



**NAPCO**

**MAGNUM ALERT-725  
ALARM CONTROL PANEL  
AREA ARM MODULE**

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*(SEE PAGE 34 FOR A SUMMARY OF CHANGES FROM PREVIOUS EDITION)*

# 1. INTRODUCTION

## GENERAL DESCRIPTION

The MAGNUM ALERT-725 is a microcomputer-based four-zone commercial and residential alarm control panel with provisions for Keypad Panic. The entire system will fit into a standard double-gang box (or a NAPCO RPB-2 Junction Box) and contains an integral multifunction digital keypad and a partially-programmed PROM (programmable read-only memory) integrated circuit.

The MA-725 may be used in either of two ways. It can function as a complete alarm system for home or office when complemented by an accessory power source and communicator (optional). Or, when connected to a 24-Hour Zone of a larger system, it may serve as an area arming (and disarming) device to provide isolated protection of (or access to) only a part of that system. Typical applications are found in factories, warehouses, shopping malls, multiple dwellings, etc.

Three outputs are available; one may be selected to sound an alarm device; two others are available for connection to an optional external communicator, a larger control center, or other devices. A NAPCO PS-412 Power Supply (optional) will operate up to 8 MA-725s; the PS-412BAT (optional) includes an RBAT4 battery.

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

- \* arm and disarm the system (up to 4 different codes)
- \* check the status of each zone,
- \* check which zones were violated after an alarm,
- \* temporarily shunt one or more zones,
- \* report a panic alarm (if used with a communicator),
- \* cancel entry delay,
- \* reset a Day Zone,
- \* bypass a Priority-with-Bypass Zone, and
- \* reset or turn the Door Chime feature on/off

Three LEDs and a Mini-Sounder on the keypad provide visual and audible system and individual-zone status information. Numerical keys provide the following secondary "hold-down" functions (see Section 2):

- Key [1] - Alarm Test
- Key [2] - Alarm History (indicates last alarm condition)
- Key [3] - STATUS LED Flashing off/on
- Key [4] - Instant Alarm (cancels entry delay)
- Key [5] - Door Chime on/off
- Key [9] - Reset Door Chime & Day Zone; bypass Priority Zone with Bypass
- Key [8] - Display shunted zones

The PROM is programmed for the particular installation to establish its specific alarm features.

## FEATURES

### Protection Zones

- \* Four zones plus Keypad Panic.
- \* Programmable for Exit/Entry Delay and Exit/Entry Follower.
- \* Burglary Zone options include:

- Priority or Priority with Bypass
- Manual Selective or Group Shunting
- 24-Hour Protection
- Day Zone Supervision
- Auto Reset
- Preprogrammed Auto Shunt, removable
- 50mS or 7mS Loop Response Options (normally 750mS)

### Alarm Outputs

- \* Three Programmable Timed Alarm Outputs:

- One Relay Output
- Two Logic Outputs

- \* Mini-Sounder on Alarm

### Keypad Functions

- \* Digital Keypad permits:

- Arm/Disarm Code Selection of up to 4 codes, up to 4 digits each
- Digital Code Entry to arm/disarm system
- Selective and Group Shunt Selection
- Panic Zone Activation
- Hold-Down Function Access

- \* LEDs display:

- Alarm State (armed/disarmed) (ARMED/MEMORY)
- Zone Status (STATUS)
- Zones Shunted (SHUNT)
- Alarm History (ARMED/MEMORY)

- \* Mini-Sounder indicates:

- Entry Delay in progress
- Entry Door Opened while Disarmed (Door Chime)
- System Armed with a Zone in Trouble
- Day Zone in Trouble
- Arming with a Zone Auto-Shunted
- Zone in Alarm (optional)

## SPECIFICATIONS

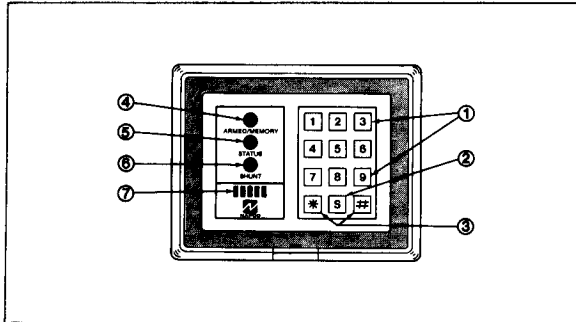
Input Power:	12-14Vdc from PS-412 or control center Auxiliary Output
Loop Voltage:	10 to 13Vdc
Loop Current:	6mA each (approx.) at zero resistance
Alarm Output 1:	Normally-open relay contacts, 2A/24Vdc resistive
Alarm Outputs 2 & 3:	Logic output, active low with jumper removable 1k $\Omega$ end-of-line resistor for use with end-of-line resistor supervised control centers
Control-Center Standby Current:	150mA
Remote Stations:	1 (RP-1003H)
Current Requirements:	30mA (Remote Power) + Mini-Sounder (9mA)
Additional Mini-Sounder Output:	20mA maximum
Zone Resistance:	300 $\Omega$ max. series resistance per loop;
Dimensions:	4-3/8"H x 5-1/2"W x 2-1/2"D
Shipping Weight:	12 oz.

## ORDERING INFORMATION

MA-725	Alarm Control Panel with integral keypad & DD494HS PROM
DD494HS	Partially-Programmed PROM Chip
DD-1484	4-Zone Digital Communicator
DD-1486	6-Zone Digital Communicator
PS-412	Power Supply, 13.8Vdc, 1.25A
PS-412BAT	Power Supply, 13.8Vdc, 1.25A with RBAT4 Battery
RBAT4	Rechargeable Battery, Sealed Lead-Acid, 12Vdc, 4AH
RBAT6	Rechargeable Battery, Sealed Lead-Acid, 12Vdc, 6AH
RP-1003H/HB	3-LED Remote Digital Keypads with Panic Alarm, Zone Shunting Button and Mini-Sounder. The RP-1003H has a hinged front panel; the RP-1003HB is brown.
RPB-2	Double Gang Box
SNP-428	Mini-Sounder
OI110	Operating Guide
PF154	Programming Record Sheets, 100/pad
PRO-410/410M	PROM Programmer

## 2. OPERATION

### CONTROLS & INDICATORS



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

#### Regular Functions

① Numerical Keys [1] through [9]. Used for entering arm/disarm code(s) and for selecting zones to be shunted. Also have special Hold-Down Functions as described in **Hold-Down Functions**.

② Shunt Key [0]. Used for selecting zones to be deactivated. 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 Red ARMED/MEMORY LED. Glows steadily to indicate that the system is armed. A flashing LED when armed warns that the Control Center was in an alarm condition. It can also indicate which zones were violated (also see **Hold-Down Functions**).

⑤ Green STATUS LED. Glows steadily to indicate that all zones are operating properly and the system may be safely armed. A flashing LED warns which non-24-Hour Zone(s) are in trouble (see **Hold-Down Functions**).

⑥ Yellow SHUNT LED. Glows steadily to indicate that one or more zones have been shunted and that the system is only partially armed. The LED can flash to indicate which zones have been shunted (see **Hold-Down Functions**).

⑦ Mini-Sounder. Sounds an audible tone whenever

- \* 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.

A momentary beep when arming indicates that a zone is being auto-shunted.

RUN/LOAD Switch (behind flip-up panel, not shown). Used to load the user arm/disarm codes. This switch is set to the LOAD position when entering personal codes (refer to **Loading Personal Codes**). The switch must be returned to the RUN position after all codes have been entered to resume alarm operation. The system will not operate if the switch is in the LOAD position, or if the pink and green wires in the W2 cable are not tied together.

**NOTE:** A remote DISABLE/LOAD switch (optional) may be installed for high-security installations. See **GLOSSARY**.

### 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 sounds from the Mini-Sounder, and are thus known as *hold-down* functions.

Key [1] - Test. This will momentarily sound the bell or siren connected to Output 1. A weak alarm may indicate the need for battery replacement. *Instruct the user to make this test weekly.*

Key [2] - Alarm History. This will flash the red ARMED/MEMORY LED to indicate all alarm conditions that have occurred. While holding down Key [2], count the number of flashes to determine the zone(s) violated. After the system is rearmed, the previous alarm history will remain in alarm memory until automatically reset by a new alarm condition.

Key [3] - STATUS Flashing Off/On. This will stop the STATUS LED flashing. To turn STATUS flashing back on, hold down Key [3] again.

Key [4] - Instant Protection. This will cancel the exit/entry delay periods before arming. This feature is utilized to sound an instant alarm on intrusion through the Exit/Entry Zone(s). If used after arming, only the entry delay will be cancelled. When selected, the ARMED/MEMORY LED will flash rapidly. Exit/entry delay is automatically reinstated on disarming.

Key [5] - Door Chime Off/On. If Zone 1 is selected as the regular entry door, the Mini-Sounder will beep upon entry while disarmed. To enable the Door-Chime feature, hold down Key [5] until it beeps. The duration of the beep is programmable.

Key [9] - Reset. This key is used to reset Door Chime, reset a Day Zone, or bypass a troubled zone programmed as Priority-with-Bypass. See Priority Zone With Bypass in the glossary.

Key [S] - Display SHUNT. This will flash the yellow SHUNT LED to indicate the zone(s) shunted. Holding down Key [S], count the number of flashes to determine the zone(s) shunted.

### POWER-UP SEQUENCE

1. Before applying power, align the dot on PROM with the dot on the circuit board and plug in the PROM.
2. Connect dc power from the auxiliary output of the host control center or from the PS-412/412BAT.
3. Load user codes as described below.

### PERSONAL CODES

#### Loading Personal Codes

Up to four different personal arm/disarm codes may be loaded into the panel using the digital keypad. To program these codes, proceed as follows.

Flip up the top panel. Insert a small screwdriver into the hole between the red and green LEDs and slide the RUN/LOAD switch to the right (LOAD position). If installed, set the DISABLE/LOAD switch to LOAD as well. The three LEDs on the keypad will flash rapidly and the Mini-Sounder will beep. On the keypad, enter any combination of up to four digits (there is no zero) 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

**CAUTION:** When the MA-725 is used as an area arm module, do not duplicate any arm/disarm code used in the host control center.

After all user codes have been entered, return the RUN/LOAD switch to the left (RUN position). (If applicable, return the remote DISABLE/LOAD switch to DISABLE.) *Remember:* the system will not operate with the RUN/LOAD switch (or the DISABLE/LOAD switch) in the LOAD position.

**NOTE:** It is not necessary to assign all four codes.

The number selected becomes the only code 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.

## Changing or Voiding a Code

Changing any user's code is accomplished using the foregoing procedure and simply changing the 4-digit combination. Thus, to change User 3's, code:

1. Set the RUN/LOAD switch (and the DISABLE/LOAD switch, if used) to LOAD (LEDs flash; Mini-Sounder beeps).
2. Press [S] then [3] then [4 new digits] = User 3's new code.
3. Return the switch(es) to RUN (and DISABLE).

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

1. Set the RUN/LOAD switch (and the DISABLE/LOAD switch, if used) to LOAD (LEDs flash; Mini-Sounder beeps).
2. Press [S] then [3] = User 3's code erased.
3. Return the switch(es) to RUN (and DISABLE).

## ARMING & DISARMING THE SYSTEM

When a personal code is entered into the keypad, the red ARMED/MEMORY 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 the code.

If the system fails to respond to the correct code, as may occur after an extended power failure, all personal codes have been erased and the Fallback Code must be utilized to arm and disarm.

## PANIC ZONE

The Panic Zone is accessed by simultaneously pressing the two Panic Buttons (Keys [\*] and [#]) on the keypad. The panel or communicator to which the MA-725 is connected may be programmed to send a silent alarm to a central station (optional), activate an audible alarm, or both.

**NOTE:** The [\*] and [#] keys must be pressed *at the same time* to activate the Panic Zone.

Refer to **Keypad Panic** in the glossary and on the Programming Record Sheet for programming instructions.



#### PROGRAMMING MATERIALS

**Subscriber PROM.** The partially-programmed DD494HS PROM (integrated-circuit) supplied with the panel becomes a subscriber PROM when programmed with the selected features and communicator information required for the installation. The PROM is programmed on a NAPCO PRO-410/410M Programmer. After programming, the subscriber PROM is plugged into the PROM socket on the panel circuit board.

**Glossary.** Detailed programming instructions are contained in the **Glossary & Programming Data** section of this manual. Glossary entries are listed in alphanumeric order, not in order of PROM location; PROM locations follow entry where applicable.

**Programming Record Sheet.** A Programming Record Sheet similar to that which follows is completed when planning system features for the particular installation. This sheet is used when programming the subscriber PROM and should be retained for future reference.

#### PROGRAMMING STEPS

1. Complete the Programming Record Sheet. A reference record sheet for the MA-725 is furnished later in this section. Select the desired features by circling the respective "location" boxes. Refer to the **GLOSSARY** for guidance in selecting "data" entries.

2. To program the subscriber PROM, follow the instructions furnished with the PRO-410/410M Programmer. Note, however, the PAGE switch on the programmer. Factory-programmed data are contained on PROM Page 1, programmable data on Page 0; thus the PAGE switch is normally set to [0]. The PAGE 1 position is used only to alter factory-programmed data in order to accommodate special applications. It is not necessary to copy a NAPCO Master PROM onto the DD494HS PROM supplied with the system. The DD494HS PROM already contains the master information preprogrammed on it. Plug the partially-programmed DD494HS PROM into the PRO-410/410M [SUBSCRIBER] PROM socket.

**CAUTION:** Before attempting to alter preprogrammed data on Page 1, be sure that all Page 0 data in memory are erased (press [ERASE], then [EXECUTE]). Except for the Page-1 location being programmed, there should be nothing in memory. After programming Page 1, return the PAGE switch to [0] and erase the memory to continue programming.

3. Program the data entries in the boxes on the Programming Record Sheet into the respective PROM locations. The PRO-410/410M Programmer digitally displays the entries, but will display "0" for the number "10", and the letters "b", "C", "d", "E", and "F" for the numbers "11" through "15", respectively. To program a "10", press [0]. To program "11" through "15", either

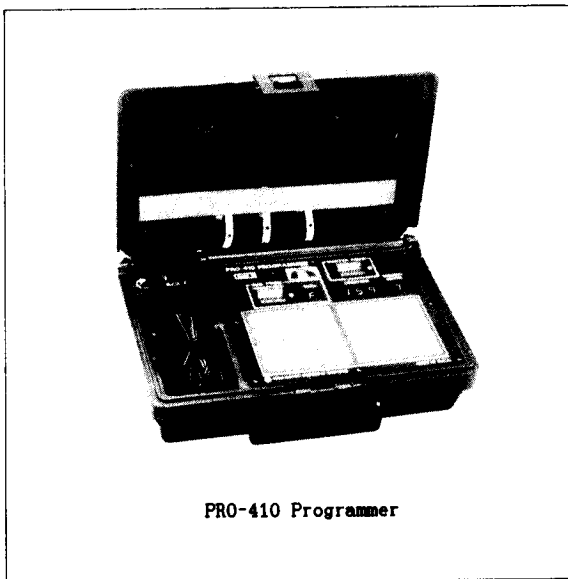
press [b] through [F] respectively, or use the [PLUS] key to enter any two (or more) digits that add up to the desired entry.

Entry Total	10	11	12	13	14	15
Display	0	b	C	d	E	F

Thus, to program "13", 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 entered digit will *replace* the digit in memory.

Refer to the PRO-410/410M instruction manual for further programming details.

4. Complete the AREA PROTECTED section of the MA-725 Installation Record Label (supplied), then peel off the adhesive covering. Raise the hinged front control panel and affix the label to the subpanel near the lower-left corner of the keypad.



PROGRAMMING RECORD SHEET FOR MAGNUM ALERT-725



FEATURE	ZONE				
	1	2	3	4	PAN
DAY ZONE	142	142	142	142	143
PRIORITY WITH BYPASS <sup>(2)</sup>	144	144	144	144	145
PRIORITY	146	146	146	146	147
REMOVE AUTO-SHUNT <sup>(2)</sup>	148	148	148	148	149
SELECTIVE SHUNT	150	150	150	150	151
GROUP SHUNT	152	152	152	152	153
24-HOUR PROTECTION	154	154	154	154	155
AUTO-RESET	156	156	156	156	157
SWINGER SHUTDOWN	158	158	158	158	159
EXIT/ENTRY ZONE	160	160	160	160	161
EXIT/ENTRY FOLLOWER	162	162	162	162	163
ALARM OUTPUT 1 RELAY	166	166	166	166	167
ALARM OUTPUT 1 PULSING RELAY <sup>(2)</sup>	168	168	168	168	169
ALARM OUTPUT 2 LOGIC	170	170	170	170	171
ALARM OUTPUT 3 LOGIC	172	172	172	172	173
MINI-SOUNDER ON ALARM	174	174	174	174	175
7mS LOOP RESPONSE <sup>(4)</sup>	176	176	176	176	177
50mS LOOP RESPONSE <sup>(4)</sup>	178	178	178	178	179
INPUT POLARITY	180	180	180	180	181
AUTO-RESET AFTER ALARM TIME-OUT	132	2			
DISABLE BELL TEST	132	8			
EASY-ARM WITH KEY [8]	133	2			

TIME EXAMPLE CHART		
(seconds or minutes)		
TIME	1st BOX	2nd BOX
5	5	NONE
15	F	NONE
30	E	1
45	d	2
60	C	3

EXIT	ENTRY	DELAY TIME (seconds)
184	185	

188	189	TIME-OUT (minutes)

190	191	TIME-OUT (minutes)

173	192	193	TIME-OUT (minutes)
8			

OPENINGS/CLOSINGS ON OUTPUT 3<sup>(4)</sup>

200	201	DOOR-CHIME TIME <sup>(4)</sup> (1/4 seconds)

181	COME UP ARMED AFTER POWER FAILURE
8	

FALLBACK CODE			
196	197	198	199

PROGRAMMING NOTES:

- For Keypad Panic, select 24-HOUR PROTECTION and 50mS LOOP RESPONSE.
- If programming PRIORITY WITH BYPASS, do not program REMOVE AUTO-SHUNT.
- Do not use to trip a control-center or communicator zone.
- If programmed, ALARM OUTPUT 3 may not be used for any other purpose. Do not program TIME-OUT locations 192, 193.
- If neither 7mS nor 50mS is programmed, LOOP RESPONSE will be 750mS.
- Example: For 2 seconds, program an "8" into location 200.

CUSTOMER:
ADDRESS:
DATE:

Alarm History

Hold-Down Key [2]. This will flash the ARMED/MEMORY LED to indicate all alarm conditions that have occurred. Count the number of flashes to determine zone(s) violated. After the system is rearmed, the previous alarm history will remain in alarm memory until automatically reset by a new alarm condition.

Alarm Outputs (Locations 166-173)

The MA-725 has three outputs: one relay output for a local alarm-sounding device and two logic-level outputs for connection to a communicator or host control center. Output 3 may be programmed to report Openings and Closings (see Openings/Closings on Output 3). The following table summarizes wiring and programming for signalling an alarm in typical installations. See Time Selection for time-out durations.

Output	Wiring to W1 cable	Output Locations	Time-out Locations	Remarks
Output 1, N/O Relay	Siren/Bell to WHT & GRY	166, 167	188, 189	See NOTE 1
Output 1, Pulsing Relay	Siren/Bell to WHT & GRY	168, 169	188, 189	See NOTE 2
Output 2, Logic	Host/Communicator to PINK	170, 171	190, 191	See NOTE 3
Output 3, Logic	Host/Communicator to BLK	172, 173	192, 193	See NOTE 4, 5
<b>NOTES:</b>				
1. For +12Vdc at Output 1 (gray lead), splice brown lead to N/O contact (white).				
2. Do not use to trip a host-panel or communicator zone.				
3. If connected to a control center without end-of-line-resistor supervision, cut Jumper A to remove internal EOL resistor. Bend cut jumper inward to prevent shorting to box.				
4. If connected to a control center without end-of-line-resistor supervision, cut Jumper B to remove internal EOL resistor.				
5. If used to report Openings and Closings, Output 3 may not be used for any other purpose.				

Alarm Time-Out (Locations 188, 189; 190, 191; 192, 193)

Alarm Time-Out specifies the number of minutes that the alarm will signal before shutting down. If any timed output is selected, the respective Alarm Time-Out must also be programmed. See Time Selection.

Auto-Reset (Locations 132; 156, 157)

If a zone signals an alarm and is selected for auto-reset, it will automatically rearm itself as soon as the alarm condition is

cleared. If the zone activates an alarm output with a programmed time-out period, auto-reset may be set to occur after the time-out period. To delay auto-reset until after the alarm times out, program a "2" in location 132. Also see **Swinger Shutdown**.

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

**Auto-Shunt Zone** See Remove Auto-Shunt

**Closing Report** See Openings/Closings on Output 3

**Come Up Armed After Power Failure** (Location 181)

When an "8" is programmed into location 181, the control panel will return in an armed state when ac is restored after a lengthy power failure. Note that the Fallback Code will be required to disarm and reprogram user codes. See **Fallback Code**.

**Day Zone** (Location 142)

A zone programmed to cause visual and audible indication at the keypad if the zone's loop has an abnormal open condition. This feature may be used to warn of trouble during the day, when the control center 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 number of the zone in trouble, and the Mini-Sounder will sound steadily. Hold down Reset Key [9] to reset the Mini-Sounder.

**Disable Bell Test** (Location 132)

Program an "8" into location 132 to prevent unauthorized persons from sounding the bell or siren. If something other than an alarm sounding device will be connected to Output 1, select this feature.

### **DISABLE/LOAD Switch**

Where there is free access to the panel, a hidden DISABLE/LOAD switch may be required to prevent unauthorized programming or alteration of user codes. Install a single-pole, single-throw switch (a keyswitch is preferred) in a location known only to the authorized user. Wire one side of the switch to the green (W2) wire on the A2 board (the board directly behind the keypad), and the other side to the pink (W2) wire (see NOTE 1). When the switch is open (DISABLE), the system will be in the *RUN* mode. To enter, change, or void a code, both the RUN/LOAD switch on the panel and the DISABLE/LOAD switch must be closed (LOAD position). Either switch must be returned to the *RUN* mode to resume alarm operation.

**NOTE:**

1. If a DISABLE/LOAD switch is *not* installed, splice the green and pink wires (in the W2 cable) together *and insulate*.
2. For convenience, the RUN/LOAD switch behind the front panel may be permanently left in the RUN position, and codes loaded using only the DISABLE/LOAD switch (set to LOAD). In this case, set the RUN/LOAD switch on the subpanel to RUN and cover the RUN/LOAD label on the panel with the blank label supplied. Instruct the user to load codes using the DISABLE/LOAD switch.

**Door Chime** (Zone 1)

This annunciator feature may be used on the regular entry door while disarmed to sound a beep at the keypad upon entry. Press hold-down function Key [5] until it beeps to enable or disable the Door Chime. Chime duration is programmable (locations 200, 201) in units of 1/4 seconds. See **Time Selection**. Hold down Reset Key [9] to reset a lengthy Door-Chime beep.

**Easy-Arm with Key [8]** (Location 133)

Permits quick arming by momentarily depressing Key [8] once. To select this feature, program a "2" in location 133. Disarming will still require entry of the complete personal code.

**Exit/Entry Delay** (Locations 184-187)

Permits exit and entry through the Exit/Entry Zone (see location 180) after the system is armed without setting off an immediate alarm. Exit delay allows the user to leave the premises after the control panel has been armed. Entry delay allows the user time to enter and disarm the control panel. Upon entering, the Mini-Sounder will issue a steady tone to remind the user to disarm the control panel.

Exit-Delay time (locations 184, 185) and Entry-Delay time (locations 186, 187) may each be programmed for up to 255 seconds (4-1/4 minutes). See **Time Selection**. With no programming, exit delay will be 60 seconds; entry delay will be 30 seconds.

Entry delay may be cancelled by holding down function Key [4] (Instant Alarm) prior to arming; it will be automatically restored upon disarming.

**Exit/Entry Follower** (Location 162)

A zone that will ignore detection during the exit delay, and only during entry delay if the Exit/Entry Zone is entered first. Thus, detection devices (passive infrared detectors, for example) along the path between the keypad and the exit/entry door will not signal an alarm during exit/entry delay under normal condi-

tions. However, if a device in the Exit/Entry Follower Zone detects a violation when the exit/entry door has not first been entered, there will be no entry delay and the Exit/Entry Follower Zone will go into an instant alarm.

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

#### Fallback Code (Locations 196-199)

After a lengthy power outage (longer than about 4 hours), all user codes may be erased. Should this occur, the system will fail to respond to any personal code, but will respond to the 4-digit Fallback Code that is programmed into PROM locations 196-199 until the personal codes can be restored. The Fallback Code will only function when all personal codes have been lost. To prevent unauthorized entry using the Fallback Code, user codes should be restored as soon as possible.

#### Group Shunt (Location 152)

Removal of a preset 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 control panel is disarmed, all shunted zones will automatically revert back to active (disarmed) zones.

When group shunting is selected, the yellow SHUNT LED on the panel will light. The zones shunted may be confirmed by holding down Display Shunt Key [S]. When the sounder beeps, the yellow LED will start to flash. Holding down Key [S], count the number of flashes to determine the zone(s) shunted.

#### Input Polarity (Location 180)

Standard MA-725 zone polarities are as shown in the Wiring Diagram. To change the polarity of any zone (that is, to change a normally-open zone to normally-closed, or vice versa), program entries according to the following table.

Zone-----	1	2	3	4
Location----	180	180	180	180
Entry-----	1	2	4	8

Jumpers (A, B) See Alarm Outputs

### Keypad Panic (Zone 5)

To utilize the Keypad Panic feature, program the Panic Zone for 24-Hour Protection ("1" in location 155) and 50mS Loop Response ("1" in location 179). If used with a host control center/communicator, program the host to Report on Alarm.

Keypad Panic is accessed by pressing the two Panic Buttons (Keys [\*] and [#]) simultaneously, activating the digital communicator to alert the central station of an emergency. Both buttons must be pressed together.

### Loop Response (Locations 176-179)

Loop response is the amount of time, in milliseconds (mS), that a normally-closed circuit must remain open, or a normally-open circuit must remain closed, to trigger an alarm. The slower the loop response, the more immune the system will be to an intermittent circuit activation ("swinger").

Selectable loop-response times are:

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

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

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

Opening Report See Openings/Closings on Output 3

Openings/Closings on Output 3 (Location 173)

If used with a communicator (or host control center containing a communicator), Alarm Output 3 may be programmed to report openings and closings to a central station. To select this feature, program an "8" in location 173. Do not program TIME-OUT locations 192 and 193. In the host panel or communicator, program Alarm Codes for closings and Restore Codes for openings for the zone to which the MA-725 is connected.

**NOTE:** If this feature is selected, Alarm Output 3 may not be used for any other purpose.

Panic Zone See Keypad Panic

Priority Zone (Location 146)

A zone that will prevent arming if in trouble. If an attempt is made to arm, the Mini-Sounder will sound continuously but will be



silenced on 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 (Location 144)

A Priority Zone that will permit arming if the priority condition is bypassed by means of Reset Key [9]. If the system is so programmed, the zone will auto-shunt.

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.

#### Relay Output See Alarm Outputs

#### Remove Auto-Shunt (Location 148)

All zones are preprogrammed for Auto-Shunt, and will be bypassed (automatically shunted out) if faulty 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 by programming.

**NOTE:** If auto-shunt is removed from a faulty zone that is not programmed for Priority arming (location 148), that zone will cause an alarm on arming. If programming Priority With Bypass, do not program Remove Auto-Shunt.

#### Selective Shunt (Locations 150, 151)

Removal of one particular zone from the system. Any or all zones programmed for selective shunt may be removed from the system, but each must be removed separately (see Group Shunt).

Selective shunting is accomplished by pressing Shunt Key [S] followed by the zone number prior to arming. When the control center is disarmed, all shunted zones automatically revert back to active (disarmed) zones.

#### Swinger Shutdown (Location 158)

To prevent "swingers" (intermittents) from causing repeated false alarms, Zones 1 through 4 with Auto-Reset will only reset twice (3 alarms) until rearmed. See Auto-Reset.

#### Time Out See Alarm Time-Out; Time Selection

## Time Selection

The following times are programmable:

Time	Locations	Units	Max. Programmable Time
Exit Delay (See NOTE 1)	184, 185	seconds	4 min, 15 sec (255 sec)
Entry Delay (See NOTE 1)	186, 187	seconds	4 min, 15 sec (255 sec)
Alarm Output 1 Time-Out (See NOTE 2)	188, 189	minutes	4 hr, 15 min (255 min)
Alarm Output 2 Time-Out (See NOTE 3)	190, 191	minutes	4 hr, 15 min (255 min)
Alarm Output 3 Time-Out (See NOTE 3)	192, 193	minutes	4 hr, 15 min (255 min)
Door-Chime Duration (See NOTE 4)	200, 201	1/4 seconds	63.75 sec (255 qtr sec)

NOTE: Without programming (both locations *blank*),

1. Exit Delay will be 60 seconds; Entry Delay will be 30 seconds.
2. Alarm Output 1 will not activate.
3. Alarm Output 2 & 3 will remain active until the system is disarmed.
4. Door Chime will remain active until reset or until the system is disarmed.

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.

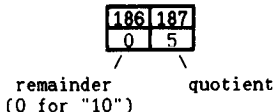
To select a time up to 15 seconds, 15 minutes, or 15 quarter-seconds (3.75 seconds), program the respective entry into the first box only; do not program the second box. To select a time greater than 15 seconds, 15 minutes, or 15 quarter-seconds, program both boxes as follows:

1. For the feature selected, choose an appropriate time in basic units (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 an Entry Delay of 1-1/2 minutes.

1. Entry Delay time (locations 186, 187) 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:

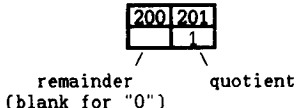


3. Check entries (remember, a "0" entry = "10"):  $10 + 16(5) = 90$ .

**Example 2.** Program the Mini-Sounder to sound a Door "Chime" for 4 seconds.

1. Chime-Time duration (locations 200, 201) 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"):  $0 + 16(1) = 16$ .

### **Trouble**

An abnormal zone condition (a short in a normally-open loop, a break in a normally-closed loop).

Trouble on a Burglary Zone will be indicated by a Mini-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.

Trouble (open circuit) on a Day Zone (normally closed) will be indicated by a flashing green STATUS LED and a pulsing Mini-Sounder; the Mini-Sounder is reset by holding down Key [9].

### **24-Hour Protection** (Locations 154, 155)

A zone that provides protection at all times, whether or not the system is armed. Neither the green STATUS nor the red ARMED/MEMORY 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 [2].

**MOUNTING**

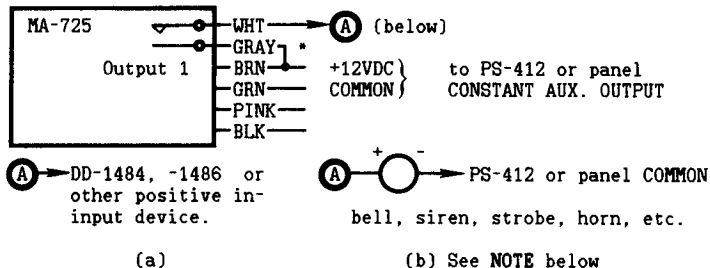
The MA-725 was designed to fit into a standard double-gang box (or a NAPCO RPB-2 Junction Box) for recessed mounting into a wall. If a remote keypad will be used, mount it near the exit/entry door. Since the MA-725 may be connected to existing equipment, it may then be located in a place more accessible to system wiring, if necessary. If the system does not call for a remote keypad, locate the MA-725 in the vicinity of the exit/entry door at a height convenient for daily use. At the chosen location, install either a standard double-gang box or a NAPCO RPB-2 Junction Box using traditional mounting methods. Remove appropriate knockouts for wiring from other system components.

**WIRING**

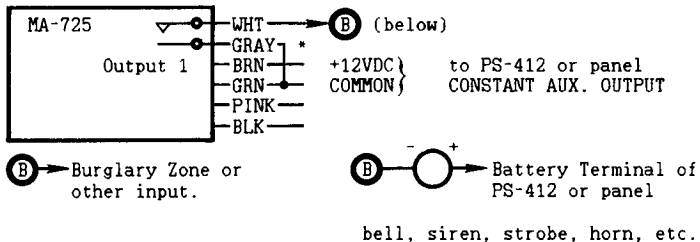
**Output-Relay Wiring (Output 1)**

Output 1 consists of normally-open relay contacts. These contacts may be used to control devices that cannot be used with "pull-down" Outputs 2 and 3.

Obtaining positive output on alarm. Use the following diagram to (a) trip a DD-1484 or DD-1486, or other device requiring a positive input; or (b) enable a local bell, siren, strobe, horn, etc.



Obtaining a pull-down output. Use the following configuration to (a) trip an additional Burglary Zone on a panel, or (b) to enable other devices requiring a pull-down.



(a)

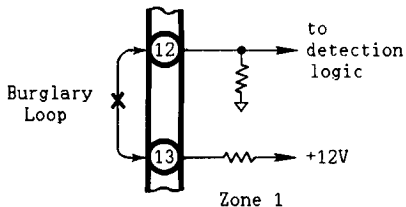
(b) See NOTE below

**\*NOTE:** When using contacts to trip a bell, siren, strobe, horn, etc., connect the gray wire to the common (-) terminal of the PS-412 Power Supply or panel. Do *not* power these devices from the CONSTANT AUX. OUTPUT or splice to the green wire. Power them *directly from the power supply or battery.*

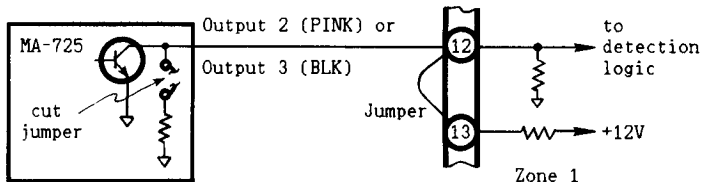
### Zone Wiring Theory (Outputs 2 and 3)

Wiring to a Normally-Closed Zone, Normally High (MA-800, -800S; MA-825, -825HS Zones 1 and 3 Typical)

Detection logic normally sees a *high*, and sees a *low* when loop is broken.



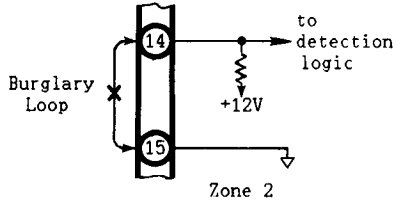
When using the MA-725:



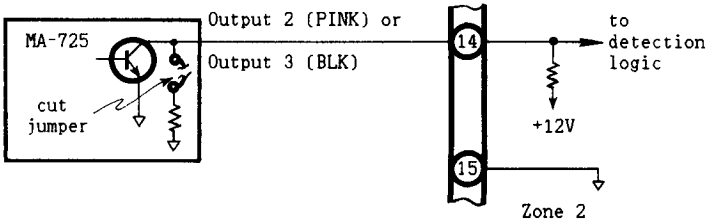
As above, detection logic normally sees a *high*, but goes *low* when MA-725 is in alarm (transistor turns on).

**Wiring to a Normally-Closed Zone, Normally Low (MA-800, -800S; MA-825, -825HS Zones 2 and 4 Typical.)**

Detection logic normally sees a *low*; sees a *high* when loop is broken.

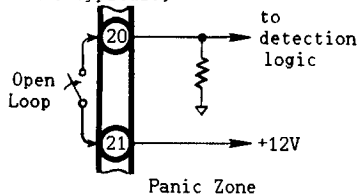


The zone must be programmed as Normally Open so that it sees a *high* when used with the MA-725.

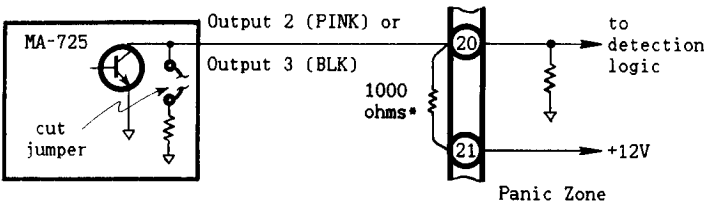


**Wiring to a Normally-Open Zone, Normally Low (MA-800, -800S; MA-825, -825HS Panic & Auxiliary Zones Typical.)**

Detection logic normally sees a *low*, and sees a *high* when the open-circuit device is closed.

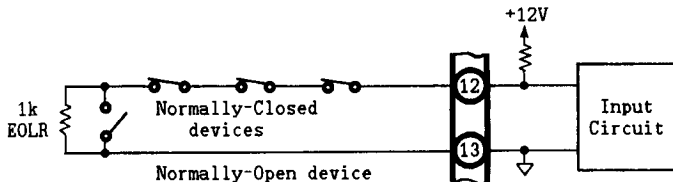


The zone must be programmed as Normally Closed so that it sees a *high*.



\*Required to pull Terminal 20 up to a logic *high*.

**Wiring to an End-of-Line-Resistor Zone. (MA-850, MA-900 Burglary Zones Typical.)**

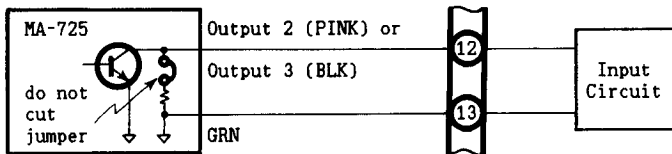


**Typical End-of-Line-Resistor Zone, MA-850 Terminals 12 and 13.**

Refer to the illustration above. On a Burglary Zone, an open in a normally-closed device will remove the end-of-line resistor, which normally forms part of a voltage divider. This causes the voltage across the zone input terminals to increase beyond the upper limit of the voltage detector, causing an alarm condition.

When a normally-open device is shorted, the voltage at the zone input terminals is reduced to virtually zero, well below the lower limit of the voltage detector, similarly causing an alarm condition. When MA-725 Output 2 or 3 is connected across the zone, an alarm in the MA-725 will produce a short across the terminals, effecting the same result.

When wired to end-of-line-resistor zones, Jumper A and/or B must be left intact so that the MA-725 provides its own end-of-line resistor.



**MA-725 connected to an end-of-line-resistor zone**

**Power-Supply Wiring**

The MA-725 may be wired in either of two ways to obtain power from a host panel or a PS-412 Power Supply.

**Home-Run Wiring.** In this, the recommended method, the power leads of each MA-725 are connected directly to the power source. Measure the distance between each MA-725 and the host panel or PS-412, then use the following table to determine the proper size wire to use.

Distance	Wire Size
up to 200'	#22 AWG
up to 300'	#20 AWG
up to 500'	#18 AWG

When using a local sounding or lighting device (bell, strobe, etc.), the wire size necessary for connection to battery and ground is dependent upon the device current and distance. Use the following table as a guide.

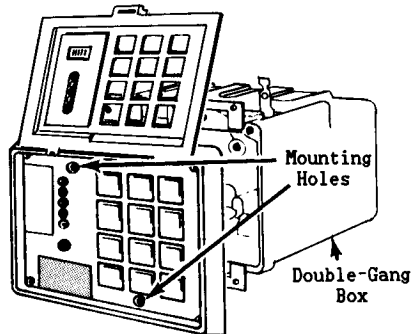
Device Current	For distances	
	up to 200', use Wire Size	up to 500', use Wire Size
up to 150mA	#22 AWG	#18 AWG
150 - 250mA	#20 AWG	#16 AWG
250 - 400mA	#18 AWG	#14 AWG
400 - 600mA	#16 AWG	#12 AWG

**Daisy-Chain Wiring.** In this configuration, wires that are common to all MA-725s are "chained" together, one to the next. Should you choose this method, determine the total current required for all the MA-725s ("Device Current"), measure the overall distance (the length of the "chain"), then select the wire size from the table above. Use home-run wiring for output devices.

All zone and output connections are spliced to the W1 ribbon cable. When connecting zone inputs, wire as shown in the wiring diagram; *do not wire between zones*. A remote keypad and/or DISABLE/LOAD switch (if used) is spliced to the W2 cable (see Wiring Diagram). (**CAUTION:** Reversing W1 and W2 leads may result in damage to the MA-725.) Connections may be made outside the box. With careful wiring, insulating, and positioning, however, connections can fit *inside* the box. To do so, trim ribbon cable to 6 inches or less and make connections to the panel by soldering and taping or using *small* wire nuts or insulated crimp connectors. If necessary, stagger connections to minimize bunching at entry knockout. Stuff wires back into the box, positioning them so as to allow clearance for the circuit board.

Raise the front panel. Manipulate the MA-725 into place so that the subpanel is positioned over the junction box. Secure the subpanel to the box with two #6 screws, then lower the front panel. Refer to the illustration at right.

**NOTE:** The four corner subpanel holes shown may be used for flush mounting directly into the wall.



After mounting is completed, peel off the clear vinyl sheet protecting the front panel. Complete the Installation Record Label and remove the adhesive covering on the back. Raise the front



panel and affix the label to the subpanel at the lower-left corner, as shown by the shaded area in the illustration above.

### TYPICAL SYSTEM CONFIGURATIONS

Shown in the following pages are typical system wiring diagrams. These particular configurations have been selected as they represent a variety of applications that best utilize the key features of the MA-725. The table below summarizes MA-725 connections to various NAPCO control centers.

Host Panel	Host Zone	Host Terminal	Program <sup>(1)</sup> Zone For	Remarks
MA-800, -800S; MA-825, -825HS  (Cut MA-725 Jumpers A & B)	Zone 1	12 (-)	--	Short 12 to 13 for (+)
	Zone 2	14 (+)	N/O	--
	Zone 3	16 (-)	--	Short 16 to 17 for (+)
	Zone 4	18 (+)	N/O	--
	Zone 5 (Pan) <sup>(2)</sup>	20	N/C	Add 1k res. across 20-21.
	Zone 6 (Aux) <sup>(2)</sup>	22	N/C	Add 1k res. across 21-22.

Host Panel	Host Zone	MA-850 Terminal	MA-900 Terminal
MA-850; MA-900 <sup>(3)</sup>  (Do not cut MA-725 Jumpers A & B)	Zone 1	12	13
	Zone 2	14	15
	Zone 3	15	16
	Zone 4	17	18
	Zone 5	18	19
	Zone 6	20	21
	Zone 7	21	22
	Zone 8	11 (Supv)	24
	AUX. 1	--	27
	AUX. 2	--	29

#### NOTES:

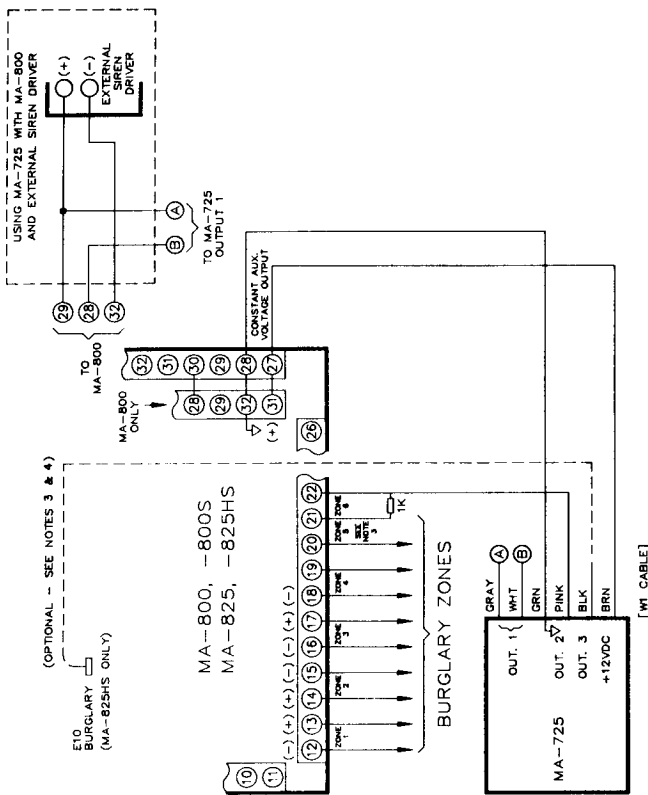
1. See Input Polarity in Installation Instructions.
2. Panic/Aux is sacrificed if zone is used for the MA-725.
3. Fire/Supervisory Zone may not be used (alarm causes activation of keypad Fire/Supervisory LED and sounder).
4. For all host panels: Program MA-725 zone(s) to Report on Alarm and for 24-Hour Protection.
5. If MA-725 is installed on a Swinger-Shutdown Zone with Auto-Reset, use only with active host panel (armed and disarmed at least daily).  
 MA-825HS: Do not program Swinger Shutdown.  
 MA-850: Zones 1 through 6  
 MA-900: Zones 1 through 8
6. MA-725 Output 2 = pink; Output 3 = black [W1 Cable].

MA-725 CONNECTIONS TO VARIOUS TYPES OF INPUT ZONES IN MA-800, -800S; MA-825, -825HS; MA-850 AND MA-900.

NOTES:

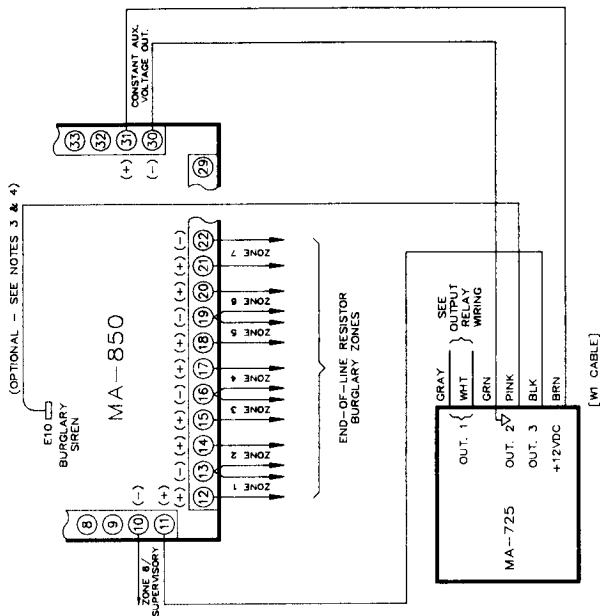
1. PROGRAM HOST-PANEL ZONE(S) TO TRIP THE MA-725 HERE FOR 24-HOUR PROTECTION, REPORT ON ALARM, AND AUTO-RESET. PROGRAM AS NORMALLY-CLOSED ZONES (SEE INPUT POLARITY IN HOST-PANEL INSTALLATION MANUAL).
2. CUT MA-725 JUMPERS A AND/OR B WHEN USED ON ANY ZONE INPUT OR ON MA-825HS BURG-LARY LUG E10.
3. CONVERT ZONE 5 TO NORMALLY CLOSED FOR USE AS AN ADDITIONAL BURG-LARY ZONE. INVERT POLARITY IN HOST-PANEL INSTALLATION MANUAL.
4. IF THE MA-725 IS WIRED TO A HOST ZONE TO TRIP THE HOST SOUNDING DEVICE, SILENCE THE DEVICE BY DISARMING THE HOST PANEL.

IN THE MA-825HS, THE MA-725 CAN TRIP THE SOUNDING DEVICE DIRECTLY WHEN IN ALARM BY SHORTING ZONE 5 TO GROUND. TO DO THIS CONFIGURE ZONE 5 TO SILENCE THE SOUNDING DEVICE BY DISARMING THE MA-725.



EXAMPLE 1. ONE MA-725 CONNECTED AS AN AREA ARM MODULE TO AN MA-800, MA-800S, MA825, OR MA-825HS. HOST PANEL SUPPLIES POWER, SIREN DRIVER\* AND COMMUNICATOR.

\*NOT IN MA-800, SEE INSERT AT UPPER RIGHT.



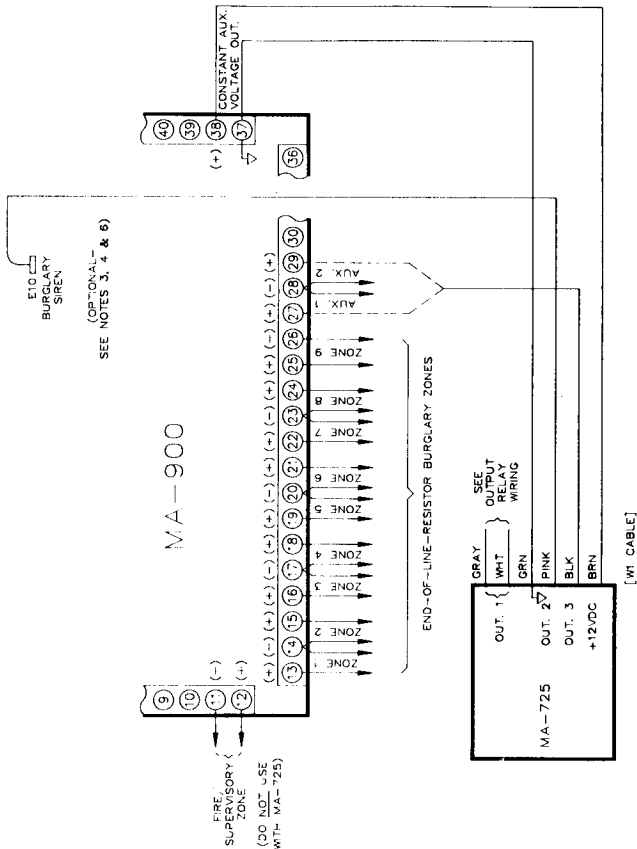
NOTES:

1. PROGRAM MA-850 ZONE(S) CONNECTED TO MA-725 FOR 24-HOUR PROTECTION, REPORT ON ALARM, AND AUTO RESET.
  2. DO NOT INSTALL AN END-OF-LINE RESISTOR ON ANY ZONE CONNECTED TO AN MA-725.
  3. WHEN USING OUTPUT 2 (OR 3) TO ENABLE SIREN, CUT MA-725 JUMPER B (OR A) IF USED TO TRIP ANY MA-850 ZONE, DO NOT CUT JUMPER.
  4. IF THE MA-725 IS WIRED TO A HOST ZONE TO TRIP THE HOST SOUNDING DEVICE, SILENCE THE DEVICE BY DISARMING THE HOST PANEL.
- IN THE MA-850, THE MA-725 CAN TRIP THE SOUNDING DEVICE DIRECTLY WHEN IN ALARM BY WIRING TO BURGALRY LUG E10. IN THIS CONFIGURATION, SILENCE THE SOUNDING DEVICE BY DISARMING THE MA-725.

EXAMPLE 2. ONE MA-725 CONNECTED AS AN AREA ARM MODULE TO AN MA-850. MA-850 SUPPLIES POWER, SIREN DRIVER AND COMMUNICATOR.

**NOTES:**

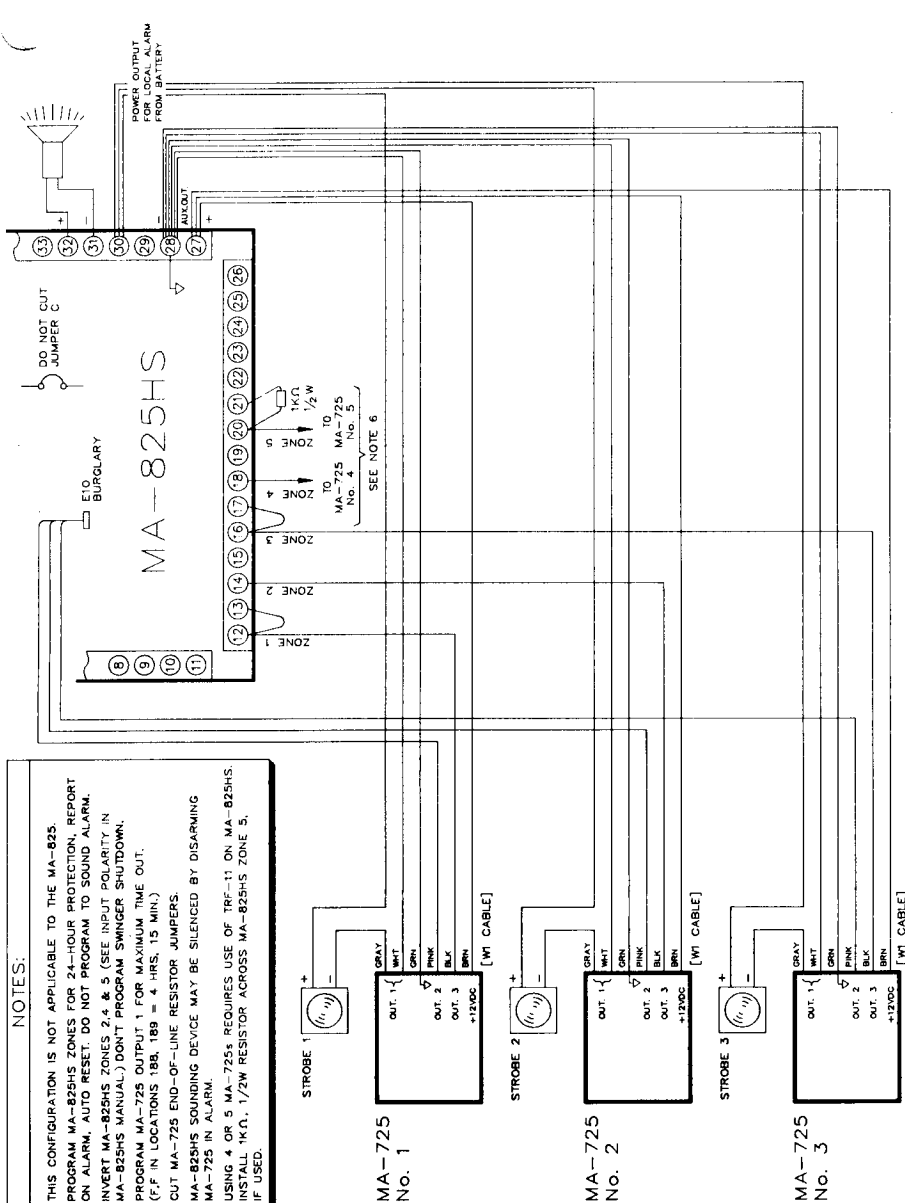
1. PROGRAM MA-900 ZONE(S) CONNECTED TO MA-725 TO REPORT ON ALARM.
2. DO NOT INSTALL AN END-OF-LINE RESISTOR ON ANY ZONE CONNECTED TO AN MA-725.
3. WHEN USING OUTPUT 2 (OR 3) TO TRIP SIREN AT BURGLARY LUG EIO, CUT MA-725 JUMPER B (OR A), IF USED TO TRIP ANY MA-900 ZONE, DO NOT CUT JUMPER.
4. IF THE MA-725 IS WRED TO AN MA-900 ZONE TO TRIP THE SOUNDING DEVICE, SILENCE THE DEVICE BY DISARMING THE MA-900.  
IN THE MA-900, THE MA-725 CAN TRIP THE SOUNDING DEVICE DIRECTLY WHEN IN ALARM BY WIRING TO BURGLARY LUG EIO. IN THIS CONFIGURATION, SILENCE THE SOUNDING DEVICE BY DISARMING THE MA-725.
5. USE OF MA-725 ON AUX. 1 OR AUX. 2 ZONE REPLACES PINK OR AMBUSH FEATURE, RESPECTIVELY.
6. TO USE MA-725 ON ZONES 1 THROUGH 8, PROGRAM REPORT ON ALARM, 24-HOUR PROTECTION AND AUTO-RESET, USE ON ACTIVE MA-900 ONLY (ARMED & DISARMED AT LEAST DAILY). SWINGER RESPONDER LEADERS WILL PERMIT AUTO REARMED (THEREAFTER, MA-725 WILL TRIP SIREN VIA BURGLARY LUG EIO, BUT NO REPORT WILL BE SENT).



EXAMPLE 3. ONE MA-725 CONNECTED AS AN AREA ARM MODULE TO AN MA-900. MA-900 SUPPLIES POWER, SIREN DRIVER AND COMMUNICATOR.

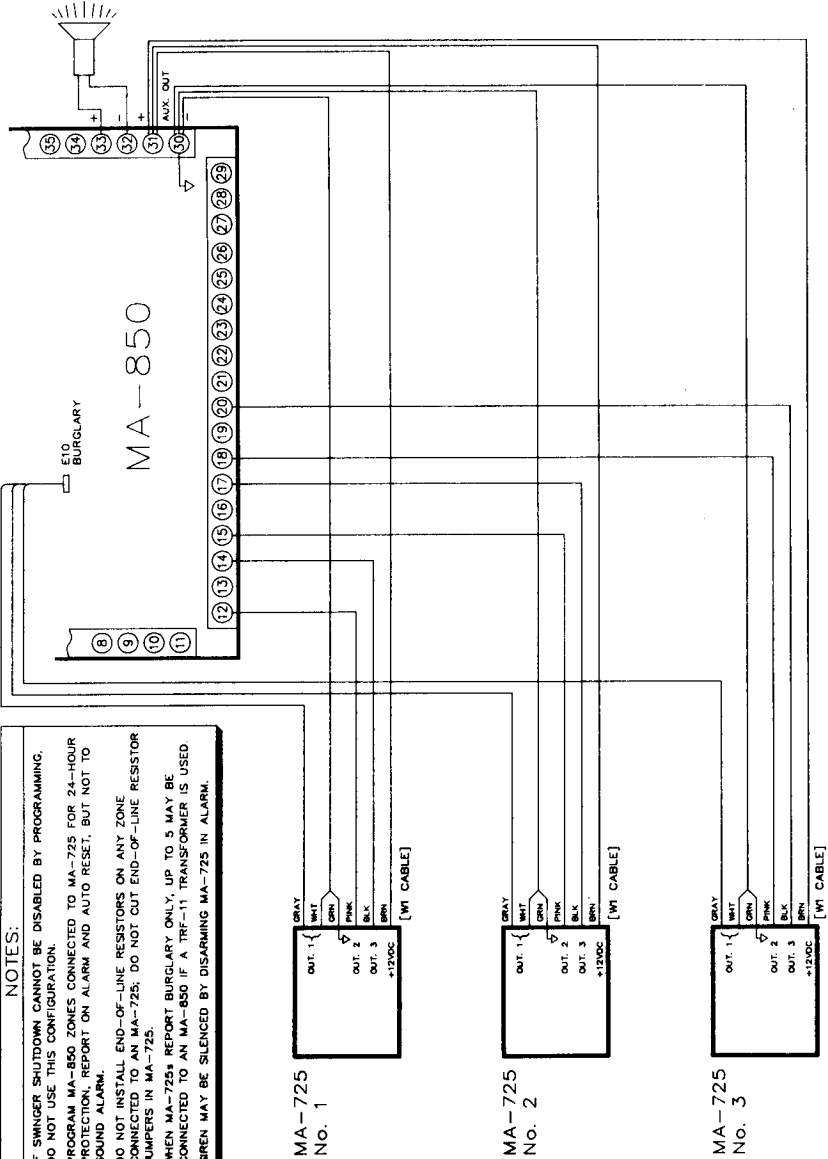
NOTES:

1. THIS CONFIGURATION IS NOT APPLICABLE TO THE MA-825.
2. PROGRAM MA-825HS ZONES FOR 24-HOUR PROTECTION, REPORT ON ALARM, AUTO RESET, DO NOT PROGRAM TO SOUND ALARM.
3. INVERT MA-825HS ZONES 2, 4, & 5 (SEE INPUT POLARITY IN MA-825HS MANUAL) / DON'T PROGRAM SWINGER SHUTDOWN.
4. PROGRAM MA-725 OUTPUT 1 FOR MAXIMUM TIME OUT. (F.P. IN LOCATIONS 188, 189 = 4 HRS., 15 MIN.)
5. CUT MA-725 END-OF-LINE RESISTOR JUMPERS.
6. MA-825HS SOUNDING DEVICE MAY BE SILENCED BY DISARMING MA-725 IN ALARM.
7. INSTALL 1KΩ, 1/2W RESISTOR ACROSS MA-825HS ZONE 5, IF USED.

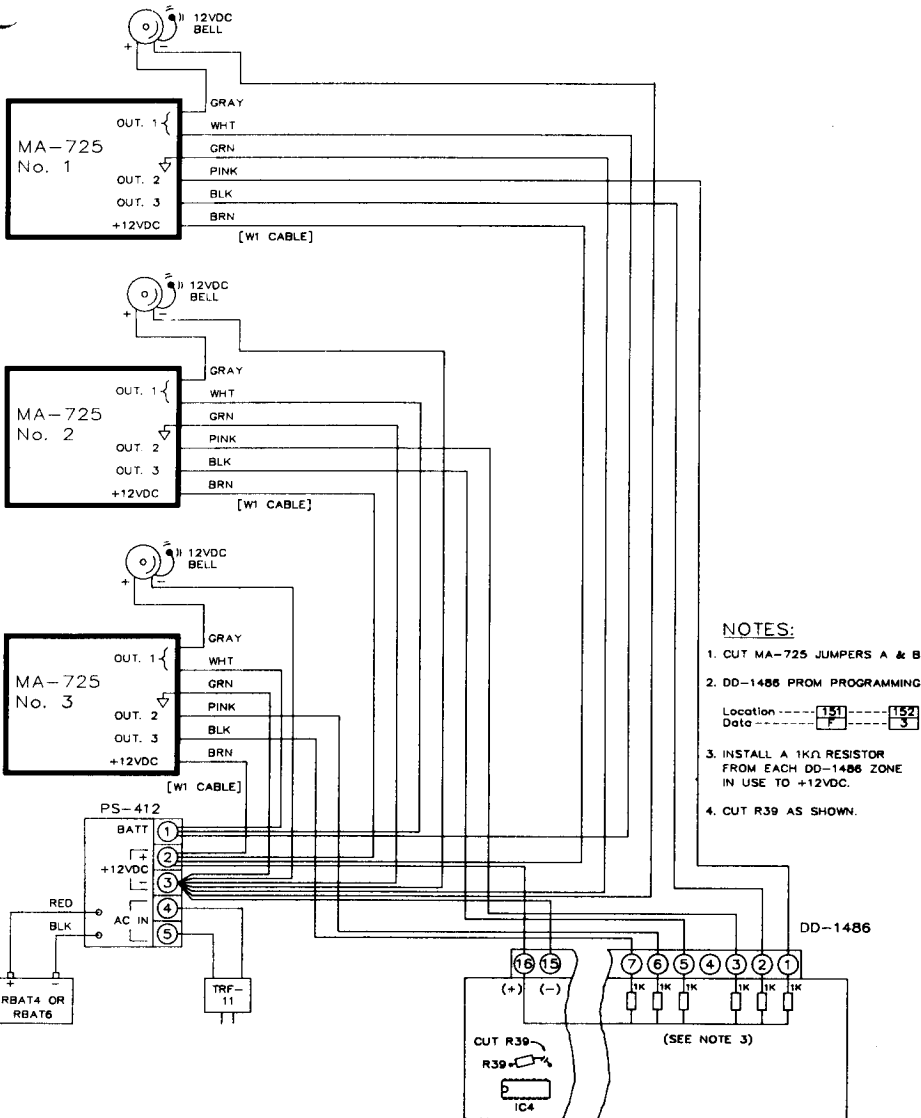


EXAMPLE 4. UP TO 5 MA-725s CONNECTED AS AREA ARM MODULES TO AN MA-825HS FOR COMMON POWER, COMMUNICATOR & SIREN DRIVER. STROBE IDENTIFIES MA-725 IN ALARM.

- NOTES:**
1. IF SWINGER SHUTDOWN CANNOT BE DISABLED BY PROGRAMMING, DO NOT USE THIS CONFIGURATION.
  2. PROGRAM MA-850 ZONES CONNECTED TO MA-725 FOR 24-HOUR PROTECTION, REPORT ON ALARM AND AUTO RESET, BUT NOT TO SOUND ALARM.
  3. DO NOT INSTALL END-OF-LINE RESISTORS ON ANY ZONE CONNECTED TO AN MA-725; DO NOT CUT END-OF-LINE RESISTOR JUMPERS IN MA-725.
  4. WHEN MA-725s REPORT BURGLARY ONLY, UP TO 5 MAY BE CONNECTED TO AN MA-850 IF A TRF-11 TRANSFORMER IS USED.
  5. SIREN MAY BE SILENCED BY DISARMING MA-725 IN ALARM.



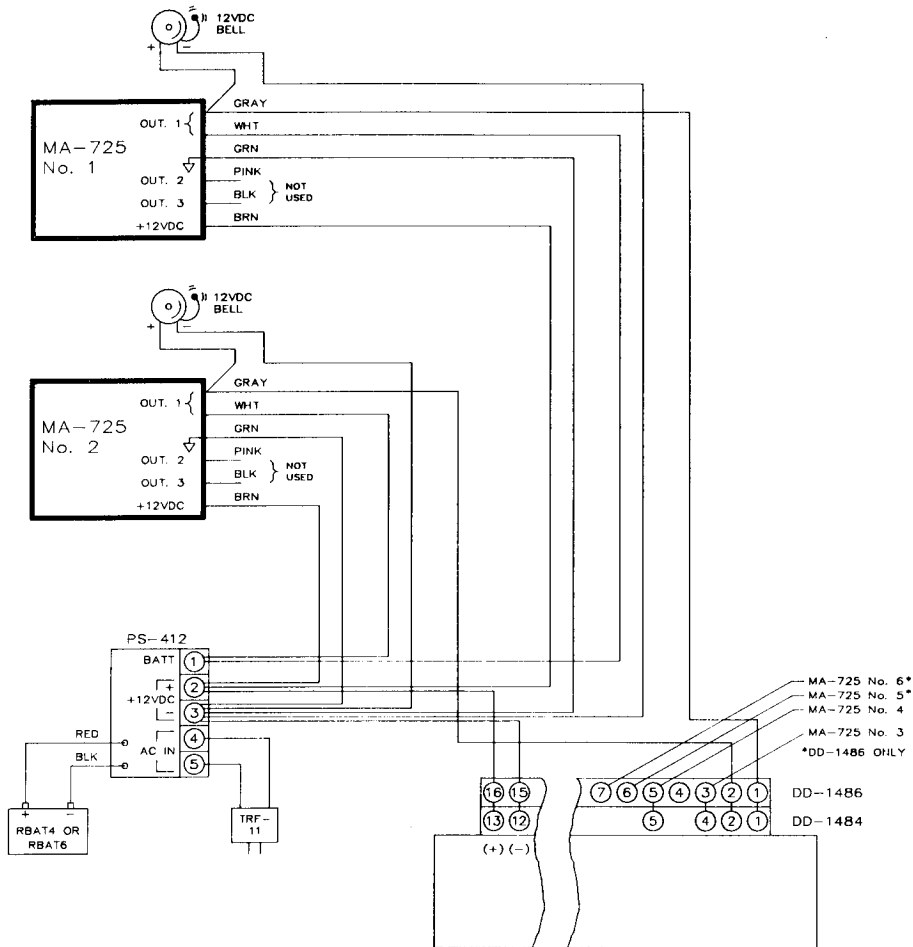
EXAMPLE 5. THREE MA-725s CONNECTED AS AREA ARM MODULES TO AN MA-850 FOR COMMON POWER, COMMUNICATOR AND SIREN DRIVER. EACH MA-725 REPORTS BURGLARY AND OPENINGS/CLOSINGS



**NOTES:**

1. CUT MA-725 JUMPERS A & B
2. DD-1486 PROM PROGRAMMING
3. INSTALL A 1KΩ RESISTOR FROM EACH DD-1486 ZONE IN USE TO +12VDC.
4. CUT R39 AS SHOWN.

EXAMPLE 6. UP TO 3 MA-725s CONNECTED AS LOCAL ALARMS TO A COMMON DD-1486 COMMUNICATOR USING ALL THREE MA-725 OUTPUTS. POWER IS FURNISHED BY A PS-412 12-VOLT POWER SUPPLY.



EXAMPLE 7. MA-725s CONNECTED AS LOCAL ALARMS TO A COMMON DD-1486 (MAX. 6) OR DD-1484 (MAX. 4) COMMUNICATOR USING MA-725 RELAY OUTPUT ONLY. POWER IS FURNISHED BY A PS-412 12-VOLT POWER SUPPLY.



<b>A</b>		<b>H</b>	
Alarm History (Key [2])	6, 12	Hold-Down Functions	6
Also see 24-Hour Protection	19		
Alarm Outputs	12	<b>I</b>	
Alarm Time-Out	12	Input Polarity	15
Also see Time Selection	18	Installation	20
Arm/Disarm (Personal) Codes	7	Installation Record	10, 24
Armed/Memory LED	5, 6	Instant Protection (Key [4])	6
Also see Alarm History	12		
24-Hour Protection	19	<b>J</b>	
Arming/Disarming	8, 10	Jumpers, see Alarm Outputs	12
Audible Test on Arming, see Test	6		
Auto-Reset	12	<b>K</b>	
Auto-Shunt Zone, see Remove Auto-Shunt	17	Keypad,	6
		Controls & Indicators	5
<b>B</b>		Functions	2, 3, 5, 6
b-F; 10-15, (How to Program)	9	Panic	8, 16
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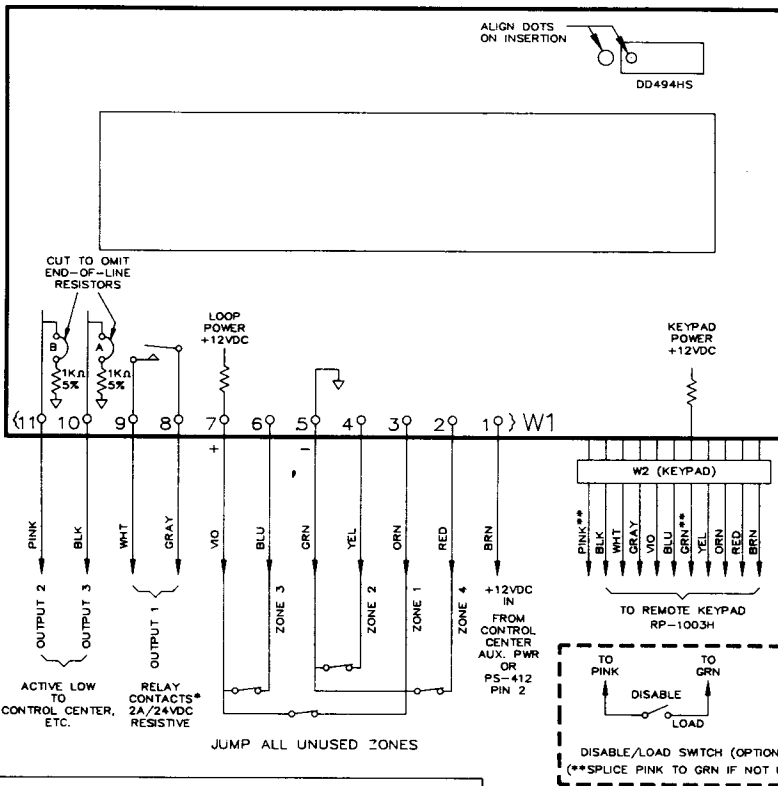
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### CHANGES FROM THE PREVIOUS EDITION

Summarized below are the changes made to this manual since the previous edition.

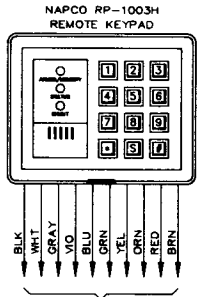
- Page 11:** PROGRAMMING SHEET - PULSING RELAY and NOTE 3 added. (Other notes rearranged to suit.)
- Page 12:** Alarm Outputs - Output 1 Pulsing Relay and Note 2 added to chart. (Other notes rearranged to suit.)
- Page 16:** Openings/Closings on Output 3 - text revised.
- Pages 20-23:** WIRING - detailed wiring information added.
- Pages 26-32:** TYPICAL SYSTEM CONFIGURATIONS - additional examples provided.
- Pages 33-34:** INDEX - revised.
- Page 35:** WIRING DIAGRAM - revised.

# MA-725 WIRING DIAGRAM



- POWER-UP SEQUENCE**
1. INSTALL PROM.
  2. CONNECT DC POWER.
  3. LOAD CODES

- TO LOAD CODES**
1. RAISE FRONT PANEL, SET RUN/LOAD SWITCH TO LOAD.
  2. ENTER UP TO 4 CODES (SEE TEXT).
  3. SET SWITCH TO RUN.
  4. LOWER FRONT PANEL ARM & DISARM.



- TO W2 CABLE**
- GRN - +12V
  - BLU - RED LED
  - VO - GREEN LED
  - GRAY - YELLOW LED
  - BLK - SOUNDER
  - WHT - PANIC (ZONE 5)

\*ISOLATED RELAY CONTACTS. FOR 12VDC AT GRAY, SPLICE WHT TO AUX. PWR. OR PS-412 PIN 1

## NAPCO LIMITED WARRANTY

NAPCO SECURITY SYSTEMS, INC. (NAPCO) warrants each of its products to be free from manufacturing defects in materials and workmanship for fifteen months following the date of manufacture. NAPCO will, within said period, at its option, repair or replace any product failing to operate correctly, without charge to the original purchaser or user.

This warranty shall not apply to any equipment or any part thereof which has been repaired by others, improperly installed, improperly used, abused, altered, damaged, subjected to accident, nuisance, flood, fire or acts of God, or on which any serial numbers have been altered, defaced or removed. Seller will not be responsible for any dismantling, reassembly or reinstallation charges.

In order to exercise the warranty, the product must be returned by the user or purchaser, shipping costs prepaid, and insured to NAPCO. After repair or replacement, NAPCO assumes the cost of returning products under warranty.

There are no warranties, express or implied which extend beyond the description of the face hereof. There is no express or implied warranty of merchantability or a warranty of fitness for a particular purpose. Additionally, this warranty is in lieu of all other obligations or liabilities on the part of NAPCO.

This warranty contains the entire warranty. It is the sole warranty and any prior agreements or representations, whether oral or written,

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NAPCO recommends that the entire system be completely tested weekly.

Warning: Despite frequent testing, and due to, but not limited to, any or all of the following; criminal tampering, electrical or communications disruption, it is possible for the system to fail to perform as expected. Therefore, the consumer is advised to take any and all precautions for his or her safety including, but not limited to, fleeing the premises and calling police or fire department, in order to mitigate the possibilities of harm and/or damage.

This warranty shall be construed in accordance with the laws of the State of New York.