INSTALLATION INSTRUCTIONS

NAPCO®

MAGNUM ALERT 1016e/1016eM

CONTROL PANEL/COMMUNICATOR

MA1016e with RP1016e Keypad

UL Listed

MA1016e: Household Fire & Burglary Warning System Control Unit

MA1016eM: Burglary Alarm Unit Subassembly

(SEE PAGE 9 FOR A SUMMARY OF CHANGES FROM PREVIOUS EDITION)

WI614B 10/93

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1. INTRODUCTION

GENERAL DESCRIPTION

The Magnum Alert 1016e is a state-of-the-art microcomputer-based residential and commercial alarm control panel containing 14 Burglary Zones, one Fire Zone, provisions for three keypad panics (Fire, Police and Auxiliary), and Ambush. The system, with self-contained voice siren driver and communicator, is contained within a wall-mounted enclosure. A transformer is included. If complemented by a Napco wireless receiver/interface (optional) and companion transmitters, the MA1016e will function as a wireless/hardwire system.

The control panel features programmable area partitioning. That is, the system may be divided into two discrete multiple-zone areas, each allowing access by only those users programmed for their respective area. Or, the system may be totally split into two virtually independent multiple-zone subsystems, each with its own panic and/or ambush zones.

*Opening Suppression** and *Closing Suppression**, available only in Napco Quickloader™ software (not investigated by UL), suppress reporting within programmed "windows". Conversely, *Exception Reporting* reports "no closing" when the panel is not armed within a programmed interval. Logmaster™, a 152-event User Log* and a 32-event Program Log*, also accessible only through Quickloader software, monitors event history referenced to a precision real-time clock.

*Not available in UL installations.

The 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
- temporarily bypass one or more zones,
- cancel entry delay,
- send Panic or Ambush alarms,
- enter or change arm/disarm codes,
- test the audible alarm circuit,
- test each zone for problems,
- test the telephone line while disarmed,
- reset system-trouble indications,
- bypass a *Priority Zone with Bypass*
- turn *Chime* on/off, and
- program zone features and communicator information

LEDs (light-emitting diodes), an alphanumeric 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 Bypassed Zones

Key [3] - Display Status

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

Key [5] - Chime on/off

Key [6] - Telco Test (also Manual Download; see text)

Key [7] - Watch Mode On (also Fault Find; see text)

Key [8] - Program Mode

Key [9] - Reset (System-Trouble indication, Day-Zone indication, Alarm-Memory display (while disarmed), Fire Zone, Output Relay Devices; bypasses *Priority-with-Bypass*; cancels *Power-Up Delay*)

Key [B] - Alarm History (indicates last alarmed zone(s))

The panel may be programmed in a variety of ways: (a) from the keypad, in its secondary mode of operation; (b) from two PROMs (programmable read only memories), which are themselves programmed on an accessory programmer; or (c) from an IBM PC-compatible computer using Napco's PCD2000 Quickloader Software. A Dealer Program Code prevents reprogramming of the control panel by unauthorized personnel.

Magnum Alert 1016eM. The "Mercantile" version is supplied with a heavy-duty enclosure for increased tamper resistance and a tamper switch for tamper protection. (**Note:** Do not use Fire Zones in a Mercantile installation.)

FEATURES

Protection Zones

- Fourteen E-O-L supervised zones (programmable as Fire).
- Burglary Zone options include:
  - Priority or Priority with Bypass
  - Auto Reset
  - Auto Bypass (removable); Selective or Group Bypass
  - 24-Hour Protection
  - Day Zone Supervision
  - Exit/Entry Delay 1; Exit/Entry Delay 2
  - Optional 50mS or 10mS Loop Response (normally 750mS)
  - Programmable Abort Delay
  - Fire on Burglary Zone
- Dedicated supervised Fire Zone accepts 4-wire or 2-wire smoke detectors.
- Two separately-programmable entry delays for Exit/Entry Zones.
- Programmable system partitioning permits inde-

pendent multiple-zone subsystem operation.

- Three Keypad Panics: Fire, Police and Auxiliary
- Ambush

Alarm Outputs

- Integral voice/siren driver
- Timed Burglary Siren: Programmable by zone and time
- Timed Fire Siren: Programmable by zone and time
- Timed Pulsing Bell Output: Programmable by zone and time
- Timed Relay Output: Programmable by zone and time
- NTO (No Timed Output) Lug (E15)
- TO (Timed Output) Lug (E16)
- Voltage Output

Keypad Functions

- Keypad permits:

  Selection of up to 15 Arm/Disarm Codes, 1 Manager's Code, and 1 Access Control Code; up to 6 digits each

  Digital Code Entry to arm and disarm system

  Selective- and Group-Bypass Selection

  Panic Activation; Ambush Activation

  Hold-Down Function Access

  Reset of various functions and conditions
- Visual display of:

  Alarm State (armed/disarmed)

  Zone Status (STATUS) - one or more zones in trouble

  Zones Bypassed - one or more zones bypassed

  Alternate-Area Status (Using Manager's Code)

  Fire Zone Status (Fire Alarm/Trouble)

  Zone(s) in alarm and alarm history

  Zone(s) in trouble

  System-Trouble Indications

  Programmed data entries (Dealer Program Mode)
- Sounder indicates:

  Entry Delay in Progress

  Hold-Down Function Accessed

  Zone Activation while Disarmed (Chime)

  System Armed with a Zone in Trouble

  Day Zone in Trouble

  Fire Zone Alarm/Trouble
- Central-Station Ringback

Communicator Features

- Compatible with most major formats including 4/2.
- 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 Touch-Tone dialing.
- Three phone 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.
- System Trouble display for Failure to Communicate.
- Failure to Communicate on NTO Lug E15.

Reporting Features

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

Other Features

- System Partitioning
- Supports Napco's *Super Spectrum*™ Wireless System
- Optional Constant Display of Faulted Zones
- Audible Bell-Test on Arming
- Power-Up in Last State
- Programmable Chime Duration with Automatic Display of Faulted Chime Zones.
- 184-Event Real-Time Memory Log
- 24-Hour Battery Test with Charging Circuit Off

SPECIFICATIONS

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

Input Power: 16Vac via Class 2 Step-Down Transformer TRF12 (19.2VA) or TRF11* (40VA, Basler Part No. BE116240CAA)

Loop Voltage: 10 to 13Vdc

Loop Current: 2.8mA with 2.2kΩ end-of-line resistor

Line Resistance: 300Ω max; 16Ω total for fire circuit (1000 ft. #22AWG)

Alarm Outputs:

- *Siren/Bell Output (selectable for siren or bell):* Siren, 15W, 8Ω (selectable for siren and/or voice); Bell, 12Vdc, 1.2A max. (Residential Panels, 10.9–12.3Vdc, 125mA max.)
- *Relay Output:* 12Vdc (Residential Panels, 10.6 12.0Vdc) regulated (see Combined Standby Current)
- *Contact Ratings:* 24Vdc, 2A (resistive)

Auxiliary Output: 12Vdc (Residential Panels, 10.6–12.0Vdc) regulated

Combined Standby Current (Remote Power + Auxiliary Output + Relay Output): 350mA with TRF12 Transformer; 400mA with TRF11 Transformer

Remote Stations (RP1016e):

- *Current (ea.):* 35mA typical (standby)
- *Maximum Number:* 5

Smoke Detectors:** 2-Wire, 10 max.;4-Wire, 2 max. (4 max. with TRF11)

Recommended Battery: Rechargeable sealed lead-acid; RBAT4, 12Vdc, 4AH; RBAT6*, 12Vdc, 6AH

Standby Time: Residential, 4 Hours at 400mA Combined Standby Current; Commercial, 4 Hours at 325mA Combined Standby Current

Fuses:

- *Speaker/Bell:* 3A, 1AG (F1)
- *Aux. Power/Relay Output:* 3A, 1AG (F2)
- *Remote Power:* 1A. 1AG (F3)

Housing Dimensions (HWD): MA1016e, 12.6" x 14.1" x 3.6" (32cm x 36cm x 9.1cm); MA1016eM, 13.3" x 13.3" x 3.8" (33.8cm x 33.8cm x 9.7cm)

Shipping Weight (Approx.): MA1016e, 14lb (6.4kg); MA1016eM, 18lb (8.2kg)

*The TRF11 (40VA) Transformer and RBAT6 Battery are required for Mercantile installations.

**Compatible units, for Residential Control Panels. See *COMPATIBLE UL-LISTED DEVICES*

ORDERING INFORMATION

Equipment Supplied

MA1016e: 12-Volt Alarm Control Panel, with RP1016e Keypad; 14-zones + Fire Zone, 3 Keypad Panics & Ambush; furnished with integral communicator, voice siren driver, RBAT4 4AH Battery and TRF12 Power Transformer.

MA1016eM: As above, but for Mercantile installations; with RBAT6 6AH Battery, TRF11 Power Transformer and tamper switch.

Optional Accessories and Peripherals

RP1016e: Designer-Styled Keypad with 7-Segment Display and Backlighting (refer to Installation Instructions WI579; Operation Instructions OI159)

RP1000eLCD: Designer-Styled Keypad with Alphanumeric Display and Backlighting (refer to Installation Instructions WI603; Operation Instructions OI166)

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

FT2200*: End-of-Line Relay/Resistor Supervisory Module

GSM-400: Ground-Start Module

M278: Line-Reversal Module

MAV-15: Two-Way Voice/Listen-In Module

PS3002: Power-Supply Module

R1000: Wireless Receiver/Interface Module (not investigated by UL)

T1000WD: Window/Door /All-Purpose Transmitter

T1000PB1: Hand-Held Panic Transmitter

T1000MD1: Pendant Panic Treansmitter

T1000MC1: Money Trap Transmitter

50S40A: PIR Transmitter

371: Photoelectric Smoke Detector Transmitter

RBAT4: Rechargeable Battery, 12Vdc, 4AH

RBAT6: Rechargeable Battery, 12Vdc, 6AH

RBATH1: Dual Battery Harness (Not for UL installations)

DH-1: Diode Harness (Not for UL installations)

WL1*: Wire Assembly with Lug Connector (20")

TRF11*: Transformer, 16Vac, 40VA Class 2

TRF12*: Transformer, 16Vac, 19.2VA Class 2

PCD2000: Downloading Software Package for IBM PC-Compatible

PCI2000: Interface for IBM PC Compatible Computer

PRO410M: PROM Programmer

DD493BNK: Blank PROM

OI146: User's Guide, Control Panel

A296: Dealer Brochure

*UL-Listed Accessory

COMPATIBLE UL-LISTED DEVICES

For Residential Control Panels:

Smoke Detectors, 2-Wire*: System Sensor 1400, 2400, 2400TH, each with B101B Base; 1451, 2451, 2451TH, each with B401B Base

Smoke Detectors, 4-wire:** ESL 445AT

Horn: Wheelock 34T-12R (rated at 85dB for indoor household applications)

Control Unit Accessory: STU-2Z (Grade-AA Central Station Burglar Alarm Unit)

For Mercantile Control Panels:

Bells: Ademco AD8-12, AD10-12; Amseco MBL-8/12V, MBL-10/12V

Grade-A Bell*:** Ademco AB12 Bell in Box

Speaker: Atlas Sound VT-158U

Note: The MA1016e may not be used for fire protection where prohibited by local codes. The MA1016eM may not be used for fire protection in *any* installation.

*10 maximum

**2 maximum; 4 maximum with TRF11 Transformer

***See *Alarm Outputs* for wiring to a Grade-A Bell.

UL CLASSIFICATION

MA1016e: Household Fire and Burglary Warning System Control Unit. Combination Fire and Burglary. See *COMPATIBLE UL-LISTED DEVICES* (residential panels) for compatible smoke detectors and horn.

MA1016eM: Burglar Alarm Unit Subassembly.

SUMMARY OF UL REQUIREMENTS

The following summarizes UL programming and wiring requirements for all installations.

- User codes must contain a minimum of three digits.
- Do not disable the keypad sounder.
- Recognized Limited-Energy Cable for initiating, indicating and supplementary circuits.
- Initiating loops normally closed if longer than 3 feet.
- Burglary Zones may be programmed as *Priority* or *Priority with Bypass*, but do not program *Auto-* or *Group Bypass*.
- Remote Panic Switches must be mounted in the same room as the control panel and keypad and may not pass through a wall or barrier.
- FT2200 End-of-Line Relay for Fire.
- Siren: *Fire,* Steady; *Burglary,* Sweep/Pulse (*Fire* must have priority over *Burglary*).
- Minimum siren timeout: *Residential,* 4 minutes; *Commercial,* 15 minutes.
- Maximum exit time: 60 seconds; Maximum entry time: *Residential,* 45 seconds; *Commercial,* 60 seconds.
- Maximum *Abort Delay*: 45 seconds.
- Maximum *Pre-Dial Delay*: 4 seconds.
- Program *Disable Function-6 Download, Disable Callback Download, Disable Answering-Machine Download,* and *Disable Program Download and Commands from PCD.* Program *Ac Failure* and *Ac-Failure Restore* to report.
- Do not program *Swinger Shutdown, 10mS* or *50mS Loop Response, Download Telephone Number, Number of Rings Before Callback, Auto-Download ID Number, No EOL Resistor, Trouble on Night Open, Fire on Burg Zone, Opening Report Only After Alarm, Forced Arm, Closing Report Only on Forced Arm.*
- Use only listed holdup devices on a 24-Hour Zone used for silent panic.
- Automatic dialer may not dial a police-station number that has not been dedicated for such service.
- Battery Fuse F4 is not field serviceable. If F4 is open, return complete control panel to Napco for repair.
- System must be tested at least weekly under ac/battery and battery-only conditions.
- If the battery is heavily discharged, replace it or have it tested by a qualified technician. Replace the battery at least every 5 years.

In California: CFM listed for residential use. (Listing No. 7167-0992:113.)

Commercial

The following summarizes additional UL programming and wiring requirements for commercial installations.

- TRF11 (40VA) Transformer required;
- RBAT6 (6AH) Battery required;
- Digital communicator must be utilized to report *Openings, Closings* and *Low Battery*, but not *Low-Battery Restore*;
- Program *Auto Bell Test on Arming*; *Disable Display Bypass While Armed, Low Battery* alarm annunciation; *Forced-Arm* Code; Maximum Exit Delay of 10 seconds; enable *Auto-Reset*.
- Do *not* use Fire Zones;
- Do *not* use remote-panic switches;
- In partitioned systems, connect a Napco WL1 Wire Assembly between the NTO Lug (E15) and a Day Zone (*Day Zone Short*). In a partitioned system, the TO Lug must be connected to a Day Zone (Short) in Area 2. Program *Failure to Communicate on Lug E15.*
- Heavy-duty enclosure with door tamper is required (MA1016eM);
- *For Grade-A Local Mercantile:* Ademco Model AB12 Grade-A Bell & Box required.
- *For Grade-AA Burglary:* Versus STU-2Z required.

Residential Only

- In fire alarm installations, do not program *Disable Smoke Reset.*

2. INSTALLATION

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

If necessary, the installer should consult an experienced radio/television technician for additional suggestions or call Napco's Technical Service Department at (800) 645-9445. The booklet *"How to Identify and Resolve Radio-TV Interference Problems"* prepared by the Federal Communications Commission is available from the U.S. Government Printing Office, Washington DC 20402, Stock No. 004-000-00345-4.

CONTROL PANEL

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.

Grounding. Connect the panel EARTH GROUND screw (see *Wiring Diagram*) 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, with no sharp bends in the wire.

Tamper Switches. Tamper switches may be installed to prevent opening of the control-panel 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 places in the cabinet to mount tamper switches:

(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 switch button should contact the inside of the door. (*MA1016eM:* Use the supplied tamper switch to monitor opening of door.) Be sure to alert the user that opening the cabinet door will cause a tamper alarm.

Note: Each Napco tamper switch is furnished with three 6-32 machine screws for mounting. Use a 6-32 self-tapping screw to tap the holes for the machine screws.

KEYPAD (RP1016e)

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 "UP" and "TOP" (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 case directly into the wall to ensure a secure installation.

Wiring. Wire the keypad to the control panel terminals shown in the following table. The maximum distance for a single keypad wiring run is 1000 feet using #22AWG wire. The maximum distance for up to 5 keypads connected to a single run is 300 feet using #22AWG wire.

If the system has been partitioned into two subsystems, wire all Area-1 keypads alike and all Area-2 keypads alike. If the system has not been partitioned, wire all keypads to Area-1 Terminals.

Note: If using a soldering iron, be careful not to splash solder onto the keypad circuit board or components, as damage could result.

Keypad Wire Color	Area-1 Keypad	Area-2 Keypads (Optional)
Yellow	8	9
Green	10	10
Red	6	6
Black	7	7
White	to normally-open momentary-contact remote panic pushbutton switch(es).	
White		

Keypad wiring to control-panel terminals.

Remote Panic. To connect a remote panic button. splice the two white ribbon-cable 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 leads, as a short across them will cause a panic alarm or improper keypad operation. Note that in UL installations, remote panic buttons must be located in the same room as the keypad. Refer to *SUMMARY OF UL REQUIREMENTS* for panic wiring restrictions.

Backlighting. Backlighting requires no additional wiring. In normal use, the keypad is always dimly backlit. To disable backlighting, see *JUMPER OPTIONS*

Keypad Jumper Options. Several keypad jumpers provide a variety of options. Viewing the keypad from the front, they are conveniently located at the top edge (Jumper D) and along the right side (top to bottom: Jumpers C, B, A and E) for easy access. To further identify the location of the jumpers, refer to the label affixed to the fishpaper on the back of the board.

Disable Keypad Panic. Cut Jumper A to disable all three keypad-panic features. **Note:** The two white remote-panic wires will remain active.

Disable Keypad Sounder. Cut Jumper B to completely disable the sounder. **Note:** Do not disable the sounder in UL installations.

Disable Touchpad Backlight. Cut Jumper C to disable touchpad backlighting. This will conserve 15mA standby current per keypad.

Reduce Touchpad Backlight. Cut Jumper D to reduce backlight intensity. This will conserve 6mA standby current per keypad.

Activate Fire & Aux. Panics. Cut Jumper E to enable F/P/A panics in the keypad. **Note:** Locations 819 and/or 822 must be programmed to enable these panics in the panel.

Completing the Installation. 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 (Where permitted by local codes; *not* for use in Mercantile installations)

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.

For increased protection, additional detectors should be installed in areas other than those required, such as the dining room, bedrooms, utility room, furnace room, and hallways. Heat detectors, rather than smoke detectors, are recommended in kitchens, attics, and garages 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 No. 74 (National Fire Protection Association, Batterymarch Park, Quincy, MA 02269) for additional information, including proper mounting of detectors.

TYPICAL PARTITIONED INSTALLATION

Described and illustrated below is an example of a partitioned system with common-area protection of the control-panel room. This system meets UL requirements for a partitioned installation.

- Both areas must be owned and managed by the same person(s).
- Both areas must be part of one building at one street address.
- The control panel and all wiring protecting each

partitioned area must be confined to the respective area and may not encroach upon the alternate area. This requires that the control panel room have redundant protection; that is (a) 2 sets of door contacts, each wired to a separate zone and (b) one of those zones programmed for *Area 1* and the other for *Area 2*. In order to gain access to this protected area without causing an alarm, both partitions must be disarmed. In lieu of redundant protection, *24-Hour Protection* may be used. Any zone protecting the control-panel and transformer may not be programmed for bypass.

- The sounding device must be placed such that the bell test can be heard by both partitions. **Note:** NFPA 74 (Household Fire Warning Equipment) requires that a fire alarm audible device be installed indoors.
- The User Program Code is not to be given to anyone except the Manager, who is responsible for both partitions
- Disable all downloading after the initial installation and testing of the system.

TESTING THE SYSTEM

After installation is completed, test the system as follows:

1. Call the central station to inform them of the test.
2. Initiate an alarm (preferably on a zone that activates a steady siren) and verify proper signalling.
3. Call the central station to confirm their receipt of a good transmission.
4. Test all enabled keypad panics.

CHANGES FROM PREVIOUS EDITION

This edition accommodates a revised printed-circuit board with modified terminal assignments. The following changes have been made:

Page 2:	**TABLE OF CONTENTS** revised.
	Telephone Numbers: Technical Service direct line added.
Page 3:	**GENERAL DESCRIPTION:** User log (3rd paragraph) corrected (150 events to 152 events).
Page 5:	**ORDERING INFORMATION:** "*MAV-15: Two-Way Voice/Listen In Module*" added.
Page 6:	**COMPATIBLE UL-LISTED DEVICES:** "*Control Unit Accessory: STU-2Z*" added.
	SUMMARY OF UL REQUIREMENTS: CFM listing added; Grade-AA Burglary (Commercial) requirements added.
Page 7:	**CONTROL PANEL, Grounding:** Ground screw text revised.
Page 21:	**Alarm Outputs (Table):** Relay Output terminals revised.
Page 22:	**Wiring to a Grade-A Bell (illustration):** Ground terminal revised.
Page 31:	**Smoke Detectors:** Relay terminals revised
Page 38:	**WIRING LEGEND:** Revised to 40 terminals.
Page 42:	**INDEX** revised.
Page 43*:	**WIRING DIAGRAM:** Revised terminal layout.

*Page 47 in prior editions.

3. PROGRAMMING

The control panel is programmed by any of the following methods, each of which is described in detail in the following paragraphs; (a) DD493BNK PROM programming using a PRO410; (b) keypad programming; (c) downloading using an IBM PC-compatible computer with Napco PCD2000 Quickloader software and PCI2000 interface.

PROM PROGRAMMING

Two DD493BNK PROMs may be programmed using a PRO-410M Programmer. Refer to the manual furnished with the programmer for operating instructions and to the Programming Record Sheet. PROM programming may be used to program all features except

- All User Codes
- Exit/Entry Times
- Test-Timer Time
- Test-Timer Interval
- Zone Descriptions
- Opening and Closing Suppression Windows

Important! The following Page-1 programming is *required* for DD493BNK PROMs:

- PROM No. 1 (Page 1): Location 251: C; Location 252: 3
- PROM No. 2 (Page 1): Location 251: D; Location 252: 3

Transferring Memory from a DD493BNK PROM.

Data programmed in the PROMs are saved in memory as follows (also see Wiring Diagram).

1. At the control panel, with ac and battery power off, insert either programmed PROM into the MEMORY CHIP socket. Align the dot on the PROM with the dot on the circuit board.

2. Apply ac power. Enter the Dealer Program Mode: Hold down Key [8] until the beep sounds, then enter the Dealer Program Code.

3. Exit the Dealer Program Mode: Hold down Key [8] until the beep sounds, then enter the Dealer Program Code.

4. During the transfer process, an "L" will be displayed (indicating "loading"). Wait for the display to go blank, then remove all power and remove the PROM from the socket.

5. Repeat Steps 1–4 for PROM No. 2, then power up normally.

KEYPAD PROGRAMMING

Keypad Programming may be divided into two subgroups: User Program Mode and Dealer Mode. User Keypad Programming (refer to operating instructions for keypad in use) is limited to User Codes (including Manager's Code and Access Code, but not Ambush or User Program Code). In the Dealer Program Mode, the keypad provides full programming capabilities. **Note:** The User Program Mode cannot be entered for the first three minutes after power-up unless the panel is first reset using Hold-Down Function 9.

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 factory-programmed Dealer Program Code is *4,5,6,7,8,9,* but this code must be reprogrammed to preserve system security. Record it and store it in a safe place; attempts to alter programming without this code will fail!) 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*. (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 required programming, exit the Dealer Program Mode (see below), then power-down and power-up the system once again.

Set the location to be programmed by pressing Key [B]. Each location must be entered as a three-digit number, that is, 001, 020, 157, etc. At this point, several numeric keys will take on new functions. Refer to the installation instructions for the keypad in use for descriptions of these new functions and additional keypad programming information.

To exit the Dealer Program Mode, hold down Key [8] until the beep sounds, then enter the Dealer Program Code within 10 seconds.

DOWNLOADING FROM A COMPUTER. (PCD2000 and PCI2000 not evaluated by UL. Do not use for programming panels in UL-listed installations.)

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 disabled in UL 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 panel will accommodate an answering machine at the site if line seizure is used on the house phones. **Note:** The number of rings programmed into the panel must exceed that of the answering machine.

Function-6 Method. Call the central station from the site to request a *Manual Download*. During this proce-

dure, 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 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, the *Auto-Download ID Number* corresponding to that in the computer is programmed into the panel, along with the *Callback Telephone Number* of the computer. To execute an Auto-Download, arm the panel, disarm, then access Function 6 within 5 seconds. **Note:** Provisions are made for two Callback Telephone Numbers. If *Callback Telephone Number 2* is programmed, *Callback Select* must also be programmed.

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 may be programmed right out of the box (with no zones or keypads wired) or after it has been placed into service.

1. Referring to the PCI2000 Wiring Diagram, connect the PCL2000 Local Download Cable between the modem LINE connector and the control panel Telco terminals. (Remove the plug shown coming from the PCI2000-J5.)

2a. *Panel out of the box:* With the control panel unpowered, set up the computer for a *Function-6 Method* download. 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. **Note:** In this mode, the panel will not report any alarms which would otherwise interrupt the connection to the computer.

2b. *Panel already in service:* Set up the computer for a *Function-6 Method* download. When a high-pitched tone is heard at the site phone, arm the panel, disarm, then hold down Key [6] within 5 seconds.

3. Make all required selections and download the program.

4. After the computer indicates a successful download, terminate the connection.

GENERAL PROGRAMMING STEPS

Note: Refer to *SUMMARY OF UL REQUIREMENTS* for UL required programming.

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. Complete the Programming Sheet. Reference record sheets for the MA1016e are furnished in the following pages. Select the desired features by circling the respective *address* boxes. Refer to the Glossary for guidance in selecting *data* entries (1,2,4,8).

3. To program the subscriber PROMs, follow the instructions furnished with the programmer. While programming, remember to keep the address *page number* in mind, and be sure that the position of the PAGE switch (PRO410/410M) is set accordingly. **Note:** If using the PRO410/410M, before attempting to program either page, be sure that all data in programmer memory are erased (press [ERASE], then [EXECUTE]).

4. Program the data entries in the boxes on the Programming Record Sheets into the respective locations or addresses. 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. If using the PRO410/410M, use the [PLUS] key to enter any two or more digits that add up to the desired entry.

Entry Total:	10	11	12	13	14	15
Display:	0	B	C	D	E	F

(PRO410/410M only): To program "13", for example, enter either [d] *or* [8] [PLUS] [5], *or* [8] [PLUS] [4] [PLUS] [1], etc.

Similarly, to *add* to an existing PROM location, first press the [PLUS] key, then the complementary digit, otherwise the digit entered will *replace* the digit in memory. Refer to the PRO410/410M instruction booklet for further programming information.

KEYPAD PROGRAMMING RECORD SHEET FOR THE MAGNUM ALERT-1016e

NOTE: FACTORY-PROGRAMMED VALUES ARE SHOWN IN PARENTHESES.

EXIT DELAY		ENTRY DELAY 1		ENTRY DELAY 2	
x1	x16	x1	x16	x1	x16
000	001	002	003	004	005
(C)	(3)	(E)	(1)	(E)	(1)

USER 1						USER 2						USER 3						USER 4					
006	007	008	009	010	011	012	013	014	015	016	017	018	019	020	021	022	023	024	025	026	027	028	029
(1)	(2)	(3)																					

USER 5						USER 6						USER 7						USER 8					
030	031	032	033	034	035	036	037	038	039	040	041	042	043	044	045	046	047	048	049	050	051	052	053

USER 9						USER 10						USER 11						USER 12					
054	055	056	057	058	059	060	061	062	063	064	065	066	067	068	069	070	071	072	073	074	075	076	077

USER 13/ARM ONLY						USER 14/DISABLE SERVICE						USER 15/SERVICE CODE						MANAGER'S CODE					
078	079	080	081	082	083	084	085	086	087	088	089	090	091	092	093	094	095	096	097	098	099	100	101

ACCESS CODE					
108	109	110	111	112	113

AMBUSH CODE	
114	115

USER PROGRAM CODE						DEALER PROGRAM CODE					
120	121	122	123	124	125	126	127	128	129	130	131
(1)	(2)	(3)	(4)	(5)	(6)	(4)	(5)	(6)	(7)	(8)	(9)

KEYPAD PROGRAMMING RECORD SHEET FOR THE MAGNUM ALERT-1016e

NOTE: FACTORY-PROGRAMMED VALUES ARE SHOWN IN PARENTHESES.

CALLBACK TELEPHONE NUMBER 1

316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335

ANSWER ON RING #

826

AUTO D/L ID #

511	510

FF = TIME SET
1-99 = D/L ID#

CALLBACK TELEPHONE NUMBER 2

900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919

CALLBACK SELECT

508

ENTER
<- "1" OR "2"

	FORMAT			DIALER TELEPHONE NUMBERS																				
TEL #1	336	338	339	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275
								(E)															
TEL #2	340	342	343	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295
								(E)															
TEL #3	344	346	347	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315
								(E)															

BLANK	ADEMCO SLOW, SILENT KNIGHT SLOW
1	SESCOA,VERTEX,DCI FRANKLIN FAST
2	RADIONICS FAST
3	SILENT KNIGHT FAST
4	RADIONICS, DCI, FRANKLIN SLOW
5	UNIVERSAL HIGH SPEED

1 = 2300Hz HANDSHAKE
2 = 2300Hz KISSOFF
4 = 2 DIGIT OR 4/2
8 = SINGLE DIGIT ONLY

1 = SUM CHECK
2 = (RESERVED)
4 = (RESERVED)
8 = (RESERVED)

		USER 1 2 3 4		USER 5 6 7 8		USER 9 10 11 12		USER 13 14 15 -
CLOSING TELCO 1	584	1 2 4 8	585	1 2 4 8	586	1 2 4 8	587	1 2 4 *
OPENING TELCO 1	588	1 2 4 8	589	1 2 4 8	590	1 2 4 8	591	1 2 4 *
CLOSING TELCO 3	600	1 2 4 8	601	1 2 4 8	602	1 2 4 8	603	1 2 4 *
OPENING TELCO 3	604	1 2 4 8	605	1 2 4 8	606	1 2 4 8	607	1 2 4 *
AREA 1 ARM/DISARM	828	(1)(2)(4)(8)	829	(1)(2)(4)(8)	830	(1)(2)(4)(8)	831	(1)(2)(4) *
AREA 2 ARM/DISARM	832	1 2 4 8	833	1 2 4 8	834	1 2 4 8	835	1 2 4 *

* DO NOT PROGRAM! Operation may be adversely affected.

SUBSCRIBER ID NUMBERS

	OPN/CLOS AREA 1				OPN/CLOS AREA 2				BANK 0				BANK 1				BANK 2			
TEL #1	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373
TEL #2	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393
TEL #3	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413

KEYPAD PROGRAMMING RECORD SHEET FOR THE MAGNUM ALERT-1016e

NOTE: FACTORY-PROGRAMMED VALUES ARE SHOWN IN PARENTHESES.

	FIRE		FIR TBL		NO CLOS		T.TIMER		LOW BAT		AC FAIL	
BANK-0 CODES	426	427	428	429	430	431	432	433	434	435	436	437
	(1)	(1)	(1)	(F)			(F)	(F)	(1)	(8)	(1)	(9)

	1		2		3		4		5		6		7		8	
BANK-1 CODES	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453
	(3)	(1)	(3)	(2)	(3)	(3)	(3)	(4)	(3)	(5)	(3)	(6)	(3)	(7)	(3)	(8)

	9		10		11		12		13		14/AUX*		PANIC		AMBUSH	
BANK-2 CODES	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469
	(4)	(1)	(4)	(2)	(4)	(3)	(4)	(4)	(4)	(5)	(4)	(6)	(2)	(1)	(2)	(2)

***NOTE:** ZONE 14 MAY BE USED AS AUXILIARY PANIC.

ALARMS, BANKS 0, 1, 2
Uses above Alarm Codes (1st and/or 2nd digit)

RESTORES, BANKS 0, 1, 2
Event Code, then 2nd digit (1st if 2nd blank)

TROUBLES, BANKS 1, 2
Event Code, then 2nd digit (1st if 2nd blank)

TROUBLE RESTORES, BANKS 1, 2
Restore Event Code, then Trouble Event Code

RESTORE CODES

BANK 0	BANK 1	BANK 2
470	474	478
(E)	(E)	(E)

TROUBLE/STATUS CODES

BANK 1	BANK 2
476	480
(F)	(F)

AREA-1 CODES			AREA-2 CODES		
OPENING	CLOSING	FORCE*	OPENING	CLOSING	FORCE*
414	416	418	420	422	424
(B)	(C)	(F)	(B)	(C)	(F)

*LEAVE BLANK IF NOT REPORTING FORCE ARM; NOT USED FOR STATUS OR 4/2.

KEYPAD PROGRAMMING RECORD SHEET FOR THE MAGNUM ALERT-1016e

NOTE: FACTORY-PROGRAMMED VALUES ARE SHOWN IN PARENTHESES.

	BANK 0			BANK 1			BANK 2		
FEATURE		F FT NC♦TT♦			LB AC A1 A2		1 2 3 4		5 6 7 8		9 10 11 12		13 14 PA AM
50ms LOOP RESPONSE	512	* * * *	513	* * * *	608	1 2 4 8	609	1 2 4 8	704	1 2 4 8	705	1 2 * *
10ms LOOP RESPONSE	514	* * * *	515	* * * *	610	1 2 4 8	611	1 2 4 8	706	1 2 4 8	707	1 2 * *
PRIORITY	516	1 2 * *	517	1 2 * *	612	(1)(2)(4)(8)	613	(1)(2)(4)(8)	708	(1)(2)(4)(8)	709	(1)(2) * *
PRIORITY WITH BYPASS	518	(1) 2 * *	519	* * * *	614	1 2 4 8	615	1 2 4 8	710	1 2 4 8	711	1 2 * *
AUTO-BYPASS	520	* * * *	521	* * * *	616	1 2 4 8	617	1 2 4 8	712	1 2 4 8	713	1 2 * *
SELECTIVE BYPASS	522	* * * *	523	* * * *	618	(1)(2)(4)(8)	619	(1)(2)(4)(8)	714	(1)(2)(4)(8)	715	(1)(2) * *
GROUP BYPASS	524	* * * *	525	* * * *	620	1 2 4 8	621	1 2 4 8	716	1 2 4 8	717	1 2 * *
24-HOUR PROTECTION	526	* * * *	527	* * * *	622	1 2 4 8	623	1 2 4 8	718	1 2 4 8	719	1 2 (4) *
BURG SIREN	528	1 2 * *	529	1 2 * *	624	(1)(2)(4)(8)	625	(1)(2)(4)(8)	720	(1)(2)(4)(8)	721	(1)(2)(4) *
FIRE SIREN	530	(1) 2 * *	531	1 2 * *	626	1 2 4 8	627	1 2 4 8	722	1 2 4 8	723	1 2 4 *
LUG E16	532	1 2 * *	533	1 2 * *	628	1 2 4 8	629	1 2 4 8	724	1 2 4 8	725	1 2 4 *
VOLTAGE OUT ON ALARM	534	1 2 * *	535	1 2 4 8	630	1 2 4 8	631	1 2 4 8	726	1 2 4 8	727	1 2 4 8
RELAY OUTPUT	536	1 2 * *	537	1 2 4 8	632	1 2 4 8	633	1 2 4 8	728	1 2 4 8	729	1 2 4 8
ENTRY/EXIT #1					634	(1) 2 4 8	635	1 2 4 8	730	1 2 4 8	731	1 2 * *
ENTRY/EXIT #2	540	* * * *	541	* * * *	636	1 2 4 8	637	1 2 4 8	732	1 2 4 8	733	1 2 * *
E/E FOLLOWER	542	* * * *	543	* * * *	638	1 2 4 8	639	1 2 4 8	734	1 2 4 8	735	1 2 * *
AUTO RESET	544	* * * *	545	* * * *	640	(1)(2)(4)(8)	641	(1)(2)(4)(8)	736	(1)(2)(4)(8)	737	(1)(2)(4) *
SWINGER SHUTDOWN	546	* * * *	547	* * * *	642	(1)(2)(4)(8)	643	(1)(2)(4)(8)	738	(1)(2)(4)(8)	739	(1)(2) 4 *
CHIME	548	* * * *	549	* * * *	644	(1) 2 4 8	645	1 2 4 8	740	1 2 4 8	741	1 2 * *
ABORT DELAY	550	1 2 * *	551	* * * *	646	1 2 4 8	647	1 2 4 8	742	1 2 4 8	743	1 2 * *
POWER-UP DELAY	552	* * * *	553	* * * *	648	1 2 4 8	649	1 2 4 8	744	1 2 4 8	745	1 2 * *
DAY ZONE OPEN	554	* * * *	555	* * * *	650	1 2 4 8	651	1 2 4 8	746	1 2 4 8	747	1 2 * *
DAY ZONE SHORT	556	* * * *	557	* * * *	652	1 2 4 8	653	1 2 4 8	748	1 2 4 8	749	1 2 * *
ALARM ON DAY ZONE	558	* * * *	559	* * * *	654	1 2 4 8	655	1 2 4 8	750	1 2 4 8	751	1 2 * *
REPORT TELCO 1												
ALARM	560	1 2 4 8	561	1 2 * *	656	1 2 4 8	657	1 2 4 8	752	1 2 4 8	753	1 2 4 8
ALARM RESTORE	562	1 2 * *	563	1 2 * *	658	1 2 4 8	659	1 2 4 8	754	1 2 4 8	755	1 2 * *
TROUBLE	564	* * * *	565	* * * *	660	1 2 4 8	661	1 2 4 8	756	1 2 4 8	757	1 2 * *
TROUBLE RESTORE	566	* * * *	567	* * * *	662	1 2 4 8	663	1 2 4 8	758	1 2 4 8	759	1 2 * *
REPORT TELCO 3 (DOUBLE OR SPLIT REPORTING)												
ALARM	576	1 2 4 8	577	1 2 * *	672	1 2 4 8	673	1 2 4 8	768	1 2 4 8	769	1 2 4 8
ALARM RESTORE	578	1 2 * *	579	1 2 * *	674	1 2 4 8	675	1 2 4 8	770	1 2 4 8	771	1 2 * *
TROUBLE	580	* * * *	581	* * * *	676	1 2 4 8	677	1 2 4 8	772	1 2 4 8	773	1 2 * *
TROUBLE RESTORE	582	* * * *	583	* * * *	678	1 2 4 8	679	1 2 4 8	774	1 2 4 8	775	1 2 * *
NO EOL RESISTOR					680	1 2 4 8	681	1 2 4 8	776	1 2 4 8	777	1 2 * *
SENSOR WATCH					682	1 2 4 8	683	1 2 4 8	778	1 2 4 8	779	1 2 * *
TROUBLE ON OPEN					684	1 2 4 8	685	1 2 4 8	780	1 2 4 8	781	1 2 * *
TROUBLE ON SHORT					686	1 2 4 8	687	1 2 4 8	782	1 2 4 8	783	1 2 * *
AREA #1					688	(1)(2)(4)(8)	689	(1)(2)(4)(8)	784	(1)(2)(4)(8)	785	(1)(2) 4 *
AREA #2♠					690	1 2 4 8	691	1 2 4 8	786	1 2 4 8	787	1 2 4 *
TROUBLE ON NITE OPEN					692	1 2 4 8	693	1 2 4 8	788	1 2 4 8	789	1 2 * *
FIRE ON BURG ZONE♣					694	1 2 4 8	695	1 2 4 8	790	1 2 4 8	791	1 2 * *
LUG E15 (NTO)	538	1 2 4 8	539	1 2 4 8	696	(1)(2)(4)(8)	697	(1)(2)(4)(8)	792	(1)(2)(4)(8)	793	(1)(2)(4) *
K/P SOUNDER ON ALARM					698	1 2 4 8	699	1 2 4 8	794	1 2 4 8	795	1 2 4 *

♦ NC (NO CLOSINGS) and TT (TEST TIMER) programmable only through Napco PCD2000 Quickloader software.
♠ Program only for partitioned systems.
♣ When programming FIRE ON BURG ZONE, also program that zone for:
- PRIORITY WITH BYPASS or PRIORITY
- 24-HOUR PROTECTION
- APPROPRIATE SIREN OUTPUT
- AREA 1 (and AREA 2 if, and only if, system is partitioned).

* DO NOT PROGRAM! Operation may be adversely affected.

KEYPAD PROGRAMMING RECORD SHEET FOR THE MAGNUM ALERT-1016e

NOTE: FACTORY-PROGRAMMED VALUES ARE SHOWN IN PARENTHESES.

		496	497	
	(4)			
BACKUP REPORTING TELCO 1, 2	1		1	OPENING REPORT ONLY AFTER ALARM REPORT
TOUCHTONE DIALING ONLY	2		2	CLOSING REPORT ONLY ON FORCED ARM
TOUCHTONE WITH ROTARY BACKUP	(4)		4	INCLUDE SEL/GRP BYPASS IN FORCED-ARM/STATUS
(RESERVED)			8	STATUS REPORT (AUTO-BYPASS ZONES ON CLOSING)

		818	819	
FAIL TO COMMUNICATE ON LUG E15	1		1	DISABLE FUNCTION-6 DOWNLOAD
DISABLE AUTO-RESET ON DAY ZONE	2		2	DISABLE CALLBACK DOWNLOAD
INCLUDE HOLD-DOWN [9] TO RESET DAY ZONE	4		4	DISABLE ANSWERING-MACHINE DOWNLOAD
WATCH MODE WITH HOLD-DOWN [7]	8		8	ENABLE AUX PANIC ON F/P/A KEYPAD*

		820	821	
	(2)			
AUTO BELL TEST ON ARMING	1		1	ENABLE KEYPAD TACTILE BEEP
AUTO-RESET AFTER BURG SIREN TIMEOUT	(2)		2	ARM ONLY WITH USER 13
FIRE ALARM VERIFICATION	4		4	USER 15 AS SERVICE
DISABLE FIRE POWER RESET	8		8	START EXIT DELAY AFTER RINGBACK

		822	823	
				(C)
SPLIT SYSTEM	1		1	DISABLE BELL TEST
SOUNDER ON E4 (AREA 1)	2		2	DISABLE DISPLAY BYPASS WHILE ARMED
SILENCE FIRE ALARM FROM EITHER AREA	4		(4)	KEYPAD PANIC
ENABLE FIRE PANIC ON F/P/A KEYPAD*	8		(8)	KEYPAD TELCO TEST

		852	853	
DISPLAY OPEN ZONES	1		1	AUDIO VERIFICATION ON LUG E15 (NTO)
(RESERVED)				(RESERVED)
DISPLAY ANY BYPASS	4		4	NO POWER-FAILURE INDICATION
CHIME ON WITH GROUP BYPASS	8			(RESERVED)

*REQUIRES THAT ALL SYSTEM KEYPADS BE F/P/A-PANIC COMPATIBLE AND THAT KEYPAD JUMPER E BE CUT.

TIMEOUTS	x1	x16
VOLTAGE OUTPUT ON ALARM (MINUTES)	800	801
RELAY OUTPUT (MINUTES)	802	803
BURG SIREN (MINUTES) (F)	806	807
FIRE SIREN (MINUTES) (F)	808	809
LUG E16 (MINUTES) (F)	810	811

TIMEOUTS	x1	x16
ABORT DELAY (SECONDS)	812	813
CHIME (¼ SECONDS) (8)	814	815
AC FAIL REPORT (MINUTES) (4)	816	817
SENSOR WATCH (DISARMED HOURS)	824	825

TRANSMITTER ZONE MAP
(FOR WIRELESS SYSTEMS ONLY)

TX#	LOC	ZONE
1	836	
2	837	
3	838	
4	839	
5	840	
6	841	
7	842	
8	843	

TX#	LOC	ZONE
9	844	
10	845	
11	846	
12	847	
13	848	
14	849	
15	850	
16	851	

REFER TO R1000 RECEIVER INSTRUCTIONS WI604 FOR TRANSMITTER MAPPING AND LEARNING INSTRUCTIONS AND OTHER WIRELESS INSTALLATION INFORMATION.

PROM-1 PROGRAMMING RECORD SHEET FOR THE MAGNUM ALERT-1016e

ALL PAGE-0 INFORMATION UNLESS OTHERWISE INDICATED

	BANK 0									BANK 1									BANK 2								
FEATURE		F	FT	NC♦	TT♦		LB	AC	A1	A2		1	2	3	4		5	6	7	8		9	10	11	12		13	14	PA	AM
50ms LOOP RESPONSE	000	*	*	*	*	001	*	*	*	*	096	1	2	4	8	097	1	2	4	8	192	1	2	4	8	193	1	2	*	*
10ms LOOP RESPONSE	002	*	*	*	*	003	*	*	*	*	098	1	2	4	8	099	1	2	4	8	194	1	2	4	8	195	1	2	*	*
PRIORITY	004	1	2	*	*	005	1	2	*	*	100	1	2	4	8	101	1	2	4	8	196	1	2	4	8	197	1	2	*	*
PRIORITY WITH BYPASS	006	1	2	*	*	007	1	*	*	*	102	1	2	4	8	103	1	2	4	8	198	1	2	4	8	199	1	2	*	*
AUTO-BYPASS	008	*	*	*	*	009	*	*	*	*	104	1	2	4	8	105	1	2	4	8	200	1	2	4	8	201	1	2	*	*
SELECTIVE BYPASS	010	*	*	*	*	011	*	*	*	*	106	1	2	4	8	107	1	2	4	8	202	1	2	4	8	203	1	2	*	*
GROUP BYPASS	012	*	*	*	*	013	*	*	*	*	108	1	2	4	8	109	1	2	4	8	204	1	2	4	8	205	1	2	*	*
24-HOUR PROTECTION	014	*	*	*	*	015	*	*	*	*	110	1	2	4	8	111	1	2	4	8	206	1	2	4	8	207	1	2	4	*
BURG SIREN	016	1	2	*	*	017	1	2	*	*	112	1	2	4	8	113	1	2	4	8	208	1	2	4	8	209	1	2	4	8
FIRE SIREN	018	1	2	*	*	019	1	2	*	*	114	1	2	4	8	115	1	2	4	8	210	1	2	4	8	211	1	2	4	8
LUG E16	020	1	2	*	*	021	1	2	*	*	116	1	2	4	8	117	1	2	4	8	212	1	2	4	8	213	1	2	4	8
VOLTAGE OUT ON ALARM	022	1	2	*	*	023	1	2	4	8	118	1	2	4	8	119	1	2	4	8	214	1	2	4	8	215	1	2	4	8
RELAY OUTPUT	024	1	2	*	*	025	1	2	4	8	120	1	2	4	8	121	1	2	4	8	216	1	2	4	8	217	1	2	4	8
ENTRY/EXIT #1											122	1	2	4	8	123	1	2	4	8	218	1	2	4	8	219	1	2	*	*
ENTRY/EXIT #2	028	*	*	*	*	029	*	*	*	*	124	1	2	4	8	125	1	2	4	8	220	1	2	4	8	221	1	2	*	*
E/E FOLLOWER	030	*	*	*	*	031	*	*	*	*	126	1	2	4	8	127	1	2	4	8	222	1	2	4	8	223	1	2	*	*
AUTO RESET	032	*	*	*	*	033	*	*	*	*	128	1	2	4	8	129	1	2	4	8	224	1	2	4	8	225	1	2	*	*
SWINGER SHUTDOWN	034	*	*	*	*	035	*	*	*	*	130	1	2	4	8	131	1	2	4	8	226	1	2	4	8	227	1	2	*	*
CHIME	036	*	*	*	*	037	*	*	*	*	132	1	2	4	8	133	1	2	4	8	228	1	2	4	8	229	1	2	*	*
ABORT DELAY	038	1	2	*	*	039	*	*	*	*	134	1	2	4	8	135	1	2	4	8	230	1	2	4	8	231	1	2	*	*
POWER-UP DELAY	040	*	*	*	*	041	*	*	*	*	136	1	2	4	8	137	1	2	4	8	232	1	2	4	8	233	1	2	*	*
DAY ZONE OPEN	042	*	*	*	*	043	*	*	*	*	138	1	2	4	8	139	1	2	4	8	234	1	2	4	8	235	1	2	*	*
DAY ZONE SHORT	044	*	*	*	*	045	*	*	*	*	140	1	2	4	8	141	1	2	4	8	236	1	2	4	8	237	1	2	*	*
ALARM ON DAY ZONE	046	*	*	*	*	047	*	*	*	*	142	1	2	4	8	143	1	2	4	8	238	1	2	4	8	239	1	2	*	*
REPORT TELCO 1																														
ALARM	048	1	2	4	8	049	1	2	*	*	144	1	2	4	8	145	1	2	4	8	240	1	2	4	8	241	1	2	4	8
ALARM RESTORE	050	1	2	*	*	051	1	2	*	*	146	1	2	4	8	147	1	2	4	8	242	1	2	4	8	243	1	2	*	*
TROUBLE	052	*	*	*	*	053	*	*	*	*	148	1	2	4	8	149	1	2	4	8	244	1	2	4	8	245	1	2	*	*
TROUBLE RESTORE	054	*	*	*	*	055	*	*	*	*	150	1	2	4	8	151	1	2	4	8	246	1	2	4	8	247	1	2	*	*
REPORT TELCO 3 (DOUBLE OR SPLIT REPORTING)																					PAGE 1									
ALARM	064	1	2	4	8	065	1	2	*	*	160	1	2	4	8	161	1	2	4	8	000	1	2	4	8	001	1	2	4	8
ALARM RESTORE	066	1	2	*	*	067	1	2	*	*	162	1	2	4	8	163	1	2	4	8	002	1	2	4	8	003	1	2	*	*
TROUBLE	068	*	*	*	*	069	*	*	*	*	164	1	2	4	8	165	1	2	4	8	004	1	2	4	8	005	1	2	*	*
TROUBLE RESTORE	070	*	*	*	*	071	*	*	*	*	166	1	2	4	8	167	1	2	4	8	006	1	2	4	8	007	1	2	*	*
NO EOL RESISTOR											168	1	2	4	8	169	1	2	4	8	008	1	2	4	8	009	1	2	*	*
SENSOR WATCH											170	1	2	4	8	171	1	2	4	8	010	1	2	4	8	011	1	2	*	*
TROUBLE ON OPEN											172	1	2	4	8	173	1	2	4	8	012	1	2	4	8	013	1	2	*	*
TROUBLE ON SHORT											174	1	2	4	8	175	1	2	4	8	014	1	2	4	8	015	1	2	*	*
AREA #1											176	1	2	4	8	177	1	2	4	8	016	1	2	4	8	017	1	2	4	*
AREA #2											178	1	2	4	8	179	1	2	4	8	018	1	2	4	8	019	1	2	4	*
TROUBLE ON NITE OPEN											180	1	2	4	8	181	1	2	4	8	020	1	2	4	8	021	1	2	*	*
FIRE ON BURG ZONE♣											182	1	2	4	8	183	1	2	4	8	022	1	2	4	8	023	1	2	*	*
LUG E15 (NTO)	026	1	2	4	8	027	1	2	4	8	184	1	2	4	8	185	1	2	4	8	024	1	2	4	8	025	1	2	*	*
K/P SOUNDER ON ALARM											186	1	2	4	8	187	1	2	4	8	025	1	2	4	8	026	1	2	*	*

		USER					USER					USER					USER			
		1	2	3	4		5	6	7	8		9	10	11	12		13	14	15	-
CLOSING TELCO 1	072	1	2	4	8	073	1	2	4	8	074	1	2	4	8	075	1	2	4	*
OPENING TELCO 1	076	1	2	4	8	077	1	2	4	8	078	1	2	4	8	079	1	2	4	*
CLOSING TELCO 3	088	1	2	4	8	089	1	2	4	8	090	1	2	4	8	091	1	2	4	*
OPENING TELCO 3	092	1	2	4	8	093	1	2	4	8	094	1	2	4	8	095	1	2	4	*

♦ NC (NO CLOSINGS) and TT (TEST TIMER) programmable only through Napco PCD2000 Quickloader Software.
* DO NOT PROGRAM! Operation may be adversely affected.
♣ If programming FIRE ON BURG ZONE, also program selected burglary zone for:
- PRIORITY WITH BYPASS or PRIORITY
- 24-HOUR PROTECTION
- APPROPRIATE SIREN OUTPUT
- AREA 1 (and AREA 2 only if system is partitioned)

PROM-1 PROGRAMMING RECORD SHEET FOR THE MAGNUM ALERT-1016e

ALL PAGE-1 INFORMATION

TIMEOUTS	x1	x16
VOLTAGE OUTPUT ON ALARM (MINUTES)	032	033
RELAY OUTPUT (MINUTES)	034	035
BURG SIREN (MINUTES)	038	039
FIRE SIREN (MINUTES)	040	041
LUG E16 (MINUTES)	042	043
ABORT DELAY (SECONDS)	044	045

TIMEOUTS	x1	x16
CHIME (¼ SECONDS)	046	047
AC FAIL REPORT (MINUTES)	048	049
SENSOR WATCH (HOURS)	056	057
NUMBER OF RINGS BEFORE CALLBACK		059
PROM-1 LOAD CONSTANT♦	251 C	252 3

TRANSMITTER ZONE MAP
(FOR WIRELESS SYSTEMS ONLY)

TX#	LOC	ZONE
1	068	
2	069	
3	070	
4	071	
5	072	
6	073	
7	074	
8	075	

TX#	LOC	ZONE
9	076	
10	077	
11	078	
12	079	
13	080	
14	081	
15	082	
16	083	

REFER TO R1000 RECEIVER INSTRUCTIONS WI604 FOR TRANSMITTER MAPPING AND LEARNING INSTRUCTIONS AND OTHER WIRELESS INSTALLATION INFORMATION.

050	051

FAIL TO COMMUNICATE ON LUG E15	1	1	DISABLE FUNCTION-6 DOWNLOAD
DISABLE AUTO-RESET ON DAY ZONE	2	2	DISABLE CALLBACK DOWNLOAD
INCLUDE HOLD-DOWN [9] TO RESET DAY ZONE	4	4	DISABLE ANSWERING MACHINE DOWNLOAD
WATCH MODE	8	8	ENABLE AUX PANIC ON F/P/A KEYPAD•

052	053

AUTO BELL TEST ON ARMING	1	1	ENABLE KEYPAD TACTILE BEEP
AUTO-RESET AFTER BURG SIREN TIMEOUT	2	2	ARM ONLY WITH USER 13
FIRE ALARM VERIFICATION	4	4	USER 15 AS SERVICE
DISABLE FIRE POWER RESET	8	8	START EXIT DELAY AFTER RINGBACK

054	055

SPLIT SYSTEM	1	1	DISABLE BELL TEST
SOUNDER ON LUG E4 (AREA 1)	2	2	DISABLE DISPLAY BYPASS WHILE ARMED
SILENCE FIRE ALARM FROM EITHER AREA	4	4	KEYPAD PANIC
ENABLE FIRE PANIC ON F/P/A KEYPAD•	8	8	TELCO TEST

084	085

DISPLAY OPEN ZONES	1	1	AUDIO VERIFICATION ON LUG E15 (NTO)
(RESERVED)			(RESERVED)
DISPLAY ANY BYPASS	4	4	NO POWER-FAILURE INDICATION
CHIME ON WITH GROUP BYPASS	8		(RESERVED)

		USER 1 2 3 4			USER 5 6 7 8			USER 9 10 11 12			USER 13 14 15 -
AREA 1 ARM/DISARM	060	1 2 4 8	061	1 2 4 8	062	1 2 4 8	063	1 2 4 *
AREA 2 ARM/DISARM	064	1 2 4 8	065	1 2 4 8	066	1 2 4 8	067	1 2 4 *

♦ Must be entered on PAGE 1 of DD493BNK for PROM 1
* DO NOT PROGRAM! Operation may be adversely affected.
• REQUIRES THAT ALL SYSTEM KEYPADS BE F/P/A-PANIC COMPATIBLE AND THAT KEYPAD JUMPER E BE CUT.

PROM-2 PROGRAMMING RECORD SHEET FOR THE MAGNUM ALERT-1016e

ALL PAGE-0 INFORMATION UNLESS OTHERWISE INDICATED

CALLBACK TELEPHONE NUMBER 1

060	061	062	063	064	065	066	067	068	069	070	071	072	073	074	075	076	077	078	079

AUTO D/L ID #

254	255

FORMAT

	080	082	083
TEL #1			
TEL #2	084	086	087
TEL #3	088	090	091

DIALER TELEPHONE NUMBERS

	000	001	002	003	004	005	006	007	008	009	010	011	012	013	014	015	016	017	018	019
TEL #1																				
	020	021	022	023	024	025	026	027	028	029	030	031	032	033	034	035	036	037	038	039
TEL #2																				
	040	041	042	043	044	045	046	047	048	049	050	051	052	053	054	055	056	057	058	059
TEL #3																				

BLANK	ADEMCO SLOW, SILENT KNIGHT SLOW
1	SESCOA,VERTEX,DCI FRANKLIN FAST
2	RADIONICS FAST
3	SILENT KNIGHT FAST
4	RADIONICS, DCI, FRANKLIN SLOW
5	UNIVERSAL HIGH SPEED

1 = 2300Hz HANDSHAKE
2 = 2300Hz KISSOFF
4 = 2 DIGIT OR 4/2
8 = SINGLE DIGIT ONLY

1 = SUM CHECK
2 = (RESERVED)
4 = (RESERVED)
8 = (RESERVED)

SUBSCRIBER ID NUMBERS

	OPN/CLOS AREA 1				OPN/CLOS AREA 2				BANK 0				BANK 1				BANK 2			
TEL #1	098	099	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117
TEL #2	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137
TEL #3	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157

PROM-2 PROGRAMMING RECORD SHEET FOR THE MAGNUM ALERT-1016e

ALL PAGE-0 INFORMATION UNLESS OTHERWISE INDICATED

AREA-1 CODES			AREA-2 CODES		
OPENING	CLOSING	FORCE*	OPENING	CLOSING	FORCE*
158	160	162	164	166	168

*LEAVE BLANK IF NOT REPORTING FORCE ARM; NOT USED FOR STATUS OR 4/2.

	FIRE		FIR TBL		NO CLOS		T.TIMER		LOW BAT		AC FAIL	
BANK-0 CODES	170	171	172	173	174	175	176	177	178	179	180	181

	1		2		3		4		5		6		7		8	
BANK-1 CODES	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197

	9		10		11		12		13		14/AUX*		PANIC		AMBUSH	
BANK-2 CODES	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213

*NOTE: ZONE 14 MAY BE USED AS AUXILIARY PANIC.

RESTORE CODES		
BANK 0 214	BANK 1 218	BANK 2 222

TROUBLE/STATUS CODES	
BANK 1 220	BANK 2 224

NOTE:

- ALARMS, BANKS 0, 1, 2
  Uses above Alarm Codes (1st and/or 2nd digit)
- TROUBLES, BANKS 1, 2
  Event Code, then 2nd digit (1st if 2nd blank)
- RESTORES, BANKS 0, 1, 2
  Event Code, then 2nd digit (1st if 2nd blank)
- TROUBLE RESTORES, BANKS 1, 2
  Restore Event Code, then Trouble Event Code

240	241

BACKUP REPORTING TELCO 1, 2	1	1 OPENING ONLY AFTER ALARM REPORT
TOUCHTONE DIALING ONLY	2	2 CLOSE ONLY ON FORCED ARM (AUTO-BYPASS)
TOUCHTONE WITH ROTARY BACKUP	4	4 INCLUDE SEL/GRP BYPASS IN FORCED-ARM/STATUS
(RESERVED)		8 STATUS REPORT (AUTO-BYPASS ZONES ON CLOS.)

PAGE-1 INFORMATION		
PROM-2 LOAD CONSTANT♦	251	252
	D	3

♦ Must be entered on PAGE 1 of DD493BNK for PROM load to function

4. GLOSSARY & PROGRAMMING INFORMATION

Note: Refer to the Keypad Programming Sheets for address numbers. Refer to the PROM Programming Sheets for location numbers (be sure to observe PROM page number).

Abort Delay

A delay period that allows cancellation of the central-station report. This is done by disarming the control panel within the delay period. Program zones for *Abort Delay*; see *Time Selection* for delay time.

Note: If *Abort Delay* is selected for a 24-Hour Zone, the zone must be secured before disarming the panel.

Ac Fail Report

About 1 minute after ac power is removed from the panel, the keypad will indicate an AC FAILURE system trouble (see *APPENDIX II. SYSTEM TROUBLE INDICATIONS*. To arm in this condition, hold down Key [9] then enter an Arm/Disarm Code within three minutes (otherwise the ac-fail indication will return).

Ac Failure may be programmed to activate any alarm output. An alarm and/or restore report to the central station will occur immediately unless an *Ac-Fail Report Delay* is programmed. See *Time Selection*.

Access Code

The Access Code is normally used to activate a door strike to remotely unlock a door. Program the Access Code as User 18. *Caution:* Do not use the same code as any Arm/Disarm Code. If an Access Code is programmed, entering that code will cause the Relay Output to close for 5 seconds.

Also see *Timed Output (Lug E15)*.

Note: MA1016e-Series control panels are *not* UL-listed as *Access Control Unit*. In UL installations, Lug E15 may only be used for *Failure to Communicate*.

Access Number for Outside Line

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; Telephone Numbers*.

If the subscriber's system uses an access number, 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.

Alarm History

Hold down Key [B] to display all alarm conditions that have occurred and keep it depressed until all violated zones have been displayed. When the system is re-armed, the previous alarm history will stay memorized until automatically erased by a new alarm condition. Note that Alarm History will not display Ambush or Fire/Fire Trouble on the dedicated Fire Zone but will display Panic on Zone 15. However, in a Split System, Alarm History will display Area-1 Panic as Zone 7 and Area-1 Ambush as Zone 8.

Note: In a partitioned environment, an alarm on a common zone will be displayed at both area keypads. That alarm will be erased only in the area experiencing a new alarm condition.

Alarm on Day Zone See *Day Zone*

Alarm Outputs

The MA1016e has an integral voice/siren driver for both burglary and fire alarms, Form-C dry relay contact outputs, and a communicator that can report alarms to a central station. A bell may be used on the bell output (Terminals 4 (+) and 3 (–)) if Jumper E is cut and Jumper J1 is set to BELL. The following table summarizes wiring for signalling an alarm in typical installations. See *Time Selection* for timeout durations.

Output	Wiring	Remarks
Burg Siren*	Speaker on 4 & 5	Program BURG SIREN
Fire Siren*	Speaker on 4 & 5	Program FIRE SIREN
Steady Bell*	Bell on 3 (–) & 4 (+)	Program BURG SIREN; Cut Jumper E; Set J1 to BELL.
Pulsing Bell*	Bell on 3 (–) & 4 (+)	Program FIRE SIREN; Cut Jumper E; Set J1 to BELL.
Relay Output (wet)	16 (+), 12 (–)	Program RELAY OUTPUT.
Relay Output (dry)	15 (C); 16 (N/O); 17 (N/C)	Program RELAY OUTPUT. Cut Jumper A
Lug E15 (Untimed)	Lug E15 (NTO)	Open collector goes to 0.7V; Limit to 300mA.
Lug E16 (Timed)	Lug E16 (TO)	Open collector goes to 0.7V; Limit to 300mA.

*For UL residential fire installations use a bell; cut Jumpers E and PS, move Jumper J1 to BELL position, and install Jumper J2 (see *Wiring Diagram*). Refer to *Time Selection* for timeout requirements.

Also see *Burg/Fire Lug (E10);Timed Output (E16); Voltage Output.*

Voice Messages. The internal voice/siren driver can produce any of the following synthesized voice messages. Each verbal message is preceded by a 5-second siren and followed by a 15-second siren. See following table to select the desired message and/or

siren combination. **Note:** Jumper J1 must be in the factory-set SIREN position for the voice/siren feature to function. Do not install J2.

- **ENGLISH FIRE:**

"FIRE, FIRE, FIRE; LEAVE IMMEDIATELY!"

- **ENGLISH BURGLARY** (See Note below):

"BURGLARY, BURGLARY, BURGLARY; YOU HAVE VIOLATED AN AREA PROTECTED BY A SECURITY SYSTEM. LEAVE IMMEDIATELY!"

- **SPANISH FIRE:**

"FUEGO, FUEGO, FUEGO; SALIR DE INMEDIATO!

- **SPANISH BURGLARY:**

"ROBO, ROBO, ROBO; ESTA VIOLANDO UNA ZONA PROTEGIDA. SALIR DE INMEDIATO!"

- **FRENCH FIRE:**

"AU FEU, AU FEU, AU FEU; PARTEZ IMMEDIATEMENT!"

- **FRENCH BURGLARY:**

"AU VOLEUR, AU VOLEUR, AU VOLEUR; ZONE INTERDIT. PARTEZ IMMEDIATEMENT!"

Note: The following customized Napco burglary message can replace any English-language burglary message for use in Napco systems. See *Message Selection.*

- **NAPCO BURGLARY MESSAGE:**

"BURGLARY, BURGLARY, BURGLARY; YOU HAVE VIOLATED AN AREA PROTECTED BY A NAPCO SECURITY SYSTEM. LEAVE IMMEDIATELY!"

Message Selection (Resistors [A]–[D]). The desired voice message and/or siren arrangement is chosen by cutting one or more Resistors [A] through [D] (each 1000Ω; color code: brown, black, red, gold) as indicated in the accompanying able. (Also see *Wiring Diagram.*) Note that Resistor [D] is used only to select the custom Napco burglary message for use in Napco systems; it is applicable only to English-language burglary messages.

Resistors				Language(s)	
A	B	C	D	Fire Message	Burglary Message
–	–	–	–*	English	English
	–	X	–*	Spanish, English	Spanish, English
–	X		–*	French, English	French, English
–	X	X	–*	English, Spanish, French	English, Spanish, French
X	–	–	–	Siren Only	Siren Only
X	–	X	–	Spanish, English	Siren Only
X	X	–	–	French, English	Siren Only
X	X	X	–	English	Siren Only

*Cut for "Napco" English burglary message (see above text).

Message/siren resistors. "X" denotes resistor cut.

Wiring to a Grade-A Bell. Use any zone for a Tamper Zone and program for *24-Hour Protection* or *Day Zone.* The Tamper Zone will supervise the cold-water pipe ground, door tamper, and bell box. UL installations require a tamper switch on the control-panel door. For this purpose, use the normally-closed (when set) tamper switch supplied with the MA1016eM in series with the Tamper Zone.

Wiring to a Grade-A Bell.

Ambush Code

A one- or two-digit code that is entered immediately prior to (and as part of) the regular Arm/Disarm Code when disarming. This will 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, (a) program Ambush to report on alarm; (b) enter 1 or 2 digits as the Ambush Code; and (c) enter an Ambush-Zone Alarm Report Code. **Note:** Do not use "*1*" as a single-digit Ambush Code.

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

Note: In split systems (see *Split System*) the Ambush Zone for Area 1 will display as Zone "8" when tripped. To suppress the display, program Zone 8 (Ambush) as a *24-Hour Zone*. Program an appropriate report code for Zone 8.

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 an incoming call, then make another 12-second attempt at dial-tone detection. If still unsuccessful, the communicator will again go off line for 16 seconds, then proceed to dial anyway.

Area 1; Area 2
Area 1 Arm/Disarm; Area 2 Arm/Disarm

In a single-area system, use Area 1 only. To partition the system into two multi-zone subsystems, select each zone for Area 1 and/or Area 2.

If a zone is selected for both areas, that common zone will not arm until both areas are armed (if either zone disarms, the common zone will disarm). Typically, a common primary exit/entry zone (i.e., Exit/Entry 1) is programmed for both areas whereas two secondary exit/entry zones (Exit/Entry 2) are programmed for the individual areas. **Note:** If a zone is not programmed for either area, that zone will never arm (see *Never-Arm Zone*). Program each user for Area 1 Arm/Disarm and/or Area 2 Arm/Disarm to assign user to his/her respective area(s). (A user may be assigned to both areas or to neither area.) Also see *Report Telco 3*.

Note: The *TYPICAL PARTITIONED INSTALLATION* in Section 2 meets UL requirements for partitioning.

Arm Lug (Lug E4)

Lug E4 goes low when the system is armed. This lug may be used for peripheral devices. **Note:** In a partitioned environment, Lug E4 will go low only when Area 1 is armed. Also see *Sounder on Lug E4*; *Split System*.

Arm-Only With User 13

Program to restrict User 13 as an Arm-Only Code. If used for an "easy-arm" code, a minimum of two digits is recommended. (The use of a single digit will preclude that digit's use as a hold-down function.) **Note:** In UL installations, a minimum of 3 digits is required to arm.

Audio Verification on Lug E15 (NTO)

Program for two-way voice/listen-in applications. Also program *Lug E15* for zone(s) on which audio verification is desired. When the zone is tripped, E15 will go to 0.7V and remain latched until a kissoff is received from the central station. **Note:** If *Lug E15* is also programmed for Area 1 (*A1*) and/or Area 2 (*A2*) and *Opening Report Only After Alarm Report* is selected as well, audio verification will be activated on an opening report that follows a "two way voice" zone in alarm in the programmed area.

Auto Bell Test on Arming (Required for UL Mercantile installations.)

This will activate the speaker/bell output briefly 10 seconds after the control panel is armed. If the alarm does not sound, the device or associated wiring may be defective.

Auto-Bypass (Do not program for UL installations.)

Zones programmed for *Auto-Bypass* will be bypassed (automatically removed) 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.)

Note: A zone in trouble that is not programmed for *Auto-Bypass* will cause an alarm on arming after a 10-second arming delay. If programming *Priority with Bypass*, *Auto-Bypass* is automatically selected. In UL installations, non-24-Hour Zones with *Auto-Bypass* must also be programmed for *Priority Zone with Bypass*.

Auto-Download ID Number
Auto-Clock Set

Napco PCD2000 Software Version 2.E and later includes a *PC-Preset* Utility wherein numerous control-panel programs may be preset for automatic remote downloading from the installation sites while the computer is unattended. (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 control panel, enter the *Auto-Download ID Number* in Location 510 corresponding to that programmed into the computer. The Callback Telephone Number (at the computer on standby) must be entered as well. Then, when an Auto Download is executed at the panel (arm, disarm, then Hold-Down 6 within 5 seconds), the panel will call the computer and the respective program will be loaded automatically.

Note: (1) Do not program an *Auto-Download ID Number* in UL installations. (2) If both Locations 510 and 511 are programmed with an "*F*"; a *Callback Telephone Number* and respective *Callback Select* number are programmed; and an Auto Download is executed, the panel will call the computer and the software will automatically reset the panel's real-time clock.

Auto-Reset
Auto-Reset After Burg Siren Timeout

If a zone signals an alarm and is selected for *Auto-Reset*, it will automatically rearm itself as soon as the alarm condition is cleared. *Auto-Reset* may be delayed to occur after the burg siren timeout period by selecting *Auto-Reset After Burg Siren Timeout* and *Auto-Reset*. Panic and Zones 1–14 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 control panel is disarmed. Also see *Swinger Shutdown*.

Backup Reporting Telco 1, 2

If *Backup Reporting* is selected and the communicator does not reach the first telephone number after two attempts, seven attempts will be made to reach the second telephone number. Enter Subscriber Identification Numbers for Telephone 2 and other information required for Telephone 2. Also program *Backup Reporting Telco 1, 2*. Any zone programmed to report to Telco 1 will backup report to Telco 2. **Note:** Subscriber Identification Numbers for both Telephones 1 and 2 *must* be entered, even if they are the same.

Bank

A group of zones. The MA1016e is divided into 3 banks arranged as follows:

- Bank 0: Fire; Fire Trouble; No Closing; Test Timer; Low Battery; Ac Fail; Arm Area 1; Arm Area 2
- Bank 1: Zones 1–8
- Bank 2: Zones 9–14; Panic; Ambush

Battery

12Vdc standby power source in the control panel to provide backup protection in the event of a power loss. Napco's RBAT4 is rated at 4 ampere-hours, the RBAT6 at 6 ampere-hours. The battery is an integral part of the system and *must* be installed, even if ac power is present. Change the battery every 5 years or as required. Also see *Low Battery*.

Burg/Fire Lug (Lug E10)

Lug E10 is an input that may be used to activate the internal voice/siren driver. The required trip level is 0Vdc. Steady on will trip the burglary message/siren; pulsing (1 second on/off) will trip the fire message/siren.

Burglary Siren See *Alarm Outputs*

Call Waiting See *Disable Call Waiting*

Callback Telephone Number 1
Callback Telephone Number 2
Callback Select
Disable Callback Download
Disable Answering Machine Download
Number of Rings Before Callback

If using the Callback Method of downloading, the panel will call the computer as a security check prior to transferring data. Provisions are made for two callback numbers for the Auto-Download mode. If a Callback Telephone Number is not programmed, a connection will be established without a disconnect and callback. If *both* Callback Numbers are programmed, also program *Callback Select* with a "1" or a "2" to identify which number to call. (Remember that a "D" or an "E" must be programmed before the phone number; see *Telephone Numbers*.) The panel will initiate the callback after 15 rings, unless programmed otherwise in Location 826 (3 minimum, 15 maximum).

This method will accommodate an answering machine at the site if line seizure is used on the house phones (and *Disable Answering Machine Download* is not programmed.) The answering machine will pick up on its programmed number of rings, as usual. When the panel detects the signal from the PCD2000 software, it will seize the line from the house phones and the connection will subsequently be established.

Note: The number of rings programmed into the panel must exceed that of the answering machine.

Program *Disable Callback Download* to prevent unauthorized downloading to an unattended panel. Program *Disable Answering Machine Download* to inhibit downloading to a telephone connected to an answering machine.

Note: Disable all downloading in UL installations. Remote programming of the control unit has not been evaluated by UL. In UL installations, the control unit may only be programmed locally.

Chime
Chime On with Group Bypass See *Group Bypass*

This annunciator feature, programmable for zone and chime duration (see *Time Selection*), may be used on any zone to sound a tone at the keypad while disarmed when the zone goes into trouble. The zone number will display while the zone is in trouble or for the programmed chime duration, whichever is greater. Hold-Down Function 5 will enable or disable the Chime Mode. A time must be programmed for the chime to sound. If both locations are left blank, the chime will not sound, however the keypad will still display the zone number. (Also see *Never-Arm Zone*; *Appendix III*.)

Closing Report
Closing Report Only on Forced Arm
Forced Arm
Include Selective/Group Bypass In Forced Arm/Status
Status Report
Closing Report Suppression
Exception Report (No Closings)

Note: In UL installations, only *Closing Report* may be programmed; other closing-report options are not permitted.

On arming, the communicator can transmit a Closing Code for each user, a Forced-Arm Code, and a status report that identifies the problem zone to the central station. Subscriber Identification Numbers and a Closing Code *must* be entered for any closing report.

Select which users will report closings for each telephone number, even if *Closing Report Only on Forced Arm* is selected. Normally, a closing report will consist of the Closing Code and the number of the user that armed. If the user armed with an auto-bypassed zone (or selective/group bypassed zone if *Include Selective/Group Bypass In Forced Arm/Status* was programmed), the Forced-Arm Code will also be sent. If a Forced-Arm Code is not sent, leave it blank.

Select *Closing Report Only on Forced Arm* to report *only* when arming with an auto-bypassed zone (and selective- /group-bypassed zone if *Include Selective/Group Bypass in Forced Arm/Status* is programmed). This transmission will consist of a closing report followed by a Forced-Arm Code, or just a closing report if the Forced-Arm Code is blank.

Select *Status Report* to send a closing followed by a status report that identifies the problem zone(s). The status report will consist of the Trouble/Status Event Code followed by the second digit of the Alarm Code (first, if second is blank) (Banks 1 and 2).

Example. A burglar breaks into a commercial establishment during the night, breaking the window foil on Zone 5. The Open/Close Subscriber Identification Number is *"123"*; the Alarm Code for Zone 5 is *"3,5"* (Burglary Zone 5); the Bank 1 Subscriber Identification Number is *"789"*; the Closing Code is *"C"*. The com-

municator will send the following report to the central station.

When alarm occurs:

7893 - Alarm Bank 1.

3335 - Bank 1, Zone 5.

Closing Report:

123C - Closing: User returned; inspected damage; rearmed.

CCC1 - Closing: User 1

789F - Trouble Report

FFF5 - Zone status at time of closing: Window foil still broken. Zone 5 auto-bypasses; repair required.

The panel may be programmed to suppress closing and/or opening reports within a preset interval. Similarly, the panel can report "no closings" (Exception Report) if it has not been armed within a preset interval. These features are programmable only through Napco PCD2000 Quickloader software, Version 2.E and later; help screens provide programming information. If programmed, conditional closings always report, even within the suppression window.

Data Format

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

Extended Format. This is used to transmit two digits for an event yet still use a 3/1 format. The second digit will identify the zone or user. If Two-Digit or Single-Digit data format is not programmed for any telephone number, the format will default to Extended Format, or Single Digit if only one digit is programmed.

Example. An installation uses the following programmed transmission information: Subscriber Identification Number is *"678"*; an alarm is reported for Zone 14. The Alarm Code for Zone 14 is *"4,6"*. The communicator will transmit:

6784 -

4446 - Alarm on Zone 4-6 (Bank 2, Position 6)

Single-Digit Event Code Format. The single digit sent for a particular event can be either the Event Code for the bank or one digit in the Alarm Code. See *Event Codes*.

Note: To use Single-Digit format for one telephone number and Extended Format for the other, program an Event Code and Alarm Code (Banks 0, 1, and 2) for those zones or events that require Extended Reporting. The telephone number with Single-Digit Reporting will use only the Event Code. Where applicable, if either the Event Code or alarm Code is blank, Single-Digit Format will send the one that is entered.

Two-Digit or 4/2 Format. Some central-station receivers require that a four-digit Account Code followed by a two-digit Alarm Code be sent in each report.

Example. In a certain installation, the Alarm Subscriber Number is *"1234"*; a burglary alarm occurs on Zone 1. The Alarm Code for Bank-1 Zone 1 is *"3,1"*. The communicator will send *"1234 31"*.

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 Alarm 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 numbers to check transmission accuracy.

Day Zone (Open; Short)
Alarm on Day Zone
Disable Auto-Reset on Day Zone
Include Hold-Down [9] to Reset Day Zone
Watch Mode

A zone that will give an audible and visual indication at the keypad if there is a problem on the loop while disarmed. Open- and short-circuit conditions are programmed separately, by zone. This feature may be used to warn of a problem (a break in a window foil, for example) during the day, when the panel is not normally armed. When the Day Zone is tripped, the green STATUS LED on the keypad will go off, the sounder will pulse, and the display will indicate the problem zone(s). Arm and disarm to silence the sounder and reset the keypad. Correct the problem to reset the Day Zone. If *Include Hold-Down [9] to Reset Day Zone* is programmed, Reset Key [9] will also reset the audible Day-Zone indication. This feature is useful when using a Day Zone to monitor an entrance.

If *Alarm on Day Zone* is programmed for a zone, a Day Zone condition will cause the alarm outputs programmed for that zone (sirens, relays) to activate, but only once in any disarmed period.

Note: (1) If a zone is programmed for both *Day Zone Open* and *Day Zone Short*, either condition must be reset before the other can activate. (2) *Day Zone Short* is disabled when *No EOL Resistor* is programmed.

Report Trouble and *Report Trouble Restore* are programmed in conjunction with *Day Zone Open* and *Day Zone Short* (the trouble reported will be that programmed under *Day Zone Open* and *Day Zone Short*). A Day-Zone trouble will sound at the keypad and cause a report to be sent to the central station. For silent reporting of trouble, see *Trouble on Open* and *Trouble on Short*.

Program *Disable Auto-Reset on Day Zone* to prevent repeated Day-Zone trips. This will cause the keypad to annunciate and report only once during any arm/disarm period.

If *Watch Mode* is selected, zones programmed as *Day Zone* can only be activated when Hold-Down Function 7 is accessed. Arming and disarming will turn off the Watch Mode. If *Report Trouble* is selected, a trouble on a Day Zone will be reported only when the Watch Mode is on. (**Note:** Hold-Down Function 7 will enable its secondary function (*Fault-Find*) if selected

within 8 seconds after disarming. To enable the Watch Mode immediately after disarming, first hold down Reset Key [9], then hold down Watch-Mode Key [7].)

Dealer Program Code

The Dealer Program Code is required to enter the Dealer Program Mode, thus allowing the dealer to program codes, exit/entry times, zone features, and reporting features. The factory-programmed Dealer Program Code is *4,5,6,7,8,9,* but this code may be changed as required. To change the code, hold down Key [8] until the function beep sounds, the enter the factory programmed 6-digit Dealer Program Code to enter the Dealer Program Mode. Referring to *Dealer Keypad Programming*, enter the new Dealer Program Code starting at Location 126.

Note: (1) If, within the first 3 minutes after power-up, a transmission is in progress when the Dealer Program Code is entered, the transmission will terminate. After 3 minutes (or less, if reset with Hold-Down [9]), the Dealer Code cannot be entered during a transmission or when either area is armed. (2) The Dealer Program Code must not start with the same numbers as the User Program Code. (3) The Dealer Program Code also served as your Download Security Code.

Dial-Tone Detection

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 the location immediately preceding the telephone number.

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-Tone Detection "E". **Note:** If the telephone number is not preceded by a "D" or an "E", the communicator will not dial the number.

Also see *Access Number for Outside Line; Pre-Dial Delay; Telephone Numbers.*

Disable Answering Machine Download See *Callback Telephone Numbers*

Disable Auto-Reset on Day Zone See *Day Zone*

Disable Call Waiting (TouchTone Dialing Only)

A digital communicator connected to a telephone line with *Call Waiting* may be disrupted by this feature. However, most lines with *Call Waiting* also have *Selective Call Waiting*, which permits the feature to be turned off by dialing a "*70" just before the telephone number. A "*" will be dialed by programming a "B".

If the installation has the *Call Waiting* feature, be sure that it also has *Selective Call Waiting*, and confirm the disable code with the phone company. Then program this code (*"B70"*) directly before the phone numbers (after dial-tone detection or pre-dial delay) in the phone-number locations. (See *Telephone Numbers.*) *Caution:* Should the user cancel his Call Waiting service, the communicator will dial a wrong number (unless the phone number is corrected). To avoid this, a backup report may be programmed to the same Telephone Number without the "*70" prefix.

Disable Callback Download See *Callback Telephone Numbers*

Disable Display Bypass While Armed

For high-security installations. When selected, the keypad bypass annunciation is disabled after exit delay and Hold-Down Functions 2 (*Display Bypass*) and 3 (*Display Status*) are disabled while armed.

Disable Fire Power Reset

The relay is usually used to reset smoke detectors by briefly removing power when Reset Key [9] is pressed. However, if any zone is programmed to activate Voltage Output on Alarm, *Disable Fire Power Reset* must be programmed as well. Also see *Voltage Output on Alarm.* (**Note:** Not for UL installations.)

Disable Function-6 Download

Program to prevent manual remote downloading using Hold-Down Function 6 at the panel. See *APPENDIX I. HOLD-DOWN FUNCTIONS: Key [6].* **Note:** Disable all downloading in UL installations.

Display Any Bypass

Hold-Down Function 2 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 Open Zones

When programmed, any non-24-Hour Zone that is open (or shorted) while disarmed will automatically display at the keypad with the flashing green LED.

Double Reporting See *Report Telco 3*

"E" Lugs See *INDEX*

Enable Auxiliary Panic on F/P/A Keypad

This feature may be enabled only if all system keypads are *F/P/A-panic* compatible. (Cut panic-enabling jumpers in *all* keypads.) Pressing the [B/A] and [#] Keys simultaneously will trip Keypad *Auxiliary* Panic. This will activate Zone 14 (*14* will display), therefore program Zone 14 for *24-Hour Protection* and enter an alarm reporting code for Zone 14. *For RP1000eLCD Keypads:* Add an "8" to the panel configuration display. (That is, at the PANEL CONF display, change [..11] to [..19]; refer to RP1000eLCD instructions, WI603.)

Enable Fire Panic on F/P/A Keypad

This feature may be enabled only if all system keypads are *F/P/A-panic* compatible. (Cut panic-enabling jumpers in *all* keypads.) Pressing the [9/F] and [#] Keys simultaneously will trip Keypad *Fire* Panic and

activate as if the Fire Zone had tripped. *For RP1000eLCD Keypads:* Add an "8" to the panel configuration display. (That is, at the PANEL CONF display, change [...1] to [...9]; refer to RP1000eLCD Installation Instructions, WI603.)

Enable Keypad Tactile Beep

Causes the sounder to come on momentarily with each press of a button. *For RP1000eLCD Keypads:* cut the keypad tactile-beep jumper (*Jumper D*) to prevent a double beep from sounding.

Event Codes

There are three types of Event Codes: Alarm, Alarm Restore, and Trouble/Status. If Event Codes are programmed, they will be common for each bank. In Extended or 4/2 format, Event Codes will be sent first, followed by an Alarm Code. Either the Event Code or the Alarm Codes may be left blank in single-digit format.

Banks 0, 1 and 2 have their own two-digit locations for alarms. Either location may be programmed for single-digit format, or both locations may be programmed for extended or 4/2 format.

Restores on Banks 0, 1, and 2 use the Alarm Restore Event Code followed by the second digit of the bank Alarm Code. If the second digit is blank, the first digit is used.

Trouble/Status Report on Banks 1 and 2 use the Trouble/Status Event Code followed by the second digit of the bank Alarm Code. If the second digit is blank, the first digit is used.

A trouble-restore transmission on Banks 1 and 2 will consist of the restore Event Code, followed by the trouble/status Event Code, or just the restore Event Code for single-digit format.

Exception Report See *Closing Report*

Exit/Entry Delay

Permits exit and entry through the Exit/Entry Zone(s) 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. Conventionally, upon entering, the keypad sounder will sound a steady tone to remind the user to disarm the panel. (Also see *Split System*.)

Two individually-programmable entry-delay times are provided to accommodate different entry zones (one exit delay is used for all). 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.

In a partitioned system environment, a common entry zone (that is, one programmed for both Area 1 *and* Area 2) is conventionally programmed for Entry Delay 1, whereas the individual entry zones for Area 1 and Area 2 are each programmed for Entry Delay 2. See *Area 1; Area 2*.

Exit-Delay time and Entry-Delay times may be programmed for up to 255 seconds (4¼ minutes). See *Time Selection*.

Note: 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] until the function beep sounds, however it will be restored automatically the next time the panel is disarmed.

Exit/Entry Follower

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
Failure To Communicate on Lug E15

If a communicator transmission failure is displayed at the keypad with a steady sounder, disarm the panel; hold down Key [9] to reset the keypad, then hold down Key [6] (only from an Area-1 keypad, in a partitioned environment) to test the phone lines. See *Key [6] - Telco Test*. If the test is successful, the system trouble display will clear, otherwise it will return, indicating a need for service. Or, after a successful communication, holding down Key [9] (from an Area-1 keypad), thus acknowledging the system-trouble condition, will clear the display. To arm with a *Failure to Communicate* system trouble, hold down Key [9] to reset the keypad, then enter an Arm/Disarm Code within three minutes.

If *Failure To Communicate on Lug E15* is programmed, Lug E15 will go low after the communicator makes 9 attempts to dial, and will remain low until any successful report or telco test. A relay (400Ω minimum) may be connected between Lug E15 and Terminal 11 (+AUX. POWER) if a diode is inserted in series (cathode to E15, anode to relay coil).

Note: In UL installations, other use of Lug E15 is prohibited. See *SUMMARY OF UL REQUIREMENTS*.

Fire Alarm Verification

When selected, an alarm on any Fire Zone will cause all zones to power down for 12 seconds. After this time, power is restored and a 4-second power-up time is started. Thereafter, the zone will be active again. This represents a total processing delay of 16 seconds from the time the alarm is first detected. If an alarm condition

still exists at this time or reoccurs within 2 minutes, an alarm will be initiated, otherwise the zone will return to its original state.

Note: Do not program *Disable Fire Power Reset*. Wire smoke detectors as shown on the Wiring Diagram.

Fire Siren See *Alarm Outputs*

Fire Zone
Fire on Burg Zone (Not for UL installations)

(**Note:** Do not use Fire Zones in Mercantile installations.) Normally-open devices are connected across the Fire Zone (Terminals 13 and 14). A short across the zone will cause a fire alarm and indication at the keypad. An open circuit on the Fire Zone will cause a trouble indication at the keypad. The sounder may be silenced using Reset Key [9]. The indication will be cleared within 30 seconds after reset if the alarm or trouble is cleared. (**Note:** If *Split System* is programmed, see *Silence Fire Alarm From Either Area*.) If the Fire Zone is selected to report an alarm or to restore, the Alarm or Restore Code will be sent.

Any Zone 1–14 may be converted to a Fire Zone by programming it for *Fire on Burg Zone*, however that zone must be programmed for the following as well: (a) Either *Priority* or *Priority With Bypass*; (b) *24-Hour Protection*; (c) an appropriate siren output; (d) *Area 1* (if the system is partitioned, both *Area 1* and *Area 2* must be programmed (common area)).

Note: Restores for alarms or troubles are not sent until all fire alarms/troubles are restored.

Forced Arm See *Closing Report*

Ground-Start Module, GSM-400 (Lug E3)

The communicator requires an active phone line, as indicated by the presence of a dial tone, before it can operate. Although telephone companies currently supply constant on-line dial tone to most customers, some require ground-start voltage actuation to initiate a dial tone on a call-by-call basis. To provide a ground-start connection to a phone line, the telephone signal line must be momentarily grounded for at least one second to alert the phone equipment for a request for service. Connection of the GSM-400 module is made at the Ground-Start terminal, Lug E3, on the printed-circuit board. Refer to the installation instructions (WI281) accompanying the GSM-400 for further wiring information. **Note:** Lug E3 may not be used for the Ground-Start Module in UL installations.

Group Bypass
Chime On with Group Bypass

Removal of a preset group of zones from the system, Group Bypass is often used to deactivate all interior zones together so that the user may move freely throughout the premises but still be protected from intrusion through armed perimeter zones. All programmed zones are bypassed by pressing Key [B] *three times*. When the panel is disarmed, all bypassed zones revert to non-bypassed (disarmed) zones. Bypassed zones are checked by holding down Key [2] until the beep sounds and all zones have displayed. See *APPENDIX I. HOLD-DOWN FUNCTIONS.*

If *Chime On with Group Bypass* is selected, 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 (however there would therefore be no visual indication that *Chime* is enabled); (b) a zone programmed as a *Chime Zone* 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 Hold-Down [9] to Reset Day Zone See *Day Zone*

Include Selective/Group Bypass In Forced-Arm/ Status See *Closing Report*

Keypad Panic

When programmed, a Panic alarm will activate if Keys [*] and [#] on the keypad are pressed simultaneously. Keypad Panic may be disabled by programming, or individual keypads may be disabled by cutting a jumper on the keypad circuit board (see installation instructions for keypads in use).

Remote pushbutton panic switches (normally open) are connected to the two white wires on the keypad. *Use momentary-contact switches only.* For UL installations, refer to *SUMMARY OF UL REQUIREMENTS*.

To display PANIC on alarm on a keypad with an LCD display, remove *24-Hour Protection* programming and program Panic (PA) for that keypad's area. (A keypad with a 7-segment display will indicate "15".) If no display is required on either area, program Panic (PA) for *24-Hour Protection*. **Note:** Alarm History will display "PANIC" (or "15").

In split systems (see *Split System*), Area-1 Panic will display as Zone "7". To suppress the display, program Zone 7 as a 24-Hour Zone.

Keypad Sounder on Alarm

If programmed, an alarm condition will cause the keypad sounder to come on and remain on until the system is disarmed.

Line-Reversal Module, M278

The Line-Reversal Module allows the control 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.

Note: Operation of the Line-Reversal Module with MA1016e-series control units has not been investigated by UL.

Listen-In Module (Lug E5)

If installation requires a Listen-In Module, connect the module to Lug E5. The voltage (12V) at E5 drops to zero when the communicator goes off-hook. When the communicator transmission is completed, the voltage

at E5 returns and the Listen-In Module can occupy the phone line. Also see *Audio Verification on Lug E15.*

Note: A Listen-In Module may not be used in UL-listed installations.

Loop Response

Loop response is the amount of time in milliseconds (mS) that a normally-closed circuit must remain open, or a normally-open circuit must remain closed, to trigger 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 for all zones. **Note:** In UL installations, all zones must be programmed for 750mS loop response.

50mS (.05 sec.): (Not tested by UL.) Used for momentary Panic Buttons and area-protection devices, such as photoelectric eyes, passive infrared sensors, floor mats, etc.

10mS (.01 sec.): (Not tested by UL.) An extremely fast loop response used primarily for window bugs.

Low Battery

A low-battery alarm will signal when the battery terminal voltage drops to approximately 11.5V. A low-battery condition will annunciate a system trouble and may be programmed to report alarms and restores to a central station. *Low Battery* must be programmed for UL installations. Also see *APPENDIX II. SYSTEM TROUBLE INDICATIONS*. **Note:** A Low-Battery restore will report on either a successful automatic 24-hour self-test or a successful manual Bell/Battery Test (Hold-Down Function 1).

Manager's Code

In a partitioned system, the *Manager* can access and control the alternate area. For example, at an Area-2 keypad, he can check (and alter, if necessary) the status of Area 1. **Note:** The Manager's Code is typically *not* a high-security code. To arm or disarm the alternate area, the Manager must know that area's code.

Program the Manager's Code as User 16. When the code is entered, the keypad will operate as an alternate-area keypad for up to two minutes, temporarily disabling all other alternate-area keypads. During this time, the Manager can access or perform virtually any function except *Fault Find* or *Manual Download*. (If the code is re-entered prior to the 2-minute timeout, the keypad will immediately revert to normal operation, restoring all alternate-area keypads.)

Never-Arm Zone

A *Never-Arm Zone* cannot go into alarm. If *Chime* is programmed for that zone and enabled using Hold-Down Function 5, it will sound (but not display) at the keypad while armed or disarmed. To select a zone as a *Never-Arm Zone*, do *not* program that zone for either Area 1 or Area 2. This type of zone is not intended for primary protection. This feature is suggested for use as a garage-door or driveway monitor or similar application. In a partitioned system, keypads will annunciate in areas where Chime is enabled (see *Appendix III*).

No Closings See *Closing Report*

No EOL Resistor

Program for any zone containing normally-closed devices that is *not* wired with a 2200Ω end-of-line resistor. This will disable any short-circuit indication. (*Day Zone Short*, if programmed, is disabled.) If *No EOL Resistor* is not programmed, an end-of-line resistor must be installed. **Note:** Do not program this feature (a) in UL installations or (b) if a wireless transmitter is mapped to the zone.

No Power-Failure Indication

Program to suppress the ac power-failure system trouble display (*"1"*). (This may be useful for applications wherein the system is battery-operated only.)

No Timed Output (Lug E15)

Lug E15 (NTO) is an untimed output, programmable for any zone. When the zone is tripped, E15 will go to 0.7V when tripped and remain latched until the panel is disarmed. This output is suitable for use with strobes (do not exceed 300mA) or other similar devices.

Also see *Audio Verification on Lug E15; Failure to Communicate on Lug E15.*

Number of Rings Before Callback See *Callback Telephone Numbers*

Opening Report
Opening Report Only After Alarm Report
Opening Report Suppression

Note: In UL installations, only *Opening Report* may be selected; other options are not permitted.

Opening and closing reports are generally used in commercial installations. On disarming, the communicator can send an Opening Code for Users 1–15 (Opening Report), or it may transmit only when the panel is disarmed after an alarm has been reported (*Opening Report Only After Alarm Report*). Note that Subscriber Identification Numbers and Opening Codes *must* be entered for either opening report.

Program *Opening Report Only After Alarm Report* to report only when disarming after an alarm report. This feature may be used by the central station to verify that the subscriber has responded and disarmed the panel. If *Opening Report Only After Alarm Report* is selected, also select *Opening Report* for each user.

The panel may be programmed to suppress opening reports within a preset interval. This feature is programmable through PCD2000 Quickloader software, Version 2.E and later. Help screens provide programming information. If *Opening Report Only After Alarm Report* is programmed, it will always report, even within the suppression window.

Panic Zone See *Keypad Panic*

Power-Up Delay

Zones programmed for *Power-Up Delay* will be ignored and presumed operating for the first three minutes after power is applied (or until Hold-Down [9] is pressed, whichever comes first) in order to allow devices such as PIRs sufficient time to settle (warm up).

Pre-Dial Delay

A Pre-Dial Delay may be used whenever a delay is required before dialing. It may be required when programming Dial-Tone Detection, which causes the communicator to wait before it attempts to detect a dial tone (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* rather than *Dial-Tone Detection*. This will cause the communicator to wait for a predetermined period of 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 immediately before the telephone number.

See *Backup Reporting Telco 1, 2; Report Telco 3* (Double or Split Reporting). Also see *Access Number for Outside Line; Telephone Numbers.*

Note: If the telephone number is not preceded by at least one "D" or an "E", the communicator will not dial the number.

Priority Zone

A zone that will prevent arming if in trouble. If an attempt is made to arm, the sounder will come on and a a priority condition will be displayed. The keypad may be silenced by entering a valid User Code. A problem on a Priority Zone must be corrected before the panel can be armed.

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

A Priority Zone that will permit arming if the priority condition is bypassed by pressing Reset Key [9], then entering a valid User Code. If the system is so programmed, the zone will auto-bypass, and the condition will be reported to a central station (optional).

As above, if an attempt is made to arm, the sounder will come on, and a priority condition will be displayed. To reset the keypad, enter a valid User Code. To arm the panel, hold down Reset Key [9] until the function beep sounds, then enter the code.

Any zone not selected as a *Priority Zone* may be programmed as a *Priority Zone with Bypass*.

Pulsing Bell Output See *Alarm Outputs*

Real-Time Clock (RTC)

An integral real-time clock provides precise event logging and setup of the following features, which are programmable through PCD2000 Quickloader software:

- Test Timer
- Opening/Closing-Report Suppression Windows
- Exception-Reporting

Receiver Format

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

Refer to *Backup Reporting Telco 1, 2* and *Report Telco 3* to determine whether or not Telephones 2 and/or 3 will be programmed. Call the central station for each telephone number used to confirm the type of receiver in use. Select the receiver format entry for each telephone number from the following table.

Entry	Receiver Format	Data Freq.	Duty Cycle (ON/OFF)	Inter-digit Time
(Blank)	Ademco, Silent Knight *Slow*	1900Hz	60/40mS	600mS
1	Sescoa, Vertex, DCI, Franklin	1800Hz	30/20mS	800mS
2	Radionics *Fast*	1850Hz	13/12mS	400mS
3	Silent Knight *Fast*	1900Hz	40/30mS	560mS
4	Radionics, DCI, Franklin *Slow*	1800Hz	60/40mS	600mS
5	Universal Hi-Speed	1850Hz	30/20mS	350mS

Receiver Formats.

Receiver R1000 See *Wireless*

Relay Output See *Alarm Outputs*

Report Telco 1
Report Telco 3 (Double or Split Reporting)

Alarms, alarm restores, troubles and trouble restores may be selected individually for each zone. Violation of a zone selected to report will communicate the code(s) selected for that zone to the central station.

Normally, *Report Telco 1* is used to report to the central station. *Report Telco 3* is used when certain zones will report to a different receiver (split reporting); *Report Telco 1* and *Report Telco 3* are both used on the same zone to report to two receivers successively (double reporting). Also see *Backup Reporting Telco 1, 2.*

Note: In a partitioned system, one or more zones can have a separate account number and telephone number by utilizing *Report Telco 3* (program Telco 3 Subscriber ID Number, Telco 3 Telephone Number, and Telco 3 by zone).

Selective Bypass

Removal of one particular zone from the system. Any or all Zones 1–14 programmed for *Selective Bypass* may be removed from the system, but each must be removed separately.

Selective bypassing is accomplished by pressing Key [B] followed by the zone, which must be entered as a two-digit number (e.g. "02" for Zone 2; "13" for Zone 13, etc.). (In zone selection, the [B] key is used to represent a "zero", thus Zone "02" is entered as "[B], [2]".) The next time the panel is disarmed, all bypassed zones will automatically revert to non-bypassed zones. The zones bypassed may be reviewed by holding down the *Display Bypass* Key [2] until all zones have been displayed.

Sensor Watch

Program for any zone containing a PIR or dual-technology sensor, floor mats, door contacts, or other device where some activity is expected. This feature supervises the sensor by verifying that the zone activates before the PIR timer runs out. If no trip is detected within the programmed Sensor-Watch time, a system trouble will will be transmitted to the central station.

When programming Sensor-Watch Time, 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) in Area 1 are added. In moderate traffic areas, a Sensor-Watch time of perhaps 24 hours may be appropriate, whereas in remote areas, a time of 150 hours or more may be in order. Supervision time should be calculated for the supervised zone with the least amount of traffic. Up to 255 hours may be programmed (see *Time Selection*). **Note:** It is recommended that the use of this feature be confined to Area 1.

Service Code See *User 15 As Service*

Silence Fire Alarm from Either Area

In a split system, a fire alarm tripped in either area normally remains active until it times out. (It cannot be silenced by disarming; see *Split System*.) Program this feature to allow the fire alarm siren to be silenced from either area prior to timeout.

Single-Digit Format See *Data Format*

Smoke Detectors (Terminals 13 (+) & 14 (–); 12; 15 & 17)

Note: Do *not* use 2-wire smokes on programmed Fire Zones.

Connect smoke detectors as shown on the wiring diagram. Note that Terminals 13 and 14 may be used for the dedicated Fire Zone *only*. The normally-closed contacts of the relay are used to reset the smoke detectors. Up to 10 compatible 2-wire smoke detectors may be "daisy-chained" together. If installing 4-wire smokes, subtract smoke-detector alarm current from available standby current. See *COMPATIBLE UL-LISTED DEVICES.*

Note: When checking a 2-wire fire circuit on an initial installation, a battery must be installed. Then, to simulate a fire alarm, short Fire-Zone Terminals 13 (+) and 14. To simulate a fire trouble, break the loop or short Terminal 14 to ground.

Sounder on Lug E4 (Area 1)

When programmed, a sounder connected to Lug E4 will follow the Area-1 keypad sounder. If *Split System* is programmed, the sounder will also indicate entry delay in progress in common areas (see *Split System*).

Split Reporting See *Report Telco 3*

Split System

Program *Split System* to divide Areas 1 and 2 into two virtually independent subsystems. Then, each subsystem will have Panic and Ambush capability. Area-1 Panic and Ambush will be on Zones 7 and 8, respectively; Area-2 Panic and Ambush will be on Panic (PA) and Ambush (AM) zones, respectively, as usual. (Also see *Keypad Panic* and *Ambush Code*.)

When *Split System* is programmed, the following other changes occur: (a) in common areas (those zones programmed for both areas), the keypad sounder will not indicate entry delay in progress (although a remote sounder connected to Lug E4 may activate – see *Sounder on Lug E4*); (b) the *Instant* Mode does not affect common Exit/Entry Zones; (c) an alarm signal tripped in either area cannot be silenced from the other area (except in the Manager's Mode); and (d) the fire alarm siren cannot be silenced by disarming; it must be allowed to time out (unless *Silence Fire Alarm from Either Area* is programmed). Also see *Report Telco 3*.

Start Exit Delay After Ringback

When a closing report is successfully received, the central station will acknowledge by returning a *kissoff* signal. When the kissoff is received by the communicator, a 2-second *ringback* tone will sound at the panel. *Start Exit Delay After Ringback* will cause the exit delay to start *after* the ringback sounds.

If this option is chosen and no ringback sounds shortly after the control panel is armed, a communication problem may exist. Exit delay will not start and opening the exit/entry door will cause an alarm. To manually start the exit delay (see Note 2, below), hold down Reset Key [9] until the function beep sounds (*Start Exit Delay Without Ringback*), then exit the premises.

Note: (1) If this feature is selected, Exit/Entry Follower Zones will not arm until either a ringback sounds or *Start Exit Delay Without Ringback* is used. (2) If com-

municator, telephone lines or central-station receiver is out of service, the system will be armed without communication capability.

Status Report See *Closing Report*

Subscriber Identification Numbers

If reporting Openings/Closings, program Open/Close Subscriber Identification Numbers for each telephone number used. Program the Subscriber Identification Number for each Bank and for each telephone number used. Start with the left-most position. Each bank must be programmed, even if all are identical.

Sum Check See *Data Format*

Swinger Shutdown (Do not program for UL Installations.)

Normally, zones with *Auto-Reset* will only reset twice (3 alarms) until rearmed in order to prevent "swingers" (intermittents) from causing repeated false alarms; see *Auto-Reset*. *Swinger Shutdown* is programmable by zone, but is not applicable to the Ambush, Panic or Fire Zone.

Telco Test

Enables Telco Test at Area-1 keypads (Hold-Down Function 6) in order to confirm operation of phone lines. Use this test to attempt to clear a *Failure to Communicate* condition. See *Hold-Down Function 6: Telco Test*; also see *Failure to Communicate.*

Note: (1) This test is available only at Area-1 keypads, thus in a partitioned system, the phone lines should be installed in Area 1. (2) Wait at least 10 seconds after disarming the panel before invoking a Telco Test, otherwise a Function-6 Download will be attempted.

Telephone Numbers

To report to a central station, Telephone Number 1 *must* be programmed. Telephone Number 2 is programmed for Backup Reporting; Telephone Number 3 is programmed for Double or Split Reporting.

Telephone Number 1 will be preceded by at least one Dial-Tone Detection entry "E" or Pre-Dial Delay entry "D" 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 to obtain an outside line. (See *Access Number for Outside Line.*)

For Sales, Repairs or Technical Service,

Call Toll Free:

1 (800) 645-9445

It should be noted here that the telephone number will not actually start in the first location shown, and may not end in the last. Extra locations have been provided to allow for one or more prefix digits: a Pre-Dial Delay "D" or a Dial-Tone Detection "E". What *is* important is that the telephone number, with its associated Pre-Dial Delay, Access Number, and Dial-Tone Detection, be wholly contained within that group of locations, and that they be in their proper sequence.

Note: If the telephone number is not preceded by a "D" or an "E", the communicator will not dial the number.

Test Timer
Test-Timer Report Interval
Test-Timer Time

Programmable only through PCD2000 Quickloader Software, Version 2.E and later. (See help screens for feature programming.) **Note:** The test timer must be enabled with a maximum interval of 24 hours between tests.

Time Selection (Also see Programming Sheet)

The following times are programmable. For UL installations, refer to *SUMMARY OF UL REQUIREMENTS*.

Time (See Note 1)	Units	Max. Programmable Time
Relay Output	minutes	Untimed (See Note 2)
Lug E15 (NTO)	—	Untimed
Burg Siren Time	minutes	Untimed (See Note 2)
Fire Siren Time	minutes	Untimed (See Note 2)
Lug E16 (TO)	minutes	Untimed (See Note 2)
Abort Delay	seconds	4 min., 15 sec. (255 sec.)(See Note 3)
Chime Time	¼ sec.	See Note 3
Ac-Failure Report Delay	minutes	4 hr., 15 min. (255 min.)
Exit Delay	seconds	4 min., 15 sec. (255 sec.)(See Note 4)
Entry Delay 1	seconds	4 min., 15 sec. (255 sec.)(See Note 4)
Entry Delay 2	seconds	4 min., 15 sec. (255 sec.)(See Note 4)
Sensor-Watch Time	hours	255 hours (See Note 5)

Notes:

1. The output used for Burglary must be at least 4 minutes in Residential UL installations, 15 minutes in Mercantile UL installations.

2. If both locations are left blank, this feature will remain active until the system is disarmed. When both locations are programmed "F", maximum time will be 4 hours, 15 minutes (255 minutes).

3. If both locations are left blank, the keypad will not

sound however it will display the zone number as long as the zone is open.

4. In UL installations: Maximum Exit Delay = 60 sec; Maximum Entry Delay = 45 sec.

5. Time in units of *disarmed* hours (accumulated between armed periods) in Area 1.

Any timeout up to those shown in the foregoing table may be programmed. Note that each of the above times is programmed in two locations. The first location has an assigned time factor of 1, the second a time factor of 16.

1st Box	2nd Box
t x 1	t x 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 the foregoing table for feature timeout.

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

1. For the feature selected, choose an appropriate time in units shown (all quarter-seconds, seconds, minutes or hours – 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. Program Entry Delay 1 for 1½ minutes.

1. Entry Delay 1 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:

x1	x16
0	5

remainder ("0" for 10) quotient

3. Check entries (remember, a "0" entry = 10): (16 x 5) + 10 = 90.

Timed Output (Lug E16) (Not tested by UL)

Lug E16 (TO) is a timed output programmable for any zone. When the zone is tripped, the TO Lug will go to 0.7V. This output may be used to trip an LW 900 Long Range Wireless Interface or a PS3002 Power Supply Module. Or, a relay (400Ω minimum) may be connected between E15 and Terminal 11 (+AUX. POWER) if a diode is inserted in series (cathode to E16; anode to relay coil). See *Time Selection*.

Note: If no timeout is specified, Lug E16 will function as an untimed output suitable for use with strobes (do not exceed 300mA) or other similar devices.

Timeout

Specifies the length of time that an alarm, alert, or delay will remain active. *Relay Output, Abort-Delay Time*, and *Chime Time* must be programmed, or the feature will never time out (reset *Chime* with Reset Key [9]; other by arming/disarming). See *Time Selection*.

TouchTone® Dialing Only
TouchTone® with Rotary Backup

Select TouchTone Dialing Only if 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, program *TouchTone Dialing Only*. To use TouchTone on the first attempt with subsequent Rotary dial, program *TouchTone with Rotary Backup*. *TouchTone Dialing Only* 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. See *Backup Reporting Telco 1, 2*.

If this location is left blank, the communicator will use rotary dialing only.

Note: Observe tip/ring polarity when installing TouchTone lines.

Transmitters see *Wireless*

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) when disarmed.

Trouble on a Burglary Zone is indicated by a flashing green STATUS LED; the keypad will beep upon arming (does not apply to selective- or group-bypassed zones). If auto-bypass has been removed from a Burglary Zone, that zone will go into alarm on arming. If the zone is Exit/Entry, it will go into alarm after exit-delay and entry-delay times have elapsed (if the zone is still open at that time).

Trouble (open and/or short circuit) on a Day Zone is indicated by a flashing green STATUS LED and a pulsing sounder; the display will indicate Day Zone(s) in trouble. Keypad indications are reset by arming and disarming. (If *Include Hold-Down [9] to Reset Day Zone* is programmed, either arming/disarming or Reset Key [9] will reset the Day Zone.)

Trouble on a Fire Zone will give an audible and visual indication at the keypad. An open circuit will show a fire trouble as a pulsing display and sounder after a 15-

second delay. (A short circuit will indicate an alarm condition by a steady display and pulsing sounder.) Reset Key [9] will silence the sounder. Clear the trouble, then press the Reset Key once again. The keypad will reset after a brief delay.

Trouble on Open
Trouble on Short
Trouble on Night Open

These features are used in conjunction with *Report Trouble*. *Trouble on Open* will identify an open circuit on a loop as a trouble. *Trouble on Short* will identify a short circuit as a trouble. *Trouble on Night Open*, which will identify an open circuit on a normally-closed zone *while armed* as a trouble condition (not an alarm), is intended for use with a Napco Monitor™-Series dual-technology sensor. See *Sensor Watch*.

Sensor tamper troubles can be reported by zone if a normally-closed tamper switch is wired in series with normally-open alarm relay contacts on a zone. Install the end-of-line resistor across the relay contacts. Program the zone for *Trouble on Open*. **Note:** *Trouble on Night Open* must be selected for any programmed fire zone, however it may *not* be programmed in UL installations.

Two-Digit Format See *Data Format*

User Program Code

A code, entered to access the User Program Mode, that allows an authority to program User Arm/Disarm Codes, the Service Code, the Manager's Code, etc. The factory-programmed 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 the left-most location (120). Also see *APPENDIX I. HOLD-DOWN FUNCTIONS: Key [8] - Program*.

Note: (1) The Dealer Program Code must *not* start with the same numbers as the User Program Code. (2) In UL installations, all user codes must contain a minimum of three digits.

User 15 As Service
Service Code

The Service Code is a temporary code intended for occasional use by babysitters, maids, service employees, etc. When no longer needed, the code is disabled. Operation is similar to that of a regular Arm/Disarm Code: it can always be used to arm, however it may not always be allowed to disarm.

The Service Code is controlled by User 14. Whenever the User-14 Code is entered, the Service Code is disabled, inhibiting its ability to disarm. It remains disabled until the Service Code is again used to arm.

Openings and closings will be reported using User 15 codes.

Voltage Output on Alarm

Terminals 12 and 13 may be converted to a voltage output on alarm. Wire as shown in the following illustration and program *Disable Fire Power Reset*. If so wired, *Terminals 12 and 13 may no longer be used as a fire circuit*. This output may be to drive a strobe, LED, sounder etc. (This may be used to supervise the Aux. Power fuse.) Also see PROGRAMMING SHEETS: *TIMEOUTS*.

Wiring for Voltage Output on Alarm.

Note: If the AUX. POWER fuse blows, a trouble will annunciate and report as a *fire trouble*. Therefore, change the report code from the default Fire-Trouble code. In the event of a trouble condition, the keypad must be reset as for a fire trouble.

Watch Mode See *Day Zone*

Wireless

For wireless applications, refer to R1000 Receiver Installation Instructions (WI604) for wiring, programming and transmitter mapping and learning information.

24-Hour Protection

A zone that provides protection at all times, whether or not the system is armed. Neither the green STATUS nor the red ARMED LED will indicate the condition of a zone programmed for *24-Hour Protection*, however an alarm condition will be recorded by Alarm History (see *APPENDIX I. HOLD-DOWN FUNCTIONS: Key [B] - Alarm History*).

Note: (1) This zone is intended for use as a panic circuit, not as a primary protection zone. (2) Do not program *24-Hour Protection* on a Day Zone. (3) *24-Hour Protection* may also be used to suppress display of Panic and Ambush (see *Keypad Panic* and *Ambush Code*).

5. GETTING UP AND RUNNING

This section will focus on getting the system started. Refer to the User's Guide furnished with the keypad for keypad operation.

POWER-UP SEQUENCE

1. Connect ac power.
2. Install the battery.
3. Connect a telephone connecting cord to the RJ31X jack.

TELCO TEST

This feature checks the telephone line for the presence of a dial tone only in those systems that are programmed to communicate with a central station.

Note: (1) This test may only be initiated from an Area-1 keypad. (2) Do not arm and disarm the panel just prior to making this test.

Hold down Key [6] until the sounder starts to beep. If the line is okay, the beeping will stop, otherwise a steady tone will sound (check phone lines). To silence the sounder, hold down Reset Key [9].

TESTING THE 2-WIRE FIRE CIRCUIT

On initial installation, a battery must be installed in order to check out the 2-wire fire circuit.

To simulate a fire alarm, place a short across the Fire-Zone Terminals 13 (+) and 14. To simulate a fire trouble, either break the loop or place a short between Terminal 14 and ground.

FAULT FIND

To access the Fault-Find Mode, first arm, then disarm, then hold down Key [7] until the function beep sounds. Three things will occur: (a) the loop response of all zones will be preset to 10mS (fastest loop response); (b) faulting a zone will cause the sounder to beep for about 2 seconds; and (c) repairing 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 swingers 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 automatically cancels the Fault-Find mode.

APPENDIX I. HOLD-DOWN FUNCTIONS

The following alternate keypad functions are accessed by holding down the designated key for about 2 seconds (until the function beep sounds).

Key [1] - Bell/Battery Test

Momentarily sounds the burglar alarm and initiates a two-minute battery test. Instruct the user to make this test weekly. **Note:** A battery test is initiated automatically every 24 hours with the charging circuit removed. A low-battery condition must pass this test, or the manual Bell/Battery Test, to clear the keypad display and report a restore.

Key [2] - Display Bypass

Displays the zone(s) bypassed from the system. Hold down Key [2] until all bypassed zones have been displayed.

Key [3] - Display Status

Displays the zone(s) in a fault condition. Hold down Key [3] until all zones in trouble have been displayed.

Key [4] - Instant Protection

Cancels the entry delay period(s). This feature is utilized to sound an instant alarm on intrusion through the Exit/Entry Zone(s). When selected, the red ARMED LED will flash rapidly to indicate that the system is armed with instant protection (however it will stay on if in the process of reporting). Entry delay is automatically reinstated on disarming. **Note:** In split systems, the Instant Mode does not affect common Exit/Entry Zones.

Key [5] - Chime Off/On

Chime is programmable for any zone (1–14). When the zone is opened, the keypad will "chime" and, except for Never-Arm Zones, the zone number will be displayed. To enable or disable the Chime feature, hold down Key [5] until the function beep sounds. The duration of the chime is programmable.

Key [6] - Telco Test

Checks the telephone line for the presence of a dial tone. (This feature functions only on Area 1 and is applicable only to those systems programmed to communicate with a central station.)

Key [6] - Auto/Manual Download

Key [6] has a secondary hold-down function, used on-site by the installer to download data from a remote PC-compatible computer with Napco PCD2000 software. To execute this function, arm the panel, disarm, then hold down Key [6] until the sounder beeps. (This feature is not available in UL-listed installations.)

Key [7] - Watch Mode On

This option, if programmed, permits all zones designated as *Day Zones* to be turned on simultaneously. **Note:** Do not hold down Key [7] within 10 seconds after disarming, otherwise *Fault-Find* (see below) will be enabled.

Key [7] - Fault Find

Key [7] has a secondary hold-down function to help locate "swingers" and assist the user in repairing zone troubles. To access the Fault-Find Mode, arm the panel, disarm, then hold down Key [7] until the sounder beeps. This sets all zones for the fastest loop response (10mS) while disarmed and causes the sounder to beep for 2 seconds when a zone in trouble is repaired. Normal operation is restored by holding down Reset Key [9].

Key [8] - Program

Accesses the Program Mode. Then, enter the Dealer Program Code or User Program Code to enter the respective programming mode. To program User Codes, refer to the operation instructions furnished with the keypad in use.

Key [9] - Reset

Functions as a general-purpose reset to:

- reset Fire Zone alarm/trouble indication;
- reset a system-trouble indication to permit arming;
- reset output-relay devices;
- reset the Fault-Find mode;
- reset a Day Zone (programmable option);
- bypass a troubled zone designated as a Priority-with-Bypass Zone (see *Priority Zone with Bypass* in the glossary);
- start exit delay without a ringback verification.

Key [B] - Alarm History

This will display all alarm conditions that have occurred. Hold down Key [B] until all zones violated have been displayed. After the system is rearmed, the previous alarm history will remain memorized unless automatically erased by a new alarm.

APPENDIX II. SYSTEM TROUBLE INDICATIONS

Ac Failure, Low Battery, and Failure-to-Communicate system trouble indications will display while armed or disarmed. If displayed while disarmed, the keypad may be temporarily reset by holding down Reset Key [9] in order to check zone status and/or arm the system.

Note: The number shown in parentheses indicates the code displayed on keypads having 7-segment displays, along with a flashing LED display.

[AC FAILURE] (1)

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

[LOW BATTERY] (2)

Displayed when battery terminal voltage drops below 10.8 volts (nominally). Lug E11 will go low. Initiate a Bell/Battery Test using Hold-Down Function 1. If a low-battery condition is still detected, the indication will return. If the panel does *not* detect a low battery, the panel will send a restore and clear the keypad indication.

[FAILURE TO COMMUNICATE] (3)

Displayed with a steady sounder to indicate a communicator transmission failure. Disarm the panel; hold down Key [9] to reset the keypad, then hold down Key [6] (only from an Area-1 keypad) to test the phone lines. See *APPENDIX I. HOLD-DOWN FUNCTIONS: Key [6] Telco Test*. If the test is successful, the system trouble display will clear, otherwise it will return, indicating a need for service. (A successful communication will also clear the system trouble indication.)

For UL installations, refer to *SUMMARY OF UL REQUIREMENTS*. **Note:** In a partitioned commercial UL burglar alarm installation, *Failure to Communicate* will be indicated by display of Zone No. ____ (Area 1) or Zone No. ____ (Area 2). With the panel disarmed, the STATUS LED will flash and the keypad sounder will pulse. With the panel armed, the ARMED LED will flash and the zone number will be displayed.

[TRANSMITTER SUPERVISORY] (4)

(*For wireless systems only*) indicates that a wireless transmitter has not sent a report in more than 4 hours. Refer to R1000 Receiver Installation Instructions WI604: *SYSTEM TROUBLES* for details.

[TRANSMITTER BATTERY] (5)

(*For wireless systems only*) Indicates a transmitter low-battery condition. Refer to R1000 Receiver Installation Instructions WI604: *SYSTEM TROUBLES* for details.

[SYSTEM TROUBLE 6] (6)

(*For wireless systems only*) Indicates a receiver trouble (data failure between receiver and panel). Check wiring between receiver and panel. Also check for a short on Zone 13.

[AUTO-DOWNLOAD FAILURE] (7)

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.

APPENDIX III. CHIME-ZONE INDICATIONS BY AREA AND ZONE TYPE

Zone Type	Chime Enabled at Area 1		Chime Enabled at Area 2	
	Sounder	Display	Sounder	Display
Area 1	Yes	Yes	No	No
Area 2	No	No	Yes	Yes
Common	Yes	Yes	Yes	Yes
Never-Arm	Yes	No	Yes	No

APPENDIX IV. WIRING LEGEND

INSTRUCTIONS: Should removal of the circuit board be necessary, use this wiring legend to relocate leads to their proper terminals. Enter wire identification number or color code in the WIRE NUMBER column; wire function in the DESCRIPTION column (optional).

Terminal No.	Wire No.	Description
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		

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7. WIRING DIAGRAM

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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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D.R.