



OPERATING AND INSTALLATION INSTRUCTIONS

MAGNUM ALERT 1010LKDL CONTROL PANEL/COMMUNICATOR

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(SEE PAGE 10 FOR A SUMMARY OF CHANGES FROM PREVIOUS EDITION)

UL Listed: Household Fire & Burglary Warning System Control Unit

1. INTRODUCTION

GENERAL DESCRIPTION

The MAGNUM ALERT-1010LKDL is a microcomputer-based ten-zone residential and commercial control panel with provisions for Ambush, Panic, a supervised Fire Zone and a variety of reporting features. The system is contained within a wall-mounted enclosure and includes an integral digital communicator and siren driver, and a power transformer.

The keypad allows the user to perform the following functions:

- * arm and disarm the system,
- * check the status of each zone,
- * check which zones were violated after an alarm,
- * temporarily 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 a system trouble indication,
- * bypass a Priority-with-Bypass Zone
- * turn the Chime feature on/off, and
- * program zone features and communicator information

Four LEDs, a digital readout 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] - Alarm Test
- Key [2] - Display Shunted Zones
- Key [3] - Display Status
- Key [4] - Instant Alarm (cancels entry delay)
- Key [5] - Chime on/off
- Key [6] - Communicator Confidence Test or
Manual Download (see text)
- Key [7] - Fault Find
- Key [8] - Program
- Key [9] - Reset (System Trouble indication; Day-Zone indication; Alarm-Memory display; Fire Zone; Output Relay Devices; Fault-Find mode; Bypass Priority-with-Bypass; and 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 a PROM (programmable read-only memory), which is itself programmed on an accessory programmer; or (c) from an IBM PC-compatible computer using NAPCO's PCD2000 Quickloading Software.

Designed for use with the PCI2000 Computer Interface Kit, the MA1010LKDL includes a modem to permit remote downloading/uploading over telephone lines or local downloading using a PCL2000 Local Download Cable.

FEATURES

Protection Zones

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

Alarm Outputs

- * Timed Burglary Output: Programmable by zone and time
- * Timed Relay Output: Programmable by zone and time
- * Timed Fire Output: Fixed to Fire Zone, programmable for time
- * Pulsing Bell Output: Fixed to Fire Zone, programmable for time
- * NTO (No Timed Output) Lug

Keypad Functions

- * Keypad permits:
 - Arm/Disarm Code Selection of up to 5 user codes, up to 4 digits each
 - Digital Code Entry to arm and disarm system
 - Selective and Group Shunt Selection
 - Panic Zone Activation
 - Ambush Activation
 - Hold-Down Function Access
 - Resetting of various functions and conditions
- * LEDs display:
 - Alarm State (armed/disarmed) (ARMED/ALARM)
 - Zone Status (STATUS) - one or more zones in trouble
 - Zones Shunted (SHUNT) - one or more zones shunted
 - Fire Zone Status (FIRE/TROUBLE)
- * Digital Readout displays:
 - Zone(s) in alarm and alarm history

- Zone(s) in trouble
 - Zone(s) shunted
 - System Troubles
 - Programmed data entries (Dealer Program Mode)
 - * Sounder indicates:
 - Entry Delay in Progress
 - Hold-Down Function Accessed
 - Entry Door Opened while Disarmed (Chime)
 - System Armed with a Zone in Trouble
 - Day Zone in Trouble
 - Fire Zone Alarm/Trouble
 - Central-Station Ringback
- Communicator Features**
- * Integral digital communicator with true dial-tone detection, double-pole line seizure and anti-jam.
 - * Programmable abort delay time.
 - * Rotary or TouchTone dialing available. Rotary dialing available as backup to unsuccessful TouchTone dialing.
 - * Two telephone numbers and receiver/data formats can be accessed.
 - * Two-digit event codes and 4-digit subscriber codes programmable for those receivers accepting these formats.
 - * Central-Station Ringback.

Reporting Features

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

Other Features

- * Audible Bell-Test on Arming
- * Power-Up in Last State
- * Programmable Chime Duration

SPECIFICATIONS

Operating Temperature:	0-49 degrees C (32-120 degrees F)
Input Power:	16Vac/19.2VA or 16.5Vac/20VA, Class 2 step-down transformer (TRF12)
Loop Voltage:	10 to 13Vdc
Loop Current:	2.8mA (normal resistance)
Loop Resistance:	300 ohms maximum series resistance; 50 ohms for fire circuit
Alarm Outputs	
Siren/Bell Output:	(Selectable for speaker or bell) Siren - 15W, 8 ohms; 30W, 4 ohms Bell - 12Vdc, 1.2A maximum (Residential, 10.9-12.0Vdc, 125mA maximum if not using optional PS3002 Power-Supply Module)
Relay Output:	12Vdc regulated (see Comb. Standby Current)
Contact Ratings:	24Vdc, 2A (resistive)
Auxiliary Output:	12Vdc regulated (Residential, 10.6-12Vdc)
Combined Standby Current:	Remote Power, Aux. Output, Relay Output 450mA maximum with standard TRF12 500mA maximum with optional TRF11
Remote Station	
Current:	See SPECIFICATIONS for keypad in use
Maximum Number:	5
Recommended Battery:	Rechargeable, sealed lead-acid, RBAT4: 12Vdc, 4AH RBAT6: 12Vdc, 6AH (maximum capacity permitted in UL installations)
Standby Time:	4 hours at 500mA Combined Standby Current
Fuses	
Speaker/Bell:	3A, 1AG (F1)
Aux. Power/Relay Output:	3A, 1AG (F2)
Remote Power:	1A, 1AG (F3)
Battery:	5A, 1AG (F4)
Housing Dimensions:	12.6x12.6x 3.6" (32x32x9.1cm) HxWxD
Shipping Weight:	Approx. 10 lb (4.5kg)

ORDERING INFORMATION - Starred items (*) are UL-Listed Accessories

Equipment Supplied

MA1010LKDL Residential 10-zone, 12-volt alarm control panel
with integral communicator and siren driver;
TRF12 power transformer (1)

Optional Peripherals and Accessories

RP854*	Remote 4-Wire Traditional-Style LED Keypad
RP1000LCD*	Remote 4-Wire Designer-Style LCD Keypad
RP1054D*	Remote 4-Wire Designer-Style LED Keypad
RBAT4	Rechargeable Battery, 12Vdc, 4AH
RBAT4GS	Rechargeable Battery, 12Vdc, 4AH
RBAT6	Rechargeable Battery, 12Vdc, 6AH
RBAT6GS	Rechargeable Battery, 12Vdc, 6AH
RBAT-H1*	Dual Battery Harness
TRF9	Transformer, 16Vac, 20VA, Class 2 (UL Listed)
TRF11	Transformer, 16Vac, 40VA, Class 2 (UL Listed)
TRF12	Transformer, 16Vac, 19.2VA, Class 2 (UL Listed) or 16.5Vac, 20VA, Class 2 (UL Listed)
DH-1*	Diode Harness
EOL2.2K*	End-of Line Resistor, 2.2k ohms, 1/2W
FT2200*	End-of-Line Relay/Resistor Supervisory Module
PS3002*	Power-Supply Module (not tested by UL with this panel)
GSM-400	Ground-Start Module
M278*	Line-Reversal Module
PCI2000	Quickloader Interface and Software
TM900*	Timer Module
RPB-1	Surface Mounting Backplate for RP854
RPB-2	Double Gang Box for RP854
TPS-2	Tamper Switches (set of 2) (U.L. Listed)
OI130	MAGNUM ALERT 1010LKDL Operating Guide
PF171	Programming Record Sheets, 100/pad
PRO410M	PROM Programmer
DD498-1	Partially-Programmed PROM (not interchangeable with DD498)
DD493BNK	Blank PROM

COMPATIBLE UL-LISTED DEVICES (Optional PS3002 Power-Supply Module required except where indicated by "*")

Bells: Ademco AD8-12, AD10-12
Amseco MBL-8/12V, -10/12V
Horns: Wheelock 34T-12R* (Rated at 85dB for indoor household applications)
Grade-A Bell: Ademco AB-12, Bell in Box
Smoke Detectors: (Residential Units Only)
4-Wire: BRK 1812, 2812TH;
1851B, 2851B, 2851BTH, each w/B102 Base
ESL 445AT*, 445C, 445CT, 445CR, 445CRT
Gentex 812, 812T, 812P, 812PT, 812PH
8120, 8120T, 8120P, 8120PT, 8120PH
Hochiki SLG w/YBC-RL4-RA Base
2-Wire*: BRK 1400, 2400, 2400TH;
1451, 2451, 2451TH, each w/B401B Base

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

UL CLASSIFICATION

Household Fire & Burglary Warning System Control Unit:
Combination Fire and Burglary. This control unit has not been tested by UL for Mercantile use. See COMPATIBLE UL-LISTED DEVICES (above) for compatible bells, speakers and smoke detectors.

SUMMARY OF UL REQUIREMENTS (Household Fire & Burglary)

- The following summarizes UL programming and wiring requirements.
- Recognized Limited-Energy Cable for initiating, indicating and supplementary circuits;
 - Initiating loops normally closed if longer than 3 feet;
 - FT2200 End-of-Line Relay for Fire;
 - Minimum alarm time-out of 4 minutes;
 - Maximum exit time: 60 seconds; maximum entry time: 45 seconds;
 - Do no program Swinger Shutdown; Force Arming; Group Shunt; 7mS or 50mS Loop Response.
 - 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: CFM listed for residential use. Listing No. 7165-992:110.

2. INSTALLATION

CONTROL-PANEL MOUNTING

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

A keypad should be located near the exit/entry door. If a keypad is to be mounted at the panel, remove the knockout on the enclosure door. A backplate and junction box are available for remote mounting. See **KEYPAD MOUNTING; ORDERING INFORMATION**.

Up to 5 keypads may be connected if the longest cable run from the panel to the farthest keypad, whether daisy chained or home-run wired, is less than 1000 feet. See Combined Standby Current specifications. Each keypad typically draws 25mA, however do not use more than 5 keypads.

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 enclosure door or removal of the cabinet from the wall. Ideally, tamper switches should be connected to a zone that is active at all times, thus it may be necessary to program that zone for 24-Hour Protection. When used on a normally-open zone, normally-closed tamper switches (open when set) should be wired in parallel. On a normally-closed zone, install NAPCO TPS-2 normally-open tamper switches (closed when set) in series. There are two tamper-switch provisions in the cabinet:

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

KEYPAD WIRING (Also see Wiring Diagram)

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

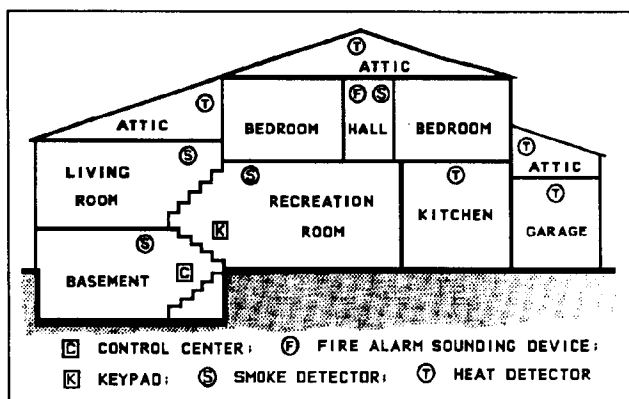
NOTE: If using a soldering iron, avoid splashing solder onto keypad circuit board or components.

KEYPAD WIRE COLOR	MA1010LKDL TERMINAL
Yellow	6
Green	7
Red	3
Black	4
White*	to normally-open momentary-contact
White*	Remote Panic Pushbutton Switch(es)

*Where available. Wire extra panic buttons in parallel. Insulate both wires if not used (a short will trip a panic alarm).

TYPICAL FIRE INSTALLATION

At least one smoke detector should be installed directly outside each sleeping area. If there is more than one floor, additional smoke detectors should be installed on each level, including the basement. The living-area and basement smoke detectors should be installed near the stairway of the next upper level.



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

Fire Protection Association, Batterymarch Park, Quincy, MA 02269) for additional information, including proper mounting methods.

TESTING THE SYSTEM

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

CHANGES FROM PREVIOUS EDITION

Following is a summary of changes made to this manual since the last edition.

- Page 7: COMPATIBLE UL-LISTED DEVICES,
• Wheelock (horn) 34T-12R corrected.
• BRK 1400, 2400, 2400TH (2-wire smokes) corrected.
- Page 10: TESTING THE SYSTEM, text revised.
- Pages 19-20: PROGRAMMING RECORD SHEETS revised to include minor default program changes and following new features:
• AUTO-DOWNLOAD ID NUMBER
• ENABLE KEYPAD TACTILE BEEP
- Page 21: Ac-Failure Reporting, text revised.
- Page 24: Auto-Download ID Number, feature added.
- Page 32: Enable Keypad Tactile Beep, feature added.
- Page 51: REGULAR FUNCTIONS, text revised (LEDs 6/7/8).
- Page 52: Key [9] - Reset, text revised.
- Page 57: SYSTEM TROUBLE INDICATIONS, added.
- Pages 58-60: INDEX, revised.

WIRING LEGEND

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

TERMINAL NUMBER	WIRE NUMBER	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
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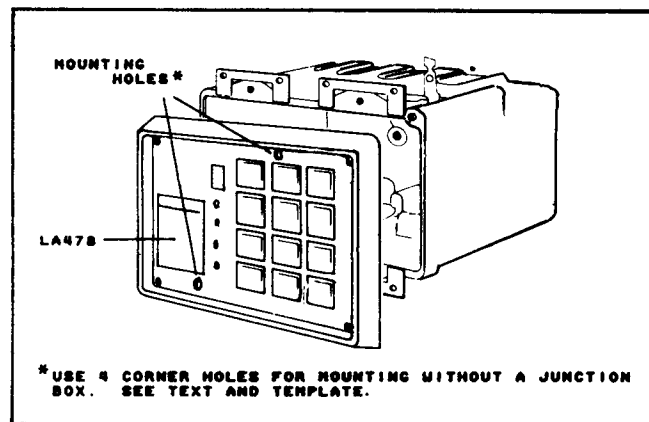
KEYPAD MOUNTING

Mounting onto the Enclosure Door. Use a screwdriver to remove the knockout in the front door of the enclosure. Align the mounting holes on the keypad with the slots in the cabinet door and secure in place with #6 screws and nuts.

Surface Mounting onto a Wall Using an RPB-1. Mount the RPB-1 onto the wall using #6 pan-head screws. Do not overtighten screws as uneven walls may distort keypad. Snip out strain relief bracket (near large hole) for additional clearance. Pull wires through the hole in the back or run a cable through the smaller hole in the side. (Keypad wires may have to be shortened to fit.) Raise the keypad front panel and mount the keypad onto the RPB-1 with the screws provided. Lower the front panel. (If keypad cover tends to bind, back out screws slightly.)

Flush Mounting into a Wall Using the RPB-2. Hold the mounting box flush against the wall (with mounting ears towards the wall) and mark around the outside of the box with a pencil. Carefully cut out the hole for the box. Insert the box into the wall and tighten the mounting screws. Raise the keypad front panel and position the keypad on the RPB-2 box. (Only the RPB-2 may be used; any other double-gang box may be too small.) Use the mounting holes (see illustration) to secure the keypad to the RPB-2 with #6 screws, then lower the front panel.

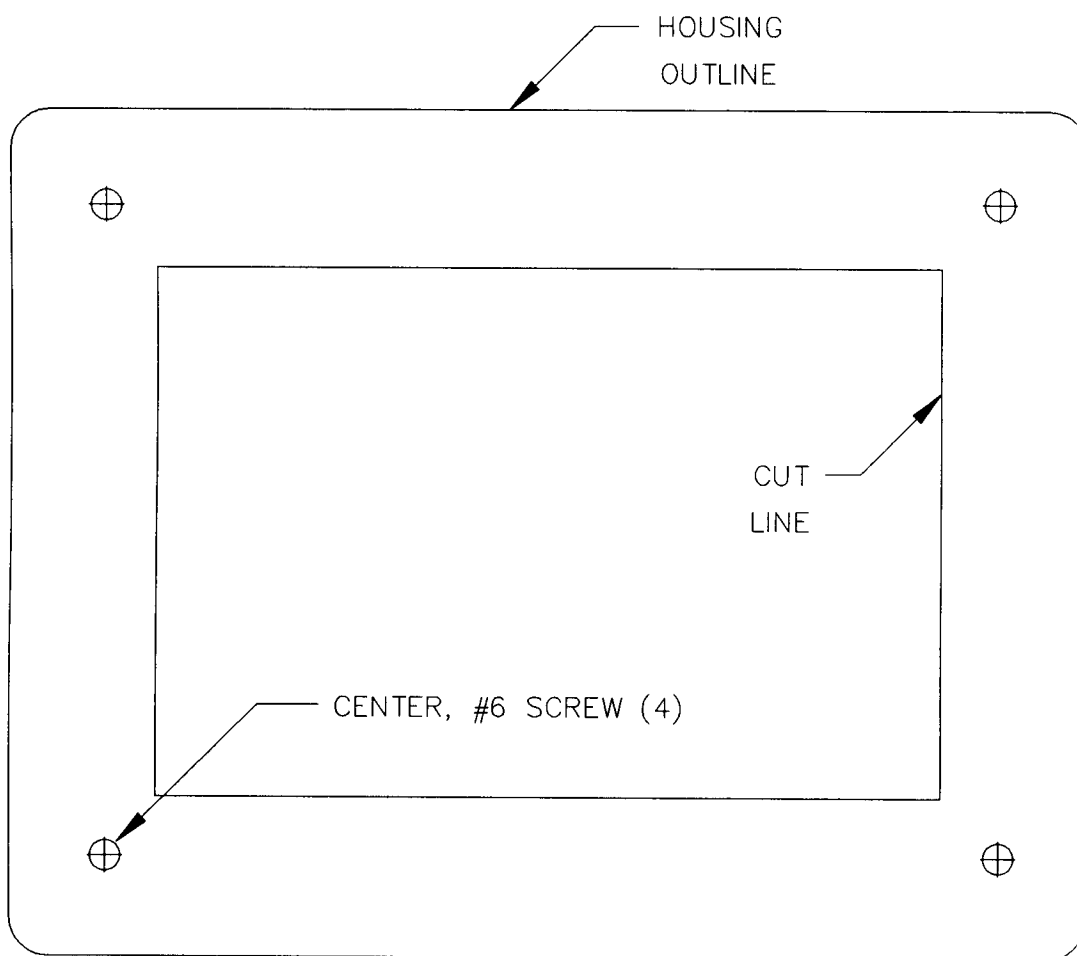
RP854 Keypad in RPB-2 Double-Gang Box (front panel of keypad omitted for clarity).



Flush Mounting Without a Mounting Box. Pin the Mounting Template (see next page) to the wall or mark through the template onto the wall. Cut carefully around the lines shown. (A poorly cut hole may show after mounting.) Raise the keypad front panel and screw the keypad onto the wall using the four corner mounting holes (see illustration). Do not overtighten screws as uneven walls may distort keypad, causing keypad cover to bind.

Completing the Installation. Raise the front panel. Fill in the coverage for the zones listed on label LA478. Upon completion, lower the front panel and remove its protective vinyl film cover.

MOUNTING TEMPLATE



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) DD498-1 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

Caution: This model, which supports both 2-wire and 4-wire smoke detectors (see **WIRING DIAGRAM**), uses a DD498-1 PROM. Prior versions, which support 4-wire smokes only, use a DD498 PROM. Neither the panels nor the PROMs are interchangeable. To convert a DD498 PROM to a DD498-1 (for use in a current MA1010LKDL), program a "1" in Page-0 Location 083.

A DD498-1 PROM may be programmed using a PRO410/410M Programmer. Refer to the manual furnished with the programmer for operating instructions and to Programming Record Sheet PF171. PROM programming may be used to program all features except the Dealer Program Code (Locations 244-249) and User Arm/Disarm Codes.

Transferring Memory from a DD498-1 PROM. Data programmed in the PROM are saved in memory as follows (also see Wiring Diagram).

1. At the control panel, with ac and battery power off, insert the 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. Wait for the dialer LED to stop blinking (about 6 seconds) and come on steady. Remove both ac and battery power, remove the PROM from the socket, then power up normally.

KEYPAD PROGRAMMING

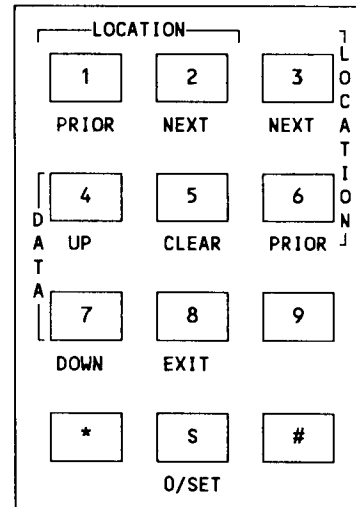
Keypad Programming may be divided into two subgroups: User Program Mode and Dealer Mode. **USER KEYPAD PROGRAMMING** (covered in Section 5) is limited to user codes. In the Dealer Program Mode, the keypad provides full programming capabilities. The following paragraphs describe operation using the optional RP854 Keypad. Other keypads may differ slightly; refer to the instructions accompanying the keypad in use.

Dealer Keypad Programming. Set the keypad to the Dealer Program Mode: Hold down Key [8] until a beep sounds, then enter the Dealer Program Code. (The default Dealer Program Code is 4,5,6,7,8,9, but this code *must* be reprogrammed to preserve system security. 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.

Set the location to be programmed by pressing Key [S] (the three horizontal segments of the display and the green LED will light), followed by the location number. Note that each location must be entered as a three-digit number, that is, 001, 020, 157, etc. Furthermore, because there is no "0" on the keypad, Key [S] is used to represent a "0". Thus, to select Location "020", first press Key [S] (select location), then press "S,2,S" representing "020". Notice that as each of the three digits is entered, the three display segments extinguish in succession from bottom to top. When the last digit is entered, the yellow LED will light and the display will show the data (if any) programmed in that location.



Keypad functions in Dealer Program Mode.

At this point, several numeric keys will take on new functions. The functions of the following keys are reassigned to provide improved mobility around the programming sheet.

Keys [1] or [6] (Prior Location) and [2] or [3] (Next Location) - change the location to be programmed. Key [1] (or [6]) moves back one location; Key [2] (or [3]), forward one location. Whenever a new location is entered, a beep will sound.

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

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

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

seconds to exit.

Key [S] (Set) - sets the initial location. Enter a three digit location number.

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

Caution: Before exiting the Dealer Program Mode, be sure that location 083 contains the data shown below. If the panel comes up armed on power-up, you have three minutes to access the Dealer Program Mode. Hold down Key [8] for two seconds, then enter your Dealer Program Code.

Disarmed: "1"
Armed: "3", "9", or "B"

Valid Data for Location 083

By checking location 083, you can prevent accidental erasures of required data from going undetected. (If invalid data reside in location 083, a non-existent fire trouble and/or loss of keypad functions may result.)

Example. Reprogram the existing (default) Dealer Program Code to 8,1,5,4,8,7.

1. Hold down Key [8] until the beep sounds.
2. Enter the existing (default) Dealer Program Code, 4,5,6,7,8,9. The center segment of the display will light.
3. Set location 244, the first location of the Dealer Program Code block, as follows:
 - (a) Press Key [S] (the three horizontal display segments and green LED will light);
 - (b) press [2],[4],[4] (the yellow LED will come on and the display will indicate the first digit of the existing code, "4").
4. Program the first digit of the new Dealer Program Code as follows: Press Key [4] (Data Up) repeatedly until an "8" is displayed.
5. Press Key [2] or [3] (Next Location) once to advance to location 245, the second digit of the code. A "5" (the second digit of the default code) will be displayed. To program the second digit of the new code press Key [5] (Clear), then press

Key [4] (Data Up) once -- a "1" will be displayed.

6. Press Key [2] or [3] (Next Location) once again to advance to the third location (246) of the code. Using Key [7] (Data Down), replace the "6" with a "5".
7. Repeat this procedure, using Key [2] or [3] to advance locations and Keys [4] and [7] to select data, until the entire code has been reprogrammed. To check the code, press Key [1] or [6] (Prior Location) five times to return to Location 244, then press Key [2] or [3] to step through each location, noting the data displayed.
8. To exit the Dealer Program Mode, hold down Key [8] until the beep sounds, then enter the new Dealer Program Code within 10 seconds. This will confirm operation of the new code.

DOWNLOADING FROM A COMPUTER WITH NAPCO SOFTWARE AND INTERFACE.

Data may be remotely downloaded to the panel via telephone lines using an IBM PC-compatible computer with NAPCO PCD2000 software (Version 2.A or later) and PCI2000 interface. Instructions for installing and running the 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. (Remote downloading may be disabled through programming. See Glossary.) Local downloading requires the use of a PCL2000 Local Download Cable, which is furnished with the PCI2000.

NOTE: Downloading requires a modem compatible with the PCI2000.

PROGRAMMING SHEETS.

Programming Sheets (PF171) similar to those which follow are completed when planning system features and communicator information for the particular installation. These sheets should be retained for future reference. Refer to the glossary for programming information and instructions.

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 MA1010LKDL 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 PROM, follow the instructions furnished with the programmer. While programming, remember to keep the address *page number* in mind, and be sure that the position of the PAGE switch (PRO410/410M) is set accordingly.

NOTE: If using the PRO410/410M, before attempting to program either page, be sure that all data in programmer memory are erased (press [ERASE], then [EXECUTE]).

4. Program the data entries in the boxes on the Programming Record Sheets into the respective locations or addresses. The display will show the entry numerically, but will display "0" for the number "10", and letters "b", "C", "d", "E", and "F" for the numbers "11" through "15", respectively. To program a "10", enter [0]. To program "11" through "15", enter [b] through [F] respectively. If using the PRO410/410M, use the [PLUS] key to enter any two or more digits that add up to the desired entry.

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

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

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

KEYPAD & PROM PROGRAMMING RECORD SHEETS FOR THE MA1010LKDL

Feature Information -- Default Programming Shown in Parentheses

FEATURE	GROUP 1								GROUP 2							
	ZONE								FIR	AMB	FIR	DAY	TST	NO	LOW	
ENABLE KEYPAD SOUNDER ON ALARM	1	2	3	4	5	6	7	8								
REPORT ON ALARM	164				165											
CONTROL-PANEL RESTORE (SEE NOTE 1)	1	2	4	8	1	2	4	8	1	2	4	8	1	2	4	
ZONE RESTORE (SEE NOTE 1)	170				171				1							
DAY ZONE	184				185											
PRIORITY WITH BYPASS (SEE NOTE 2)	1	2	4	8	1	2	4	8								
PRIORITY	188				189											
REMOVE AUTO-SHUNT (SEE NOTE 2)	1	2	4	8	1	2	4	8								
SELECTIVE SHUNT	190				191											
GROUP SHUNT	(1) (2) (4) (8)				(1) (2) (4) (8)											
24-HOUR PROTECTION	196				197											
AUTO-RESET	1	2	4	8	1	2	4	(8)								
EXIT/ENTRY ZONE (ENTRY DELAY 1)	(1) (2) (4) (8)				(1) (2) (4) (8)											
EXIT/ENTRY ZONE (ENTRY DELAY 2)	1	2	4	8	1	2	4	8								
EXIT/ENTRY FOLLOWER	206				207											
ABORT DELAY	1	2	4	8	1	2	4	8								
BURGLARY OUTPUT	208				209											
RELAY OUTPUT	1	2	4	8	1	2	4	8								
7ms LOOP RESPONSE (SEE NOTE 3)	210				211											
50ms LOOP RESPONSE (SEE NOTE 3)	(1) (2) (4) (8)				(1) (2) (4) (8)											
SWINGER SHUTDOWN	212				213											
NO END-OF-LINE RESISTOR	1	2	4	8	1	2	4	8								
CHIME ZONE	214				215											
NEVER ARM	1	2	4	8	1	2	4	8								
PIR ZONE	216				217											
UNTIMED OUTPUT (NTO LUG E15)	084				085											
	(1) (2) (4) (8)				(1) (2) (4) (8)											
	086				087											
	1	2	4	8	1	2	4	8								
	088				089											
	(1) 2	4	8	1	2	4	8									
	090				091											
	1	2	4	8	1	2	4	8								
	092				093											
	1	2	4	8	1	2	4	8	FIR	AMB	FIR	DAY	TST	NO	LOW	
	096				097											
	(1) (2) (4) (8)				(1) (2) (4) (8)				1	2	4	8	1	2	4	8

TIME EXAMPLES		
(secs, mins, or hrs)		
TIME	1st BOX	2nd BOX
5	5	NONE
15	F	NONE
30	E	1
45	d	2
60	C	3

094	095	SENSOR WATCH (hours)
250	251	TEST-TIMER OFFSET (hours)

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

TIME-OUT		
224	225	BURG. TIME-OUT (F,) (minutes)
226	227	RELAY TIME-OUT (minutes)
228	229	FIRE TIME-OUT (F,) (minutes)
230	231	DOOR-CHIME TIME (8,) (1/4 seconds)

Example: For 2 seconds, enter 8 in Loc. 230.

x10	x1	
252	253	AUTO-D/L ID NO. (decimal nos.)

CUSTOMER:	DATE:
ADDRESS:	
ACCOUNT NO.	
TEL.	

078	079	
1	1	USER 5 SERVICE CODE
2	2	DISABLE DAY-ZONE REPORT
4		(RESERVED)
8		(RESERVED)

082	083	
(1)		(RESERVED)
2		(RESERVED)
		(RESERVED)
		(RESERVED)

180	181	
1	(1)	PULSING FIRE OUTPUT
(2)	(2)	RESET OUTPUT-RELAY DEVCS
(4)	(4)	ENABLE K/P TACTILE BEEP
8	8	RESET TEST TIMER ON RPT

080	081	
1	1	WATCH ON W/GROUP SHUNT
2	2	CHIME ON W/GROUP SHUNT
4	4	DISPLAY CHIME ZONES
8	8	DISABLE DISPLAY SHUNTS

178	179	
1	1	OPENING RPT AFTER ALARM
2	2	FORCE ARM
4	4	STATUS REPORT
8	8	SPLIT REPORTING

182	183	
1	1	DISPLAY ANY SHUNT
(2)	2	NO OPENG RPT AFT ALM/26
(4)	4	INCL MAN BYP IN F-A/STAT
8	8	KEY INPUT ON ZONE 7

NOTES: (1) When programming ZONE RESTORE, CONTROL-PANEL RESTORE must also be programmed. (2) When programming PRIORITY WITH BYPASS, do not program REMOVE AUTO SHUNT. (3) If neither 7ms nor 50ms LOOP RESPONSE is programmed, loop response will be 750ms.

KEYPAD & PROM PROGRAMMING RECORD SHEETS FOR THE MA1010LKDL Communicator Information - Default Programming Shown in Parentheses

GROUP 1										GROUP 2						
ZONE										FIR	AMB	FIR	DAY	TST	NO	LOW
1	2	3	4	5	6	7	8			TBL	TBL	TMR	AC	BAT	AUX	
000	002	004	006	008	010	012	014	016	018	020	022	024	026	028	062	
(3)	(3)	(3)	(3)	(3)	(3)	(3)	(2)	(1)	(2)	(F)			(F)	(F)	:	:

Extended or Two Digit	001	003	005	007	009	011	013	015	017	019	021	023	025	027	029	063
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(1)	(1)	(2)	(1)			(9)	(8)	

RESTORE CODES	Single Digit	040	042	044	046	048	050	052	054	056	058	060	062	064	066	068
		(E)	(E)	(E)	(E)	(E)	(E)	(E)	(E)	(E)		(E)		(E)	(E)	
Extended or Two Digit	041	043	045	047	049	051	053	055	057	059	061	063	065	067	069	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(1)		(F)				(9)	(8)	

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

KEYPAD CODES (Do not enter zeros) (SEE NOTE 2)	AMBUSH	USER PROGRAM CODE						DEALER PROGRAM CODE					
	236 237	238	239	240	241	242	243	244	245	246	247	248	249
		(1)	(2)	(3)	(4)	(5)	(6)	(4)	(5)	(6)	(7)	(8)	(9)

USER 1	USER 2	USER 3	USER 4	USER 5
484 485 486 487	488 489 490 491	492 493 494 495	496 497 498 499	500 501 502 503
(1) (2) (3)				

SUBSCRIBER ID NUMBERS	ALARM/RESTORE ID (SEE NOTE 3)	OPENING/CLOSING ID (SEE NOTE 4)
Telephone 1	GROUP 1 100 101 102 103	GROUP 2 104 105 106 107
Telephone 2	132 133 134 135	136 137 138 139

	FORMAT		P/D	ACS	D/T															
	RCVR DATA		DLY	NO.	DET	TELEPHONE NUMBER 1														
Telephone 1	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131
			(E)																	
			TELEPHONE NUMBER 2																	
Telephone 2	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163
			(E)																	
	#RINGS		CALLBACK TELEPHONE NUMBER																	
	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285			
	013	014	015	016	017	018	019	020	021	022	023	024	025	026	027	028	029	<-PROM		

<-PROM PAGE-1 LOCATIONS

ENTRY	RECEIVER FORMAT	ENTRY	DATA FORMAT
Blank	ADEMCO, SILENT KNIGHT "SLOW"	Blank	EXTENDED OR SINGLE DIGIT
1	SESCOA, VERTEX, DCI, FRANKLIN (SEE NOTE 5)	1	SINGLE DIGIT
2	RADIONICS "FAST" (SEE NOTE 5)	2	TWO DIGIT (OR 4/2)
3	SILENT KNIGHT "FAST"	4	SUM CHECK
4	RADIONICS, DCI, FRANKLIN "SLOW" (SEE NOTE 5)		
5	UNIVERSAL HI-SPEED		
7	RADIONICS BFSK (SEE NOTE 5)		
8	FOR 2300Hz HANDSHAKE, ADD AN "8" TO THIS LOCATION		

NOTES: (1) 2-DIGIT FORMAT ONLY. (2) DEALER & USER PROGRAM CODES MUST NOT START WITH THE SAME NUMBERS. (3) GROUP-2 CODES MUST BE ENTERED, EVEN IF THEY ARE THE SAME AS GROUP-1 CODES. (4) MUST BE PROGRAMMED IF OPENING/CLOSING CODES ARE PROGRAMMED. (5) THESE FORMATS TYPICALLY USE A 2300Hz HANDSHAKE; ADD AN "8" TO THIS ENTRY. PF171 10/91

GLOSSARY & PROGRAMMING INFORMATION

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

A delay period that allows cancellation of the central-station report. This is done by disarming the panel within the delay period. Program locations 208-209 for zone selection; locations 232, 233 for delay time (see Time Selection).

NOTE: If Abort Delay is selected for a 24-Hour Zone or a Zone-Restore Zone, the zone must be repaired and the cause corrected before disarming the panel.

Ac-Failure Reporting (Locations 169; 173)

If ac power is lost, the top three LEDs will flash simultaneously and a "1" will display (whether armed or disarmed). Hold-Down Function [9] will reset the keypad temporarily to permit arming, however if power is not restored within about three minutes, the indication will return. If programmed for Report On Alarm, the report will be delayed for 1 hour. Restores report immediately.

Access Number for Outside Line (Locations 115, 147)

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

If your subscriber's system uses an access number:

1. Contact the telephone-equipment supplier to find out if a dial tone other than 440Hz is received prior to dialing the access number. If the communicator must delay before dialing the access number instead of attempting to recognize the dial tone, find out how many 4-second delays must be programmed.

2. For Telephone 1,

- a. Enter the Dial-Tone Detection "E" or Pre-Dial Delay "d" in location 114. Enter any extra "d"s that may be required starting in location 115.
- b. Enter the access number digit in location 115, or the first available location thereafter.
- c. Starting in the first available location after the access number, enter any Pre-Dial Delay "d"s needed before the second

dial tone; the Dial-Tone Detection "E" for the second dial-tone frequency; then the telephone number.

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

Alarm Codes See Report on Alarm

Alarm History

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

Alarm Outputs (Locations 181, 210-213; 224-227;
Terminals 33-35; 37, 38, 39; Jumpers A, C, E, & F)

The MA1010LKDL has an integrated siren driver for both burglary and fire alarms, one relay contact output for additional devices, and a communicator that can report alarms to a central station. A bell may be used on the siren output terminals.

The following table summarizes wiring and programming for signaling an alarm in typical installations. See Time Selection for time-out durations.

Output	Wiring	Output Locations	Time-Out Locations	Remarks
Sweep Siren*	Speaker on 38, 39	210, 211	224, 225	See Note
Fire Siren	Speaker on 38, 39	-- --	228, 229	Fire Zone Only
Pulsing Steady Siren	Speaker on 38, 39	1 in 181	228, 229	Fire Zone Only
Steady Bell*	Bell on 38(-), 39(+)	210, 211	224, 225	Cut Jumper E
Pulsing Bell	Bell on 38(-), 39(+)	-- --	228, 229	Cut Jumper E
Relay Output	37(-), 34(+)	212, 213	226, 227	
Dry Contacts	33 (COM) 34 (N/O) 35 (N/C)	212, 213	226, 227	Cut Jumper A
Reset Output-Relay Devices	37(-), 35(+)	2 in 181	-- --	Dedicated for Reset
*In U.L. installations, see Time Selection for time-out requirements.				

NOTE: Cut Jumper F for a two-tone alternating siren sound; cut Jumper C to prevent the fire signal from sounding a steady siren.

Relay Output. The maximum Relay Output current in standby or alarm is combined with the total standby outputs (including Remote Power and Auxiliary Power Output). **NOTE:** If Relay Time is left blank, the relay latches until disarmed.

Speaker/Bell Output. Connect one or two (in parallel) 8-ohm, 15-watt speakers across Terminals 38 (-) and 39 (+).

Ambush Code (Locations 236, 237)

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

To program the ambush feature, (a) program Ambush to Report on Alarm (enter a "2" in location 168); (b) enter 1 or 2 digits as the Ambush Code in locations 236-237; and (c) enter an Ambush-Zone alarm report code in locations 018-019. Inform the user what the Ambush Code is, and that his code must be entered less than 10 seconds after the Ambush Code for an ambush report to be sent.

Easy Arming. The Ambush Code may also be used as a 1- or 2-digit Easy-Arm (arm-only) Code if User 5 is programmed as a Service Code. Program this code into locations 236-237, then enter it as one of the user codes (see Programming User Codes). The Easy-Arm Code itself cannot disarm the system. Note that no User Code may begin with the same digit(s) as the Easy-Arm Code, as it can't disarm. Also see User 5 Arm Only. **NOTE:** Caution the user that if an inadvertent attempt is made to *disarm* using the Easy-Arm Code, entering the regular Disarm Code within 10 seconds will cause an Ambush report to be sent.

Also see Panic Zone.

Anti-Jam Time

If the communicator does not detect a dial tone within 12 seconds, the Anti-Jam feature will cause it to go off line for a 16-second anti-jam interval in order to free the phone circuit from incoming calls. The communicator will then make another 12-second attempt at dial-tone detection and, if still unsuccessful, go off line again for 16 seconds, then proceed to dial anyway.

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

Arm Lug (Lug E4)

Lug E4 (ARM) will go to approximately 1Vdc when the system is armed. This lug may be used for auxiliary equipment. For use, refer to the instructions furnished with the peripheral device. Also see Sounder Output On Lug E4.

Audible Test on Arming (Location 180)

To test the alarm circuit each time the system is armed, add a "1" to location 180. The alarm is then activated briefly about 4 seconds after the panel is armed. If the alarm does not sound, the device may be defective.

Auto-Download ID Number (Locations 252, 253)

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

At the installation site, program the Auto-Download ID Number (in decimal numbers; do not use leading zeros) corresponding to that in the computer. Also program the Callback Telephone Number of the computer. Then, arm the panel, disarm and, within 5 seconds, access Function 6 to execute an Auto-Download.

Auto-Reset (Locations 180; 200, 201)

If a zone signals an alarm and is selected for Auto-Reset, it will automatically rearm itself soon after the alarm condition is cleared. Auto-Reset may be delayed to occur after the time-out period by programming a "2" in location 180.

Zones 1 through 8 that are not programmed for Auto-Reset will not be capable of signalling another alarm until (a) the cause of the alarm has been cleared and (b) the panel is disarmed.

Also see Swinger Shutdown.

Auto-Reset After Alarm Time-Out See Auto-Reset

Auto-Shunt Zone See Remove Auto-Shunt

Backup Reporting (Location 178)

When 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 (locations 132-143) and other information required for Telephone 2 (locations 144-163). If Double Reporting is selected with Backup Reporting, all reports sent to the first telephone number will also be transmitted to the second telephone number. However, if the first transmission fails, two reports will be sent to Telephone 2 (Double Reporting).

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

Battery

12Vdc standby power source in the control panel to provide backup protection in the event of a power loss. The RBAT4 (4AH) and RBAT6 (6AH) are available as options. Note that the battery is an integral part of the system. It *must* be installed, even if ac power is present.

Burglary Lug (Lug E10)

Lug E10 (BURG) will go to about 1Vdc when a burglary alarm is tripped. E10 may be used to trip an LW-900 Long-Range Wireless Interface. 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 coil).

NOTE: If Lug E10 is shorted to ground, the sweep siren output is activated.

Burglary Output See Alarm Outputs

Callback Telephone Number (Locations 270-285; PROM Page-1 Locations 014-029)

Number of Rings (Location 269; PROM Page-1 Location 013)

Enter the Callback Telephone Number in Locations 270-285 (PROM Page-1 Locations 014-029). This will instruct the MA1010LKDL to call back the PCI2000 as a security check prior to downloading when using the callback method. Program the Callback Telephone Number as any other telephone number (see Telephone Numbers).

The MA1010LKDL will initiate the callback after waiting 15 rings, unless programmed otherwise. To change the number of rings before

callback, enter the desired number of rings (15 maximum) in Location 269.

Chime Zone (Location 088-089)

Chime On With Group Shunt See Group Shunt

Display Chime Zones (Location 081)

This annunciator feature may be programmed for any zone to sound a beep at the keypad while disarmed when the zone goes into trouble. Press hold-down function Key [5] until it beeps to enable or disable the Chime. Chime duration is programmable (locations 230, 231) in units of 1/4 seconds. See Time Selection.

NOTE: A "1" in Location 230 will prevent the sounder from coming on.

When a "4" is programmed in Location 081 (Display Chime Zones), the Chime-Zone number will be displayed for the duration of the programmed chime time, or for as long as the zone is tripped, whichever is greater. Also see Chime On With Group Shunt.

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

Force Arm Report (Locations 179; 038-039)

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

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

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

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

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

Select Status Report ("4" in location 179) to send a Force Arm report followed by a Status Report that identifies the auto-shunted zone(s). The second Alarm-Code location is usually used for this purpose. If this location is vacant, the first location will be used.

To include manual shunts in a Force Arm/Status Report, program a

"4" in Location 183. (Either Force Arm or Status Report must also be programmed.)

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

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

- 1231 - Sent when alarm occurs.
- 456C - Closing: User returned; inspected damage; rearmed.
- 456F - Force Arm.
- FFF1 - Zone status at time of closing: Window foil still broken. Zone 1 auto-shunts; repair required.

Control-Panel Restore See Restore Report

Data Format (Locations 113, 145)

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

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

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

- 678C - Subscriber "678" has closed.
- CCC3 - Closing, User 3.

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

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

1. Program a "1" in location 113 (and 145 for a second telephone

number, if used). See Double Reporting and Backup Reporting.

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

NOTE: If it is desired to have a Single-Digit Event Code for one telephone number and Extended Format for the other, program both digits for all event codes. Use the first digit to indicate the alarm type and the second digit to indicate the zone. The telephone number with a "1" in location 113 (or 145) will transmit only the first digit. The other telephone number will use both digits. (Single-Digit Format will ignore the second digit of the event code.)

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

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

To use Two-Digit Event Code Format,

1. Program a "2" in location 113 (145 for a second telephone number, if used). See Double Reporting and Backup Reporting.
2. Enter an Alarm Code (locations 000-029) for each zone or condition to report on alarm (see Report on Alarm) or for a Force-Arm/Status Report as follows:
 - a. Enter the first digit of the Alarm Code. (This digit may be used to indicate alarm type.)
 - b. Enter the second digit of the Alarm Code. (This digit may be used to indicate the zone.)
3. Repeat Step 2 to enter Restore Codes (locations 040-069) for each zone selected for Control-Panel Restore or Zone Restore (see Restore Report).
4. If Opening Report or Opening Report After Alarm is selected, enter a two-digit Opening Code for each user (locations 070-077). See Opening Report; Opening Report After Alarm.
5. If Closing Report is selected, enter a two-digit Closing Code (locations 030-037) for each user. If a Force Arm or Force-Arm/Status Report is selected, also enter a two-digit Force-Arm Code (locations 038, 039).

NOTE: Single-Digit Format will override Two-Digit Format in location 113 or 145.

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

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

Day Zone (Locations 186, 187)

Disable Day-Zone Report See PIR Zone

Display Day Zones After Reset (Location 078)

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

If a "1" is programmed in Location 078 (Display Day Zones After Reset), the Day-Zone number(s) will remain displayed after the sounder is silenced until the condition is corrected and the Day Zone will auto-reset without the need to arm/disarm.

NOTE: For high security Day-Zone supervision, also program Disable Fault Find.

Dealer Program Code (Locations 244-249)

This code is required to enter the Dealer Program Mode. The default Dealer Program Code is 4,5,6,7,8,9, however this code *must* be changed. Reprogram the 3- to 6-digit Dealer Program Code starting in location 244.

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

Dial-Tone Detection (Locations 116, 148)

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

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

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

Direct Keypad Panic to Ambush See Panic Zone

Direct Zone 8 to Ambush See Panic Zone

Disable Bell Test (Location 182)

Program an "8" in location 182 to prevent unauthorized persons from sounding the bell or siren.

Disable Callback-Method Download (Location 080)

Data may be remotely downloaded to an MA1010LKDL after a preprogrammed number of rings and a panel callback. Program this feature to prevent unauthorized downloading to an unattended panel.

Disable Day-Zone Report See PIR Zone

Disable Display Shunts (Location 081)

This feature disables Hold-Down Function 2 (Display Shunt) while armed for added security.

Disable Fault Find (Location 182)

Program a "1" in location 182 to prevent unauthorized use of the Fault-Find mode. See HOLD-DOWN FUNCTION 7.

Disable Function-6 Download (Location 080)

Program an "8" in location 080 to prevent manual remote downloading using Function 6 at the panel. See Hold-Down Function 6: (Manual Download).

Display Any Shunt (Location 183)

Hold-Down Function 2 (Display Shunt) normally displays manually-shunted zones only. When a zone is auto-shunted, the yellow SHUNT LED will light, and Hold-Down Function 2 will display Auto-Shunted Zones and Priority Bypassed Zones as well.

Display Chime Zones See Chime Zone

Display Day Zones After Reset See Day Zone

Double Reporting (Location 178)

If selected, only information that is *successfully* sent to Telephone 1 will be sent to Telephone 2 as well. To program, enter an "8" in Location 178. Enter Subscriber ID Numbers for Telephone 2 (Locations 132-143) and related information required for Telephone 2 (Locations 144-163). Subscriber ID Numbers for both Telephones 1 and 2 *must* be entered, even if they are the same.

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

Split Reporting overrides Double Reporting if both are selected.

Easy Arm See User 5 Arm Only; Also see Ambush Code

Enable Communicator-Confidence Test (Location 182)

Program a "4" in Location 182 to enable. See HOLD-DOWN FUNCTION 6. NOTE: Do not arm and disarm before this test.

Enable Download With Answering Machine (Location 082)

To permit downloading to a telephone with an answering machine, program a "1" in Location 082.

Enable Keypad Panic See Panic Zone

Enable Keypad Sounder on Alarm (Location 164-165)

Programmable for Zones 1-8. When tripped, the keypad sounder will come on until the panel is disarmed or reset using Key [9].

Enable Keypad Tactile Beep (Location 181)

Causes the sounder to come on briefly with each press of a button. For RP1000LCD Keypads, cut the keypad tactile-beep jumper to prevent a double beep from sounding.

Exit/Entry Delay (Locations 218-223)

Permits exit and entry through the Exit/Entry Zone(s) after the system is armed without causing an instant alarm. Exit delay allows time to leave the premises after the panel has been armed. Entry delay allows time to enter and disarm the panel. On entry, the keypad sounder will come on to remind the user to disarm.

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

Exit delay (Locations 218-219) and entry delay (Locations 220-223) may each be programmed for up to 4-1/4 minutes. See Time Selection. If times are not programmed, exit delay will be 60 seconds; entry delay, 30 seconds. (In UL installations, exit delay time may not exceed 60 seconds; entry delay, 45 seconds.)

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

Exit/Entry Follower (Locations 206, 207)

This type of zone will ignore detection during exit delay, and *only* during entry delay if the Exit/Entry Zone is entered *first*. Thus, detection devices (PIRs, for example) along the path between the keypad and the exit/entry door will not trip an alarm during exit/entry delay under normal conditions. However, if a device in the Exit/Entry Follower Zone trips when the exit/entry door has not first been entered, there will be no entry delay and the Exit/Entry Follower Zone will go into an instant alarm.

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

Extended Format See Data Format

Failure to Communicate on NTO Lug See NTO Lug

Fire Lug (Lug E9)

Lug E9 (FIRE) will go to about 1Vdc when a fire alarm is tripped. E9 may be used to trip an LW-900 Long-Range Wireless Interface. 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 (Terminals 8 & 9)

The Fire Zone is supervised by the bottom red keypad LED. Normally-open devices are connected across Terminals 8 and 9. A short across the Fire Zone will cause a fire alarm: the red LED will light and the sounder will pulse; an open circuit (trouble) will cause a blinking red LED and a pulsing sounder after a 10-second delay. The sounder may be silenced using Reset Key [9]. The LED will go off within 30 seconds after reset if the alarm or trouble is cleared.

If the Fire Zone is selected to Report on Alarm (location 168) or to Restore (location 172), the Alarm Codes in locations 016-017 and the Restore Codes in locations 056-057 will be sent. Trouble and Restore Trouble on the Fire Zone are reported in locations 020-021 and 060-061, respectively.

Force-Arm Report See Closing Report

Force-Arm/Status Report See Closing Report

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

If the dial tone is not continuously active, Ground-Start Module Model GSM-400 will be required at Lug E3 to establish the dial tone. For installation, refer to the instructions furnished with the GSM-400.

Group Shunt (Location 196, 197)

Chime On With Group Shunt (Location 081)

Watch On With Group Shunt (Location 081)

Group Shunt removes a programmed group of zones from the system.

Group shunting is often used to deactivate some or all interior zones simultaneously so that the user may move freely throughout the premises but still be protected from intrusion through armed perimeter zones.

Group shunting is accomplished by pressing Key [S] *twice*. When the panel is subsequently disarmed, all shunted zones will automatically revert to non-shunted zones.

When group shunting is selected, the yellow SHUNT LED on the keypad will light. The zones shunted may be confirmed by holding down Display Shunt Key [2] until the sounder beeps. While holding the key down, check the digital display to see the zone(s) shunted.

When a "1" is entered in Location 081 (Watch On With Group Shunt), the Watch Mode will be enabled when Group Shunt is activated. Note that (a) Group Shunt need not be programmed for any zone for this feature to operate; (b) if a zone is programmed as a Day Zone, it may not be programmed for Group Shunt; and (c) Chime On With Group Shunt should not be programmed. Also see Watch Mode.

When a "2" is entered in Location 081 (Chime On With Group Shunt), the Chime Mode will be enabled for all programmed zones when Group Shunt is activated. Note that (a) Group Shunt need not be programmed for any zone for this feature to operate; (b) if a zone is programmed as a Chime Zone, it may not be programmed for Group Shunt; and (c) if this feature is programmed, Hold-Down Function 5 (Chime On/Off) is disabled. Also see Chime Zone.

Include Manual Shunt in Force-Arm/Status See Closing Report

Jumpers (A, C, E, F) See Alarm Outputs

Key Input on Zone 7 (Location 183)

For a remote arm/disarm keyswitch station, program an "8" in Location 183 and wire a normally-open momentary keyswitch to Zone 7 Terminals 18 and 20. The keyswitch may be supervised with an end-of-line resistor. Program Zone 7 as a Day Zone or 24-Hour Zone.

Keypad Aux. Alarm on NTO Lug See NTO (Lug E15)

Keypad Panic See Panic 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 (Locations 214-217)

Loop response is the amount of time that a normally-closed circuit must remain open, or a normally-open circuit must remain closed, to 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 (milliseconds) for all zones.

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

7mS (.007 sec.): An extremely fast loop response used primarily for window bugs, and to eliminate the need for a pulse extender.

Low Battery (Location 169, 173; Lug E11)

A low-battery alarm will signal when the battery terminal voltage drops to 11.0V. A low-battery condition may report to a central station by programming a "4" in location 169. Lug E11 (LOW BATT.) will go to 0Vdc when a low-battery condition exists. E11 may be used to trigger an LW-900 Long-Range Wireless Interface.

Never Arm (Locations 090-091)

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

No Ac See Ac-Failure Reporting

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

Program for any zone not wired with an end-of-line resistor.

No Opening Report After Alarm on Zone 6 (Location 183)

If Opening Report After Alarm is selected and a TM900 Test Timer is installed, wire the TM900 to Zone 6 and program a "2" in Location 183. Also see Opening Report After Alarm.

NTO (No Timed Output) (Lug E15; Locations 096-099)

Failure to Communicate on NTO Lug (Location 078)

Lug E15 is an untimed output, programmable for any zone (Group 1 or Group 2). When tripped, the NTO Lug will go low. This output may be used for strobes (do not exceed 300mA), or to trip an LW-900 Long-Range Wireless Interface. If Failure to Communicate on NTO Lug is programmed ("2" in Location 078), Lug E15 will go low after the communicator makes 9 attempts to dial.

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).

Number of Rings See Callback Telephone Number

Opening & Closing Codes See Opening Report; Closing Report

Opening Report (Select User(s) Opening) (Location 176)

Opening Report After Alarm (Location 179)

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

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

Program Opening Report After Alarm ("1" in location 179) to report only when disarming after an alarm. This feature may be used by the central station to verify that the subscriber has re-

sponded to the alarm and disarmed the panel. If Opening Report After Alarm is selected, do not select Opening Report.

Panic Zone

Direct Keypad Panic to Ambush (Location 080)

Direct Zone 8 to Ambush (Location 080)

Enable Keypad Panic (Location 182)

When using Zone 8 for Panic, program 24-Hour Protection ("8" in location 199) and Report On Alarm ("8" in location 167). Note that if Zone 8 is not programmed for 24-Hour Protection, Panic may still be activated when disarmed, but an "8" will be displayed on the digital readout and the red LED will flash.

To enable Panic from the keypad, program a "2" in location 182. The Panic Zone is tripped by simultaneously pressing Keys [*] and [#]. Keypad Panic is disabled by programming, or individual keypads may be disabled by cutting a jumper on the keypad PC board.

Remote *momentary* pushbutton panic switches (normally open) may be connected to the two white wires (if available) on the keypad (see Wiring Diagram). Remote switches may be also be used on Zone 8 terminals. In UL systems, remote panic buttons must be located in the same room as the control unit, with no intervening walls.

For silent panic, program a "1" in Location 080. This will direct Keypad Panic to the Ambush Zone, freeing Zone 8 for use as a Burglary Zone. (Keypad panic will report using the Ambush Code.)

For both silent panic and audible panic, program Direct Zone 8 to Ambush ("2" in Location 080). Zone 8 may then be wired for silent panic, transmitting the Ambush Code on alarm, while Keypad Panic sounds an audible alarm, transmitting Zone 8 alarm codes.

PIR Zone (Locations 092, 093)

Sensor Watch (Locations 094-095)

Disable Day-Zone Report (Location 079)

Power-Up Delay

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

If no trip is detected within the programmed Sensor-Watch time, a Day-Zone trouble is reported to the central station. There is no audible indication at the keypad.

Program the Sensor Watch in Locations 094-095. Select a value according to the expected activity within the coverage area while

disarmed. In calculating the Sensor Watch time, note that only the *disarmed* hours (the time between armed periods) are added. In moderate traffic areas, a Sensor Watch time of perhaps 15 hours may be appropriate, whereas in remote areas, a time of 60 hours or more may be in order. Sensor Watch time should be calculated for the PIR Zone with the least amount of traffic. However, if no activity is expected on a zone (in an attic, for example) that zone should *not* be programmed as a PIR Zone. (If Locations 094-095 are left blank, PIR Zones will still be delayed on power-up, but they will not be monitored for activity.)

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

Power Up in Last State (Location 180)

When a "4" is programmed into location 180, the control panel will return in its last state (armed or disarmed) when ac is restored after a lengthy power failure (and the battery is dead).

Pre-Dial Delay (Locations 114, 146)

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

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

Priority Zone (Locations 190, 191)

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

Priority Zone with Bypass (Locations 188, 189)

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

Any zone not selected as a Priority Zone may be programmed as a Priority Zone with Bypass. When programming a zone as Priority with Bypass, do not program Remove Auto-Shunt.

Pulsing Bell Output See Alarm Outputs

Receiver Format (Locations 112, 144)

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

ENTRY	RECEIVER FORMAT	DATA FREQ.	DUTY CYCLE (ON/OFF)	INTERDIGIT TIME
(blank)	Ademco, Silent Knight "slow"	1900Hz	60/40ms	600ms
1	Sescoa, Vertex, DCI, Franklin	1800	30/20	800
2	Radianics "fast"	1800	13/12	400
3	Silent Knight "fast"	1900	40/30	560
4	Radianics, DCI, Franklin "slow"	1800	60/40	600
5	Universal Hi-Speed			
6	Reserved			
7	Radianics RFSK			
8	Add "8" for 2300Hz handshake; Do not add if 1400Hz handshake.			

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

Relay Output See Alarm Outputs

Remote STATUS LED on NTO Lug (Location 082)

When a "2" is programmed in Location 082, a remote (green) STATUS LED connected to the NTO Lug will go on when the lug is low, giving the same indication as the keypad STATUS LED. In this application, do not use the NTO Lug as an output. Connect the LED cathode to the lug through a 560-ohm resistor, and the anode to +12V AUX. POWER (Terminal 36).

Remove Auto-Shunt (Locations 192, 193)

All zones are preprogrammed for Auto-Shunt, and will be bypassed (automatically shunted out) 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-shunted zone. (Note that the exit/entry door must be closed before arming, otherwise the Exit/Entry Zone will be auto-shunted.) Auto-shunting may be removed from any Zone 1-8 by programming.

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

For U.L. installations, non-24-Hour Zones *with* auto-shunt (Remove Auto-Shunt *not* programmed) must be programmed for Priority Zone with Bypass. If an attempt is made to arm with these zones in trouble, the sounder will come on, a "P" will be displayed, and the panel will not arm (enter the arm/disarm code to silence the sounder and clear the display). To arm, hold down Reset Key [9] for about 2 seconds, then enter the arm/disarm code.

Report on Alarm (Locations 166-169)

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

Reset Output-Relay Devices (Location 181)

If detection devices used require removal of dc voltage to reset, program a "2" in location 181 and wire the device power leads to Terminals 35 (+) and 37 (-). Holding down Reset Key [9] until the sounder beeps will momentarily remove power from Terminal 35.

NOTE: If the relay connected to Terminal 35 is used to reset output-relay devices, it may not be used for other purposes.

Reset Test Timer on Report See Test Timer

Restore Report

Restore. Control Panel (Locations 170-173)

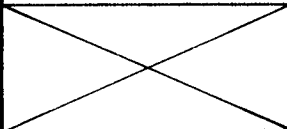
Restore. Zone (Locations 184, 185)

If programming Zone Restore, Control-Panel Restore must be pro-

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

When selecting Zone 8 as a Panic Zone, *do not* program it for a Restore Report, otherwise a restore will also be sent.

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

PROGRAM:	FOR CONTROL-PANEL RESTORE REPORT TO BE SENT:	AND FOR ZONE RESTORE REPORT TO BE SENT:	
Instant Auto-Reset (locations 200, 201)	* When zone is repaired, or * When control panel is disarmed	* When zone is repaired, whether control panel is armed or disarmed	
Auto-Reset After Alarm Time-Out (locations 200, 201; "2" in location 180)	* When resets (alarm times out & zone is repaired), or * When control panel is disarmed	* When zone resets (alarm times out & zone is re- paired, whether control panel is armed or dis- armed	
		(See Note 2) ZONE REPAIRED WITH CONTROL PANEL	
		ARMED	DISARMED
No Auto-Reset	* When control panel is disarmed (regardless of zone condition)	* When control panel is disarmed	* When control panel is armed & dis- armed again
NOTE: 1. 24-Hour Zone restores are sent as shown under ZONE RESTORE. 2. It is recommended that Zone-Restore or 24-Hour Zones be programmed with Auto-Reset or Priority to prevent accidental auto-shunting of a latched zone.			

Select User(s) Closing See Closing Report

Select User(s) Opening See Opening Report

Selective Shunt (Locations 194, 195)

Removal of one particular zone from the system. Any or all Zones 1-8 programmed for selective shunt may be removed from the system, but each must be removed separately.

Selectively shunt a zone by pressing Shunt Key [S] followed by the zone number. The next time the panel is disarmed, all shunted zones will automatically revert to non-shunted zones.

When one or more zones is shunted, the yellow SHUNT LED on the keypad will light. The zones shunted may be confirmed by holding down Display Shunt Key [2] until it beeps; with the key depressed, the shunted zones will be shown on the numeric display.

Sensor Watch See PIR Zone; Time Selection

Service Code See User 5 Service Code

Single-Digit Format See Data Format

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

Connect smoke detectors as shown on the wiring diagram. Note that Terminals 8 and 9 may be used for the 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; up to 2 may be connected (or up to 4 if using a TRF11 transformer). See RECOMMENDED U.L.-LISTED DEVICES.

NOTE: 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 Output On Lug E4 (Location 180)

When an "8" is programmed in Location 180, Lug E4 will go low whenever the keypad sounder is activated. This feature disables Lug E4 for use as an Arm Lug (see Arm Lug).

Split Reporting (Location 179)

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

Status Report See Closing Report

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

Different Subscriber Identification Numbers may be used by the central station to distinguish Alarm and Restore Reports (locations 100-107) from Opening and Closing Reports (locations 108-111). Similarly, different numbers may be used to distinguish

Alarm/Restore Reports for Group-1 Zones (Zones 1-8) from Group-2 Zones (Fire to Low Battery). Both groups *must* be programmed, even if both use the same number. See Report on Alarm; Restore Report; Opening Report; Closing Report.

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

NOTE:

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

Sum Check See Data Format

Swinger Shutdown (Locations 084-085)

When programmed, Zones 1 through 8 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.

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

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

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

It should be noted here that Telephone Number 1 need not actually

start in location 117 nor end in location 131, as extra locations have been provided to allow for additional prefix digits, if required. What is important is that Telephone Number 1, with its associated Pre-Dial Delay, Access Number, and Dial-Tone Detection, be wholly contained within locations 114-131, and that they be in their proper sequence. It may, in fact, be advantageous to leave one or two blank locations before entering the telephone number to allow for the unexpected (an additional Pre-Dial Delay, for example). The above applies to Telephone Number 2 (locations 149-163) and the Callback Telephone Number (Locations 270-285; PROM Page-1 Locations 014-029) as well.

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

Also see Callback Telephone Number.

Test Timer (Locations 024, 025; 169)
Reset Test Timer on Report (Location 181)

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

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

Test-Timer Offset (Locations 250, 251)

If *Test Timer* is programmed, the test timer will report immediately upon power-up, and every 24 hours thereafter. To delay the timer reporting time up to 24 hours from power-up time, program locations 250 and 251 in hours (see *Time Selection*). (If these locations are left blank, the test timer will report immediately upon power-up.)

Time-Out (Locations 224-231)

Specifies the length of time that an alarm, alert, or delay will remain active. Abort-Delay time and Burglary Time-Out must be programmed, or the feature will not activate. See Time Selection. NOTE: In California, do not program a time-out for fire alarms.

Time Selection Also see Programming Sheet

The following times are programmable:

Time	Locations	Units	Max. Programmable Time
Sensor Watch Time (PIR-Zone)	094, 095	hours	255 hr
Abort Delay (See Note 1)	232, 233	seconds	4 min, 15 sec (255 sec)
Exit Delay (See Note 2)	218, 219	seconds	4 min, 15 sec (255 sec)
Entry Delay 1 (See Note 2)	220, 221	seconds	4 min, 15 sec (255 sec)
Entry Delay 2 (See Note 2)	222, 223	seconds	4 min, 15 sec (255 sec)
Burglary Time-Out (See Notes 1&3)	224, 225	minutes	4 hr, 15 min (255 min)
Relay Time-Out	226, 227	minutes	Untimed (See Note 4)
Fire Zone Time-Out	228, 229	minutes	Untimed (See Note 4)
Chime Duration	230, 231	1/4 seconds	Untimed (See Note 4)
Timer Offset	250, 251	hours	23 hr (See Note 5)

NOTES:

1. If both locations are left blank, this feature will not activate (time-out = 0).
2. If both locations are left blank, Exit Delay = 60 seconds; Entry Delay = 30 seconds.
3. Burglary Time-Out must be at least 4 minutes for UL installations.
4. If both locations are left blank, this feature will remain active until system is disarmed. (Chime may be reset using Key [9]; however if a time is programmed, it cannot be reset and must time out.) If both locations are programmed "F", maximum time = 4 hours, 15 minutes (255 minutes); or 63.75 seconds (255 quarter-seconds) for Door-Chime Duration.
5. If left blank and *Test Timer* selected, will report immediately on power-up.
6. In the State of California, do not program a time-out for fire alarms.

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

1st BOX	2nd BOX
tx1	tx16

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 time-out.																

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

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

Example 1. Program Entry Delay 1 for 1-1/2 minutes.

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

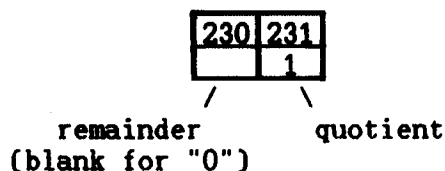
220	221
0	5

/ \
 remainder quotient
 (0 for "10")

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

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

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



3. Check entries (remember, a blank entry = "0"): $0 + 16(1) = 16$.

TouchTone Dialing (Location 178)

TouchTone/Rotary Backup (Location 178)

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

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

Trouble

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

Trouble on a Burglary Zone will be indicated by a sounder beep upon arming (does not apply to selective- or group-shunted zones). If auto-shunt has been removed from a Burglary Zone, that zone will go into alarm on arming. Note that if the zone is Exit/Entry, it will go into alarm after exit-delay and entry-delay times have elapsed.

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

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

Two-Digit Format See Data Format

User Program Code (Locations 238-243)

A code, entered to access the User Program Mode, that allows an authority to program User Codes and the Service Code (see **GETTING UP AND RUNNING - Programming User Codes**). The default User Program Code is 1,2,3,4,5,6, however this code must be changed to preserve system security. Enter the 3- to 6-digit User Program Code starting in location 238. Also see **HOLD-DOWN FUNCTION KEY [8]**.

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

User 5 Arm Only (Location 078)

User 5 Report as User 1 (Location 078)

User 5 Service Code (Location 079)

To restrict User Code 5 as an "arm-only" code (for single-digit easy arming), program a "4" in Location 078. (Do not program User 5 Service Code.) Also see **Ambush Code: Easy Arming**.

To enable User Code 5 as a Service Code, program a "1" in Location 079 (see Section 5: Service Code). For the Service Code to report, it must report as User 1 ("8" in Location 078).

Watch Mode

Watch On With Group Shunt See Group Shunt

This feature activates all Day Zones simultaneously. The Watch Mode, if programmed, is enabled by group shunting (pressing Key [S] twice) even if no zones are programmed for Group Shunt. See **Group Shunt**.

Zone Restore See Restore Report

Normally, Control-Panel Restore is programmed for a zone in order to send a restore report to the central station. The report will be sent when either the zone is repaired or the panel is disarmed. If the restore report is to be sent *only* when the zone is repaired, Zone Restore should be selected (also program Control-

Panel Restore). It is recommended that Auto Reset and Priority or Priority with Bypass also be selected for proper operation. See Restore Report.

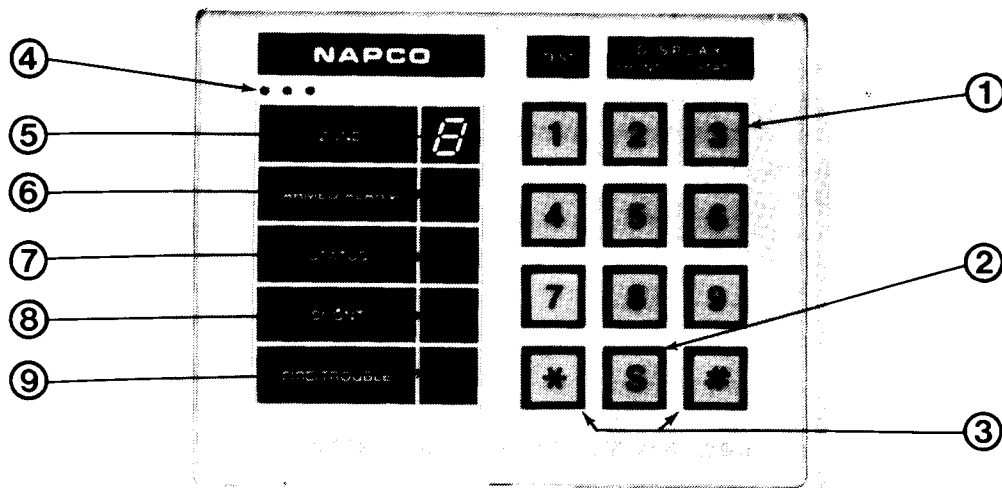
24-Hour Protection (Locations 198, 199)

A zone that provides protection at all times, whether or not the system is armed. Neither the green STATUS nor the red ARMED/ALARM LED will indicate the condition of a zone programmed for 24-Hour Protection, however an alarm condition will be recorded by Alarm History (see **HOLD-DOWN FUNCTION [8]**).

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4. CONTROLS & INDICATORS



RP-854 Keypad (optional). Operation with other keypads may differ somewhat (see instructions accompanying keypad in use).

NOTE: Circled numbers below are keyed to those in the photo above.

REGULAR FUNCTIONS

① Numerical Keys [1] through [9]. Used to enter Arm/Disarm Code(s) and to select zones to be shunted. Also have special Hold-Down Functions as described in **HOLD-DOWN FUNCTIONS**.

② Shunt Key [S]. Used to select zones to be shunted. Also has a special Hold-Down Function as described in **HOLD-DOWN FUNCTIONS**.

③ Panic Buttons [*] and [*]. Signal an immediate emergency when *both* buttons are pressed at the *same time*.

④ Sounder. Emits an audible tone whenever

- * a hold-down function has been accessed;
- * an attempt is made to arm the system when a zone is in trouble;
- * entry delay is in progress (to remind the user to disarm the panel);
- * a Day Zone is in trouble; or
- * an alarm or trouble exists on the Fire Zone.

A tone while disarmed indicates that someone has activated the chime feature.

A momentary beep when arming indicates that a zone is in trouble (does not apply to selective- or group-shunted zones).

A momentary beep shortly after arming (about 15 seconds to a minute, or so) indicates a central-station ringback if a closing report is programmed.

⑤ Digital Readout. Displays zone(s) in trouble, zone(s) shunted or zone(s) violated (Alarm History) when respective hold-down function is accessed. Displays "P" (with steady sounder beep) if an attempt is made to arm with a priority condition, or if a Day Zone trouble or ac-failure indication is not reset.

⑥ Top Red ARMED/ALARM LED. Glows steadily to indicate that the system is armed. A slow flash when armed warns that at least one non-24-Hour Zone was in alarm (display violated zone(s) on readout). A rapid flash indicates that the system is armed with Instant Protection (Hold-Down Function 4).

⑦ Green STATUS LED. Glows steadily to indicate that all zones that are not shunted are operating properly and the system may be safely armed. A slowly-flashing LED warns that one or more zones is in trouble. (Hold down Key [3] to display troubled zones on the digital readout.) A rapidly-flashing LED signifies a Day-Zone trouble.

⑧ Yellow SHUNT LED. Glows steadily to indicate that one or more zones has been manually shunted, and that the system is only partially armed. (The shunted zones are displayed on the digital readout when the Display Shunt hold-down feature, Key [2], is depressed for about 2 seconds.)

⑥ ⑦ ⑧ All LEDs flashing together, along with a number displayed, indicates a system trouble condition. (See SYSTEM TROUBLE INDICATIONS.) The panel may be armed or status may be checked as follows: (1) Hold down Reset Key [9] until the function beep sounds to reset the flashing LEDs, then (2) enter the Arming Code. (Otherwise a "P" will appear on the display and the panel will not arm.) NOTE: All LEDs flashing rapidly (with sounder) indicates the Program Mode.

⑨ Bottom Red FIRE/TROUBLE LED. Flashes to indicate that the Fire Zone is in trouble; glows steadily to indicate an alarm.

HOLD-DOWN FUNCTIONS

In addition to its regular functions, the digital keypad provides a series of dual functions. Note that these functions are accessed by holding down the designated key for about 2 seconds, until a beep is heard from the sounder, and are thus known as "Hold-Down" functions.

Key [1] - Test. Momentarily sounds the burglar alarm. Instruct the user to make this test weekly.

Key [2] - Display SHUNT. Displays the zone(s) shunted on the digital readout. While holding down Key [2], note the number(s) displayed indicating the zone(s) shunted.

Key [3] - Display STATUS. Displays the zone(s) in trouble on the digital readout. While holding down Key [3], note the number(s) displayed indicating the zone(s) in trouble.

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 ARMED/ALARM 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. The Chime feature is programmable for any zone (1-8). When the zone is opened, the keypad will "chime" while disarmed. To enable the Chime feature, hold down Key [5] until it beeps. The duration of the chime is programmable.

Key [6] - Communicator-Confidence Test. Checks the telephone line for the presence of a dial tone. (This feature is applicable only to those systems programmed to communicate with a central station.)

Key [6] - Manual Download. Key [6] has a secondary hold-down function, used on-site by the installer to manually download data from a remote PC-compatible computer with PCI2000 interface and PCD2000 software. To initiate the data transfer, arm the panel, disarm, then hold down Key [6] until the sounder beeps. (The installer must be in contact with the computer operator, as a different procedure is initiated at the computer end.)

Key [7] - Fault Find. Sets all zones for the fastest loop response (7mS) while disarmed; also, causes the sounder to beep for 2 seconds when a zone in trouble is cleared. This feature aids the installer in locating "swingers" and assists the user in repairing zone troubles. Normal operation is restored by holding down Reset Key [9].

Key [8] - Program. After the User Program Code is entered, the User Program Mode is accessed for the purpose of entering, changing, or voiding User Codes. See Programming User Codes.

Key [9] - Reset. Functions as a general-purpose reset to

- * reset a Fire-Zone alarm/trouble indication;
- * reset a System-Trouble indication;
- * reset output-relay devices;
- * reset the Fault-Find mode;
- * bypass a troubled zone designated as a Priority-with-Bypass

Zone. See Priority Zone With Bypass in the glossary.

Key [S] - Alarm History. This will display (on the digital read-out) all alarm conditions that have occurred. While holding down Key [S], note the number(s) displayed indicating the zone(s) violated. After the system is rearmed, the previous alarm history will remain memorized unless automatically erased by a new alarm.

PROGRAMMING FUNCTIONS

The following keypad functions are active only in the Dealer Program Mode. Refer to Section 3: PROGRAMMING for details.

Key [1] - Prior Location. Moves back to the next lower location.

Key [2] - Next Location. Advances to the next higher

Key [3] - Next Location. Same as Key [2].

Key [4] - Data Up. Selects the data for the chosen location: numbers 1-9, 0, and letters b, C, d, E and F, in ascending order.

Key [5] - Clear. Clears the data from the selected location.

Key [6] - Prior Location. Same as Key [1].

Key [7] - Data Down. Selects the data for the chosen location: numbers 1-9, 0, and letters b, C, d, E and F, in descending order.

Key [8] - Exit. All LEDs will light. Enter Dealer Program Code within 10 seconds to verify code and exit.

Key [S] - Set Location. Enter the three-digit location number to be programmed.

5. GETTING UP AND RUNNING

Refer to the Operating Guide for the MA1010LKDL (OI130, supplied) for detailed operating instructions.

POWER-UP SEQUENCE

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

USER KEYPAD PROGRAMMING

Programming User Codes

NOTE: (1) The User Program Mode is disabled for the first three minutes after power-up. See Power-Up Delay. (2) The factory-programmed User Program Code is 1,2,3,4,5,6; similarly, User 1's Code is 1,2,3. Both of these codes must be reprogrammed to preserve system security.

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

To program a User Code,

1. Hold down Key [8] until the sounder beeps, then enter the User Program Code. When the User Program Code has been entered, the top three LEDs on the keypad will flash and the sounder will beep rapidly, indicating the User Program Mode.
2. Now enter up to five codes using any combination of up to four digits (numbers 1 through 9 only) as follows:
Press [S] then [1] then [any 4 digits] = first user's code
[S] then [2] then [any 4 digits] = second user's code
[S] then [3] then [any 4 digits] = third user's code
[S] then [4] then [any 4 digits] = fourth user's code
[S] then [5] then [any 4 digits] = fifth user's code*
*May be programmed as a Service Code.
3. To exit the User Program Mode, press [S] *twice*.

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

Service Code

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

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

Changing or Voiding a Code

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

1. Hold down Key [8] until the sounder beeps.
2. Enter the User Program Code (LEDs flash; sounder beeps).
3. Press [S] then [3] then [4 new digits] = User 3's new code.
4. Press [S] *twice* to exit User Program Mode.

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

1. Hold down Key [8] until the sounder beeps.
2. Enter the User Program Code (LEDs flash; sounder beeps).
3. Press [S] then [3] = User 3's code erased.
4. Press [S] *twice* to exit User Program Mode.

ARMING & DISARMING THE SYSTEM

When a User Code is entered into the keypad, the red ARMED/ALARM LED will either come on, indicating that the panel is armed; or go off, indicating that the panel is disarmed. If a wrong code is entered, the system will fail to respond. Wait at least 2 seconds before attempting to re-enter a code.

ALARM RESET

Disarm the control panel to silence a sounding device.

AMBUSH ZONE

The Ambush Zone may be accessed by the user by entering his

Ambush Code just prior to disarming. Thus, should he be forced to disarm by an assailant, the user can silently signal an emergency while appearing to be merely disarming the system. The Arm/Disarm Code must be entered less than 10 seconds after the Ambush Code for an ambush report to be transmitted. The Ambush Zone is a "report-only" zone.

KEYPAD PANIC

The Keypad Panic Zone is accessed by simultaneously pressing the two Panic Buttons (Keys [*] and [#]) on the keypad, or remote panic buttons wired to the keypad, and may be programmed to send a silent alarm to a central station, activate an audible alarm, or both. Note that the [*] and [#] keys on the keypad must be pressed at the same time to activate Keypad Panic. See Panic Zone in the GLOSSARY.

COMMUNICATOR-CONFIDENCE TEST

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

NOTE: Do not arm and disarm the panel just before making this test.

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

FAULT FIND

When the Fault-Find mode is accessed (Key [7]), two things occur:

- a. the loop response of all zones is preset to 7mS (fastest loop response), and
- b. clearing a zone in trouble causes the sounder to beep for about 2 seconds.

This set of conditions aids both installer and user. The installer, tapping and poking at suspect points, can easily locate swingers by listening for the beep. Similarly, the user can confirm the repair of a zone in trouble by listening for the beep, and thus eliminate the need of returning to the keypad to visually check after each attempt.

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

SYSTEM TROUBLE INDICATIONS

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

1: Ac Failure

Indicates loss of ac power. The Ac-Failure indication will clear when ac power is restored.

2: Low Battery

Displays when battery terminal voltage drops below 11.5 volts (nominally). The system trouble display will be cleared and a restore reported when (a) the battery terminal voltage has returned to its restored level and (b) the keypad is reset using Hold-Down Function 9.

3: Failure to Communicate

Indicates and unsuccessful transmission to the central station. If the panel is armed, disarm. Hold down Key [9] to reset the keypad, then hold down Key [6] to test the phone lines. If the test is successful, the display will clear; otherwise it will return, indicating a need for service. A successful communication followed by a Hold-Down [9] Reset will also clear the display.

4: Auto-Download Failure

Indicates failure of a Function-6 Auto-Download. Reset the display by holding down Key [9], then try again to auto-download the program.

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