**[50] - [59]**

Programming is the same as for Telco 1. Program to split/double report to Telco 3. Refer to sections [30] through [39].

## Report Codes

**[60] Zone Report Codes**

Report Code for Zones 1 through 8.

**4/2 format** - The Zone Report Code is the 1st digit of the report code sent, the second digit is the zone number of the reporting zone. For example if zone 2 has a report code of **3** the report code would be **32**.

**3/1 format** - The code sent is the Zone Report Code for the zone that is reporting.

**[61] Point ID Report Codes**

Point ID Report Codes are defaulted to Burglary for zones 1 through 8. Optionally Point ID codes for zones 1 through 8 can be programmed as follows:

| | |
|---|---|
| 1 Fire | 9 Reserved |
| 2 Panic | 7 Gas Alarm |
| 3 Burglary | 8 Heat Alarm |
| 4 Holdup | A Auxiliary |
| 5 General Alarm | B 24 Hour Alarm |
| 6 Reserved | |

**[62] Zone Restore Code**

Restore code for zones 1 through 8. The second digit of the restore code is the zone number of the restored zone. For example, if the *Zone Restore Code* [62] is programmed to **E**, the restore code for that zone would be **E4** (4/2 format).

**[63] System Report Codes**

Program a 2-digit report code for Keypad Fire, Keypad AUX, Keypad Panic, Test Timer, AC Fail and Low Battery.

**[64] System Restore Code**

The code sent when a system condition restores. The second digit of the 2-digit restore code is the second digit of the *System Report Code* [63]. For example if a Low Battery *System Report Code* is **F8** the Battery Restore would be **E8** (4/2 format).

**[65] Opening and Closing Codes**

Program Opening and Closing Codes for Users 1 through 8. The second digit of the report code is the number of the user that armed or disarmed the system. For example, if the *Closing Code* [65] is programmed to **C**, the closing code for User 2 would be **C2** (4/2 format).

**[66] Ambush Report Code**

Program a 2-digit report code for *Ambush*.

To send an ambush report, program a User Code for User 8, Program *report User 8 as Ambush* [20-4] and Select reporting for Telco 1 and/or Telco 3 [36-2] [56-2].

**[67] Fire Report Codes**

Program a 2-digit report code for *Fire Trouble* and *Fire*.

# Wireless

Up to two receivers can be wired to the GEM-P800, the panel will respond to the receiver with the stronger signal.

Mapping a transmitter to a zone:

1 Enter the Programming Block Number that the transmitter is to be mapped to.

2 Enter the 7-digit RF ID number directly, just as it is shown on the device label. After the 7th digit is entered the keypad will beep.

A transmitter will send a transmission every time it is tripped. The transmitter also sends a supervisory transmission about once every hour. If the receiver does not receive a signal from a transmitter in the time programmed in *Wireless Supervisory Timer*, a system trouble `RF Supervisory Failure' will be indicated at the keypad.

Program *Wireless Supervisory Timer* [16] to change the supervisory time from the default of 12 hours.

Signal strength of a transmitter can be checked at the keypad (see [FUNCTION] [7F] Fault Find Mode).

**[71] - [76] Wireless Transmitters**

Enter the RF ID# and the point number that is to be mapped to the zone.

**Programming Example**

Map point 2 of a window door transmitter with an RF ID# of 0012B0:0 to Zone 3.

1 Enter Dealer Mode.

2 Enter [RESET] (beeps) [7F] [3] (beeps)

3 Enter [0] [0] [1] [2] [*] [2] [0] [0]

4 Enter [2] (beeps)

Hexadecimal B Entry

Note: If the RF ID# in step 3 is not entered correctly the keypad will emit a 1 second tone indicating incorrect entry. Repeat steps 2 - 4 above.

**[81] - [84] Wireless Key Fobs**

Enter the RF ID# and AUX 1 and AUX 2 options for each Key Fob.

AUX 1 & AUX 2 Programming Options:

**1 Panic**

Program a 1 in the AUX 1 and/or AUX 2 option to initiate a panic alarm when the A1 or A2 button is pressed on the Key Fob.

Additional programming required:

*Keypad Panic* ([9P] [*]) [20-3]

*Panic Report to Telco 1 and/or Telco 2.* [36-3][56-3]

*Audible Panic* (Optional) [21-1]

**2 AUX**

Program a 2 in the AUX 1 and/or AUX 2 option to initiate a AUX alarm when the A1 or A2 button is pressed on the Key Fob.

Additional programming required:

*Keypad AUX* ([8A] [*]) [20-2]

*AUX Report to Telco 1 and/or Telco 2.* [36-2][56-2]

**3 Bell ON**

Program a 3 in the AUX 1 and/or AUX 2 option to turn the Bell ON when the A1 or A2 button is pressed on the Key Fob. Press the OFF button to turn the Bell OFF.

**4 PGM ON**

Program a 4 in the AUX 1 and/or AUX 2 option to activate the PGM Output when the A1 or A2 button is pressed on the Key Fob. Press the OFF button to turn the PGM Output OFF.

**5 Instant**

Program a 5 in the AUX 1 and/or AUX 2 option to activate Instant Mode when the A1 or A2 button is pressed on the Key Fob.

**6 Access on PGM**

Program a 2 in the AUX 1 and/or AUX 2 option to activate the PGM Output for 5 seconds when the A1 or A2 button is pressed on the Key Fob.

Addition programming required:

*Enable Access Output* [23-2]

**[85] - [89] Wireless Smoke Detectors**

Enter the RF ID# of the smoke detector.

A wireless smoke detector sends a supervisory transmission about once every hour. If the receiver does not receive a signal from a transmitter in the time programmed in *Wireless Smoke Supervisory Timer*, a system trouble `RF Smoke Supervisory Failure' will be indicated at the keypad.

Program *Wireless Smoke Supervisory Timer* [17] to change the time from the default time of 8 hours. Refer to *Household Fire* [96-3].

**Note:** Mark Smoke Detectors (Smoke 1 through Smoke 4) in order to identify them in the event of a supervisory or battery failure.

## Downloading

**[90] Callback Telephone Number**

Program the phone number of the downloading computer to be dialed by the panel during a high security download.

**[91] Ring Count**

Program the number of rings before the panel will pickup. *Ring Method* [92-1] (Downloading Features) must also be selected.

**[92] Downloading Features**

**(1) Ring Method** - Enable the ring method of downloading. The panel will pick-up on the number of rings programmed in *Ring Count* [91].

**(2) Answering Machine Override** - Using the downloading computer, call the panel. When the operator has determined that the panel has received 1-2 rings, pressing the [F10] key will cause the downloading computer to immediately re-dial the panel. The panel will pick-up on the first ring.

**(3) Command 6 Download** - Select to enable the [FUNCTION] [6] method of downloading (pg 8).

**(4) Reserved**

## Dealer Programming

**[94] Dealer Code**

The default Dealer Code is 4567. Program a new 4-digit Dealer Code. When the panel is defaulted the Dealer Code will be changed back to the default Dealer Code of 4567 only if *Dealer Code Lockout* [96-1] has not been programmed.

**[95] User 1 Code**

The 1st User code is a program code as well as an Arm/Disarm code. The default User Code is 1234. If *User 1 Code Lockout* is programmed the User 1 Code cannot be programmed from User Program Mode.

**[96] Dealer Options**

**(1) Dealer Code Lockout** - Program to prevent the Dealer Code from changing with a panel default.

**(2) User 1 Code Lockout** - If programmed the User 1 Code cannot be programmed from User Program Mode.

**(3) Household Fire** - 4 hour resound of wireless Smoke Low Battery and wireless Smoke Supervisory system troubles. Active Battery test performed every 4 hours instead of 24 hours and *Wireless Smoke Supervisory Timer* is set to 4 hours.

**(4) Fire Trouble on Fire LED** - Normally all troubles are displayed on the ⚠SYSTEM TROUBLE LED, including Fire Trouble. If required Fire trouble can be displayed on the Fire LED.

**Note:** All programming within this Programming Block will not change if the panel is defaulted.

# System Troubles

Use the System Trouble chart on the following page to determine the specific System Trouble(s).

During normal operation the ⚠SYSTEM TROUBLE LED has the following two modes of operation:

**STEADY**
1-7 possible trouble groups, AC is present

**FLASHING**
1-7 possible trouble groups, AC is not present

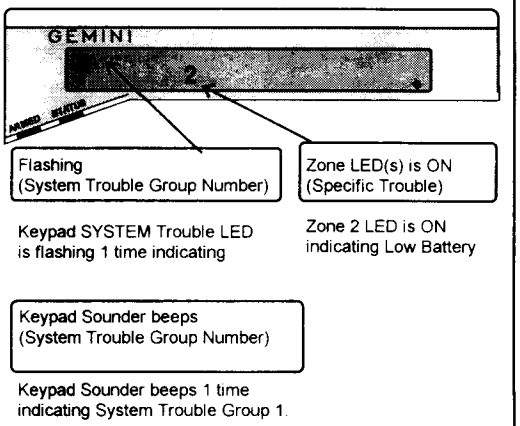
**Viewing System Trouble(s)**

1. Press the [FUNCTION] [4] key on the keypad.
2. To determine the System Trouble Group Number, count the number of times the ⚠ *SYSTEM TROUBLE LED* blinks. The keypad sounder will beep at the same rate that the ⚠*SYSTEM TROUBLE LED* blinks.
3. To determine the System Trouble, note the zone LED that is ON. Look up the specific system trouble on the chart on page 18.
4. The ⚠*SYSTEM TROUBLE LED* and *keypad sounder* will continue to flash and beep, to view the next System Trouble, if any, press the [INTERIOR] (NEXT) key. If there are any other system troubles the ⚠*SYSTEM TROUBLE LED* and *keypad sounder* will indicate it by flashing and beeping the number of the System Trouble Group. Continue pressing [INTERIOR] key, if there are no more system troubles to view the system to normal operation.

**Audible System Trouble Indication** For all system troubles, except when the only system trouble is the loss of AC, the keypad will beep once every 10 seconds. The keypad will continue to beep until the reset button is pressed or the trouble has been acknowledged by pressing the key.

**EXAMPLE - LOW BATTERY SYSTEM TROUBLE DISPLAY**

Press [FUNCTION] [4] key to enter System Trouble mode and determine the specific trouble. Press any key to view all system troubles.




**Note:** System Troubles Groups 3 through 7
System Troubles Groups that have a zone or smoke detector associated with the trouble, such as RF low battery, the zone(s) of the device with a low battery will be displayed by the *ZONE LED*. For example a wireless low battery on zone 2 would beep the keypad sounder 3 times and turn on zone 2 LED.

**System Trouble Reporting**

The following system troubles will send the report code programmed in Fire Trouble [67]:

Bell Cut
2-wire Fire

Additionally the following system troubles will be send the report code programmed in Fire Trouble [67] only if the system has wireless smoke devices:

Receiver Fail to Poll
Receiver Tamper
Receiver JAM
Smoke Low Battery
Smoke Supervisory Failure

## SYSTEM TROUBLES

| Keypad Beeps or ✓**SYSTEM** Flashes | Zone LED ON | System Trouble Condition | Cause/Action |
|---|---|---|---|
| 1 *Beep* | 1 | AC Power Failure | This trouble will occur if AC power is not present. Ensure that the transformer is connected to an unswitched power source. |
| 1 *Beep* | 2 | Low Battery | If there has been a recent power failure, the battery may be partially depleted and must be recharged by the control panel. If the trouble does not go away in 24 hours, replace the battery. |
| 1 *Beep* | 3 | Communication Failure | The system was not able to report to central station. Check panel programming and telephone line wiring.<br><br>The trouble will clear after it has been acknowledged by viewing the system trouble as long as the telephone line has passed a line cut test (tested automatically by the panel). |
| 1 *Beep* | 4 | Telephone Line Cut | The telephone line has failed. If telephone service has been temporarily interrupted, the trouble will clear when restored and the trouble has been acknowledged by viewing the system trouble. |
| 2 *Beeps* | 1 | Bell/Siren line Cut | There is a problem with the Bell or Siren wiring. EOL2.2K resistor must be installed. |
| 2 *Beeps* | 2 | 2-wire Fire Trouble | There is a problem with the wiring of the Fire Zone. |
| 2 *Beeps* | 3 | Rcvr Fail to Poll/ Rcvr Tamper | The receiver is not responding to the panel. The red LED on the receiver should be flashing, refer to WI848. The cover is off the receiver causing a tamper signal to be transmitted. |
| 2 *Beeps* | 4 | Receiver Jam | A signal is blocking the normal reception of transmissions from the wireless devices. Ensure that the green LED on the receiver is not on continuously, refer to WI848. |
| 3 *Beeps* | 1-6 | Wireless Transmitter Low Battery | The battery in the wireless transmitter is low and should be replaced. This transmitter is on the zone corresponding to the number of the zone light flashing. The replacement battery for the GEM Trans2 door/window transmitter and the GEM PIR wireless motion detector is the *Duracell DL123A. (2 required for the GEM-PIR) |
| 4 *Beeps* | 1-6 | Wireless Transmitter Supervisory Failure | The panel has not received a supervisory signal from the transmitter within the time programmed. Check *Wireless Supervisory Timer* [16] Programming. Check the placement of the transmitter and receiver, refer to WI848. |
| 5 *Beeps* | 1-4 | Wireless Smoke Detector Low Battery | The battery in the wireless smoke detector is low and should be replaced. This wireless smoke detector should be marked with a number corresponding to the number of the zone light flashing. The replacement batteries required are *Duracell 9 Volt Alkaline (2). |
| 6 *Beeps* | 1-4 | Wireless Smoke Detector Supervisory | The panel has not received a supervisory signal from the wireless smoke detector within the programmed time. Check *Wireless Smoke Supervisory Timer* [17] Programming. Check the placement of the wireless smoke detector and receiver, refer to WI848. |
| 7 *Beeps* | 1-6 | Zone Trouble | The panel has one or more of the following 3 possible troubles: Zone Short, Transmitter Tamper or Dual Tech Self Test Fail. |

* WARNING: Replace batteries only with the same type as specified above. Use of another battery mya present a risk of fire or explosion. Don not recharge or dissassemble battery or dispose of in fire.

# GEM-P800 WIRING DIAGRAM

(REFER TO INSTALLATION INSTRUCTIONS WI850)

RESIDENTIAL BURG (4 HOUR STANDBY)

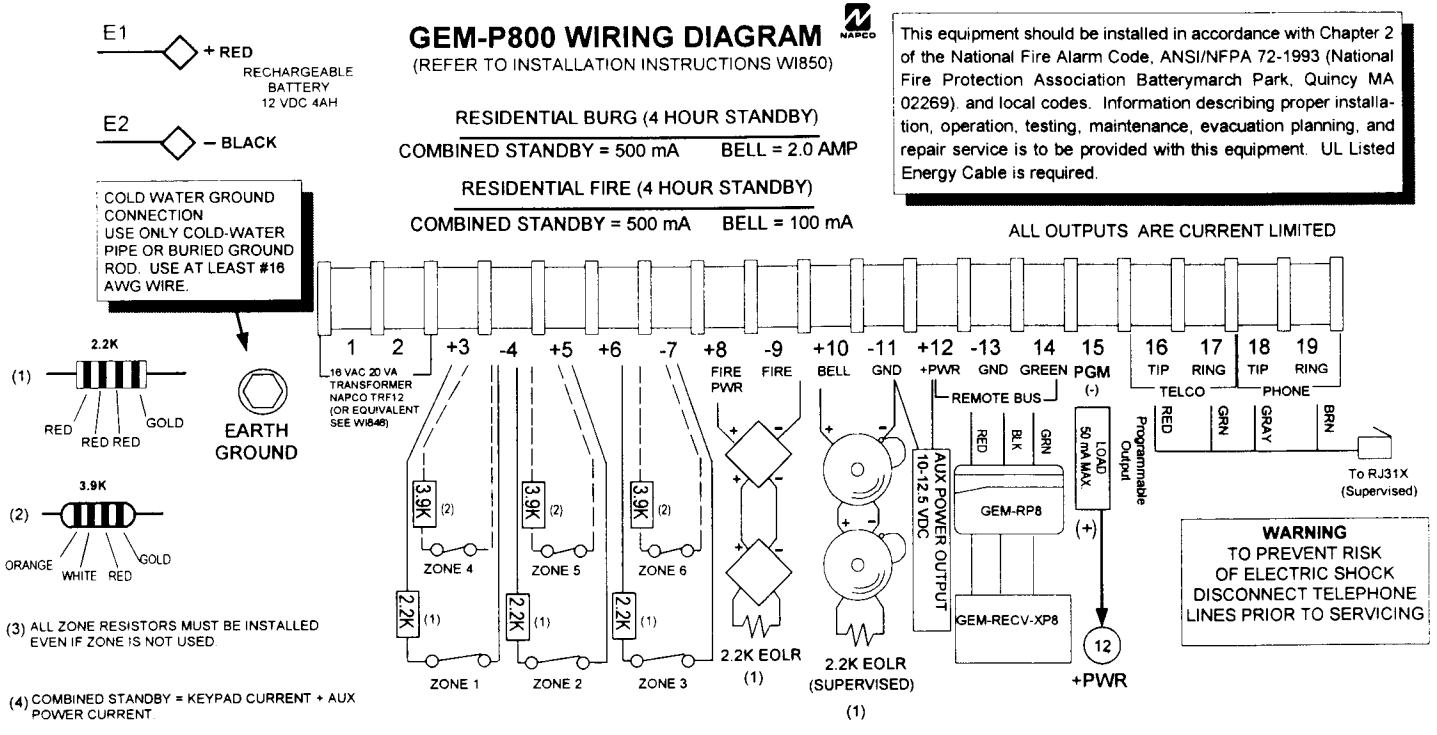
COMBINED STANDBY = 500 mA BELL = 2.0 AMP

RESIDENTIAL FIRE (4 HOUR STANDBY)

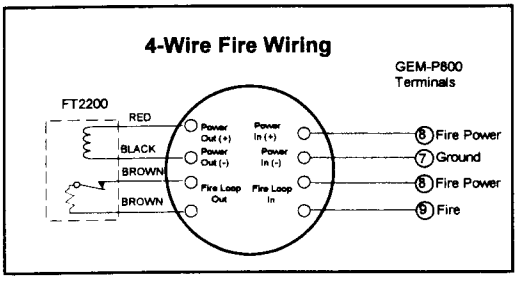
COMBINED STANDBY = 500 mA BELL = 100 mA

This equipment should be installed in accordance with Chapter 2 of the National Fire Alarm Code, ANSI/NFPA 72-1993 (National Fire Protection Association Batterymarch Park, Quincy MA 02269), and local codes. Information describing proper installation, operation, testing, maintenance, evacuation planning, and repair service is to be provided with this equipment. UL Listed Energy Cable is required.

ALL OUTPUTS ARE CURRENT LIMITED




**WARNING**
TO PREVENT RISK OF ELECTRIC SHOCK DISCONNECT TELEPHONE LINES PRIOR TO SERVICING



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.

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. THERE IS NO EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR A WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. ADDITIONALLY, THIS WARRANTY IS IN LIEU OF ALL OTHER OBLIGATIONS OR LIABILITIES ON THE PART OF NAPCO.

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.

In case of defect, contact the security professional who installed and maintains your security system. In order to exercise the warranty, the product must be returned by the security professional, shipping costs prepaid and insured to NAPCO. After repair or replacement, NAPCO assumes the cost of returning products under warranty. NAPCO shall have no obligation under this warranty, or otherwise, if the product has been repaired by others, improperly installed, improperly used, abused, altered, damaged, subjected to accident, nuisance, flood, fire or acts of God, or on which any serial numbers have been altered, defaced or removed. NAPCO will not be responsible for any dismantling, reassembly or reinstallation charges.

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 canceled. NAPCO neither assumes, nor authorizes any other person purporting 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.

THE FOLLOWING STATEMENT IS REQUIRED BY THE FCC.

This equipment generates and uses radio-frequency energy and, if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, 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 in a residential installation.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause 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 the receiving antenna; relocate the computer with respect to the receiver; move the computer away from the receiver; plug the computer into a different outlet so that computer and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful: <169>How to Identify and Resolve Radio-TV Interference Problems.<170> This booklet is available from the U.S. Government Printing Office, Washington, DC 20402; Stock No. 004-000-00345-4.

D.R.