



SPECTRA SYSTEMS

BUS
TECHNOLOGY

REFERENCE & INSTALLATION MANUAL
V1.0



P **▲** **R** **▲** **D** **O** **X®**
S E C U R I T Y S Y S T E M S

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PART 1: INTRODUCTION

1.1 FEATURES

- Up to 16 fully programmable zones:
1725EX or 1755EX:3 zones (6 zones with ATZ) + 2 keypad zones, expand to 16 zones
1728EX or 1758EX:5 zones (10 zones with ATZ) + 2 keypad zones, expand to 16 zones
- Up to 8 remote controls built-in with 1755EX and 1758EX only.
- Two completely independent partitions. Many of the features and options in the Spectra System can be independently set for each partition such as event reporting, entry/exit delay, auto-arming and many more. All zones, keyswitches and user codes are assigned to specific partitions, making this a true partitioned system.
- Communication bus facilitates the addition, programming and monitoring of wireless and/or hardwire expansion modules.
- 1 Installer Code and 48 User Codes (including: 1 System Master, 2 Masters, and 1 Duress)
- One or more fully programmable outputs (PGMs).
- Simple, direct and logical programming
- Event Call Direction: The Spectra Series Control Panel events are divided into 5 groups of events. Each of these event groups can be programmed with a separate dialing sequence.
- Two 32-digit Central Station Telephone Numbers and one 32-digit Back-up Telephone Number
- Contact ID, Pager Format and many more High-Speed Communication Formats
- "False Alarm Prevention" features such as: Intellizone, Auto Zone Shutdown, Beep on Exit Delay, Programmable Delay Before Alarm Transmission, and Recent Closing Report
- Regular Arming, Stay Arming, Instant Arming, Force Arming, One-Touch Arming, Auto-Arming, Arm with Keyswitch or Night Arming Module
- 256 Event Buffer with time stamp
- Optional 5A Alarm Relay (1755EX and 1758EX only)
- Optional Siren Driver for Bell Output (1755EX and 1758EX only)
- Telephone Line Supervision
- Keypad activated panic alarms
- Compatible with Winload upload/download software for Windows
- And much, much, more...

1.2 SPECIFICATIONS

1.2.1 SPECTRA CONTROL PANEL

- AC Power: 16VAC transformer with minimum 20VA rating (Rec.: 40VA), 50-60Hz (UL tested to 60Hz only)
- Battery: 12VDC, 7Ah minimum
- Aux. Power: 12VDC, 750mA to 1A max., fuseless shutdown @ 1.1A
- Bell Output: 1A, fuseless shutdown @ 3A (1725EX/1728EX) or 2.5A (1755EX/1758EX)
- PGM1 Output: 50mA
- PGM2 Output: 2.5A (1755EX and 1758EX only)

1.2.2 SPC-319 LIBERATOR WIRELESS MODULE

- Power input: 9-16VDC
- Current Consumption: 70mA
- Frequency Hopping: @ 902MHz - 928MHz or 868MHz
- Range of Detectors & Contact Switches: 1000m (3280') or 300m (984') for 868 MHz
Range of Remote Controls: 30m (100')
- Data Rate: 10 KB/s
- Sensitivity: -105dBm
- Dimensions (without antenna): 15cm H x 16cm L x 3cm W (6"H x 6.5"L x 1.1"W)
- Operating Temperature: 0°C - 50°C (32°F - 122°F)
- Operating Humidity: 85%
- PGM Outputs: 1 + 1(optional)
- PGM Output current: 5A relay

1.2.3 HAND-HELD REMOTE CONTROLS

- Water Resistant
- Range: 30m (100ft.)

- Battery: Lithium 3V (CR2032)
- Battery Life: Approx. 1 to 2 years
- Power Transmission: 5mW
- Current Consumption: 18mA (transmission)

1.2.4 SPC-ZX4 OR SPC-ZX8 HARDWIRE EXPANSION MODULE

- Power input: 9-16VDC
- Current Consumption: 28mA
- Speed operation: 16MHz
- PGM Outputs: 1
- PGM Output current: 50mA
- Number of inputs/zones: SPC-ZX4 = 4, SPC-ZX8 = 8
- Proper operation: Red LED flash (ZX8 only)
- Trouble indication: Red LED toggle on/off at 1 sec. intervals (ZX8 only)
- Humidity: 95% maximum

1.2.5 SPECTRA KEYPADS (1686H, 1686V, 1689 & 1639)

- Power input: 9-16VDC,
- Operation Speed: 16MHz
- 1 standard keypad zone
- On-board Tamper Switch (optional)

1686H & 1686V 10-Zone LED Keypad

- Current Consumption: 62 to 116mA

1689 16-Zone LED Keypad

- Current Consumption: 50 to 117mA

1639 32 Character LCD Keypad

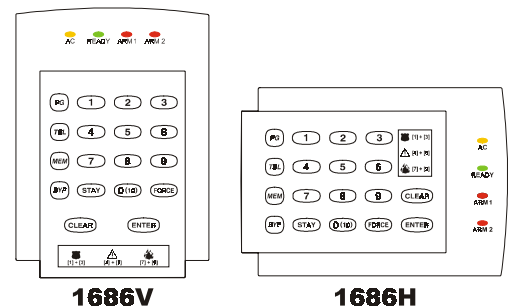
- Current Consumption: 60 to 80mA
- PGM: 1 with 50mA current limit
- LCD: Super Twisted Nematic display (STN), Wide viewing angle, Backlight & Contrast adjustable

1.3 DETECTORS, KEYPADS AND EXPANSION MODULES

If you would like to obtain more information on our line of keypads, security system accessories or other security products, please contact your local Paradox distributor or visit our web site at <http://www.paradox.ca>.

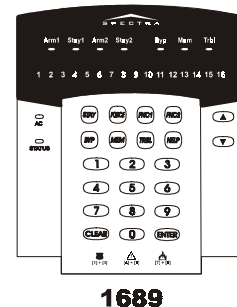
1.3.1 SPECTRA 1686H AND 1686V 10-ZONE LED KEYPADS

The elegant Spectra 1686H/1686V LED keypads' patented "key-light" feature, provides a user-friendly display of the system's current status. For example, if zone 5 is open, the [5] key turns on. What could be simpler? Designed to be compatible with any Spectra Series control panel, our Euro-Style Spectra keypads eliminate stocking and ordering concerns.



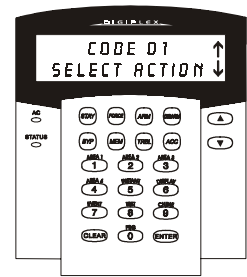
1.3.2 SPECTRA 1689 16-ZONE LED KEYPADS

The Spectra 1689 LED keypad's brilliant display provides instant feedback of the system's current status. Designed to be compatible with any Spectra Series control panel, this ergonomic and user-friendly keypad will complete any installation.



1.3.3 SPECTRA 1639 LCD KEYPAD

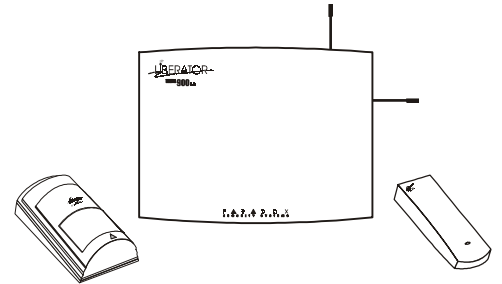
The 1639 is a 32-character programmable LCD keypad which includes a zone input as well as a PGM output. View zone, event and trouble status for one or more partitions, display entry/exit delay, adjust contrast, backlight, and many other features. Most messages in the LCD keypad are programmable.



1639

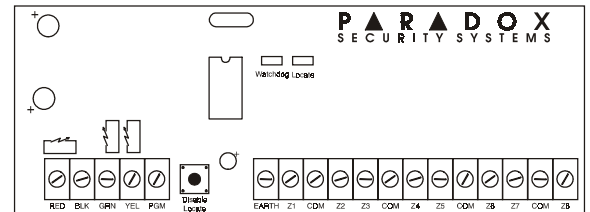
1.3.4 LIBERATOR SPC-319 WIRELESS BUS MODULE

Connected to the Spectra control panel's communication bus, the fully supervised Liberator Wireless Bus Module (SPC-319) allows you to add up to eight fully programmable remote controls and up to eight Liberator Wireless Detectors and Contact Switches (door contacts). The SPC-319 also provides one programmable 5A relay (PGM). A second 5A programmable relay (PGM) is available as an option.



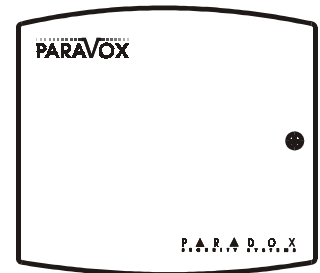
1.3.5 ZONE EXPANSION MODULES

Connected to the Spectra control panel's communication bus, the fully supervised Zone Expansion Modules provide you with up to 4 (SPC-ZX4) or up to eight (SPC-ZX8) additional hardwired inputs and one normally open 50mA PGM output.



1.3.6 PARAVOX™ - VOICE DIALER

In areas where security system monitoring is not available, let the sophisticated Paravox voice dialer take over. Compatible with any control panel, the Paravox will verbally report system status by phone, advising of detection of burglary, fire, flood or any other situation programmed to generate a report condition. Fully programmable over the telephone (no external keypad required), the Paravox guides the end user through all system functions with a full set of voice prompts. All the user needs to remember is their P.I.N. The "key ahead" feature eliminates the frustration and time wasted for experienced operators, by allowing them to key in selections before a prompt ends.



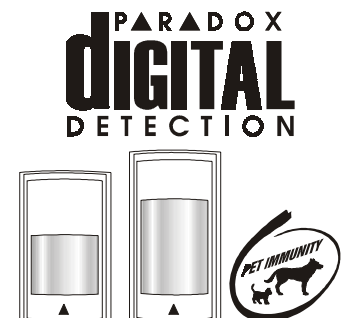
1.3.7 DIGITAL DETECTORS

The Paradox Digigard™ (25/50/60) digital motion detectors can immediately identify the signal produced by a moving human body and will not be triggered by any other occurrences in the protected area. False alarms are virtually eliminated. Using 100% digital detection technology and smart digital processing software leaves no room for error.

With the Digigard 70, animal lovers can maximize their security protection. Thanks to the unique design of the patent-pending Digigard "pet friendly" lens and dual "decision" optics, the Digigard 70 double-checks every movement signal.

Take all that's good about infrared digital detection, add to that an advanced microwave "supervisor", and you have Digital Vision motion detectors. Once the Vision's digital infrared detector identifies an intruder, its microwave sensor must confirm the presence of movement before an alarm is triggered.

We also have number or reliable analog detectors available.



PART 2: INSTALLATION

2.1 LOCATION AND MOUNTING

Before mounting the cabinet, push the five white nylon-mounting studs into the back of the cabinet. Pull all cables into the cabinet and prepare them for connection before mounting the circuit board into the back of the cabinet. Select an installation site that isn't easily accessible to intruders and 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.

Figure 2-1A: Spectra 1725EX and 1728EX Control Panel Overview

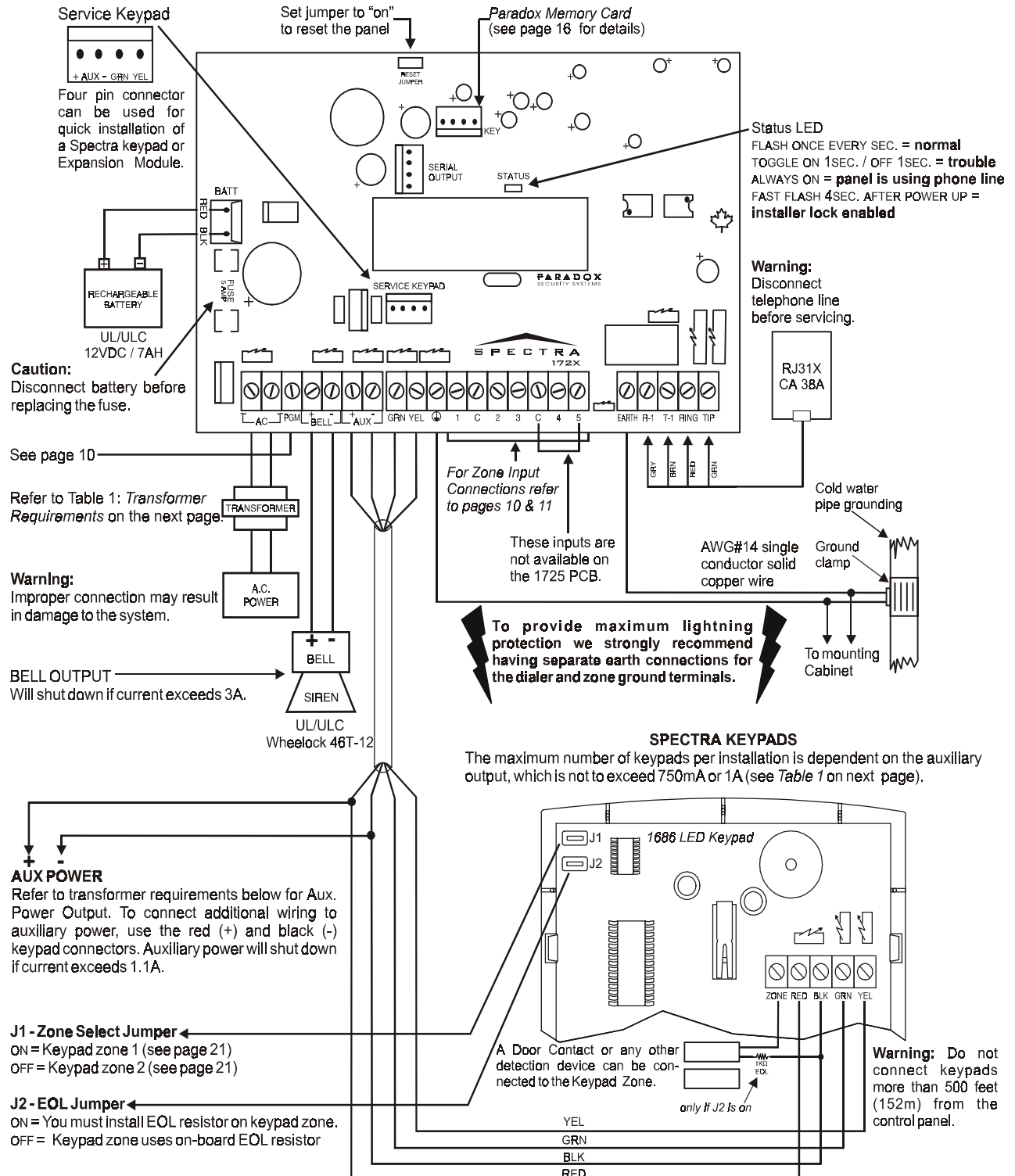
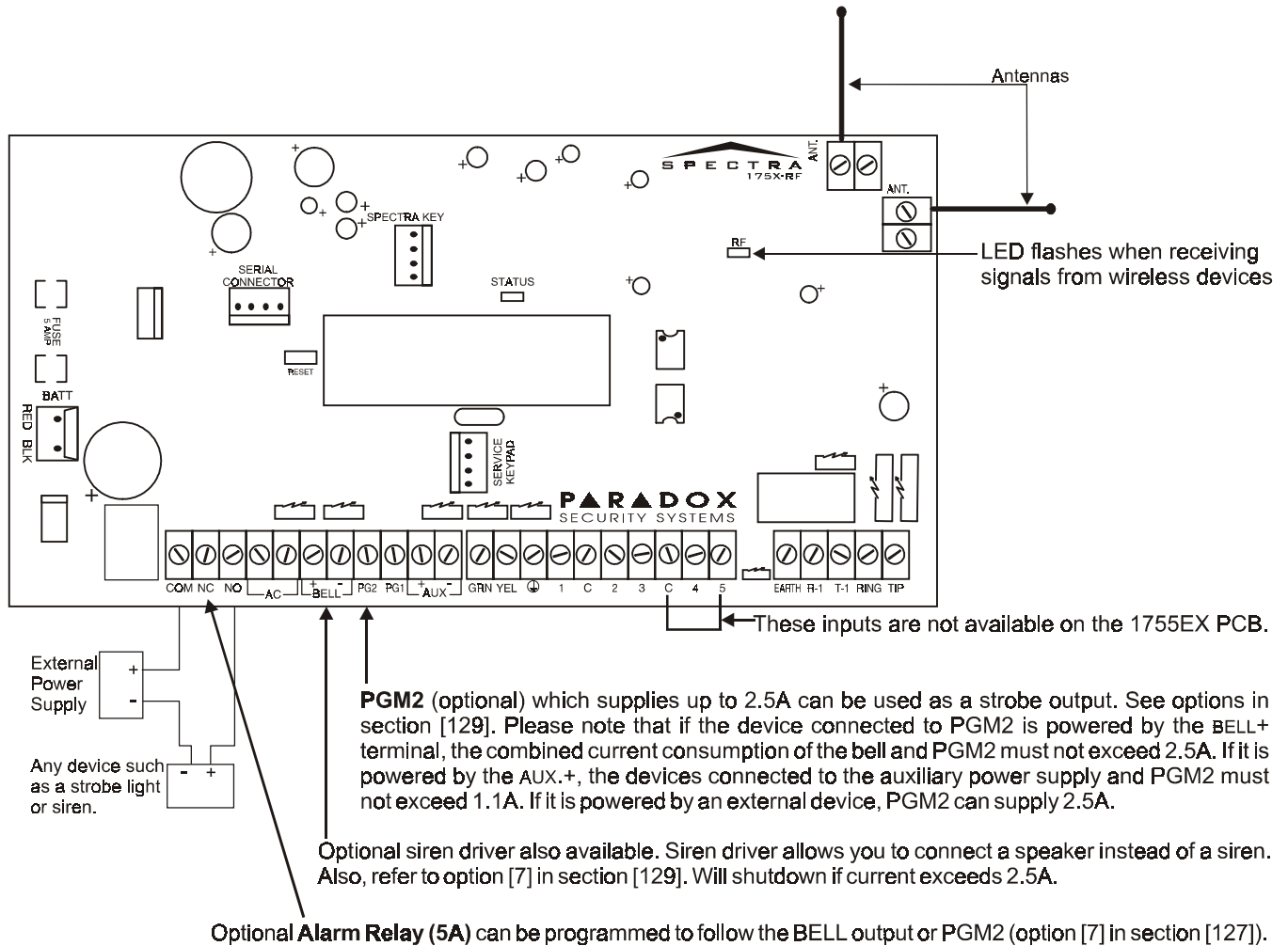


Figure 2-1B: Spectra 1755EX and 1758EX Control Panel Overview

Other than the location of the parts on the board and the items that have been indicated below, connections to these control panels are identical to those on page 7.



2.2 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.



For maximum lightning protection, use separate earth grounds for the zone and dialer grounds as shown in Figure 2-1.

2.3 AC POWER

Do not use any switch-controlled outlets to power the transformer. Connect the transformer as shown in Figure 2-1. Use Table 1 to determine the required transformer.

Table 1: Transformer Requirements Table

Transformer:	Min. 16VAC 20VA UL: Amseco XP-1640	Rec. 16VAC 40VA UL: Amseco XP-1640
Spectra DC Power Supply rated at:	1.2A	1.5A
Auxiliary Supply can provide a maximum of:	750mA	1A
Acceptable Battery Charge Currents (see page 41)	350mA	350mA/700mA

2.4 BACK UP BATTERY

In order to provide power during a power loss, connect a 12VDC 7Ah rechargeable acid/lead or gel cell back up battery as shown in Figure 2-1. Connect the back up battery after applying AC power. When installing verify proper polarity, as reversed connections will blow the battery fuse. Also, refer to *Battery Charge Current* on page 41.

2.4.1 BATTERY TEST

If the battery is disconnected a "No/Low Battery" failure will appear in the keypads' *Trouble Display* (see page 54). This trouble will also appear if the battery's capacity is too low or if the voltage drops to 10.5 volts or lower while the control panel is running on the back up battery. At 8.5 volts or lower, the panel shuts down and all outputs close.

2.5 AUXILIARY POWER TERMINALS

The auxiliary power supply terminals can be used to power motion detectors, keypads and other modules or accessories in the security system. A fuseless circuit protects the power supply against current overload and automatically shuts down if the current exceeds 1.1A. If this occurs the "Maximum Auxiliary Current" failure will appear in the keypads' *Trouble Display* (see page 54). Therefore, the combined current consumption of devices connected to the auxiliary power supply should not exceed 1A (with 40VA transformer) or 750mA (with 20VA transformer). Auxiliary power will resume once the overload condition has restored.

Table 2: Current Consumption Table

Modules	Current Consumption
Spectra 1686H and 1686V 10-Zone LED Keypad	62mA typ. 116mA max.
Spectra 1689 16-Zone LED Keypad	50mA typ. 117mA max.
Spectra 1639 LCD Keypad	60mA typ. 80mA max.
Liberator™ Wireless Bus Expansion Module	65mA typ. 65mA max.
8-Zone Hardwire Expansion Module	40mA typ. 40mA max.
4-Zone Hardwire Expansion Module	12mA typ. 12mA max.
Motion Detectors (see detector instructions for details)	10-50mA typ.

2.6 TELEPHONE LINE CONNECTION

In order to report system events to the central station you must 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 or telephone system as shown in Figure 2-1.

2.7 BELL OUTPUT CONNECTION

The BELL+ and BELL- terminals power bells, sirens and 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 sirens. The bell output uses a fuseless circuit and will automatically shut down if the current exceeds 3A (1725EX/1728EX) or 2.5A (1755EX/1758EX). When this occurs the "Maximum Bell Current" failure will appear in the keypads' *Trouble Display* (see page 54). If the load on the BELL terminals returns to normal, the control panel will re-instate power to the BELL terminals. 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 2-1. Please note that the 1755EX and 1758EX have an optional siren driver. When the siren driver is enabled (see page 29), you do not have to use a speaker with a built-in siren driver. You can connect a regular speaker directly to the BELL output.

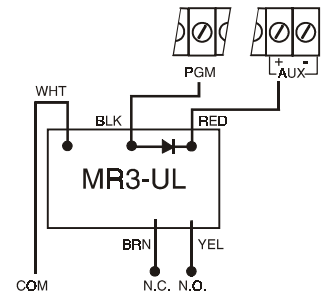


If the BELL output is not being used, the "Bell Disconnected" failure will remain in the keypads' *Trouble Display* (see page 54). To avoid this, connect a 1kΩ resistor across the BELL terminals.

2.8 PROGRAMMABLE OUTPUT CONNECTIONS

The Spectra Series control panels include one or more programmable outputs (PGMs). When a specific event occurs in the system, a PGM can reset smoke detectors, activate strobe lights, open/close garage doors and much more. PGM1 provides a maximum 50mA output and PGM2 provides up to 2.5A and can be used as a strobe output (see page 40). PGM2 is limited by the power source being used. If powered by the BELL+ terminal, the combined current consumption of the bell output and PGM2 must not exceed 2.5A. If it is powered by the aux.+, the devices connected to the auxiliary power supply and PGM2 must not exceed 1.1A. If it is powered by an external device, PGM2 can supply 2.5A. If the current draw on the PGM is to exceed the current output, we recommend the use of a relay as shown in Figure 2-2. For details on how to program the PGM, refer to *PGM Programming* on page 39.

Figure 2-2: PGM



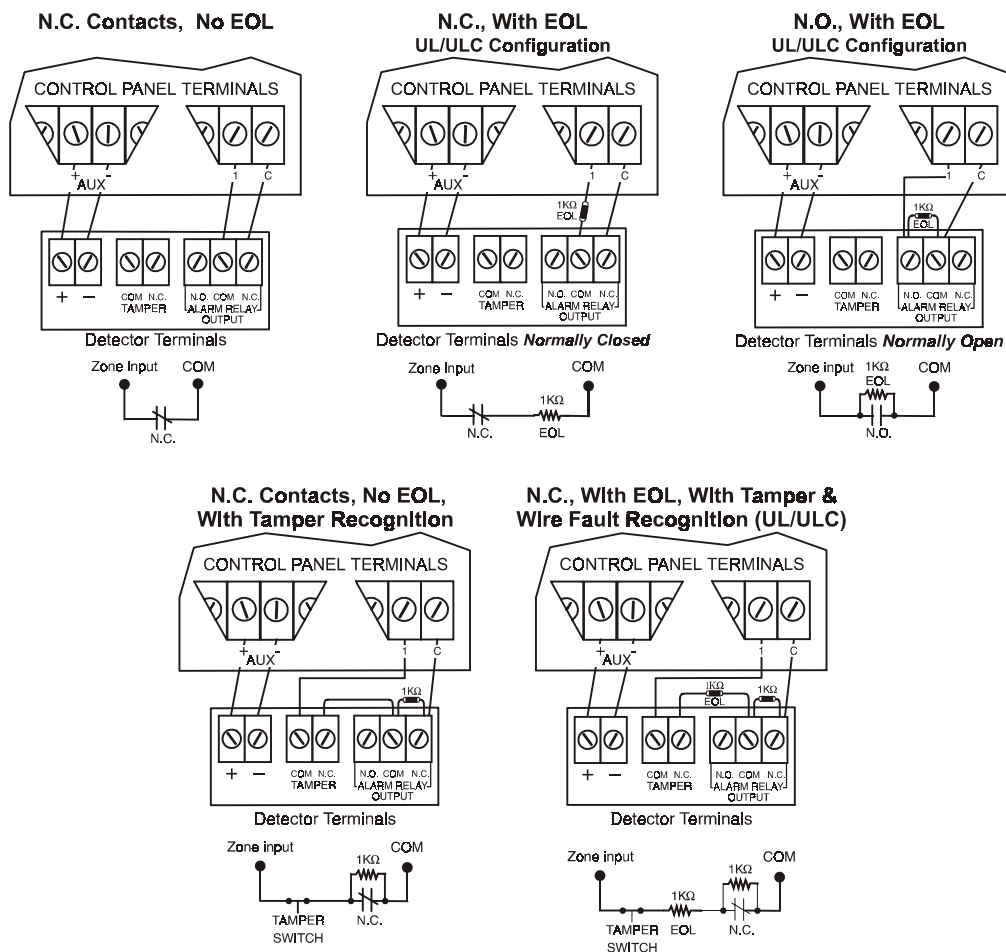
2.9 ALARM RELAY

The Spectra 1755EX and 1758EX control panels have an optional 5A relay. This relay can be connected as shown in Figure 2-1B on page 8. Please note that the Alarm Relay can be programmed to follow the bell output or the activation and de-activation of PGM2 (see *Alarm Relay Options* on page 40).

2.10 SINGLE ZONE INPUTS

Detection devices such as motion detectors and door contacts are connected to the control panel's zone input terminals labeled between 1 and 5 depending on the Spectra control panel being used. Figure 2-8 demonstrates single zone input terminal connections recognized by the Spectra Series control panels. Once connected, the associated zone's parameters must be defined. For more information, please refer to *Zone Programming* on page 20.

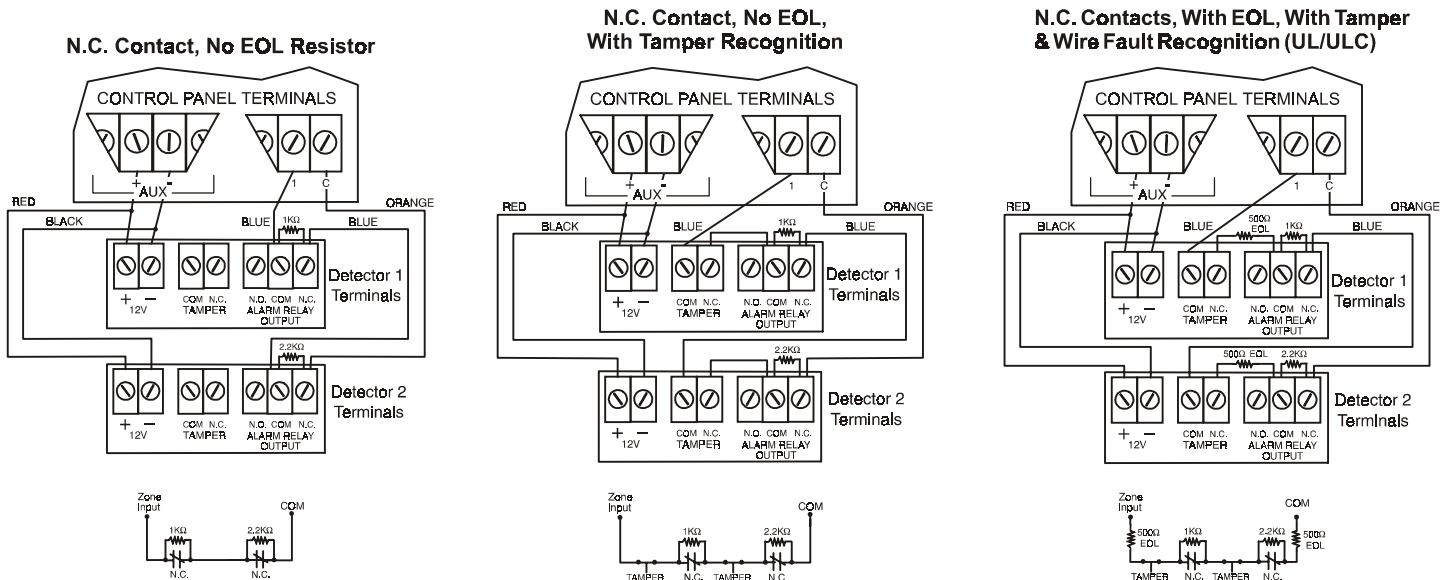
Figure 2-3: Single Zone Input Connections



2.11 DOUBLE ZONE INPUTS (WITH ATZ OPTION ONLY)

Enabling the *ATZ feature* (see page 25) allows you to install two detection devices per input terminal. The *ATZ feature* is a software-oriented feature. Therefore, there is no need for extra modules, simply connect the devices as shown in Figure 2-4. Devices connected to input terminals must be assigned to a zone and the zone's parameters must be defined. Please refer to *Zone Programming* on page 20 of this manual for more information. The status of each zone will be displayed on the keypads and the control panel can send separate alarm codes for each zone.

Figure 2-4: Double Zone (ATZ) Input Connections



2.12 KEYPAD INSTALLATION

To connect the keypads to the control panel, remove the back cover and wire the GRN, YEL, RED, and BLK terminals of each keypad to the corresponding terminals on the control panel as shown in Figure 2-1 on page 7. There is no limit to the number of keypads that can be connected to the control panel so long as the current consumption does not surpass the maximum current consumption of the control panel's *Auxiliary Power Terminals* (see page 9). For information on *Keypad Tamper Supervision* refer to page 42 and for information on *Keypad Zone Connections* refer to page 11.

2.13 KEYPAD ZONE CONNECTIONS

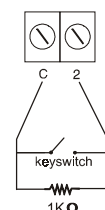
Each keypad has one zone input terminal, allowing you to connect one motion detector or door contact directly to a keypad. The keypad can then communicate the status of the zone to the control panel. A maximum of two keypad zones can be used with each control panel. After connecting the device as shown in Figure 2-1 on page 7, the zone's parameters must be defined. For more information on zone recognition and *Zone Programming* refer to page 20.

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

2.14 KEYSWITCH CONNECTIONS

Keyswitches allow users to arm or disarm a partition by pushing button or by activating a switch with a key. You must enable zone 2 as a *Keyswitch Zone* (see page 22), connect the keyswitch to zone input terminal 2 as shown in Figure 2-5 and program the *Keyswitch Options* as described on page 24.

Figure 2-5: Keyswitch



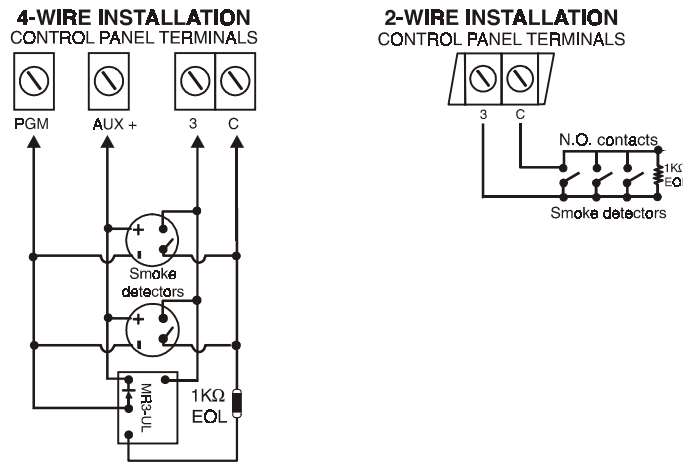
2.15 FIRE CIRCUITS

When zone 3 is defined as a *24Hr. zone* (see page 22), the control panel will recognize zone 3 as a *Fire Zone*, enabling smoke detectors to be connected as shown in Figure 2-6. Fire zones 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.

2.15.1 FIRE CIRCUIT: 4-WIRE INSTALLATION:

In the event power is interrupted, the relay will cause the control panel to transmit the *Fire Loop Trouble* report if programmed in section [206]. To reset (unlatch) the smoke detectors after an alarm, install the smoke detectors as shown in Figure 2-6. Then program the PGM with the "[PG]/[FNC1] key was pressed" activation event (see page 39). Pressing the [PG] or [FNC1] key will interrupt power to the smoke detectors for 4 seconds (see *PGM Delay* on page 40).

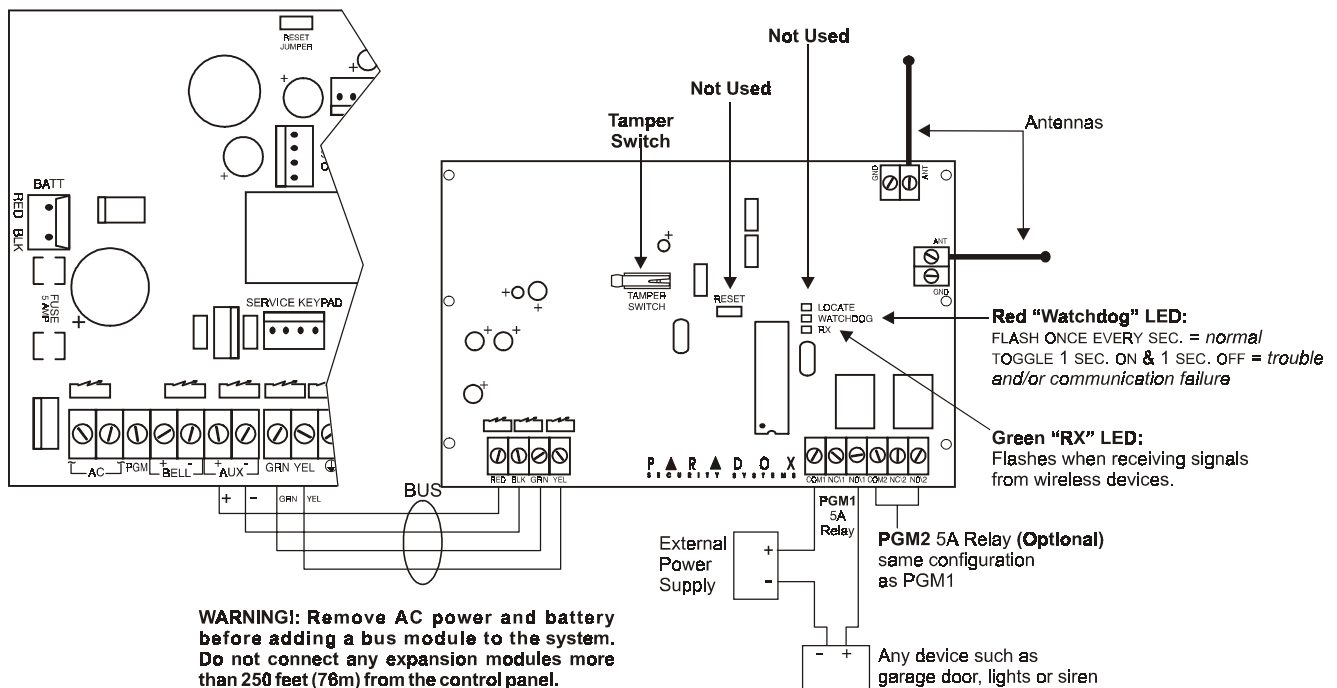
Figure 2-6: Fire Zone Connections



2.16 CONNECTING A LIBERATOR SPC-319 WIRELESS MODULE

The Liberator Wireless Bus Module (SPC-319) allows you to add up to eight fully programmable remote controls and up to eight Liberator Wireless Detectors and Contact Switches (door contacts). For information on how to program this module, please refer to page 47.

Figure 2-7: Liberator Wireless Bus Module (SPC-319)



2.16.1 LOCATION

Mount the Liberator on a wall allowing at least 5 cm (2") around the module to permit adequate ventilation and heat dissipation. Select a site that is not susceptible to drastic temperature changes. Avoid installation near or in the path of strong RF fields (i.e. neon lights, computers), on or near metal objects, circuit breaker boxes, air conditioners, and heater ducts since they may cause interference and reduce its sensitivity. We

recommend installing it in a centralized location on the main floor. Avoid installing it in the basement.

2.16.2 CONNECTIONS AND MOUNTING

Firmly screw the two antennas into the connectors marked "ANT" on the Liberator Wireless Bus Module as shown in Figure 2-7. Using a drill or screwdriver, punch out the four mounting holes on the back of the plastic case. Align the six holes of the printed circuit board with the six pins on the back plastic mounting case and snap into place. If placed correctly, the antennas will lean directly over the grooves in the mounting case. Connect the "GRN" and "YEL" terminals from Wireless Module to the corresponding "GRN" and "YEL" terminals of the control panel. Connect the "RED" terminal to the "AUX+" of the control panel. Connect the "BLK" terminal to the "AUX-" of the control panel. Please refer to Figure 2-7.



The Liberator Module does not function with the Spectra 1755EX and 1758EX control panels. Do not cut, bend, or alter the antennas. Avoid mounting the Receiver Module near or on metal as this may affect its sensitivity. Remove AC power and then remove the battery before adding a bus module to the system or it may cause communication trouble. Do not connect more than one Liberator Wireless Module to the control panel.

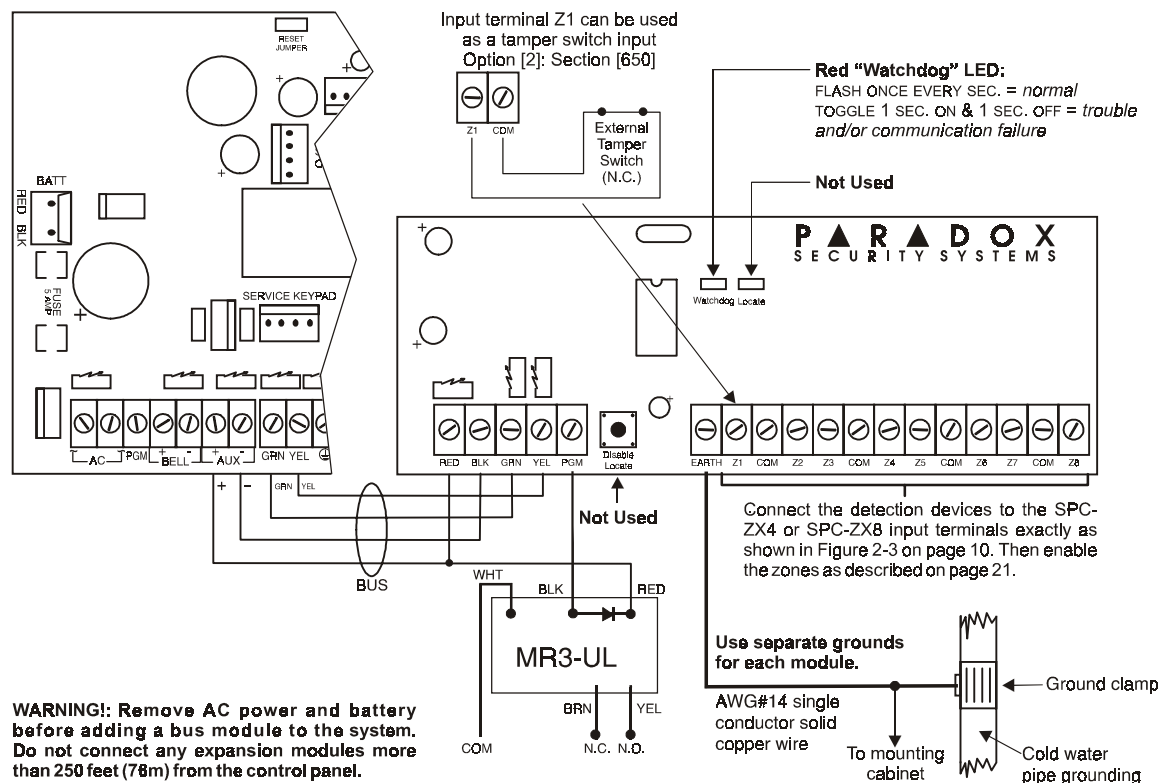
2.17 CONNECTING A ZONE EXPANSION MODULE (SPC-ZX4/ZX8)

The Zone Expansion Modules connect to the Spectra control panel's communication bus providing you with up to 4 (SPC-ZX4) or up to eight (SPC-ZX8) additional hardwired inputs and one 50mA on-board PGM output. For information on how to program these modules, please refer to page 50. Connect the four terminals labeled RED, BLK, GRN and YEL of each Zone Expansion Module to the corresponding terminals on the control panel as shown in Figure 2-8.



Do not connect more than one Zone Expansion Module to the control panel. The ZX4 module is identical to the ZX8 except there are no LEDs and there are only four zone inputs (Z1 to Z4) instead of eight.

Figure 2-8: Zone Expansion Module (SPC-ZX8)



2.17.1 ZONE CONNECTIONS (SPC-ZX4/SPC-ZX8)

Each input terminal, allows you to connect one detection device. These devices are connected exactly as shown in Figure 2-3 on page 10. Devices connected to the Zone Expansion Module's input terminals must be enabled as described in *Zone Input Assignment* on page 50 and the its parameters must be defined as

explained in *Zone Programming* on page 20. The Zone Expansion Modules will communicate the status of the zones to the control panel through the communication bus.



The Zone Expansion Modules do not support the zone doubling (ATZ) feature.

2.17.2 ZONE EXPANSION MODULE TAMPER CONNECTIONS

The Zone Expansion Modules do not come equipped with a tamper switch. Although, if required you can enable *Tamper Recognition (Zone Module)* (see page 50), which will reserve input terminal Z1 as a tamper switch input. This allows you to connect a tamper switch to input Z1 as shown in Figure 2-8. When a tamper is detected on the module, it will send a tamper report (originating from the zone assigned to input Z1) to the control panel via the communication bus.



With Zone Expansion Module Tamper Recognition enabled, do not connect anything other than the tamper switch to input terminal Z1.

PART 3: PROGRAMMING METHODS

3.1 WINLOAD SOFTWARE FOR WINDOWS

Program the Spectra Series control panels remotely or on-site using the Winload Upload/Download Software for Windows®. For more information, contact your local Paradox Distributor or visit our web site at <http://www.paradox.ca>.

3.2 PROGRAMMING USING A KEYPAD

Use the supplied "Spectra Programming Guide" to keep track of which sections were programmed and how. We recommend you read this entire manual before you begin programming.

How Do I Enter Programming Mode?

STEP 1: Press [ENTER]

STEP 2: Enter your [INSTALLER CODE] (default: 000000)

STEP 3: Enter 3-digit [SECTION] you wish to program

STEP 4: Enter required [DATA]

3.2.1 SINGLE DIGIT DATA ENTRY METHOD (HEXADECIMAL AND DECIMAL)

Single Digit Data Entry is used in all sections except those specified in *Multiple Feature Select Programming Method*. After entering the programming mode as described in the shaded box above, some sections will require that you enter **Decimal** values from **000 to 255**. Other sections will require that you enter **Hexadecimal** values from **0 to F**. The required data will be clearly indicated in this manual as well as in the *Spectra Series Programming Guide*. When entering the final digit in a section, the control panel will automatically save and advance to the next section. With the exception of sections 001 to 016, where after entering the first two digits, the control panel will switch to *Multiple Feature Select Programming*.

Table 3: Decimal and Hexadecimal Programming Table

Value or Action	What Do I Press?	What Do I See?		
		10-Zone LED	16-Zone LED	LCD
Values 1 to 9	[1] to [9]	[1] to [9]	[1] to [9]	[1] to [9]
A (hexa only)	[0]	[0 (10)]	[10]	A
B (hexa only)	[STAY]	[STAY]	[11]	B
C (hexa only)	[BYP]	[BYP]	[12]	C
D (hexa only)	[MEM]	[MEM]	[13]	D
E (hexa only)	[TBL] / [TRBL]	[TBL]	[14]	E
F (hexa only)	[PG] / [FNC1]	[PG]	[15]	F
Insert Blank Digit	[FORCE]	Displays next digit or next section		
Exit Without Saving	[CLEAR]	[ENTER] flashes	[ARM1] & [STAY1] flash	"SECTION []"
Save Data (hexa only)	[ENTER]	Advances to the next section		

3.2.2 MULTIPLE FEATURE SELECT PROGRAMMING METHOD

Sections: [001] to [016], [127] to [138], [302] to [348], [610], [650] to [651]

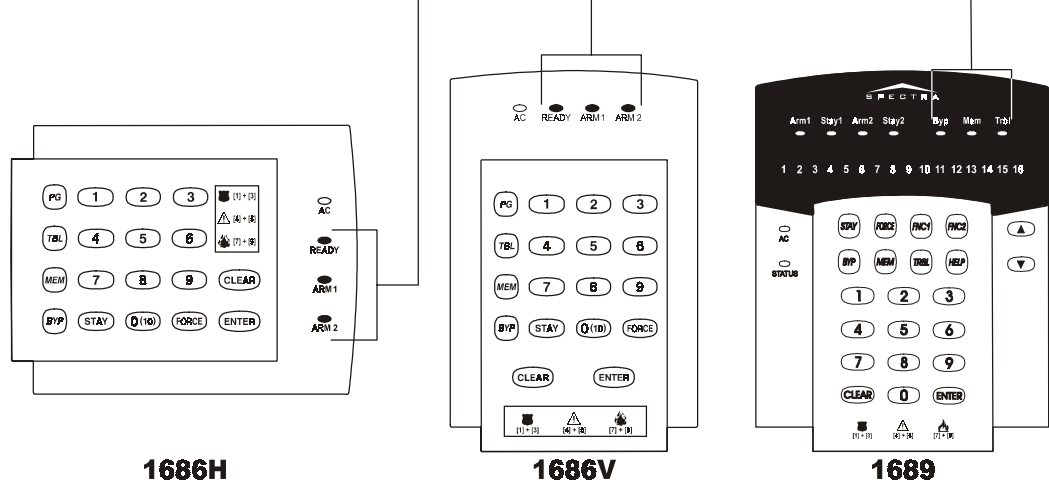
After entering the programming mode as described in the shaded box above, each option from [1] to [8] will represent a specific feature or option. Press the key corresponding to the desired option and the corresponding light will illuminate or the option number will appear in the LCD display. This means the option is on. Press the key again to extinguish the corresponding light or remove the digit from the LCD display, thereby, turning off the option. Please note that pressing the [FORCE] key will set all 8 options to "off". Press the keys as many times as you need until all 8 options in the current section are set. When the options are set, press the [ENTER] key to save and advance to the next section.

3.2.3 DATA DISPLAY MODE (LED KEYPADS ONLY)

In the *Data Display Mode* you can view the programmed contents of each section one digit at a time. After entering the desired 3-digit section (see step 3 of the “How Do I Enter The Programming Mode” box on the previous page), press the **[ENTER]** key to access the *Data Display Mode*. This mode will not function with sections using the *Multiple Feature Select Programming Method*.

Figure 3-1: Data Display Mode (LED Keypads Only)

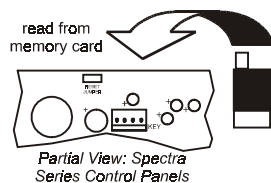
To access the *Data Display Mode*, press the **[ENTER]** key after entering a section and before entering any data. The three LEDs as indicated below will begin to flash indicating that you are in the *Data Display Mode*.



Each time the **[ENTER]** key is pressed, the keypad will display the next digit in the current section and will continue through all the following sections one digit at a time without changing the programmed values. Not available for sections using the *Multiple Feature Select Method*. Press the **[CLEAR]** key at any time to exit the *Data Display Mode*.

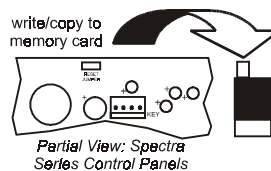
3.3 PROGRAMMING USING A PARADOX MEMORY CARD

Copy the programmed contents of one Spectra control panel into the *Paradox Memory Card*. Then copy the contents of the *Paradox Memory Card* into as many Spectra control panels as you need. This saves you a lot of time, all you have to do is program one Spectra control panel, then download the programmed contents to other control panels in less than 5 seconds.



Download to DESTINATION Control Panel

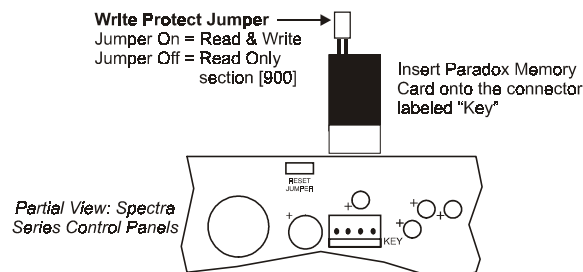
- 1) Insert the *Memory Card* onto the serial connector labeled “KEY” of the Spectra control panel to which you wish to download the contents of the memory card to.
- 2) Enter section **[900]**
- 3) When the keypad emits a “confirmation beep”, remove the *Memory Card*.



Copy to Memory Card from SOURCE Control Panel

- 1) Insert *Memory Card* onto the serial connector labeled “Key” of the Spectra control panel from which you wish to copy. Make sure the write protect jumper is on.
- 2) Enter section **[902]**
- 3) When the keypad emits a “confirmation beep”, remove *Memory Card*. Remove the jumper if you do not wish to accidentally overwrite the contents of the card.

Figure 3-2: Paradox Memory Card



PART 4: ACCESS CODES

The Spectra Series control panels support the following 48 access codes:

INSTALLER CODE:	Used to program all control panel settings except User Access Codes.
SYSTEM MASTER CODE (001)	Provides full access. Arm and disarm using any method described in the <i>User Code Options</i> on page 17 as well as program the User Access Codes.
MASTER CODE 1 (002):	Permanently assigned to partition 1. Same as a regular User Code except it can also program access codes for User Codes assigned to partition 1.
MASTER CODE 2 (003):	Permanently assigned to partition 2. Same as a regular User Code except it can program access codes for User Codes assigned to partition 2. If the system is not partitioned Master Code 002 will be assigned to partition 1.
45 USER CODES (004-048):	Can arm and disarm as per <i>User Code Options</i> on page.

4.1 ACCESS CODE LENGTH

Section [127] = System Options

Option [2] OFF = 6-Digit Access Codes

Option [2] ON = 4-Digit Access Codes (default)

All access codes can be set to lengths of either 4 or 6-digits. When the 4-digit option is selected, entering a 4-digit code will allow access. Using the 6-digit option, entering 6 digits is required to allow access.



If the Access Code Length is changed from four digits to six digits when access codes have already been programmed, the control panel will automatically add the last 2 digits by using the first 2 digits. For example, if the access code is 1234 and you switch to 6 digits, the code will become 123412. Be sure to verify the access codes after switching from 4-digit access codes to 6-digit codes. When switching from six digits to four digits, the control panel will simply remove the final two digits of the access code. For example, 123456 will become 1234.

4.2 INSTALLER CODE (Default: 000000)

The *Installer Code* is used to enter the control panel's programming mode (see page 15), which allows you to program all the features, options and commands of the control panel. The *Installer Code* can be 4 or 6-digits in length (see above) where each digit can be any value from 0-9. The *Installer Code* cannot be used to program the *Master* or *User Access Codes*. To program the *Installer Code* press:

[ENTER] + [CURRENT INSTALLER CODE] + [281] + new 4 or 6-digit Installer Code

4.3 SYSTEM MASTER CODE (Default: 123456)

With the *System Master Code* a user can use any arming method and can program any *User Access Code* but not the *User Code Options* described on page 17. The *System Master Code* can be 4 or 6 digits in length (see above), where each digit can be any digit from 0 to 9. To change the *System Master Code* press:

[ENTER] + [CURRENT SYSTEM MASTER CODE] + [301] + new 4 or 6-digit System Master Code

4.4 USER CODE OPTIONS

Sections [302] to [348] - Feature Select Method: Options [1] to [7] on/off

The *User Code Options* define which arming methods each user can use to arm or disarm the system. Regardless of these settings, all users can *Regular Arm* assigned partitions and all users except those with the *Arm Only* option can disarm an assigned partition, regardless of how it is armed. Select one or more of the options described on the following pages for each *User Access Code*, where sections [302] to [348] represent *User Access Codes* 002 to 048. For information on how *User Access Codes* are programmed, please refer to page 55.

4.4.1 PARTITION 1 ASSIGNMENT

Sections [302] to [348] = User Codes 002 - 048

Option [1] OFF = Deny access to partition 1

Option [1] ON = User code has access to partition 1 (default)

If Partitioned (see page 41), user codes with this option enabled can arm and disarm partition 1.



If the system is not partitioned, you must assign partition 1 to the User Access Code. Otherwise, the User Access Code will be considered disabled.

4.4.2 PARTITION 2 ASSIGNMENT

Sections [302] to [348] = User Codes 002 - 048

Option [2] OFF = Deny access to partition 2 (default)

Option [2] ON = User code has access to partition 2

If the system is partitioned (see page 41), user codes with this option enabled can arm and disarm partition 2. If the system is not partitioned, the control panel ignores this option.

4.4.3 BYPASS PROGRAMMING

Sections [302] to [348] = User Codes 002 - 048

Option [3] OFF = Bypass Programming Disabled

Option [3] ON = Bypass Programming Enabled (default)

User codes with this option enabled can perform Bypass Programming in assigned partitions.

4.4.4 STAY ARMING

Sections [302] to [348] = User Codes 002 - 048

Option [4] OFF = Stay Arming Disabled

Option [4] ON = Stay Arming Enabled for selected User Code (default)

User codes with this option enabled can Stay Arm assigned partitions.

4.4.5 FORCE ARMING

Sections [302] to [348] = User Codes 002 - 048

Option [5] OFF = Force Arming Disabled (default)

Option [5] ON = Force Arming Enabled for selected User Code

User codes with this option enabled can Force Arm assigned partitions.

4.4.6 ARM ONLY

Sections [302] to [348] = User Codes 002 - 048

Option [6] OFF = Arm Only Disabled (default)

Option [6] ON = Arm Only Enabled for selected User Code

The user code with this option enabled can arm assigned partitions but can not disarm any partitions. The type of arming is dependent on the other *User Code Options* selected. Please note that with the *Arm Only* option, the user can cancel a recently armed system by re-entering the access code before the end of the *Exit Delay*.

4.4.7 PGM ACTIVATION

Sections [302] to [348] = User Codes 002 - 048

Option [7] OFF = Arm, Disarm & PGM activation for selected User Code (default)

Option [7] ON = PGM only for selected User Code

With option [7] off, entering the access code will arm or disarm the system as well as activate or deactivate a PGM. The appropriate *PGM Activation/Deactivation Event* must also be programmed (see page 39). With option [7] on, the control panel will ignore all other *User Code Options*. Therefore, entering the access code will only activate or deactivate the PGM.

4.5 LOCK MASTER CODE

Section [127] = System Options

Option **[4]** OFF = *Lock System Master Code Disabled (default)*

Option **[4]** ON = *Lock System Master Code Enabled*

With this feature enabled, the control panel will lock the *System Master Code* (001). This means that pressing the *System Master Code* cannot be deleted but it can be changed.

4.6 DURESS CODE

Section [127] = System Options

Option **[6]** OFF = *Duress Code Disabled (default)*

Option **[6]** ON = *User Code 048 becomes a Duress code*

With this feature enabled, User Code 048 becomes a Duress Code. When forced to arm or disarm their system, users can enter a Duress Code (User Code 048) to arm or disarm the system which can immediately transmit a silent alert to the Central Station, transmitting the duress report code programmed in section **[196]**.

PART 5: ZONE PROGRAMMING

When programming zones please note that the Spectra control panels' zone assignment is dependent on where the detection devices in the system are connected (see Table 4 below).

Table 4: Zone Recognition Table

Device connected to which input?	1725EX/1755EX		1728EX/1758EX	
	NO ATZ	WITH ATZ	NO ATZ	WITH ATZ
Control Panel Input 1 =	Zone 1	Zone 1 & 4	Zone 1	Zone 1 & 6
Control Panel Input 2 =	Zone 2	Zone 2 & 5	Zone 2	Zone 2 & 7
Control Panel Input 3 =	Zone 3	Zone 3 & 6	Zone 3	Zone 3 & 8
Control Panel Input 4 =	N/A	N/A	Zone 4	Zone 4 & 9
Control Panel Input 5 =	N/A	N/A	Zone 5	Zone 5 & 10
Keypad Zone 1 =	Zone 4	Zone 7	Zone 6	Zone 11
Keypad Zone 2 =	Zone 5	Zone 8	Zone 7	Zone 12
Expansion Input 1 =	Zone 6	Zone 9	Zone 8	Zone 13
Expansion Input 2 =	Zone 7	Zone 10	Zone 9	Zone 14
Expansion Input 3 =	Zone 8	Zone 11	Zone 10	Zone 15
Expansion Input 4 =	Zone 9	Zone 12	Zone 11	Zone 16
Expansion Input 5 =	Zone 10	Zone 13	Zone 12	N/A
Expansion Input 6 =	Zone 11	Zone 14	Zone 13	N/A
Expansion Input 7 =	Zone 12	Zone 15	Zone 14	N/A
Expansion Input 8 =	Zone 13	Zone 16	Zone 15	N/A

What is an Expansion Input?

There are a total of eight expansion inputs available. Each hardwired input on a Zone Expansion Module or wireless transmitter used by the Liberator Wireless Bus Module can be assigned to an expansion input. The expansion inputs can be used in any combination. For example, you can assign four wireless transmitters as well as 4 hardwire inputs to the expansion inputs. Regardless of how many expansion modules are being used, the control panel cannot support more than eight expansion inputs. The expansion module inputs are assigned as follows:

SPC-319 Liberator Wireless Bus Module

Wireless transmitters assigned to sections **[601]** to **[608]** of the control panel represent expansion inputs 1 to 8 respectively. For more information, please refer to *Wireless Transmitter Assignment* on page 47.

SPC-ZX4 and SPC-ZX8 Zone Expansion Module

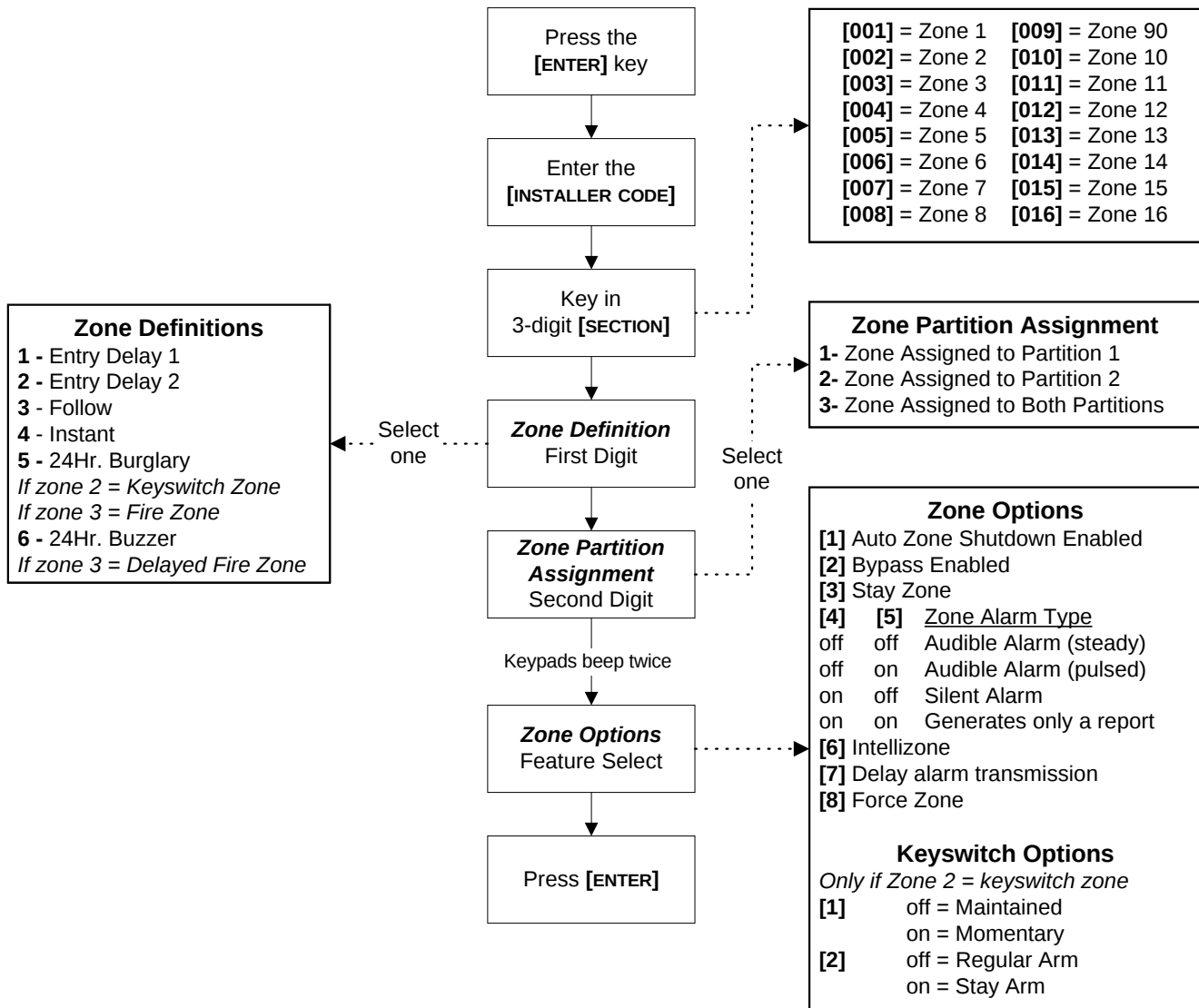
Detection devices connected to input terminals Z1 to Z4 of the SPC-ZX4 module or Z1 to Z8 of the SPC-ZX8 module, represent expansion inputs 1 to 8 respectively. Please note that the module's inputs must be enabled in section **[651]** of the control panel. For more information, please refer to *Zone Input Assignment* on page 50.



Do not assign inputs from different modules to the same expansion input. For example, do not assign a wireless transmitter to section [601], then connect a detection device to input Z1 of the SPC-ZX8 and enable option [1] in section [651].

After connecting a hardwired detection device to one of the control panel's or zone expansion module's input terminals or after setting up any wireless transmitters, you must define the associated zone's parameters. The Zone Parameters define the type of zone, the zone's partition assignment and how the control panel will react when an alarm condition occurs on that zone as described in the following sections. These Zone Parameters are programmed into one section as detailed in Figure 5-1 (see next page). For more information on the *Installation* of detection devices to the control panel and its expansion modules, please refer to page 4.

Figure 5-1: Spectra Zone Programming



5.1 ZONE DEFINITIONS

As demonstrated in Figure 5-1, sections [001] to [016] represent zones 1 through 16 respectively, where the first digit in each of these sections represents the zone's definition. To **disable a zone**, clear the contents of the section corresponding to the desired zone by pressing the **[FORCE]** key 3 times and pressing **[ENTER]**. There are 6 available Zone Definitions, which are described as follows.

5.1.1 ENTRY DELAY 1

Sections [001] - [016] = Zones 1 - 16: First Digit = 1

When the system is armed and when a zone defined with Entry Delay 1 opens, the control panel will generate an alarm after the programmed Entry Delay 1 Timer has elapsed. This is to provide users with enough time to enter the protected area and disarm the system. To program the Entry Delay 1 Timer, key in the desired 3-digit delay value (000-255 seconds, Default = 45 seconds) into section **[069]**. Entry Delay zones are commonly used at the entry/exit points of the protected area (i.e. front/back door, garage, etc.). Using different Entry Delays (see *Entry Delay 2* below) is useful when, for example, one entry point requires a longer delay than the other entry point, or in a partitioned system where each partition may require a different Entry Delay. Also, refer to *Zone Speed* on page 25.

5.1.2 ENTRY DELAY 2

Sections [001] - [016] = Zones 1 - 16: First Digit = 2

Entry Delay 2 zones are identical to *Entry Delay 1* zones (see page 21), except it uses a separate Entry Delay Timer. To program the Entry Delay 2 Timer, key in the desired 3-digit delay value (000-255 seconds, Default = 45 seconds) into section **[070]**. Also, refer to *Zone Speed* on page 25.

5.1.3 FOLLOW ZONES

Sections [001] - [016] = Zones 1 - 16: First Digit = 3

When an armed Follow Zone opens, the control panel will immediately generate an alarm, unless an Entry Delay zone opens first:

- If an armed Follow Zone opens after an Entry Delay zone opens, the control panel waits until the Entry Delay Timer has elapsed before generating an alarm.
- If an armed Follow Zone opens after more than one Entry Delay zone opens, the control panel will wait until the Entry Delay Timer of the zone that opened first has elapsed.

This feature is commonly used when a motion detector is protecting the area occupied by the entry point keypad. This will prevent the motion detector from causing an alarm when a user enters through the entry point to disarm the system. Also, refer to *Zone Speed* on page 25.

5.1.4 INSTANT ZONES

Sections [001] - [016] = Zones 1 - 16: First Digit = 4

When an armed Instant Zone opens, the control panel immediately generates an alarm. Instant Zones are commonly used for windows, patio doors, skylights and other perimeter type zones. Also, refer to *Zone Speed* on page 25.

5.1.5 24HR. BURGLARY ZONES / FIRE ZONE / KEYSWITCH ZONE

Sections [001] - [016] = Zones 1 - 16: First Digit = 5

24Hr. Burglary Zones

Whenever a 24Hr. Burglary Zone opens, whether the system is armed or disarmed, the control panel immediately generate an alarm. Also, refer to *Zone Speed* on page 25.

Keyswitch Zone

If **zone 2** is defined as a 24Hr. Burglary Zone it immediately becomes a Keyswitch Zone (first digit in section [002] = 5). Connecting a keyswitch to zone 2 allows users to arm the system by pressing a button or by turning a switch on or off. Please refer to *Keyswitch Connections* on page 11 and to *Keyswitch Options* on page 24.

Standard 24Hr. Fire Zone

If **zone 3** is defined as a 24Hr. Burglary Zone, it immediately becomes a Standard 24Hr. Fire Zone (first digit in section [003] = 5). For information on how to connect smoke detectors to the control panel, refer to *Fire Circuits* on page 11. Whenever a Standard 24Hr. Fire Zone opens, whether it is armed or disarmed, the control panel will generate the following:

- The control panel can send the Zone 3 Alarm report code programmed in section [187].
- If a tamper/wiring fault occurs on a Fire Zone, the control panel can send a Fire Loop Trouble report code programmed in section [206] to the Central Station. A Fire Loop Trouble will also appear in the keypads' *Trouble Display* (see page 54).
- Alarms are always audible, regardless of other settings. Fire alarms will generate an intermittent (pulsed) bell/siren output signal as demonstrated in Figure 5-2.

Figure 5-3: Delayed 24Hr. Fire Zone

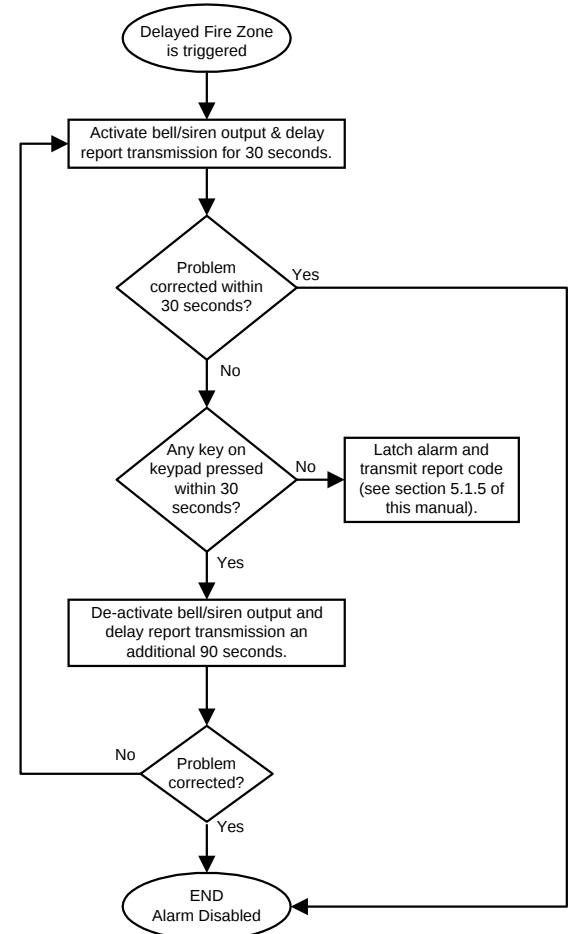
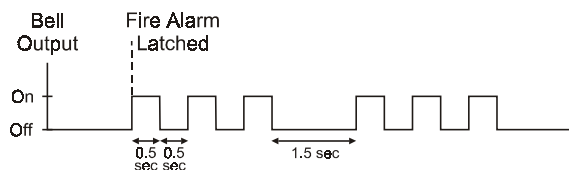


Figure 5-2: Bell Output During Fire Alarm



5.1.6 24HR. BUZZER / DELAYED FIRE ZONE

Sections [001] - [016] = Zones 1 - 16: First Digit = 6

Whenever a *24Hr. Buzzer Zone* opens, whether the zone is armed or disarmed, the control panel sets off the keypads' buzzers to indicate the zone was breached. The control panel will report the alarm but will not enable the bell/siren output. Enter any valid access code on the keypad to stop the buzzer. This zone definition is particularly useful when a user wishes to be notified when something such as a safe or locker within the home has been accessed (i.e. a child accessing a valuable collection).

Delayed 24Hr. Fire Zone

If zone 3 is defined as a *24Hr. Buzzer Zone* it immediately becomes a *Delayed 24Hr. Fire Zone* (first digit in section [003] = 6). Commonly used in residential homes where a smoke detector often generates false alarms (i.e. burning bread, etc.), *Delayed 24Hr. Fire Zones* function as described in Figure 5-3 on previous page.



If the ATZ feature is enabled (see page 25) when using a Keyswitch or any type of Fire Zone, the control panel will disable the “doubled zone” (see Zone Doubling on page 25).

5.2 ZONE PARTITION ASSIGNMENT

Sections [001] - [016] = Zones 1 - 16:

Zone is assigned to Partition 1 if second digit = 1, Partition 2 if second digit = 2, Both partitions if second digit = 3

As demonstrated in Figure 5-1 on page 21, sections [001] to [016] represent zones 1 through 16 respectively, where the second digit in each of these sections represents the zone's partition assignment. The control panel provides the option of partitioning the security system into two completely independent systems. Therefore, each zone can be assigned to one partition or both partitions as described in Figure 5-1. For more information on *Partitioning*, refer to page 41.

5.3 ZONE OPTIONS

As demonstrated in Figure 5-1 on page 21, sections [001] to [016] represent zones 1 through 16 respectively, where after entering the first two digits, select one or more of the Zone Options that follow using the *Multiple Feature Select Programming Method* (see page 15).

5.3.1 AUTO ZONE SHUTDOWN

Sections [001] - [016] = Zones 1 - 16

Option [1] OFF = *Auto Zone Shutdown Disabled*

Option [1] ON = *Auto Zone Shutdown Enabled for selected zone (default)*

If, in a single armed period, the number of alarms generated by a zone with the Auto Zone Shutdown option enabled exceeds the number defined by the Auto Zone Shutdown Counter, the control panel will no longer generate an alarm for that zone. To program the Auto Zone Shutdown Counter, key in the desired limit (000=Disabled, 001-015, Default = 5) into section [089]. The Auto Zone Shutdown Counter resets every time the system is armed.

5.3.2 BYPASS ZONES

Sections [001] - [016] = Zones 1 - 16

Option [2] OFF = *Bypass Zone Disabled*

Option [2] ON = *Selected Zone is Bypass Enabled (default)*

When a user, utilizes the *Bypass Programming* feature (see page 57), only zones with the Bypass option enabled can be programmed as bypassed.

5.3.3 STAY ZONES

Sections [001] - [016] = Zones 1 - 16

Option [3] OFF = *Stay Zone Disabled (default)*

Option [3] ON = *Selected Zone is Stay Enabled*

Zones with the Stay option enabled will be bypassed when the system is *Stay Armed* (see page 56).



Do not program a Fire Zone with the Stay option, as the control panel will never bypass Fire Zones when Stay Arming.

5.3.4 ALARM TYPES

Sections [001] - [016] = Zones 1 - 16

[4] OFF / [5] OFF - Audible Steady (default)

When the conditions for an alarm have been met, the control panel can transmit the appropriate Zone Alarm report code (see page 33) and provides a steady output for any bells or sirens connected to the control panel's BELL output.

[4] OFF / [5] ON - Audible Pulsed Alarm

When the conditions for an alarm have been met, the control panel can transmit the appropriate Zone Alarm report code (see page 33) and provides a pulsed output (see Figure 5-2 on page 23) for any bells or sirens connected to the control panel's BELL output.

[4] ON / [5] OFF - Silent Alarm

When the conditions for an alarm have been met, the control panel can transmit the appropriate Zone Alarm report code (see page 33) and will not activate the control panel's BELL output. The appropriate "ARM" or "STATUS" LED on the keypads will flash to indicate an alarm and the user will still have to disarm the system.

[4] ON / [5] ON - Report Only

When the conditions for an alarm have been met, the control panel can transmit the appropriate Zone Alarm report code (see page 33). The system will not have to be disarmed.

5.3.5 INTELLIZONE

Sections [001] - [016] = Zones 1 - 16

Option **[6] OFF** = *Intellizone Disabled* (default)

Option **[6] ON** = *Intellizone Enabled for Selected Zone*

This feature is used mainly to reduce the possibility of false alarms. When a zone with the Intellizone option opens, the control panel does not immediately generate an alarm. It begins by triggering the Intellizone Delay Timer. To program the Intellizone Delay Timer, key in the desired 3-digit value (010-255 seconds, Default = 48 seconds) into section **[084]**. If any of the following conditions occur during this period, the control panel will generate an alarm:

- During the Intellizone Delay, a second zone has caused an alarm.
- During the Intellizone Delay, the zone in alarm has restored (closed) and re-occurred (opened).
- The zone in alarm remains open for the entire Intellizone Delay.

5.3.6 DELAY BEFORE ALARM REPORT CODE TRANSMISSION

Sections [001] - [016] = Zones 1 - 16

Option **[7] OFF** = *Delay Alarm Transmission Disabled* (default)

Option **[7] ON** = *Delay Alarm Transmission Enabled for Selected Zone*

When an alarm condition occurs on a zone with this option enabled, the control panel enables the bell/siren output but does not report the alarm to the central station until the end of the Alarm Before Transmission Delay. To program the Alarm Transmission Delay, key in the desired 3-digit delay value (000 = Disabled, 001-255 seconds, Default = Disabled) into section **[080]**. During this period, disarming the system disables the bell/siren output and cancels the report code transmission. This feature is commonly used with Entry Delay zones in order to reduce the occurrence of false alarms created by new users who may not disarm the system in time.

5.3.7 FORCE ZONES

Sections [001] - [016] = Zones 1 - 16

Option **[8] OFF** = *Force Zone Disabled* (default)

Option **[8] ON** = *Selected Zone is Force Enabled*

Zones with the Force option enabled will be bypassed when the system is *Force Armed* (see page 57).



Do not program a Fire Zone with the Force option, as the control panel will never bypass Fire Zones when Force Arming.

5.3.8 KEYSWITCH OPTIONS

If zone 2 has been programmed as a *24Hr. Burglary Zone* (see page 22) it becomes a Keyswitch Zone. In which case ignore the Zone Options described in sections 5.3.1 to 5.3.6 of this manual and set the following two options:

Section [002] - If zone 2 is set as a 24Hr. Burglary Zone

Option [1] OFF = Maintained (default)

Option [1] ON = Momentary

To arm the system using the Maintained Keyswitch, set the switch or button to the "on" position. To disarm the system set the keyswitch to the "off" position. To arm the system using the Momentary Keyswitch, set the switch or button to the "on" position, then turn it off. Repeating this sequence will disarm the system.

Section [002] - If zone 2 is set as a 24Hr. Burglary Zone

Option [2] OFF = Regular Arming

Option [2] ON = Stay Arming

The control panel can Regular Arm or Stay Arm (see page 56) the system when using a keyswitch.

5.4 ZONE SPEED

Sections [050] - [065] = Zones 1 - 16: **001-255 X 10ms**, Default = 600ms

The Zone Speed defines how quickly the control panel will respond to an open zone. The control panel will not display an open zone on the keypad or generate an alarm until the programmed Zone Speed has elapsed. All other zone definitions and options do not come into effect until the Zone Speed has elapsed. This feature prevents any momentary glitches from causing an alarm or unnecessary reporting.



If the ATZ feature is enabled (see section 5.6 below), do not set the Zone Speed to less than 50msec. as this may cause false alarms.

5.5 EOL ZONES

Section [132] - Zone Options

Option [4] OFF = Zones do not use EOL resistors (default)

Option [4] ON = Zones require EOL resistors

If all detection devices connected to the control panel have input terminals that require 1K Ω end of line resistors, enable option [4] in section [132]. For more information on the use of EOL resistors, refer to *Single Zone Inputs* on page 10.

5.6 ATZ - ZONE DOUBLING (OPTIONAL)

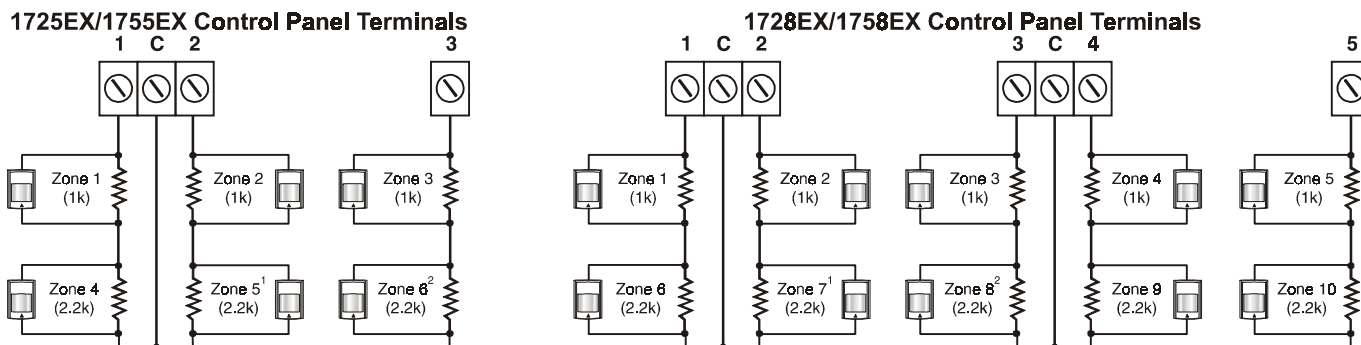
Section [132] - Zone Options

Option [5] OFF = Zone Doubling Disabled (default)

Option [5] ON = Zone Doubling Enabled

Enabling the ATZ feature allows you to install two detection devices per zone input terminal. Each detection device will have its own zone, displaying zone status on the keypad and sending separate alarm codes for each zone. The extra zones are recognized as described in Table 4 on page 20 or in Figure 5-4 below. For more information on how to connect to detection devices, please refer to *Double Zone Inputs* on page 11.

Figure 5-4: Zone Recognition with ATZ enabled



Note¹: If zone 2 has been defined as a Keyswitch Zone, the control panel will disable zone 5 (1725EX/1755EX) or zone 7 (1728EX/1758EX).

Note²: If zone 3 has been defined as a Fire Zone, the control panel will disable zone 6 (1725EX/1755EX) or zone 8 (1728EX/1758EX).

PART 6: ARMING AND DISARMING OPTIONS

6.1 SWITCH TO STAY ARMING

Section [133] = Partition 1, [134] = Partition 2

Option [7] OFF = Switch to Stay Arming Disabled (default)

Option [7] ON = Switch to Stay Arming Enabled

If a user Regular arms a partition but does not exit through (open and close) an Entry Delay zone during the Exit Delay, the control panel can be programmed to switch from Regular Arming to Stay Arming.

6.2 AUTO FORCE ARMING

Section [131] - Arming/Disarming Options

Option [2] OFF = Auto Force Arming Disabled (default)

Option [2] ON = Auto Force Arming Enabled

With this feature enabled, the control panel will always Force arm instead of Regular arm when a valid User Access Code is entered. In installations where the user must always Force arm when leaving the protected area, this feature allows users to Force arm without pressing the [FORCE] key before entering their User Access Code.

6.3 RESTRICT ARMING ON BATTERY FAIL

Section [130] - Arming/Disarming Options

Option [5] OFF = Permit arming on battery failure (default)

Option [5] ON = Restrict arming on battery failure

If this option is enabled, the control panel will not arm the system if the control panel detects that the back up battery is disconnected or that the battery voltage drops to less than 10.5V. The control panel will not arm the system until all battery trouble conditions are rectified.

6.4 RESTRICT ARMING ON TAMPER TROUBLE

Section [130] - Arming/Disarming Options

Option [6] OFF = Permit arming on tamper failure (default)

Option [6] ON = Restrict arming on tamper failure

If this option is enabled, the control panel will not arm the system if the control panel detects a tamper trouble on one or more zones. The control panel will not arm the system until all tamper trouble conditions are rectified.



This feature will not function if the Tamper Recognition Options (see page 29) are disabled or whenever the tampered zone is bypassed and the Tamper Bypass Options (see page 30) have been enabled.

6.5 TIMED AUTO-ARMING

Section [133] = Partition 1, [134] = Partition 2

Option [1] OFF = Timed Auto-Arming Disabled (default)

Option [1] ON = Timed Auto-Arming Enabled

Each partition can be programmed to arm every day at the time specified by the *Auto-Arm Timer*. The *Auto-Arming Options* (see page 27) determine the partition's arming method. The control panel will enter a 60-second Exit Delay period before arming the system. At this point, Auto-Arming can be cancelled by entering a valid access code. Once the partition has successfully armed, the control panel can transmit the auto-arming report code programmed in section [172]. If the control panel cannot arm the partition (i.e. open zone), it will try again on the following day. Regardless of whether the system was successfully armed or not, the control panel will always transmit the Late to Close report code if programmed in section [172]. If Timed Auto-Arming is disabled, the control panel will still send the Late to Close report code at the time specified by the Auto-Arm Timer.

Example: To automatically arm partition 2 everyday at 6:15PM, enable Timed Auto-Arming for partition 2 by turning on option [1] in section [133]. Then key in 18:15 into section [112].

6.5.1 AUTO-ARM TIMER

Section [111] = Partition 1, [112] = Partition 2

Select the section corresponding to the desired partition and program the time (use the 24-hour clock i.e.

6:30PM = 18:00) you wish the control panel to attempt to arm the selected partition and/or send the Late to Close report code. If Timed Auto-Arming is disabled, the control panel will still send the Late to Close report code at the time specified by the Auto-Arm Timer.

6.6 NO MOVEMENT AUTO-ARMING

Section [133] = Partition 1, [134] = Partition 2

Option [2] OFF = No Movement Auto-Arming Disabled (default)

Option [2] ON = No Movement Auto-Arming Enabled

If no movement occurs in a partition's protected area for the period specified by the No Movement Timer (see below), the control panel can automatically arm that partition. The Auto-Arming Option described in section 6.7 of this manual determines the partition's arming method. Upon arming, the control panel will transmit the No Movement report code if programmed in section [172]. Regardless of whether the system was successfully armed or not, the control panel will always transmit the Late to Close report code if programmed in section [172]. If No Movement Auto-Arming is disabled, the control panel will still send the Late to Close report code at the time specified by the No Movement Timer.

Example: To arm partition 1 whenever there is no movement for a period of 4 hours, enable No Movement Auto-arming for partition 1 by turning on the [2] Option in section [133]. Then in section [075] enter 016 (16x15min. = 240min. = 4 hours).

6.6.1 NO MOVEMENT TIMER

Section [075] = Partition 1, [076] = Partition 2: **001-255 x15min.**, Default = disabled

Select the section corresponding to the desired partition and program the interval of time without movement you wish the control panel to wait before arming and/or send the Late to Close report code. If No Movement Auto-Arming is disabled, the control panel can still send the Late to Close report code when no movement has been detected for the period specified by the No Movement Timer.

6.7 AUTO-ARMING OPTIONS

Section [133] = Partition 1, [134] = Partition 2

Option [3] OFF = Regular Arming (default)

Option [3] ON = Stay Arming

When using Timed Auto-Arming or No Movement Auto-Arming (see sections 6.5 and 6.6 of this manual), the control panel can Regular or Stay Arm (see page 56) the selected partition.

6.8 NIGHT ARMING MODULE OPTIONS

The Spectra Night Arming Module, typically installed in a bedroom, allows users to arm/disarm the system, activate panic alarms and view system status.

6.8.1 PANIC OPTION

Section [133] = Partition 1, [134] = Partition 2

Option [4] OFF= Night Arming Module Panic Disabled (default)

Option [4] ON= Night Arming Module Enabled

This feature allows the control panel to generate panic alarms in the selected partition when any two keys are pressed simultaneously on the Spectra Night Arming Module.

6.8.2 ARMING OPTION

Section [133] = Partition 1, [134] = Partition 2

Option [5] OFF= Night Arming Module Arming Disabled (default)

Option [5] ON= Night Arming Module Arming Enabled

When enabled, users can arm the selected partition by pressing and holding a key on the Spectra Night Arming Module for 2 seconds. The Arming Methods feature (see below) determines the partition's arming method.

6.8.3 ARMING METHODS

Section [133] = Partition 1, [134] = Partition 2

Option [6] OFF= Night Arming Module performs Regular Arming (default)

Option [6] ON= Night Arming Module performs Stay Arming

If the Night Arming Module is enabled (see above) the control panel can Regular or Stay Arm (see page 56).

6.9 ONE-TOUCH ARMING

Section [130]: Options [1] to [4] see below

Option **[1]** ON = Press & hold the **[ENTER]** Option for One-touch Regular Arming.

Option **[2]** ON = Press & hold the **[STAY]** key for One-touch Stay Arming.

Option **[3]** ON = Press & hold the **[FORCE]** key for One-touch Force Arming.

Option **[4]** ON = Press & hold the **[BYP]** key for One-touch Bypass Programming.

The One-touch Arming features allow users to arm the system without having to enter any access codes. To arm the system, press and hold the appropriate key (see above) for approximately 2 seconds. If the system is partitioned (see page 41), you must also press the button corresponding to the partition you wish to arm. For more information on the different arming methods, please refer to page 56.

6.10 EXIT DELAY

*Section [071] = Partition 1, [072] = Partition 2: **001-255 seconds**, Default = 30 seconds*

After entering the required arming sequence (i.e. User Access code), the Exit Delay parameter determines the amount of time a user has to leave the protected area before the control panel arms the partition. The Exit Delay applies to all zones in the selected partition.

6.10.1 BEEP ON EXIT DELAY

Section [130] - Arming/Disarming Options

Option **[8]** OFF = Beep on Exit Delay Disabled

Option **[8]** ON = Beep on Exit Delay Enabled (default)

When enabled, the keypad will beep once every second during the Exit Delay and will beep rapidly during the final 10 seconds of the Exit Delay.

6.11 BELL SQUAWK ON ARM/DISARM WITH KEYPAD

Section [130] - Arming/Disarming Options

Option **[7]** OFF = Bell Squawk on Arm/Disarm Disabled (default)

Option **[7]** ON = Bell Squawk on Arm/Disarm Enabled

When this feature is enabled, the bell or siren will "squawk" once upon arming and twice upon disarming.

6.12 BELL SQUAWK ON ARM/DISARM WITH REMOTE CONTROL

Section [131] - Arming/Disarming Options

Option **[3]** OFF = Bell Squawk on Arm/Disarm with Remote Control Disabled (default)

Option **[3]** ON = Bell Squawk on Arm/Disarm with Remote Control Enabled

When this feature is enabled, the bell or siren will "squawk" once upon arming with a remote control and twice upon disarming with a remote control.

6.13 NO EXIT DELAY WHEN ARMING WITH REMOTE CONTROL

Section [131] - Arming/Disarming Options

Option **[4]** OFF = Provides Exit Delay When Arming with a Remote Control (default)

Option **[4]** ON = No Exit Delay When Arming with a Remote Control

With option **[4] on** in section [131], the control panel will cancel the Exit Delay (arms immediately) when a partition is armed with a remote control. With option **[4] off**, the control panel will start the Exit Delay timer when a partition is armed with a remote control.

6.14 NO AUDIBLE FEEDBACK UPON STAY ARMING

Section [131] - Arming/Disarming Options

Option **[5]** OFF = No Audible Feedback On Stay Arming Disabled (default)

Option **[5]** ON = No Audible Feedback On Stay Arming Enabled

With this feature enabled, the control panel will prevent the bell or siren from squawking and the keypads from beeping during the Exit Delay, whenever a partition is Stay armed.

PART 7: ALARM OPTIONS

7.1 BELL CUT-OFF TIMER

Section [073] = Partition 1, [074] = Partition 2: **000 = Disabled, 001-255 minutes**, Default = 4 min.

After an audible alarm, the bell or siren will stop upon disarming of the partition or when the Bell Cut-Off Timer has elapsed, whichever comes first.

7.2 SIREN DRIVER OPTIONS

Section [129] - General Options

Option [7] OFF = Siren Driver on Bell Output Disabled (default)

Option [7] ON = Siren Driver on Bell Output Enabled

If you have a 1755EX or 1758EX with the siren driver option, enabling this option will allow you to connect a regular speaker to the BELL output instead of a speaker with a built-in siren driver. Also, refer to *Bell Output Connection* on page 9.

7.3 RECYCLE ALARM

Once the Bell Cut-Off Timer has elapsed and after the Recycle Delay has elapsed, the control panel will re-verify the zone status and if there are any open zones, the control panel will generate another alarm. In one armed period, the control panel will repeat this sequence the number of times defined by the Recycle Counter.

7.3.1 RECYCLE ALARM DELAY

Section [090]: **000 = disabled, 001-255 minutes**, Default = disabled

The Recycle Delay determines the amount of time after Bell Cut-Off that the control panel will wait before re-verifying zone status.

7.3.2 RECYCLE COUNTER

Section [091]: **000 = disabled, 001-255**, Default = disabled

The Recycle Counter determines the number of times you wish the control panel to re-verify the zone status after Bell Cut-Off in one armed period.

7.4 TAMPER RECOGNITION

Section [132] - Zone Options

[1] OFF / [2] OFF - Tamper Recognition Disabled (default)

The control panel will not perform any action other than generate a standard alarm when a tamper or wire fault occurs in an armed system. If the system is disarmed, the control panel will display the zone as open in the keypad display but will not generate an alarm. This option is not permitted on UL systems.

[1] OFF / [2] ON - Trouble Only

When a tamper wiring failure occurs on a zone **in a disarmed system**, a Tamper/Zone Wiring Failure will appear in the keypads' Trouble Display (see page 54) and the control panel will transmit the appropriate Zone Tamper report code (see page 33). When a tamper wiring failure occurs on a zone **in an armed system**, the control panel will follow the zone's *Alarm Types* setting (see page 24).

[1] ON / [2] OFF - Silent Alarm

In a disarmed system, it functions the same as the "Trouble Only" setting, but it will also generate a silent alarm. A silent alarm will not trigger any bells or sirens but the system will have to be disarmed. When a tamper wiring failure occurs on a zone **in an armed system**, the control panel will follow the zone's *Alarm Types* setting (see page 24).

[1] ON / [2] ON - Audible Alarm

In a disarmed system, it functions the same as "Trouble Only" setting, except it will also generate an audible alarm. When a tamper wiring failure occurs on a zone **in an armed system**, the control panel will follow the zone's *Alarm Types* setting (see page 24).

7.4.1 TAMPER BYPASS OPTIONS

Section [132] - Zone Options

Option **[3]** OFF = *Will generate a tamper if detected on a bypassed zone (default)*

Option **[3]** ON = *Tampers on bypassed zones will be ignored*

With option [3] on, the Tamper Recognition feature follows the zone bypass definition. This means the control panel will ignore any tampers detected on a bypassed zone. With option [3] off, Tamper Recognition ignores the bypass definition. This means the control panel will generate an incident as per Tamper Recognition settings if a tamper or wire fault occurs on a bypassed zone.

7.5 KEYPAD PANIC OPTIONS

Section [128] - General Options

Option **[1]** OFF = *Emergency Panic Disabled*

Option **[1]** ON = *Emergency Panic Enabled*

Pressing the [1] & [3] keys simultaneously on the keypad for 2 seconds will generate a silent or audible alarm as defined by option [4].

Option **[2]** OFF = *Auxiliary Panic Disabled*

Option **[2]** ON = *Auxiliary Panic Enabled*

Pressing the [4] & [6] keys simultaneously on the keypad for 2 seconds will generate a silent or audible alarm as defined by option [5].

Option **[3]** OFF = *Fire Panic Disabled*

Option **[3]** ON = *Fire Panic Enabled*

Pressing the [7] & [9] keys simultaneously on the keypad for 2 seconds will generate a silent or audible alarm as defined by option [6].

Option **[4]** OFF = *Emergency Panic is Silent*

Option **[4]** ON = *Emergency Panic is Audible*

Option **[5]** OFF = *Auxiliary Panic is Silent*

Option **[5]** ON = *Auxiliary Panic is Audible*

Option **[6]** OFF = *Fire Panic is Silent*

Option **[6]** ON = *Fire Panic is Pulsed*

Silent operation:

The control panel emits a confirmation beep and transmits the appropriate Panic report code if programmed in section **[195]**. The control panel will not enable the keypad buzzers or the control panel's BELL output (no audible alarm).

Audible operation:

Same as silent operation, except the keypad buzzers and the BELL output will activate until a user cancels the alarm (disarms) with a valid User Access Code or when the Bell Cut-Off Timer elapses (see page page 29).

Fire (pulsed) operation:

Same as audible operation, except that the BELL output will be pulsed as shown in Figure 5-2 on page 23.

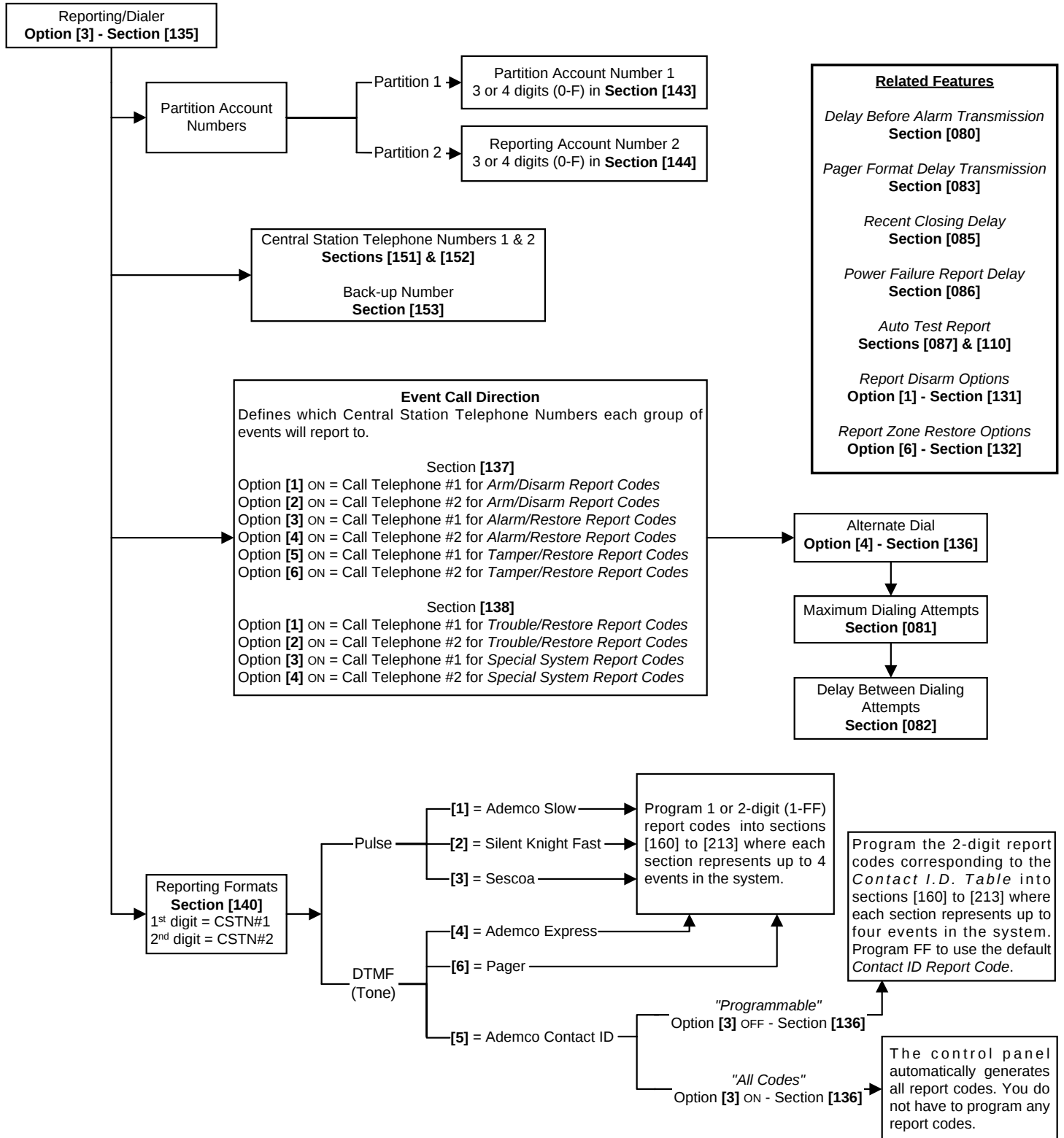


Whether the system is partitioned or not, the control panel will report all panic alarms to partition 1.

PART 8: REPORTING AND DIALER SETTINGS

The following section explains all the features and options that must be programmed in order for your security system to properly report system events to a central station. When an event (e.g. zone in alarm) occurs in the system, the control panel verifies if a report code was programmed in the section corresponding to the event (except Ademco Contact ID "All Codes"). If a report code was programmed, the control panel will dial the central station telephone number defined by the Event Call Direction feature. When the central station answers, the control panel will transmit the System Account Code, followed by the programmed Report Code.

Figure 8-1: Event Reporting



8.1 REPORTING/DIALER (ENABLE/DISABLE)

Section [135] - Dialer Options

Option [3] OFF = Reporting/Dialer Disabled (default)

Option [3] ON = Reporting/Dialer Enabled

8.2 REPORT CODES

A report code is a 1 or 2-digit hexadecimal value, consisting of digits from 1 to F. Each section from [160] to [213] represents a set of up to four specific events and each of these events can be programmed with a separate 1 or 2-digit report code.



Only the Ademco Slow, Silent Knight, Sescoc and Pager Formats support 1-digit report codes. To program a 1-digit report code, press the [FORCE] key followed by the desired hexadecimal digit, or vice versa.

When a specific event occurs, the control panel will attempt to transmit the programmed report code to the central station. The method of report code transmission is defined by the *Reporting Formats* (see page 35) and the *Event Call Direction* (see page 36). These two items define how and where the report codes are transmitted. If you are using the Ademco Contact ID "all codes" format, sections [160] to [212] do not have to be programmed. For more information, refer to *Reporting Formats* (see page 35). The following sub-sections provide a brief description of the events that the control panel can report.

8.2.1 ARMING REPORT CODES

Sections [160] - [171]

A report code can be programmed for each of the 48 User Access Codes. When using an access code to arm a partition, the control panel can send the appropriate report code to the central station, identifying which access code was used to arm the partition.

8.2.2 SPECIAL ARMING REPORT CODES

Sections [172] - [173]

Whenever the system is armed using one of the special arming features listed below, the control panel can send the appropriate report code to the central station, identifying how the system was armed.

___/___ **TIMED AUTO-ARMING:** A partition has armed itself at the programmed time (see page 26).

___/___ **LATE TO CLOSE:** Every day at the time specified by the Auto-Arm Timer and/or when no movement has occurred for the period specified by the No Movement Timer (see page 27)

___/___ **NO MOVEMENT:** A partition has armed itself after the programmed period without movement (see No Movement Arming on page 27).

___/___ **PARTIAL ARMING:** A partition was Stay, Instant, or Force Armed or armed with Bypassed zones

___/___ **ONE-TOUCH ARMING:** A partition was armed using a One-touch Arming feature (see page 28).

___/___ **REMOTE ARMING:** A partition was armed using the Winload upload/download software.

___/___ **KEYSWITCH ARMING:** A partition was armed using a keyswitch (see page 22)

___/___ **ARMING WITH A NIGHT ARMING MODULE:** See page 27.

8.2.3 DISARMING REPORT CODES

Sections [174] - [185]

A report code can be programmed for each of the 48 User Access Codes. Whenever an access code is used to disarm an armed partition or a partition in alarm, the control panel can send the appropriate report code to the central station, identifying which access code was used to disarm the partition.



The Disarming and the Special Disarming report codes can be transmitted every time a partition is disarmed or only when a partition is disarmed after an alarm (see Disarming Reporting Options on page 37).

8.2.4 SPECIAL DISARMING REPORT CODES

Section [186]

Whenever using one of the special disarming features, the control can send the report code to the central

station, identifying how the system was disarmed.

- ☐ **CANCEL AUTO-ARM:** A partition is disarmed during the Timed Auto-Arm's 60-second exit delay (see page 26). Only if Disarming Reporting Options (see page 37) are set to always report disarming.
- ☐ **REMOTE DISARM:** System disarmed using the Winload upload/download software
- ☐ **KEYSWITCH DISARMING:** System disarmed using a keyswitch (see page 22).
- ☐ **DISARMING WITH NIGHT ARMING MODULE:** See page 27.

8.2.5 ZONE ALARM REPORT CODES

Sections [187] - [190]

A report code can be programmed for each of the 16 available zones. Whenever a zone generates an alarm, the control panel can send the appropriate report code to the central station, identifying which zone generated an alarm.

8.2.6 ZONE ALARM RESTORE REPORT CODES

Sections [191] - [194]

A report code can be programmed for each of the 16 available zones. The control panel can transmit these report codes to the central station identifying which zone was restored.



A zone is restored when it closes after generating an alarm or once the bell has cut-off after alarm generation. Please refer to Zone Restore Report Options on page 38.

8.2.7 SPECIAL ALARM REPORT CODES

Sections [195] - [196]

Whenever the system generates an alarm due to one of the conditions listed below, the control panel can send the appropriate report code to the central station, identifying the type of alarm.

- ☐ **EMERGENCY PANIC:** Panic keys [1] & [3] have been pressed (see page 30).
- ☐ **AUXILIARY PANIC:** Panic keys [4] & [6] have been pressed (see page 30).
- ☐ **FIRE PANIC:** Panic keys [7] & [9] have been pressed (see page 30).
- ☐ **RECENT CLOSING:** After arming the system, an alarm is generated within period defined by the Recent Close Delay (see page 37).
- ☐ **AUTO ZONE SHUTDOWN:** A zone communicates more than the programmed number of transmissions in a single armed period (see page 23).
- ☐ **DURESS:** A Duress access code is keyed in (see page 19).

8.2.8 ZONE TAMPER REPORT CODES

Section [197] - [200]

A report code can be programmed for each of the 16 available zones. Whenever a tamper or wire fault occurs on a zone, the control panel can send the appropriate report code to the central station, identifying which zone was tampered.

8.2.9 ZONE TAMPER RESTORE REPORT CODES

Sections [201] - [204]

A report code can be programmed for each of the 16 available zones. Whenever a tampered zone is restored, the control panel can send the appropriate report code to the central station, identifying which zone has been restored.



If Tamper Recognition (see page 29) is disabled, the control panel will not report the occurrence of any tampers, wire faults or tamper restores.

8.2.10 SYSTEM TROUBLE REPORT CODES

Section [205] - [207]

Whenever the system generates one of the instances listed below, the control panel can send the appropriate report code to the central station, identifying the type of system trouble.

- ☐ **AC FAILURE:** The control panel has detected a loss of AC power. Transmission of this report code can be delayed (see Power Failure Report Delay on page 37).

- ☐ ☐ **BATTERY FAILURE:** Back up battery is disconnected or battery voltage is $\leq 10.5V$.
- ☐ ☐ **AUXILIARY SUPPLY:** Auxiliary power supply has overloaded (current consumption is $> 1.1A$).

- ☐ ☐ **BELL OUTPUT OVERLOAD:** Bell/siren output has overloaded (see page 9).
- ☐ ☐ **BELL OUTPUT DISCONNECTED:**
- ☐ ☐ **TIMER LOSS:** The control panel has detected a loss in time or clock failure (see page 41)
- ☐ ☐ **FIRE LOOP TROUBLE:** The control panel has detected a tamper trouble on a fire zone.

- ☐ ☐ **WIRELESS LOW BATTERY:** The battery voltage of a Liberator wireless transmitter (motion detector or contact switch) has dropped to below 6.5V.
- ☐ ☐ **MODULE FAULT:** All keypads connected to the control panel have been disconnected. If Zone Expansion Module Supervision has been enabled (see page 43) and the Zone Expansion Module has been disconnected. If Wireless Bus Module Supervision has been enabled (see page 43) and the Liberator Wireless Bus Modules has been disconnected.
- ☐ ☐ **PRINTER FAULT:** An error has occurred on the Printer Module.
- ☐ ☐ **FAIL TO COMMUNICATE:** The control panel has failed all attempts to communicate with the central station. The report code will be transmitted upon the next successful attempt.

8.2.11 SYSTEM TROUBLE RESTORE CODES

Sections [208] - [210]

Whenever the system restores one of the troubles listed in section 8.2.10, the control panel can send the appropriate report code to the central station, identifying the type of system trouble restore. If Telephone Line Monitoring is enabled (see page 38), the control panel can also transmit a TLM Restore report code.

8.2.12 SPECIAL REPORTING CODES

Sections [211] - [213]

Whenever the system generates one of the instances listed below, the control panel can send the appropriate report code to the central station, identifying the type of system occurrence.

- ☐ ☐ **COLD START:** The control panel was completely shutdown (no battery, no AC), then the control panel was re-started
- ☐ ☐ **TEST REPORT:** A test report has been generated automatically (see page 37).
- ☐ ☐ **PC CALL BACK:** See page 46.
- ☐ ☐ **PC ACCESS:** The control panel has established communication with the PC software.

- ☐ ☐ **INSTALLER IN:** Installer has entered the programming mode.
- ☐ ☐ **INSTALLER OUT:** Installer has exited the programming mode.

- ☐ ☐ **TX SUPERVISION LOSS:** Wireless Transmitter Supervision (see page 47) has been enabled and a transmitter is no longer communicating with the system.
- ☐ ☐ **TX SUPERVISION RESTORE:** When the above trouble has been restored

8.3 CENTRAL STATION TELEPHONE NUMBERS

Section [151] = Phone#1, [152] = Phone#2, [153] = Back-up Phone#: Up to 32 digits

The Spectra Control Panels can dial up to 2 different central station telephone numbers. You can enter any digit from 0 to 9 and any special keys or functions (see Table 5 on the next page) up to a maximum of 32 digits. For more information on how these telephone numbers are used, please refer to *Event Call Direction* on page 36 & *Reporting Formats* on page 35. After the *Maximum Dialing Attempts* (see page 37) to one central station telephone number have failed, the control panel will then dial the back up telephone number. If the *Alternate Dial Option* (see page 37) is enabled, the control panel will dial the programmed back up telephone number after every failed attempt. If no back up telephone number is programmed, the control panel will never report to the back-up telephone number. Also refer to *Delay Between Dialing Attempts* on page 37.

Table 5: Special Keys for Telephone Numbers

Press	Action or Value
[STAY]	*
[BYP]	#
[MEM]	switch from pulse to tone dialing or vice versa
[TBL] or [TRBL]	4-second pause
[FORCE]	inserts blank digit

8.4 PARTITION ACCOUNT NUMBERS

Section [143] = Partition 1, [144] = Partition 2

All report codes are preceded by a 4-digit or 3-digit Partition Account Number to ensure correct identification in a partitioned system. Partition account numbers can be any hexa-digit from 1 to F. To enter 3-digit account number, simply press the **[FORCE]** key followed by the 3-digit account number.

8.5 REPORTING FORMATS

Section [140]: 1st digit = Format for Phone #1, 2nd digit = Format for Phone #

The Spectra Control Panels can use a number of different reporting formats and each Central Station Telephone Number can be programmed with a different reporting format. The first digit entered into section [140] represents the reporting format used to communicate with Central Station Telephone Number 1, the second digit represents the reporting format used to communicate with Central Station Telephone Number 2. The Back up Telephone Number uses the same reporting format as the last Central Station Telephone Number that was dialed.

Table 6: Reporting Formats

Value Entered	Reporting Format
1	Ademco Slow (1400Hz, 1900Hz, 10BPS)
2	Silent Knight Fast (1400Hz, 1900Hz, 10BPS)
3	SESCOA (2300Hz, 1800Hz, 20BPS)
4	Ademco Express (DTMF 4+2)
5 (Default)	Ademco Contact ID
6	Pager Format

8.5.1 STANDARD PULSE FORMATS

The Spectra Control Panels can use the Ademco slow, Silent Knight and SESCOA standard pulse reporting formats (see Table 6).

8.5.2 ADEMCO EXPRESS

The Ademco Express is a high-speed reporting format, which will transmit the 2-digit (11-FF) report codes programmed into sections [160] to [213]. Unlike other Ademco formats, the Ademco Express does not use the Contact ID Report Codes.

8.5.3 ADEMCO CONTACT ID

Ademco Contact ID is a fast communicator format that uses tone reporting instead of pulse reporting. This communicator format also uses a pre-defined list of industry standard messages and report codes that will suit most of your basic installation needs. Please refer to the "Contact ID Report Codes List" in the Programming Guide for a complete list of these report codes and messages.

8.5.4 CONTACT ID OPTIONS

Section [132] - Dialer Options

Option **[3]** OFF = Programmable Codes

Option **[3]** ON = All Codes (default)

When using the Programmable Codes format, use the Ademco "Contact ID Report Codes List" in the Spectra Programming Guide to program the desired report codes into sections [160] to [213]. Enter FF to use the

default Contact ID Report Code. When using the All Codes format, the control panel will automatically generate Contact ID Report Codes for every event in sections [160] to [213]. Refer to the “All Codes” Ademco Contact ID Report Code List in the Spectra Programming Guide.



When using the Ademco Contact ID Programmable format, both telephone numbers must use this reporting format.

8.5.5 PAGER REPORTING FORMAT

Using this format allows the control panel to transmit report codes to a pager. Transmission of the pager reporting format can be delayed, please refer to Pager Delay on page 38.

8.6 EVENT CALL DIRECTION

Section [137]

Option [1] ON = Call Telephone #1 for ☐ → *Arm/Disarm Report Codes* in sections [160] to [186]
Option [2] ON = Call Telephone #2 for ☐

Option [3] ON = Call Telephone #1 for ☐ → *Alarm/Restore Report Codes* in sections [187] to [196]
Option [4] ON = Call Telephone #2 for ☐

Option [5] ON = Call Telephone #1 for ☐ → *Tamper/Restore Report Codes* in sections [197] to [204]
Option [6] ON = Call Telephone #2 for ☐

Section [138]

Option [1] ON = Call Telephone #1 for ☐ → *Trouble/Restore Report Codes* in sections [205] to [210]
Option [2] ON = Call Telephone #2 for ☐

Option [3] ON = Call Telephone #1 for ☐ → *Special Report Codes* in sections [211] to [213]
Option [4] ON = Call Telephone #2 for ☐

This feature determines where each group of events will be reported. The control panel events are divided into five groups (see above), where each event group can be programmed to dial one or both Central Station Telephone Numbers. When a reportable event occurs in the system, the control panel will verify that one of the two telephone numbers has been enabled. The control panel will begin by dialing the selected telephone number(s). If both numbers were selected it will begin with Central Station Telephone Number 1. After the *Maximum Dialing Attempts* (see page 37) to one central station telephone number have failed, the control panel will then dial the back up telephone number. If the *Alternate Dial Option* (see page 37) is enabled, the control panel will dial the programmed back up telephone number after every failed attempt. If no back up telephone number is programmed, the control panel will never report to the back-up telephone number. Also refer to *Delay Between Dialing Attempts* on page 37.

Example: The system is armed and zone 1 has been breached causing an alarm. If option [3] is off and option [4] is on in section [137], the control panel will attempt to communicate with Central Station Telephone Number 2 in order to transmit the Zone 1 Alarm Report Code programmed in section [187].

8.7 DIALING METHOD

Section [135] - Dialer Options

Option [4] OFF = Pulse Dialing. Also, refer to Pulse Ratio below.

Option [4] ON = Tone/DTMF Dialing (default)

8.8 PULSE RATIO

Section [135] - Dialer Options

Option [5] OFF = European Pulse Ratio of 1:2

Option [5] ON = U.S.A. Pulse Ratio of 1:1.5 (default)

8.9 BELL ON COMMUNICATION FAILURE

Section [135] - Dialer Options

Option [6] OFF = Bell On Communication Failure Disabled (default)

Option [6] ON = Bell On Communication Failure Enabled

If the control panel fails to communicate with the central station when the system is armed, it will enable the BELL output, setting off any bells or sirens connected to the output.

8.10 DIAL TONE DELAY

Section [136] - Dialer Options

Option **[5]** OFF = Dialer will continue to dial if no dial tone is present after 4 seconds (default).

Option **[5]** ON = Dialer will hang-up if no dial tone is present after 16 seconds

8.11 MAXIMUM DIALING ATTEMPTS

*Section [081]: **001-016 attempts**, Default = 8 attempts*

The value programmed here determines how many times the control panel will re-dial the same Central Station Telephone Number before proceeding to the next number.

8.12 DELAY BETWEEN DIALING ATTEMPTS

*Section [082]: **000-255 seconds**, Default = 20 seconds*

This delay determines the amount of time the control panel will wait between each dialing attempt.

8.13 ALTERNATE DIAL OPTION

Section [136] - Dialer Options

Option **[4]** OFF = Alternate Dial Disabled (default)

Option **[4]** ON = Alternate Dial Enabled

With option [4] off, the control panel will dial the back up telephone number programmed in section **[153]** after all attempts to one Central Station Telephone Number have failed (see Maximum Dialing Attempts on page 37). With option [4] on, the control panel will dial the back up telephone number after every failed attempt.

8.14 RECENT CLOSE DELAY

*Section [085]: **000-255 seconds**, Default = no delay*

If after having armed the system, an alarm is generated within the period defined by the Recent Close Delay, the control panel will attempt to transmit the Recent Close report code programmed in section **[195]**.

8.15 AUTO TEST REPORT

*Sections [087]: **000=disabled, 001-255 days**, default = disabled Section [110]: **Time (HH:MM)***

The control panel will transmit the Test Report report code programmed into section **[211]** after the number of days programmed into section [087] has elapsed and at the time programmed into section [110]. Use the 24 hour clock to program the time (i.e. 6:30PM = 18:30).

8.16 POWER FAILURE REPORT DELAY

*Section [086]: **001-255 minutes**, default = 15 minutes*

The control panel will transmit the AC Failure report code programmed in section **[205]** after the Power Failure Report Delay period has elapsed.

8.17 DISARM REPORTING OPTIONS

Section [131] - Arming /Disarming Options

Option **[1]** OFF = Always Report Disarming

Option **[1]** ON = Report Disarming Only After Alarm (default)

With option [1] off, the control panel will send the Disarming report codes (see page 32) to the central station every time the system is disarmed. With option [1] on, the control panel will send the Disarming report codes to the central station when the system is disarmed following an alarm.

8.18 ZONE RESTORE REPORT OPTIONS

Section [132] - Zone Options

Option **[6]** OFF = *Report On Bell Cut-Off (default)*

Option **[6]** ON = *Report On Zone Closure*

With option [6] off, the control panel will send the Zone Alarm Restore report codes (see page 33) to the central station when the zone has returned to normal and the Bell Cut-Off Timer has elapsed (see page 29). With option [6] on, the control panel will send the Zone Alarm Restore report codes to the central station as soon as the zone returns to normal or when the system is disarmed.

8.19 PAGER DELAY

*Section [083]: **001-255 seconds**, default = 5 seconds*

When using the Pager Reporting Format (see page 36), the control panel will wait for the Pager Delay period before transmitting the report codes. This is to allow time for the pager system to provide a dial tone or to bypass the "welcome" message before sending data.

8.20 TELEPHONE LINE MONITORING (TLM)

When enabled, the system verifies the existence of a telephone line once every second. A line test failure occurs when the TLM detects less than 3 volts for the period defined by the TLM Fail Timer. If the line test fails, the control panel's **STATUS** LED flashes and generates one or more conditions as defined by the TLM settings below. These will be restored when the control panel detects the telephone line again. Please note that when the dialer detects an incoming call, the TLM test will stop for 1 minute.

Section [135] - Dialer Options

[1] OFF / **[2]** OFF - *TLM Disabled*

[1] OFF / **[2]** ON - *Trouble Only*

Upon line test failure, a TLM Trouble will appear in the keypads' *Trouble Display* (see page 54).

[1] ON / **[2]** OFF - *Alarm If System Armed*

Upon line test failure, a TLM Trouble will appear in the keypads' *Trouble Display* (see page 54) and if the system is armed, the control panel will generate an alarm.

[1] ON / **[2]** ON - *Silent Alarm Becomes Audible*

Upon line test failure, a TLM Trouble will appear in the keypads' *Trouble Display* (see page 54) and causes a silent zone or silent panic alarm to switch to audible.

8.20.1 TLM FAIL TIMER

*Section [079]: **016-255 x 2 seconds**, default = 32 seconds*

If TLM does not detect the existence of a telephone line for the duration of this period, the control panel will generate the condition(s) defined by the TLM options (see above).

PART 9: PROGRAMMABLE OUTPUTS

A PGM is a programmable output that toggles to its opposite state (i.e. a normally open PGM will close) when a specific event has occurred in the system. For example, a PGM can be used to reset smoke detectors, activate bells or strobe lights, open/close garage doors and much more. When a PGM closes, the control panel supplies a ground to the PGM activating any device or relay connected to it. When a PGM opens, the circuit opens from ground, therefore, cutting power to any devices connected to it.

PGM1

A normally open output that provides a maximum of 50mA. Refer to *Programmable Output Connections* on page 10.

PGM2

Available only on the 1755EX and 1758EX control panels, PGM2 is a normally open output that can provide up to 2.5A. PGM2 was designed to be used as a Strobe Output, for information refer to *PGM Strobe Options* on page 40. For specifications and information on how to connect PGM2, refer to *Programmable Output Connections* on page 10.

Global PGM

The Global PGM allows you to use the control panel's PGM Event List to activate PGMs located on a module or LCD keypad. For example, if you were to enable a module's "Follows Global PGM" option (see pages 49 and 51), the PGM on the module would activate whenever the event programmed in section [124] has occurred. Every PGM on every keypad and/or expansion module can be programmed to follow the event(s) defined by the Global PGM.

9.1 PGM ACTIVATION EVENT

Sections [120], [122], [124]

This feature allows you to program the control panel to activate a PGM when a specific event occurs in the system. The PGM will remain in its active state until the programmed *PGM De-Activation Event* occurs (see below) or when the *PGM Delay* period has elapsed (see page 40). To program a PGM Activation Event:

1. Enter section that represents the desired PGM. PGM1 = [120], PGM2 = [122], Global PGM = [124]
2. Enter the **Event Group #** (see PGM table on page 9 of the *Spectra Programming Guide*).
3. Enter the **Sub-Group #** (see PGM table on page 9 of the *Spectra Programming Guide*).
4. Enter the **Partition #**
01 = Partition 1
02 = Partition 2
99 = Both Partitions



Please note that the "AC Loss" PGM Event will only occur after the Power Failure Report Delay has elapsed (see page 37).

9.2 PGM DE-ACTIVATION EVENT

Sections [121], [123], [125]

After PGM activation (see above), the PGM will return to its normal state (deactivate) when the programmed PGM De-activation Event occurs. Instead of de-activating the PGM on the occurrence of a specific event, the PGM can de-activate after a programmed period has elapsed, please refer to *PGM Delay*. **If using the PGM Delay, these sections can be used as a second activation event.**

1. Enter section that represents the desired PGM. PGM1 = [121], PGM2 = [123], Global PGM = [125]
2. Enter the **Event Group #** (see PGM table on page 9 of the *Spectra Programming Guide*).
3. Enter the **Sub-Group #** (see PGM table on page 9 of the *Spectra Programming Guide*).
4. Enter the **Partition #**
01 = Partition 1
02 = Partition 2
99 = Both Partitions

9.3 PGM DELAY

Section [066] = PGM1, [067] = PGM2, [068] = Global PGM: **000 = Follows De-activation Event, 001-255 seconds**, Default = 5 seconds

Instead of de-activating the PGM on the occurrence of a specific event, the PGM will de-activate after the period programmed here has elapsed.



If a PGM Delay is programmed, the de-activation event can be used as a second activation event.

9.4 PGM2 STROBE OPTIONS (1755EX & 1758EX ONLY)

Section [129] - General Options

Option [1] OFF = PGM2 Output is Steady (Default)

Option [1] ON = PGM2 Output is Pulsed (Strobe)

With option [1] enabled, PGM2 will flash on and off whenever activated. Otherwise, it will provide a steady output.

Option [2] OFF = PGM2 Pulse When System Armed Disabled (Default)

Option [2] ON = PGM2 Pulse When System Armed Enabled

Whenever the system is armed, PGM2 will flash once every 30 seconds until the system is disarmed.

Option [3] OFF = PGM2 Pulse on Arm/Disarm Disabled (Default)

Option [3] ON = PGM2 Pulse on Arm/Disarm Enabled

With this option enabled, PGM2 will flash once to indicate the system has been armed and will flash twice to indicate that the system has been disarmed.

9.5 ALARM RELAY OPTIONS (1755EX & 1758EX ONLY)

Section [127] - General Options

Option [7] OFF = Alarm Relay Follows Bell Output (Default)

Option [7] ON = Alarm Relay Follows PGM2

With this option off, the optional Alarm Relay will activate or de-activated whenever the Bell Output has activated or de-activated. With the option on, the Alarm Relay will activate or de-activated whenever PGM2 has activated or de-activated.



The Alarm Relay will only follow PGM2 when activated or deactivated by the Activation Event, De-Activation Event or PGM Delay. It will NOT follow PGM2 if activated or de-activated by the Strobe Options defined in section 9.4.

PART 10: SYSTEM SETTINGS

10.1 HARDWARE RESET

Performing a hardware reset will set all control panel settings to factory default. To perform a power down reset:

1. Make sure the *Installer Lock* is disabled (see below)
2. Remove battery and AC power from the control panel.
3. Set the "RESET" jumper to on by placing a jumper on the "RESET" pins of the control panel.
4. Re-connect AC and battery power to the control panel.
5. Wait 10 seconds and remove the jumper.

10.2 INSTALLER LOCK

Section [282]: **000 = Disabled, 147 = Lock Enabled, Default = Disabled**

Program 147 into section [282] to lock all programming. Hence, performing a hardware reset as described above will not affect the current panel settings. To remove the Installer Lock, enter 000. Please note that four seconds after resetting the control panel, the **STATUS** LED on the control panel will flash fast for 5 seconds to indicate that the installer lock is enabled.

10.3 BATTERY CHARGE CURRENT

Section [127] - General Options

Option [5] OFF = Battery Charge Current - 350mA (default)

Option [5] ON = Battery Charge Current - 700mA (40VA transformer required)

10.4 PARTITIONING

Section [127] - General Options

Option [1] OFF = Partitioning Disabled (default)

Option [1] ON = Partitioning Enabled

By enabling partitioning, the alarm system is divided into two distinct systems, identified as Partition 1 and Partition 2. When partitioned, each zone and each User Code must be assigned to either Partition 1, Partition 2, or both partitions (see *Zone Partition Assignment* on page 23 and *User Code Options* on page 17).

- Users can only arm partitions to which they have been assigned.
- Only zones assigned to Partition 1 will arm/disarm when Partition 1 is armed or disarmed.
- Only zones assigned to Partition 2 will arm/disarm when Partition 2 is armed or disarmed.
- Zones assigned to both partitions will arm when both partitions are armed and disarms when at least one partition disarms.
- For details on how to arm and disarm partitions, please refer to page 55.
- The following features can be programmed separately for each partition: Entry/Exit Delay Timer, Auto-Arming Options, Night Arming Module Options, Bell Cut-Off Timer, Switch to Stay Arming, PGM Events and Account Numbers.



If the system is not partitioned, all zones, User Codes, and features will be recognized as belonging to partition 1.

10.5 SYSTEM REAL-TIME CLOCK

Section [280]

Program the current time into section [280] using the 24-hour clock (i.e. 8:30PM = 20:30).

10.6 CLOCK ADJUST

Section [088]: **000 = Disabled, 001-255 (see below), Default = Disabled**

001 to 127 = + 1 to +127 seconds

128 to 255 = -1 to -127 seconds

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

Example: If a control panel loses 4 minutes per month, this represents an average loss of 8 seconds per day. Therefore, programming 008 (plus 8 seconds) into section [088] would compensate for the 8-second loss.

10.7 KEYPAD TAMPER SUPERVISION

Section [128]: General Options

Option [7] OFF = Keypad 1 Tamper Supervision Disabled (default)

Option [7] ON = Keypad 1 Tamper Supervision Enabled

Option [8] OFF = Keypad 2 Tamper Supervision Disabled (default)

Option [8] ON = Keypad 2 Tamper Supervision Enabled

The control panel can be programmed to monitor the on-board tamper status of one or two keypads in the system. If Keypad 1 Tamper Supervision is enabled, the control panel will verify the on-board tamper status of a keypad whose Keypad Zone Jumper (J1) is set to on. If Keypad 2 Tamper Supervision is enabled, the control panel will verify the on-board tamper status of a keypad whose Keypad Zone Jumper (J1) is set to off.



Regardless of whether the keypad zones are being used or not, if more than one keypad has the same Keypad Zone Jumper setting, Keypad Tamper Supervision will be lost. For example, if two of the keypads in your system have the keypad zone jumper (J1) set to on, the control panel will not recognize a Keypad 1 Tamper Supervision Failure.

If a keypad tamper occurs, the control panel can transmit the appropriate Zone Tamper report code (see page 33) as originating from the zones specified by the Table 7. If the zone specified by the table below has been enabled, the control panel will report the tamper as originating from the partition to which the zone is assigned. If the zone has not been enabled, the control panel will send the Zone Tamper report code as originating from partition 1. A *Tamper/Zone Wiring Failure* will also appear in the keypads' *Trouble Display* (see page 54).

Table 7: Zone Tamper Report Code for Keypad Tamper Supervision Failure

Keypad Tamper	1725EX/1755EX		1728EX/1758EX	
	NO ATZ	WITH ATZ	NO ATZ	WITH ATZ
Keypad 1 Tamper Supervision =	Zone 4	Zone 7	Zone 6	Zone 11
Keypad 2 Tamper Supervision =	Zone 5	Zone 8	Zone 7	Zone 12

10.8 KEYPAD BEEP ON TROUBLE

Section [127]: General Options

Option [3] OFF = Keypad Beep on Trouble Disabled

Option [3] ON = Keypad Beep on Trouble Enabled (default)

When enabled, the keypads will emit an intermittent beep tone whenever a trouble condition occurs in the system. The intermittent beep tone will remain activated until the user enters the Trouble Display Mode by pressing the [TBL] or [TRBL] key. The intermittent beeps will be re-initialized whenever a new trouble occurs or the trouble has restored and re-occurred.

10.9 INSTALLER QUICK FUNCTIONS KEYS

After entering the Installer Code, you can press a key to perform specific actions as described below.

10.9.1 INSTALLER TEST MODE

[ENTER] + [INSTALLER CODE] + [TBL] OR [TRBL]

The Installer Test Mode allows you to perform walk tests where the bell or siren will squawk and the keypad will emit a confirmation beep to indicate opened zones. To enter this mode, simply enter the Installer Code then press the [TBL] or [TRBL] key. The keypad will emit a confirmation beep. To disable this mode, press the [TBL] key again. The keypad will emit a rejection beep.

10.9.2 TEST REPORT

[ENTER] + [INSTALLER CODE] + [MEM]

Sends the Test Report report code programmed in section [211] to the central station.

10.9.3 CALL UPLOAD/DOWNLOAD SOFTWARE

[ENTER] + [INSTALLER CODE] + [BYP]

Refer to page 45.

10.9.4 CANCEL COMMUNICATION

[ENTER] + [INSTALLER CODE] + [STAY]

Cancels all communication until the next reportable event.

10.9.5 ANSWER UPLOAD/DOWNLOAD SOFTWARE

[ENTER] + [INSTALLER CODE] + [STAY]

Refer to page 46.

10.10 ZONE EXPANSION MODULE SUPERVISION

Section [129]: General Options

Option [4] OFF = Zone Expansion Bus Module Supervision Disabled (default)

Option [4] ON = Zone Expansion Bus Module Supervision Enabled

By enabling this option, the control panel will supervise the Zone Expansion Module (SPC-ZX4 or SPC-ZX8) connected to the Spectra bus. This means that whenever the Zone Expansion Module is disconnected or isn't communicating with the control panel, the control panel will attempt to transmit the Module Fault report code programmed in section [210] and the Module Loss Failure will appear in the keypads' *Trouble Display* (see page 54).

10.11 LIBERATOR WIRELESS BUS MODULE SUPERVISION

Section [129]: General Options

Option [5] OFF = Liberator Wireless Bus Module Supervision Disabled (default)

Option [5] ON = Liberator Wireless Bus Module Supervision Enabled

By enabling this option, the control panel will supervise the Liberator Wireless Bus Module (SPC-319) connected to the Spectra bus. This means that whenever the Liberator Wireless Bus Module is disconnected or isn't communicating with the control panel, the control panel will attempt to transmit the Module Fault report code programmed in section [210] and the Module Loss Failure will appear in the keypads' *Trouble Display* (see page 54).



Functions only with the 1725EX and 1728EX control panels.

10.12 WIRELESS TRANSMITTER LOW BATTERY SUPERVISION

Section [129]: General Options

Option [6] OFF = Wireless Transmitter Low Battery Supervision Disabled (default)

Option [6] ON = Wireless Transmitter Low Battery Supervision Enabled

When the battery voltage of a Liberator wireless transmitter (motion detector or contact switch) has dropped to below 6.5V., the Liberator Wireless Bus Module will send a message to the control panel. By enabling option [6] in section [129], the control panel will attempt to transmit the Wireless Transmitter Low Battery report code programmed in section [210] and the Wireless Transmitter Low Battery Failure will appear in the keypads' *Trouble Display* (see page 54).



Functions only with the 1725EX and 1728EX control panels.

10.13 WIRELESS TRANSMITTER SUPERVISION OPTIONS

Section [132] - Zone Options

Please note that the Liberator Wireless Bus Module *Supervision Option* must be enabled (see page 47)

[7] OFF / [8] OFF - Supervision Failure Recognition Disabled (default)

When a tamper occurs on a wireless transmitter zone **in a disarmed system**, the control panel will display the zone as open in the keypad display but will not generate an alarm. When it occurs on **in an armed system**, the control panel will follow the zone's *Alarm Types* setting (see page 24). This option is not permitted on UL systems.

[7] OFF / [8] ON - Trouble Only

When a tamper occurs on a wireless transmitter zone **in a disarmed system**, a Wireless Transmitter Supervision Loss will appear in the keypads' *Trouble Display* (see page 54) and the control panel will attempt to transmit the TX Supervision Loss report code programmed in section [213]. When it occurs on **in an armed system**, the control panel will follow the zone's *Alarm Types* setting (see page 24).

[7] ON / [8] OFF - Silent Alarm

When a tamper occurs on a wireless transmitter zone **in a disarmed system**, it functions the same as the "Trouble Only" setting, but it will also generate a silent alarm. A silent alarm will not trigger any bells or sirens but the system will have to be disarmed. **In an armed system**, the control panel will follow the zone's *Alarm Types* setting (see page 24).

[7] ON / [8] ON - Audible Alarm

When a tamper occurs on a wireless transmitter zone **in a disarmed system**, it functions the same as the "Trouble Only" setting, except it will also generate an audible alarm. **In an armed system**, the control panel will follow the zone's *Alarm Types* setting (see page 24).



Functions only with the 1725EX and 1728EX control panels.

10.14 RE-PROGRAM ALL EXPANSION MODULES

Section [750]

After removing an expansion module from the communication bus, the control panel keeps the module's programmed sections in memory. Therefore, if you add or replace a module you can re-program the module with the settings saved in the control panel. To do so, enter section [750] and press [ENTER].

PART 11: SETTINGS FOR UP/DOWNLOAD SOFTWARE

11.1 PANEL ANSWER OPTIONS

The following two options define how the control panel answers an incoming call from a computer using the Paradox Upload/Download Software for Windows®.

11.1.1 ANSWERING MACHINE OVERRIDE

Section [077]: 000 = Disabled, 010-255 seconds, Default = disabled

When using the upload/download software to communicate remotely with an installation site that uses an answering machine or service, the answering machine override must be programmed. Using the Upload/download software, call the installation site and on the second ring press the "Enter" key on the keyboard to hang-up. After hanging up, the Upload/download 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 the line after the first ring.

Example: A security installation is using an answering machine set to answer after three rings. If section [077] has been programmed with "040" (40 seconds), when you call the installation site with the software the first time, wait two rings and press "Enter" on the keyboard. The software will hang-up and call the installation site back. If the second call is made within 40 seconds, the control panel will pick up the line on the first ring. If it takes more than 40 seconds, the control panel will not answer on the first ring and the answering machine will answer after three rings.

11.1.2 NUMBER OF RINGS

Section [078]: 000 = disabled, 001-015 rings, Default = 8 rings

This value 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 programmed rings, the control panel will answer the call. Please note that the control panel resets the "ring" counter every 10 seconds. Therefore, if there is more than 10 seconds between each ring, the control panel will reset the counter on the next call.

11.2 PANEL IDENTIFIER

Section [141]: 0000-FFFF

This four-digit code identifies the control panel to the upload/download software before initiating communication. The control panel will verify that the Panel Identifier in the upload/download software is the same. If the codes do not match, the control panel will not establish communication. Therefore, be sure to program the same panel identifier into both the Spectra control panel and the upload/download software.

11.3 PC PASSWORD

Section [142]: 0000-FFFF

This four-digit password identifies the PC to the panel, before establishing communication. Program the same PC Password into both the Spectra control panel and the upload/download software. If the passwords do not match, the Upload/download software will not establish communication.

11.4 PC TELEPHONE NUMBER

Section [150]: Up to 32 digits

The control panel will dial this number when trying to initiate communication with a computer using the upload/download software. You can enter any digit from 0 to 9 and any special keys or functions (see Table 5 on page 35) up to a maximum of 32 digits.

11.5 CALL UPLOAD/DOWNLOAD SOFTWARE

[ENTER] + [INSTALLER CODE] + [BYP]

The control panel will dial the PC Telephone Number programmed in section [150] in order to communicate with the upload/download software. The control panel and the upload/download software will verify that the Panel Identifier and the PC Password match before establishing communication.

11.6 ANSWER UPLOAD/DOWNLOAD SOFTWARE

[ENTER] + [INSTALLER CODE] + [STAY]

In order to perform on-site upload/download connect your computer directly to the control panel using an ADP-1 line adapter. In Upload/download software go to:

Click **Main Menu** then click **Program Setup** and then click **Modem & Printer Configuration**

Set "Dialing Condition" to "Blind Dial". Program the panel telephone number in upload/download software and follow the instructions on the ADP-1 adapter. When the computer has dialed, press [enter] followed by the Installer Code, then press the [stay] key to manually answer the upload/download software from the control panel.

11.7 AUTO EVENT BUFFER TRANSMISSION

Section [136]: Dialer Options

Option **[2]** OFF = *Auto Event Buffer Transmission Disabled (default)*

Option **[2]** ON = *Auto Event Buffer Transmission Enabled*

When the event buffer reaches 50% capacity, the control panel will make two attempts to establish communication with a PC using the upload/download software by calling the PC Telephone Number programmed in section [150]. The upload/download software must be in "wait to dial" mode. When the system establishes communication, it will upload the contents of the event buffer to the upload/download software. If communication is interrupted before completing transmission or if after two attempts, communication is not established, the system will wait until the event buffer attains another 50% capacity before attempting to re-communicate with the central station. When the Event Buffer is full, each subsequent new event will erase the oldest event in the buffer.

11.8 CALL BACK FEATURE

Section [136]: Dialer Options

Option **[1]** OFF = *Call Back Disabled (default)*

Option **[1]** ON = *Call Back Enabled*

For additional security, when a PC using the upload/download 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 hangs-up, the upload/download software automatically goes into "wait for call mode", ready to answer when the control panel calls back. Please note that the PC Telephone Number must be programmed in section [150] in order to use the Call Back feature.

PART 12: LIBERATOR MODULE

The following options and features are only available to program when a **Liberator Wireless Bus Module** has been connected to the Spectra control panel's communication bus as shown on page 12. The Liberator Wireless Bus Module (SPC-319) allows you to add up to eight fully programmable remote controls and up to eight Liberator Wireless Detectors and Contact Switches (door contacts). The SPC-319 also provides one programmable 5A relay (PGM). A second 5A programmable relay (PGM) is available as an option. A PGM is a programmable output that toggles to its opposite state (i.e. a normally open PGM will close) when a specific event has occurred in the system. For example, a PGM can be used to reset smoke detectors, activate bells or strobe lights, open/close garage doors and much more. For information on how to connect the Liberator's PGMs, refer to Figure 2-7 on page 13. For information on how to program the Liberator's PGMs, refer to sections 12.4 to 12.7 of this manual.

 **The Liberator Wireless Bus Module functions only with the 1725EX and 1728EX control panels. Do not connect more than one Liberator Module to the control panel.**

12.1 WIRELESS TRANSMITTER ASSIGNMENT (LIBERATOR)

Sections [601] to [608]: **6-Digit Serial Number**

The first step is to assign each wireless transmitter to a zone in the system. To do so, enter the wireless transmitter's 6-digit serial number into the appropriate section as described below. The serial number can be located on the inside of the transmitter or you can use the *Serial Number Display* method described on page 49 to determine its serial number. Each section from [601] to [608] represents Expansion Inputs 1 through 8 respectively. Each Expansion Input represents a specific zone in the system depending on the type of Spectra control panel being used and whether the ATZ option is enabled. Once the transmitters have been assigned, their associated zones must be programmed as described in *Zone Programming* on page 20. You cannot assign more than 8 wireless transmitters to the Spectra System.

	1725EX		1728EX	
	NO ATZ	WITH ATZ	NO ATZ	WITH ATZ
[601] = EXPANSION INPUT 1=	Zone 6	Zone 9	Zone 8	Zone 13
[602] = EXPANSION INPUT 2=	Zone 7	Zone 10	Zone 9	Zone 14
[603] = EXPANSION INPUT 3=	Zone 8	Zone 11	Zone 10	Zone 15
[604] = EXPANSION INPUT 4=	Zone 9	Zone 12	Zone 11	Zone 16
[605] = EXPANSION INPUT 5=	Zone 10	Zone 13	Zone 12	N/A
[606] = EXPANSION INPUT 6=	Zone 11	Zone 14	Zone 13	N/A
[607] = EXPANSION INPUT 7=	Zone 12	Zone 15	Zone 14	N/A
[608] = EXPANSION INPUT 8=	Zone 13	Zone 16	Zone 15	N/A

 **Do not assign detection devices from different modules to the same expansion input. For example, do not assign a wireless transmitter to section [601], then connect a detection device to input Z1 of the SPC-ZX8 and enable option [1] in section [651].**

12.2 SUPERVISION OPTIONS (LIBERATOR)

Section [610]: *General Options*

Option [1] OFF = *Supervision Disabled (default)*

Option [1] ON = *Supervision Enabled*

The Liberator Wireless Bus Module can be programmed to send a Supervision Loss signal to the control panel when it has detected that one or more wireless transmitters have not communicated any signals for the period defined by the *Supervision Timer Setting*. The control panel will process this signal as defined by the *Wireless Transmitter Supervision Options* (see page 44).

12.2.1 SUPERVISION TIMER SETTING

Section [610]: General Options

Option [2] OFF = Check Supervision Every 12 Hours (default)

Option [2] ON = Check Supervision Every 12 Minutes

If the Liberator Wireless Bus Module does not receive a signal from one of its wireless transmitters within the period defined here, it can send a Supervision Loss signal to the control panel (see page 50).



Supervision Timer must be set to the same value as defined by the jumpers on the wireless transmitters.

12.3 ON-BOARD TAMPER RECOGNITION (LIBERATOR)

Section [615]: **000 = Disabled, 001-008, Default: Disabled**

The Liberator Wireless Bus Module comes equipped with an on-board tamper switch. This feature will allow to report the Module Tamper through one of the module's Expansion Inputs (zone). When a tamper is detected on the module, it will send a Zone Tamper report code to the control panel via the communication bus. The Zone Tamper report code will originate from the zone defined by the Expansion Input (001-008) you have programmed in section [615]. Please note that the corresponding zone must be programmed (see page 20).

Example: If you program 003 (Expansion Input 3) in section [615] of a Spectra 1725EX panel and the ATZ feature is enabled, when a tamper occurs on the Liberator module, the control panel will transmit the Zone Tamper report code as originating from zone 11. Please refer to the table on page 47.

12.4 PGM ACTIVATION EVENT (LIBERATOR)

Sections [620] and [622]

This feature allows you to program the Liberator to activate its PGMs when a specific event occurs in the system. The PGM will remain in its active state until the programmed *PGM De-Activation Event* occurs (see below) or when the *PGM Delay* period has elapsed (see below). To program a PGM Activation Event:

1. Enter section that represents the desired PGM. PGM1 = [620], PGM2 = [622]
2. Enter the **Event Group #** (see Liberator PGM table on page 23 of the *Spectra Programming Guide*).
If you program the "Follows Global PGM" event group, it will follow the event programmed in section [124]
3. Enter the **Sub-Group #** (see Liberator PGM table on page 23 of the *Spectra Programming Guide*).
4. Enter the **Partition #** (see Liberator PGM table on page 23 of the *Spectra Programming Guide*).



Also, refer to the Follow Global PGM option described on page 49.

12.5 PGM DE-ACTIVATION EVENT (LIBERATOR)

Section [621] = PGM1, [623] = PGM2

After PGM activation (see above), the PGM will return to its normal state (deactivate) when the programmed PGM De-activation Event occurs. Instead of de-activating the PGM on the occurrence of a specific event, the PGM can deactivate after a programmed period has elapsed, please refer to *PGM Delay* on page 48.

1. Enter section that represents the desired PGM. PGM1 = [621], PGM2 = [623]
2. Enter the **Event Group #** (see Liberator PGM table on page 23 of the *Spectra Programming Guide*).
If you program the "Follows Global PGM" event group, it will follow the event programmed in section [125]
3. Enter the **Sub-Group #** (see Liberator PGM table on page 23 of the *Spectra Programming Guide*).
4. Enter the **Partition #** (see Liberator PGM table on page 23 of the *Spectra Programming Guide*).



If a PGM's Delay is programmed in sections [616] or [617], the corresponding de-activation event will be used as another activation event. Also, refer to the Follow Global PGM option described on page 49.

12.6 PGM DELAY (LIBERATOR)

Section [616] = PGM1, [617] = PGM2, **000 = Follows De-activation Event, 001-255 sec., Default = 5 sec.**

After PGM activation, the PGM will deactivate after the period programmed here has elapsed. As soon as a delay

value (001-255) is programmed, the PGM De-Activation Event becomes a second activation event.

12.7 PGM FOLLOWS GLOBAL PGM (LIBERATOR)

Section [610]: General Options

Option [3] OFF = PGM1 on Liberator follows Global PGM Disabled (default)

Option [3] ON = PGM1 on Liberator follows Global PGM Enabled

Option [4] OFF = PGM2 on Liberator follows Global PGM Disabled (default)

Option [4] ON = PGM2 on Liberator follows Global PGM Enabled

Each PGM on the Liberator Wireless Bus Module can be programmed to follow the events and/or PGM Delay Timer defined by the Global PGM. This means if the option is enabled, the Liberator's PGM will ignore its activation and de-activation events and timer. Instead it will follow the activation and de-activation events programmed in section [124] and [125] and will follow the Global PGM Delay timer programmed in section [068]. For more information, refer to pages 39 and 40.

12.8 SERIAL NUMBER DISPLAY (LIBERATOR)

Section [630]

This feature will display the serial number of any Liberator Motion Detector, Contact Switch or Remote Control on any Spectra keypad. To do so:

1. Enter section [630]
2. If it is a Liberator Motion Detector or Contact Switch, press its tamper switch. If it is a Liberator Remote Control, press any two buttons on the remote control. The keypads will emit a confirmation beep.
3. **LED Keypads:** The serial number digits will appear one at a time by illuminating the corresponding light. To view the next digit press the [ENTER] key. **LCD Keypads:** Then entire serial number will appear on the screen.
4. Return to step 2 to continue or press [CLEAR] to exit the *Serial Number Display*.



After entering section [630], ignore the first reading as it will not be accurate.

12.9 SIGNAL STRENGTH DISPLAY (LIBERATOR)

Sections [631] to [638]

This feature allows you to determine whether the Liberator Module will effectively receive signals from specific wireless motion detectors and contact switches. Please note that this feature will only work with wireless transmitters that have already been assigned to an Expansion Input (zone) as described in *Wireless Transmitter Assignment* on page 47. After entering the appropriate section as described below, the keypads will display the transmitters relative signal strength. LED Keypads will illuminate numbers from 1 to 8. LCD keypads will display from 1 to 8 characters on the LCD screen. A reading of 1 is the weakest and a reading of 8 is strongest. Although, an average reading of 3 and up is acceptable. Sometimes moving the transmitter or receiver just a little bit will greatly increase the signal reception.



After entering the desired section, ignore the first reading as it will not be accurate.

Section [631] = Expansion Input 1 = Transmitter Assigned in section [601]

Section [632] = Expansion Input 2 = Transmitter Assigned in section [602]

Section [633] = Expansion Input 3 = Transmitter Assigned in section [603]

Section [634] = Expansion Input 4 = Transmitter Assigned in section [604]

Section [635] = Expansion Input 5 = Transmitter Assigned in section [605]

Section [636] = Expansion Input 6 = Transmitter Assigned in section [606]

Section [637] = Expansion Input 7 = Transmitter Assigned in section [607]

Section [638] = Expansion Input 8 = Transmitter Assigned in section [608]

12.10 RESET LIBERATOR MODULE

Section [640]

After entering section [640] and pressing [ENTER], the control panel will reset sections [601] to [623] to default values.

PART 13: ZONE EXPANSION MODULE

The following options and features are only available to program when a **Liberator Zone Expansion Bus Module** has been connected to the Spectra control panel's communication bus as shown on page 12. The Zone Expansion Modules provide you with up to 4 (SPC-ZX4) or up to eight (SPC-ZX8) additional hardwired inputs and one normally open 50mA PGM output. A PGM is a programmable output that toggles to its opposite state (i.e. a normally open PGM will close) when a specific event has occurred in the system. For example, a PGM can be used to reset smoke detectors, activate bells or strobe lights, open/close garage doors and much more. For information on how to connect the refer to Figure 2-8 on page 13. For information on how to program the PGM, refer to sections 13.4 to 13.6 of this manual.



The Zone Expansion Modules do not support the ATZ feature.

13.1 ZONE INPUT ASSIGNMENT (ZONE MODULE)

Section [651]: **Options [1] to [8]** (see below)

After connecting the hardwired detection devices to the Zone Expansion Module's inputs, you must enable the zone inputs that are being used. To do so enter section [651] and enable the options that correspond to the module's zone inputs as shown below. When the option is OFF, the input is disabled. The enabled zone inputs are then automatically assigned to an Expansion Input. Each Expansion Input represents a specific zone in the system depending on the type of Spectra control panel being used and whether the ATZ option is enabled. Once the module's zone inputs have been assigned, their associated zones must be programmed as described in *Zone Programming* on page 20. You cannot assign more than 8 additional zones to the Spectra System.

Section [651]

Option [1] ON = ENABLE INPUT "Z1" = EXPAN. INPUT 1 =
Option [2] ON = ENABLE INPUT "Z2" = EXPAN. INPUT 2 =
Option [3] ON = ENABLE INPUT "Z3" = EXPAN. INPUT 3 =
Option [4] ON = ENABLE INPUT "Z4" = EXPAN. INPUT 4 =
Option [5] ON = ENABLE INPUT "Z5" = EXPAN. INPUT 5 =
Option [6] ON = ENABLE INPUT "Z6" = EXPAN. INPUT 6 =
Option [7] ON = ENABLE INPUT "Z7" = EXPAN. INPUT 7 =
Option [8] ON = ENABLE INPUT "Z8" = EXPAN. INPUT 8 =

1 7 2 5 EX	
NO ATZ	WITH ATZ
Zone 6	Zone 9
Zone 7	Zone 10
Zone 8	Zone 11
Zone 9	Zone 12
Zone 10	Zone 13
Zone 11	Zone 14
Zone 12	Zone 15
Zone 13	Zone 16

1 7 2 8 EX	
NO ATZ	WITH ATZ
Zone 8	Zone 13
Zone 9	Zone 14
Zone 10	Zone 15
Zone 11	Zone 16
Zone 12	N/A
Zone 13	N/A
Zone 14	N/A
Zone 15	N/A



Do not assign detection devices from different modules to the same expansion input. For example, do not assign a wireless transmitter to section [601], then connect a detection device to input Z1 of the SPC-ZX8 and enable option [1] in section [651].

13.2 EOL ZONES (ZONE MODULE)

Section [650] - Options

Option [1] OFF = Zones do not use EOL resistors (default)

Option [1] ON = Zones require EOL resistors

If all detection devices connected to the Zone Expansion Module have input terminals that require 1K Ω end of line resistors, turn on option [1]. For more information on the use of EOL resistors, refer to *Single Zone Inputs* on page 10.

13.3 TAMPER RECOGNITION (ZONE MODULE)

Section [650]: Options

Option [2] ON = Tamper Recognition Disabled (default)

Option [2] OFF = Reserves Input "Z1" As Tamper Switch Input

The Zone Expansion Modules do not come equipped with a tamper switch. Although, if your installation requires tamper recognition, enabling this feature will reserve input terminal Z1 of the zone Expansion Module as a tamper input. This allows you to connect a tamper switch to input Z1 as shown in Figure 2.8 on page 13. When a tamper is detected on the module, it will send a Zone Tamper report code to the control panel via the communication bus. The Zone Tamper report code will originate from the zone defined by the Expansion Input (001-008). Please note that the corresponding zone must be programmed (see page 20).



If enabled, do not connect anything other than the tamper switch to input terminal Z1.

13.4 PGM ACTIVATION EVENT (ZONE MODULE)

Sections [656]

This feature allows you to program the Zone Expansion Module to activate its PGM when a specific event occurs in the system. The PGM will remain in its active state until the programmed *PGM De-Activation Event* occurs (see below) or when the *PGM Delay* period has elapsed (see below). Also, refer to the *Follow Global PGM* option described on page 49. To program a PGM Activation Event:

1. Enter section **[656]**
2. Enter the **Event Group #** (see Zone Module PGM table on page 26 of the *Spectra Programming Guide*).
If you program the "Follows Global PGM" event group, it will follow the event programmed in section [124]
3. Enter the **Sub-Group #** (see Zone Module PGM table on page 26 of the *Spectra Programming Guide*).
4. Enter the **Partition #** (see Zone Module PGM table on page 26 of the *Spectra Programming Guide*).

13.5 PGM DE-ACTIVATION EVENT (ZONE MODULE)

Sections [657]

After PGM activation (see above), the PGM will return to its normal state (deactivate) when the programmed PGM De-activation Event occurs. Instead of de-activating the PGM on the occurrence of a specific event, the PGM can deactivate after a programmed period has elapsed, please refer to *PGM Delay* below.

1. Enter section **[657]**
2. Enter the **Event Group #** (see Zone Module PGM table on page 26 of the *Spectra Programming Guide*).
If you program the "Follows Global PGM" event group, it will follow the event programmed in section [125]
3. Enter the **Sub-Group #** (see Zone Module PGM table on page 26 of the *Spectra Programming Guide*).
4. Enter the **Partition #** (see Zone Module PGM table on page 26 of the *Spectra Programming Guide*).



If a PGM's Delay is programmed in sections [616] or [617], the corresponding de-activation event will be used as another activation event. Also, refer to the Follow Global PGM option described on page 49.

13.6 PGM DELAY (ZONE MODULE)

Section [655]: **000 = Follows De-activation Event, 001-255 seconds, Default = 5 seconds**

After PGM activation, the PGM will de-activate after the period programmed here has elapsed. As soon as a delay value (001-255) is programmed, the PGM De-Activation Event becomes a second activation event.

13.7 PGM FOLLOWS GLOBAL PGM (ZONE MODULE)

Section [650]: General Options

Option **[3]** OFF = PGM1 on Liberator follows Global PGM Disabled (default)

Option **[3]** ON = PGM1 on Liberator follows Global PGM Enabled

The Zone Expansion Module's PGM can be programmed to follow the events and/or PGM Delay Timer defined by the Global PGM. This means if the option is enabled, the Zone Modules's PGM will ignore its activation and de-activation events and timer. Instead it will follow the activation and de-activation events programmed in section [124] and [125] and will follow the Global PGM Delay timer programmed in section [068]. For more information, refer to pages 39 and 40.

13.8 RESET ZONE EXPANSION MODULE

Section [660]

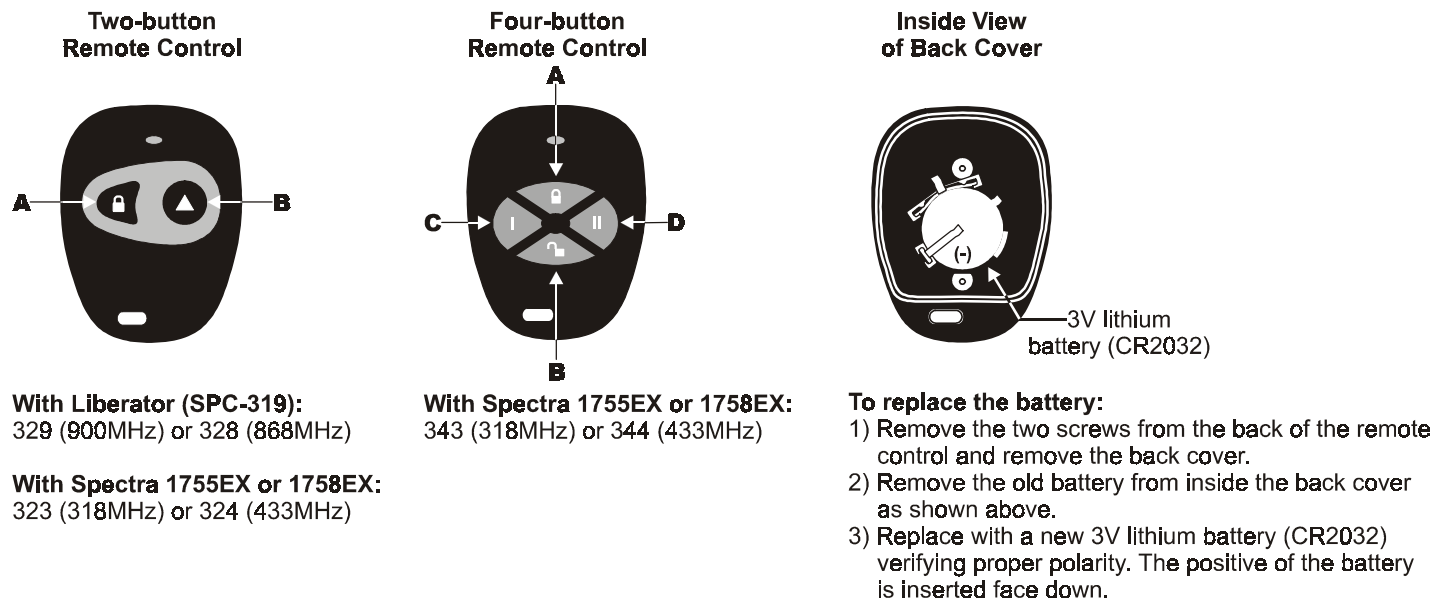
After entering section **[660]** and pressing **[ENTER]**, the control panel will reset sections [650] to [657] to default.

PART 14: REMOTE CONTROL PROGRAMMING

When using the Liberator Wireless Bus Module with a 1725EX or 1728EX control panel or when using the Spectra 1755EX or 1758EX control panel with wireless capability built-in, you can program up to 8 remote controls as shown in the following sections. The remote controls are programmed the same way whether using a Liberator or 1755EX or 1758EX control panel. The only difference is the way the remote controls are assigned. If using a Liberator module, refer to section 14.3 of this manual. If using the 1755EX or 1758EX control panel, refer to section 14.4

There are two types of hand-held remote controls. There is a 2-button RF transmitter and a 4-button RF transmitter. Each button can perform different actions depending on how the system is programmed. These remote controls can transmit a signal up to a maximum of 30 meters (100ft). The remote controls are powered by a 3V lithium battery. Occasionally this battery must be changed as shown in figure 2. References to button 3 and button 4 indicate keys on the 4-button remote control only.

Figure 14-1: Remote Controls



14.1 USER ASSIGNMENT

Section [701] to [708]: **User Access Code 001 to 048**

When a user presses a button, the receiver will transmit the assigned User Access Code to the control panel. This means that the remote control only has access to the same user options and partitions defined by the assigned User Access Code. Assign the User Access Code (001-048) into the section corresponding to the desired remote control, where sections [701] to [708] represent remote controls 1 through 8 respectively (see *Remote Control Assignment* on page 53).

14.2 BUTTON PROGRAMMING

Section [711] to [718]

Each button or combination of buttons on every remote control can individually programmed to perform specific actions. Each section from [711] to [718] represents remote controls 1 through 8 respectively (see *Remote Control Assignment* on page 53). Each section can be programmed with up to 8 digits. Each digit represents a button or combination of buttons (see Table 8 on page 53) and each digit can be any value from 1 to D (see Table 9 on page 53). If a programmed Button Option does not work, it may be because the User Access Code assigned to the remote control does not have access to that feature (User Options).

Table 8: Button Programming

Sections [711] - [718]	Button or Button Combination
1st Digit =	Button A
2nd Digit =	Button B
3rd Digit =	Button C (4-button remote only)
4th Digit =	Button D (4-button remote only)
5th Digit =	Buttons A & B pressed simultaneously
6th Digit =	Buttons C & D pressed simultaneously (4-button remote only)
7th Digit =	Buttons A & C pressed simultaneously (4-button remote only)
8th Digit =	Buttons B & D pressed simultaneously (4-button remote only)

Table 9: Button Options Table

Digit Value =	Button Action
1	Regular Arm
2	Stay Arm
3	Instant Arm
4	Force Arm
5	Disarm
6	Disarm when there is no alarm
7	Regular Arm and Disarm
8	Generate a Panic 1 Alarm (Police)
9	Generate a Panic 2 Alarm (Medical)
A	Generate a Panic 3 Alarm (Fire)
B	Activates any PGMs that have Event Group #07 as their Activation Event
C	Activates any PGMs that have Event Group #08 as their Activation Event
D	Activates any PGMs that have Event Group #09 as their Activation Event

14.3 REMOTE CONTROL ASSIGNMENT (LIBERATOR ONLY)

Sections [721] to [728]

These sections are used to assign up to eight remote controls to the system. After assigning a remote control to the system, you must assign a User Access Code and define which actions will be performed by the remote control's buttons as explained on page 52. To assign a remote control, enter the remote control's 6-digit serial number into the appropriate section where sections [721] to [728] represent remote control numbers 1 through 8. Use the *Serial Number Display* method described on page 49 to determine the remote control's serial number.

14.4 REMOTE CONTROL ASSIGNMENT (1755EX AND 1758EX ONLY)

These sections are used to assign up to eight remote controls to the system. After assigning a remote control to the system, you must assign a User Access Code and define which actions will be performed by the remote control's buttons as explained on page 52. To assign a remote control, enter the appropriate section where sections [731] to [738] represent remote control numbers 1 through 8. Then press a button on the remote control twice, the keypads will emit a confirmation beep. If you hear a rejection beep, an error has occurred or the remote control has already been assigned.

PART 15: USER OPERATION

15.1 TROUBLE DISPLAY

The Spectra system continuously monitors fourteen possible trouble conditions. When a trouble condition occurs, the [TBL] button or [TRBL] indicator will illuminate on the LED keypads or “Trouble” will appear on the LCD keypad’s screen. Press the [TBL] or [TRBL] button to switch to the *Trouble Display*. The [TBL] button or [TRBL] indicator will flash and lights corresponding to an existing trouble condition will illuminate on the LED keypads (see Table 10) or the appropriate trouble message will appear on the LCD keypad. Press the [CLEAR] button to exit the *Trouble Display*.

Please note that the keypad can be programmed to emit a “BEEP” every 5 seconds whenever a new trouble condition has occurred. Pressing the [TBL] or [TRBL] button will stop the “beeping”.

Table 10: Trouble List

LED #	Description	Details
[1]	No/Low Battery Failure	The control panel performs a dynamic battery test under load every 60 seconds. This trouble indicates 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. This trouble will also appear when the control panel is running on battery power and the battery voltage has dropped to 10.5 volts or lower. This means the battery must be recharged or replaced.
[2]	Wireless Transmitter Low Battery	This means the battery voltage of a Liberator wireless transmitter has dropped to 6.5V or less. Also, the yellow LED on the transmitter can flash to indicate this trouble. The battery should be replaced.
[3]	Power Failure	Upon power failure, the AC LED on all keypads will turn off. The control panel can transmit the report code programmed in section [205]. This report code can be delayed by programming a Power Failure Report Delay in section [086]. The AC LED turns back on as soon as power is restored.
[4]	Bell or PGM2 Disconnected	There is no bell or siren connected to the bell output terminals of the control panel or there is no device connected to the PGM2 terminals (1755EX and 1758EX only). If you are not using the BELL or PGM2 terminals, the trouble indicator will always be on. To avoid this, connect a 1K Ω resistor across the bell or PGM2 output.
[5]	Maximum Bell Current	The BELL output uses a fuseless circuit and will automatically shut down if the current exceeds 3A (1725EX/1728EX) or 2.5A (1755EX/1758EX). After opening the short or reducing the load, the bell current is restored upon the following alarm generation. This trouble indicator will only appear when a condition has occurred that would activate the bell output (e.g. during an alarm).
[6]	Maximum Auxiliary Current	The auxiliary output uses a fuseless circuit to protect the power supply against current overload and automatically shuts down if the current exceeds 1.1A. After opening the short or reducing the load, the panel will restore power to the auxiliary output.
[7]	Communicator Report Fail	The control panel has failed all attempts to communicate with the central monitoring station.
[8]	Timer Loss	The control panel’s internal clock must be re-programmed. To re-program the timer press the [8] key followed by the current time using the 24-hour clock (i.e. 8:30PM = 20:30).
[9]	Tamper/Zone Wiring Fail	If the Tamper Recognition options are enabled (see page 29), this trouble indicates a wiring problem on one or more zones or that the cover has been removed on one or more wireless transmitters. In order to provide line short recognition the zone connections must have EOL resistors. If you press the [9] key, the keypad will display which zones are in trouble.
[10]	Telephone Line Monitoring	If the Telephone Line Monitoring (TLM) feature is enabled (see section [135]), this trouble indicates that the control panel has not detected the presence of a telephone line for 30 seconds.
[STAY]	Fire Loop Trouble	Denotes a wiring problem on zone 3, if defined as a Fire Zone.
[FORCE] or [16]	Keypad Fault	If the keypad is no longer communicating with the control panel, the [TBL] or [TRBL] will flash, the [FORCE] key will illuminate (the LCD keypad displays “Keypad Fault”) and the keypad will emit four consecutive beeps at 5-second intervals. Press any key on the keypad to terminate the “beeping” sequence. When communication has been restored, the system will revert to previous status.
[BYP]	Module Loss	A Liberator or zone module is no longer communicating with the control panel.
[MEM]	Wireless Transmitter Supervision Loss	One or more wireless transmitters are no longer communicating with the receiver. If you press the [MEM] key, the keypad will display which zones are in trouble.

15.2 PARTITIONING

The **Spectra** system is equipped with a partitioning feature which can divide the alarm system into two distinct areas identified as Partition 1 and Partition 2. Partitioning can be used in installations where shared security systems are more practical, such as a home office or warehouse building. When partitioned, each zone, each User Code and some of the system's features can be assigned to either Partition 1, Partition 2, or both partitions. **If the system is not partitioned, all zones, User Codes, and features will be recognized as belonging to partition 1.**

How does a partitioned system work?

- Users can only arm/disarm partitions to which they have been assigned.
- Only zones assigned to Partition 1 will arm/disarm when Partition 1 is armed or disarmed.
- Only zones assigned to Partition 2 will arm/disarm when Partition 2 is armed or disarmed.
- Zones assigned to both partitions will arm when both partitions are armed and will disarm when at least one partition disarms.
- Some of the system's features can be programmed separately for each partition.

15.3 PROGRAMMING ACCESS CODES

Access Codes are personal identification numbers that allow you to enter certain programming modes, arm or disarm your system as well as activate or deactivate PGMs. The **Spectra** security system supports the following:

System Master Code can arm or disarm any partition using any arming method and can create, modify or delete any *User Access Code*. Only the System Master Code can modify or delete User Access Codes assigned to both partitions.

Master Code 1 is permanently assigned to partition 1 and can be used to create, modify or delete *User Access Codes* that are assigned to partition 1.

Master Code 2 is permanently assigned to partition 2 (except when partitioning is disabled, *Master Code 2* will be assigned to partition 1) and can be used to create, modify or delete *User Access Codes* that are assigned to the same partition.

45 User Access Codes (including 1 Duress code)

How Do I Program Access Codes?

- 1) Press [ENTER]
- 2) Key in the [SYSTEM MASTER CODE] or [MASTER CODE]
- 3) Key in 3-digit [SECTION] (see Table below)
- 4) Key in new 4 or 6-digit [ACCESS CODE]
[ENTER] flashes. Return to step 3

How Do I Delete Access Codes?

- 1) Repeat steps 1 to 3 (see above)
- 2) Press the [FORCE] button once for each digit in the access code (4 or 6 times) until the keypad emits a "CONFIRMATION BEEP"

Section	User Codes
[001]	User Code 001 = System Master Code
[002]	User Code 002 = Master Code 1
[003]	User Code 003 = Master Code 2
[004] to [047]	User Code 004 to User Code 047
[048]	User Code 048 or Duress Code

15.4 DISARMING & DEACTIVATING AN ALARM

To disarm an already armed system or to deactivate an alarm simply key in a valid access code. Program a designated entry/exit point, such as the front door or the garage door with an *Entry Delay Timer*. When these entry/exit point are opened (breached), it will set off a timer. The system will not generate an alarm until this timer elapses, giving users enough time to enter the premises and disarm the system. Any user can disarm the system, except users have been assigned the *Arm Only Option*.

How Do I Disarm the System or Deactivate an Alarm?

- 1) Key in your **[ACCESS CODE]**

The arm or alarm indication will turn off and the keypad will emit a "CONFIRMATION BEEP".

IF YOU HAVE ACCESS TO BOTH PARTITIONS:

- 2) Press the button corresponding to the partition you wish to *Disarm* or to *Disarm* both partitions, press the **[1]** key then after the confirmation beep press the **[2]** key.

15.5 REGULAR ARMING

This method, commonly used for day-to-day arming, will arm all the zones in the selected partition. If you make a mistake, the keypad will emit a "REJECTION BEEP". When you have correctly armed the system, the appropriate "ARM" indication will turn on and the *Exit Delay* will be initiated. Please note that *Regular Arming* can also be activated using *Auto-Arming*, a *Keyswitch* or using *One-Touch Arming*.

How Do I Regular Arm?

- 1) Green "READY" indicator must be illuminated. Unless the system is partitioned, in which case all zones in the desired partition must be closed.
- 2) Key a valid **[ACCESS CODE]**

IF YOU HAVE ACCESS TO BOTH PARTITIONS:

- 3) Press the button corresponding to the partition you wish to *Arm*. To *Arm* both partitions, press the **[1]** key then after the confirmation beep press the **[2]** key.

15.6 STAY ARMING

This method allows users to remain in the protected area while partially arming the system. For example, when going to sleep at night, entry/exit points like doors and windows can be armed while other zones like motion detectors remain deactivated. Please note that *Fire Zones* can not be bypassed.

How Do I Stay Arm?

- 1) All zones in the desired partition (except *Stay Zones*) must be closed.
- 2) Press the **[STAY]** button
- 3) Key a valid **[ACCESS CODE]**

IF YOU HAVE ACCESS TO BOTH PARTITIONS:

- 4) Press the button corresponding to the partition you wish to *Stay Arm*. To *Stay Arm* both partitions, press the **[1]** key then after the confirmation beep press the **[2]** key.

If you make a mistake, the keypad will emit a "REJECTION BEEP". When you have correctly *Stay Armed* the system, the appropriate "ARM" indication will appear and the *Exit Delay* will be initiated. *Stay Arming* can also be activated using *Auto-Arming*, *Keyswitch Arming* or using *One-Touch Arming*. Also note that the User Code must have the *Stay Arming Option* enabled.

15.7 INSTANT ARMING

After *Stay Arming* the system and during its *Exit Delay*, press and hold the **[STAY]** button for 3 seconds. You should hear a "CONFIRMATION BEEP". This will switch all armed zones to *Instant zones*.

If you have access to both partitions:

To Instant Arm one partition, press **[STAY]** + **[ACCESS CODE]** + **[SELECT PARTITION]** + **[CLEAR]** + press & hold **[STAY]**

To Instant Arm both partitions, press **[STAY]** + **[ACCESS CODE]** + **[1]** + **[2]** + press & hold **[STAY]**

15.8 FORCE ARMING

Force Arming allows users to rapidly arm the system, without having to wait for all zones in the system to be closed. *Force Arming* is commonly used when a motion detector is protecting the area occupied by a keypad. Therefore, when arming the system, if the motion detector is set as a *Force Zone*, the control panel will ignore the zone and allow users to arm the system even if the zone is open. Any open *Force Zones* at the time of arming will be considered "deactivated" by the control panel. 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.

How Do I Force Arm?

- 1) All zones in the desired partition (except *Force Zones*) must be closed.
- 2) Press the **[FORCE]** button
- 3) Key in a valid **[ACCESS CODE]**

IF YOU HAVE ACCESS TO BOTH PARTITIONS:

- 4) Press the button corresponding to the partition you wish to *Arm*. To *Arm* both partitions, press the **[1]** key then after the confirmation beep press the **[2]** key.

If you make a mistake, the keypad will emit a "REJECTION BEEP". When correctly *Force Armed*, the appropriate "ARM" indication will appear and the *Exit Delay* will be initiated. Please note that *Force Arming* can also be activated using *One-Touch Force Arming*. Also note that the *Access Code* must have the *Force Arming Option* enabled.

15.9 MANUAL BYPASS PROGRAMMING

Manual Bypass Programming allows users to program the alarm system to ignore ("deactivate") specified zones the next time the system is armed. Please note that *Fire Zones* can not be bypassed and that *Manual Bypass Programming* can also be activated using *One-Touch Bypass Programming*.

How do I Program Bypass Entries?

- 1) Press the **[BYP]** button.
- 2) Key in a valid **[ACCESS CODE]***
- 3) Select one or more **[ZONES]** you wish to bypass
- 4) Once you have entered the desired bypass entries, press the **[ENTER]** button to accept these entries.

*If you have access to both partitions, press the button corresponding to the desired partition. The *Access Code* must have the *Bypass Programming Option* enabled.

15.9.1 BYPASS RECALL FEATURE

After disarming the system, the control panel will erase the bypass entries. By using the *Bypass Recall Feature*, you can reinstate the previous bypass entries saved in memory. This eliminates the need to manually program the bypass entries every time you arm the system.

How Do I Recall Bypass Entries?

- 1) Press the **[BYP]** button.
- 2) Key in your **[ACCESS CODE]***
- 3) Press the **[BYP]** button. *Previously bypassed zones will illuminate.*
- 4) Press the **[ENTER]** button.

*If you have access to both partitions, press the button corresponding to the desired partition. The *Access Code* must have the *Bypass Programming Option* enabled.

15.10 ONE-TOUCH ARMING

One-Touch Arming allows users to arm the system without the use of an access code.

* If the system is partitioned, press the button corresponding to the desired partition after activating a one-touch feature.

One-Touch Regular Arming

Press and hold the **[ENTER]** button for 3 seconds* to arm all zones in the partition. *One-Touch Regular Arming* 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 alarm system operations.

One-Touch Stay Arming

Press and hold the **[STAY]** button for 3 seconds* to arm all zones not defined as *Stay Zones*.

Fast Exit

This feature allows users to exit the already armed premises and keep the system armed. This feature is only available **WHEN THE SYSTEM IS ALREADY STAY ARMED**:

Exit and Stay Arm: Press and hold the **[STAY]** button for 3 seconds*. The system will switch to *Exit Delay* mode. At the end of the *Exit Delay* period, the system will return to *Stay Arming*.

Exit and Regular Arm: Press and hold the **[ENTER]** button for 3 seconds*. The system will switch to *Exit Delay* mode. At the end of the *Exit Delay* period, the control panel will switch to *Regular Arming*.

Exit and Force Arm: Press and hold the **[FORCE]** button for 3 seconds*. The system will switch to *Exit Delay* mode. At the end of the *Exit Delay* period, the control panel will switch to *Force Arming*.

One-Touch Force Arming

Press and hold the **[FORCE]** button for 3 seconds* to bypass any open *Force Zones*.

One-Touch Bypass Programming

Press and hold the **[BYP]** button for 3 seconds* to access *Bypass Programming Mode*.

15.11 KEYSWITCH ARMING

A keyswitch can be used to arm and disarm the system. Assign the keyswitch to a specific partition and program the keyswitch to *Stay* or *Regular Arm* the assigned partition. Also program the keyswitch to function as a Maintained or Momentary keyswitch. To arm the system using a Maintained Keyswitch, set the keyswitch to the "on" position. To disarm the system set the keyswitch to the "off" position. To arm the system using a Momentary Keyswitch, set the keyswitch to the "on" position then turn it back to the "off" position. Repeating this sequence will disarm the system.

15.12 PANIC ALARMS

In case of emergency, the **Spectra** system provides up to three panic alarms. These panic alarms, if programmed, will immediately generate an alarm after pressing and holding two specific buttons for two seconds, as described below.

Press and hold buttons **[1]** and **[3]** for a panic alarm.

Press and hold buttons **[4]** and **[6]** for a panic or medical alarm.

Press and hold buttons **[7]** and **[9]** for a panic or fire alarm.

15.13 AUTO-ARMING

You can program the **Spectra** alarm panel to automatically arm upon the following two conditions. The user is only allowed to program the Auto Arm Timer. *Please note that the control panel will enter a 60-second Exit Delay period before arming the system. At this point, Auto-Arming can be cancelled by entering a valid access code.*

15.14 ALARM MEMORY DISPLAY

A record of all alarm situations that occur will be stored in memory. After disarming the system, pressing the **[MEM]** button will display which zones were in alarm during the alarm period. To exit the *Alarm Memory Display*, press the **[CLEAR]** button. The control panel will erase the contents of the alarm memory every time the system is armed.

15.15 PROGRAMMING CHIME ZONES

This feature allows users to program which zones will be "*Chime Enabled*". A "*Chime Enabled*" zone will cause the keypad to emit a rapid intermittent beep tone (BEEP-BEEP-BEEP-BEEP) advising the user every time it is opened. *Each keypad must be Chime Programmed separately. Keypad chimes must be re-programmed if the system suffers a total power loss.*

10-Zone LED Keypad:

Press and hold any button from **[1]** to **[10]** for 3 seconds to activate or deactivate *Chiming* for zones 1 to 10. For example, press and hold the **[1]** button to enable chiming on zone 1. If after pressing and holding a button, the keypad

emits a confirmation beep, this means the chime feature has been enabled for that zone. If the keypad emits a rejection beep, this means the chime feature has been disabled for the corresponding zone.

16-Zone LED Keypad:

Press and hold the **[9]** button. Enter the 2-digit (**01 to 16**) zone number(s). When the corresponding LED is on, the zone is chimed. When the corresponding LED is off, the zone unchimed. When the desired zones are chimed, press **[ENTER]**.

LCD Keypad:

Press and hold the **[9]** button. Press the **[1]** button. Use the arrow keys to scroll through the zones. When the appropriate zone is displayed, press the **[FNC1]** button until it displays "chimed". When the desired zones are chimed, press **[ENTER]**.

15.16 KEYPAD MUTING

Press and hold the **[CLEAR]** button for 3 seconds to enable or disable keypad muting. When muted, the keypad will only "beep" when a button is pressed or when the keypad emits a rejection or confirmation beep. All other "beep" functions are disabled.

FCC WARNINGS

IMPORTANT INFORMATION

This equipment complies with Part 68 of the FCC rules subpart D and CS-03. Inside the cover of this equipment is a label that contains, among other information, the FCC registration number of this equipment.

NOTIFICATION TO TELEPHONE COMPANY

Upon request, customer shall notify telephone company of particular line to which the connection will be made, and provide the FCC registration number and the ringer equivalence of the protective circuit.

FCC REGISTRATION NUMBER:5A7CAN-22633 - AL - E

RINGER EQUIVALENCE NUMBER:0.1B (U.S. & Canada)

USOC JACK: RJ31X (USA), CA31A (CANADA)

TELEPHONE CONNECTION REQUIREMENTS

Except for telephone company-provided ringers, all connections to the telephone network shall be made through standard plugs and telephone company-provided jacks, or equivalent, in such a manner as to allow for easy, immediate disconnection of terminal equipment. Standard jacks shall be so arranged that, if plug connected thereto is withdrawn, no interference to operation of equipment at customer's premises which remains connected to telephone network shall occur by reason of such withdrawal.

INCIDENCE OF HARM

Should terminal equipment/protective circuitry cause harm to telephone network, telephone company shall, where practicable, notify customer that temporary disconnection of service may be required; however, where prior notice is not practicable, the telephone company may temporarily discontinue service if action is deemed reasonable in circumstances. In case of temporary discontinuance, telephone company shall promptly notify customer and will be given opportunity to correct the situation.

CHANGES IN TELEPHONE COMPANY EQUIPMENT OR FACILITIES

The telephone company may make changes in its communication facilities, equipment operations or procedures, where such actions are reasonably required and proper in its business. Should any such changes render customer's terminal equipment incompatible with the telephone company facilities, the customer shall be given adequate notice to effect the modifications to maintain uninterrupted service.

GENERAL

This equipment shall not be used on coin telephone lines. Connection to party line service is subject to state tariffs.

RINGER EQUIVALENCE NUMBER (REN)

The ren is useful to determine the quantity of devices that you may connect to your telephone line and still have all of those devices ring when your telephone number is called. In most, but not all areas, sum of the ren's of all devices connected to one line should not exceed five (5.0). To be certain of the number of devices that you may connect to your line, you may want to contact your local telephone company.

EQUIPMENT MAINTENANCE FACILITY

If you experience trouble with this telephone equipment, please contact facility indicated below for information on obtaining service or repairs. The telephone company may ask that you disconnect this equipment from network until problem is corrected or until you are sure that the equipment is not malfunctioning.

FCC PART 15, WARNINGS INFORMATION TO USER

This equipment has been tested and found to comply with the limits for Class B digital devices, pursuant to Part 15 of FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to equipment intermittently, the user is encouraged to try to correct the interference by one or more of the following measures: (1) reorient or relocate the receiving antenna; (2) increase the separation between the equipment and receiver; (3) connect the equipment to an outlet on a circuit other than the one to which the receiver is connected, or (4) consult the dealer or an experienced radio/tv technician for assistance.

CAUTION:

Changes or modifications not expressly approved by PARADOX SECURITY SYSTEMS could void the user's authority to operate the equipment.

WARRANTY

The Seller warrants its products to be free from defects in materials and workmanship under normal use for a period of one year. Except as specifically stated herein, all express or implied warranties whatsoever, statutory or otherwise, including without limitation, any implied warranty of merchantability and fitness for a particular purpose, are expressly excluded. Because Seller does not install or connect the products and because the products may be used in conjunction with products not manufactured by Seller. Seller cannot guarantee the performance of the security system. Seller obligation and liability under this warranty is expressly limited to repairing or replacing, at Seller's option, any product not meeting the specifications. In no event shall the Seller be liable to the buyer or any other person for any loss or damages whether direct or indirect or consequential or incidental, including without limitation, any damages for lost profits stolen goods, or claims by any other party, caused by defective goods or otherwise arising from the improper, incorrect or otherwise faulty installation or use of the merchandise sold.

ATTACHMENT LIMITATION NOTICE

The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements. The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

CAUTION: Users should not attempt to make such connections themselves, but should contact the appropriate electrical inspection authority, or electrician, as appropriate.

The Load Number (LN) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop which is used by the device, to prevent overloading. The termination on a loop may consist of any combination of devices subject only to the requirement that the total of the Load Numbers of all of the devices does not exceed 100.

Industry Canada certification is only applicable to installation of devices which include transformers approved by the Canadian Standards Association (CSA).

RESTRICTIONS CONCERNANT LE RACCORDEMENT DE MATÉRIEL

L'étiquette d'Industrie Canada identifie le matériel homologué. Cette étiquette certifie que le matériel est conforme à certaines normes de protection, d'exploitation et de sécurité des réseaux de télécommunications. Le Ministère garantit toutefois pas que le matériel fonctionnera à la satisfaction de l'utilisateur.

Avant d'installer ce matériel, l'utilisateur doit s'assurer qu'il est permis de le raccorder aux installations de l'entreprise locale de télécommunication. De plus, le matériel doit être installé en suivant une méthode acceptable de raccordement. L'abonné ne doit pas oublier qu'il est possible que la conformité aux conditions énoncées ci-dessus n'empêchent pas la dégradation du service dans certaines situations.

Les réparations de matériel homologué doivent être effectuées par un centre de service d'entretien canadien autorisé désigné par le fournisseur. La compagnie de télécommunications peut demander à l'utilisateur de débrancher un appareil à la suite de réparations ou de modifications effectuées par l'utilisateur ou à cause d'un mauvais fonctionnement.

Pour sa propre protection, l'utilisateur doit s'assurer que tous les fils de mise à la terre de la source d'énergie électrique, des lignes téléphoniques et des canalisations d'eau métalliques, s'il y en a, sont raccordés ensemble. Cette précaution est particulièrement importante dans les régions rurales.

AVERTISSEMENT: L'utilisateur ne doit pas tenter de faire ces raccordements lui-même; il doit avoir recours à un service d'inspection des installations électriques, ou à un électricien, selon le cas.

"L'indice de charge (IC) assigné à chaque dispositif indique, pour éviter toute surcharge, le pourcentage de la charge totale qui peut être raccordée à un circuit téléphonique bouclé utilisé par ce dispositif. La terminaison du circuit bouclé peut être constituée de n'importe quelle combinaison de dispositifs, pourvu que la somme des indices de charge de l'ensemble des dispositifs ne dépasse pas 100.

La certification d'Industrie Canada s'applique seulement aux installations d'appareils utilisant un transformateur approuvé par l'Association Canadienne de Normalisation (CSA).

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