MAESTRO-600 / MAESTRO-1000 CONTROL PANEL

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1. INTRODUCTION

Thank you for placing your trust in the **MAESTRO-1000** and **MAESTRO-600** control panels. You have chosen a sophisticated, user-friendly control panel designed to meet all of your technological, performance and security requirements.

The superior capabilities of the **MAESTRO-1000** and **MAESTRO-600** control panels are driven by leading edge hardware and software. Use of the most powerful RISC processors on the market, with built-in "analog-to-digital" converters and SMD technology, means our control panel requires 30-40% less components than any previous generation.

The reduced number of steps required to program these control panels increases the speed of installation and end-users can access most system features at the touch of just one key. A "streamlined programming" feature further simplifies the programming process, by saving data automatically and leading the installer through the programming addresses without the need to enter them manually.

Important advances have been made in **MAESTRO** control panel technology, which guarantee exceptional levels of false alarm protection. A full range of high-tech features dramatically reduces the frequency of false alarms. These easy to use tools include "Intellizone" definition, "Auto Zone Shutdown", "Beep On Exit Delay", "Programmable Delay before Alarm Transmission" and "Recent Closing" report.

Each control panel can be used to monitor two distinct security systems. Partitioning provides a practical and flexible solution in situations where combined systems are a necessity. Zones can be assigned to "System A", "System B", both systems or given no system assignment. **MAESTRO** panels can reduce set-up and reporting time by transmitting pre-programmed event codes and using high-speed communicator formats. Almost any control panel condition or event may be used to activate the **MAESTRO'S** programmable output (PGM). Once a panel status mode is selected for the PGM to follow, the polarity and duration of the output may also be programmed.

The **MAESTRO-1000** control panel includes the Advanced Technology Zoning (ATZ) feature, which was developed to permit connection of 2 zones on one zone input terminal, as well as providing wire fault recognition on both zones.

ATZ simplifies the task of meeting the zone requirements of any installation while reducing installation costs.

1.1 About This Manual

This manual will provide you with all the information you will need to understand panel operation, features and functions. Even if you are familiar with other security control panels, we recommend that you read this entire manual at least once to familiarize yourself with panel features and programming. For your convenience a *"Programming Guide"* is included in order to keep track of which addresses were programmed and how.

1.2 Features

MAESTRO-1000: 10 zones (4 onboard inputs w/ATZ = 8 zones + 2 keypad zones)

MAESTRO-600: 6 zones (4 onboard inputs + 2 keypad zones)

Common features

- Powerful 16-bit RISC processor with built-in analog to digital converters.
- User-friendly programming
- "False Alarm Prevention" features such as: Intellizones, Auto Zone Shutdown, Beep on Exit Delay, Programmable Delay Before Alarm Transmission, and Recent Closing Report.
- 2 Flexible Partitions (MAESTRO-1000 only)
- High-Speed Pre-Programmed or Programmable Communication Formats
- 256 Event Buffer with time and date stamp
- Fully Programmable Output (PGM)
- 48 User Codes, 1 Master Code, 1 Installer Code
- Telephone Line Monitoring (TLM)
- 3 panic alarms, activated via the keypad
- Regular Arming, "Home" Arming, "Double Home" Arming, "Away" Arming, "One-Key Regular Arming", "One-Key Home Arm", "One-Key" Exit & Re-arm, "Timed Auto Arming", "No Movement Auto Arming", Keyswitch or Pushbutton Arming

2. SPECIFICATIONS

Battery Charger: 360mA with dynamic Battery test.

Aux. Power: 400mA, Fuseless electronic shutdown at 1A, Automatic restore

Bell Out: 1A, Fuseless electronic shutdown at 3A, Automatic restore

AC input: 16.5 VAC, 40VA, 50 - 60Hz

PGM output: N.C. or N.O to ground, 50mA Max.

Serial Data Output: (1200, 1, N) for use with accessory modules (not UL systems).

3. INSTALLATION

3.1 Location & Mounting

Before mounting the cabinet, push the five white nylon-mounting studs into the back of the cabinet. The circuit board should not be mounted into the back of the cabinet, until all cables are pulled into the cabinet and prepared for connection. Select an installation site that is not easily accessible to intruders. Leave at least 2" around the panel box to permit adequate ventilation and heat dissipation. The installation site should be dry and close to an AC source, ground connection and telephone line connection.

3.2 Earth Ground

Connect the zone and dialer ground terminals from the control panel to the cabinet and cold water pipe or grounding rod as per local electrical codes.

FIGURE 1

To provide maximum lightning protection we strongly recommend having separate earth grounds for the dialer and zone grounds.
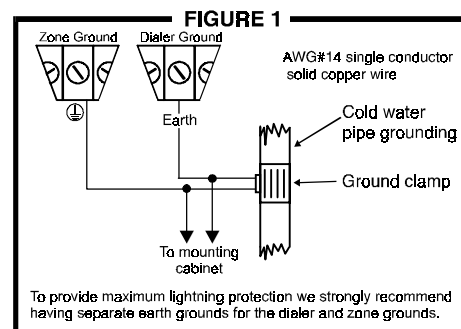
3.3 Power

3.3.1 AC Power

NOTE: *Initial setup and power-on must be performed while AC power is connected. The system will not operate with backup battery only, during initialization.*

Use a 16.5VAC (50-60Hz) transformer with a minimum 40VA rating to provide sufficient AC power.

FIGURE 2

Transformer
16.5VAC 40VA

Do not use any switch-controlled outlets to power the transformer. Connect the transformer as shown in fig. 2. After applying power to the control panel, it will perform a hardware verification. Once this is completed, the auxiliary power terminals will be enabled in order to power all accessories connected to its terminals, such as keypads and motion detectors. The control panel will then perform a battery test and re-instate the last system status (i.e. alarm, system armed, etc.). The control panel will then begin displaying the current system status (i.e. open/closed zones, troubles, etc.)

> **Caution:** *Do not connect the transformer or the back-up battery until all wiring is completed!*
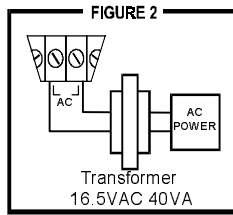
3.3.2 Back-up Battery

In case of power loss, connect a back-up battery. Use a 12VDC 7Ah rechargeable acid/lead or gel cell battery. Connect the back-up battery after applying the AC power. When installing verify proper polarity, as reversed connections will blow the battery fuse. Connect the "RED" battery lead to the positive battery terminal, and the "BLACK" battery lead to the negative battery terminal of the control panel as shown in fig. 3.

FIGURE 3

BATT
RED
BLK

RECHARGEABLE BATTERY

12VDC / 7AH
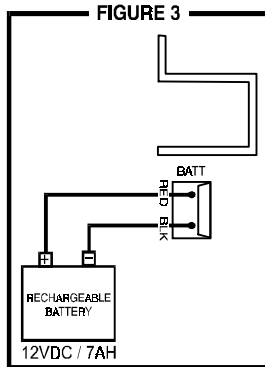
3.3.3 Auxiliary Power Terminals

The AUX+ and AUX- terminals on the control panel can provide a maximum of 400mA 12VDC. Use the auxiliary power supply to power the motion detectors, keypads and other accessories in your security system. Although, their combined current consumption should not exceed 400mA. The auxiliary supply is microprocessor-protected against current overload and automatically shuts down if the current exceeds 1A. Auxiliary power will resume once the overload condition has restored and within 1-60 seconds after performing the battery test.

3.3.4 Battery Test

The Control Panel conducts a dynamic battery test under load every 60 seconds. If the battery is disconnected, or its capacity is too low, the trouble indicator will illuminate on the keypad (red "**1**" indicator). The red **"1"** indicator also comes "on" if the battery voltage drops to 10.5 volts or less while the control panel is running on the back-up battery (no AC). At 8.5 volts, the panel shuts down and there is no outputs.

3.3.5 Keypad Function Test

We recommend conducting a "power-up" test on keypads installed far from the control panel. To do so temporarily connect the keypads close to the control panel and connect the transformer. After 10 seconds, begin entering random commands on the keypad and verify that the keypad "beeps" in response to these commands. Then open a zone to ensure that the keypad and the control panel are responding to these signals. If the keypad does not respond and indicator lights do not illuminate, verify that approximately 16VAC is present at the "AC" terminals. If AC is present, check the keypad wiring and verify there isn't a short between the "black" and "red" keypad wires. If the keypad does not respond, please contact your local distributor.

3.4 Telephone Line Connection

Connect the incoming telephone company wires into the tip and ring connections of the control panel. Then run the wires from t1 and r1 to the telephone system as shown in figure 4.

FIGURE 4

RING TIP R-1 T-1
RING TIP
N/U N/U
N/U N/U
R-1 T-1
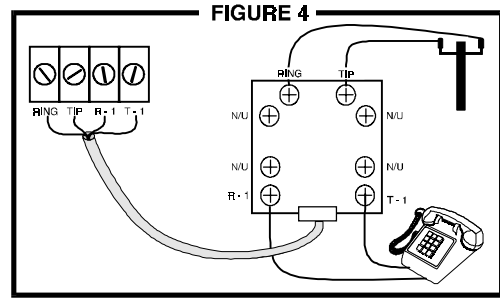
3.5 Bell (Siren) Output

The **BELL+** and **BELL-** terminals, power bells and/or other warning devices requiring a steady voltage output during an alarm. The bell output supplies 12VDC upon alarm and can support two 20-watt or two 30-watt bells output.

FIGURE 5

+ BELL -   BELL/SIREN
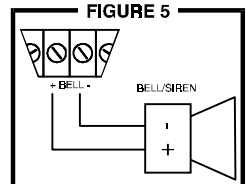
> **Caution: The bell output is microprocessor-controlled and will automatically shut down if the current exceeds 3A.**

If the load on the bell terminals returns to normal (≤3A), the control panel will re-instate power to the bell terminals upon generation of another alarm. When connecting sirens (speakers with built-in siren drivers) please verify correct polarity. Connect the positive lead to the **BELL+** terminal and the negative lead to the **BELL-** terminal of the control panel as shown in figure 5.

3.6 Programmable Output (PGM)

The **Maestro** Control Panel includes a programmable output. When a specific event or condition occurs in the system, the PGM can be used to reset smoke detectors, activate strobe lights, open/close garage doors and much more. **The PGM provides a 50mA output.** If the current draw on the PGM output is to exceed 50mA, we recommend the use of a relay as show in figure 6. Each PGM is programmable to toggle on and off from more than a thousand different events. For example, PGM can open and close an automatic garage door by pressing keys [1] and [2] simultaneously on keypad. For details on how to program the PGM, refer to section 10 PGM (Programmable Outputs).

FIGURE 6

PGM   AUX+

BLK   RED

Relay form C

N.O.

WHT   YEL

Low voltage door activation input
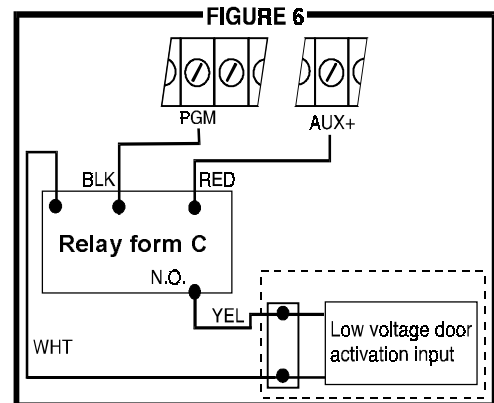
3.7 Keypad & Keyswitch Connections

Connect the four keypad connections labeled red, black, green and yellow to the corresponding color terminals on the control panel as indicated in figure 7. Connect the keyswitch, in series with 220 ohm resistor, to the GRN/BLK terminals of the control panel as shown in figure 7. Refer to sections Arming Using Keyswitch and keyswitch or Pushbutton Arming (section 12.8) for more information on keyswitches.

FIGURE 7
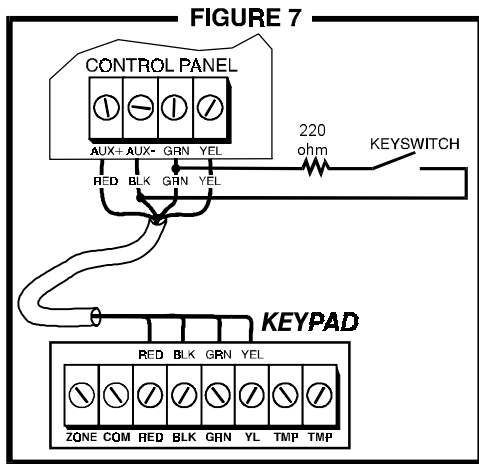
3.8 Keypad Zone Connections

Each keypad comes with one zone input terminal, allowing you to connect one detector or door contact directly to the keypad.

Example: A door contact located at the entry point of an establishment can be wired directly to the zone input terminal of the entry point keypad instead of wiring the door contact all the way to the control panel.

The keypad will communicate the status of the zone to the control panel as though the input was on the control panel. Therefore, adding one or two zones to your security system. Regardless of the number of keypads in the system, the control panel supports a maximum of two keypad zones.

Example: A security installation is comprised of four keypads. Of these four keypads only two can have their zone input terminals enabled (see figure 9). The other two keypads must have their zone input terminals disabled as described below.

Keypad's whose zone input terminals are not being used, must be disabled. To disable the **Maestro-601** keypad zone, connect a 1KΩ resistor short between the **ZONE** and **BLK** terminals of the keypad. On the other hand, if you are using the keypad zones, you must define them as either Keypad Zone 1 or Keypad Zone 2 as described below.

Note: if using two keypad zones, one keypad must be defined as keypad zone 1 while the other must be defined as keypad zone 2. The control panel will recognize these added zones as shown in table 1.

Once the keypad zones have been defined, you must enable "Keypad Zone Supervision" in the control panel (see section 7.13 and 7.14.). Figures 8 and 9 demonstrate typical keypad zone input installations. Note that keypad zones always use a 1KΩ EOL resistor.

FIGURE 8

ONE KEYPAD / ONE ZONE

In control panel enable keypad supervision at address 090
LED [HOME] ON = keypad zone 1

(J1) Keypad Zone select jumper OFF
(J2) Keypad EOL select jumper ON

*Door Contact
Keypad zone 1*

FIGURE 9

TWO KEYPADS / TWO ZONES

In control panel enable keypad supervision at address 090:
LED [HOME] + [AWAY] ON

*Door Contact
Keypad zone 1*

*Door Contact
Keypad zone 2*

Keypad Zone 1
(J1) Keypad Zone select Jumper OFF
(J2) Keypad EOL select jumper ON

Keypad Zone 2
(J1) Keypad Zone select Jumper ON
(J2) Keypad EOL select jumper ON

Figure 10 describes the keypad tamper switch connections.

NOTE: *The standard KP-601 does not include a tamper switch. In case your version includes a tamper switch, see figure 10 for wiring instructions.*

FIGURE 10

KEYPAD TAMPER SWITCH

NOTE: To connect the keypad's tamper switch, simply connect the keypad as shown below. If the cover is removed when the system is armed, the keypad will send a zone open and the control panel will generate an alarm.

To corresponding terminals on the control panel.

To corresponding terminals on the control panel.

Please note that in all cases, keypad zone supervision must be enabled in the control panel and keypad jumpers J1 and J2 must be set accordingly.

Connecting keypad tamper when no detection device is used.

Connecting keypad tamper when using keypad zone.

Door Contact

Table 1 – Keypad Zone Recognition

Zone Select Jumper "OFF" = Keypad Zone 1
Zone Select Jumper "ON" = Keypad Zone 2

Note: If the zone select jumper is changed, the control panel will only recognize the change when the keypad is disconnected and re-connected.

MAESTRO-1000		**MAESTRO-600**
(ATZ Disabled)	(ATZ Enabled)	
Kpd Zone 1 = Zone "5"	Kpd Zone 1 = Zone "9"	Kpd Zone 1 = Zone "5"
Kpd Zone 2 = Zone "6"	Kpd Zone 2 = Zone "10"	Kpd Zone 2 = Zone "6"

3.9 Single Zone Input Connections

The system hardware recognizes the following single zone input terminal connections. For more information on programming the options mentioned below refer to ZONE DEFINITIONS, section 7.

FIGURE 11

Control Panel Terminals

Detector Terminals

Zone input   COM

N.C.

Address 088, [MEM] = "on" (no EOL resistor)
[0] = "off" Tamper/Wire Fault
[HOME] = "off" Disabled

MAESTRO-1000 only
Address 090, [8] = "off" (ATZ disabled)
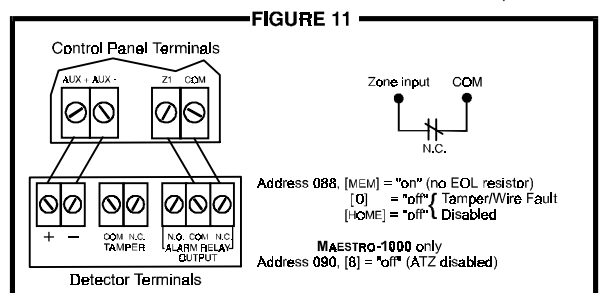
3.9.1 N.C. Contacts, Without EOL Resistor

If your security installation does not require tamper or wire fault detection, connect the detection devices and program the control panel as shown in figure 11. This setup will communicate an open or closed zone to the control panel, illuminating the corresponding indicator on the keypad when the zone is open. Do not use devices with normally open contacts in this setup, as this will cause the control panel to remain in alarm.

3.9.2 N.O. and N.C. Contacts, With EOL Resistor

If your security installation does not require tamper or wire fault recognition but requires the use of normally open and normally closed contacts, connect all detection devices with a 1KΩ end of line (EOL) resistor and program the control panel as shown in figures 12 and 13. This setup will communicate an open or closed zone to the control panel, illuminating the corresponding indicator on the keypad when the zone is open.

FIGURE 12
Control Panel Terminals
AUX + AUX -   Z1   COM
1KΩ EOL
+ — COM N.C. TAMPER   N.O. COM N.C. ALARM RELAY OUTPUT
Detector Terminals **Normally Closed**
Zone input   COM
1KΩ
N.C.   EOL

FIGURE 13
Control Panel Terminals
AUX + AUX -   Z1   COM
1KΩ EOL
+ — COM N.C. TAMPER   N.O. COM N.C. ALARM RELAY OUTPUT
Detector Terminals **Normally Open**
Zone input   1KΩ EOL   COM
N.O.

Address 088, [MEM] = "off" (with EOL resistor)
[0] = "off" ⎰ Tamper/Wire Fault
[HOME] = "off" ⎱ Disabled

MAESTRO-1000 only
Address 090, [8] = "off" (ATZ disabled)

3.9.3 N.C. Contacts, Without EOL Resistor, With Tamper Recognition

If your security installation requires tamper recognition, all detection devices must use normally closed contacts. Connect the devices and program the control panel as shown in figure 14. This setup will communicate an open or closed zone to the control panel, illuminating the corresponding indicator on the keypad when the zone is open. The control panel will also communicate any detected tampers (cuts) as Tamper/Wire Fault Recognition Options (see section 11.7).

FIGURE 14
Control Panel Terminals
AUX + AUX -   Z1   COM
Zone Input   COM
1KΩ
TAMPER   N.C.
SWITCH
1KΩ
+ — COM N.C. TAMPER   N.O. COM N.C. ALARM RELAY OUTPUT
Detector Terminals

Address 088
[MEM] = "on" (no EOL resistor)
[0] = ⎰ Refer to Tamper/Wire Fault
[HOME] = ⎱ Recognition Options

MAESTRO-1000 only
Address 090, [8] = "off" (ATZ disabled)

3.9.4 N.C. Contacts, With EOL Resistor, With Tamper and Wire Fault Recognition
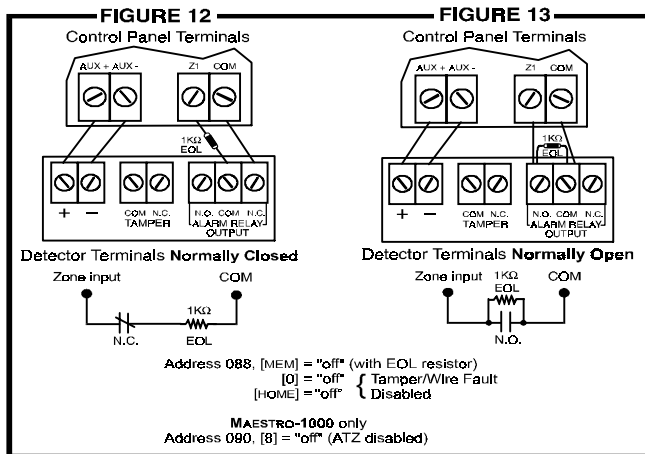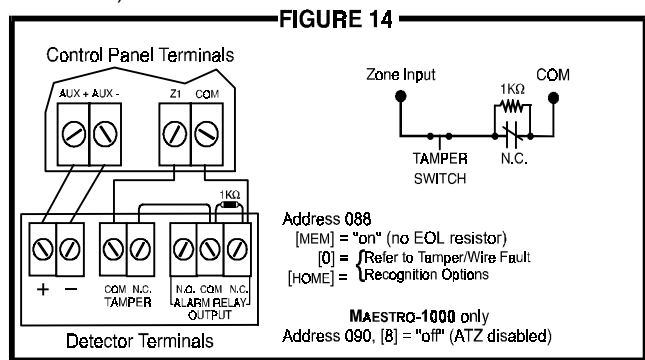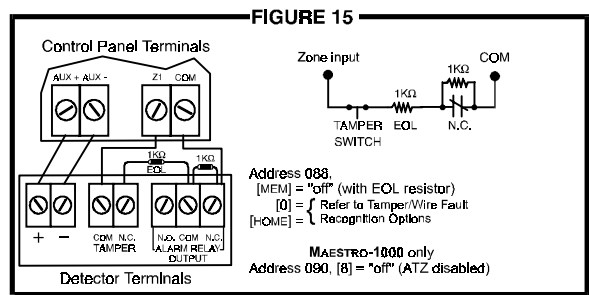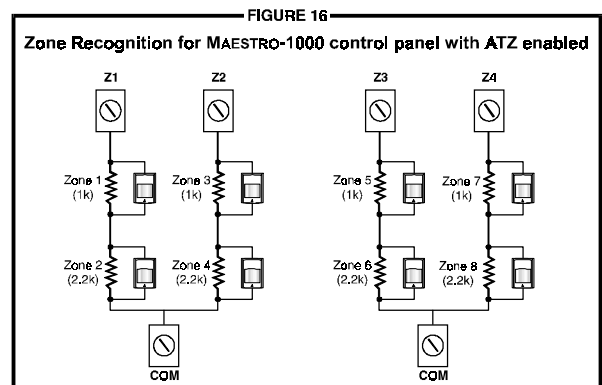
If your security installation requires tamper (cut) and wire fault (short) recognition, all detection devices must use normally closed contacts. Connect the devices and program the control panel as shown in figure 15. This setup will communicate an open or closed zone to the control panel, illuminating the corresponding key on the keypad when the zone is open. The control panel will also communicate any detected tampers (cuts) and/or wire faults (short) as per Tamper/Wire Fault Recognition Options (see section 11.7).

FIGURE 15
Control Panel Terminals
AUX + AUX -   Z1   COM
Zone input   1KΩ   COM
1KΩ
TAMPER EOL   N.C.
SWITCH
1KΩ EOL
+ — COM N.C. TAMPER   N.O. COM N.C. ALARM RELAY OUTPUT
Detector Terminals

Address 088,
[MEM] = "off" (with EOL resistor)
[0] = ⎰ Refer to Tamper/Wire Fault
[HOME] = ⎱ Recognition Options

MAESTRO-1000 only
Address 090, [8] = "off" (ATZ disabled)

3.10 Advanced Technology Zone (ATZ) Connections

Enabling the ATZ feature (see section 7.2) allows you to install two detection devices per input terminal, therefore, doubling zone capacity of the control panel. Advanced Technology Zoning is a software-oriented feature, there is no need for extra modules, simply install the devices as shown in figures 17 to 19. The control panel will recognize and display the status of the installed devices as shown in figure 16. The extra zones, function exactly like any other zone, displaying zone status on the keypad and sending separate alarm codes for each zone. For more information on programming the options mentioned in the following sections refer to Zone Definitions section.

NOTE: This feature is not available on the **MAESTRO-600** Control Panel!

FIGURE 16
Zone Recognition for MAESTRO-1000 control panel with ATZ enabled
Z1   Z2   Z3   Z4
Zone 1 (1k)   Zone 3 (1k)   Zone 5 (1k)   Zone 7 (1k)
Zone 2 (2.2k)   Zone 4 (2.2k)   Zone 6 (2.2k)   Zone 8 (2.2k)
COM   COM

3.10.1 ATZ N.C. Contacts, Without EOL Resistor

If your security installation does not require tamper or wire fault recognition but requires the use of two zones per input, connect the detection devices and program the control panel as shown in figure 17. Do not use devices with normally open contacts, as this will cause the system to remain in alarm. This setup will communicate the status of each device to the control panel (see figure 16), where an open zone will illuminate the corresponding LED indicator on the keypad.

FIGURE 17
Control Panel Terminals
-12V+   ZONE COM
Zone input   COM
1KΩ   2.2KΩ
N.C.   N.C.
BLACK
RED   YEL   1KΩ   YEL
- + COM N.C. TAMPER   N.O. COM N.C. ALARM RELAY OUTPUT   Detector 1 Terminals
12V
GREEN
2.2KΩ
- + COM N.C. TAMPER   N.O. COM N.C. ALARM RELAY OUTPUT   Detector 2 Terminals
12V

Address 088, [MEM] = "on" (without EOL resistor)
[0] = "off" ⎰ Tamper/Wire Fault Disabled
[HOME] = "off" ⎱
Address 090, [8] = "on" (ATZ enabled; MAESTRO-1000)
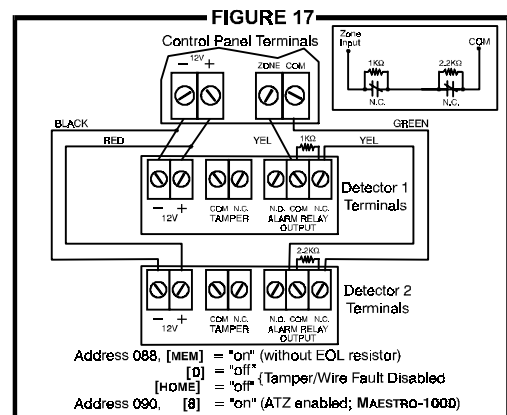
3.10.2 ATZ N.C. Contacts, Without EOL Resistor, With Tamper Recognition

If your security installation requires tamper recognition and two zones per input terminal, connect the detection devices and

program the control panel as shown in figure 18. Do not use devices with normally open contacts, as this will cause the zone to remain open. This setup will communicate the status of each zone to the control panel (see figure 16), where an open zone will illuminate the corresponding LED indicator on the keypad. The control panel will also communicate any detected tampers (cuts) on the system as per Tamper/Wire Fault Recognition Options (see section 11.7).

FIGURE 18

Address 088, [MEM] = "on" (without EOL resistor)
[0] ⎰ Refer to Tamper/Wire Fault
[HOME] ⎱ Recognition Options
Address 090, [8] = "on" (ATZ enabled; MAESTRO-1000 only)
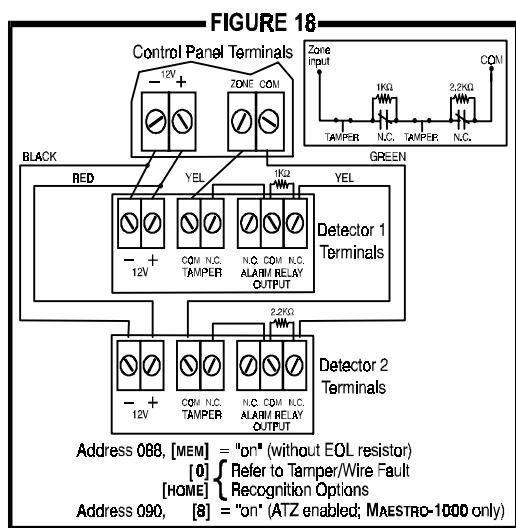
3.10.3 ATZ N.C. Contacts, With EOL Resistor, With Tamper & Wire Fault Recognition

If your system requires tamper (cut) and wire fault (short) recognition, connect the two detection devices to one input terminal with a 1KΩ end of line (EOL) resistor and program the control panel as shown in figure 19. Do not use devices with normally open contacts, as this will cause the zone to remain open. This setup will communicate the status of each zone to the control panel (see figure 16), where an open zone will illuminate the corresponding LED indicator on the keypad. Any tampers (cuts) and/or wire faults (shorts) detected on the system are communicated as per Tamper/Wire Fault Recognition Options (see section 11.7).
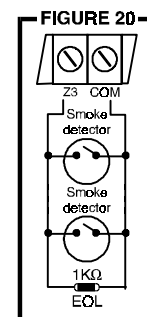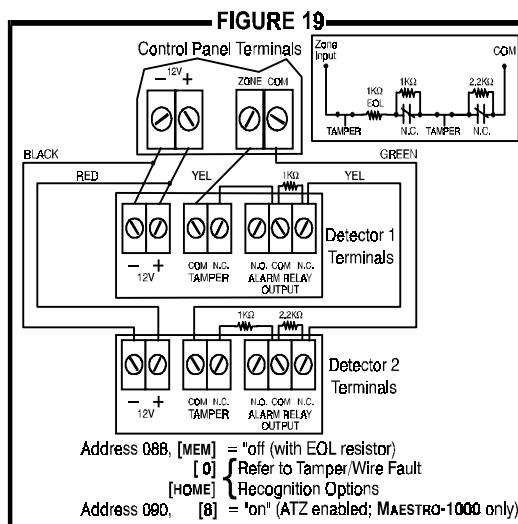
3.11 Fire Circuit

If your security installation requires the use of smoke detectors, you must define zone 3 as a "24-hour fire" zone; please refer to section 7.5.

3.11.1 Standard Installation

Connect the smoke detectors to zone 3 as shown in figure 20. Note that a fire zone must use a 1KΩ EOL resistor. If there is a line short or if the smoke detector becomes active, whether the system is armed or disarmed the control panel will generate an alarm. If the line is "open", the control panel will send a "fire loop" trouble report to the central station and illuminate the "TRBL" indicator on the keypad.

FIGURE 19

FIGURE 20

Address 088, [MEM] = "off (with EOL resistor)
[0] ⎰ Refer to Tamper/Wire Fault
[HOME] ⎱ Recognition Options
Address 090, [8] = "on" (ATZ enabled; MAESTRO-1000 only)

3.11.2 Supervised 4-Wire, Latched, Smoke Detector Installation

To reset (unlatch) the smoke detectors after an alarm, momentarily interrupt power to the detectors. To do so, verify that the negative (-) of the smoke detectors are connected to the PGM.

To supervise the power supply, install an "end of line" relay (relay form "C"). Connect the smoke detectors and relay as shown in figure 21. In the event power is interrupted the relay will cause a fire trouble report (see section 7.5, "24 Hour" & Fire Zones.)

FIGURE 21
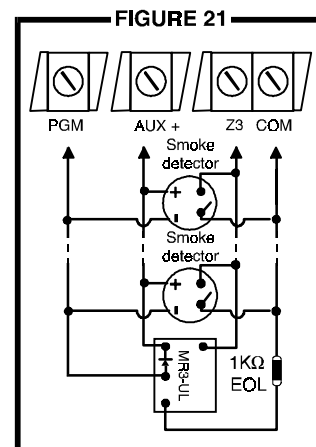
Set the PGM for "Timed N.C." (normally closed), and program the PGM to "open" when any two keys on the keypad are pressed simultaneously. For more information on programming the PGM refer to section 10 PGM (Programmable Outputs)

EXAMPLE:
To program the PGM to conduct a smoke detector reset when the [CLR] and [ENT] keys are pressed at the same time.
Address 039 = [BYPASS] [2ND]
Address 040 = [5] [0]
Address 042 = [2ND] [6]
Address 056 = [0] [0] [4]

4. ACCESS CODES

4.1 Installer Code

Streamline (for description, see Programming Guide) - Section 00 ➔ Hexa Programming - Addresses 000-002

Default = 1111

Only the installer code provides you with access to program all settings in the control panel. Only the Master and User access codes can not be programmed using the installer code. To program any setting in the control panel you must enter the programming mode by pressing the [ENT] key followed by the Installer Code. The installer code contains six digits and each digit can be any value from 0 to 9. When programming the installer code, always enter six digits.

[ENT] + [INSTALLER CODE] + [0] [0] [0] + *First 2 digits* + [0] [0] [1] + *Next 2 digits* + [0] [0] [2] + *Final 2 digits* + [ENT]

4.2 Master & User Codes

Default Master Code: 0000

Please note you can not use the Installer Code to program the Master and User codes. Only the Master and User 1 Codes can program these codes. For details on Programming Master & User Codes go to section 12.1.

4.3 User / Access Code Length

Feature Select Programming ➔ Address 088, key [9].

Default: 4-digit Access Codes.

When entering an access code into the control panel, the control panel can grant access after entering all six digits or after entering the first four digits of the code.

LED "9" off: 4-digit Access Codes

LED "9" on: 6-digit Access Codes

[ENT] + [installer code] + [0] [8] [8] + "9" On/Off + [ENT] + [ENT]

4.4 Duress

Feature Select Programming ➔ Address 090, key [0]

Default: Duress Disabled

When unwillingly forced to disarm a system, entering User Code #48 instead of the usual code, will disarm the system and send a silent alert (Duress Code) to the Central Station.

LED "10" off: Duress Disabled

LED "10" on: Duress Enabled

[ENT] + [installer code] + [0] [9] [0] + "10" On/Off + [ENT] + [ENT]

4.5 Installer Lock

Decimal Programming ➔ Address 058

Default: Address Empty

Program 147 into address 058 to enable the installer lock. Hence, a hardware reset (see section Power Down Reset) will not affect the current settings. To remove the installer lock, enter any value other than 147.

[ENT] + [installer code] + [0] [5] [8] + [1] [4] [7] + [ENT]
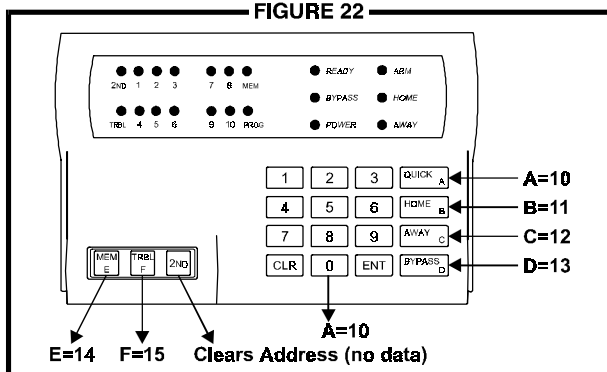
5. PROGRAMMING METHODS

When programming, use the supplied "Programming Guide" to keep track of which addresses were programmed and how. Before you begin programming the control panel, we recommend you read sections 5 through 11 of this manual in order to acquire a good understanding of the control panel and its many features. When programming with the keypad, certain addresses are programmed using different methods. These methods are described in detail below. Each section in this manual will reference the appropriate programming method.

5.1 Hexa Programming

Addresses 000 to 043 and 300 to 527 are programmed using the Hexa Programming method. In this mode, you can enter any hexa-digit from 0-F where keys [1] to [9] represent digits 1 to 9 respectively; the other keys represent hexa digits A to F as shown in figure 22. To program using the Hexa Programming method:

1. Press [ENT] + [installer code]

2. The red "PRG" indicator will flash indicating you are in programming mode

3. Enter the desired [3-digit address] and the red "PRG" indicator will remain illuminated.

4. The keypad will display the 2-digit data currently saved at this address as described in figure 23

5. Enter [2-digit data]; after entering data you do not need to press [ENT], the software will automatically save the data into the selected address.

6. Return to **step 2** to continue programming or press [CLR] to exit programming mode.
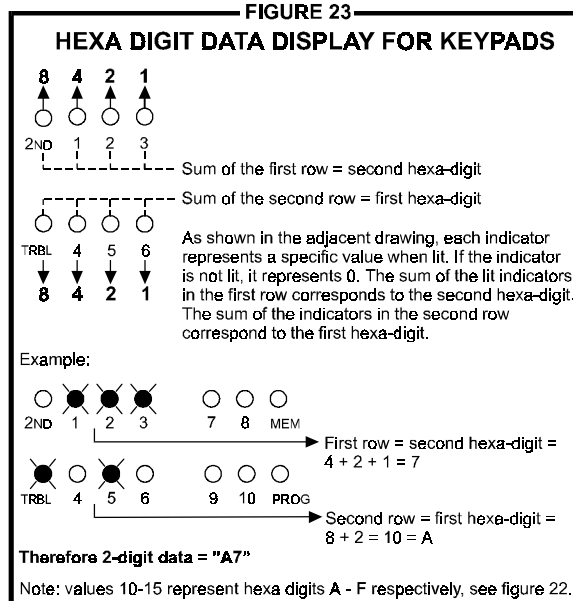

FIGURE 22

A=10
B=11
C=12
D=13

E=14 F=15 Clears Address (no data)

5.2 Hexa Streamlined Programming

This is an alternate method to Hexa Programming. The addresses (000-043 and 300-527) programmed in the Hexa Programming method are grouped into 67 sections where each section contains four addresses (i.e. section 11 = addresses 300-303). Using this method allows you to program 8 digits (4 addresses) without having to exit and re-enter addresses. When entering the final digit, the software will automatically advance to the next section.

Example: If you complete the "Programming Guide" with the desired data, you can program the 67 sections by entering all 567 digits without pressing [ENT] or entering any other addresses.

This makes for quicker programming.

Note, the keypad will not display the current data in the Hexa Streamlined Programming method. To program using the Hexa Streamlined Section method:

1. Press [ENT] + [installer code] + [7].

2. The red "PRG" and "2nd" LED indicators will flash to indicate you are in programming mode.

3. Enter [2-digit section] (00-67)

4. The red "PRG" indicator will remain on and "2nd" LED indicator will turn off.

5. Enter [8-digit data] to program the section.

6. The keypad will sound a confirmation "beep" to indicate that the section has been programmed, data is saved and that the software has advanced to the next section.

7. Return to step 5 to continue programming at the next address or press [CLR] to exit the programming mode.

FIGURE 23

HEXA DIGIT DATA DISPLAY FOR KEYPADS

Sum of the first row = second hexa-digit

Sum of the second row = first hexa-digit

As shown in the adjacent drawing, each indicator represents a specific value when lit. If the indicator is not lit, it represents 0. The sum of the lit indicators in the first row corresponds to the second hexa-digit. The sum of the indicators in the second row correspond to the first hexa-digit.

Example:

First row = second hexa-digit = 4 + 2 + 1 = 7

Second row = first hexa-digit = 8 + 2 = 10 = A

Therefore 2-digit data = "A7"

Note: values 10-15 represent hexa digits A - F respectively, see figure 22.

FIGURE 24

DECIMAL DISPLAY ON MAESTRO-601 KEYPADS
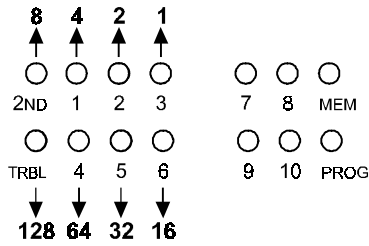
As shown above, each LED indicator from 1-6, including the 2ND and TRBL indicators, represent a specific value when lit. If an LED indicator is not lit, it will represent the value 0. Add the values of all the lit LED indicators to obtain the entered data value as shown in the example below.

Example

Therefore 8 + 4 + 1 + 32 = 045

5.3 Decimal Programming

Addresses 044 to 061 are programmed using the Decimal Programming method. Values entered must contain three digits from 000 to 255.

To program using the Decimal Programming method:

1. Press [ENT] + [installer code]
2. The red "PRG" indicator will flash to indicate you are in programming mode
3. Enter [3-digit address] (044-061) and the "PRG" indicator will remain on

4. The keypad will now display the 3-digit data currently saved at this address as described in figure 24
5. Enter [3-digit data] (000-255); after entering data you do not need to press [ENT], the software will automatically save the data into the selected address.
6. Return to step 2 to continue programming or press [CLR] to exit programming mode

5.4 Feature Select Programming

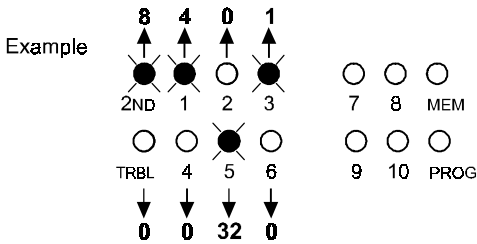Addresses 062 to 126 are programmed using the Feature Select Programming method. In this method, each key in every address represents an option or feature. Pressing a key will illuminate the corresponding LED indicator on the keypad and pressing the key again will extinguish the indicator. The On/Off status of each light determines the selected features. To program using the Feature Select Programming method:

1. Press [ENT] + [installer code]
2. The red "PRG" indicator will flash to indicate you are in programming mode
3. Enter [3-digit address] (062-126)
4. After entering the address, the keypad will display the feature selection status. The On/Off status of the keypad LED indicators determines the selected features as described in the *"Programming Guide"* and in the appropriate sections of this manual. Turn the LED indicators on/off by pressing the corresponding key until the desired options are set. Then press the [ENT] key to accept, there will be a confirmation "beep" indicating the options have been accepted. The "PRG" indicator will flash to indicate that the software is awaiting the next address entry
5. Return to step 3 to continue programming or press [CLR] to exit programming mode

5.5 Key Access Programming

This method allows for quick programming of features without entering addresses or section numbers. The following features are programmed using the installer code as well as the master and user 1 codes.

- **Auto Arm Time:** for details see parag. 9.1.1
- **Panel Time:** for details see parag. 9.5
- **Manual Test Report:** for details see parag. 8.8

6. PANEL SETTINGS FOR VISLOAD

6.1 Panel Answer Options

Streamline - Section 00 ➔ Hexa Programming - Address 003

Default: Answering Machine Override Disabled & Maximum 8 rings. The following two options will define how the control panels answer an incoming call from a computer using the Visload software.

In order for the Visload software to remotely communicate with the control panel, call the installation site twice using the Visload Software. To do so, program the first digit in address 003 with any value from 1-F (see table 2 at the end of this section), this value represents the delay period the control panel will wait between the first and second call. Using the Visload software, call the installation site and on the second ring press [enter] on the keyboard to hang-up. After hanging up, the Visload software will immediately call the installation site back. If the installation site is called back within the programmed delay period, the control panel will override the answering machine or service by picking-up on the first ring. To disable this option program [2nd] or [1] as the first digit in address 003.

Example: A security installation is using an answering machine set to answer after 3 rings, the first digit at address 003 has been programmed with [5] (40 sec.) and the second digit has been programmed with 8. When you call the installation site with the Visload software the first time, wait two rings and press [enter] on the keyboard. The Visload software will immediately call the installation site back. If the second call is made within 40 seconds,

the panel will pick up the line on the first ring. If it takes more than 40 seconds, the panel will not answer on the first ring and the answering machine will answer after three rings.

[ENT] + [installer code] + [0] [0] [3] + 1st digit + 2nd digit (1-15 rings) + [ENT]

The second digit represents the number of rings the control panel will wait before picking-up the line. If the line is not answered after the number of re-programmed rings, the control panel will answer the call. Note the control panel resets the "ring" counter every 64 seconds. Therefore, if someone or an answering machine answers a call before the number of pre-programmed rings has elapsed, the control panel will keep the number of rings in memory for 64 seconds. If you hang-up and call the installation site back within 64 seconds, the control panel will continue to count the number of rings from the first call. After reaching the total number of rings, the control panel will answer the call. The number of rings can be set from 1-15 by programming the second digit at address 003 with any hexa-digit from 1-F. Program the second digit with [2nd] to disable this option.

Example: Address 003 = [2nd] [8]. Using the Visload software, you call an installation site where there is no answering machine or service and no one is home. Since there is no one to answer the telephone call, the control panel will pick-up the line on the eighth ring. If someone happens to be home and answers the telephone, say, after three rings, the control panel will keep the three rings in memory for 64 seconds. If you hang-up and call back the installation

site within 64 seconds the control panel will answer the call on the fifth ring. If you call back after 64 seconds the "ring" counter will have been reset and the control panel will answer the call on the eighth ring.

NOTE: If you program four or less rings, the control panel will always reset the counter!

Table 2 - Answering Machine Override Options
[2nd] or [1] = Answering Machine Override disabled
[2] = 16 sec.   **[4]** = 32 sec.   **[6]** = 48 sec.   **[8]** to **[TRBL]** = 60 sec.
[3] = 24 sec.   **[5]** = 40 sec.   **[7]** = 56 sec.

Note: for more details, refer to the Programming Guide - Streamline section "00" and "014".

6.2 Panel Identifier

Streamline - Section 01 ➔ Hexa Programming - Addresses 004-005

This four-digit code identifies the control panel to the Visload software before initiating upload. Program the same 4-digit code into the control panel and the Visload software before attempting to establish communication. If the codes do not match, the control panel will not establish communication. Enter any hexa digits from 0 to F.

[ENT] + [installer code] + [0] [0] [4] + First 2 digits + [0] [0] [5] + Final 2 digits + [ENT]

6.3 PC Password

Streamline - Section 01 ➔ Hexa Programming - Addresses 006-007

This four-digit download password identifies the PC to the panel, before beginning the download process. Enter the same password into the Visload software and the control panel. If the passwords are not the same, Visload will not establish communication. Enter any hexa digits from 0 to F.

[ENT] + [INSTALLER CODE] + [0] [0] [6] + First 2 digits + [0] [0] [7] + Final 2 digits + [ENT]

6.4 Computer Telephone Number

Streamline Section 02 & 03 ➔ Hexa Programming - Address 008-015

The control panel will dial this telephone number when trying to initiate communication with the PC (see section 6.5 Call Visload). There is no default telephone number and you can enter any number from 0-9 up to a maximum of 16 digits. If you would like to enter any special keys or functions refer to table 3 in section 8.3. If the telephone number contains less than 16 digits, press the [TRBL] key to indicate the end of the telephone number.

[ENT] + [INSTALLER CODE] + [7] + [0] [2] + Telephone Number (if <16 digits press [TRBL]) + [ENT]

6.5 Call Visload

Key Access Programming ➔ key [TRBL]

The control panel will dial the telephone number entered at addresses 008-015 (see section 6.4) in order to communicate with the Visload software. The control panel and the computer will verify that the Panel Identifier and the PC Password match before establishing communication (see sections 6.2 and 6.3).

Press [ENT] + (Installer, Master, or User 1 Code) + [TRBL]

6.6 Answer Visload

Key Access Programming ➔ Key [AWAY]

By entering the code sequence listed below, you can manually force the control panel to answer any incoming calls from the Visload software. This option can also be used to perform an on-site upload/download by connecting your computer directly to the control panel using an **ADP-1** line adapter (ADP-1 is a module that can be used to connect a modem directly to the panel without the phone line) and manually answering Visload from the control panel. In Visload go to:

Main Menu ➔ Program Setup ➔ Setup ➔ Modem & Printer Configuration

Set "Dialing Condition" to "Blind Dial". Program the panel telephone number in Visload and follow the instructions on the **ADP-1** adapter. When the computer has dialed press:

[ENT] + (Installer, Master, or User 1 Code) + [AWAY]

6.7 Cancel Communication

Key Access Programming ➔ key [HOME]

Use the Installer Code to cancel all communication and erase any unreported events in the buffer until the next reportable event. Use the Master or User 1 code to cancel communication attempts with Visload.

[ENT] + (Installer, Master & User 1 Code) + [HOME]

6.8 Call Back

Feature Select Programming ➔ Address 086, key [4]

Default: Call Back Disabled

For additional security, when a PC using the Visload software attempts to communicate with the control panel, the control panel can hang-up and call the PC back in order to re-verify identification codes and re-establish communication. When the control panel answers the call, it will verify if the Panel ID and PC Passwords match and if they do, the control panel will hang-up and call the Visload software back. The Visload software will automatically go into "wait for dial tone", ready to answer when the control panel calls back. Please note the Computer Telephone Number (see section 6.4) must be programmed in order to use the "Call Back" feature.

LED "4" off: Call Back Disabled

LED "4" on: Call Back Enabled

[ENT] + [INSTALLER CODE] + [0] [8] [6] + "4" On/Off + [ENT] + [ENT]

6.9 Automatic Event Buffer Transmission

Feature Select Programming ➔ Address 088, key [2nd]

Default: Automatic Event Buffer Transmission Disabled

When the event buffer reaches 50% capacity, the control panel will make two attempts to establish communication with a PC. The control panel will call the Computer Telephone Number (see section 6.4) programmed at addresses 008 to 015. The Visload software must be in "wait for dial tone" mode. When the system establishes communication, it will upload the contents of the event buffer to the Visload software. If communication is interrupted before transmission of the complete contents of the buffer, or if after two attempts, communication is not established, the system will wait until the event buffer is full before attempting to re-communicate with Visload. When Event Buffer is full, each subsequent new event will erase the oldest event in the buffer.

LED "2nd" off: Automatic Event Buffer Transmission Disabled

LED "2nd" on: Automatic Event Buffer Transmission Enabled

[ENT] + [INSTALLER CODE] + [0] [8] [8] + "2ND" On/Off + [ENT] + [ENT]

7. ZONE DEFINITIONS

Note: When defining zones characteristics, refer to "zone definition" table, in the programming guide.

7.1 Zone Speed

Decimal Programming ➔ Address 053

Default: 600mS

The zone speed applies to all zones whether the system is armed or disarmed. The zone speed defines how quickly the control panel will respond to an open zone. The control panel will not display and/or respond to an open zone until the programmed zone speed elapses. All other zone definitions and options do not come into effect until the zone speed has elapsed.

Example: The system is armed and the zone speed is set for 1.2 seconds. A zone opens and closes in less than 1.2 seconds, the control panel will respond as though nothing happened (i.e. no reporting, no alarm and no display on keypad).

The zone speed can be set from 15ms to 3.8s (001 to 255 X 15ms). This feature prevents any momentary glitches in the system from causing an alarm or unnecessary reporting.

[ENT] + [installer code] + [0] [5] [3] + 3 digit decimal value (001-255) + [ENT]

7.2 Advanced Technology Zoning (ATZ)

Feature Select Programming ➔ Address 090, key [8]

Default: ATZ Disabled

NOTE: This feature is not available on the Maestro-600 Control Panel!

Enabling the ATZ feature allows you to install two detection devices per zone input. Each detection device will have its own zone and each will transmit a separate alarm code that will display on the keypad. For information on how to connect the detection devices and how the panel recognizes them, please refer to section Advanced Technology Zone (ATZ) Connections .

LED "8" off: ATZ Disabled

LED "8" on: ATZ Enabled

[ENT] + [installer code] + [0] [9] [0] + "8" On/Off + [ENT]

7.3 Intellizones

Feature Select Programming ➔ Address 092, keys [1] to [0]

If an alarm condition occurs on a zone identified as Intellizone, the control panel will not trigger an alarm until one of the following conditions occurs within a specified period (see Intellizone Time Delay, section 7.3.1):

- An alarm condition occurs on another zone.
- The zone that is in alarm has restored and re-occurred.
- The zone that is in alarm remains in alarm the entire period.

Note the Intellizone timer will only begin after the Zone Speed period has elapsed (see section 7.1).

> **CAUTION**: *Do not use the Intellizone feature on zones programmed with any Entry Delay! An alarm may occur when disarming the system.*

7.3.1 Intellizone Time Delay

Decimal Programming ➔ Address 057

Default: 48 seconds

You can set the Intellizone Time Delay between 010 and 255 seconds. This is the period specified for Intellizones to detect one of three conditions before generating an alarm (see Intellizones, section 7.3).

[ENT] + [installer code] + [0] [5] [7] + 3-digit decimal value (010-255) + [ENT]

7.4 Silent Zones

Feature Select Programming ➔ Address 096, keys [1] to [0]

Using the "Feature Select Programming Method", identify or select which zones will be defined as Silent Zones. If an alarm occurs on a Silent Zone, the control panel will report the alarm (see Event Reporting on section 8) to the central station without triggering any bells. If zone 3 is defined as a 24 hour (fire zone), the control panel will generate an audible alarm overriding a silent zone definition.
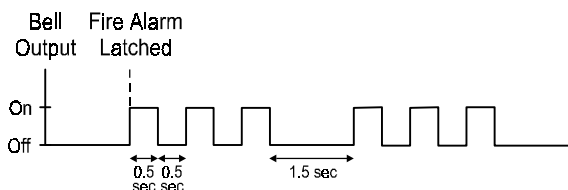
7.5 "24 Hour" & Fire Zones

Feature Select Programming ➔ Address 100, keys [1] to [0]

Using the "Feature Select Programming Method", identify or select which zones will be defined as 24 hour zones. Whether the system is armed or disarmed, open "24 hour" zones always generate an alarm. However, if zone 3 is defined as "24 hour", it becomes a "Fire Zone". Connect the smoke detectors as described in section Fire Circuit. An open "Fire Zone" will generate the following:

- The control panel will send a fire loop trouble report (address 500) to the Central Station.

- A trouble indicator, "HOME", and a fire zone indicator, "3", will flash on the keypad.
- Alarms will generate an intermittent output signal as demonstrated by the figure below, regardless of the system's current arming status.
- Alarms are always audible, regardless of other settings.

BELL OUTPUT DURING FIRE ALARM

7.5.1 Zone 4 (Enable/Disable)

Feature Select Programming ➔ Address 090, key [1]

Default: Zone 4 Enabled

If the ATZ feature is enabled and zone 3 has been set as a fire zone, zone 4 must be disabled if it is not going to be used.

LED "1" off: Zone 4 Enabled

LED "1" on: Zone 4 Disabled

[ENT] + [installer code] + [0] [9] [0] + "1" On/Off + [ENT]

7.6 Instant Zones

Feature Select Programming ➔ Address 104, keys [1] to [0]

Using the "Feature Select Programming Method", identify or select which zones will be defined as Instant Zones. If an "Instant" zone opens, the control panel will immediately generate an alarm after the "Zone Speed" has elapsed.

7.7 Follow Zones

Feature Select Programming ➔ Address 108, keys [1] to [0]

Using the "Feature Select Programming Method", identify or select which zones will be defined as Follow Zones. Follow zones function as follows:

- If a follow zone opens and no entry delay zones have been triggered, the control panel will generate an alarm immediately after the zone speed has elapsed.
- If a follow zone opens during another zone's entry delay period, the control panel will wait until the end of the entry delay period before generating an alarm.
- If a follow zone opens when more than one entry delay zone has been triggered, the control panel will wait until end of the entry delay zone that opened first, before generating an alarm.

7.8 Entry Delay 1

Decimal Programming ➔ Address 050

Default: 45 seconds

Any zone that has not been identified as Instant Zones, Follow Zones, Entry Delay 2 or "24 Hour" & Fire Zones will automatically default to Delay 1. You can program the Delay 1 period between 001 and 255 seconds into address 050. If a zone defined as Delay 1 opens in an armed system, the control panel will wait the programmed period before generating an alarm. This allows time for users to disarm the system when entering the protected area.

[ENT] + [installer code] + [0] [5] [0] + 3-digit decimal value (001-255) + [ENT]

7.9 Entry Delay 2

Feature Select Programming ➔ Address 112, keys [1] to [0]

Using the "Feature Select Programming Method", identify or select which zones will be defined as Entry Delay 2 Zones. If a zone defined as Delay 2 opens in an armed system, the control panel will wait the Entry Time Delay 2 (see section 7.9.1) period before generating an alarm. This allows time for users to disarm the system when entering the protected area.
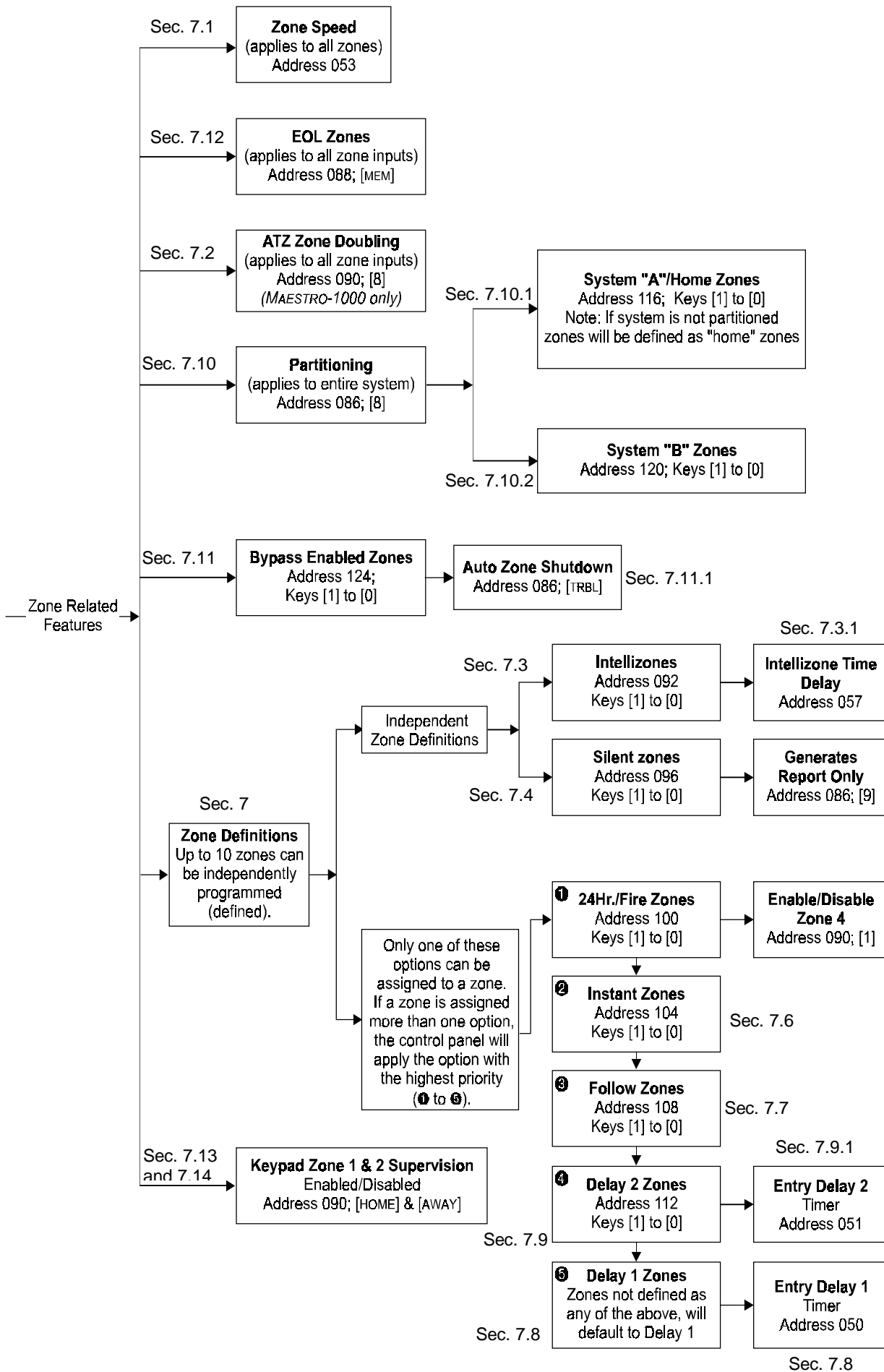
Sec. 7.1 → **Zone Speed**
(applies to all zones)
Address 053

Sec. 7.12 → **EOL Zones**
(applies to all zone inputs)
Address 088; [MEM]

Sec. 7.2 → **ATZ Zone Doubling**
(applies to all zone inputs)
Address 090; [8]
(*MAESTRO-1000 only*)

Sec. 7.10 → **Partitioning**
(applies to entire system)
Address 086; [8]

Sec. 7.10.1 → **System "A"/Home Zones**
Address 116; Keys [1] to [0]
Note: If system is not partitioned
zones will be defined as "home" zones

Sec. 7.10.2 → **System "B" Zones**
Address 120; Keys [1] to [0]

Sec. 7.11 → **Bypass Enabled Zones**
Address 124;
Keys [1] to [0]
→ **Auto Zone Shutdown**
Address 086; [TRBL] Sec. 7.11.1

Zone Related Features →

Sec. 7 **Zone Definitions**
Up to 10 zones can
be independently
programmed
(defined).

Independent Zone Definitions

Sec. 7.3 → **Intellizones**
Address 092
Keys [1] to [0]
Sec. 7.3.1 → **Intellizone Time Delay**
Address 057

Sec. 7.4 → **Silent zones**
Address 096
Keys [1] to [0]
→ **Generates Report Only**
Address 086; [9]

Only one of these options can be assigned to a zone. If a zone is assigned more than one option, the control panel will apply the option with the highest priority (❶ to ❺).

❶ **24Hr./Fire Zones**
Address 100
Keys [1] to [0]
→ **Enable/Disable Zone 4**
Address 090; [1]

❷ **Instant Zones**
Address 104
Keys [1] to [0]
Sec. 7.6

❸ **Follow Zones**
Address 108
Keys [1] to [0]
Sec. 7.7

❹ **Delay 2 Zones**
Address 112
Keys [1] to [0]
Sec. 7.9
Sec. 7.9.1 → **Entry Delay 2**
Timer
Address 051

❺ **Delay 1 Zones**
Zones not defined as
any of the above, will
default to Delay 1
Sec. 7.8
→ **Entry Delay 1**
Timer
Address 050
Sec. 7.8

Sec. 7.13 and 7.14 → **Keypad Zone 1 & 2 Supervision**
Enabled/Disabled
Address 090; [HOME] & [AWAY]

Figure 25 - Zone Related Features

7.9.1 Entry Time Delay 2

Decimal Programming ➔ Address 051

Default: 45 seconds

This applies to all zones defined as Delay 2 (see Entry Delay 2 above). You can program the Delay 2 between 001 and 255 seconds (default 45 seconds).

[ENT] + [installer code] + [0] [5] [1] + 3-digit decimal value (001-255) + [ENT]

7.10 Partitioning (Maestro-1000 only)

Feature Select Programming ➔ Address 086, key [8]

This feature divides the alarm system into two distinct systems, identified as "System A" and "System B". You can assign each zone to System A, System B, both systems, or neither system. Partitioning works as follows:

- Zones assigned to System A, will arm/disarm when the system is "System A Armed/Disarmed".
- Zones assigned to System B, will arm/disarm when the system is "System B Armed/Disarmed".
- Zones assigned to both systems ("dual area") will arm when the system is either "System A Armed", "System B Armed" or when both systems are armed and will disarm only when both systems disarm.
- Zones not identified to any system ("common area") will arm only when the system is both "System A Armed" and "System B Armed" and will only disarm when at least one of the two systems disarms.

For more information on arming and disarming partitions, see section 12.5, Arming/Disarming Partitions. Also, refer to Code Priority in section 9.12.

7.10.1 "System A"/Home Zones

Feature Select Programming ➔ Address 116, keys [1] to [0]

Using the "Feature Select Programming Method", select which zones will be assigned to "System A" or if the system isn't partitioned the zones will be identified as Home Zones. For details on "System A" zones refer to Partitioning above. For details on Home Arming (see section 12.4).

7.10.2 "System B" Zones

Feature Select Programming ➔ Address 120, keys [1] to [0]

Using the "Feature Select Programming Method", select which zones will be assigned to "System B". For details on "System B" zones refer to Partitioning above.

7.11 Bypass Enabled Zones

Feature Select Programming ➔ Address 124, keys [1] to [0]

Using the "Feature Select Programming Method", select which zones will be defined as Bypass Enabled. Only zones defined as bypass enabled can be used for Manual Zone Bypassing (see section 12.9, Manual Zone Bypassing) or during Auto Zone Shutdown (see section 7.11.1).

7.11.1 Auto Zone Shutdown

Feature Select Programming ➔ Address 086 key [TRBL]

Default: Disabled

The control panel will automatically bypass any "Bypass Enabled Zones" which initiate 5 consecutive alarms in the same-armed period. Therefore, the zone will no longer generate an alarm. After the control panel has bypassed a zone, it will report an event code to the Central Station if programmed at addresses 448-461 (see Reporting Event Codes, section 8.6).

This feature is a function of the Report Zone Restore Options (see section Report Zone Restore Options). If this option is set for Report zone restore on bell cut-off, the zone will only be bypassed after the bell or siren has cut-off 5 consecutive times in the same armed period. While if the option is set for report zone on zone closure, the zone will be bypassed when the zone has opened and closed 5 consecutive times in one armed period.

LED "TRBL" off: Auto Zone Shutdown Disabled

LED "TRBL" on: Auto Zone Shutdown Enabled

[ENT] + [installer code] + [0] [8] [6] + "TRBL" On/Off + [ENT]

7.12 EOL Zones (Enabled/Disabled)

Feature Select Programming ➔ Address 088; key [MEM]

Default: EOL input enabled

If the system is using 1KΩ end of line resistors on zone input terminals, enable this feature (see Zone Connections in section 3.8).

LED "MEM" off: Input Zones use EOL Resistors

LED "MEM" on: Input Zones do not use EOL Resistors

[ENT] + [installer code] + [0] [8] [8] + "MEM" On/Off + [ENT]

7.13 Keypad Zone 1 Supervision

Feature Select Programming ➔ Address 090, key [home]

Default: Disabled

If using a keypad zone defined as keypad zone 1, enable this feature. When enabled, the control panel will verify for the presence of a keypad and the keypad zone. For more information, see Keypad Zone Connections in section Keypad Zone Connections in section 3.8.

LED "HOME" off: Keypad Zone 1 Disabled

LED "HOME" on: Keypad Zone 1 Enabled

[ENT] + [installer code] + [0] [9] [0] + "HOME" On/Off + [ENT]

7.14 Keypad Zone 2 Supervision

Feature Select Programming ➔ Address 090, key [away]

Default: Disabled

If using a keypad zone defined as keypad zone 2, enable this feature. When enabled, the control panel will verify for the presence of a keypad and the keypad zone. For more information, see Keypad Zone Connections in section 3.8.

LED "AWAY" off: Keypad Zone 2 Disabled

LED "AWAY" on: Keypad Zone 2 Enabled

[ENT] + [installer code] + [0] [9] [0] + "AWAY" On/Off + [ENT]

8. EVENT REPORTING

8.1 Reporting Options

Feature Select Programming ➔ Address 086, key [HOME] & [AWAY]

Default: Reporting Disabled

When a specific event occurs in the system, the control panel will attempt to report the appropriate event code to the Central Station. The Reporting Options define where the event codes are reported. In order to establish communication with the Central Station, the control panel will first access a telephone line and wait a maximum of eight seconds for a dial tone. If a dial tone is recognized or if after eight seconds there is no dial tone, the control panel will dial the appropriate Central Station Telephone Number as defined by the Reporting Options listed in the table below. Once communication is established, the control panel will transmit the events in the event buffer to the Central Station. If communication fails during transmission, the control panel will dial the next central station telephone number, as defined by the reporting options and report only those events not reported during the interrupted attempt. For more information on Reporting Event Codes (see section 8.6).

[ENT] + [installer code] + [0] [8] [6] + "HOME" & "AWAY" On/Off + [ENT]

"HOME"	"AWAY"	Reporting Feature
OFF	OFF	Reporting Disabled
OFF	ON	Regular Reporting
ON	OFF	Split Reporting
ON	ON	Double Reporting
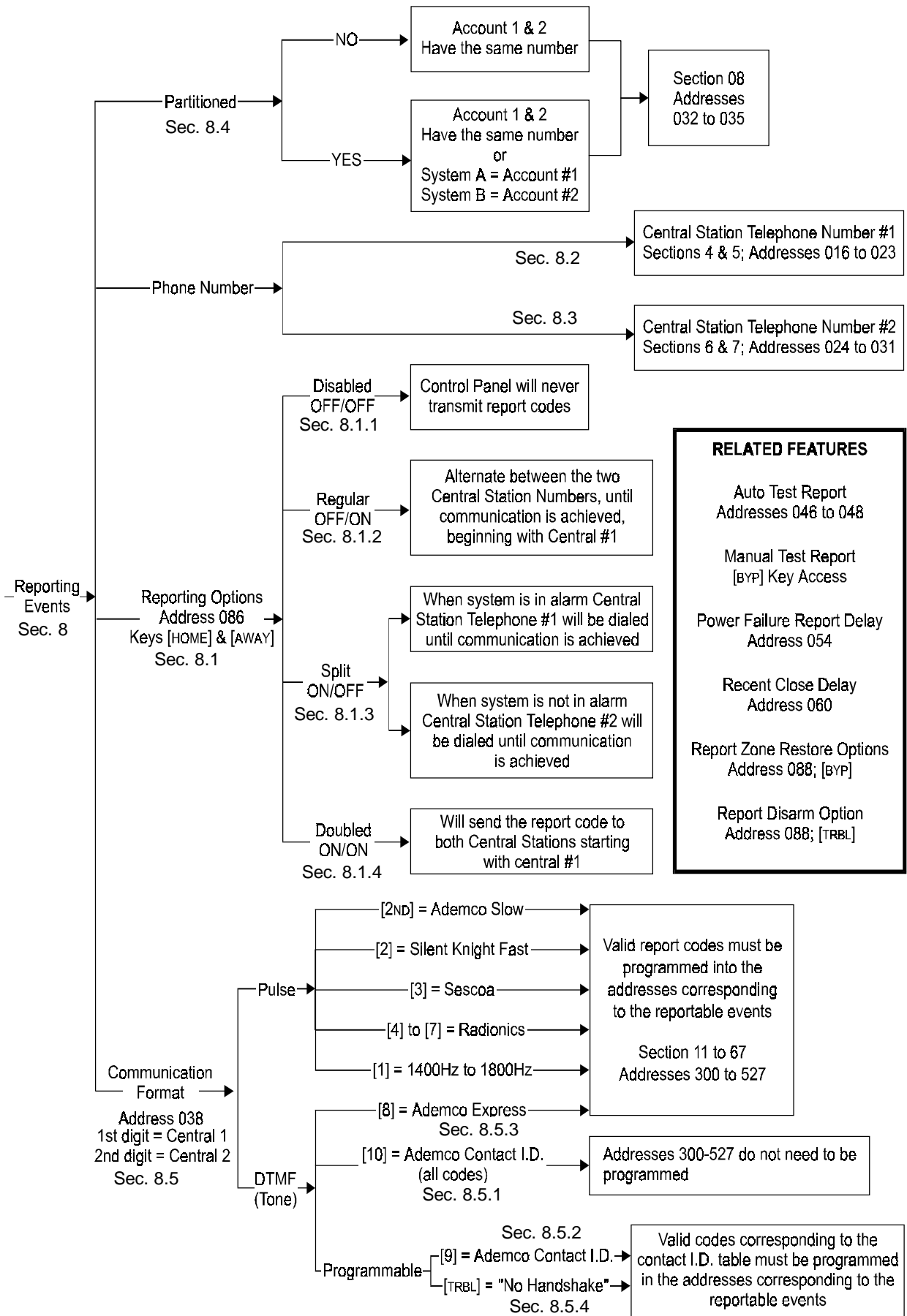
Figure 26 - Event Reporting

8.1.1 Reporting Disabled

The Control Panel will never transmit any event codes to the central station.

8.1.2 Regular Reporting

Using regular reporting the event codes are reported to the central station using either telephone number 1 or 2. The control panel will begin by dialing central station telephone number 1. If communication fails, the dialer will hang up, wait a pre-determined period and dial central station telephone number 2. This sequence will repeat 4 times, switching back and forth between the 1st and 2nd number (see figure 27) until communication is established. After eight unsuccessful dialing attempts, the redial sequence ends and a "communicator report failure" will appear in the keypad's trouble display (LED "7" on). When the next event occurs (reportable or non-reportable), the control panel will begin the dialing sequence again.
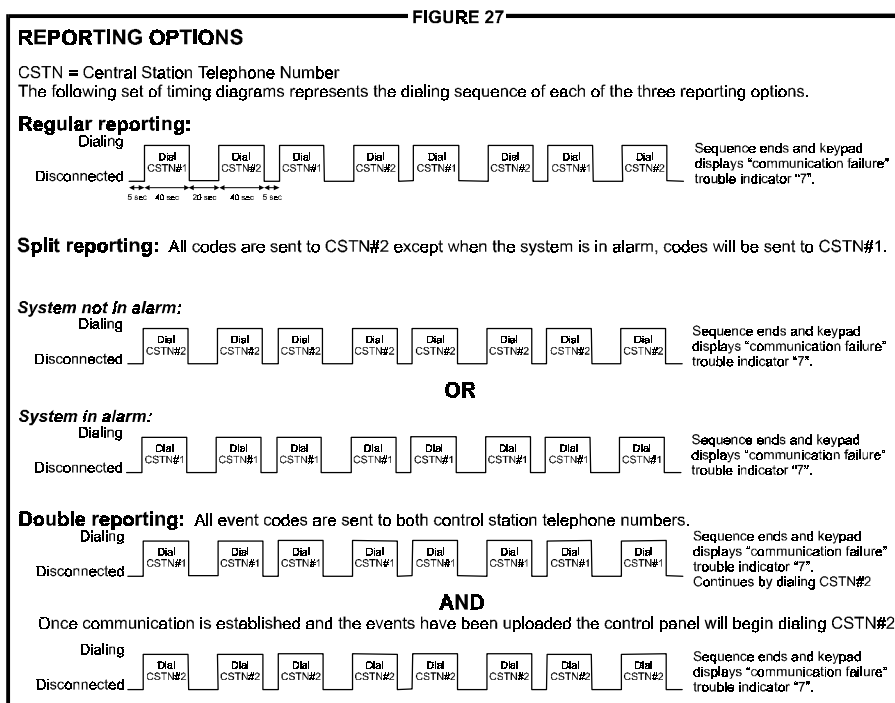
8.1.3 Split Reporting

When the system is not in alarm, the control panel will report all Event Codes to Central Station Telephone 2. If communication fails, the dialer will hang-up, wait a pre-determined period and dial the number again. The control panel will dial the number eight times until communication is established (see figure 27). After eight unsuccessful dialing attempts, the redial sequence ends and a "communicator report failure" will appear in the keypad's trouble display (LED "7" on). When the next event

occurs (reportable or non-reportable), the control panel will begin the dialing sequence again.

When the system is in alarm, the control panel will report all Event Codes to Central Station Telephone 1. Any ongoing communication will stop immediately and the panel will dial Telephone 1. If communication fails, the dialer will hang-up, wait a pre-determined period and dial the number again. The control panel will dial the number eight times until communication is established (see figure 27). After eight unsuccessful dialing attempts, the redial sequence ends and a "communicator report failure" will appear in the keypad's trouble display (LED "7" on). When the next event occurs (reportable or non-reportable), the control panel will begin the dialing sequence again.

8.1.4 Double Reporting

In double reporting, the control panel will report each event code to both central station telephone numbers. The control panel will begin by attempting communication with central station telephone 1 and if communication fails, the dialer will hang-up, wait a pre-determined period and dial the number again. The control panel will dial the number eight times until communication is established (see figure 27). After eight unsuccessful dialing attempts, the redial sequence ends and a "communicator report failure" will appear in the keypad's trouble display (key [7] "on"). If communication has been established and the event codes transmitted or if after eight attempts communication has not been established, the control panel will report the same Event Codes to Central Station Telephone 2.

FIGURE 27

REPORTING OPTIONS

CSTN = Central Station Telephone Number
The following set of timing diagrams represents the dialing sequence of each of the three reporting options.

8.2 Central Station Telephone No. 1

Streamline - Section 04 & 05 ➔ Hexa Programming - Addresses 016-023

The control panel will dial the programmed telephone number when reporting an event code to the central station computer (see Reporting Options in section 8.1). For example, if the alarm system is armed and a zone with a motion detector opens, the control panel will dial the telephone number in order to send the programmed event code to the central station computer. There is no default telephone number and you can enter any number from 0-9 up to a maximum of 16 digits. If you would like to enter any special keys or functions, refer to table 3 below. If the telephone number contains less than 16 digits, press the [TRBL] key to indicate the end of the telephone number.

[ENT] + [installer code] + [7] + [0] [4] + Telephone Number + [ENT] or [TRBL] if number <16 digits then [ENT].

8.3 Central Station Telephone NO. 2

Streamline - Section 06 & 07 ➔ Hexa Programming - Addresses 024-031

The control panel can communicate with two central station numbers depending on the selected Reporting Options in section 8.1. If the central station does not have a second number, enter the same number as the first. There is no default telephone number and you can enter any number from 0-9 up to a maximum of 16 digits. If you would like to enter any special keys or functions, refer to table 3 below. If the telephone number contains less than 16 digits, press the [TRBL] key to indicate the end of the telephone number.

[ENT] + [installer code] + [7] + [0] [6] + Telephone Number + [ENT] or [TRBL] if number <16 digits then [ENT].

Caution: Both Central Station Telephone Numbers must be programmed in order for event reporting to function properly!

8.4 System Account Codes

Streamline - Section 08 ➔ Hexa Programming - Addresses 032-035

All report codes are preceded by a 3 or 4-digit system account code to ensure correct identification to the central station. For example, if a zone opens, the control panel will first send the account code followed by the appropriate report code. In a partitioned system, the control panel can send a separate account code for each system. This will identify to the central station from which system the report code originated. To do so, program a different number into each account code. Where account code #1 will represent System "A" and account code #2 will represent System "B".

NOTE: If partitioning is disabled, program the same value for both account numbers.

There are no defaults and you can enter any hexa digit from 0 to F. The first 4 digits entered represent System Account Code #1. The final 4 digits entered represent System Account Code #2. Please note if required, system account codes can have 3 digits. To do so, press the [2nd] key followed by the 3-digit account number.

[ENT] + [installer code] + [7] + [0] [8] + 4-digit Account Code #1 + 4-digit Account Code #2 + [ENT]

or

[ENT] + [installer code] + [7] + [0] [8] + [2nd] + 3-digit Account Code #1 + [2nd] 3-digit Account Code #2 + [ENT]

8.5 Communicator Formats

Streamline - Section 09 ➔ Hexa Programming - Addresses 038

Default: Ademco Slow for both numbers

The following option will determine which format the control panel will use to communicate with the Central Station. Using table 4 below, select the appropriate communication format for each Central Station Telephone Number. The first digit will represent the Communication Format for Central Station Telephone Number 1 and the second digit will represent the Communication Format for Central Station Telephone Number 2. Below you will find a brief description of all available Communicator Formats.

[ENT] + [INSTALLER CODE] + [0] [3] [8] + First digit = Central Station Telephone #1 **+** Second digit = Central Station Telephone #2 **+ [ENT]**

Table 4 - Communicator Formats

LED
[2ND] = ADEMCO slow (1400Hz, 1900Hz, 10bps)
[1] = (1400Hz, 1800Hz, 10bps)
[2] = SILENT KNIGHT fast (1400Hz, 1900Hz, 20bps)
[3] = SESCOA (2300Hz, 1800Hz, 20bps)
[4] = RADIONICS (40bps with 1400Hz handshake)
[5] = RADIONICS (40bps with 2300Hz handshake)
[6] = RADIONICS with PARITY (1400Hz, 40bps)
[7] = RADIONICS with PARITY (2300Hz, 40bps)
[8] = ★ ADEMCO express
[9] = ★ ADEMCO contact ID (programmable codes)
[10] = ★ ADEMCO contact ID (all codes)
[TRBL] = ★ DTMF - no handshake (personal dialing)

★ = 4-digit account codes only

8.5.1 Ademco Contact ID (all codes)

Table 5 - Contact ID Event Codes

System Event	Event Code	Contact ID	Contact ID
Alarms / Restores	400 to 447	Burglary Zone #	130
Alarms / Restores on Zone	402, 426	Fire Alarm	110
Arm / Disarm	301 to 349 /	Open / Close by user #	401
Zone Shutdown	448 to 471	Burglary Bypass #	573
Zone Tamper	472 to 495	Sensor Tamper	383
Zone Tamper Reset	510	Sensor Tamper	383
Auxiliary Power Trouble	496 & 504	System Trouble	300
Bell Disconnect / Max	497 & 505	Bell 1 Trouble	321
Low Battery	498 & 506	Low System Battery	302
AC fail	499 & 507	AC loss	301
Fire Loop Trouble	500 & 508	Fire Loop Trouble	373
Timer Loss / Timer	501 & 509	Time/Date Reset	625
TLM Trouble Restore	511	Telco 1 Fault	351
Test Report	512	Periodic Test	602
Panic #1 (1+3)	513	Panic Alarm	120
Panic #2 (4+6)	514	Medical	100
Panic #3 (7+9)	515	Fire Alarm	110
Duress	520	Duress	121
Late Close or No	516 & 517	Late to Open/Close	404
Partial Arming	518	Bypass	570
Recent Close	519	Open/Close	400
Program Change	525	Program Changed	306

Please note this format must use a 4-digit system account code (see section 8.4, System Account Codes). Ademco Contact ID is a fast communicator format that uses tone dialing instead of pulse dialing. This communicator format also uses a pre-defined list of industry standard messages and event codes that should suit most of your basic installation needs. The control panel will automatically generate the Contact ID event codes for every event in addresses 300 to 527 (see table 5). Therefore, you do not have to program addresses 300 to 527.

8.5.2 Ademco Contact ID (programmable codes)

Please note this format must use a 4-digit system account code (see System Account Codes, section 8.4). Ademco Contact ID is a fast communicator format that uses tone dialing instead of pulse dialing. Use the Ademco Contact ID event list of industry standard messages and event codes in the programming guide to program the desired event codes into addresses 300 to 527.

8.5.3 Ademco Express

This high-speed reporting format communicates 2-digit (00 to FF) events programmed at addresses 300 to 527 at a speed of 2 seconds per event. Unlike the other Ademco formats, the Contact ID Event Codes are not used. Please note this format must use a 4-digit system account code (see section 8.4)

8.5.4 DTMF – no handshake

This format is the same as the Ademco contact ID (programmable codes) except there is no verification of the report code sent (no handshake). Use this format in reporting situations where a central station receiver is not connected to the telephone number. It is also useful for personal reporting where a "handshake" is not required. For example, in "double reporting" mode, the first central station number can be connected to a receiver, while the second can be used for personal reporting using "no handshake" format. The panel will make two attempts to call the "no handshake" number. Please note this format must use a 4-digit system account code (see section 8.4).

8.5.5 Standard Pulse Formats

The control panel supports the following pulse reporting formats (see table 4): Ademco slow, Silent Knight, Sescoa, and Radionics.

8.6 Reporting Event Codes

Streamline - Sections 11 to 67 ➔ Hexa Programming - Addresses 300-527.

An Event Code is a 2-digit hexadecimal value, consisting of numbers from 00-FF. Each address between 300 and 527 represents a specific event, as described below and in the "Programming Guide". When an event occurs in the system, the control panel will send the 2-digit Event Code programmed at the corresponding address to the central station. The method of Event Code transmission is dependent on the Communicator Formats (see section 8.5) and the Reporting Options (see section 8.1). If using the Ademco Contact I.D. (all codes) format, you do not have to program any addresses. If you plan to program most of the event code addresses, we suggest you use the Hexa Streamlined Programming *Method* as described in section 5.2. Otherwise, use the *Hexa Programming Method* as described in section 5.1.

8.6.1 Arming Codes

Streamline - Sections 11 to 23 ➔ Hexa Programming - Addresses 300-349.

Whenever the system is armed, the control panel will send the programmed event code to the Central Station identifying who or how the system was armed.

8.6.2 Disarming Codes

Streamline - Sections 23 to 35 ➔ Hexa Programming - Addresses 350-399

Whenever the system is disarmed, the control panel will send the programmed event code to the Central Station identifying who disarmed the system. Also refer to section 8.12

8.6.3 Alarm Codes

Streamline - Section 36 to 41 ➔ Hexa Programming - Addresses 400-423

Whenever a zone opens while the system is armed, the control panel will send the programmed event code to the Central Station identifying which zone generated an alarm.

8.6.4 Restore Codes

Streamline - Sections 42 to 47 ➔ Hexa Programming - Addresses 424-447

The control panel will send the programmed event code to the Central Station as soon as the zone closes after generating an alarm or as soon the zone closes after bell cut-off. For more information, please see Report Zone Restore Options in section 8.11.

8.6.5 Shutdown Codes

Streamline - Sections 48 to 53 ➔ Hexa Programming - Addresses 448-471

If the Auto Zone Shutdown feature is enabled (see section 7.11), the control panel will send the programmed event code to the Central Station identifying which zones were shutdown.

8.6.6 Tamper/Trouble Codes

Streamline - Sections 54 to 59 ➔ Hexa Programming - Addresses 472-495

If the **Tamper/Wire Fault Recognition Options** are disabled (see section 11.7), the control panel will never transmit these event codes. Otherwise, whenever a tamper occurs on a zone, the control panel will send the programmed Event Code to the Central Station where Tamper 1 to Tamper 4 represent tamper report codes for control panel inputs 1 through 4. With Advanced Technology Zoning (ATZ) enabled (see section 7.2) each Tamper Code address will represent two zones (as shown below). The control panel will send the programmed Event Code when a tamper occurs on either zone.

> 472 – Tamper 1 = Input 1 / Zones 1 & 2
> 474 – Tamper 2 = Input 2 / Zones 3 & 4
> 476 – Tamper 3 = Input 3 / Zones 5 & 6
> 478 – Tamper 4 = Input 4 / Zones 7 & 8

8.6.7 Trouble/Restore Codes

Streamline or Hexa Programming ➔ Section 60 to 63 - Addresses **496-511**

Each of the addresses represents a specific trouble condition. The control panel will report the appropriate event code to the central station when one of the following conditions occurs or after the condition has returned to normal.

496 - Max. Auxiliary Current: is ≥ 1A.

504 - Max. Auxiliary Current Restore

497 - Bell Disconnect/Max. Bell Current: Bell is disconnected or bell current is ≥ 3A.

505 - Bell Disconnect Restore: No restore code for bell current

498 - Battery Disconnect/Low Voltage: Battery disconnected or battery voltage ≤ 10.5V.

506 - Battery Disconnect/Low Voltage Restore

499 - *Power Failure:* Voltage on AC input is ≤ 12.5V. (Also refer to section 8.9)

507 - *Power Failure Restore*

500 - *Fire Loop Trouble:* A tamper occurs on a fire zone (Zone 3/24hr.).

508 - *Fire Loop Trouble Restore*

501 - *Timer Loss:* The control panel detects a loss in the panel timer.

509 - Timer Programmed

502 to 503 - Reserved for Future Use

510 - All Tamper/Trouble Codes (see section 8.6.6) have returned to "normal".

511 - *TLM Trouble Restore:* Telephone line has restored after the TLM (see section 11.1) has detected the loss of a telephone line.

8.6.8 Special Codes

Streamline or Hexa Programming ➔ Section 64 to 67 - Addresses **512-527**

Each of the addresses represents a special condition in the system. When one of these special conditions occur, the control panel will report the event code associated with the address.

512 – Test Report: The test report has been activated either manually (see section 8.8, Manual Test Report or automatically (see section 8.7, Auto Test Report).

513 – Panic 1: A User presses keys [1] and [3] to activate a Panic 1 alarm

514 – Panic 2: A User presses keys [4] and [6] to activate a Panic 2 alarm

515 – Panic 3: A User presses keys [7] and [9] to activate a Panic 3 alarm.

For more information on **Keypad Panic Options** see section 9.4.

516 – Late To Close: **"Timed" Auto Arming** is enabled (see section 9.1) and the system has not automatically armed itself at the specified time.

517 – No Movement: **"No Movement" Auto Arming** is enabled (see section 9.2) and no movement has occurred for the designated amount of time.

518 – Partial Arming: Whenever the system is "Away" armed, "Home" armed, or armed while one or more zones are bypassed.

519 – Recent Close: An alarm occurs shortly after the system has been armed (see section 8.10, Recent Close Delay).

520 – Duress: The Duress feature is enabled (see section 4.4) and a User disarms the system using the User Code #48.

521 to 523 – Reserved for Future Use

525 – Program Change: The installer code is used to enter the programming mode.

526 to 527 – Reserved for Future Use

8.7 Auto Test Report

Decimal Programming ➔ Addresses 046-048

Default: Auto Test Report Disabled

The report code programmed at address 512 will be reported to the central station after the number of days programmed at address 046 have elapsed and at the time programmed at address 047 (hours) and 048 (minutes). To disable this feature, program 000 at address 046. Also note that if [2nd][2nd] is programmed at address 512 nothing will be reported.

[ENT] + [installer code] + [0] [4] [6] + 2 digits (days) + [0] [4] [7] + 2 digits (hours) + [0] [4] [8] + 2 digits (minutes) + [ENT]

8.8 Manual Test Report

Key Access Programming ➔ key [BYPASS]

Activating the manual test report will send the Event Code programmed at address 512 to the Central Station.

[ENT] + [Installer, Master, or User 1 Code] **+ [BYPASS]**

8.9 Power Failure Report Delay

Decimal Programming ➔ Addresses 054

Default: 30 minutes

After a power failure, the control panel will delay transmission of the event code programmed at address 499 by the period programmed at this address (001 to 255 minutes).

[ENT] + [installer code]+ [0] [5] [4] + 3-digit decimal value (001-255) + [ENT]

8.10 Recent Close Delay

Decimal Programming ➔ Addresses 060

Default: Disabled

The system will transmit the recent close event code programmed at address 519 if after arming the system, an alarm occurs within the period programmed at this address (001 to 255 minutes). Program 000 into address 060 to disable this feature.

[ENT] + [installer code] + [0] [6] [0] + 3-digit decimal value (001-255) + [ENT]

8.11 Report Zone Restore Options

Feature Select Programming ➔ Address 088; key [bypass]

Default: Zone Restore Codes Transmit on Bell Cut-Off

With the "Bypass" indicator off, the report codes programmed at addresses 424-447 (see Restore Codes in section 8.6.4) will only transmit if the zone has returned to normal upon bell cut-off (see section 9.11). With the "bypass" indicator on, the codes will transmit as soon as the zone returns to normal (zone closure).

LED "bypass" off: Report Zone Restore on Bell Cut-Off

LED "bypass" off: Report Zone Restore on Zone Closure

[ENT] + [installer code] + [0] [8] [8] + "bypass" On/Off + [ENT]

8.12 Report Code Disarming Options

Feature Select Programming ➔ Address 088; key [TRBL]

Default: Disarming Codes Transmit on User Disarming

With the "TRBL" indicator off, the report codes programmed at addresses 350-399 (see Disarming Codes in section 8.6.2) will transmit whenever a User disarms the system. With the "TRBL" indicator on, the control panel will transmit these codes when a User disarms a system in alarm.

LED "TRBL" off: Always Report Disarm

LED "TRBL" on: Report Disarm only after alarm

[ENT] + [installer code] + [0] [8] [8] + "TRBL" On/Off + [ENT]

9. ARM/DISARM & ALARM OPTIONS

9.1 "Timed" Auto Arming

Feature Select Programming ➔ Address 086, key [5]

Default: Disabled

The alarm system will automatically arm itself at a specified time everyday. Note, as with regular arming, the system will not arm if a zone is open and will report a "late to close" to the central station. If this occurs, the system will not arm until the next day. The type of arming is dependent on the Auto Arming Options (see below). Program the Auto Arm Time as described below.

9.1.1 Auto Arm Time

The control panel will automatically arm itself at the specified time if "Timed" Auto Arming (see above) is enabled. The time is programmed using the 24-hour clock (i.e. 8:00PM = 20:00). There are two methods of programming the "Auto Arm Time" as described below.

- *Decimal Programming ➔ Address 044 & 045*

  Program the "Auto Arm Time" in hours into address 044 and the "Auto Arm Time" in minutes into address 045.

  [ENT] + [installer code] + [0] [4] [4] + 3-digit decimal value (hours) + [0] [4] [5] + 3-digit decimal value (minutes) + [ENT]

- *Key Access Programming ➔ key [9]*

  The User 1, Master, or Installer can program the "Auto Arm Time" using this method.

  [ENT] + [Installer, Master, or User 1 Code] + [9] + 2 digits representing hours + 2 digits representing minutes + [ENT]

9.1.2 Auto Arming Options

Feature Select Programming ➔ Address 090, key [2]

Default: Regular Arming

The "Auto Arm" feature will arm the system as described in the table below.

[ENT] + [installer code] + [0] [9] [0] + "2" On/Off + [ENT]

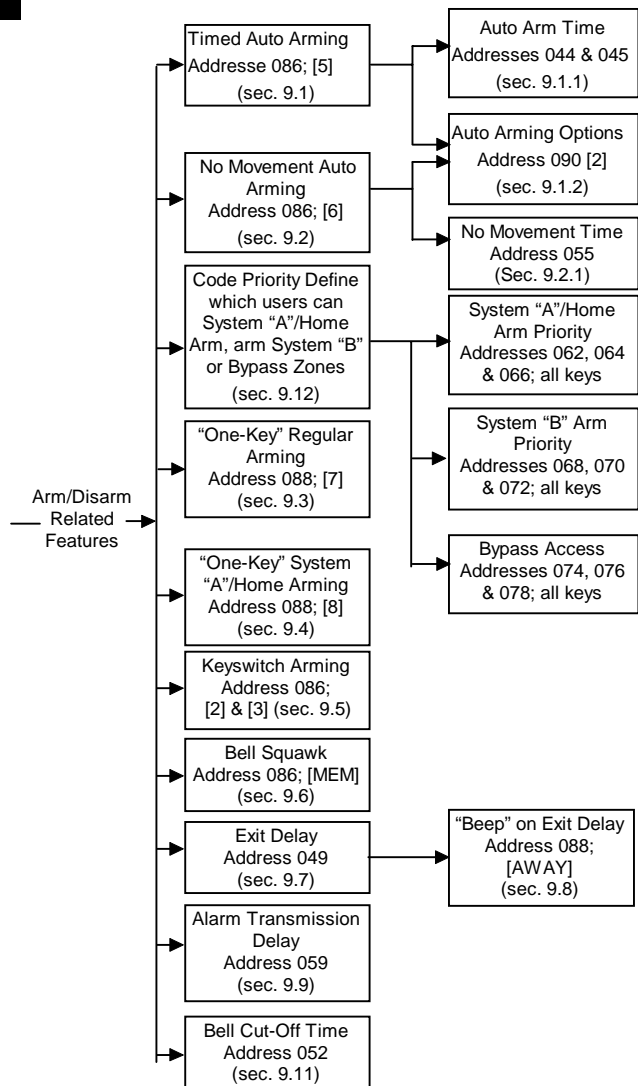| LED "2"	Partitioning	Option
Off	Off	"Regular Arming"
Off	On	"System A and B Arming"
On	Off	"Home Arming"
On	On	"System A Arming"

Figure 28 - Arming/Disarming Related Features

9.2 "No Movement" Auto Arming

Feature Select Programming ➜ Address 086, key [6]

Default: Disabled

If the control panel does not detect any zone openings for a specified period, the control panel will arm the system and transmit the event code programmed at address 517. Note the type of arming is dependent on the **Auto Arming Options** (see above). Program the "No Movement" Auto Arm as described below.

LED "6" off: No Movement Auto Arm Disabled

LED "6" on: No Movement Auto Arm Enabled

[ENT] + [installer code] + [0] [8] [6] + "6" On/Off + [ENT]

9.2.1 "No Movement" Auto Arm Time

Decimal Programming → Address 055

Default: 8 hours

000 = disabled; (001-255) X 15 minutes

If the "No Movement" Auto Arming (see above) feature is disabled and a time is programmed, the control panel will transmit the event code programmed at address 517 if no movement is detected during the programmed period.

[ENT] + [INSTALLER CODE] + [0] [5] [5] + 3-digit decimal value (001-255) + [ENT]

9.3 "One-Key" Regular Arming

Feature Select Programming → Address 088, key [7].

Default: Disabled.

A user can "regular" arm the system by pressing and holding the [QUICK] key for 2 seconds.

LED "7" off: "One-Key" Regular Arming Disabled

LED "7" on: "One-Key" Regular Arming Enabled

[ENT] + [INSTALLER CODE] + [0] [8] [8] + "7" On/Off + [ENT]

9.4 "One-Key" Home / "System A" Arming

Feature Select Programming → Address 088, key [8].

Default: Disabled.

Press and hold the [HOME] key for 2 seconds to "Home" arm the system if partitioning is disabled. If the system is partitioned, the control panel will arm "System A".

LED "8" off: "One-Key" Home/"System A" Arming Disabled

LED "8" on: "One-Key" Home/"System A" Arming Enabled

[ENT] + [INSTALLER CODE] + [0] [8] [8] + "8" On/Off + [ENT]

9.5 Arming Using Keyswitch or Pushbutton

Feature Select Programming → Address 086, key [2] & [3].

Default: Disabled.

The user can use a keyswitch or pushbutton to "Home" and "Regular" arm/disarm the system. Refer to sections 3.7 & 12.8.

[ENT] + [INSTALLER CODE] + [0] [8] [6] + "2" & "3" On/Off + [ENT]

Table 6 - Keyswitch Arming Table

LED "2"	LED "3"	Function
Off	Off	Disabled
On	Off	Disabled
Off	On	"Regular" Arm
On	On	"Home" Arm

9.6 Bell Squawk

Feature Select Programming ➜ Address 086; key [MEM]

Default: Disabled

With this feature enabled, the bell or siren will sound a half-second "squawk" upon arming and two half-second "squawks" upon disarming.

LED "MEM" off: Bell Squawk Disabled

LED "MEM" on: Bell Squawk Enabled

[ENT] + [INSTALLER CODE] + [0] [8] [6] + "MEM" *On/Off* + [ENT]

9.7 Exit Delay

Decimal Programming ➜ Address 049

Default: 60 seconds

The Exit Delay applies to all zones. This option determines how much time the user has to leave the protected area before the system arms after entering a valid access code. You can program the Exit Delay from 001 to 255 seconds.

[ENT] + [installer code] + [0] [4] [9] + 3 digit decimal value (001-255) + [ENT]

9.8 Beep on Exit Delay

Feature Select Programming ➜ Address 088, key [away]

Default: Disabled

With this feature enabled, the keypad will sound an intermittent "beep" during exit delay (except when in "HOME" arming). Frequency of intermittent beeps increases during the last 10 seconds of the exit delay period.

LED "AWAY" off: Beep on Exit Delay Disabled

LED "AWAY" on: Beep on Exit Delay Enabled

[ENT] + [installer code] + [0] [8] [8] + "AWAY" On/Off + [ENT]

9.9 Alarm Transmission Delay

Decimal Programming ➜ Address 059

This time limit, set between 5 and 63 seconds, is the delay period the control panel will wait before reporting an alarm to the central station. During this period, disarming the system will cancel all pending alarms and send the restore codes. Programming 000-004 disables this feature.

[ENT] + [INSTALLER CODE] + [0] [5] [9] + *3-digit decimal value (005-063)* + [ENT]

9.10 Silent Zones & Silent Panics Option

Feature Select Programming ➜ Address 086, key [9]

If the "9" indicator is on, silent zones or silent panics only transmit a report to the central station. The system will not indicate an alarm and will not have to be disarmed, nor will the control panel activate the PGM. If a keypad panic has been defined as audible, the control panel will override this option.

LED "9" off: Silent Zones & Silent Panics generate a silent alarm

LED "9" on: Silent Zones & Silent Panics generate a report only

[ENT] + [installer code] + [0] [8] [6] + "9" On/Off + [ENT]

9.11 Bell Cut-Off Time

Decimal Programming ➜ Address 052

Default: 5 minutes

After an audible alarm, the bell or siren will stop after the programmed time has elapsed.

[ENT] + [installer code] + [0] [5] [2] + 3-digit decimal value (001-255) minutes + [ENT]

9.12 Code Priority

Feature Select Programming ➜ Address 062-078, [all] keys

In order for a user to arm a partitioned system, to "Home" arm, "Away" arm or to manually bypass zones, the user must be given code priority. Using the "Feature Select Programming Method", identify which arming methods each can use. Users not given code priority can only "regular" arm a non-partitioned system. For more information on arming/disarming methods please refer to section 12, User/Keypad Functions.

- **Partitioning Disabled:**

  Addresses 062-066: Lit LEDs denote which user codes can activate "Home" arming.

  Addresses 068-072: Lit LEDs denote which user codes can activate "Away" arming.

  Addresses 074-078: Lit LEDs denote which user codes can "Bypass" zones.

- **Partitioning Enabled:**

  Addresses 062-066: Lit LEDs denote which user codes can arm "System A".

  Addresses 068-072: Lit LEDs denote which user codes can arm "System B".

  Addresses 074-078: Lit LEDs denote which user codes can "bypass" zones.

CODE PRIORITY

Keypad Select	LED Indicators: [1] [2] [3] [4] [5] [6] [7] [8] [9] [0] [HOME][AWAY][BYPASS][MEM][TRBL][2ND]
062: SYSTEM "A" / HOME	User #: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐
064: SYSTEM "A" / HOME	User #: 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐
066: SYSTEM "A" / HOME	User #: 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐
068: SYSTEM "B" / AWAY	User #: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐
070: SYSTEM "B" / AWAY	User #: 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐
072: SYSTEM "B" / AWAY	User #: 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐
074: Codes with bypass access	User #: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐
076: Codes with bypass access	User #: 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐
078: Codes with bypass access	User #: 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

10. PGM (programmable outputs)

10.1 PGM Types

Streamline - Sections 09 ➔ Hexa Programming - Address 039

The **MAESTRO** control panels have one programmable output (PGM). When a PGM closes, ground is supplied to activate any device or relay connected to it, providing up to a maximum of 50mA. When a PGM opens, the circuit is opened from ground, therefore not providing any power to devices connected to it. To program a PGM you must define the PGM state (normally open or normally closed), the timing (regular or timed) and you must define the type of logic ("OR", "AND", "EQUAL"). To do so, use table 7 to determine which hexa digit to program into address 039, where the first hexa digit programmed corresponds to the PGM.

- Regular N.O./N.C.
  A triggered PGM will switch to its opposite state (i.e. closed to open or opened to closed). The PGM will return to its original state once the event(s) that triggered it have terminated.
- Timed N.O./N.C
  A triggered PGM will switch to its opposite state (i.e. closed to open or opened to closed). The PGM will remain in its opposite state for the period programmed at address 056. See "PGM Timer Setting" in section 10.2 for details. If the PGM is triggered again before the period has elapsed, the PGM will remain in its opposite state and the timer will be reset.
- "OR" Logic
  Will trigger a PGM when at least one event occurs from a specific group of events (e.g. key [1] and/or [2] is pressed on the keypad).
- "AND" Logic
  The "AND" logic will trigger a PGM when all events, or more, occur from a specific group of events (e.g. Keys [1] and [2] are pressed simultaneously. Note that pressing those two keys in conjunction with any other key will also trigger the PGM).
- "EQUAL" Logic
  The "EQUAL" logic will trigger a PGM only when the events from a specific group of events occur (e.g. Keys [1] and [2] are pressed). Note the PGM will only trigger when pressing keys [1] and [2] simultaneously, if any other key is pressed at the same time (e.g. [1], [2] & [3]) the PGM will not trigger.

Table 7 - PGM Type Selection

KEY		KEY	
[2ND] : OR		[8] : OR	
[1] : AND	Reg N.O.	[9] : AND	Reg N.C.
[2] : EQUAL		[0] : EQUAL	
[4] : OR		[AWAY]: OR	
[5] : AND	Timed N.O.	[BYPASS]: AND	Timed N.C.
[6] : EQUAL		[MEM]: EQUAL	

(For timed PGM see also address 056)

[ENT] + [INSTALLER CODE] + [0] [3] [9] + *one digit from table 7* + [2ND] + [ENT]

10.2 PGM Timer Setting

Decimal Programming ➔ Address 056

Default: 5 seconds

You can program the PGM Timer from 1 to 127 seconds or 1 to 127 minutes. To determine the 3-digit decimal value, do the following:

- To program in seconds, the required time is respective to the decimal value 1 second = 001, 55 seconds = 055, 127 seconds = 127.
- To program in minutes, add the desired minutes to 128:
  5 minutes: 128 + 5 = 133
  127 minutes: 128 +127 = 255

[ENT] + [INSTALLER CODE] + [0] [5] [6] + *3-digit decimal value* (001-255) **+ [ENT]**

Table 8 - Commonly Used PGM Options

State	Option	PGM1		
		add. 039	add. 040	add. 042
Timed N.O.	Output enabled for 3 sec. Before communication attemp	[5]/[2ND]	[5]/[2]	[2ND]/[8]
Regular N.O.	Output enabled when keys [1] & [2] are pressed simultaneously	[1]/[2ND]	[5]/[8]	[2ND]/[6]
Regular N.O.	Output enabled when system armed	[2ND]/[2ND]	[2]/[9]	[2ND]/[3]
Regular N.O.	Output enabled during an alarm	[2ND]/[2ND]	[2]/[AWAY]	[2ND]/[2]
Timed N.O.	Output enabled for 2 min. upon fail to communicate	[5]/[2ND]	[2]/[6]	[2ND]/[4]
Regular N.O.	Output enabled after one failed communication attempt.	[2ND]/[2ND]	[7]/[0]	[2ND]/[MEM]
Timed N.O.	Output enabled for 3 sec. after signal received at monitoring station	[5]/[2ND]	[7]/[BYPASS]	[2ND]/[8]

10.3 PGM Options

Streamline or Hexa Programming ➔ Section 10 - Addresses 040 & 042

The PGM options define which sequence of events will trigger the PGM. The PGM options are virtually endless, therefore, to list them in the manual is impractical. Table 8, contains a list of the most commonly used PGM options with the required 2-digit data for each address.

11. OTHER OPTIONS

11.1 Telephone Line Monitoring (TLM)

Feature Select Programming ➔ Address 086, key [2ND] & [1]
Default: TLM Disabled

When enabled, the system verifies the existence of a telephone line every 4 seconds. After each successful test, the dialer LED (green light) on the control panel flashes briefly. If the test fails the led flashes on and off until the control panel detects the telephone line again. TLM will activate a trouble when less than 3 volts is detected in four consecutive tests. Note, when the dialer detects a telephone ring, the TLM test stops for 1 minute.

There are three TLM options, which are set as indicated in table number 9:

1. **OFF/ON:** Line test failure will generate a trouble indication; **"10"** indicator will illuminate on the keypad.
2. **ON/OFF:** Line test failure will generate a trouble indication and an alarm if the system is armed.
3. **ON/ON:** Line test failure will generate a trouble indication and cause a silent zone or a silent panic alarm to switch to audible mode.

[ENT] + [INSTALLER CODE]+ [0] [8] [6] + *"2ND" & "1" On/Off* **+ [ENT]**

```
Table 9 - Telephone Line Monitoring (TLM)
            LED
        "2ND"  "1"
        OFF   OFF — TLM is disabled (default)
        OFF   ON  — TLM generate a trouble only
        ON    OFF — generates an alarm if armed
        ON    ON  — silent alarm becomes audible
      ↳(address 086, LED "9" has to be OFF)
```

11.2 Dialing Options

Feature Select Programming ➔ Address 086, key [7]
Default: Pulse Dialing

You can program the control panel to use the pulse dialing or tone/DTMF dialing format.

LED "7" off: Pulse Dialing
LED "7" on: Tone/DTMF Dialing
[ENT] + [INSTALLER CODE] + [0] [8] [6] + "7" On/Off + [ENT]

11.3 Dialing Pulse Rates

Feature Select Programming ➔ Address 086, key [0]
Default: Pulse USA 1:1.5

This selection reflects the ratio between "pulse" time and "quiet" time. Select Pulse Europe for a 1:2 ratio and select Pulse USA for 1:1.5.

LED "10" off: Pulse Europe 1:2
LED "10" on: Pulse USA 1:1.5
[ENT] + [INSTALLER CODE] + [0] [8] [6] + "10" On/Off + [ENT]

11.4 Keypad Panic Options

Feature Select Programming Address 088 keys [1] to [6]

This feature will generate an alarm when the User presses two specific keys on the keypad simultaneously for 2 seconds as described below:

LED **"1"** on = Panic 1 (keys [1] and [3]) enabled
LED **"2"** on = Panic 2 (keys [4] and [6]) enabled
LED **"3"** on = Panic 3 (keys [7] and [9]) enabled

Keypad panic options:
LED **"4"** off = Panic 1 silent
LED **"4"** on = Panic 1 audible
LED **"5"** off = Panic 2 silent
LED **"5"** on = Panic 2 audible
LED **"6"** off = Panic 3 silent
LED **"6"** on = Panic 3 fire alarm

Silent operation:
When using the panic keys, the control panel will sound a single confirmation beep. The control panel will transmit the event codes programmed at addresses 513, 514, and 515. The alarm will latch (no audible alarm) and the "armed" light on the keypad will flash until the system is disarmed by a valid User code.

Audible operation:
Same as silent operation, except the alarm output (bell/siren) will activate until the system is disarmed by a valid User code or until the Bell Cut-Off Time (see section 9.11) elapses.

Fire operation:
Same as audible operation except that bell/siren output will be pulsed (intermittent "on"/"off").

11.5 Panel Time

Key Access Programming ➔ key [MEM]

To program the current time into the control panel press:

[ENT] + [Installer, Master, or User 1 Code] **+ [MEM] +** 2 digits representing hours (00-23) **+** 2 digits representing minutes (00-59)

11.6 Time Correction

Streamline - Section 09 ➔ Hexa Programming - Address 037

If you notice a gain or loss in the control panel time, calculate the average gain or loss per day and select the "opposite" amount from the Time Correction table in order to automatically correct the time setting every 24 hours.

Example: The control panel loses 4 minutes per month, representing an average loss of 8 seconds per day. Therefore, *program [2] (plus 8 seconds) as the second digit in address 037 to compensate for the 8-second loss.*

Table 2 - Answering Machine Override Options				
[2nd] or [1] = Answering Machine Override disabled				
[2] = 16 sec.	**[4]** = 32 sec.	**[6]** = 48 sec.	**[8]** to **[TRBL]** = 60 sec.	
[3] = 24 sec.	**[5]** = 40 sec.	**[7]** = 56 sec.		

Table 10 - Time Correction	
(address 037 second digit)	
[2nd] - No adjustment	**[8]**- Minus 4 seconds
[1]- Plus 4 seconds	**[9]**- Minus 8 seconds
[2]- Plus 8 seconds	**[0]**- Minus 12 seconds
[3]- Plus 12 seconds	**[HOME]** - Minus 16 seconds
[4]- Plus 16 seconds	**[AWAY]** - Minus 20 seconds
[5]- Plus 20 seconds	**[BYPASS]** - Minus 24 seconds
[6]- Plus 24 seconds	**[MEM]** - Minus 28 seconds
[7]- Plus 28 seconds	**[TRBL]** - Minus 32 seconds

11.7 Tamper/Wire Fault Recognition Options

Feature Select Programming ➔ Address 088, keys [0] and [HOME]

When the control panel detects an open or a short on a zone, it will report this in the following manner. When the system is **armed**, regardless of the tamper/wire settings it will always generate an

alarm and trouble indicator (LED **"9"**). Alarms will be audible or silent depending on individual zone definitions. If an open or short occurs on a **disarmed** system, the control panel will generate an incident depending on the following settings:

"10"	"HOME"	Tamper Recognition Option
OFF	OFF	Tamper/Wire Fault Disabled
OFF	ON	Trouble Enabled
ON	OFF	Silent Alarm Enabled
ON	ON	Audible Alarm Enabled

Tamper/Wire Fault Disabled:

Tamper/wiring failure recognition is disabled.

Trouble Enabled:

Tamper/wiring failure will generate a trouble indicator (LED "9") and a trouble report code (see Tamper/Trouble Codes , in section 8.6.6) when the system is disarmed.

Silent Alarm Enabled

Tamper/wiring failure will generate a trouble indicator (LED "9"), a trouble report code (see Tamper/Trouble Codes, in section 8.6.6) and a silent alarm (no bells/sirens)

Audible Alarm Enabled:

Tamper/wiring failure will generate a trouble indicator (LED "9"), a trouble report code (see Tamper/Trouble Codes , in section 8.6.6) and an audible alarm.

NOTE: When the zone definition is "24 hour", the tamper definition follows the audible/silent alarm definition of the "24 hour" zone.

11.8 Tamper Bypass Options

Feature Select Programming ➔ Address 090, key [6]

With this option enabled (LED **"6"** on), the control panel will **not** generate an alarm if a tamper is detected on a bypassed zone while the system is armed. With the option disabled, the control panel will generate an alarm if a tamper or wire fault is detected on bypassed zone when the system is armed.

LED "6" off: Alarm if Tamper on Bypassed Zone

LED "6" on: No Alarm if Tamper on Bypassed Zone

[ENT] + [INSTALLER CODE] + [0] [9] [0] + "6" On/Off + [ENT]

11.9 Installer Test Mode

Key Access Programming ➔ key [8]

The "Installer Test Mode" will allow you to perform walk tests where the bell or siren will squawk to indicate opened zones. To enter or exit the control panel "Test Mode" press:

[ENT] + [INSTALLER CODE] + [8] to enable; press [8] again to disable

11.10 Exclude Power Failure From Trouble Display

Feature Select Programming ➔ Address 090, key [2nd]

Default: disabled

Excludes the Power Failure, LED "2", from the Trouble Display (see section 12.12.2).

11.11 Audible Trouble Warning

Feature Select Programming Address 090, key [9]

Default: Disabled

Trouble conditions will sound an intermittent "beep" on the keypad. To silence the trouble warning, press the [TRBL] key.

11.12 Power Down Reset

Performing a power down reset will set the installer and master codes to factory default. Values entered at addresses 008-043, 062-126, 300-527, as well as all the user codes, will be erased ([2ND], [2ND]). Programmed values of all other addresses do not change. Note to perform a reset the installer lock must be disabled. To perform a power down reset perform the following:

1. Make sure the installer lock is disabled (see section 4.5)
2. Remove the battery and AC power from the control panel.
3. Set the "reset" jumper to on. Place a jumper on the "reset" pins of the control panel.
4. Re-connect the AC power and the battery to the control panel.
5. Wait 10 seconds and remove the jumper.

12. USER/KEYPAD FUNCTIONS

The innovative Maestro keypad takes a new approach to security features and functions. Each LED indicator from 1 to 10 on the keypad, respectively, represents each zone on the control panel. When zone indicator is "off", the status in the protected zone is normal. If the zone indicator is "on", this means the zone is open.

The green "READY" indicator on the keypad will illuminate when the status of all the zones is normal (zones are closed). Therefore, all windows and doors must be closed and motion detectors must not detect any movement except those zones that have been bypassed.

Confirmation Beep: an intermittent series of beeps ("beep-beep-beep") indicating a successful keypad entry or system operation.

End/Rejection Beep: one long tone ("beeeeeeep") indicating incorrect keypad entry or unsuccessful system operation.

12.1 Programming Master & User Codes

The Maestro control panels have one Master (00) code and up to 48 User (01-48) codes. The default Master code is 0000. The Master code can arm the system using any arming method, can create/modify user codes and can perform Key Access Programming (see section 12.13). The User 1 code can create/modify access codes and perform key access programming. The access code consists of either 4 or 6-digits and each digit can be any value from 0 to 9. Note, do not enter [2nd] when programming the master code as this will invalidate the master code.

[ENT] + [Master or User 1 Code] + 2-digit code number (00-48) + 4 or 6-digit access code + [ENT]

12.2 Regular Arming

"READY" indicator on + [valid access code]

This method, commonly used for day-to-day arming, will arm all the zones in the system. To do so, the keypad's green "READY" light must be illuminated, indicating that all zones are closed. All doors and windows must be closed, and there can be no movement in areas monitored by motion detectors. Once the "READY" light is on, a valid user access code must be entered. If a mistake is made entering the code or if the "READY" indicator is not on when the code was entered, the keypad will sound a "rejection beep" (beeeeeeeep).

When the correct user access code is entered, the keypad will sound a "confirmation beep" (beep-beep-beep) and the red "arm" indicator will illuminate. The "READY" light will flash and the keypad will "beep" during the exit delay period (see section9.7). During the final 10 seconds of the exit delay, the keypad will "beep" and the **"READY"** indicator will flash at a faster rate. At the end of the exit delay, the keypad will sound a "confirmation beep", the green **"READY"** indicator will extinguish and the red **"ARM"** indicator will remain illuminated to indicate that the system is armed.

12.2.1 "One-Key" Regular Arming

"ready" indicator on + hold the [quick] key for 2 seconds

To use this feature, enable the "One-Key" Regular Arming option (see section "One-Key" Regular Arming). When the green "ready" light is on, pressing and holding the [quick] key for 2 seconds will arm all zones in the system. This feature can be used to allow specific individuals like service personnel (i.e. cleaners, maintenance) to arm the system when leaving the protected area, without giving them access to any other control panel operations.

The use of a valid access code is still required to disarm the system. For details on "Regular Arming", refer to section 12.2.

12.3 Away Arming

[away] + [valid access code]

To rapidly arm the system without having to wait for the green "ready" indicator, simply press the [away] key followed by a valid access code. Once the exit delay expires, any open zones will be considered "deactivated" by the control panel. Therefore, these zones will not generate an alarm. If during this period a "deactivated" zone is closed, the control panel will revert that zone to "active" status, hence, will generate an alarm if breached.

If a mistake is made entering the code, the keypad will sound a "rejection beep" (beeeeeeeep). When the correct user code is entered, the keypad will sound a "confirmation beep" (beep-beep-beep) and the red "arm" indicator will illuminate. The "ready" light will flash and the keypad will "beep" during the exit delay period (see section 9.8). During the final 10 seconds of the exit delay, the keypad will "beep" and the **"READY"** indicator will flash at a faster rate. At the end of the exit delay, the green **"READY"** indicator will stop flashing and the red **"ARM"** indicator will remain illuminated. If programmed at address 518, the control panel will send a "partial arm" report code to the central station. Note, to use this method the user must have "AWAY" arming priority, see *Code Priority* in section 9.12.

12.4 Home Arming

[home] + [valid access code]

"Home" arming allows the user to remain in the protected area while partially arming the system. This means that they can stay in and move around the establishment, while certain designated zones are armed. For example, entry/exit points like doors or windows, the basement, or perhaps all the zones on the perimeter of the establishment may be armed when going to sleep at night, while the other zones remain deactivated. To program which zones will be activated when "home arming" the system refer to *"System A"/Home Zones* in section 7.10.1. Also note that fire zones must be programmed as "home zones"; they can not be bypassed.

Unlike regular arming, the green **"READY"** indicator does not have to be illuminated. Only doors and windows programmed as "home zones" must be closed, and there can be no movement in areas monitored by motion detectors in "home zones". To "HOME" arm the system, press the [home] key followed by a valid access code. If a mistake is made entering the code or if a "home zone" is open when entering the code, the keypad will sound a "rejection beep" (beeeeeeeep). After entering the correct user access code, the keypad will sound a "confirmation beep" (beep-beep-beep), the red "HOME" and "arm" indicators will illuminate and the green "ready" indicator will flash during the exit delay period. During the final 10 seconds of the exit delay, the "ready" indicator will flash at a faster rate. At the end of the exit delay, the keypad will sound a "confirmation beep", the "ready" indicator will stop flashing and the red "HOME" and "arm" indicators will remain illuminated. Note, to use this method the user must be given "HOME" arming priority, see Code Priority in section 9.12.

12.4.1 "One-Key" Home Arming

hold the [home] key for 2 seconds

To use this feature, enable the "One-Key" Home/System Arming option (see section "One-Key" Home/System Arming). When all "homes zones" are closed, pressing and holding the [home] key for 2 seconds will arm only zones programmed as "home zones". For details on "Home Arming", refer to section 12.4.

12.4.2 "One-Key" Double Home Arming

After having "HOME" armed the system (see section 12.4), press and hold the [home] key for 2 seconds during the exit delay, until you hear a single "beep". This will switch all "entry delay" zones to "instant" zones (see section 7.6). Therefore, any entry delay zone that is breached will immediately generate an alarm instead of waiting a pre-determined period.

12.4.3 Fast Exit

This feature is only available when the system is "Home" armed (see section 12.4). This feature will allow you to exit the already armed premises and keep the system armed.

This can be done one of two ways:

- With the system already "HOME" armed, press and hold the **[HOME]** key for 2 seconds. The system will switch to exit delay mode (green **"READY"** indicator flashes). At the end of the exit delay period, the system will return to "HOME" arm mode.
- With the system already "HOME" armed, press and hold the **[QUICK]** key for 2 seconds. The system will switch to exit delay mode (green **"READY"** indicator flashes). At the end of the exit delay period, the system will "regular" arm the system (see section 12.2).

12.5 Arming/Disarming Partitions

- Thanks to Maestro's partitioning feature, two distinct systems (A and B) can be created and controlled by the control panel. Partitioning can be used in installations where shared security systems are more practical, such as office/warehouse buildings, or apartment/condominium complexes. Each zone can be assigned to System A, System B, both systems or given no system assignment. User access codes can also be programmed to arm/disarm one system or both systems simultaneously (see Code Priority in section 9.12). Unlike regular arming, the green "ready" indicator does not have to be illuminated. All doors and windows pertaining to the desired system must be closed, and there can be no movement in areas monitored by motion detectors in the desired system.

1. If a user is not given any code priorities, the user will never be able to arm or disarm the system when partitioned.

2. If a user is given code priority to one of the two systems, entering the correct access code will arm or disarm the system to which the user was given priority.

3. If a user is given code priority to arm/disarm both systems A & B, it will function as follows:
   - If the User enters the correct access code when systems "A" and "B" are disarmed, it will completely arm both systems.
   - If the User enters the correct access code when systems "A" and "B" are armed, it will completely disarm both systems.
   - When the system is partially armed, (i.e. only System "A" or only System "B" is armed) entering the correct access code will arm the other system.
   - To arm/disarm each system separately, do the following:
   - Press **[HOME]** + **[VALID ACCESS CODE]** to arm/disarm "System A".
   - Press **[AWAY]** + **[VALID ACCESS CODE]** to arm/disarm "System B".

If a mistake is made entering the code or if a zone in the desired system is open when entering the code, the keypad will sound a "rejection beep" (beeeeeeeep). When the access code is correctly entered, the keypad will sound a "confirmation beep" (beep-beep-beep). The keypad can display the status of both systems. When "System A" is armed, the red "HOME" and "arm" indicators will remain on. If System B is armed, the red "AWAY" and "arm" indicators will remain on. When both systems are armed, all three lights will remain on.

12.5.1 One-Key "System A" Arming

This feature allows the user to arm "System A" without the use of an access code. To use this feature, enable the "One-Key" Home/"System A" option (see section " One-Key" Home/"System A"). When all the zones in "System A" are closed, press and hold the [home] key for 2 seconds to arm "System A". This feature can be used to allow specific individuals like service personnel (i.e. cleaners, maintenance) to arm the system when leaving the protected area, without giving them access to any other control panel operations. For "System A" Arming details refer to sec. 12.5.

12.6 System Disarming

The user must enter the protected area through a designated entry/exit point. The keypad will "beep" during the entry delay reminding the user to disarm the system. Upon entry of a valid access code, the red "arm" indicator will extinguish and the keypad

will sound a confirmation "beep" (beep-beep-beep) denoting the system has been disarmed. If an incorrect access code is entered, the keypad will sound a rejection "beep" (beeeeeeeep). Press the [CLR] key at any time to clear data and re-enter another access code. If an alarm was generated from a fire or 24-hour zone while the system was armed, entering a valid user code will silence the siren. However, you should then check the zone and eliminate the cause of the alarm. 24-hour zones that restore and re-alarm will cause another alarm 30 seconds after an access code is entered to silence the alarm. If you are unable to pinpoint the reason for the alarm, call your installer.

12.7 Alarm Memory

If an alarm situation occurs when the system is armed, the "MEM" indicator on the keypad will illuminate. A record of all alarm situations that occur is stored in memory. After disarming the system, pressing once on the [MEM] key will display which zones were open during the alarm period by illuminating the corresponding zone indicator(s). Please note that if the [MEM] key is pressed again you will enter the event display which can not decoded. To exit alarm memory display, press the [CLR] key.

12.8 Keyswitch or Pushbutton Arming / Disarming

A keyswitch or push button can be used to "Home" (section 12.4) or "Regular" (section Regular Arming) arm/disarm the system. If the system is ready and the button is pressed, the system will arm. Pressing the button again will disarm the system. If a "Home" armed system is in entry delay or if an alarm has been generated while "Home" armed, the keyswitch or push button can not be used to disarm the system. In this case, only a keypad can disarm the system. In a partitioned system the keyswitch or push button will arm/disarm "System A" regardless of the "System B" status. To enable this feature and set the options (home or regular arming) refer to Arming Using Keyswitch in section 9.5.

12.9 Manual Zone Bypassing

[bypass] + [valid access code] + [zones to bypass] + [ENT]
When a zone is bypassed it will no longer be monitored by the control panel, hence, will not generate an alarm. A user may wish to bypass certain zones when, for example, workers are renovating part of their establishment or if a component in their system is damaged. Manual bypass arming instructs the control panel to ignore ("deactivate") specified zones in order to arm the remainder of the system. In order for a user to bypass any zones, verify that the following options are set in the control panel:

- You must first define which zones are Bypass Enabled Zones (see section 7.11). Zones not identified as Bypass Enabled can not be bypassed.
- Only users with Code Priority (see section 9.12) can bypass zones.
- Please note, the control panel can not bypass fire zones.

To bypass zones, press the [bypass] key followed by a valid access code. If the wrong code was entered or a code without bypass priority, the keypad will sound a "rejection beep" (beeeeeeeep). If the correct code is entered, the yellow "bypass" light will flash to indicate that you are now in "bypass mode". If there are any currently bypassed zones, their respective zone indicators will turn on. Press the key corresponding to the zone you wish to bypass until their respective zone indicator turns on. For example, press the [1] key until the red "1" indicator turns on, indicating that zone 1 is bypassed. If the zone you wish to bypass has not been programmed as "bypass enabled", the corresponding zone indicator will never illuminate. Press the [CLR] key to erase the current zone bypass entries and exit the "bypass mode". If you have entered the correct bypass entries, press the [ENT] key to accept these entries. The yellow "bypass" indicator will remain on, denoting that zones in the system are currently bypassed, hence, the next time the system is armed, certain zones will be bypassed.

12.10 Bypass Recall

This feature permits users to reinstate the last zone bypass entries saved in memory. When the system is disarmed, the bypass entries

will be erased. By using the "bypass recall" feature, you can reinstate the previous bypass entries saved in memory. While in the "bypass mode", press the [bypass] + [ENT] keys and the previous bypass status will be re-established. This eliminates the need to re-enter the bypass entries every time the system is armed. If a user is in the process of entering new bypass entries on the keypad, pressing the [bypass] key will override new information and reinstate previous bypass entries.

12.11 Keypad Chime Zones

A chimed zone "advises" you when a zone is opened by creating a rapid intermittent beep tone (beep-beep-beep). Up to six zones plus the local keypad zone can be programmed as chime zones. To turn on the "chime zone" feature, press and hold the key corresponding to the desired zone ([1] to [6]) for three seconds until the intermittent chime beep is heard. This means that the chime feature has been activated. If a continuous beep is heard, this means that the chime beep has been deactivated. To enable the chime feature on the keypad zone, press and hold the [8] key for three seconds. To mute the keypad's alarm sounder, press and hold the [9] key for three seconds until the intermittent chime beep is heard. This means that the muting feature has been activated. If a continuous beep is heard, this means that the muting feature has been deactivated. To enable chiming when there is no AC power (orange "power" LED off) press and hold the [7] key for 3 seconds until the intermittent chime beep is heard. If there is more than 1 keypad in the system, please "chime" program each keypad separately. Keypad chimes must be reprogrammed if the panel suffers a total power loss.
Key [1]-[6]: Turns chime "on" or "off" in zones numbered 1-6
Key [7]: Turns chime "on" or "off" when there is no AC power (orange "power" LED off)
Key [8]: Turns chime "on" and "off" for the local keypad zone
Key [9]: Turns the keypad's alarm sounder muting "on" or "off"

12.12 Trouble Display Monitoring

Trouble conditions are continuously monitored by the control panel which are displayed on the keypad. When a trouble condition occurs, the "TRBL" indicator will illuminate and the keypad will sound an intermittent beep if the Audible Trouble Warning (see section 11.11) is enabled. Press the [trbl] key to switch to "trouble display" mode. The "TRBL" indicator will flash and any illuminated keys correspond to a trouble condition as described below. Press any key to exit "trouble display" mode.

12.12.1 No Battery/Low Battery – "1"

The control panel conducts a dynamic battery test under load every 60 seconds. The illumination of the "1" indicator denotes that the back-up battery is disconnected or that the battery should be replaced, as it will not provide adequate back-up current in case of AC loss. If the control panel is currently running on battery power, the illumination of the "1" indicator denotes that the battery voltage has dropped to 10.5 VDC or lower.

12.12.2 Power Failure – Key "2"

The control panel conducts a dynamic battery test under load every 60 seconds. The control panel will detect a power loss if a continuous loss of AC ($\leq$12.5VAC) has occurred during the period between two AC power tests (64 to 116 seconds). If a power loss remains present throughout the Power Failure Report Delay (see section 8.9), the control panel will transmit the report code programmed at address 507 and the "TRBL" indicator will flash rapidly indicating a power failure. The trouble indicator is restored if AC is detected during the dynamic battery test. You can remove the power failure trouble indicator from the trouble display by enabling the Exclude Power Failure From Trouble Display option (see section 11.10).

12.12.3 Bell Disconnected – "4"

The illumination of the "4" indicator denotes that there is no bell or siren connected to the bell output terminals of the control panel. Please note that when connecting a bell or siren to an optional relay output the trouble indicator will always be on. To avoid this, connect a 1KΩ resistor across the bell output. The control panel only recognizes bells or siren connected directly to the bell output of the control panel not those connected through a relay.

12.12.4 Maximum Bell current – "5"

The bell output is microprocessor controlled and will automatically shutdown when the current exceeds 3A upon alarm. If this occurs, the "5" indicator will illuminate. After opening the short or reducing the load, the bell current is restored upon the following alarm generation.

12.12.5 Maximum Auxiliary Current – "6"

The illumination of the "6" indicator denotes that the auxiliary current has exceeded 1A. This will cause automatic shutdown of the auxiliary output. After opening the short or reducing the load, the control panel will restore power to the auxiliary output following the dynamic battery test (approximately 60 seconds).

12.12.6 Communicator Report Failure – "7"

If the control panel was unsuccessful at attempting communication with the central station computer, the "7" indicator will illuminate.

12.12.7 Timer Loss – "8"

The illumination of the "8" indicator denotes that the timer must be re-programmed. To re-program the timer press:
[ENT] + [Installer, Master or User 1 Code] + [MEM] + 2 digits (00 to 23) representing hours + 2 digits (00 to 59) representing minutes.

12.12.8 Tamper/Zone Wiring Failure – "9"

If the Tamper/Wire Fault Recognition Options (see section 11.7) are enabled, the "9" indicator will illuminate to indicate a short or cut on a zone input. In order to provide line short recognition the zone connections must use EOL resistors (see section 3.9, Zone Input Terminal Connections).

12.12.9 Telephone Line Monitoring – "10"

If the Telephone Line Monitoring (TLM) feature (see section 11.1) is enabled, the "10" indicator will illuminate to indicate that the control panel has not detected the presence of a telephone line for 30 seconds.

12.12.10 Fire Trouble – "HOME"

The illumination of the "HOME" indicator denotes a tamper on zone 3, if identified as a fire zone (see section 7.5, "24 Hour" & Fire Zones).

12.13 Key Access Programming

This method allows for quick programming of features without entering addresses or section numbers. The following features are programmed using the installer code as well as the master code and user 1 codes.
Auto Arm Time: for details see page section 9.1.1
Panel Time: for details see page section 11.5
Manual Test Report: for details see page section 8.8
Installer Test Mode: for details see page section 11.9
Cancel Communication Attempts:
To cancel communication attempts until the next reportable event press: [ENT] + [INSTALLER CODE] + [HOME]