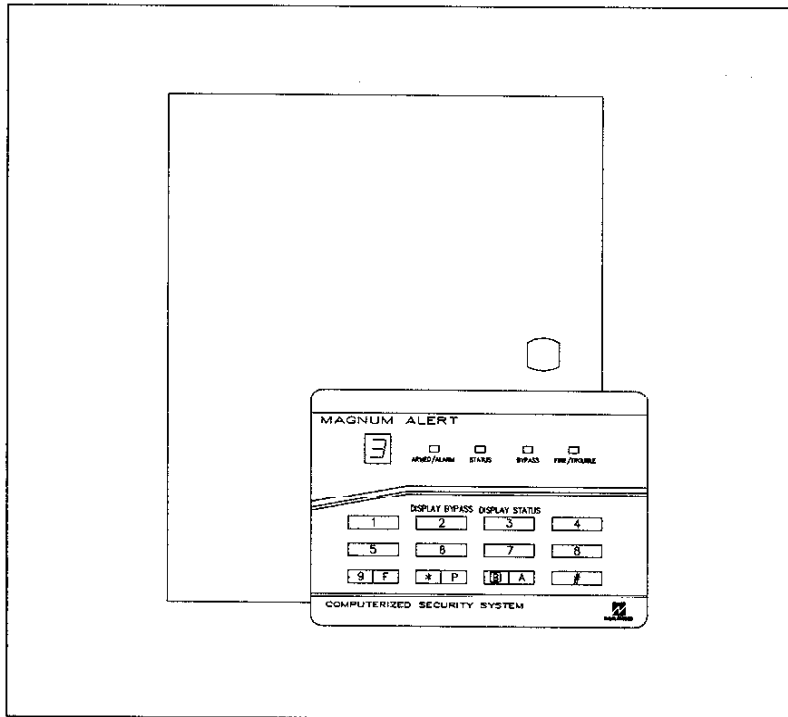




MAGNUM ALERT 1000e
CONTROL PANEL/COMMUNICATOR



UL Listed: Household Fire & Burglary Warning System Control Unit

See page 7 for a summary of changes from the previous edition.

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1. INTRODUCTION

GENERAL DESCRIPTION

The Magnum Alert 1000e is a microcomputer-based eight zone control panel with provisions for Ambush, three types of keypad panic (police, fire and auxiliary), a supervised Fire Zone and a variety of reporting features. The system is contained within a wall-mounted enclosure and includes an integral digital communicator and a power transformer.

The RP1054e keypad allows the user to perform the following functions:

- arm and disarm the system,
- check the status of each zone,
- check which zones were violated after an alarm,
- selectively bypass one or more zones,
- display bypassed zones,
- cancel entry delay,
- send an Ambush alarm or Police, Fire or other Panic alarm,
- enter or change arm/disarm codes,
- test the audible alarm circuit,
- test each zone for problems (Fault Find),
- test the telephone line while disarmed,
- test the backup battery
- reset Ac-Failure indication,
- bypass a Priority-with-Bypass Zone
- turn the Chime feature on/off, and
- program zone features and communicator information

Four LEDs, a digital display and a sounder on the keypad provide visual and audible system and individual zone status information. Most keys have secondary functions that are accessed by holding down the key until the sounder beeps, and are therefore termed "hold-down" functions. The following hold-down functions are provided:

Key [1] - Bell/Battery Test

Key [2] - Display Zones Bypassed

Key [3] - Display Status

Key [4] - Instant Alarm (cancels entry delay)

Key [5] - Chime on/off

Key [6] - Communicator Confidence Test or Manual Download (see text)

Key [7] - Fault Find

Key [8] - Program

Key [9] - Reset (Ac-Fail indication; Day-Zone indication; Alarm-Memory display; Fire Zone; Fault-Find mode; Bypass Priority-with-Bypass; and Power-Up Delay)

Key [B] - Alarm History (displays last zone(s) in alarm)

The panel may be programmed (a) from the keypad, in its secondary Dealer-Program Mode of operation or (b) from an IBM PC-compatible computer using NAPCO's PCD2000 Quickloading Software.

Designed for use with the PCI2000 Computer Interface Kit. The MA1000e includes a modem to permit remote downloading/uploading over telephone lines or local downloading using a PCL2000 Local Download Cable.

FEATURES

Protection Zones

- Six end-of-line-resistor supervised zones.
- Two separately-programmable entry delays for Exit/Entry Zones.
- Burglary Zone options include:
 - Priority or Priority with Bypass
 - Selective or Group Bypass
 - 24-Hour Protection
 - Day Zone Supervision
 - Auto Reset
 - Exit/Entry Delay 1; Exit/Entry Delay 2
 - Keypad Sounder on Burglary Zones
 - Preprogrammed Auto Bypass (removable)
 - Optional 50mS or 7mS Loop Response (normally 750mS)
 - Programmable Abort Delay
- Separate supervised Fire Zone
- Keypad Panic Zones (Fire/Police/Auxiliary)

Alarm Outputs

- Timed Burglary and Fire Output: Programmable by zone and time
- Timed Fire Output: Fixed to Fire Zone, programmable for time
- Pulsing Bell Output: Fixed to Fire Zone, programmable for time
- PGM (Untimed Output) Lug

RP1054e Keypad Functions

- Keypad permits:
 - Arm/Disarm Code Selection of up to 8 user codes, up to 4 digits each
 - Digital Code Entry to arm and disarm system
 - Selective and Group Bypass Selection
 - Fire/Aux/Police Panic Alarm Activation
 - Ambush Activation
 - Hold-Down Function Access
 - Resetting of various functions and conditions
 - Programming zone features and communicator options
- LEDs display:
 - Alarm State (armed/disarmed) (ARMED/ALARM)
 - Zone Status (STATUS) - one or more zones in trouble
 - Zones Bypassed (BYPASS) - one or more zones removed from system
 - Fire Zone Status (FIRE/TROUBLE)
- Digital display indicates:
 - Zone(s) in alarm and alarm history
 - Zone(s) in trouble
 - Zone(s) bypassed
 - System troubles
 - Programmed data entries (Dealer Program Mode)

- Sounder indicates:
 - Entry Delay in Progress
 - Hold-Down Function Accessed
 - Entry Door Opened while Disarmed (Chime)
 - System Armed with a Zone in Trouble
 - Day Zone in Trouble
 - Fire Zone Alarm/Trouble
 - Central-Station Ringback

Communicator Features

- Integral digital communicator with true dial-tone detection, double-pole line seizure and anti-jam.
- Programmable abort delay time.
- Rotary or TouchTone® dialing available. Rotary dialing available as backup to unsuccessful TouchTone dialing.
- Two telephone numbers and receiver/data formats can be accessed.
- Two-digit event codes and 4-digit subscriber codes programmable for those receivers accepting these formats.
- Central-Station Ringback.

Reporting Features

- Report on Alarm
- Opening and/or Closing Reporting by Individual User
- Opening Report After Alarm
- Day Zone Trouble; Fire Zone Trouble
- Ambush; Panic
- Test Timer; Restart Test Timer on Any Report
- Ac Failure; Low-Battery Report
- Force-Arm Report; Force-Arm/Status Report
- Control-Panel Restore Report; Zone-Restore Report
- Backup Reporting; Double Reporting; Split Reporting

Other Features

- Audible Bell Test on Arming
- Power-Up in Last State
- Programmable Chime Duration
- Chime/Display Chime Mode
- No End-of-Line Resistor
- Access Control
- Watch Mode
- Sensor Watch™
- 4-Wire Smoke Detector Compatibility
- Electronic Dealer Lockout prevents unauthorized access.

SPECIFICATIONS

Operating Temperature: 0–49 °C (32–120 °F)

Input Power: 16Vac, Class 2 step-down transformer (TRF8)

Burg/Fire Zones,

Loop Voltage: 10–13Vdc

Loop Current: 2.8mA (normal resistance)

Loop Resistance: 300Ω maximum series resistance

Alarm Output (Burg/Fire): (**Note:** Not UL listed for Mercantile.) *Commercial Installations*, 12Vdc, 1.0A maxi-

mum; *Residential Installations*, 10.9–12.5Vdc, 125mA max.

Auxiliary Output: *Commercial Installations*, 12Vdc regulated; *Residential Installations*, 10.6–12.6Vdc

Combined Standby Current: (Remote Power, Aux. Output, Relay Output), 300mA maximum with standard TRF8; 500mA maximum with optional TRF12

Remote Station,

Current: 35mA typical

Maximum Number: 5 (If Chime and/or Display Open Zones are programmed, limit to 3 remote stations.)

Recommended Battery: Rechargeable, sealed lead-acid, 12Vdc, 1.2AH (RBAT1.2)

Standby Time: 4 hours at 125mA Combined Standby Current with standard RBAT1.2 battery; 4 hours at 500mA Combined Standby Current with optional RBAT4 battery

Fuses,

Burglary/Fire Output: 3A, 1AG (F2)

Remote Power: 1A, 1AG (F3)

Battery: 5A, 1AG (F1) (Non-Replaceable)

Housing Dimensions: 10⁵/₁₆ x 8³/₈ x 3" (26.2 x 21.3 x 7.6cm) HxWxD

Shipping Weight: Approx. 7 lb (3.2kg)

ORDERING INFORMATION

Equipment Supplied

Magnum Alert 1000e – Residential 12-volt control panel, with 6 Burglary Zones, 1 Fire Zone, 3 Keypad Panics and Ambush; including integral communicator; RP1054e Keypad; TRF8 Power Transformer; and RBAT 1.2 Battery.

Magnum Alert 1000e4 – As above, but with RBAT4 4AH Battery.

Optional Peripherals and Accessories

RP1000eLCD Designer-Style Keypad with LCD display.

RBAT4 Rechargeable Battery, 12Vdc, 4AH

RBAT-H1* Dual Battery Harness (not for UL installations)

TRF8 Transformer, 16Vac, 14.4VA, Class 2 (UL Listed)

TRF12 Transformer, 16Vac, 19.2VA, Class 2 (UL Listed)

DH-1* Diode Harness (not for UL installations)

EOL2.2K End-of-Line Resistor Assembly, 2.2kΩ

FT2200 End-of-Line Relay/Resistor Supervisory Module

GSM-400 Ground-Start Module (not for UL installations)

LOCK-8 Lock & Key Set

M278* Line-Reversal Module (not for UL installations)

PCI2000 Quickloader Interface and Software

PCL2000 Quickloader Local Download Cable

TM900* Timer Module (not for UL installations)

WL1 Wire with Lug Connector, 20" (not for UL installations)

OI146 Operating Guide

*UL-Listed Accessory

UL CLASSIFICATION

Household Fire and Burglary Warning System Control Unit.

COMPATIBLE UL-LISTED DEVICES

Bell:

Wheelock 34T-12R (Rated at 85dB for indoor household applications)

Smoke Detector (4-wire):

ESL 445AT

Subtract total smoke-detector alarm current from available standby current.

SUMMARY OF UL REQUIREMENTS

The following summarizes UL programming and wiring requirements.

- Recognized Limited-Energy Cable for initiating, indicating and supplementary circuits;
- Initiating loops supervised if longer than 3 feet;
- FT2200 End-of-Line Relay for Fire;
- Minimum alarm timeout of 4 minutes;
- Maximum exit time: 60 seconds; maximum entry time: 45 seconds;
- Program *Disable Callback Download; Disable Function-6 Download;*
- Do not program *Swinger Shutdown; Force Arming; Group Bypass; 7mS or 50mS Loop Response; Dis-*

able Bell Test; Disable Fire Reset with Hold-Down 9; and Key Input on Zone 5. Abort Delay may not exceed 45 seconds.

- The PGM Output may not be connected.
- The keyswitch zone may not be used.
- Automatic dialer may not dial a police-station number that has not been dedicated for such service;
- Battery Fuse F1 is not field serviceable. If F1 is open, return board to Napco for repair;
- System must be tested at least weekly under ac/battery and battery-only conditions;
- Replace the rechargeable battery at least every 5 years;
- If the battery is heavily discharged, replace it or have it tested by a qualified technician.
- Remote panic switches must be located in the same room as the control unit and keypad. Wiring may not pass through any barrier.
- For silent panic, connect only to UL-listed holdup devices.

In California: May not be used for fire protection until approved by the California Fire Marshal (pending).

2. INSTALLATION

CONTROL-PANEL MOUNTING

Choose a mounting location accessible to (a) a continuously-powered ac source, (b) a cold-water-pipe ground ideally no further away than 10 feet, and (c) telephone lines (keep telephone wiring away from speaker wires). Remove appropriate knockouts for cables. Place the control panel at a convenient viewing height and mark the mounting holes.

A keypad should be located near the exit/entry door. Up to 5 keypads may be connected if the longest cable run from the panel to the farthest keypad, whether daisy chained or home-run wired, is less than 1000 feet. The maximum distance for 5 keypads on a single run is 300 feet using #22AWG wire. See *Combined Standby Current* specifications. Each keypad typically draws 35mA, however do not use more than 5 keypads.

The control panel door is secured shut by 3 screws (supplied). A lock and keyset are available as an option (see *ORDERING INFORMATION*).

Grounding

Connect the control-panel Terminal 1 (EARTH GROUND) to a metal cold-water pipe. Do not use a gas pipe, plastic pipe or ac ground connections. Use at least 16-gauge wire. Make the run as short and direct as possible, without any sharp bends in the wire.

Also ground the circuit board to the metal enclosure. Connect a wire with a ground lug crimped or soldered onto one end from Terminal 1 to the cabinet. Install a self-tapping screw through the lug into one of the unused tamper switch holes.

Tamper Switches

Tamper switches may be installed to prevent opening of the enclosure door or removal of the cabinet from the wall. Ideally, tamper switches should be connected to a zone that is active at all times, thus it may be necessary to program that zone for *24-Hour Protection*. When used on a normally-open zone, normally-closed tamper switches (open when set) should be wired in parallel. On a normally-closed zone, install Napco normally-open tamper switches (closed when set) in series. There are two tamper-switch provisions in the cabinet:

1. To prevent cabinet removal from the wall, there are three mounting holes on the left side of the cabinet; another hole on the back that allows the switch button to contact the wall.
2. To prevent opening the cabinet door, there are three mounting holes on the right side of the cabinet. When mounted, the tamper-switch button should contact the inside of the door. Be sure to alert the user that opening the enclosure door will cause a tamper alarm.

KEYPAD MOUNTING

Note: For installation of the RP1000eLCD Keypad, refer to W1603.

Opening the keypad. There are two slots along the bottom edge of the keypad about 1 inch from each side. To open, insert a medium screwdriver into either slot and push up with a slight twisting motion to release the retainer tab. Repeat for the other slot. Pull out at the bottom and lift off the two hooks at the top.

This keypad features a handy pull-up reference label. *Before mounting the keypad onto the wall*, push the Sliding Label Plate (with label and felt backing affixed and handle facing forward) down the guides at the rear of the keypad until it snaps into place. Once installed, the Sliding Label Plate cannot be removed without first removing the keypad from the wall.

When installing the rear case, be sure that the words "TOP" and "UP" (molded into the case) are properly oriented. The rear case is provided with a variety of holes to accommodate virtually any mounting situation. The four *angled* elongated holes are for mounting directly into a wall using appropriate screws; these holes will allow levelling adjustment. If installing into a double-gang box, insert mounting screws through the two *vertical* elongated holes on the left side of the case and into the box. If the box is visible when viewed from the front, adjust the keypad vertically, then tighten the screws. Then, using hardware suitable for the mounting surface, add one or two screws at the right side of the keypad case directly into the wall to ensure a secure installation.

Keypad Wiring (Also see Wiring Diagram)

Connections to the keypad are summarized in the following table. Avoid routing keypad wiring close to zone wiring.

Note: If using a soldering iron, avoid splashing solder onto keypad circuit board or components.

Keypad Wire Color	Control-Panel Terminal
Yellow	KEYPAD, YEL (9)
Green	KEYPAD, GRN (10)
Red	KEYPAD, + (7)
Black	KEYPAD, - (8)
White*	to N/O momentary contact push-button switch(es)
White*	

Table 1. Keypad Wiring.

**Wire additional Panic Switches in parallel. Insulate both white wires if not used (a short will cause a panic alarm).*

Remote Panic. To connect a remote (Police) panic button, splice the two white keypad wires to a normally-open momentary-contact pushbutton switch. Similarly, additional panic buttons may be wired in parallel with the first, as needed. If remote panic will not be used, insulate *both* white wires, as a short across them will cause a panic alarm. Note that in UL installations, remote panic buttons must be located in the same room as the keypad, with no intervening barriers.

Backlighting. Keypad backlighting requires no additional wiring. In normal use, the keypad is always dimly backlit. To reduce or disable backlighting, see *KEYPAD JUMPER OPTIONS*, which follows.

Keypad Jumper Options

Several white jumpers provide a variety of options. Viewing the keypad from the front, these jumpers are conveniently located at the top edge (Jumper D) and along the right side edge (top to bottom: Jumpers C, B, A and F) for easy access.

Disable Keypad Panic. Cut Jumper A to disable all three keypad panic features. (Cutting Jumper A will *not* disable the two white remote-panic wires.)

Disable Keypad Sounder. Cut Jumper B to completely disable the sounder. **Note:** Jumper B must be left intact for UL installations.

Disable Touchpad Backlight. Cut Jumper C to disable touchpad backlighting.

Reduce Touchpad Backlight. Cut Jumper D to reduce backlight intensity.

Activate Fire & Aux. Panics. Cut Jumper E to enable Fire and Auxiliary keypad panics. **Note:** This jumper must be cut in all keypads to utilize the three-keypad-panic feature of the MA1000e. Conversely, if Jumper E is cut, *Enable Keypad Aux. Panic* and/or *Enable Keypad Fire Panic* must be programmed.

Assembling the keypad. To reassemble the keypad after installation, hang the top of the front panel onto the hooks in the rear case and push in firmly at the bottom until the retainer tabs snap into place. (If difficulty is encountered, push the retainer tabs up slightly using a screwdriver, as when removing.)

TYPICAL FIRE INSTALLATION

At least one smoke detector should be installed directly outside each sleeping area. If there is more than one floor,

additional smoke detectors should be installed on each level, including the basement. The living-area and basement smoke detectors should be installed near the stairway of the next upper level.

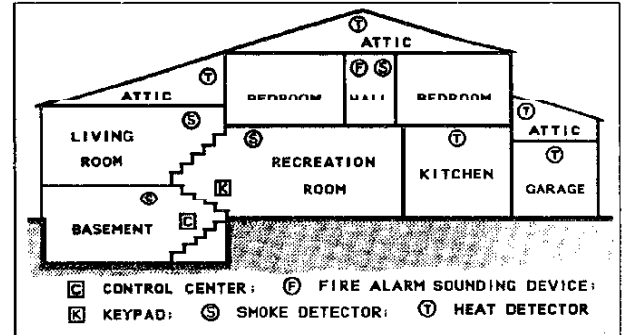


Fig. 1. Typical fire installation.

For increased protection, additional detectors should be installed in areas other than those required, such as dining rooms, individual bedrooms, furnace rooms, utility rooms and hallways. Heat detectors, rather than smoke detectors, are recommended in garages, attics, and kitchens due to conditions that may result in false alarms and improper operation. Large areas and areas with partitions, ceiling beams, doorways, and open joists will require additional detectors. Refer to NFPA Standard 74 (National Fire Protection Association, Batterymarch Park, Quincy, MA 02269) for additional information, including proper mounting methods.

CHANGES FROM PREVIOUS EDITION

The following changes have been made to this manual since the last edition.

Page 8: **DEFAULT PROGRAM** revised.

Pages 14–16: **PROGRAMMING RECORD SHEETS:** Default programming revised.

Page 17: **Table 3, Timed Negative Output: AUX + Terminal** corrected (Terminal 6)

Page 32: **NAPCO LIMITED WARRANTY:** Extended to 30 months.

3. GETTING UP AND RUNNING

POWER-UP SEQUENCE

1. Referring to the Wiring Diagram, (a) connect the keypad to the four KEYPAD Terminals 7 through 10 and (b) install end-of-line resistors (color code red/red/red) across each zone.

2. Connect an earth ground (cold-water pipe) to EARTH GROUND Terminal 1.

3. Connect the power transformer to the AC Terminals 2 and 3 and plug the transformer into ac power.

4. Install the standby battery.

5. Check that the green STATUS LED on the keypad is lit.

6. Install loop wiring to zone terminals and relocate resistors to end of loops. Recheck green STATUS LED.

7. If reporting to a central station, connect a telephone connecting cord to the TELCO terminals: green to "R" (22); red to "T" (23); and PHONE terminals: brown to "R" (24); gray to "T" (25). Then see *CENTRAL-STATION REPORTING*.

DEFAULT PROGRAM

The MA1000e will function as a local alarm control panel *right out of the box!* The following default program is entered at the factory. It is the installer's responsibility to add, change and/or delete features in accordance with these instructions to customize the system to the user's requirements and to conform to local codes.

- At.../Disarm Code: 123 (User 1)
- User Program Code: 123456
- Dealer Program Code: 456789
- Exit/Entry (Entry Delay 1): Zone 1
- Entry Delay 1: 30 seconds
- Entry Delay 2: 30 seconds
- Exit Delay: 45 seconds
- PGM Lug Output: Zones 1–6; Keypad Panic
- Priority: Zones 1–6
- Selective Bypass: Zones 1–6
- 24-Hour Protection: Keypad Panic
- Auto Reset: Zones 1–6; Keypad Panic
- Swinger Shutdown: Zones 1–6
- Chime: Zone 1
- Chime Time: 2 seconds
- Burglary Output: Zones 1–6
- Burglary Timeout: 5 minutes
- Fire Timeout: 15 minutes
- Download with Answering Machine enabled
- Auto-Reset After Alarm Timeout enabled
- Pulsing Fire Output enabled
- Keypad Tactile Beep enabled
- Keypad Sounder on Alarm: Zones 1–6
- Keypad Panic enabled
- Keypad Low-Battery Display disabled
- Display Open Zones enabled
- Communicator-Confidence Test enabled
- TouchTone with Rotary Backup enabled
- Alarm/Trouble Codes.

- Zones 1–6: 31–36
- Keypad Panic: 21
- Keypad Fire: 11
- Keypad Aux: 23
- Ambush: 22
- Fire Trouble: F1
- Day Trouble: DF
- Test Timer: FF
- No Ac: F9
- Low Battery: F8
- Restore Codes,
 - Zones 1–6: E1–E6
 - Aux/Fire: E1
 - Fire Trouble: EF
 - No Ac: E9
 - Low Battery: E8
- Closing Codes, Users 1–4: C1–C4
- Opening Codes, Users 1–4: B1–B4
- Force-Arm Code: F

CENTRAL-STATION REPORTING

The following additional programming is required for central-station reporting.

- Report on Alarm
 - Subscriber ID (Account) Numbers, Groups 1 & 2*
 - Receiver Format*
 - Data Format*
 - Telephone Number*
- *Obtained from central station.

Note: Remember, for optimum security, the following code must also be reprogrammed:

- User-1 Code (see *Programming User Codes*, below)
- For other programming, see *Dealer Keypad Programming* (Section 4) and the programming aid shown in Fig. 2.

USER KEYPAD PROGRAMMING

Programming User Codes

Note: The User Program Mode is disabled for the first three minutes after power-up to allow you to use the Dealer Program Code. To cancel the delay, hold down Key [9].

Up to eight different Arm/Disarm Codes may be entered into the control panel using the keypad. User Code 5 may be programmed as a Service Code, a special user code intended for temporary or occasional use only (see *Service Code*).

To program a User Code,

1. Hold down Key [8] until the sounder beeps, then enter the User Program Code. (The default User Program Code is 1,2,3,4,5,6, but this code *must* be reprogrammed.) When the User Program Code has been entered, the first three LEDs on the keypad will flash and the sounder will beep rapidly, indicating the User Program Mode.
2. Now enter up to eight codes using any combination of up to four digits (digits 1–9 only).

Examples: press

- [B], [1], then any 4 digits = User 1's code*
- [B], [2], then any 4 digits = User 2's code
- [B], [5], then any 4 digits = User 5's code**

*Default User-1 Code 1,2,3 must be changed.

**May be programmed as Service Code or Arm-Only Code.

3. To exit User Program Mode, press [B] twice.

The numbers selected are the only codes recognized by the system. Each user should be assigned his own dissimilar code and cautioned against divulging that code to anyone else. Thus, should it become necessary to remove a user from the system, that one code may be voided without affecting other codes, and that user would then be prevented from entry.

Service Code

The Service Code, if programmed, provides reduced access to the control panel for those with limited authority. Operation is similar to that of a regular Arm/Disarm Code, except that the Service Code is disabled at times. When active, it may be used to arm or disarm as many times as necessary. See *User 5 Service Code* in the Glossary.

The Service Code is controlled by User 1. Whenever User 1 arms using his code, the Service Code is deactivated. To activate, merely arm using the Service Code. The Service Code can always be used to arm.

Changing or Voiding a Code

To change any User's Code, refer to *Programming User Codes* and simply change the 4-digit combination. Thus, to change User 3's code, for example:

1. Hold down Key [8] until the function beep sounds.
2. Enter the User Program Code.
3. Press [B], [3], then 4 new digits = User 3's new code.
4. Press [B] twice to exit User Program Mode.

Similarly, User 3's code may be voided by not entering a 4-digit combination. Thus, to void User 3's code:

1. Hold down Key [8] until the function beep sounds.
2. Enter the User Program Code.
3. Press [B], then [3] = User 3's code erased.
4. Press [B] twice to exit User Program Mode.

KEYPAD OPERATION

Arming & Disarming the System

When a User Code is entered into the keypad, the red ARMED/ALARM LED will either come on, indicating that the panel is armed; or go off, indicating that the panel is disarmed. A "P" on the display with a steady sounder indicates an attempt to arm with (a) a system trouble (hold down [9] to reset keypad and arm), or (b) a Priority Zone in trouble (re-enter code, then secure or bypass zone). If a wrong code is entered, the system will fail to respond. Wait at least 2 seconds before attempting to re-enter a code.

Alarm Reset

Disarm the panel to silence a sounding device.

Ambush Zone

The Ambush Zone is tripped by entering the Ambush Code just prior to disarming. Thus, should a user be forced to disarm by an assailant, he can silently signal an emergency while appearing to be merely disarming the system.

The Arm/Disarm Code must be entered less than 10 seconds after the Ambush Code for an ambush report to be transmitted. The Ambush Zone is a "report-only" zone.

Keypad Panic

Three keypad panics are available: Fire, Police and Auxiliary. If enabled, each is tripped by simultaneously pressing the following pairs of panic buttons:

- Fire Panic: press Keys [9/F] and [#]
- Police Panic: press Keys [*/P] and [#]
- Auxiliary Panic: press Keys [B/A] and [#]

Police Panic may be programmed to send a silent alarm to a central station, activate an audible alarm, or both. Note that the key pairs must be pressed at the same time to activate panic. See Glossary: *Panic Zone*; also see Installation: *Keypad Jumper Options*.

Bell/Battery Test (Hold-Down Function 1)

The terminal voltage of the battery is constantly monitored by the control panel. In addition, the battery undergoes a 1-minute *dynamic* test every 24 hours that checks the battery under load. Hold-Down Function 1 provides a similar manual dynamic test, but also briefly sounds the bell from the battery.

A weak or defective battery will be indicated by display of a System Trouble "2" (Low Battery). The system trouble display will be cleared and a restore reported when (a) the battery terminal voltage has returned to its specified restored level and (b) the condition has been detected by either the subsequent 24-hour dynamic test, a reset (Hold-Down Function 9), or a manual bell/battery test (Hold-Down Function 1). (Hold-Down Function 9 will clear a Low-Battery indication until the subsequent disarm.)

To test the battery with a low-battery condition displayed, hold down Key [9] to reset the keypad. After 2-3 minutes, arm and disarm the panel. If the low-battery indication returns, the battery is still weak and may require replacement. Also see Glossary: *Low Battery*.

Communicator-Confidence (Hold-Down Function 6)

This feature checks the telephone line for the presence of a dial tone in those systems that are programmed to communicate with a central station. (**Note:** Do not arm and disarm the panel just before making this test.) Hold down Key [6] until the sounder starts to pulse. If the line is okay, the pulsing will stop, otherwise a steady tone will sound (check phone lines). To silence the sounder, hold down Reset Key [9].

Note: Hold-Down Function 6 has a secondary feature (*Manual Download*) that can only be accessed within 5 seconds after arming and disarming the control panel. See *DOWNLOADING FROM A COMPUTER* for this function.

Fault Find (Hold-Down Function 7)

When the Fault-Find mode is accessed, two things occur: (a) the loop response of all zones is preset to 7mS (fastest loop response), and (b) securing a zone in trouble will cause the sounder to beep for about 2 seconds. This set of conditions aids both installer and user. The installer, tapping and poking at suspect points, can easily locate openings by listening for the beep. Similarly, the user can confirm the repair of a zone in trouble by listening for the beep, and thus eliminate the need of returning to the

keypad to visually check after each attempt.

Hold down Reset Key [9] to restore normal operation. Arming the system successfully will automatically cancel the Fault-Find mode.

System Trouble Indications

The following system troubles will display at the keypad, whether armed or disarmed, accompanied by flashing LEDs. The indication may be temporarily reset by holding down Reset Key [9] in order to check zone status and/or arm the system.

1: Ac Failure. When ac power is restored after a lengthy power failure (and the backup battery is dead) the panel will return in its previous state. If the panel returns in an armed state and closings are programmed to report for User 1, it will report as "USER 1".

2: Low Battery. Displays when battery terminal voltage drops below 11.5 volts, nominally. Also see *Bell/Battery Test*.

3: Failure to Communicate. Indicates a transmission failure. Disarm the panel; hold down Key [9] to reset the keypad, then hold down Key [6] to test the phone lines. If the test is successful, the display will clear; otherwise it will return, indicating a need for service.

7: Auto-Download Failure. Indicates failure of a Function-6 Auto-Download from the PCD2000. Reset the Display by holding down Key [9], then try again to download the program.

TESTING THE SYSTEM

After installation is completed, test the system as follows. Call the central station to inform them of the test. Initiate an alarm, preferably on a zone that activates a steady output. Verify proper signalling, then call the central station to confirm their receipt of a good transmission.

Important: Be sure to test the operation of all enabled keypad-panic features.

4. PROGRAMMING

KEYPAD PROGRAMMING

Keypad Programming may be divided into two sub-groups: **User Program Mode** and **Dealer Program Mode**. **USER KEYPAD PROGRAMMING** is limited to user codes. In the Dealer Program Mode, the keypad provides full programming capabilities.

Dealer Keypad Programming.

Set the keypad to the Dealer Program Mode: Hold down Key [8] until a beep sounds, then enter the Dealer Program Code. (The default Dealer Program Code is 456789, but this code *must* be reprogrammed to preserve system security. See Glossary and the programming example, which follows.) The center segment of the numeric display will light to indicate the Dealer Program Mode.

The Dealer Program Mode cannot be accessed while the panel is armed or communicating *except* during the first three minutes after power-up. See *Power-Up Delay* in Glossary. To shut the 3-minute "window" early, that is, before it times out, hold down Key [9]. **Note:** If the Dealer Program Mode has been accessed within the first three minutes after power-up, complete the required programming, exit the Dealer Program Mode (see following), then power down and power up the system once again.

Set the location to be programmed by pressing Key [B] (the three horizontal segments of the display and the green LED will light), followed by the location number. Each location must be entered as a three-digit number, that is, 001, 020, 157, etc. Notice that as each of the three digits is entered, the three display segments extinguish in succession from bottom to top. When the last digit is entered, the yellow LED will light and the display will show the data (if any) programmed in that location.

At this point, several numeric keys will take on new functions. Note first, however, that the programming sheet is arranged in blocks. In general, each block contains two adjacent locations, but they may contain four locations (e.g., Subscriber IDs); six locations (e.g., User and Dealer

Program Codes); or as many as 18 locations (Telephone Numbers). The functions of the following keys are re-assigned to provide improved mobility around the programming sheet.

Keys [1] or [6] (Prior Location) and **[2] or [3] (Next Location)** - Changes the location. Use Key [1] or [6] to move down to the next lower location, or Key [2] or [3] to move up to the next higher location. Whenever a new location is entered, a beep will sound.

Keys [4] (Data Up) and **[7] (Data Down)** select the data for the chosen location: numbers 1-9, 0, and letters B, C, D, E, and F, as will be indicated in the display. Key [4] sequences data values in ascending order; Key [7], in descending order.

Key [5] (Clear) - clears data from the selected location (display will go blank).

Key [8] (Exit) - exits the Dealer Program Mode. Hold down until the beep sounds, then enter the Dealer Program Code within 10 seconds to exit.

Key [B] (Set) - sets the location to be programmed. After pressing Key [B], enter a three-digit location number.

To exit the Dealer Program Mode, hold down Key [8] until the beep sounds; all four LEDs will light. Within 10 seconds, enter the Dealer Program Code; the LEDs will go out. (If the LEDs go out before your code is entered, repeat this procedure.)

**For Sales, Repairs or Technical Service,
Call Toll Free: (800) 645-9445**

**Technical Service Direct Line,
Call Toll Free: (800) 645-9440**

Example 1. Reprogram the existing (default) Dealer Program Code to 815487.

1. Hold down Key [8] until the beep sounds. Enter the existing (default) Dealer Program Code, 456789. The center segment of the display will light.
2. Set Location **312**, the first location of the Dealer Program Code block, as follows: (a) Press Key [B] (the three horizontal display segments and green LED will light); (b) press [3], [1], [2] (the yellow LED will come on and the display will indicate the first digit of the existing code, "4").
3. Program the first digit of the *new* Dealer Program Code: Press Key [4] (Data Up) repeatedly until an "8" is displayed.
4. Press Key [2] (Next Location) once to advance to Location **313**, the second digit of the code. A "5" (the second digit of the default code) will be displayed. To program the second digit of the *new* code press Key [5] (Clear), then press Key [4] (Data Up) once - a "1" will be displayed.
5. Press Key [2] (Next Location) once again to advance to the third location (**314**) of the code. Using Key [7] (Data Down), replace the "6" with a "5".
6. Repeat this procedure, using Key [2] to advance locations and Keys [4] and [7] to select data, until the entire code has been reprogrammed. To check the code, press Key [1] (Prior Location) five times to return to Location **312**, then press Key [2] to step through each location, noting the data displayed.
7. To exit the Dealer Program Mode, hold down Key [8] until the beep sounds, then enter the *new* Dealer Program Code within 10 seconds. This will confirm operation of the new code.

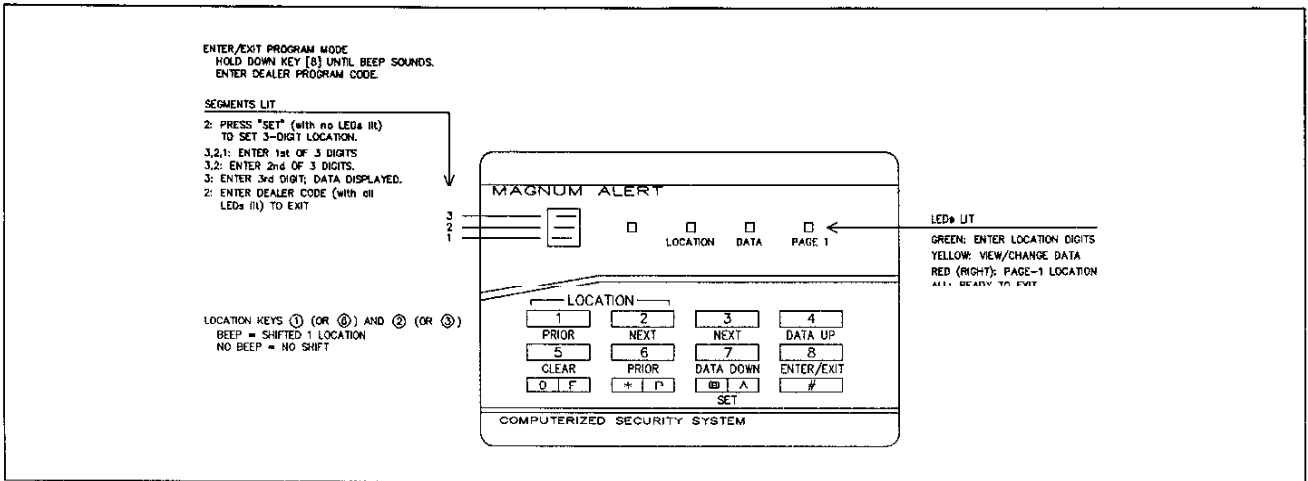


Fig. 2. RP1054e keypad functions in Dealer Program Mode.

PROGRAMMING SHEETS.

Programming Sheets similar to those which follow are completed when planning system features and communicator information for the particular installation. These sheets should be retained for future reference. The Glossary contains information and instructions for programming each feature.

General Programming Steps

1. Contact the central station to confirm receiver format, data format, event codes, subscriber numbers and telephone number(s). Two receiver descriptions and telephone numbers, and up to 4 Subscriber Identification Numbers may be required.
2. Fill out the Programming Record Sheets by circling the numbers representing the zone features or system features to be programmed. Referring to the programming sheets and Table 2, note that each program location is assigned data values (1,2,4,8) such that adding any combination will produce a unique total (entry). Also note that because the entry can be only one character, the two-digit totals greater than 9 are replaced by zero and letters B through F, as shown. Check the Glossary for guidance in selecting "data" entries.
3. Program the entries (data' totals from Programming Record Sheets in Step 2) into the respective locations. The display will show the entry numerically, but will display "0" for the number 10, and letters "B", "C", "D", "E", and "F" for the numbers 11 through 15, respectively. To program a 10, enter [0]. To program 11 through 15, enter [B] through [F] respectively.

LOCATION XXX				ENTRY
				blank (0)
(1)				1
	(2)			2
(1)	(2)			3
		(4)		4
(1)		(4)		5
	(2)	(4)		6
(1)	(2)	(4)		7
			(8)	8
(1)			(8)	9
	(2)		(8)	0 (10)
(1)	(2)		(8)	B (11)
		(4)	(8)	C (12)
(1)		(4)	(8)	D (13)
	(2)	(4)	(8)	E (14)
(1)	(2)	(4)	(8)	F (15)

Table 2. Determining data entry for a location. Numbers in parentheses indicate selected zones or features. (See Programming Sheet.)

Example 2. Program Zones 1-6 to report on alarm. Referring to the Communicator Information section of the Programming Sheets, REPORT ON ALARM is contained in Locations 166 and 167. Circle data values for Zones 1-6.

	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6		K/P	
REPORT ON ALARM	166	166	166	166	167	167	167	167	location
	①	②	④	⑧	①	②		8	data

Add the data values for Location 166: 1 + 2 + 4 + 8 = 15. From Table 2, 15 is programmed as an "F". Now add the data values for Location 167: 1 + 2 = 3. From Table 2, enter a "3" in Location 167

DOWNLOADING FROM A COMPUTER USING NAPCO SOFTWARE AND INTERFACE.

Local Downloading

Data may be locally downloaded with the use of a PCL2000 Local Download Cable, which is supplied with the PCI2000 interface. The panel need not be wired nor the keypad connected. Also refer to the instructions included with the PCI2000.

1. Referring to the PCI2000 Wiring Diagram, plug the PCL2000 Local Download Cable into the modem LINE connector; splice the spade lugs on the other end into the control panel TELCO terminals. (Remove the plug shown coming from the PCI2000-J5.)
2. With the control panel unpowered, set up the computer for a *Function-6 Method* download.
3. When a high-pitched tone is heard at the modem, power up the panel (connect the battery or transformer). A connection will automatically be established, ignoring the status of the zones.
4. Make all required selections and download the program.
5. After the computer indicates a successful download, terminate the connection, then remove power to the panel.

Remote Downloading

Data may be remotely downloaded to the panel via telephone lines using an IBM PC-compatible computer with Napco PCD2000 software and PCI2000 interface. On-screen prompting and the extensive use of help menus simplify programming, and an error-checking mode locates omissions and incompatible data to reduce the possibility of mistakes. Remote downloading requires (a) a modem compatible with the PCI2000 and (b) PCD2000 software Version 2.E or higher. **Note:** Remote downloading may be disabled through programming and *must* be dis-

abled in LIL installations.

A program may be downloaded remotely using one of the following procedures.

Callback Method. This method is used to download to an unattended panel. The MA1000e will accommodate an answering machine at the site if line seizure is used on the house phones. Program a "1" in Location 082 (*Enable Download with Answering Machine*). Refer to the instructions furnished with the PCD2000 for details. **Note:** The number of rings programmed into the panel must exceed that of the answering machine.

Function 6 Method. From the site, call the office where the PCD2000 is located to request a *Manual Download*. During this procedure, voice contact will be lost, therefore both the installer and the computer operator should be familiar with the operation. When a high-pitched tone is heard at the site phone, arm the panel, disarm, then access Hold-Down Function 6 (*Manual Download*) within 5 seconds; the site phone will go dead. Hang up the phone and wait for a call from the central station confirming a successful download.

Auto-Download Method. Napco PCD2000 Software Version 2.E and later includes *PC-Preset*, a utility wherein blocks of up to 99 programs each may be preset for remote uploading or downloading automatically from the installation site while the computer is unattended. The *Auto-Download ID Number* identifies the program in the computer that will be selected. (Note that the Dealer Program Code in the PCD2000 must agree with that of the control panel for the remote connection to be established.)

At the installation site, program the *Auto-Download ID Number* (corresponding to that in the computer) into the panel, along with the *Callback Telephone Number* of the computer. Then, arm, disarm, and access Function 6 within five seconds to execute an Auto-Download.

MAGNUM ALERT 1000e PROGRAMMING RECORD SHEET

Communicator Features & Information (default programming shown in parentheses)

	GROUP 1								GROUP 2																									
	ZONE																																	
	1	2	3	4	5	6	K/P	FIR	AMB	TBL	TBL	DAY	TST	NO	LOW	FIR	AMB	TBL	TBL	DAY	TST	NO	LOW											
REPORT ON ALARM	166				167				168				169				:	:	:	:	:	:	:	:	:	:								
CONTROL-PANEL RESTORE (SEE NOTE 1)	1	2	4	8	1	2	8	1	2	4	8	1	2	4	1	2	4	8	1	2	4	8	:	:	:	:	:	:	:	:	:	:	:	:
ZONE RESTORE (SEE NOTE 1)	170				171				172				173				:	:	:	:	:	:	:	:	:	:								
	184				185												:	:	:	:	:	:	:	:	:	:								

	ALARM/TROUBLE CODES																				
	ZONE RESTORE CODES																				
ALARM/TROUBLE CODES	000	002	004	006	008	010	014	016	018	020	022	024	026	028	062						
	(3)	(3)	(3)	(3)	(3)	(3)	(2)	(1)	(2)	(F)	(D)	(F)	(F)	(F)	(2)						
Extended or Two Digit	001	003	005	007	009	011	015	017	019	021	023	025	027	029	063						
	(1)	(2)	(3)	(4)	(5)	(6)	(1)	(1)	(2)	(1)	(F)	(F)	(9)	(8)	(3)						
RESTORE CODES	040	042	044	046	048	050	056	058	060	062	064	066	068								
	(E)	(E)	(E)	(E)	(E)	(E)	(E)	(E)	(E)	(E)	(E)	(E)	(E)								
Extended or Two Digit	041	043	045	047	049	051	057	059	061	063	065	067	069								
	(1)	(2)	(3)	(4)	(5)	(6)	(1)	(F)	(F)	(9)	(8)	(8)	(8)								

	CLOSING USER				FORCE ARM	OPENING USER			
	1	2	3	4		1	2	3	4
Single Digit	030	032	034	036	038	070	072	074	076
	(C)	(C)	(C)	(C)	(F)	(B)	(B)	(B)	(B)
Extended or Two Digit	031	033	035	037	039	071	073	075	077
	(1)	(2)	(3)	(4)	(SEE NOTE 2)	(1)	(2)	(3)	(4)
Select User(s) Closing	174 1 2 4 8				Select User(s) Opening	176 1 2 4 8			

	ALARM/RESTORE ID (SEE NOTE 3)								OPENING/CLOSING ID (SEE NOTE 4)			
	GROUP 1				GROUP 2							
Telephone 1	100	101	102	103	104	105	106	107	108	109	110	111
Telephone 2	132	133	134	135	136	137	138	139	140	141	142	143

	RCVR DATA		TELEPHONE NUMBER 1																				TELEPHONE NUMBER 2																					
	PRE	ACC	D/T	DLY NO.	DET																																							
Telephone 1	112	113	114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131																																									
			(E)																																									
Telephone 2	144	145	146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163																																									
			(E)																																									

	# OF RINGS												CALLBACK TELEPHONE NUMBER 1												CALLBACK TELEPHONE NUMBER 2											
	269												270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285												286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301											

ENTRY	RECEIVER FORMAT
Blank	ADEMCO, SILENT KNIGHT SLOW
1	SESCOA, VERTEX, DCI, FRANKLIN (SEE NOTE 5)
2	RADIONICS FAST (SEE NOTE 5)
3	SILENT KNIGHT FAST
4	RADIONICS, DCI, FRANKLIN SLOW (SEE NOTE 5)
5	UNIVERSAL HI-SPEED
8	FOR 2300Hz HANDSHAKE, ADD AN "8" TO THIS LOCATION.

ENTRY	DATA FORMAT
Blank	EXTENDED OR SINGLE DIGIT
1	SINGLE DIGIT
2	TWO DIGIT (OR 4/2)
4	SUM CHECK

NOTES: (1) IF PROGRAMMING ZONE RESTORE, ALSO PROGRAM CONTROL-PANEL RESTORE. (2) TWO-DIGIT FORMAT ONLY. (3) GROUP-2 CODES MUST BE ENTERED, EVEN IF THEY ARE THE SAME AS GROUP-1 CODES. (4) MUST BE PROGRAMMED IF OPENING/CLOSING CODES ARE PROGRAMMED. (5) THESE FORMATS TYPICALLY USE A 2300Hz HANDSHAKE; ADD AN "8" TO THIS ENTRY.

CUSTOMER: _____

ADDRESS: _____

ACCOUNT NO. _____

TEL. _____

DATE: _____

MAGNUM ALERT 1000e PROGRAMMING RECORD SHEET

Zone Features & Keypad Codes (default programming shown in parentheses)

ZONE FEATURES	GROUP 1							K/P	GROUP 2											
	ZONE								AUX	FIR	DAY	TST	NO	LOW						
	1	2	3	4	5	6		FIR	AMB	TBL	TBL	TMR	AC	BAT						
SWINGER SHUTDOWN	084								085											
	(1)	(2)	(4)	(8)	(1)	(2)								8						
NO END-OF-LINE RESISTOR	088								087											
	1	2	4	8	1	2														
CHIME ZONE	088								089								(See TIMES & TIMEOUTS, Locations 230-231)			
	(1)	2	4	8	1	2														
NEVER ARM	090								091											
	1	2	4	8	1	2														
PIR ZONE	092								093								(See TIMES & TIMEOUTS, Locations 094-095)			
	1	2	4	8	1	2														
PGM LUG OUTPUT (LUG E3)	096								097				098				099			
	(1)	(2)	(4)	(8)	(1)	(2)		(8)	1	2	4	8	1	2	4					
ENABLE KEYPAD SOUNDER ON ALARM	164								165											
	(1)	(2)	(4)	(8)	(1)	(2)								8						
DAY ZONE	186								187											
	1	2	4	8	1	2														
PRIORITY ZONE WITH BYPASS (SEE NOTE 1)	188								189											
	1	2	4	8	1	2														
PRIORITY ZONE	190								191											
	(1)	(2)	(4)	(8)	(1)	(2)														
REMOVE AUTO-BYPASS (SEE NOTE 1)	192								193											
	1	2	4	8	1	2														
SELECTIVE BYPASS	194								195											
	(1)	(2)	(4)	(8)	(1)	(2)														
GROUP BYPASS	196								197											
	1	2	4	8	1	2														
24-HOUR PROTECTION	198								199											
	1	2	4	8	1	2								(8)						
AUTO-RESET	200								201											
	(1)	(2)	(4)	(8)	(1)	(2)								(8)						
EXIT/ENTRY ZONE (ENTRY DELAY 1)	202								203								(See TIMES & TIMEOUTS, Locations 218-219; 220-221)			
	(1)	2	4	8	1	2														
EXIT/ENTRY ZONE (ENTRY DELAY 2)	204								205								(See TIMES & TIMEOUTS, Locations 218-219; 222-223)			
	1	2	4	8	1	2														
EXIT/ENTRY FOLLOWER	206								207											
	1	2	4	8	1	2														
ABORT DELAY	208								209								(See TIMES & TIMEOUTS, Locations 232-233)			
	1	2	4	8	1	2														
BURGLARY OUTPUT	210								211								(See TIMES & TIMEOUTS, Locations 224-225; 228-229)			
	(1)	(2)	(4)	(8)	(1)	(2)								8						
TIMED NEGATIVE OUTPUT (SEE NOTE 2)	212								213								(See TIMES & TIMEOUTS, Locations 226-227)			
	1	2	4	8	1	2								8						
7ms LOOP RESPONSE (SEE NOTE 3)	214								215											
	1	2	4	8	1	2														
50ms LOOP RESPONSE (SEE NOTE 3)	216								217											
	1	2	4	8	1	2														

KEYPAD CODES (DO NOT ENTER ZEROS)

AMBUSH	USER PROGRAM CODE	DEALER PROGRAM CODE
304 305	306 307 308 309 310 311	312 313 314 315 316 317
	(1) (2) (3) (4) (5) (6)	(4) (5) (6) (7) (8) (9)

NOTE: THE DEALER PROGRAM CODE MUST NOT START WITH THE SAME NUMBERS AS THE USER PROGRAM CODE.

USER 1	USER 2	USER 3	USER 4
318 319 320 321	322 323 324 325	326 327 328 329	330 331 332 333
(1) (2) (3)			
USER 5	USER 6	USER 7	USER 8
334 335 336 337	338 339 340 341	342 343 344 345	346 347 348 349

NOTES: (1) If selecting PRIORITY ZONE WITH BYPASS, do not select REMOVE AUTO BYPASS. (2) DISABLE FIRE RESET ON HOLD-DOWN [9] must be programmed; not for UL-listed applications. (3) If neither 7ms nor 50ms LOOP RESPONSE is programmed, response = 750ms.

ENTRY TOTAL:	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PROGRAMMER DISPLAYS:	•	1	2	3	4	5	6	7	8	9	0	B	C	D	E	F

• (dot) or blank for no entry

MAGNUM ALERT 1000e PROGRAMMING RECORD SHEET

System Features & Timeouts (default programming shown in parentheses)

SYSTEM FEATURES

INSTRUCTIONS: FOR EACH LOCATION: (1) CIRCLE NUMBERS FOR FEATURES DESIRED. (2) PLACE SUM OF CIRCLED NUMBERS IN "ENTRY" BOX.
WARNING: DO NOT ATTEMPT TO PROGRAM "RESERVED" LOCATIONS AS IMPROPER OPERATION MAY RESULT.

LOCATION 078	ENTRY	---	→
DISPLAY DAY ZONES AFTER RESET	1		
(RESERVED)			
USER 5 ARM ONLY	4		
USER 5 REPORT AS USER 1	8		

LOCATION 079	ENTRY	---	→
USER 5 SERVICE CODE	1		
DISABLE DAY-ZONE REPORT	2		
USERS 6,7,8 REPORT AS USERS 2,3,4	4		
(RESERVED)			

LOCATION 080	ENTRY	---	→
DISABLE LOW-BATTERY DISPLAY	(1)		
(RESERVED)			
DISABLE CALLBACK DOWNLOAD	4		
DISABLE FUNCTION-6 DOWNLOAD	8		

LOCATION 081	ENTRY	---	→
WATCH ON WITH GROUP BYPASS	1		
CHIME ON WITH GROUP BYPASS	2		
DISPLAY OPEN ZONES	(4)		
DISABLE DISPLAY BYPASS	8		

LOCATION 082	ENTRY	---	→
ENABLE DOWNLOAD W/ANSWERING MACH.	(1)		
(RESERVED)			
ENABLE KEYPAD FIRE (SEE NOTE 1)	4		
ENABLE KEYPAD AUX (SEE NOTE 1)	8		

LOCATION 178	ENTRY	---	→
TOUCHTONE(R) DIALING	1		
TOUCHTONE(R) WITH ROTARY BACKUP	(2)		
BACKUP REPORTING	4		
DOUBLE REPORTING	8		

LOCATION 179	ENTRY	---	→
OPENING REPORT AFTER ALARM	1		
FORCE ARM	2		
STATUS REPORT	4		
SPLIT REPORTING	8		

LOCATION 180	ENTRY	---	→
AUDIBLE TEST ON ARMING	1		
AUTO-RESET AFTER ALARM TIMEOUT	(2)		
(RESERVED)			
(RESERVED)			

LOCATION 181	ENTRY	---	→
(RESERVED)			
DISABLE FIRE RESET W/HD9 (NOTE 2)	2		
ENABLE KEYPAD TACTILE BEEP	(4)		
RESET TEST TIMER ON REPORT	8		

LOCATION 182	ENTRY	---	→
DISABLE FAULT FIND	1		
ENABLE KEYPAD PANIC	(2)		
ENABLE COMMUNICATOR CONF. TEST	(4)		
DISABLE BELL TEST	8		

LOCATION 183	ENTRY	---	→
DISPLAY ANY BYPASS	1		
(RESERVED)			
INCL MANI BYP IN FORCF-ARM/STATUS	4		
KEY INPUT ON ZONE 5	8		

LOCATION 236	ENTRY	---	→
ENABLE USER 8 FOR ACCESS ON PGM	1		
ENABLE PGM OUTPUT ON E/E DELAY	2		
FAILURE TO COMMUNICATE ON PGM LUG	4		
KEYPAD SOUNDER ON PGM LUG	8		

LOCATION 237	ENTRY	---	→
GROUND START ON PGM LUG	1		
ARMED LED ON PGM LUG	2		
K/P AUX ALARM ON PGM (SEE NOTE 1)	4		
AUDIO VERIFICATION ON PGM LUG	8		

TIMES & TIMEOUTS

094	095	SENSOR WATCH (hours)
234	235	TEST-TIMER OFFSET (hours)

DELAY TIME		
218	219	EXIT DELAY (D,2) (seconds)
220	221	ENTRY DELAY 1 (E,1) (seconds)
222	223	ENTRY DELAY 2 (E,1) (seconds)
232	233	ABORT DELAY (seconds)

TIME EXAMPLES		
TIME	1st BOX	2nd BOX
5	5	NONE
10	0	NONE
15	F	NONE
30	E	1
45	D	2
60	C	3

TIMEOUTS		
224	225	BURG OUT TIMEOUT (5,) (minutes)
226	227	TIMED NEG OUTPUT (minutes)
228	229	FIRE TIMEOUT (F,) (minutes)
230	231	CHIME TIME (8,) (1/4 seconds)

Example: For 2 seconds, enter 8 in 230.

x1	x10	
252	253	AUTO D/L ID NO. (SEE NOTE 3)
254		CALLBACK SELECT (Enter 1 or 2)

NOTES: (1) Requires that all keypads have F/P/A keypad panics. (2) Shall be left enabled in UL-listed systems with a fire-alarm loop. (3) Program in decimal numbers; do not use leading zeros.

ENTRY TOTAL:	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PROGRAMMER DISPLAYS:	*	1	2	3	4	5	6	7	8	9	0	B	C	D	E	F

• (dot) or blank for no entry.

5. GLOSSARY & PROGRAMMING DATA

Abort Delay (Locations 208, 209; 232, 233)

A delay period that allows cancellation of the central-station report. This is done by disarming the panel within the delay period. Program Locations 208-209 for zone selection; Locations 232, 233 for delay time (see *Time Selection*). The PGM Lug E3 will be subject to the abort delay if PGM Lug Output and Abort Delay are programmed for the same zone.

Note: If Abort Delay is selected for a 24-Hour Zone or a Zone-Restore Zone, the cause of the alarm must be corrected before disarming the panel.

Ac-Failure Reporting (Locations 169; 173)

If ac is removed from the panel, a "1" on the display and the first three LEDs will flash slowly (while armed or disarmed). If disarmed, pressing Key [9] will reset the indication for about three minutes to permit arming, however if the panel is not armed within this interval, the indication will return. If programmed for *Report on Alarm*, the report will be delayed for 1 hour. Restores report immediately.

Access Number for Outside Line (Locations 115, 147)

Some subscribers will have a telephone system that requires one digit to access an outside line before the telephone number can be dialed. Also, the first dial tone encountered (prior to the access number) may have a frequency that is different from that of the accessed dial tone (440Hz). One or more 4-second *Pre-Dial Delay* "D"s may be entered before the access number instead of a dial tone with frequency "E". See *Pre-Dial Delay*.

If your subscriber's system uses an access number:

1. Contact the telephone-equipment supplier to find out if a dial tone other than 440Hz is received prior to dialing the access number. If the communicator must delay before dialing the access number instead of attempting to recognize the dial tone, find out how many 4-second delays must be programmed.
2. For Telephone 1,
 - a. Enter the *Dial-Tone Detection* "E" or *Pre-Dial Delay* "D" in Location 114. Enter any extra "D"s that may be required starting in Location 115.
 - b. Enter the access number digit in Location 115, or the first available location thereafter.
 - c. Starting in the first available location after the access number, enter any *Pre-Dial Delay* "D"s needed before the second dial tone; the *Dial-Tone Detection* "E" for the second dial-tone frequency; then the telephone number.

3. If Telephone 2 is used, repeat Step 2 starting in Location 146. (See *Backup Reporting*; *Double Reporting*; and *Split Reporting*.) Also see *Dial-Tone Detection*; *Pre-Dial Delay*.

Alarm Codes See Report on Alarm

Alarm History

Hold-Down Key [B] will display (on the digital readout) all alarm conditions that have occurred. While holding down Key [B], note the number(s) displayed indicating the zone(s) violated. When the system is rearmed, the previous alarm history will stay memorized until automatically erased by a new alarm condition. Note that *Alarm History* will not display Fire, Fire Trouble, Ambush, or zones directed to ambush.

Alarm Outputs (Locations 181, 210-211; 224-225; 228-229)

Table 3 below summarizes wiring and programming for signalling an alarm in typical installations. See *Time Selection* for timeout durations.

Ambush Code (Locations 304, 305)

A 1- or 2-digit code that is entered by the user prior to disarming to access the Ambush Zone, causing a silent report to be sent to a central station. Thus, should a user be forced to disarm by an assailant, he can silently signal an emergency while appearing to be merely disarming the system. The Ambush Zone will automatically report when programmed to report on alarm.

To program the ambush feature,

1. Program Ambush to *Report on Alarm* (enter a "2" in Location 168).
2. Enter 1 or 2 digits as the Ambush Code in Locations 304-305.
3. Enter an Ambush-Zone alarm report code in Locations 018-019.

Inform the user what the Ambush Code is, and that his arm/disarm code must be entered less than 10 seconds after the Ambush Code for an ambush report to be sent.

Also see *Panic Zone*.

Anti-Jam Time

If the communicator does not detect a dial tone within 12 seconds, the *Anti-Jam* feature will be activated. That is, the communicator will go off line for a 16-second anti-jam interval in order to free the telephone circuit from incoming calls, then make another 12-second attempt at dial-tone

Output	Wiring	Output Locations	Timeout Locations	Remarks
Bell*	BELL + (4); BELL - (5)	210, 211	224, 225	Burglary (Steady) Timeout
			228, 229	Fire (Pulsing) Timeout
Timed Negative Output	OUT - (11); AUX + (6)	212, 213	226, 227	Program "2" in Location 181
Untimed PGM Lug Output	AUX + (6); Lug E3 (-)	096-099	-	For Strobes, etc. less than 300mA

*In UL installations, see *Time Selection* for timeout requirements.

Table 3. Alarm Outputs.

detection. If still unsuccessful, the communicator will again go off line for 16 seconds, then proceed to dial anyway.

To test the Anti-Jam feature, call the alarm phone line from a different phone line, then activate an alarm. The incoming call should be disconnected by the control panel.

ARMED LED on PGM Lug (Location 237)

This feature causes the PGM Lug to go low whenever the panel is armed. **Note:** Do not program this feature in conjunction with any other PGM-Lug feature.

Audible Test on Arming (Location 180)

To test the alarm circuit each time the system is armed, add a "1" to Location 180. The alarm is then activated briefly about 8 seconds after the panel is armed. If the alarm does not sound, the device may be defective.

Audio Verification on PGM Lug (Location 237)

Program for two-way voice/listen-in applications. Also program *PGM Lug Output* for zone(s) on which audio verification is desired. When the zone is tripped, the PGM Lug will go to 0.7V and remain latched until a kissoff is received from the central station. **Note:** Do not program this feature in conjunction with any other PGM-Lug feature.

Auto-Bypass Zone See *Remove Auto-Bypass*

Auto-Download ID Number (Locations 252, 253)

Napco PCD2000 Software Version 2.E and later includes a *PC-Preset* utility wherein numerous programs may be preset for automatic remote uploading or downloading from the installation site while the computer is unattended (in standby mode). The *Auto-Download ID Number* identifies the program in the computer that will be selected. (Note that the Dealer Program Code in the PCD2000 must agree with that of the control panel for the remote connection to be established.)

At the installation site, program the *Auto-Download ID Number* in Locations 252 and 253, in decimal numbers, corresponding to that in the computer. Also program the *Callback Telephone Number* of the computer. Then, arm the panel, disarm and, within five seconds, access Function 6 to execute an Auto-Download.

Auto-Reset (Locations 180; 200, 201)

If a zone signals an alarm and is selected for *Auto-Reset*, it will automatically rearm itself soon after the alarm condition is cleared. *Auto-Reset* may be delayed to occur after the timeout period by programming a "2" in Location 180. Zones 1-6 that are not programmed for *Auto-Reset* will not be capable of signalling another alarm until (a) the cause of the alarm has been cleared and (b) the panel is disarmed.

Also see *Swinger Shutdown*.

Auto-Reset After Alarm Timeout See *Auto-Reset*

Backup Reporting (Location 178)

When *Backup Reporting* is selected and the communicator does not reach the first telephone number after two attempts, seven dial attempts will be made to reach the second telephone number. Enter Subscriber Identification Numbers for Telephone 2 (Locations 132-143) and other information required for Telephone 2 (Locations 144-163). If *Double Reporting* is selected with *Backup Reporting*, all reports sent to the first telephone number will also be transmitted to the second telephone number. However, if the first transmission fails, two reports will be sent to

Telephone 2 (*Double Reporting*). **Note:** Subscriber Identification Numbers (account numbers) for both Telephones 1 and 2 must be entered, even if they are the same.

Battery

12Vdc standby power source in the control panel to provide backup protection in the event of a power loss. An RBAT1.2 (1.2AH) is supplied. The RBAT4 (4AH) is available as an option. Note that the battery is an integral part of the system. It *must* be installed, even if ac power is present.

Also see *Low Battery*.

Burglary Output See *Alarm Outputs*

Callback Telephone Number 1 (Locations 270-285)

Callback Telephone Number 2 (Locations 286-301)

Callback Select (Location 254)

Number of Rings (Location 269)

The control panel will call back the PCI2000 as a security check prior to downloading when using the callback method. Provisions for two callback telephone numbers are made for the Auto Download mode. Program at least one callback number, as you would any other telephone number, starting in Location 270. (Remember that a "D" or an "E" must be programmed before the telephone number — see *Telephone Numbers*). If two phone numbers are programmed, select the phone to be called in Location 254. The panel will initiate the callback after waiting 15 rings, unless programmed otherwise. To change the number of rings before callback, enter the desired number of rings (3 minimum, 15 maximum) in Location 269.

Chime Zone (Location 088-089)

Chime On with Group Bypass See *Group Bypass*

This annunciator feature may be programmed for any zone. A chime will sound at the keypad while disarmed when the zone goes into trouble. The zone number will display for the duration of the programmed chime time or for as long as the zone is tripped, whichever is greater. Hold down Key [5] until the function beep sounds to enable or disable Chime. Chime duration is programmable (Locations 230, 231) in units of 1/4 seconds. (A "1" in Location 230 will prevent the sounder from coming on, however the zone number will still display.) See *Time Selection*; also see *Never-Arm Zone*; *Chime On with Group Bypass*.

Closing Report (Select User(s) Closing) (Location 174)

Force Arm (Locations 179;038-039)

Status Report (Locations 179; 000-029; 038-039)

Include Manual Bypass in Force-Arm/Status Report (Location 183)

On arming, the communicator can transmit a closing code for each user, a Force-Arm Code, and a status report that identifies the problem zone to the central station. Note that Subscriber Identification Numbers (Locations 108-111; 140-143) and Closing Codes (Locations 030-037) must be entered for any closing report. Program closing report (*Select User(s) Closing*, Location 174) to report each time the panel is armed. Each of up to four users may have his own Closing Code (Locations 030-037).

Select *Force Arm* ("2" in Location 179) to report only when arming with an auto-bypassed zone. This report will consist of a Closing Code followed by a Force-Arm Code.

Select both closing report and *Force Arm* to always send a closing report, and a Force Arm report only if one or more zones were auto-bypassed.

Select *Status Report* ("4" in Location 170) to send a Force Arm report followed by a Status Report that identifies the auto-bypassed zone(s). The second Alarm-Code location is usually used for this purpose. If this location is vacant, the first location will be used. Also see *Priority Zone with Bypass*.

To include manual bypasses in a Force Arm/Status Report, program a "4" in Location 183. (Either *Force Arm* or *Status Report* must also be programmed.)

Following is an example of a typical Force-Arm/Status Report.

Example. A burglar broke into a commercial establishment during the night, breaking the window foil. The Alarm Subscriber Identification Number is "123"; the Alarm Code is "1" (Burglary Zone 1); the Opening/Closing Subscriber Identification Number is "456"; the Force-Arm Code is "F"; the Closing Code for User 1 is "C". The communicator will send the following report to the central station (single-digit data format):

1231 - Sent when alarm occurs.

456B - Opening; User returned and inspected damage.

456C - Closing; User rearmed.

456F - Force Arm.

FFF1 - Zone status at time of closing: Window foil still broken. Zone 1 auto-bypasses; repair required.

Control-Panel Restore See *Restore Report*

Data Format (Locations 113, 145)

Consult the central station to find out which of the following formats to use.

Extended Format. Extended-format reporting allows the communicator to transmit an extra digit to the central station. This extra digit is generally used to report the user or the zone on which the event occurred.

Example. An installation uses the following programmed transmission information: Subscriber Identification Number is "678"; a Closing Report is selected for User 3; Extended Format Closing Code is "C3" (Closing, User 3). If User 3 closes, the communicator will transmit:

678C - Subscriber "678" has closed.

CCC3 - Closing, User 3.

Extended Format may be used with most central-station receivers. Most receivers capable of recognizing multiple reporting will also recognize Extended Format. The central station will indicate the event codes to be programmed. Extended Format does not require any programming in Locations 113 and 145. To use Extended Format, follow Steps 2 through 5 of *Two-Digit Event-Code Format* later in this section.

Single-Digit Event Code Format. If the receiver cannot accept extended reporting,

1. Program a "1" in Location 113 (and 145 for a second telephone number, if used). See *Double Reporting* and *Backup Reporting*.

2. Enter the first digit for any Alarm/Trouble Code, Restore Code and Opening/Closing Codes.

Note: If it is desired to have a Single-Digit Event Code for one telephone number and Extended Format for the other, program both digits for all event codes. Use the first digit to indicate the alarm type and the second digit to indicate the zone. The telephone number with a "1" in Location 113

(or 145) will transmit only the first digit. The other telephone number will use both digits. (Single-Digit Format will ignore the second digit of the event code.)

Two-Digit Event Code Format. Some central-station receivers require that a two-digit code be sent in each report.

Example. In a certain installation, the Alarm Subscriber Number is "123"; a burglary alarm occurs on Zone 1 (Alarm Code "31"). The communicator will send "12331".

To use Two-Digit Event Code Format,

1. Program a "2" in Location 113 (145 for a second telephone number, if used). See *Double Reporting* and *Backup Reporting*.

2. Enter an Alarm Code (Locations 000-029) for each zone or condition to report on alarm (see *Report on Alarm*) or for a Force-Arm/Status Report as follows:

a. Enter the first digit of the Alarm Code. (This digit may be used to indicate alarm type.)

b. Enter the second digit of the Alarm Code. (This digit may be used to indicate the zone.)

3. Repeat Step 2 to enter Restore Codes (Locations 040-069) for each zone selected for Control-Panel Restore or Zone Restore (see *Restore Report*).

4. If Opening Report or Opening Report After Alarm is selected, enter a two-digit Opening Code for each user (Locations 070-077). See *Opening Report*; *Opening Report After Alarm*.

5. If Closing Report is selected, enter a two-digit Closing Code (Locations 030-037) for each user. If a Force Arm or Force-Arm/Status Report is selected, also enter a two-digit Force-Arm Code (Locations 038, 039).

Note: Single-Digit Format will override Two-Digit Format in Locations 113 and 145 if both are programmed.

Sum-Check Format. Sum Check is a sophisticated data format used to enhance the speed and check the accuracy of the received transmission. This format should be preferred whenever the central station is capable of receiving it.

After transmitting the Subscriber Identification Number and the event code, the communicator sends a verifying digit that is the sum of both. The receiver compares the verifying digit with the sum of the other two numbers to check transmission accuracy. To select Sum Check, program a "4" in Location 113 (or 145 for a second telephone number, if used).

Day Zone (Locations 186, 187)

Disable Day-Zone Report See *PIR Zone*

Display Day Zones After Reset (Location 078)

A Burglary Zone programmed to cause visual and audible indication at the keypad if the loop has an open condition only when disarmed. This feature may be used to warn of trouble during the day, when the control panel is not armed. If the Day Zone experiences a problem (a break in a window foil, for example), the green STATUS LED on the keypad will flash, the sounder will beep repeatedly, and the digital readout will display the problem zone(s). Hold down Key [9] to silence the sounder and clear the display. Arm and disarm the panel to reset the Day Zone.

If a "1" is programmed in Location 078 (*Display Day Zones After Reset*), the Day-Zone number(s) will remain displayed after the sounder is silenced until the condition

is corrected and the Day Zone will auto-reset without the need to arm/disarm. **Note:** For high security Day-Zone supervision, also program *Disable Fault Find* (enabling Fault Find will disable Day-Zone supervision).

Also see *Watch On with Group Bypass*.

Dealer Program Code (Locations 312-317)

This code is required to enter the Dealer Program Mode. The default Dealer Program Code is 4,5,6,7,8,9, however this code must be changed to preserve system security. Reprogram the 3- to 6-digit Dealer Program Code starting in Location 312.

Note: (1) The Dealer Program Code must not start with the same numbers as the User Program Code. (2) This code also serves as your *Download Security Code*.

Dial-Tone Detection (Locations 116, 148)

At least one Dial-Tone Detection entry is usually required for each telephone number used to ensure that a dial tone is present before the communicator dials.

When an "E" is programmed before the first digit of an outside telephone number, the communicator dial-tone detection circuit is set to detect the standard 440Hz dial tone. The "E" is generally entered in Location 116 for Telephone 1 and Location 148 for Telephone 2, if used.

It may be necessary to program at least one 4-second *Pre-Dial Delay* before a *Dial-Tone Detection* "E". With certain nonstandard exchanges, *Pre-Dial-Delay* "D"s may be used without a *Dial-Detection* "E". (See *Access Number for Outside Line; Pre-Dial Delay*.)

Disable Bell Test (Location 182)

Program an "8" in Location 182 to prevent unauthorized persons from sounding the bell.

Disable Callback-Method Download (Location 080)

Data may be remotely downloaded to a control panel using Napco Quickloader software and interface if the correct download security code is known. Program this feature to prevent unauthorized downloading to an unattended panel.

Disable Day-Zone Report See PIR Zone

Disable Display Bypass (Location 081)

For added security, this feature disables Hold-Down Function 2 (*Display Zones Bypassed*) while armed.

Disable Fault Find (Location 182)

Program a "1" in Location 182 to prevent unauthorized use of the Fault-Find mode. See *Fault Find*.

Disable Fire Reset with Hold-Down [9] (Location 181)

Timed Negative Output (Locations 212, 213)

Unless programmed otherwise, Terminal 11 (OUT -) is normally low, providing a ground for smoke-detector power (Terminal 6, AUX +), and goes high when Key [9] is held down, resetting the smoke detector(s). Thus, if any four-wire detection device in use requires removal of dc voltage to reset, do *not* program a "2" in Location 181, and wire the device power leads to Terminals 6 (AUX +) and 11 (OUT -) (see *Wiring Diagram*).

If *Disable Fire Reset with Hold-Down [9]* is programmed, the logic at Terminal 11 will be reversed (that is, Terminal 11 will normally be high and will go low on alarm), and Terminals 6 and 11 may be used as a *Timed Negative Output*, programmable by zone (Locations 212-213). Pro-

gram a timeout in Locations 226-227 (see *Time Selection*).

Disable Function-6 Download (Location 080)

Program an "8" in Location 080 to prevent manual remote downloading using Function 6 at the panel. See *Manual Download*.

Disable Low-Battery Display See Low Battery

Display Any Bypass (Location 183)

Hold-Down Function 2 (*Display Zones Bypassed*) normally displays manually-bypassed zones only. When *Display Any Bypass* is selected and a zone is auto-bypassed, the yellow BYPASS LED will light and Function 2 will display auto-bypassed zones and Priority bypassed zones as well.

Display Day Zones After Reset See Day Zone

Display Open Zones (Location 081)

When a "4" is programmed in Location 081, any non-24-Hour Zone that is open while disarmed will automatically display at the keypad in addition to the flashing green LED.

Double Reporting (Location 178)

When *Double Reporting* is selected, only information that is successfully sent to Telephone 1 will be sent to Telephone 2 as well.

To program *Double Reporting*, enter an "8" in Location 178. Enter Subscriber Identification Numbers for Telephone 2 (Locations 132-143) and related information required for Telephone 2 (Locations 144-163).

If *Backup Reporting* is selected with *Double Reporting*, reports sent to the first telephone number will also be transmitted to the second telephone number. However, if the first transmission fails, two reports will be sent to Telephone 2.

Split Reporting will override *Double Reporting* if both are programmed.

Note: Subscriber ID Numbers for both Telephones 1 and 2 must be entered, even if they are the same.

"E3" Lug See *PGM Lug*.

Enable Communicator-Confidence Test (Location 182)

Program a "4" in Location 182 to enable the Communicator-Confidence Test. See *Communicator Confidence*. **Note:** Do not arm and disarm before this test.

Enable Download with Answering Machine (Loc. 082)

To permit downloading to a telephone with an answering machine, program a "1" in Location 082. After one ring, the panel will listen for the modem tone produced by the PCI2000. If the tone is recognized, the panel will go into line seizure and establish connection with the PCI2000, if security codes match.

Enable Keypad Auxiliary Panic (Location 082)

This feature may only be enabled if all keypads in the system have the F/P/A keypad-panic capability and all have Jumper E cut. Pressing the [B/A] and [#] keys simultaneously will activate Keypad *Auxiliary Panic*. This is a "report-only" feature. Be sure to program a Group-2 Subscriber ID Number and an Alarm Code in Locations 062-063. A successful report will be indicated by a ringback at the keypad. In order to prevent multiple alarms from being transmitted, subsequent Auxiliary-Panic alarms cannot be tripped for five minutes.

Also see *Keypad Aux Alarm on PGM Lug*.

Enable Keypad Fire Panic (Location 082)

This feature may only be enabled if all keypads in the system have the F/P/A keypad-panic capability and all have Jumper E cut. Pressing the [9/F] and [#] keys simultaneously will activate Keypad Fire Panic.

Enable Keypad (Police) Panic See Panic Zone

Enable Keypad Sounder on Alarm (Locations 164-165)

Programmable for Zones 1-6 and Keypad Panic. When tripped, a steady tone will sound at the keypad until the panel is disarmed or until reset using Key [9].

Enable Keypad Tactile Beep (Location 101)

This feature will cause the sounder to come on momentarily as each keypad button is depressed. **Note:** If an RP1000LCD keypad is utilized in the system, it may be desirable to cut the tactile-beep jumper on the keypad to prevent a double beep from sounding.

Enable PGM Output on Exit/Entry Delay (Location 236)

This feature causes the PGM Lug (E3) to go low whenever exit delay, entry delay 1, or entry delay 2 is in effect, and to remain low until the delay has expired. **Note:** Do not program this feature in conjunction with any other PGM-Lug feature.

Enable User 8 for Access on PGM Lug (Location 236)

This feature causes the PGM Lug (E3) to go low whenever User 8's code is entered (while disarmed) for the purpose of activating a door strike. If enabled, User 8 can no longer arm or disarm. Access Time is fixed at 5 seconds. **Note:** Do not program this feature in conjunction with any other PGM-Lug feature.

Exit/Entry Delay (Locations 218-223)

Permits exit and entry through the Exit/Entry Zone(s) (see Locations 202-205) after the system is armed without setting off an immediate alarm. Exit delay allows the user to leave the premises after the panel has been armed. Entry delay allows the user time to enter and disarm the panel. Upon entering, the keypad sounder will emit a steady tone to remind the user to disarm.

Two individually-programmable entry-delay times are provided to accommodate different entry zones (only one exit delay is provided). If two or more Exit/Entry Zones are entered in succession, the delay programmed for the last Exit/Entry Zone entered will take precedence over all others.

Exit-Delay time (Locations 218-219) and Entry-Delay time (Locations 220-223) may each be programmed for up to 255 seconds (4¼ minutes). See *Time Selection*. If delay times are not programmed, exit delay will be 60 seconds; entry delay will be 30 seconds. (In UL installations, Exit-Delay time may not exceed 60 seconds; Entry-Delay time may not exceed 45 seconds.)

Entry delay may be cancelled by holding down Key [4] (*Instant Protection*), prior to or after arming, until the function beep sounds, however it will be automatically restored upon disarming.

Exit/Entry Follower (Locations 206, 207)

A zone programmed as an Exit/Entry Follower will ignore detection during the exit delay, and only during entry delay if the Exit/Entry Zone is entered first. Thus, detection devices (passive infrared detectors, for example) along the

path between the keypad and the exit/entry door will not signal an alarm during exit/entry delay under normal conditions. However, if a device in the Exit/Entry Follower Zone detects a violation when the exit/entry door has not first been entered, there will be no entry delay and the Exit/Entry Follower Zone will go into an instant alarm.

If the panel is armed with the entry delays cancelled (Instant Protection), any violation on the Exit/Entry Zone or the Exit/Entry Follower Zone will cause an immediate alarm.

Extended Format See Data Format

Failure to Communicate on PGM Lug (Location 236)

This feature will cause the PGM Lug to go low after the panel makes 9 unsuccessful attempts to communicate. **Note:** Do not program this feature in conjunction with any other PGM-Lug feature.

Fire Zone (Terminals 13 (FIRE +) and 12 (FIRE -))

The Fire Zone is indicated by the red FIRE/TROUBLE keypad LED. Normally-open devices are connected across Terminals 13 and 12, in parallel with the 2200-ohm end-of-line resistor (see *Wiring Diagram*). A short across the Fire Zone will cause a fire alarm: the red LED will light and the sounder will pulse; an open circuit (trouble) will cause a blinking red LED and a pulsing sounder after a 10-second delay. The sounder may be silenced using Reset Key [9]. The LED will go off within 30 seconds after reset if the alarm or trouble is cleared. Even if the Fire Zone is not used, the 2200-ohm end-of-line resistor is still required across Terminals 13 and 12 (FIRE + and -).

If the Fire Zone is selected to Report on Alarm (Location 168) or to Restore (Location 172), the Alarm Codes in Locations 016-017 and the Restore Codes in Locations 056-057 will be sent. Trouble and Restore Trouble on the Fire Zone are reported in Locations 020-021 and 060-061, respectively. To disable fire reset, program a "2" in Location 181 (see *Disable Fire Reset*).

Force-Arm Report See Closing Report

Force-Arm/Status Report See Closing Report

Ground Start on PGM Lug (Location 237)

This feature causes the PGM Lug to function as a Ground-Start Lug. If the dial tone is not continuously active, a Ground-Start Module, Model GSM-400, will be required at Lug E3 to establish the dial tone. (For installation, refer to the instructions furnished with the GSM-400.) **Note:** Do not program this feature in conjunction with any other PGM-Lug feature.

Group Bypass (Location 196, 197)

Chime On with Group Bypass (Location 081)

Group Bypass removes a programmed group of zones from the system. Group bypassing is often used to deactivate some or all interior zones simultaneously so that the user may move freely throughout the premises but still be protected from intrusion through armed perimeter zones.

Group bypassing is accomplished by pressing Key [B] twice. When the panel is subsequently disarmed, all bypassed zones will automatically revert to non-bypassed zones.

When group bypassing is selected, the yellow BYPASS LED on the keypad will light. The zones bypassed may be confirmed by holding down Key [2] (*Display Bypass*) until

the sounder beeps. While holding the key down, check the digital display to view the zone(s) bypassed.

When a "1" is entered in Location 081 (*Watch On with Group Bypass*), all Day Zones will be activated simultaneously (Watch Mode) when Group Bypass is activated. See *Watch on with Group Bypass*.

When a "2" is entered in Location 081 (*Chime On with Group Bypass*), the Chime Mode will be enabled for all programmed zones when *Group Bypass* is activated. Note that (a) *Group Bypass* need not be programmed for any zone for this feature to operate (however there would thus be no visual indication that *Chime* is enabled); (b) if a zone is programmed as a *Chime Zone*, it may not be programmed for *Group Bypass*; and (c) if this feature is programmed, Hold-Down Function 5 (*Chime On/Off*) is disabled. Also see *Chime Zone*.

Include Manual Bypass in Force-Arm/Status See *Closing Report*

Key Input on Zone 5 (Location 183)

For a remote arm/disarm keyswitch station, program an "8" in Location 183 and wire a normally-open momentary keyswitch to Zone 5. Supervise the keyswitch with an end-of-line resistor across the keyswitch terminals and program Zone 5 for *24-Hour Protection*.

Keypad Aux Alarm on PGM Lug (Location 237)

This feature causes the PGM Lug (E3) to go low whenever the Keypad Aux Panic is tripped. This may be used to trip an untimed strobe or minisounder to indicate that the alarm was tripped. Lug E3 will remain low until the panel is disarmed. **Note:** Do not program this feature in conjunction with any other PGM-Lug feature, except *PGM Lug Output*. Locations 096 and 097.

Keypad Panic (K/P) See *Panic Zone*

Keypad Sounder on PGM Lug (Location 236)

This feature causes the PGM Lug to go low when the keypad sounder activates, and to remain low until the sounder stops. **Note:** Do not program this feature in conjunction with any other PGM-Lug feature.

Line-Reversal Module, M278

The Line-Reversal Module allows the panel to be monitored by a central station through leased lines. On alarm, the module reverses normal line-voltage polarity. For details, refer to the instructions furnished with the module.

Loop Response (Locations 214-217)

Loop response is the amount of time that a normally-closed circuit must remain open, or a normally-open circuit must remain closed, to trip an alarm. The slower the loop response, the more immune the system will be to intermittents (*swingers*). Selectable loop-response times are:

750mS (.75 sec.): The slowest loop-response time, recommended for use with magnetic contacts, window foil, etc. Unless programmed otherwise, loop-response time will be 750mS (milliseconds) for all zones.

50mS (.05 sec.): Used for momentary panic buttons and area-protection devices, such as photoelectric eyes, passive infrared sensors, floor mats, etc.

7mS (.007 sec.): An extremely fast loop response used primarily for window bugs.

Low Battery (Location 169, 173)

Disable Low-Battery Display (Location 080)

A low battery will signal a system trouble ("2" flashing with LEDs) when the battery terminal voltage drops to 11.5V (nominal). Hold-Down Function 9 will temporarily reset the Low-Battery indication, however it will return on the subsequent disarming if the condition still exists. A low-battery condition may report to a central station by programming a "4" in Location 169. Low-battery restores report upon detection of a specified terminal voltage during a dynamic battery test. See *Bell/Battery Test* (Hold-Down Function 1).

If *Disable Low-Battery Display* is programmed, there will be no indication of a low-battery system trouble at the keypad unless accompanied by another system trouble. **Note:** The control panel leaves the factory with the low-battery system trouble *disabled*. To enable the low-battery display, subtract "1" from Location 080.

Never Arm (Locations 090-091)

A zone programmed as *Never-Arm* cannot go into alarm. When tripped, it will display at the keypad when Hold-Down Function 3 (*Display Status*) is selected. A chime will sound at the keypad while armed or disarmed if *Chime* is programmed for that zone and enabled. (The numeric display will also indicate the zone if *Display Chime* is programmed.) This feature is suggested for use as a garage-door or driveway monitor or similar application.

No Ac See *Ac-Failure Reporting*

No End-of-Line Resistor (Locations 086-087)

Program for any normally-closed zone that is not wired with an end-of-line resistor.

Number of Rings See *Callback Telephone Numbers*

Opening & Closing Codes See *Opening Report*; *Closing Report*

Opening Report (Select User(s) Opening) (Location 176)
Opening Report After Alarm (Location 179)

Opening and closing reports are generally used in commercial installations. On disarming, the communicator can send an opening code for each user (*Select User(s) Opening*), or it may transmit only when the panel is disarmed after an alarm has occurred (*Opening Report After Alarm*). Note that Subscriber Identification Numbers (Locations 108-111; 140-143) and Opening Codes (Locations 070-077) must be entered for either opening report.

Program *Select User(s) Opening* (Location 176) to report each time the panel is disarmed. Each of up to four users may have his own Opening Code (Locations 070-077). If programming *Opening Report (Select User(s) Opening)*, do not program *Opening Report After Alarm*.

Program *Opening Report After Alarm* ("1" in Location 179) to report only when disarming after an alarm. This feature may be used by the central station to verify that the subscriber has responded to the alarm and disarmed the panel. If *Opening Report After Alarm* is selected, do not program *Select User(s) Opening*.

Also see *User 5 Report As User 1*; *Users 6, 7 & 8 Report As Users 2,3 & 4*.

Panic Zone

Enable Keypad Panic (Location 182)

To enable (Police) Panic from the keypad (K/P on Programming Sheet), program a "2" in Location 182. The

Panic Zone is tripped by pressing Keys [*]/P and [#]. (Keypad Panic may be disabled at individual keypads by cutting the "Disable Keypad Panic" jumper on the board.)

Remote momentary pushbutton panic switches (normally open) are connected across the two white wires on the RP1054e keypad. In UL systems, remote panic buttons must be located in the same room as the keypad.

For silent panic, (a) be sure that Keypad Panic is enabled; (b) program Keypad Panic to Report on Alarm (Location 167), but do not program it for Burglary Output (Location 211); and (c) program a report code in Locations 014-015.

Also see Enable Keypad Fire Panic; Enable Keypad Auxiliary Panic.

PGM Lug (E3)

Lug E3 (PGM) is programmable to function as any one (and only one) of the following features. Do not attempt to program more than one PGM-Lug feature.

- ARMED LED on PGM Lug
- Audio Verification on PGM Lug
- Enable PGM Output on Exit/Entry Delay
- Enable User 8 for Access on PGM Lug
- Failure to Communicate on PGM Lug
- Ground Start on PGM Lug
- Keypad Aux. Alarm on PGM Lug
- Keypad Sounder on PGM Lug
- PGM Lug Output

Refer to the respective Glossary listing for feature description and programming information.

PGM Lug Output (Locations 096-099)

This feature, programmable by zone, will cause the PGM Lug to go low on alarm. **Note:** Do not use this feature in conjunction with any other PGM Lug feature except Keypad Aux Alarm on PGM Lug, Location 237.

PIR Zone (Locations 092, 093)

Sensor Watch (Locations 094-095)

Disable Day-Zone Report (Location 079)

Power-Up Delay

Program for any zone containing a PIR or dual-technology sensor, floor mats, door contacts, etc. Upon powering up the control panel, a 3-4 minute delay on these zones allows sensors to stabilize. For power-up delay only, do not program Sensor-Watch time (Locations 094-095, see *Time Selection*). Power-up delay may be cancelled by holding down Reset Key [9] until a beep sounds.

If no trip is detected within the programmed Sensor-Watch time, a Day-Zone trouble will be transmitted to the central station, if programmed to report ("8" in Location 168). There is no audible indication at the keypad.

Program Sensor Watch time in Locations 094-095. Select a value according to the expected activity within the coverage area while disarmed. In calculating the Sensor Watch time, note that only the disarmed hours (the time between armed periods) are added. In moderate traffic areas, a Sensor Watch time of perhaps 15 hours may be

appropriate, whereas in remote areas, a time of 60 hours or more may be in order. Sensor Watch time should be calculated for the PIR Zone with the least amount of traffic. However, if no activity is expected on a zone (in an attic, for example) that zone should not be programmed as a PIR Zone. (If Locations 094-095 are left blank, PIR Zones will still be delayed on power-up, but they will not be monitored for activity.)

If this feature is selected and any other zones are programmed as Day Zones, a "2" may be programmed in Location 079 (*Disable Day-Zone Report*) to inhibit Day-Zone trouble reports. A Day Zone condition will still display at the keypad, but a trouble report at the central station will now indicate a PIR-Zone trouble.

Pre-Dial Delay (Locations 114, 146)

A Pre-Dial Delay may be used whenever a delay is required before dialing. It is usually required to program Dial-Tone Detection, which causes the communicator to wait for a dial tone before dialing (see *Dial-Tone Detection*). Certain telephone exchanges send a nonstandard dial tone that the communicator may not be able to detect. With these nonstandard exchanges, it is possible to program Pre-Dial Delay instead of Dial-Tone Detection to cause the communicator to wait for a predetermined time before dialing rather than look for a nonstandard dial tone.

Contact the telephone-equipment supplier to find out how long a delay is required before dialing. Select Pre-Dial Delay by programming one "D" for each 4-second delay required. Enter Pre-Dial Delay "D"s starting in Location 114 for Telephone 1. If Telephone 2 is used, enter Pre-Dial Delay "D"s starting in Location 146. See *Backup Reporting; Double Reporting; Split Reporting*. Also see *Access Number for Outside Line*.

Priority Zone (Locations 190, 191)

A zone that will prevent arming if in trouble. If an attempt is made to arm, the sounder will emit a steady tone and a "P" will be displayed on the digital readout. The priority condition may be silenced by disarming. Any zone may be selected as a Priority Zone. A zone in trouble that is neither a Priority Zone nor an Auto-Bypass Zone will cause an alarm on arming.

Priority Zone with Bypass (Locations 188, 189)

A Priority Zone that will permit arming if the priority condition is bypassed by pressing Reset Key [9], then entering a User Code. The zone will auto-bypass. If the system is programmed for status, the condition can be reported to a central station. (See *Closing Report*). Any zone not selected as a Priority Zone may be programmed as a Priority Zone with Bypass. When programming a zone as Priority with Bypass, do not program Remove Auto-Bypass. Also see *Display Any Bypass*.

Receiver Format (Locations 112, 144)

The communicator can transmit to any standard central-station receiver. A receiver format must be programmed for each telephone number used, but a different format may be assigned to each.

Refer to *Double Reporting* and *Backup Reporting* to determine if Telephone 2 will be programmed. Call the central station for each telephone number to check the type of receiver in use. From Table 4, enter the receiver format for each phone number.

**For Sales, Repairs or Technical Service,
Call Toll Free: (800) 645-9445
Tech Service Direct Line: (800) 645-9440**

Entry	Receiver Format	Data Freq. (Hz)	Duty Cycle (On/Off)	Inter-digit Time
Blank	Ademco, Silent Knight <i>Slow</i>	1900	60/40mS	600mS
1	Sescoa, Vertex, DCI, Franklin	1800	30/20	800
2	Radionics <i>Fast</i>	1850	13/12	400
3	Silent Knight <i>Fast</i>	1900	40/30	560
4	Radionics, DCI, Franklin <i>Slow</i>	1800	60/40	600
5	Universal Hi-Speed			
6	Reserved			
8	Add "8" for 2300Hz Handshake; do not add if 1400Hz Handshake.			

Table 4. Receiver Formats.

Program the receiver-format entry in Location 112 for Telephone 1 and Location 144 for Telephone 2, if used.

Remove Auto-Bypass (Locations 192, 193)

All zones are preprogrammed for Auto-Bypass, and will be bypassed (automatically removed from the system) if in trouble when arming. A momentary beep will sound at the keypad to warn that the system has been armed without the protection of the auto-bypassed zone. (Note that the exit/entry door must be closed before arming, otherwise the Exit/Entry Zone will be auto-bypassed.) Auto-bypassing may be removed from any Zone 1-6 by programming.

Note: If auto-bypass is removed from a zone in trouble that is not programmed for Priority arming (Locations 190, 191), that zone will cause an alarm on arming. If selecting *Priority Zone with Bypass*, do not select *Remove Auto-Bypass*.

For UL installations, non-24-Hour Zones with auto-bypass (*Remove Auto-Bypass* not programmed) must be programmed for *Priority Zone with Bypass*. If an attempt is made to arm with these zones in trouble, the sounder will

come on, a "P" will be displayed, and the panel will not arm (enter the arm/disarm code to silence the sounder and clear the display). To arm, hold down Reset Key [9] for about 2 seconds, then enter the arm/disarm code.

Report on Alarm (Locations 166-169)

Violation of a zone selected to *Report on Alarm* will cause the communicator to transmit the code selected for that zone to the central station. Enter Alarm Codes (Locations 000-029) for each zone to report on alarm, even if identical codes are used for different zones.

Reset Test Timer on Report See Test Timer

Restore Report

Restore, Control-Panel (Locations 170-173)

Restore, Zone (Locations 184, 185)

If programming *Zone Restore, Control-Panel Restore* must be programmed as well. When selecting a Restore Report, (a) Subscriber Alarm/Restore Identification Numbers must be programmed for Telephone 1 (Locations 100-107) and Telephone 2 (Locations 132-139), if used; and (b) Restore Codes (Locations 040-069) must be entered for each zone selected to report a restore.

The communicator can transmit a report to the central station when a zone or the control panel is restored. To select the time of reporting, refer to Table 5.

Select User(s) Closing See *Closing Report*

Select User(s) Opening See *Opening Report*

Selective Bypass (Locations 194, 195)

Removal of one particular zone from the system. Any or all Zones 1-6 programmed for *Selective Bypass* may be removed from the system, but each must be removed separately.

Selectively bypass a zone by pressing Bypass Key [B] followed by the zone number. The next time the panel is disarmed, all bypassed zones will automatically revert to non-bypassed zones.

When one or more zones is bypassed, the yellow BYPASS LED on the keypad will light. The zones bypassed may be confirmed by holding down Key [2] (*Display Bypass*) until

Program:	for Control-Panel Restore Report to be sent	and for Zone Restore Report to be sent:	
Instant <i>Auto-Reset</i> (Locations 200, 201)	(a) when zone is repaired or (b) when panel is disarmed	when zone is repaired, whether panel is armed or disarmed	
<i>Auto-Reset After Alarm Timeout</i> (Locations 200, 201; "2" in Location 180)	(a) when panel resets (alarm times out & zone is repaired) or (b) when panel is disarmed	when zone resets (alarm times out & zone is repaired), whether panel is armed or disarmed	
		(See Note 2) Zone repaired with control panel	
		Armed	Disarmed
No <i>Auto-Reset</i>	When panel is disarmed (regardless of zone condition)	when panel is disarmed	when panel is armed & disarmed again

Note:

- 24-Hour Zone restores are sent as shown under *ZONE RESTORE*.
- It is recommended that Zone-Restore or 24-Hour Zones be programmed with *Auto-Reset* or *Priority* to prevent accidental auto-bypassing of a latched zone.

Table 5. Restore reports.

the function beep sounds: with the key depressed, the bypassed zones will be shown on the numeric display.

Sensor Watch See *PIR Zone; Time Selection*

Service Code See *User 5 Service Code*

Single-Digit Format See *Data Format*

Smoke Detectors (Terminals 12 (-) & 13 (+))

Only four-wire smoke detectors may be used; connect as shown on the *Wiring Diagram*. Note that Terminals 13 (FIRE +) and 12 (FIRE -) may be used for the Fire Zone only. Up to 10 compatible four-wire smoke detectors may be "daisy-chained" together. Subtract smoke-detector alarm current from auxiliary standby current. See *COMPATIBLE UL-LISTED DEVICES*.

Sounder Output On PGM Lug (Location 236)

When an "8" is programmed in Location 236, PGM Lug E3 will go low whenever the keypad sounder is activated. **Note:** No two PGM-lug features may be selected in conjunction with each other.

Split Reporting (Location 179)

Split Reporting causes all reports except Test Timer, Openings, and Closings to be sent to Telephone Number 1; Test Timer, Openings, and Closings, report to Telephone Number 2. (*Split Reporting* overrides *Backup Reporting* or *Double Reporting* if either combination is programmed.) Enter Subscriber ID (Locations 132-143) and other information (Locations 144-163) required for Telephone 2. Note that Subscriber ID Numbers for Telephones 1 and 2 must be entered, even if they are the same.

Status Report See *Closing Report*

Subscriber Identification Numbers (Locations 100-111; 132-143)

Different Subscriber Identification Numbers may be used by the central station to distinguish Alarm and Restore Reports (Locations 100-107) from Opening and Closing Reports (Locations 108-111). Similarly, different numbers may be used to distinguish Alarm/Restore Reports for Group-1 Zones (Zones 1-6) from Group-2 Zones (Fire to Low Battery). Both groups must be programmed, even if both use the same number. See *Report on Alarm; Restore Report; Opening Report; Closing Report*.

Furthermore, if a second telephone is used, different Subscriber Identification Numbers may be required for Alarm/Restore Reports (Locations 132-139) and Opening/Closing Reports (Locations 140-143). As above, both groups must be programmed, even if both use the same number. See *Double Reporting; Backup Reporting*.

Note: (1) If the central station cannot accept two-digit or extended event codes, the Alarm and Restore Codes may be the same as the Opening and Closing Codes; or, the Alarm/Restore Codes may be the same for Groups 1 and 2 if the respective Subscriber Identification Numbers are different. (2) Starting at the left-most location, enter at least 3 digits for each Subscriber Identification Number, even if the first two are zeros. A fourth digit is available for those receivers capable of recognizing 4-digit subscriber codes.

Sum Check See *Data Format*

Swinger Shutdown (Locations 084-085)

When programmed, Zones 1 through 6 with *Auto-Reset*

will only reset twice (3 alarms) until *roarmod* in order to prevent "swingers" (intermittents) from causing repeated false alarms. (Do not program for UL installations.) See *Auto-Reset*.

Telephone Numbers (Locations 117-131; 149-163)

To report to a central station, Telephone Number 1 (Locations 117-131) must be programmed. Telephone Number 2 (Locations 149-163) is programmed if *Backup Reporting*, *Split Reporting* or *Double Reporting* is selected.

Telephone Number 1 will be preceded by at least one *Dial-Tone Detection* entry ("E" in Location 116) or *Pre-Dial Delay* entry ("D" in Location 114) to ensure that the communicator detects a dial tone or waits a reasonable time to access a telephone line before dialing. (See *Dial-Tone Detection; Pre-Dial Delay*.) Furthermore, private telephone systems may require a separate *Dial-Tone Detection* or *Pre-Dial Delay* digit, followed by an Access Number (Location 115) to obtain an outside line. (See *Access Number for Outside Line*.)

It should be noted here that Telephone Number 1 need not actually start in Location 117 nor end in Location 131, as extra locations have been provided to allow for additional prefix digits, if required. What is important is that *Telephone Number 1*, with its associated *Pre-Dial Delay*, *Access Number*, and *Dial-Tone Detection*, be wholly contained within Locations 114-131, and that they be in their proper sequence. It may, in fact, be advantageous to leave one or two blank locations before entering the telephone number to allow for the unexpected (an additional *Pre-Dial Delay*, for example). The above applies to *Telephone Number 2* (Locations 149-163) and the *Callback Telephone Numbers* as well.

Note: An "F" in any location will be ignored by the communicator when dialing.

Also see *Callback Telephone Numbers 1 & 2*.

Test Timer (Locations 024, 025; 169)

Reset Test Timer on Report (Location 181)

When a "1" is programmed into Location 169, a daily test report will be transmitted to the central station from the time the panel is powered up. The respective Alarm Code is programmed into Locations 024, 025.

By entering an "8" in Location 181, the timer will be programmed to send a daily test only if there has been no other report. (Note that this, or the above, is required in UL installations.) Thus, if one normally reports an opening every weekday morning, for example, this feature may be utilized to maintain reporting continuity on weekends.

Test-Timer Offset (Locations 234, 235)

If *Test Timer* is programmed, the test timer will report immediately upon power-up, and every 24 hours thereafter. To delay the timer reporting time up to 24 hours from power-up time, program Locations 234 and 235 in hours (see *Time Selection*).

Note: If these locations are left blank, the test timer will report immediately upon power-up.

Timed Negative Output See *Disable Fire Reset with Hold-Down [9]*.

Timeout (Locations 224-231)

Specifies the length of time that an alarm, alert, or delay will remain active. *Abort-Delay* time and *Burglary Timeout*

must be programmed, or the feature will not activate. See *Time Selection*.

Note: In installations governed by California Fire Marshal regulations, do not program a timeout for fire alarms.

Time Selection Also see Programming Sheet

The times shown in Table 7 are programmable. The Time Selector Chart on the Programming Sheet shows example times only, in seconds or minutes. In reality, any time up to those shown in Table 7 may be programmed. Note that each time is programmed in two locations. The first location has a time factor of 1, the second a time factor of 16.

Time (t)	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Entry	*	1	2	3	4	5	6	7	8	9	0	B	C	D	E	F

*Blank. **Note:** If both programming locations are left blank, refer to the notes in Table 7 for feature timeout.

Table 6. Program entries for unit times.

To select a time up to 15 seconds, 15 minutes, or 15 quarter-seconds (3.75 seconds), program the respective entry into the first box only; do not program the second box. To select a time greater than 15 seconds, 15 minutes, or 15 quarter-seconds, program both boxes as follows:

1. For the feature selected, choose an appropriate time in units shown (all seconds, minutes, or quarter-seconds – not minutes and seconds, etc.).
2. Divide the time chosen by 16. Enter the quotient in the 2nd Box and the remainder in the 1st Box.
3. Check entries by adding the contents of the 1st Box to 16 times the contents of the 2nd Box. (Remember that a “zero” entry represents “10”.)

Example 1. Program Entry Delay 1 for 1½ minutes.

1. *Entry Delay 1* (Locations **220, 221**) is in units of seconds, thus delay time is 90 seconds.
2. Divide by 16: $90/16 = 5$ (quotient) + 10 (remainder). Enter the quotient in the 2nd Box and the remainder in the 1st Box:

220	221
0	5

/ remainder / quotient
 (0 for “10”)

3. Check entries (remember, a “0” entry = “10”): $10 + 16(5) = 90$.

Example 2. Program the sounder to sound a “Chime” for 4 seconds.

1. Chime time duration (Locations **230, 231**) is in units of quarter-seconds, thus chime duration is 16 quarter-seconds.
2. Divide by 16: $16/16 = 1$ (quotient) + 0 (remainder). Enter the quotient in the 2nd Box and the remainder (blank entry for “0”) in the 1st Box:

230	231
	1

/ remainder / quotient
 (blank for “0”)

3. Check entries (remember, blank = “0”): $0 + 16(1) = 16$.

Time	Locations	Units	Max. Time
Sensor-Watch Time (See Note 1)	094, 095	hr	255 hr
Abort Delay (See Note 1)	232, 233	sec	4 min, 15 sec (255 sec)
Exit Delay (See Note 2)	218, 219	sec	4 min, 15 sec (255 sec)
Entry Delay 1 (See Note 2)	220, 221	sec	4 min, 15 sec (255 sec)
Entry Delay 2 (See Note 2)	222, 223	sec	4 min, 15 sec (255 sec)
Burglary Timeout (See Notes 1 & 3)	224, 225	min	4 hr, 15 min (255 min)
Timed Neg. Aux. Out (See Notes 4 & 7)	226, 227	min	4 hr, 15 min (255 min)
Fire-Zone Timeout	228, 229	min	Untimed (See Note 4)
Chime Duration	230, 231	¼-sec	Untimed (See Note 4)
Timer Offset	234, 235	hr	23 hr (See Note 5)

Table 7. Programmable times and timeouts.

Notes:

1. If both locations are left blank, this feature will not activate (timeout = 0).
2. If both locations are left blank, Exit Delay = 60 sec.; Entry Delay = 30 sec.
3. Timeout must be at least 4 minutes in UL installations.
4. If both locations are left blank, this feature will remain active until system is disarmed. (Chime may be reset using Key [9]; however if a time is programmed, Chime cannot be reset and must time out.) If both locations are programmed “F”, maximum time = 4 hours, 15 minutes (255 minutes); or 63.75 seconds (255 quarter-seconds) for Chime Duration.
5. If left blank and *Test Timer* is selected, will report immediately on power-up.
6. In installations governed by California Fire Marshal regulations, do not program a timeout for fire alarms.
7. *Disable Fire Reset with Hold-Down [9]* must also be programmed.

Timed Negative Aux Output See *Disable Fire Reset with Hold-Down [9]*

TouchTone® Dialing (Location 178)
TouchTone® with Rotary Backup (Location 178)

Select *TouchTone Dialing* only when the subscriber has TouchTone service. TouchTone dialing is faster than rotary dialing, but not always as reliable.

For the communicator to use TouchTone on all dial attempts, add a “1” to Location 178. To use TouchTone on the first attempt with subsequent rotary dial attempts, add a “2” to Location 178. *TouchTone Dialing* will override *TouchTone with Rotary Backup* if both are selected. Note that if *Backup Reporting* is also selected, the communicator will use rotary dial to reach Telephone 2.

Trouble

An abnormal zone condition (a break in a normally-closed loop; a short on a normally-open loop; or either on an end-of-line-resistor supervised loop) while disarmed.

Trouble on a Burglary Zone will be signified by a sounder beep upon arming, indicating auto bypassing (does not apply to zones that have been *manually* bypassed). If auto-bypass has been removed from a Burglary Zone, that zone will go into alarm on arming. Note that if the zone is Exit/Entry, it will go into alarm after exit-delay and entry-delay times have elapsed.

Trouble (open circuit) on a Day Zone (normally closed) will be indicated by a flashing green STATUS LED and a pulsing sounder; the display will indicate the troubled zone(s). Keypad indications are reset by Key [9].

Trouble on a Fire Zone will be indicated by the red FIRE/TROUBLE LED and the sounder. An open circuit (trouble) will cause a flashing LED and a pulsing sounder after a 10-second delay. (A short circuit will cause an alarm condition: steady-on LED and pulsing sounder.) Reset Key [9] will silence the sounder; the LED will go out within 30 seconds if the cause of the trouble is removed.

Two-Digit Format See *Data Format*

User Program Code (Locations 306-311)

A code, entered to access the User Program Mode, that allows an authority to program User Codes and the Service Code (see *GETTING UP AND RUNNING: Programming User Codes*). The default User Program Code is 1,2,3,4,5,6, however this code must be changed to preserve system security. Enter the 3- to 6-digit User Program Code starting in Location 306.

Note: The *Dealer Program Code* must not start with the same numbers as the *User Program Code*.

User 5 Arm Only (Location 078)

User 5 Report as User 1 (Location 078)

Users 6, 7 & 8 Report as Users 2, 3 & 4 (Location 079)

User 5 Service Code (Location 079)

To restrict User Code 5 as an "arm-only" code (for single-

digit easy arming), program a "4" in Location 078. (Do not program *User 5 Service Code*.) Note that if a single-digit arm-only code is programmed, the hold-down function for that digit is disabled.

To enable User Code 5 as a Service Code, program a "1" in Location 079. For the Service Code to report, it must report as User 1 ("8" in Location 078). For Users 6, 7 and 8 to report, they must report as Users 2, 3, and 4, respectively ("4" in Location 079).

Watch On with Group Bypass (Location 081)

The *Watch Mode* activates all Day Zones simultaneously by group bypassing (pressing Key [B] twice), even if no zones are selected for *Group Bypass* (see *Group Bypass*). When a "1" is entered in Location 081, the Watch Mode will be enabled when *Group Bypass* is activated. Note that (a) *Group Bypass* need not be programmed for any zone for this feature to operate; (b) if a zone is programmed as a *Day Zone*, it may not be programmed for *Group Bypass*; and (c) *Chime On with Group Bypass* should not be programmed.

Zone Restore See *Restore Report*

Normally, *Control-Panel Restore* is programmed for a zone to send a restore report to the central station. The report will be sent when either the zone is repaired or the panel is disarmed. If the restore report is to be sent only when the zone is repaired, *Zone Restore* should be selected (also program *Control-Panel Restore*). It is recommended that *Auto Reset* and *Priority or Priority with Bypass* also be selected for proper operation. See *Restore Report*.

24-Hour Protection (Locations 198, 199)

A zone that provides protection at all times, whether or not the system is armed. Neither the green STATUS nor the red ARMED/ALARM LED will indicate the condition of a zone programmed for *24-Hour Protection*, however an alarm condition will be recorded by Alarm History (see *Alarm History*).

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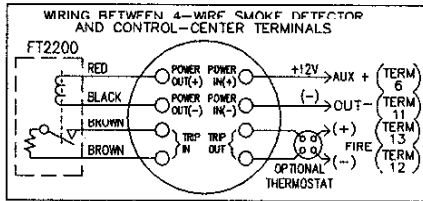
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6. WIRING DIAGRAM

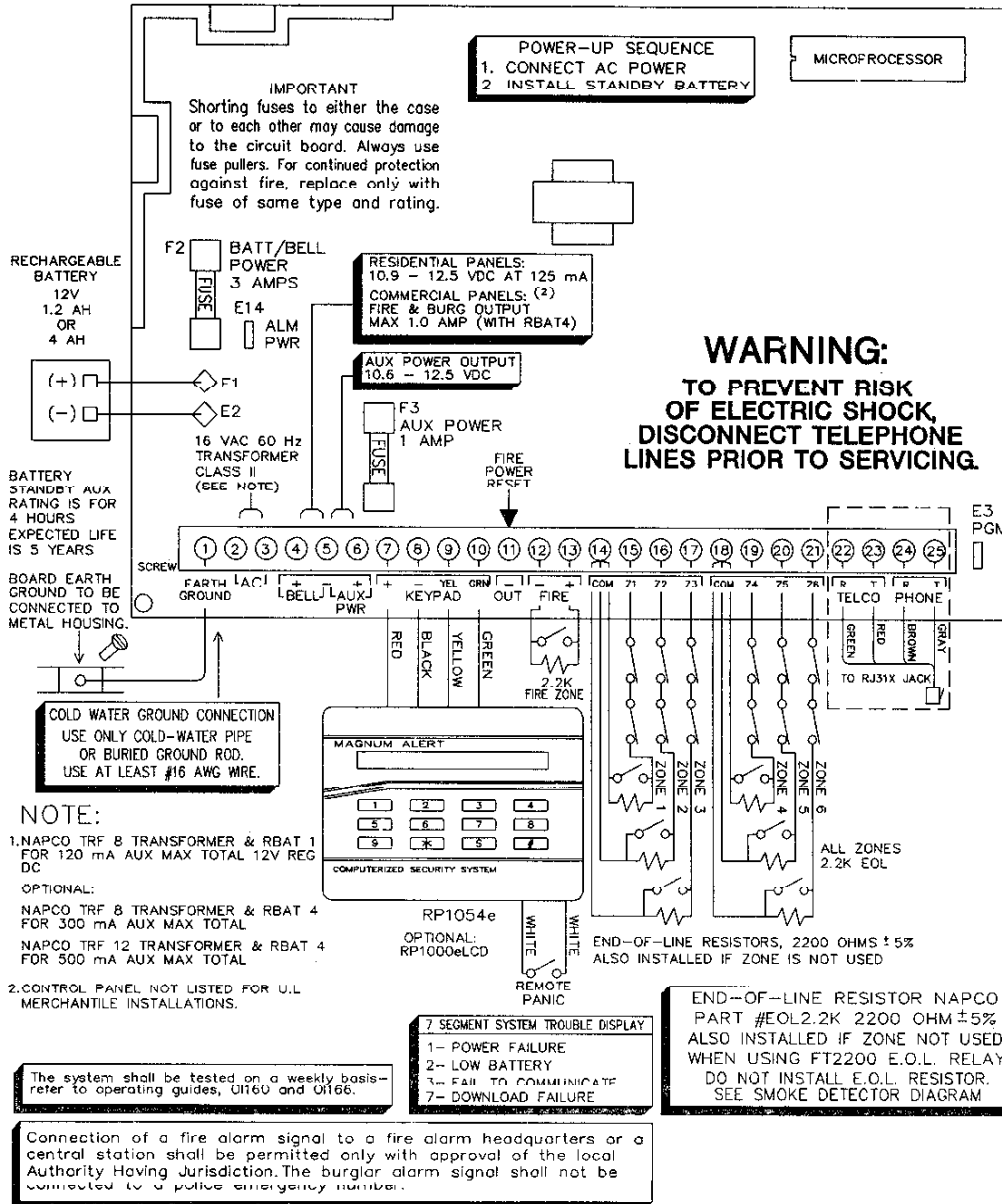
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WIRING DIAGRAM

REFER TO INSTALLATION INSTRUCTIONS W582.



This equipment should be installed in accordance with the National Fire Protection Association's Standard 74 (National Fire Protection Association, Batterymarch Park, Quincy, MA 02269) and local codes. Printed information describing proper installation, operation, testing, maintenance, evacuation planning, and repair service is to be provided with this equipment. Refer to Operation and Installation Manual W582. UL Listed Limited Energy Cable is required.



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.

In case of defect, contact the security professional who installed and maintains your security system. 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.

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In no event shall NAPCO be liable for an amount in

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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. If the user wishes to protect itself to a greater extent, NAPCO will, at user's sole cost and expense, obtain an insurance policy to protect the user, supplemental to user's own policy, at a premium to be determined by NAPCO's insurer upon written notice from user by Certified Mail, Return Receipt Requested, to NAPCO's home office address, and upon payment of the annual premium cost by user.

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.