NAPCO
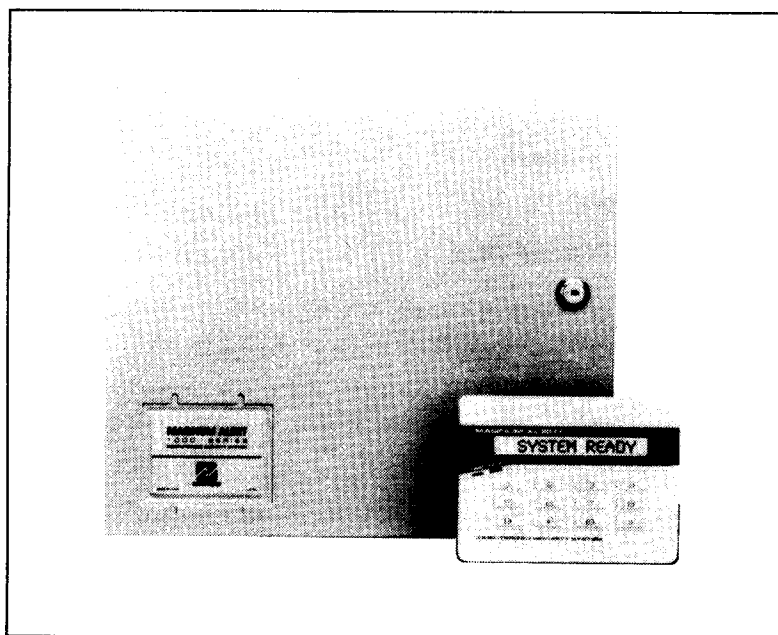
MAGNUM ALERT 1016LKDL/1016LKDLM

CONTROL PANEL/COMMUNICATOR

(Control panel shown with optional RP1016LCD Keypad)

UL Listed

MA1016LKDL: Household Fire & Burglary Warning System Control Unit
MA1016LKDLM: Burglar Alarm System Control Unit

See page 40 for a summary of changes from the previous edition.

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            MA1016LKDLM - Mercantile Burglar Alarm System Control Unit

1. INTRODUCTION

GENERAL DESCRIPTION

The Magnum Alert 1016LKDL and 1016LKDLM are state-of-the-art microcomputer-based residential and commercial alarm control panels, each containing 14 Burglary Zones, one Fire Zone, Keypad Panic and Ambush. The system, with self-contained siren driver and communicator, is contained within a wall-mounted enclosure. A transformer is included.

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, suppress reporting within programmed "windows". Conversely, *Exception Reporting* reports "no closing" when the panel is not armed within a programmed interval. A 150-event User Log and a 32-event Program Log, also accessible only through Quickloader software, monitor event history referenced to a precision real-time clock.

The optional 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 shunt one or more zones,
- cancel entry delay,
- send a Panic or Ambush alarm,
- 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/Siren Test

Key [2] - Display Shunted 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 [S] - 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 1016LKDLM. 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 Shunt (removable); Selective or Group Shunt
    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 independent multiple-zone subsystem operation.
- Keypad Panic
- Ambush

Alarm Outputs

- Timed Sweep Siren: Programmable by zone and time
- Timed Steady Siren: Programmable by zone and time
- Timed Sweep/Pulse Siren: Programmable by zone and time
- Timed Pulsing Bell Output: Programmable by zone and time
- Timed Relay Output: Programmable by zone and time
- TO (Timed Output) Lug
- Fire Lug (E9); Burglary Lug (E10)

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-Shunt (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 Shunted - one or more zones shunted
    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

Entry Door Opened while Disarmed (Chime)

System Armed with a Zone in Trouble

Day Zone in Trouble

Fire Zone Alarm/Trouble

Central-Station Ringback

Communicator Features

- 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 TouchTone 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.

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
- Audible Bell-Test on Arming
- Power-Up in Last State
- Programmable Chime Duration
- 184-Event Real-Time Memory Log

SPECIFICATIONS

Operating Temperature:	0-49° C (32-120° F)
Input Power:	16Vac via Class 2 Step-Down Transformer TRF12 (19.2VA) or TRF11* (40VA)
Loop Voltage:	10 to 13Vdc
Loop Current:	2.8mA with 2.2k-ohm end-of-line resistor
Line Resistance:	300 ohms max; 50 ohms for Fire Circuit.
Alarm Outputs:	
Siren/Bell Output:	(Selectable for Speaker or Bell)
	Siren: 15W, 8 ohms.
	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 (RP1016)	
Current (ea.):	25mA 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:	4 Hours at 400mA Combined Standby Current
Fuses:	
Speaker/Bell:	3A, 1AG (F1)
Aux. Power/Relay Output:	3A, 1AG (F2)
Remote Power:	1A, 1AG (F3)
Housing Dimensions	
MA1016LKDL:	12.6" x 12.6" x 3.6" (HWD); 32cm x 32cm x 9.1cm (HWD)
MA1016LKDLM:	13.1" x 13.0" x 3.8" (HWD); 33.3cm x 33cm x 9.7cm (HWD)
Shipping Weight (Approx.):	MA1016LKDL, 9 lb (4.1 kg)
	MA1016LKDLM, 10-3/4 lb (4.9 kg)

*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

MA1016LKDL   12-Volt Alarm Control Panel, Less Keypad; 14-zones + Fire Zone, Keypad Panic & Ambush; furnished with integral communicator and siren driver, and TRF12 Power Transformer.

MA1016LKDLM As above, but for Mercantile Installations.

Optional Accessories and Peripherals

RP1016   Traditional 4-Wire Keypad with 7-Segment Display (refer to Installation Instructions WI445; Operation Instructions OI147)

RP1016D   Designer-Styled Keypad with 7-Segment Display and Backlighting (refer to Installation Instructions WI511; Operation Instructions OI141)

RP1016LCD   Designer-Styled Keypad with Alphanumeric Display and Backlighting (refer to Installation Instructions WI535; Operation Instructions OI148)

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

FT2200   End-of-Line Relay/Resistor Supervisory Module

GSM-400   Ground-Start Module

M278   Line-Reversal Module

PS3002   Power-Supply Module

RBAT4   Rechargeable Battery, 12Vdc, 4AH

RBAT4GS   Rechargeable Battery, 12Vdc, 4AH

RBAT6   Rechargeable Battery, 12Vdc, 6AH

RBAT6GS   Rechargeable Battery, 12Vdc, 6AH

RBATH1   Dual Battery Harness

DH-1   Diode Harness

WL1   Wire Assembly with Lug Connector (20")

RPB-1   Surface-Mount Backplate for RP1016 Keypad

TPS2   Tamper Switches, set of 2

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

PRO410/410M   PROM Programmer

DD493BNK   Blank PROM

OI146   User's Guide, Control Panel

A296   Dealer Brochure

COMPATIBLE UL-LISTED DEVICES

For Residential Control Panels:

Smoke Detectors, 2-Wire*: BRK 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)

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

Speakers: Ademco 713; Atlas Sound VT-158U

Note: The MA1016LKDL may not be used for fire protection where prohibited by local codes. The MA1016LKDLM may not be used for fire protection in *any* installation.

*10 maximum

**2 maximum; 4 maximum with TRF11 Transformer

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

UL CLASSIFICATION

Household Fire and Burglary Warning System Control Unit

Combination Fire and Burglary. See *COMPATIBLE UL-LISTED DEVICES* for residential control panels for compatible smoke detectors and horn.

SUMMARY OF UL REQUIREMENTS

Household Fire and Burglary

The following summarizes UL programming and wiring requirements for Residential Installations.

- Recognized Limited-Energy Cable for initiating, indicating and supplementary circuits;
- Initiating loops normally closed if longer than 3 feet;
- Remote Panic Switches must be mounted within 3 feet of control panel and keypad and may not pass through a wall or barrier;
- FT2200 End-of-Line Relay for Fire;
- Minimum alarm time-out of 4 minutes;
- Maximum exit time of 60 seconds;
- Maximum entry time of 45 seconds;
- Maximum abort-delay of 45 seconds;
- Do not program Swinger Shutdown, Forced Arming, Group Shunt, 10mS or 50mS Response Times;
- 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 board to Napco for repair;
- System must be tested at least weekly under ac/battery and battery-only conditions;
- Replace the rechargeable battery at least every 5 years;
- If the battery is heavily discharged, replace it or have it tested by a qualified technician.

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

Mercantile

The following summarizes UL programming and wiring requirements for Mercantile Installations.

- TRF11 (40VA) Transformer required;
- RBAT6 (6AH) Battery required;
- Digital communicator must be utilized (for Low Battery reporting);
- Program *Auto Bell Test On Arming*; *Low Battery* alarm annunciation; *Forced-Arm* Code; Maximum Exit Delay of 10 seconds
- Do *not* program *Trouble On Night Open*;
- Do *not* use Fire Zones;
- Heavy-duty enclosure with door tamper required (MA1016LKDLM);
- *For Grade-A Local Mercantile:* Ademco Model AB12 Grade-A Bell & Box required.

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 MOUNTING.

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

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

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 TPS-2 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. Be sure to alert the user that opening the enclosure door will cause a tamper alarm.

Note: Each Napco tamper switch is furnished with three machine screws for mounting, and a single self-tapping screw. The sole purpose of the self-tapping screw is to tap the holes for the machine screws. It is then removed and may be discarded.

WIRING

The system may be partitioned into two subsystems, Area 1 and Area 2, by programming. All Area-1 keypads are wired the same. Similarly, all Area-2 keypads are wired the same. The MA1016LKDL leaves the factory unpartitioned with all zones programmed as Area 1, therefore if the system will not be partitioned, connect all keypads as Area-1 keypads. Connections to the keypads are summarized in the following table.

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

Keypad Wire Color	Area-1 Keypads to Control Panel Terminals	Area-2 Keypads (Optional) to Control Panel Terminals
Yellow	5	6
Green	7	7
Red	3	3
Black	4	4
White*	to normally-open momentary-contact Remote Panic pushbutton switches	
White*		

*RP1016 only: Wire additional Panic Switches in parallel. If not used, insulate *both* white wires (a short will cause a panic alarm and/or improper keypad operation).

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.

CONTROL CENTER; FIRE ALARM SOUNDING DEVICE; KEYPAD; SMOKE DETECTOR; HEAT DETECTOR
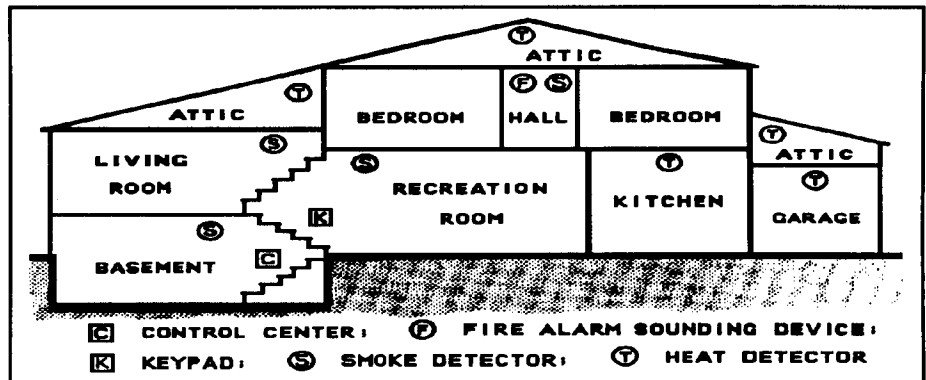
Refer to NFPA Standard No. 74 (National Fire Protection Association, Batterymarch Park, Quincy, MA 02269) for additional information, including proper mounting of detectors.

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.

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

   Important! The following Page-1 programming is required for the 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.

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! See Glossary and programming example, which follows.) The center segment of the numeric display will light to indicate the Dealer Program Mode.

Note: 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 (before it times out), hold down Key [9].

Set the location to be programmed by pressing Key [S]. Note that 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.

LOCAL/REMOTE UP/DOWNLOADING FROM A PC-COMPATIBLE COMPUTER WITH NAPCO QUICKLOADER SOFTWARE AND INTERFACE.

Data may be downloaded directly into the control panel, either locally or remotely via telephone lines, using any IBM PC-compatible computer with Napco PCD2000 software and PCI2000 computer interface. An installer need not be on the premises to remotely transfer data; using the *Callback Method*, data will be transferred automatically after 15 rings (unless programmed otherwise) and a panel confirmation callback. Note that the Dealer Program Code in the PCI2000 must agree with that (or the default code) of the control panel.

With an installer at the site and an operator at the computer, data transfer may be initiated manually by the installer using the *Function-6 Method* (see *Appendix I, Hold-Down Function [6]: Auto/Manual Download*). To initiate the data transfer, (a) arm the panel; (b) disarm; then, (c) within 20 seconds, hold down Key [6] until the sounder beeps. (The installer should be in contact with the computer operator, as a different procedure is initiated at the computer end.)

If the PCD2000 Standby Utility (Ver. 2.C.2 and later) is utilized, the computer may be left unattended. Then, the installer need program the panel for only the following: (a) Auto Download ID Number (identifying the program to be downloaded from the computer) and (b) Download Telephone Number (at the computer). When Function 6 is accessed, the panel will call the computer, which will automatically download the respective program.

Instructions for installing and running the PCD2000 program are provided in the software package. 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.

Note: Downloading requires a modem compatible with the PCI2000.

GENERAL PROGRAMMING STEPS

1. Contact the central station to confirm receiver format, data format, event codes, subscriber numbers and telephone number(s). Two receiver descriptions and telephone numbers, and up to 4 Subscriber Identification Numbers may be required.

2. Complete the Programming Sheet. Reference record sheets for the MA1016LKDL 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" or "b", "C", "D" or "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-1016LKDL

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						AMBUSH CODE		USER PROGRAM CODE						DEALER PROGRAM CODE					
108	109	110	111	112	113	114	115	120	121	122	123	124	125	126	127	128	129	130	131

(1) (2) (3) (4) (5) (6) (4) (5) (6) (7) (8) (9)

NOTE: FACTORY-PROGRAMMED VALUES ARE SHOWN IN PARENTHESES.

ANSWER ON RING # AUTO DOWNLOAD ID #

DOWNLOAD TELEPHONE NUMBER

316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335		826		511	510

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

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)					(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		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)

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

TROUBLE/STATUS CODES

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

AREA-1 CODES

OPENING	CLOSING	FORCE*
414	416	418
(B)	(C)	(F)

AREA-2 CODES

OPENING	CLOSING	FORCE*
420	422	424
(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-1016LKDL

NOTE: FACTORY-PROGRAMMED VALUES ARE SHOWN IN PARENTHESES.

FEATURE		BANK 0 (F FT NC♦TT♦)					BANK 0 (LB AC A1 A2)					BANK 1 (1 2 3 4)					BANK 1 (5 6 7 8)					BANK 2 (9 10 11 12)					BANK 2 (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)	*
SWEEP 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	*
SWEEP/PULSE 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)	*
STEADY SIREN	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	*
RELAY OUTPUT	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
TIMED 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	538	*	*	*	*	539	*	*	*	*	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)	*	*
SWINGER SHUTDOWN	546	*	*	*	*	547	*	*	*	*	642	(1)	(2)	(4)	(8)	643	(1)	(2)	(4)	(8)	738	(1)	(2)	(4)	(8)	739	(1)	(2)	*	*
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	*	*
BURG LUG OUTPUT											696	(1)	(2)	(4)	(8)	697	(1)	(2)	(4)	(8)	792	(1)	(2)	(4)	(8)	793	(1)	(2)	*	*

♦ 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).
  • TROUBLE ON NIGHT OPEN.
* DO NOT PROGRAM! Operation may be adversely affected.

NOTE: FACTORY-PROGRAMMED VALUES ARE SHOWN IN PARENTHESES.

(4) | 496 | 497 |

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
RESET TEST TIMER ON ANY REPORT	8	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	8	8	DISABLE PGM DOWNLOAD & COMMANDS FROM PCD

(2) | 820 | 821 |

AUTO BELL TEST ON ARMING	1	1	ACCESS ON LUG E15
AUTO-RESET AFTER SWEEP SIREN TIMEOUT	(2)	2	ARM ONLY WITH USER 13
FIRE ALARM VERIFICATION	4	4	USER 15 AS SERVICE
DISABLE SMOKE RESET ON RELAY	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 SHUNT WHILE ARMED
SILENCE FIRE ALARM FROM EITHER AREA	4	(4)	KEYPAD PANIC
(RESERVED)	8	(8)	KEYPAD TELCO TEST

TIMEOUTS	x1	x16
RELAY OUTPUT (MINUTES)	800	801
TIMED OUTPUT (MINUTES)	802	803
LUG E15 ACCESS CONTROL (SECONDS)	804	805
SWEEP SIREN (MINUTES) (F)	806	807
SWEEP-PULSE SIREN (MINUTES) (F)	808	809

TIMEOUTS	x1	x16
STEADY SIREN (MINUTES) (F)	810	811
ABORT DELAY (SECONDS)	812	813
CHIME (¼ SECONDS) (8)	814	815
AC FAIL REPORT (MINUTES) (4)	816	817
SENSOR WATCH (DISARMED HOURS)	824	825

ALL PAGE-0 INFORMATION UNLESS OTHERWISE INDICATED

FEATURE		BANK 0 F FT NC♦TT♦		BANK 0 LB AC A1 A2		BANK 1 1 2 3 4		BANK 1 5 6 7 8		BANK 2 9 10 11 12		BANK 2 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 *
SWEEP 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
SWEEP/PULSE 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
STEADY SIREN	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
RELAY OUPUT	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
LUG E15 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	026	* * * *	027	* * * *	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 * *
BURG LUG OUTPUT					184	1 2 4 8	185	1 2 4 8	024	1 2 4 8	025	1 2 * *

		USER 1 2 3 4		USER 5 6 7 8		USER 9 10 11 12		USER 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 (<u>and</u> AREA 2 only if system is partitioned)
• TROUBLE ON NIGHT OPEN

ALL PAGE-1 INFORMATION

TIMEOUTS	x1	x16
RELAY OUTPUT (MINUTES)	032	033
TIMED OUTPUT (MINUTES)	034	035
LUG E15 ACCESS CONTROL (SECONDS)	036	037
SWEEP SIREN (MINUTES)	038	039
SWEEP-PULSE SIREN (MINUTES)	040	041
STEADY SIREN (MINUTES)	042	043

TIMEOUTS	x1	x16
ABORT DELAY (SECONDS)	044	045
CHIME (¼ SECONDS)	046	047
AC FAIL REPORT (MINUTES)	048	049
SENSOR WATCH (HOURS)	056	057
NO. OF RINGS BEFORE CALLBACK	058	059
PROM LOAD CONSTANT♦ (PROM 1)	251 C	252 3

	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	DISABLE AUTO-RESET ON DAY ZONE

	052	053	
AUTO BELL TEST ON ARMING	1	1	ACCESS ON LUG E15
AUTO-RESET AFTER SWEEP SIREN TIMEOUT	2	2	ARM ONLY WITH USER 13
FIRE ALARM VERIFICATION	4	4	USER 15 AS SERVICE
DISABLE SMOKE RESET ON RELAY	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 SHUNT WHILE ARMED
SILENCE FIRE ALARM FROM EITHER AREA	4	4	KEYPAD PANIC
(RESERVED)	8	8	TELCO TEST

		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.

ALL PAGE-0 INFORMATION UNLESS OTHERWISE INDICATED

AUTO DOWNLOAD ID#

254

DOWNLOAD TELEPHONE NUMBER

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

FORMAT / DIALER TELEPHONE NUMBERS

TEL #1

080	082	083

000	001	002	003	004	005	006	007	008	009	010	011	012	013	014	015	016	017	018	019

TEL #2

084	086	087

020	021	022	023	024	025	026	027	028	029	030	031	032	033	034	035	036	037	038	039

TEL #3

088	090	091

040	041	042	043	044	045	046	047	048	049	050	051	052	053	054	055	056	057	058	059

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-1016LKDL

ALL PAGE-0 INFORMATION UNLESS OTHERWISE INDICATED

AREA-1 CODES

OPENING	CLOSING	FORCE*
158	160	162

AREA-2 CODES

OPENING	CLOSING	FORCE*
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		PANIC		AMBUSH	
BANK-2 CODES	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213

RESTORE CODES

BANK 0	BANK 1	BANK 2
214	218	222

TROUBLE/STATUS CODES

BANK 1	BANK 2
220	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	
RESET TEST TIMER ON ANY REPORT	8	8 STATUS REPORT (AUTO-BYPASS ZONES ON CLOS.)	

PAGE-1 INFORMATION		
PROM LOAD CONSTANT♦ (PROM 2)	251 D	252 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 corrected 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
Access on Lug E15

The Access Code is normally used to activate a door strike while disarmed 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 *Access on Lug E15* is selected, entering the programmed Access Code while disarmed will cause Lug E15 (Timed Output) to drop to 0Vdc. Access Control Time is fixed at 5 seconds.

Also see *Timed Output (Lug E15)*.

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 [S] to display all alarm conditions that have occurred and keep it depressed until all violated zones have been displayed. When the system is rearmed, the previous alarm history will stay memorized until automatically erased by a new alarm condition. Note that Alarm History will not display 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 MA1016LKDL has an integral 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 siren output terminals if Jumper E is cut.

The following table summarizes wiring for signalling an alarm in typical installations. See *Time Selection* for timeout durations.

Output	Wiring	Remarks
Sweep Siren*	Speaker on 38, 39	See Note below
Steady Siren*	Speaker on 38, 39	
Pulsing Sweep Siren*	Speaker on 38, 39	
Steady Bell*	Bell on 38 (–), 39 (+)	Cut Jumper E for bell
Pulsing Bell*	Bell on 38 (–), 39 (+)	Cut Jumper E for bell
Relay Output	33 (C); 34 (N/O); 35 (N/C)	

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

Also see *Fire Lug (E9)*; *Burglary Lug (E10)*; *Timed Output (E15)*

Wiring to a Grade-A Bell

Note: 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 MA1016LKDLM in series with the Tamper Zone.

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.

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

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*.

Arm Lug (Lug E4)

Lug E4 (ARM) will go to 0Vdc when the system is armed. This lug may be used for peripheral devices. The ARM Lug has been tested by UL with Napco's Monitor-Series double-technology space protection units. For use, refer to the instructions furnished with the M7000-Series (WI464) or M9000-Series (WI492) Monitors. A maximum of 10 detectors may be connected to the output.

Note: In a partitioned environment, Lug E4 will go low only when Area 1 is armed. Also see *Sounder on Lug E4*.

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 Mercantile installations, minimum of 3 digits is required to arm the system

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.C.2 and later includes a Standby Utility wherein up to 15 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 Standby Utility. The Download 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: If Locations 510 and 511 are programmed "F" 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 Sweep-Siren Time-Out

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 sweep-siren timeout period by selecting *Auto-Reset After Sweep-Siren Timeout* and *Auto-Reset*. Panic and Zones 1 through 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 MA1016LKDL 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 (optional) is rated at 4 ampere-hours, the RBAT6 (optional) 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.

Burglary Lug (Lug E10)

Lug E10 (BURG) will go to about 1Vdc when a zone programmed for Burg Lug Output goes into alarm and latches until the panel is disarmed. E10 may be used to trip an LW-900 Long-Range Wireless Interface or a PS3002 Power Supply Module. Or, a relay (400 ohms minimum) may be connected between E10 and Terminal 36 (+ AUX. POWER) if a diode is inserted in series (cathode to E10; anode to relay).

Burglary Output See *Alarm Outputs*

Call Waiting See *Disable Call Waiting*

Callback-Method Download
Disable Callback Download
Disable Answering Machine Download
Disable Program Download and Commands From PCD
Number of Rings Before Callback

If the Dealer Program Code in the PCD2000 software matches that of the control panel, data may be remotely downloaded to an MA1016LKDL after a programmed number of rings (3 to 15) and a control-panel confirmation callback. Program the number of rings in Location 826. (If Location 826 is not programmed, the panel will call back after 15 rings. If the Download Telephone Number is not programmed, a connection will be established without a disconnect and callback.)

This method will accommodate an answering machine at the site if line seizure is used on the house phones. (Be sure that *Disable Carrier Download* is not programmed.) The answering machine will pick up on its programmed number of rings, as usual. The control panel will then listen for the signal from the PCD2000 software and seize the line from the house phones and the connection will subsequently be established.

Note: The number of rings programmed into the panel (Location 826) 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. Program *Disable Program Download and Commands From PCD* to prevent changing the program or system status after the system is operable.

Note: Disable all downloading in UL installations.

Chime

This annunciator feature may be used on any zone to sound a tone at the keypad while disarmed when the zone goes into trouble. Access Hold-Down Function 5 to enable or disable the Chime Mode. This feature is programmable

for zone and for duration of tone (see *Time Selection*). A time must be programmed for the chime to function. (Also see *Never-Arm Zone*.)

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)

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. Note that 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).

A typical Status Report is represented by the following example

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 communicator 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 control panel may be programmed to suppress closing and/or opening reports within a preset interval. Similarly, the panel may be programmed to report "no closings" (Exception Report) if it has not been armed within a preset interval. These features are programmable only through Napco's PCD2000 Quickloader software, Version 2.C.2 and later. PCD2000 help screens provide programming information.

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.

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 Mode) 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 when a transmission is in progress 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". (See *Access Number for Outside Line; Pre-Dial Delay; Telephone Numbers.*)

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

Disable Answering Machine Download See *Callback-Method Download*

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 telephone company. Then program this code ("*B70"*) directly before the phone numbers (after dial-tone detection or pre-dial delay) in the telephone-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-Method Download*

Disable Display Shunt While Armed

Program for high-security installations. When selected, the keypad shunt (bypass) annunciation is disabled 8 seconds after arming and Hold-Down Functions 2 (Display Shunts (Bypass)) and 3 (Display Status) are disabled while armed.

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] - Auto/Manual Download.*

Note: Disable all downloading in UL installations.

Disable Program Download and Commands From PCD See *Callback-Method Download*

Disable Smoke Reset on Relay

Normally, the relay is used to reset smoke detectors by momentarily removing power when Reset Key [9] is pressed. Zones programmed to activate the relay will do so *only* if *Disable Smoke Reset on Relay* is selected. See *Alarm Outputs.*

Double Reporting See *Report Telco 3*

"E" Lugs (E3, E4, E5, E9, E10, E11, E15)

E3 - See *Ground-Start Module, GSM-400*

E4 - See *Arm Lug*

E5 - See *Listen-In Module*

E9 - See *Fire Lug*

E10 - See *Burglary Lug*

E11 - See *Low Battery*

E15 - See *Timed Output*

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 sufficient 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 (4-1/4 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 when the panel is subsequently 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 indicated at the keypad, 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. To arm in this condition, hold down Key [9] to reset the keypad, then enter an Arm/Disarm Code within three minutes (otherwise the system trouble indication will return).

If *Failure To Communicate on Lug E15* is programmed, Lug E15 will go low after the communicator makes 9 attempts to dial. A relay (400 ohms minimum) may be connected between Lug E15 and Terminal 36 (+AUX. POWER) if a diode is inserted in series (cathode to E15, anode to relay coil).

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 Smoke Reset On Relay*. Wire smoke detectors as shown on the Wiring Diagram.

Fire Lug (Lug E9)

Lug E9 (FIRE) will go to about 1Vdc when a fire alarm is tripped and latch until the control panel is disarmed. (Also see *Split System*.) E9 may be used to trip an LW-900 Long-Range Wireless Interface or a PS3002 Power Supply Module. Or, a relay (400 ohms minimum) may be connected between E9 and Terminal 36 (+ AUX. POWER) if a diode is inserted in series (cathode to E9; anode to relay coil).

Fire Zone
Fire On Burg Zone

Note: Do not use Fire Zones in Mercantile installations.

Normally-open devices are connected across the Fire Zone (Terminals 8 and 9). 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 Code or the 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:

- Either *Priority* or *Priority With Bypass*;
- *24-Hour Protection*;
- An appropriate siren output;
- *Area 1*; **Note:** If the system is partitioned, both *Area 1* and *Area 2* must be programmed (common area);
- *Trouble On Night Open*.

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.

Group Bypass

Removal of a preset group of zones from the system. Group bypassing is often used to bypass all interior zones together so that the user may move freely throughout the premises but still be protected from intrusion through armed perimeter zones.

Group bypassing is accomplished by pressing Key [S] *three times*. The next time the control panel is disarmed, all bypassed zones will automatically revert to non-bypassed (disarmed) zones.

Display the bypassed zones by keeping Key [2] depressed until the function beep sounds and all zones have been displayed (See *APPENDIX I. HOLD-DOWN FUNCTIONS: Key [2] - Display Bypass (Shunts)*).

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 (RP1016 only, see Wiring Diagram). *Use momentary-contact switches only.* In UL systems, remote panic buttons must be located in the same room as the keypad.

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.

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.

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.

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.

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.

Note: In UL installations, all zones must be programmed for 750mS loop response.

Low Battery

A low-battery alarm will signal when the battery terminal voltage drops to 11.0V. 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.

Manager's Code

In a partitioned environment, the "Manager" has the ability to access and control the alternate area of the system. For example, the Manager, at an Area-2 keypad, can check (and alter, if necessary) the status of Area 1. Program the Manager's Code as User 16.

When the Manager's 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 Manager re-enters his code prior to the 2-minute timeout, the keypad will immediately revert to normal operation, restoring all alternate-area keypads.)

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 Arm/Disarm Code.

Never-Arm Zone

A *Never-Arm Zone* cannot go into alarm. If *Chime* is programmed for that zone, and enabled, it will sound 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 feature is suggested for use as a garage-door or driveway monitor or similar application. In a partitioned system, keypads in both areas will annunciate.

No Closings See *Closing Report*

No EOL Resistor

Program for any zone containing normally-closed devices that is *not* wired with a 2200-ohm 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.

Number of Rings Before Callback See *Callback-Method Download*

Opening Report
Opening Report Only After Alarm Report
Opening Report Suppression

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 control 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 control panel may be programmed to suppress opening reports within a preset interval. This feature is programmable only through Napco's PCD2000 Quickloader software, Version 2.C.2 and later. Refer to PCD2000 help screens for programming information.

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 (Required for all zones in UL Installations.)

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 Sweep 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
- Reset Test Timer On Any Report (also PROM and keypad programmable)
- Opening/Closing-Report Suppression Windows
- Exception-Report Window

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 Frequency	Duty Cycle (ON/OFF)	Interdigit 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

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).

Reset Test Timer On Any Report See *Test Timer*

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 [S] 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 [S] key is used to represent a "zero", thus Zone "02" is entered as "[S], [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 (Shunt) Key [2] until all zones have been displayed.

Sensor Watch™

Program for any zone containing a PIR or Double-Tech® 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*).

Service Code See *User 15 As Service*

Single-Digit Format See *Data Format*

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.

Smoke Detectors (Terminals 8 (–) & 9 (+); 33-37)

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

Connect smoke detectors as shown on the wiring diagram. Note that Terminals 8 and 9 may be used for the dedicated Fire Zone *only*. The normally-closed contacts of the relay are used to reset the smoke detectors. If installing 2-wire smoke detectors, cut Jumper A; up to 10 compatible units may be "daisy-chained" together. If installing 4-wire smokes, do *not* cut Jumper A. Subtract smoke-detector alarm current from available standby current. See *COMPATIBLE UL-LISTED DEVICES.*

Note: (1) 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 9 (+) and 8 (–). To simulate a fire trouble, break the loop or short Terminal 8 (–) to ground. (2) If of the self-resetting type, 4-wire smokes may be powered from the Constant Auxiliary Voltage Output at Terminal 36 instead of Terminal 35, thus freeing the relay for other uses. However, if the relay *is* used for reset, do not use it for other purposes.

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) an alarm signal tripped in either area cannot be silenced from the other area (except in the Manager's Mode); and (c) 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 communicator, 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*

Sweep Siren See *Alarm Outputs*

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*.)

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
Reset Test Timer On Any Report*

Programmable only through Napco's PCD2000 Quickloader Software, Version 2.C.2 and later. Refer to the help screens for feature programming instructions.

*Although this feature is keypad programmable, related Test Timer programming requires PCD2000 Quickloader Software. Refer to help screens for programming instructions.

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.*

Time Selection (Also see Programming Sheet)

The following times are programmable:

Time (See Note 1)	Units	Maximum Programmable Time
Relay Output Time	minutes	Untimed (See Note 2)
Lug E15 Timed Output Time	minutes	Untimed (See Note 2)
Sweep Siren Time	minutes	Untimed (See Note 2)
Pulse-Sweep Siren Time	minutes	Untimed (See Note 2)
Steady Siren Time	minutes	Untimed (See Note 2)
Abort Delay (See Note 3)	seconds	4 min., 15 sec. (255 sec.)
Chime Time	1/4 seconds	See Note 3
Ac-Failure Report Delay	minutes	4 hr., 15 min. (255 min.)
Exit Delay (See Note 4)	seconds	4 min., 15 sec. (255 sec.)
Entry Delay 1 (See Note 4)	seconds	4 min., 15 sec. (255 sec.)
Entry Delay 2 (See Note 4)	seconds	4 min., 15 sec. (255 sec.)
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, this feature will not time out; reset with Key [9].

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 1-1/2 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   quotient
("0" for 10)

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

Timed Output (Lug E15) (Not tested by UL)

Lug E15 (TO) is a timed output programmable for any zone. When the zone is tripped, the TO Lug will go low. This output may be used to trip an LW-900 Long Range Wireless Interface. A relay (400 ohms minimum) may be connected between E15 and Terminal 36 (+AUX. POWER) if a diode is inserted in series (cathode to E15; anode to relay coil). See *Time Selection*; also see *Failure to Communicate on Lug E15*.

Note: If no timeout is specified, Lug E15 will function as an untimed output suitable for use with strobes (do not exceed 300mA) or other similar devices.

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.

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 Double-Tech® sensor. See *Sensor Watch*.

PIR or Double-Tech 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 must *not* be programmed for any Burglary Zone 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: The Dealer Program Code must *not* start with the same numbers as the User Program Code.

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.

Watch Mode See *Day Zone*

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 [S] - Alarm History*).

Note: (1) Do not program *24-Hour Protection* on a Day Zone. (2) *24-Hour Protection* may also be used to suppress display of Panic and Ambush (see *Keypad Panic* and *Ambush Code*).

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] - Test

Momentarily sounds the burglar alarm. Instruct the user to make this test weekly.

Key [2] - Display Bypass (Shunts)

Displays the zone(s) bypassed (shunted) 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. Entry delay is automatically reinstated on disarming.

Key [5] - Chime Off/On

Chime is programmable for any zone (1-14). When the zone is opened, the keypad will "chime". 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.

Key [7] - Watch Mode On

This option, if programmed, permits all zones designated as *Day Zones* to all be turned on simultaneously.

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;
- 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 [S] - Alarm History

This will display all alarm conditions that have occurred. Hold down Key [S] 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 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 with 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. Lug E11 will go low.

[FAILURE TO COMMUNICATE] (3)

Indicates 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.

[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.

CHANGES FROM PREVIOUS EDITION

Page 1: **FRONT COVER,** UL listing added.

Page 7: **ORDERING INFORMATION, Optional Accessories and Peripherals,** PS3002 Power-Supply Module added.

Page 16: **KEYPAD PROGRAMMING RECORD SHEET,** default programming revised.

Page 17: **KEYPAD PROGRAMMING RECORD SHEET,** *TIMEOUTS,* locations reversed.

Page 19: **PROM-1 PROGRAMMING RECORD SHEET,** *TIMEOUTS,* locations reversed.

Page 21: **PROM-2 PROGRAMMING RECORD SHEET,** *PROM LOAD CONSTANT* locations reversed.

Page 30: **Fire Zone** (top),
- *Split System* note added.
- *Fire On Burg Zone* text revised (Area 1 & 2 programming).

Keypad Panic, text revised (keypad display).

Page 35: **Timeout,** *Access Control Time* deleted.

Page 36: **Time Selection,** text revised.

Page 45: **INDEX,** updated (*Partitioning, Split System* added)

INDEX

MAGNUM ALERT 1016LKDL/1016LKDLM

WIRING DIAGRAM

REFER TO INSTALLATION INSTRUCTIONS WI455

NAPCO

NAPCO SECURITY SYSTEMS, INC.
AMITYVILLE, N.Y. 11701

(1) AC IN, 16V/60Hz VIA
(1) TRANSFORMER CLASS II
DO NOT CONNECT TO
SWITCHED OUTLET

AREA (1) KEYPAD(S)
RP1016 OR RP1016LCD

MAGNUM ALERT
COMPUTERIZED SECURITY SYSTEM

RED
BLACK
GREEN
YELLOW

OPTIONAL
AREA (2) KEYPAD(S)
RP1016 OR RP1016LCD

COMPUTERIZED SECURITY SYSTEM

WHITE WHITE
REMOTE PANIC
SWITCH(ES)
(INSULATE IF NOT USED)

RED (3) (+)
BLACK (4) (−)   REMOTE POWER
(AREA 1) CLK1 (5)
(AREA 2) CLK2 (6)
RED
BLACK
GREEN (7)
YELLOW
(8) (−)
FIRE (9) (+)
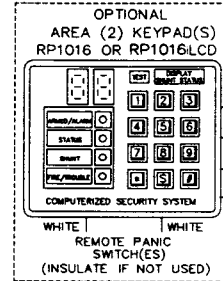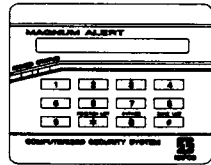
**END-OF-LINE RESISTOR NAPCO
PART #EOL2.2K 2200 OHM ± 5%
ALSO INSTALLED IF ZONE NOT USED.
WHEN USING FT2200 E.O.L. RELAY
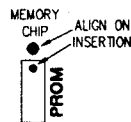DO NOT INSTALL E.O.L. RESISTOR.
SEE SMOKE DETECTOR DIAGRAM**

BATTERY STANDBY
FOR EMERGENCY
IS 4 HRS. MIN

RBAT4
RECHARGEABLE
BATTERY
12VDC
RED +
BLACK −

WIRING BETWEEN SMOKE DETECTOR AND CONTROL-CENTER TERMINALS
FT2200
RED   POWER POWER OUT(+) IN(+) +12V (35)
BLACK POWER POWER OUT(−) IN(−) (−) (37)
BROWN TRIP TRIP IN OUT
BROWN
OPTIONAL THERMOSTAT
SEE NOTE (3)

MAX. LINE RESISTANCE 50 OHMS.

WIRING BETWEEN 2-WIRE SMOKE DETECTOR AND CONTROL-CENTER TERMINALS
NOTE: CUT JUMPER A.
NAPCO PART# EOL 2.2K
OUT IN
OUT IN
(33)
(35)
(9)
(8)
MAXIMUM OF 10 SMOKE DETECTORS.
MAX. LINE RESISTANCE 50 OHMS.

This equipment should be installed in accordance with the National Fire
Protection Association's Standard 74 (National Fire Protection Association,
Batterymarch Park, Quincy, MA 02269), and local codes. Printed information
describing proper installation, operation, testing, maintenance, evacuation
planning, and repair service is to be provided with this equipment.
Refer to Operation and Installation Manual WI455.
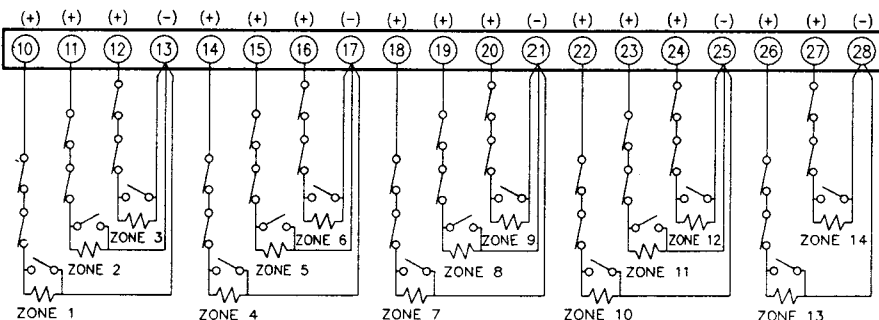UL Listed Limited Energy Cable is required.

E7 ☐ AC

MEMORY CHIP ALIGN ON INSERTION
PROM

F3 REMOTE POWER
FUSE 1A

DD493BNK
FOR PROM LOADING SEE WI455
(REMOVE AFTER LOADING)

E11 E3 E5
LOW BATT GROUND START LISTEN IN

POWER-UP SEQUENCE
1. CONNECT AC POWER
2. INSTALL STANDBY BATTERY

IMPORTANT
Shorting fuses to either the case
or to each other may cause damage
to the circuit board. Always use
fuse pullers. For continued protection
against fire, replace only with
fuse of same type and rating.

FUSE
E10 ☐ BURG
E9 ☐ FIRE
E15 ☐ TO
E4 ☐ ARM

F2
AUX POWER/
RELAY OUTPUT
3A

F1
SPEAKER/
BELL OUTPUT
3A

CUT FOR BELL
PROTECTED BY F2 (+)
CUT FOR ISOLATED (DRY) CONTACTS
A

(39) (+) SPEAKER / BELL
(38) (−) 8Ω, 15W 12VDC 1.2A MAXIMUM
(37) (−)
(36) (+) CONSTANT AUX. POWER OUTPUT
(35) N/C RELAY CONTACTS
(34) N/O (2A/24VDC RESISTIVE)
(33) C

(32) GRAY
(31) BROWN
(30) RED
(29) GREEN
TEL LINE IN USE
TEL LINES PHONES
RJ31X JACK

WARNING:
TO PREVENT RISK OF
ELECTRIC SHOCK,
DISCONNECT
TELEPHONE LINES
PRIOR TO SERVICING.

COLD WATER GROUND CONNECTION
USE ONLY COLD-WATER PIPE
OR BURIED GROUND ROD.
USE AT LEAST #16 AWG WIRE.

Terminals: (+)(+)(+)(−)(+)(+)(+)(−)(+)(+)(+)(−)(+)(+)(+)(−)(+)(+)(+)(−)
(10)(11)(12)(13)(14)(15)(16)(17)(18)(19)(20)(21)(22)(23)(24)(25)(26)(27)(28)

ZONE 1 ZONE 2 ZONE 3
ZONE 4 ZONE 5 ZONE 6
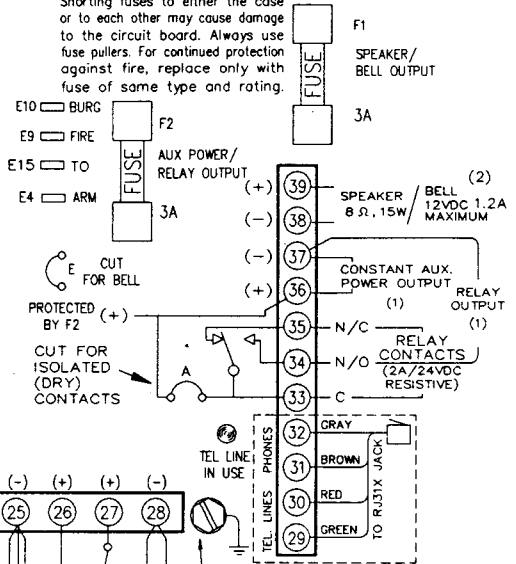ZONE 7 ZONE 8 ZONE 9
ZONE 10 ZONE 11 ZONE 12
ZONE 13 ZONE 14

E1 E2

END-OF-LINE RESISTORS, 2200 OHMS ±5%, ALSO INSTALLED IF ZONE IS NOT USED

1). COMBINED STANDBY OUTPUTS:
   (AUX. POWER, REMOTE POWER, RELAY OUTPUT):
   STANDARD TRF-12 TRANSFORMER 350mA maximum
   OPTIONAL TRF-11 TRANSFORMER 400mA maximum when using 2-wire smoke detector.
   500mA maximum when not using 2-wire smoke detector.
   FOR RESIDENTIAL PANELS AUX. OUTPUT RATED AT 10.6-12.0 VDC
2). RESIDENTIAL PANELS 10.9 TO 12.0 VDC 125mA MAX.
3). CONNECT TO ANY ZONE PROGRAMMED AS A FIRE ZONE.
4). CONNECTION OF A FIRE ALARM SIGNAL TO A FIRE ALARM HEADQUARTERS OR A CENTRAL STATION
    SHALL BE PERMITTED ONLY WITH THE APPROVAL OF THE AUTHORITY HAVING JURISDICTION.
5). THE BURGLAR ALARM SIGNAL SHALL NOT BE CONNECTED TO A POLICE EMERGENCY NUMBER.
6). THE SYSTEM SHALL BE TESTED WEEKLY UNDER AC AND BATTERY ONLY CONDITIONS.
7). DO NOT USE FIRE ZONES FOR MERCANTILE INSTALLATIONS.