Installation
Manual

Westinghouse
Security Systems

WSS5010
Version 2.0

Table of Contents

System Introduction

1.1 Specifications

Control Panel Specifications

Flexible Zone Configuration:
- 8 Fully Programmable Zones
- 37 Access Codes: 32 User, 1 System Master, 2 Master and 2 Duress
- Expandable to 32 Zones
- Hardwired expansion available using the WSS5108 Eight Zone Expansion Module
- Wireless expansion available using the WSS5132-900 Wireless Zone Expansion Module (up to 32 wireless zones, 900MHz, True Spread Spectrum Technology, Fully Supervised)
- Normally Closed, Single EOL or Double EOL zone supervision
- 2-Wire Smoke Zone
- 27 Zone Types, 8 Programmable Zone Options

Audible Alarm Output:
- Supervised Bell Output (current limited at 3 amps), 12 Vdc
- Steady or Pulsed Output

EEPROM Memory:
- Will not lose programming or system status on complete AC and Battery failure

Programmable Outputs:
- Up to 14 Programmable Voltage Outputs, 26 programmable options
- One High Current (300 mA) PGM output with 2 wire smoke detector capability on main panel
- Maximum Loop Current is 1.5 mA when the 2-wire smoke detector configuration is used
- One Low Current (50 mA) PGM output on main panel
- Eight Additional Low Current (50 mA) PGM outputs available using the WSS5208 module
- Four High Current (1 Amp) PGM outputs Available Using the WSS5204 module
- 1 WSS5204 Output Fully Supervised for Siren Output

Powerful 1 Amp Regulated Power Supply:
- 500 mA Auxiliary Supply, 12 Vdc
- Positive Temperature Coefficient (PTC) components replace fuses
- Supervision for loss of AC Power, Low Battery
- Internal Clock Locked to AC Power Frequency

Power Requirements:
- Transformer = 16.5 VAC, 40VA
- Battery = 12 volt 4 Ah minimum rechargeable sealed lead acid

Remote Keypad Specifications:
- 2 Different Keypads Available:
  - WSS5508 8 Zone LED Keypad
  - WSS5500 LCD Alphanumeric Keypad
- Connect up to 8 Keypads
- Four Wire (Quad) Connection to KEYBUS
- Built in Piezoelectric Buzzer

Digital Communicator Specifications:
- Supports SIA Format
- Event Initiated Personal Paging
- 2 Programmable Phone Numbers
- 1 Account number
- Supports LINKS 1000 Cellular Communication
- DTMF and Pulse Dialing
- DPDT Line Seizure
- Anti-jam Feature
- Split Reporting of Selected Transmissions to Each Telephone Number

System Supervision Features
The WSS5010 continuously monitors a number of possible trouble conditions including:

- AC Power Failure
- Fire Trouble
- Low Battery Condition
- Loss of Internal Clock
- Tamper by Zone
- Module Fault (Supervisory or Tamper)

- Trouble by Zone
- Telephone Line Trouble
- Bell Output Trouble
- AUX Power Supply Fault
- Failure to Communicate

False Alarm Prevention Features
- Audible Exit Delay
- Urgency on Entry Delay
- Swinger Shutdown
- Communication Delay

- Audible Exit Fault
- Quick Exit
- Recent Closing Transmission

Additional Features
- Keypad Activated Alarm Output and Communicator Test
- Keypad Lockout
- Audio Capability using the WSS5908 Audio Interface Module which allows local intercom and Central Station 2-Way Listen in.
- All modules connect to the system via a four wire KEYBUS up to 1000'/330m from main panel
- Event Buffer can be printed using WSS5400 RS232 Serial Interface module
- Supports the WSS5580 Voice Prompt Module with Automation/Lighting Control
- 128 Event Buffer, Time and Date Stamped
- Upload/Download Capability

1.2   Additional Devices

1.2.1   Keypads
A maximum of eight (8) keypads can be connected to the control panel and can be any combination of the following listed.
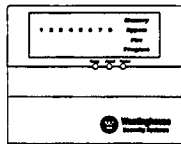
WSS5508
8 zone LED keypad with function keys
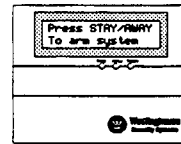
WSS5500
LCD keypad with function keys

1.2.2   WSS5108 Eight Zone Expander Module
Eight zone expander module can be used to increase the number of zones on the system. Up to 3 modules can be connected to increase the system zones to a maximum of 32. *(See WSS5108 Installation Instructions.)*
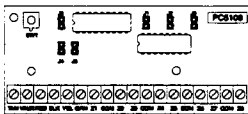
1.2.3   WSS5132-900 Wireless Receiver Module
The WSS5132-900 Wireless Receiver module can be used to connect up to 32 wireless devices. All devices are spread spectrum, 900 MHz, fully supervised and use standard 'AAA' or 'AA' alkaline batteries *(See Section 5.25 "Wireless Expansion"). (See WSS5132-900 Installation Manual.)*
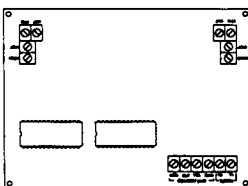
Additional devices are available:
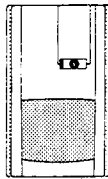
WSSPIR
Wireless Motion Detector
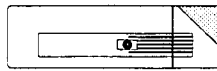
WSSUTX
Wireless Universal Transmitter
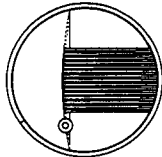
WSSSMK
Wireless Smoke Detector

WSSPNC
Wireless Panic Pendant

WSSPIR Wireless Motion Detector
The wireless Motion Detector can be used in conjunction with the WSS5132-900 Wireless Receiver to include wireless space protection. The unit comes with four 'AAA' batteries.

WSSUTX Wireless Universal Transmitter
The wireless Universal Transmitter can be used in conjunction with the WSS5132-900 Wireless Receiver module to add wireless door or window contacts. The Universal Transmitter comes with three 'AAA' batteries and has built-in contacts. The unit also provides terminals for connecting hardwire contacts.

WSSSMK Wireless Smoke Detector *(This device is not UL Listed)*
The wireless Smoke Detector can be used in conjunction with the WSS5132-900 Wireless Receiver to include wireless fire (smoke) protection. The unit comes with six 'AA' batteries.

WSSPNC Wireless Panic Pendant *(This device is not UL Listed)*
The wireless Panic Pendant can be used in conjunction with the WSS5132-900 Wireless Receiver to include a mobile panic zone.

1.2.4   WSS5204 Power Supply Output Module
The WSS5204 can provide up to 1 Amp of additional power for modules or devices connected to the control panel. The module requires a 16.5 volt AC 40 VA transformer and 4 AH battery. In addition, the module provides 4 programmable high current voltage outputs. Each output is individually programmable with 26 different output options available *(See Section 5.9 "PGM Outputs"). (See WSS5204 Installation Instructions.)*
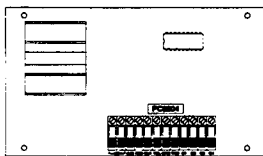
1.2.5   WSS5208 Eight Low Current Output Module
Adds eight low current outputs (50 mA) to the control. Each output is individually programmable with 26 different output options available *(See Section 5.9 "PGM Outputs"). (See WSS5208 Installation Instructions.)*
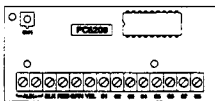
1.2.6   WSS5580 Module

This WSS5580 module will turn any touch tone phone into a fully functional keypad. The module also includes a built-in interface to control up to 32 line carrier type devices for lighting and temperature control *(See Section 5.26 "WSS5580 Module"). (See WSS5580 Installation Manual.)*
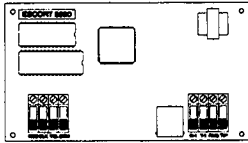
1.2.7   WSS5908 Audio Interface Module *(This device is not UL Listed)*

The WSS5908 Audio Interface module is a simple way to incorporate paging, intercom, baby listen-in and door answer to the WSS5010 control panel. The module also has built-in two-way voice capability for central station *(See Section 5.28 "Audio Interface Module").*
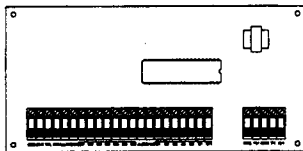
Three additional devices are available:
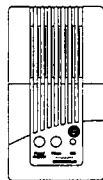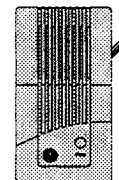
WSS5903	WSS5903 EXT	WSS5903 EXT/R
Intercom Audio Station	Door Box Audio Station	Door Box Audio Station

WSS5903 Intercom Audio Station *(This device is not UL Listed)*
The WSS5903 Intercom Audio Station can be used in conjunction with the WSS5908 Audio Interface Module.

WSS5903 EXT Door Box Audio Station *(This device is not UL Listed)*
The WSS5903 EXT Door Box Audio Station can be used in conjunction with the WSS5908 Audio Interface Module.

WSS5903 EXT/R Door Box Audio Station *(This device is not UL Listed)*
The WSS5903 EXT/R Door Box Audio Station can be used in conjunction with the WSS5908 Audio Interface Module. The Door Box contains a relay so the normal door bell can be used instead of the internal one generated by the WSS5908 module.

1.2.8   WSS5400 Printer Module

This WSS5400 Printer Module will allow the panel to print out all events that occur on the system to any serial printer. All events will be printed with the time, date and the event that occurred *(See Section 5.27 "On-site Printer").*
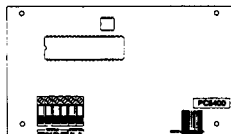
1.2.9   LINKS 1000 Cellular Communicator *(This device is not UL Listed)*

The LINKS 1000 Cellular Communicator provides an efficient, cost-effective method for adding cellular back up. The unit comes in its own cabinet with antenna and requires a separate battery and transformer *(See Section 5.24 "LINKS 1000 cellular communicator").*

4
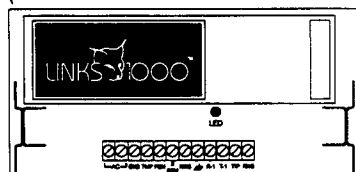
1.2.10   Cabinets
Several different cabinets are available for the WSS5010 modules:

WSS5003C Cabinet
Main control cabinet for the WSS5010 main panel. Dimensions 288mm x 298mm x 78mm / 11.3" x 11.7" x 3" approximately.

WSS5002C Cabinet
Cabinet to house the WSS5204 Power Supply Output Module. Dimensions 213mm x 235mm x 78mm / 8.4" x 9.25" x 3" approximately.

WSS5004C Cabinet
Cabinet to house the WSS5580 Module and WSS5400 Printer Module. Dimensions 229mm x 178mm x 65mm / 9" x 7" x 2.6" approximately.

WSS5001C Cabinet
Cabinet to house the WSS5108 Zone Expander Module and the WSS5208 Eight Low Current Output Module. Dimensions 153mm x 122mm x 38mm / 6" x 4.8" x 1.5" approximately.

WSS5001CP Cabinet
Plastic cabinet to house the WSS5108 Zone Expander Module, WSS5132-900 Wireless Receiver Module and the WSS5208 Eight Low Current Output Module. Dimensions 146mm x 105mm x 25.5mm / 5.75" x 4.2" x 1" approximately.

WSS5132C Cabinet
Cabinet to house the WSS5132-900 Wireless Receiver Module. Dimensions 165mm x 143mm x 38mm / 6.5" x 5.625" x 1.5" approximately.

CMC-1 Attack Resistant Enclosure
Listed enclosure for local installations where attack resistance is required. Dimensions 288mm x 298mm x 78mm / 11.3" x 11.7" x 3" approximately.

1.2.11   Backplates
There are two different backplates available for keypads to locate an Audio Station next to the keypad:

WSS55BP1 Backplate
This backplate is to be used when an Audio Station is to be located next to a keypad. Dimensions 208mm x 115mm x 18mm / 8.2" x 4.5" x 0.25" approximately.
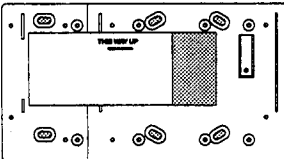
WSS55BP2 Backplate
This backplate is to be used when an Audio Station is to be located next to a keypad. In addition the backplate will allow you to mount a WSS5108 Zone Expander Module or the WSS5208 Eight Low Current Output Module. Dimensions 208mm x 115mm x 18mm / 8.2" x 4.5" x 0.7" approximately.
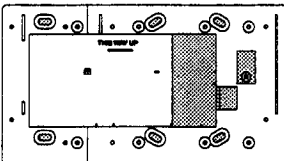
1.3   Out of the Box
You should find the following equipment included in your system. Verify each of the components is included:
- one WSS5010 main control cabinet
- one WSS5010 main control circuit board
- one WSS5508 keypad
- one Installation Manual
- one LED End User Manual
- one hardware pack consisting of:
  - 5 plastic circuit board standoffs
  - 1 2200 ohm (2.2K) resistor
  - 16 5600 ohm (5.6K) resistors
  - 1 1000 ohm (1K) resistor

Getting Started

The following sections provide a complete description of how to wire and configure devices and zones.

2.1 Installation Steps

The following steps are provided to assist with the installation of the panel. It is suggested that you read over this section briefly to get an overall understanding of the order of installation. Once this is done carefully work through each step. Working from this plan will help reduce problems and reduce the overall installation time required.

Step 1   Create a Layout

Draw a rough sketch of the building and include all alarm detection devices, zone expanders, keypads and all other modules that are required.

Step 2   Mounting the Panel

Locate the panel in a dry area, preferably located near an unswitched AC power source and the incoming telephone line. *Before attaching the cabinet to the wall be sure to press the five circuit board mounting studs into the cabinet from the back.*

> **!**   *Complete all wiring before applying AC or connecting the battery.*

Step 3   Wiring the KEYBUS *(Section 2.3)*

Wire the KEYBUS to each of the modules following the guidelines provided.

Step 4   Assigning Zones to Zone Expanders *(Section 2.5)*

If zone expander modules are being used the modules must be configured so the panel knows which zones are assigned to each expander. Follow the guideline provided to assign zones to expanders.

Step 5   Zone Wiring *(Section 2.9)*

Power down the control panel and complete all zone wiring. Follow the guidelines provided in Section 2.9 to connect zones using normally closed loops, single EOL resistor, double EOL resistors, Fire zones and Keyswitch Arming zones.

Step 6   Completing Wiring

Complete all other wiring including bells or sirens, phone line connections, ground connections or any other wiring necessary. Follow the guidelines provided in Section 2.2 "Terminal Descriptions".

Step 7   Power up the Control

Once all zone wiring and KEYBUS wiring is complete, power up the control panel.

> **!**   *The panel will not power up if only the battery is connected.*

Step 8   Keypad Assignment *(Section 2.6)*

Keypads must be assigned to different slots to be properly supervised. Follow the guideline provided in Section 2.6 to assign keypads.

Step 9   Enabling Supervision *(Section 2.7)*

After all modules have been wired to the KEYBUS, supervision must be enabled. Once supervision is enabled, the panel will be able to indicate module communication faults. Follow the guidelines provided in Section 2.7.

Step 10   Programming the System *(Sections 4 and 5)*

Section 4.0 provides a complete description of how to program the panel. Section 5.0 contains complete descriptions of the various programmable features, what options are available and how the options function. The Programming Work Sheets should be filled out completely before attempting to program the system.

Step 11   Testing the System

Test the panel completely to ensure that all features and functions are operating as programmed.

2.2 Terminal Descriptions

AC Terminals - AC

The panel requires a 16.5 volt, 40 VA transformer. Connect the transformer to an unswitched AC source and connect the transformer to these terminals.

❗ *Do not connect the transformer until all other wiring is complete.*

Battery Connection

The battery is used to provide back up power in the event of an AC power failure and to provide additional current when the panel demands exceed the power output of the transformer, such as when the panel is in alarm.

❗ *Do not connect the battery until all other wiring is complete.*

Connect the RED battery lead to the positive of the battery, the BLACK battery lead to the negative.

Auxiliary Power Terminals - AUX+ and GND

These terminals provide up to 500 mA of additional current at 12 Vdc *(rated 11.6 - 12.6 Vdc for UL residential applications)* for devices requiring power. Connect the positive side of any device requiring power to the AUX+ terminal, the negative side to GND. The AUX output is protected; if too much current is drawn from these terminals (wiring short) the panel will temporarily shut off the output, until the problem is corrected.

Bell Output Terminals - BELL+ and BELL-

These terminals provide up to 3 Amps of current at 12 Vdc *(rated 11.6 - 12.6 Vdc for UL residential applications)* (with stand-by battery; 700 mA continuous) for powering bells, sirens, strobes or other warning type equipment. Connect the positive side of any alarm warning device to BELL+, the negative side to BELL-. The BELL output is protected; if too much current is drawn from these terminals (wiring short) the BELL fuse will open.

The Bell output is supervised. If no alarm warning device is being used connect a 1000 ohm resistor across BELL+ and BELL- to prevent the panel from displaying a trouble condition *(See Section 3.4 "[*] Commands, [*] [2]")*.

KEYBUS Terminals - RED, BLK, YEL, GRN

The KEYBUS is used by the panel to communicate with modules and by modules to communicate with the panel. Each module has four KEYBUS terminals that must be connected to the four KEYBUS terminals on the panel. For more information, *see Section 2.3 "KEYBUS Operation and Wiring"*.

Programmable Outputs - PGM1 and PGM2

Each PGM output is an open collector switch to ground. That is, when the PGM output is activated by the panel the terminal will switch to ground.

PGM1 can sink up to 50 mA of current to activate LEDs or a small buzzer. Connect the positive side of the LED or buzzer to AUX+, the negative side to PGM1. If more than 50 mA of current is required a relay must be used. Refer to the following diagram:
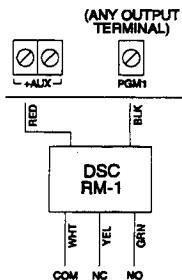
PGM2 operates similar to PGM1.

Zone Input Terminals - Z1 to Z8

Each detection device must be connected to a zone on the control. It is suggested that each zone have one detection device however it is possible to wire multiple detection devices to the same zone.

Telephone Connection Terminals - TIP, RING, T-1, R-1

If a telephone line is required for central station communication or downloading connect an RJ-31X jack in the following manner:

- RING - Red Wire .... Incoming line from
- TIP - Green Wire   telephone company

- R-1 - Grey Wire .... Outgoing line to
- T-1 - Brown Wire   house telephone(s)
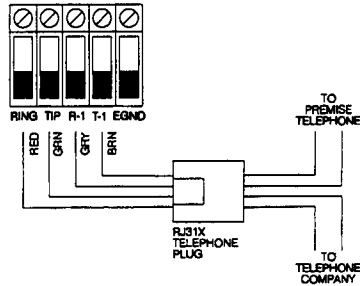
> **❶** *Ensure the plugs and jacks meet the dimension, tolerance and metallic plating requirements of 47 C.F.R. Part 68, SubPart F.*
> *For proper operation there must be no other telephone equipment connected between the control panel and the telephone company facilities.*

2.3   KEYBUS Operation and Wiring

The KEYBUS is used by the panel to communicate with all modules connected and by the modules to talk to the panel. The RED and BLK terminals are used to provide power while YEL and GRN are clock and data.

> **❶** *The 4 KEYBUS terminals of the panel must be connected to the 4 KEYBUS terminals or wires of all modules.*

The following conditions apply:
- KEYBUS should be run in minimum 22 gauge quad (0.5mm), two pair twist preferred
- the modules can be home run to the panel, connected in series or can be T-tapped
- any module can be connected anywhere along the KEYBUS, you do not need a separate KEYBUS wire run for keypads, zone expanders etc.
- no module can be more than 1,000'/330m (in wire length) from the panel
- shielded wire is not necessary unless wires are run in an area that may present excessive RF noise or interference

Example of KEYBUS Wiring
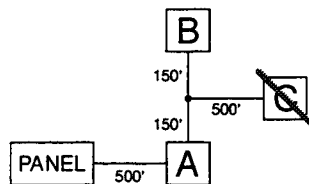
NOTE: Module (A) is wired correctly as it is within 1,000'/330m of the panel, in wire distance.
        Module (B) is wired correctly as it is within 1,000'/330m of the panel, in wire distance
        Module (C) is NOT wired correctly as it is further than 1,000'/330m from the panel, in wire distance.

2.4   Current Ratings - Modules and Accessories

In order for the WSS5010 system to operate properly, the power output capabilities of the main control and expansion devices must not be exceeded. Use the data presented below to ensure that no part of the system is overloaded and cannot function properly.

System Outputs (all 12 Vᴅᴄ)
- WSS5010

+AUX: 500 mA. Includes one keypad. Subtract for each additional keypad, expansion module and accessory connected to VAUX or KEYBUS.

BELL: 700 mA. Continuous Rating.
3.0 A. Short Term. Available only with stand-by battery connected.

- WSS5204

VAUX: 1.0 A. Continuous Rating. Subtract for each device connected.
3.0 A. Short Term. Available only with stand-by battery connected.

- WSS5208

VAUX: 250 mA. Subtract for each device connected. Subtract the total load on this terminal from the WSS5010 VAUX/KEYBUS output.

- WSS5108

VAUX: 100 mA. Subtract for each device connected. Subtract the total load on this terminal from the WSS5010 VAUX/KEYBUS output.

WSS5010 Device Ratings (@ 12 Vᴅᴄ)
- WSS5500 LCD Keypad: 50 mA
- WSS5508 LED Keypad: 45 mA
- WSS5108 Zone Module: 35 mA
- WSS5204 Output Module: 20 mA
- WSS5208 Output Module: 50 mA
- WSS5132-900 Wireless Module: 125 mA
- WSS5580 Module: 150 mA
- WSS5908 Audio Interface Module: 65 mA
- WSS5903 Intercom Audio Station: 20 mA
- WSS5903 EXT Door Box Audio Station: 20 mA
- WSS5903 EXT/R Door Box Audio Station: 35 mA
- WSS5400 Serial Printer Module: 62 mA

Other Devices
Read the manufacturer's literature carefully to determine the maximum current requirement (during activation or alarm) and use this value for loading calculations. Do not allow connected devices to exceed the system capabilities during any possible operational mode.

2.5   Assigning Zones to Zone Expanders

The main panel contains zones 1 to 8. Additional zone expanders may be added to increase the number of zones on the system. Each zone expander consists of two groups of 4 zones and each group must be configured to assign the specific zones to the expander. This is done by setting the jumpers located on the expander to the proper settings.

> ❗ *Before a zone expander will work properly the jumpers must be set so the panel can determine the correct zone assignment.*

The following are the jumper settings for different zone assignments:

Expander Zones	Jumpers			System Zones Assigned
Group A (Zones 1-4)	J1	J2	J3	
Group B (Zones 5-8)	J4	J5	J6	
	ON	ON	ON	Zones Disabled
	OFF	ON	ON	Zones Disabled
	ON	OFF	ON	Zones 9 - 12
	OFF	OFF	ON	Zones 13 - 16
	ON	ON	OFF	Zones 17 - 20
	OFF	ON	OFF	Zones 21 - 24
	ON	OFF	OFF	Zones 25 - 28
	OFF	OFF	OFF	Zones 29 - 32

The following is a diagram of the zone expander and where the jumper switches are located.

> ❗ *There are two sets of jumpers, one set for the first 4 zones of the expander and one set for the other 4 zones.*
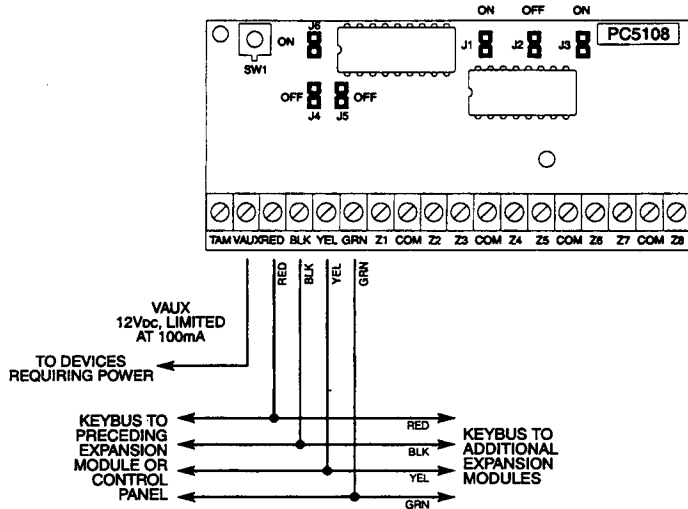
In the above diagram the jumpers settings shown indicate the first group of four zones of the expander will be zones 9 to 12 and the second group of 4 zones will be 13 to 16.
A group of zones can be disabled if they are not required for the installation.

❗ *If a tamper switch is not incorporated, the TAM terminal should be connected to BLK.*

2.6 Keypad Assignment

There are 8 available slots for keypads. WSS5508 keypads by default are always assigned to slot 1 while the WSS5500 is always assigned to slot 8. Keypads can each be assigned to a different slot (1 to 8) which offers two advantages. The panel can supervise the keypad connection to indicate a trouble condition if it is removed.

2.6.1 How to Assign Keypads

❗ *All keypad assignment must be done individually on each keypad on the system.*

To assign a keypad to a slot, enter the following:
Step 1 — Press [✱] [8] [Installer Code] to enter Installer Programming.
Step 2 — Press [000] for Keypad Programming
Step 3 — Press [0] for Slot Assignment
Enter a two digit number to specify the system and slot assignment.
   1st digit   Enter 1
   2nd digit Enter 1 to 8 for Slot Assignment
Press the [#] key twice to exit programming. Continue this procedure at each keypad until all have been assigned to the correct slot.

❗ *Multiple LCD keypads must not occupy the same supervisory slot. At least one LCD keypad must occupy slot 8 for downloading purposes.*

2.7 Enable Supervision

Once all the KEYBUS connections have been made, supervision must be enabled so the panel can indicate a trouble if a module is removed from the system.
To enable supervision, enter the following at any keypad:
   Step 1 - Press [✱] [8] [Installer Code] to enter Installer Programming.
   Step 2 - Press [902] to enable supervision. The panel will automatically search for all modules on the system. Once the search (it will take about 1 minute) is complete enter the following to confirm the modules on the system.
   Step 3 - Press [903] to display all modules.

Zone lights will be turned on according to what modules the panel has found on the system. The LCD keypad will allow you to scroll through the modules. Refer to the following chart:

Light [1] .... Keypad 1 present
Light [2] .... Keypad 2 present
Light [3] .... Keypad 3 present
Light [4] .... Keypad 4 present
Light [5] .... Keypad 5 present
Light [6] .... Keypad 6 present
Light [7] .... Keypad 7 present
Light [8] .... Keypad 8 present
Light [9] .... Zones 9 to 12 present
Light [10] .... Zones 13 to 16 present
Light [11] .... Zones 17 to 20 present
Light [12] .... Zones 21 to 24 present

Light [13] .... Zones 25 to 28 present
Light [14] .... Zones 29 to 32 present
Light [15] .... N/A (not used)
Light [16] .... N/A (not used)
Light [17] .... Module WSS5132-900 present
Light [18] .... Module WSS5208 present
Light [19] .... Module WSS5204 present
Light [20] .... Module WSS5400 present
Light [21] .... Module WSS5908 present
Light [22] .... N/A
Light [23] .... N/A
Light [24] .... WSS5580 module present

If a module is connected but does not show as being present, it may be due to any of the following reasons:

- it is not connected to the KEYBUS
- if there is a KEYBUS wiring problem
- if the module is more than 1,000'/330m from the panel
- if the module does not have enough power
- if the WSS5132-900 does not have any devices added

2.8 Removing Modules

If a module is no longer required on the system the panel must be told to no longer supervise the module. To do this remove the module from the KEYBUS and perform the Enable supervision function again (*See Section 2.7 "Enable Supervision"*). The panel will see the module has been removed and will no longer supervise it.

2.9 Zone Wiring

There are several different ways in which zones may be wired, depending on the programming options selected.

> ❗ *Any zone defined as Fire, 24 Hour Links Supervisory and Links Answer (See Section 5.1 "Zone Definitions") will automatically require a single End of Line (EOL) resistor regardless of which type of zone wiring supervision is selected.*
> *When reconfiguring the zone supervision from a non-default setting, such as DEOL to EOL/ NC to DEOL/disabling zones 1-8 while open or in trouble, the system should be powered down completely and powered up again.*

2.9.1 Normally Closed (NC) Loops

Wire all zones according to the following diagrams:

ANY Z   ANY COM
TERMINAL TERMINAL

ANY Z   ANY COM
TERMINAL TERMINAL

2 NORMALLY CLOSED
CONTACTS WITH
NO END OF LINE
RESISTOR

NORMALLY CLOSED
CONTACT;
NO END OF LINE
RESISTOR
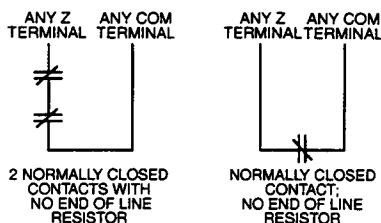
> ❗ *This option can only be selected if Normally Closed (NC) detection devices or contacts are being used.*

2.9.2 Single End Of Line (EOL) Resistors

Wire all zones according to the following diagrams:

| NORMALLY CLOSED CONTACT WITH 5600 Ω END OF LINE RESISTOR | NORMALLY OPEN CONTACTS WITH 5600 Ω END OF LINE RESISTOR | 1 NORMALLY OPEN CONTACT AND 1 NORMALLY CLOSED CONTACT WITH 5600 Ω END OF LINE RESISTOR | 2 NORMALLY OPEN CONTACT AND 2 NORMALLY CLOSED CONTACT WITH 5600 Ω END OF LINE RESISTOR |
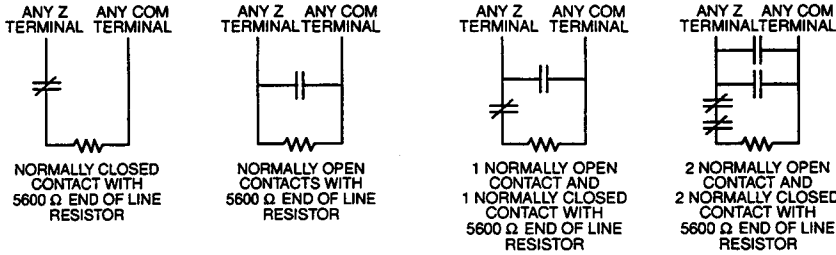
> **!** *This option can be selected if either Normally Closed (NC) or Normally Open (NO) detection devices or contacts are being used.*

2.9.3 Double End of Line (DEOL) Resistors

Double EOL loops allow the panel to determine if the zone is in alarm, tampered or faulted. Wire the zones according to the following diagram:

DOUBLE EOL CIRCUIT
1 NORMALLY CLOSED
CONTACT WITH
5600Ω END OF LINE
RESISTORS
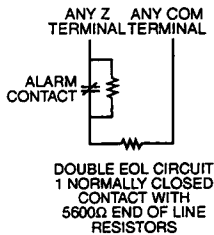
> **!** *This option can be selected only if Normally Closed (NC) detection devices or contacts are being used.*
> *Only one NC contact can be connected to each zone. The connection of multiple detection devices or contacts on one loop is not allowed.*

The following chart shows the status of the zone under certain conditions:

Loop Resistance	Loop Status
5600Ω (contact closed)	Secure
11200Ω (contact open)	Violated
0Ω (shorted wire, loop shorted)	Fault
Infinite (broken wire, loop open)	Tamper

2.9.4 Fire Zone Wiring - 4 wire Smoke Detectors

All zones defined as Fire *(See Section 5.1 "Zone Definitions")* must be wired according to the following diagram:
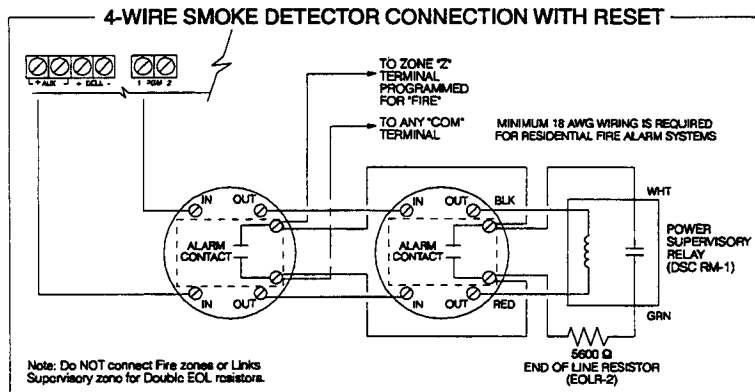
For a complete description of how fire zones operate, *see Section 5.1 "Zone Definitions"*.

2.9.5   **Fire Zone Wiring - 2 wire Smoke Detectors**

If PGM2 has been programmed for 2 Wire Smoke Detector connection *(See Section 5.9 "PGM Output"),* the detectors must be wired according to the following diagram:
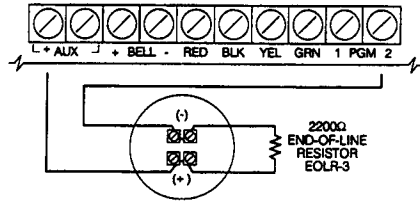
For a complete description of how fire zones operate, *see Section 5.1 "Zone Definitions".*

> ❗ *If PGM2 is programmed for 2 wire smoke support, Jumper J1 on the main board must be removed.*

2.9.6   **LINKS Supervisory** *(Shall not be used on UL certificated systems)*

If the LINKS 1000 cellular communicator is being used a zone may be configured for LINKS Supervisory *(See Section 5.1 "Zone Definitions").* If the LINKS 1000 experiences a trouble it will violate the zone, causing the panel to report the event to central station.

The zone programmed as LINKS Supervisory ALWAYS requires a single EOL resistor (5.6K) and must be wired according to the following diagram:
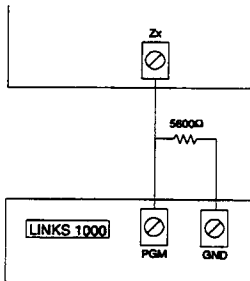
2.9.7   **LINKS Answer** *(Shall not be used on UL certificated systems)*

If the LINKS 1000 cellular communicator is being used a zone may be configured for LINKS Answer to allow downloading to be performed in the event of phone line failure.

When the LINKS receives a phone call it will activate the RING terminal on the LINKS circuit board. This terminal can be used to violate a zone programmed as LINKS Answer *(See Section 5.1 "Zone Definitions"),* causing the panel to seize the phone line and begin communication with the downloading computer.

The zone programmed as LINKS Answer ALWAYS requires a single EOL resistor (5.6K) and must be wired according to the following diagram:
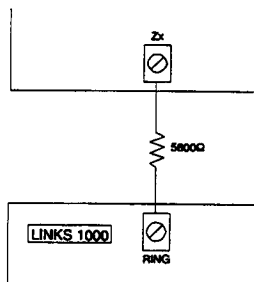
> ❗ *Do not make this connection without direction from Westinghouse Technical Support.*

Keypad Commands

All keypads provide complete information and control of the alarm panel. The panel can be completely programmed via any keypad on the system. LED keypads provide function indicator lights and individual zone indicator lights for the alarm circuits. The LCD keypad provides function indicator lights and word descriptions for zone status.

The following sections describe how to arm, disarm and perform other keypad functions.

3.1 Access Codes

The panel has a total of 37 Access Codes available.

Access Codes [01] to [32] .. User Codes 1 to 32
Access Code [33] .... Duress Code
Access Code [34] .... Duress Code
Access Code [40] .... System Master Code
Access Code [41] .... Master Code
Access Code [42] .... Master Code

System Master Code

The **System Master Code Not Changeable** option can be used to lock in the code. This will prevent the user from being able to change the System Master Code. If they attempt to change the code the keypad will sound a long error beep. The System Master Code can be used to arm or disarm the system and perform any keypad function.

If the code is lost it can be reprogrammed through Installer Programming.

• •

System Master Code Not Changeable .... Section [015], Option [4]
System Master Code .... Section [007]

• •

Master Codes

By default the Master Codes are not programmed. They must be programmed by the System Master Code. Once programmed, a Master Code can perform the same basic system functions as the System Master Code. In addition, it can be used to program the 32 User Codes and 2 Duress Codes on the system.

Duress Codes

By default Duress Codes are not programmed. They must be programmed by the System Master Code or Master Code. Once programmed if the Duress Code is used, the panel will activate a silent Duress alarm *(See Section 5.7 "Communicator - Reporting Codes")*.

User Codes

By default the 32 User Codes are not programmed. They must be programmed by the System Master Code or Master Code. Once programmed the User Code can be used to arm or disarm the system. In addition, each User Code can be enabled or disabled for bypass ability *(See Section 3.4 "[*] Commands, [*] [1] Zone Bypass")* and for accessing the system by the WSS5580.

3.2 Arming

The system cannot be armed unless the 'Ready' light is on. If the 'Ready' light is not on make sure all protected doors and windows are secure and stop movement in areas covered by motion detectors.

If the 'Ready' light is on, press the 'Stay' or 'Away' key for 2 seconds.

The **Arming Keys Require Access Code** option can be used so that an access code is needed after using the STAY/AWAY arming keys. This would be used in conjunction with **Closings Enabled** in the Dialing Options.

• •

Arming Keys Require Access Code .... Section [015], Option [3]
Closings Enabled .... Section [360], Option [6]

• •

3.2.1 Stay Arming

The system will be armed with all interior Stay/Away type zones **Bypassed** so that users can remain in the premises while armed. The perimeter zones will be armed.

3.2.2 Away Arming

The system will be armed with all interior Stay/Away type zones **Active.** If motion is detected on the Stay/Away type zones, the alarm sequence will begin.

3.3 Disarming

To disarm the panel enter the premises through the designated entry/exit door. The keypad will emit a steady beep to warn that you must disarm the system. During the last 10 seconds of entry delay the panel will pulse the keypad beeper on and off rapidly to warn the entry delay is about to expire. Enter a valid Access Code at the keypad. If an error is made press the Clear function key or the [#] key, then enter the code again. When a correct code is entered the keypad will turn off the 'Armed' light and stop the keypad buzzer. If an alarm occurred while the panel was armed the 'Memory' light and the zones which caused the alarm will be flashing. Press the [#] key to return the keypad to the Ready state.

3.4 [∗] Commands

[∗] [1]   Zone Bypass/Reactivate Stay/Away Zones

The [∗] [1] keypad command can be used to bypass individual zones. It can be used if the user wants to have access to an area while the system is armed or to bypass a defective zone (bad contact, damaged wiring) until service can be provided.

The system can be armed with a bypassed zone. A bypassed zone will not cause an alarm.

Bypass Status Displayed will indicate on the keypads, while armed, that there are zones that have been manually bypassed on the system.

• •

Bypass Status Displayed............................Section [015] Option [8]

• •

Code Required for Bypass *(required for UL Listed systems)* is enabled therefore an access code will be required to enter the Bypass mode. Only user codes with the Bypass attribute enabled will be able to bypass zones *(See Section 3.4 "[∗] Commands, [∗] [5]")*.

> **❗** *Zones can only be bypassed when the system is disarmed.*

To bypass a zone:
1. Enter [∗] [1] [Access Code]
2. The keypad will flash the 'Bypass' light and turn on the zone lights for any zones already bypassed.
3. Enter the 2 digit zone number to bypass the zone.
4. The keypad will turn on the zone light.
5. Press [#].
All zones that were lit when the [#] key was pressed are now bypassed. The 'Bypass' light will be on steady to indicate zones are bypassed.

To un-bypass a zone:
1. Enter [∗] [1] [Access Code].
2. The keypad will flash the 'Bypass' light and turn on the zone lights for any zones already bypassed.
3. Enter the 2 digit zone number to un-bypass the zone.
4. The keypad will turn off the zone light.
5. Press [#].
All zones that were lit when the [#] key was pressed are now bypassed. If no zones were lit, the 'Bypass' light will be off and no zones will be bypassed.

> **❗** *When the system is disarmed all manually bypassed zones will be un-bypassed.*

Reactivate Interior
If the system is armed in the Stay mode *(See Section 3.2 "Arming")*, the [∗] [1] command can be used to reactivate the Stay/Away zones.

[∗] [2]   Trouble Display

The panel constantly monitors itself for several different trouble conditions. If a trouble condition is present the 'Trouble' light will be on steady and all keypads will beep twice every 10 seconds.
Bell Squawk on Trouble will sound the bell twice every 10 seconds in conjunction with the keypad buzzer, and will be silenced when a key is pressed on the keypad.

> **❗** *The trouble beep can be silenced by pressing any key on any keypad.*

• •

Bell Squawk on Trouble .... Section [014], Option [2]

• •

To view trouble conditions:
1. Press [✱] [2].
2. The keypad will flash the 'Trouble' light and light zones to indicate which trouble conditions are present.
A description of the various troubles are as follows:

Trouble [1] - Service Required
This light will be on if any of the following trouble conditions are detected by the control panel; Low Battery, Bell Circuit Trouble, General System Trouble, General System Tamper, General System Supervisory, WSS5204 Low Battery and WSS5204 AC Failure.
If a 'Service Required' trouble is present press [1] to determine the specific trouble present. The following is a list of the specific 'Service Required' trouble conditions:

- Light [1] - Low Battery
  The main panel backup battery is low. The trouble will be generated if the battery drops below 11.5 volts under load and will restore when the battery charges over 12.5 volts.
- Light [2] - Bell Circuit Trouble
  The panel will indicate this trouble if the Bell fuse is blown or the panel senses an open condition on the bell circuit *(See Section 5.11 "Siren Supervision")*.
- Light [3] - General System Trouble
  This trouble will be present if the WSS5204 Power Supply module has an AUX failure, WSS5204 Output #1 Trouble, or a printer connected to the WSS5400 Printer module has a fault (off-line).
- Light [4] - General System Tamper
  This trouble will be indicated if a Tamper Zone violation on any module is detected.
- Light [5] - General System Supervisory
  This trouble will be indicated if the panel loses communication with any module connected to the KEYBUS *(See Section 2.7 "Enable Supervision")*. The event buffer will log a detailed description of the event.
  A KEYBUS fault will also cause this trouble to be displayed. A KEYBUS fault will occur if one of the data lines (yellow or green wire) is shorted to ground.
- Light [6] - Not Used
- Light [7] - WSS5204 Low Battery
  The WSS5204 module has a low backup battery.
- Light [8] - WSS5204 AC Failure
  The WSS5204 module has lost AC power.

Trouble [2] - AC Failure
This trouble indicates that AC power is no longer being supplied to the control unit. If it is required to communicate this to a monitoring station, enable Maintenance Alarms and Maintenance Restorals in Section [360] options [7] and [8] respectively. To inhibit reporting of short duration power outages, a delay can be programmed in section [370].

Trouble [3] - Telephone Line Trouble
The telephone connection to the control unit is continuously monitored. If there is a problem with the telephone connection, a trouble will be indicated after the delay programmed in section [370]. If the system has a LINKS 1000, this trouble can be reported to a monitoring station by enabling Maintenance Alarms and Maintenance Restorals in Section [361] options [7] and [8] respectively.

Trouble [4] - Failure to Communicate (FTC)
If the communicator fails in an attempt to communicate with any of the programmed telephone numbers, this trouble will be generated. If a later attempt is successful, the FTC reporting code, enabled by Maintenance Restorals in Section [360] options [8], will be transmitted along with any other unreported events that occurred while the panel was not able to communicate.

Trouble [5] - Zone Fault (including Fire Zone)
This trouble will be indicated if any zone on the system is in a trouble condition, i.e. it could not provide an alarm to the panel if required to do so. When a trouble condition occurs, the keypad(s) will start to beep. Press [5], while in Trouble mode, to view which zones have a trouble condition. If 2-wire smoke detectors are being used, a trouble on that zone will be indicated by the "Fire" LED.

Trouble [6] - Zone Tamper
This trouble is only generated by zones configured for Double End-of-Line Resistor Supervision or wireless zones. This trouble is generated when a tamper condition is present. When a tamper condition occurs, the keypad(s) will start to beep.
Press [6], while in Trouble mode, to view which zones have a tamper condition.

Trouble [7] - Zone Low Battery
This trouble is generated when an RF device reports a low battery condition to the control unit. Press [7] while in Trouble mode to view which RF zones have a low battery. Press [7] to view which One Way keypad has a low battery and press [7] again to view which wireless key has a low battery.

Trouble [8] - Loss of System Time
This trouble occurs when the control unit is powered up and the internal clock has not been set. Setting the time with User Function [*] [6] [Master Code] [1] will clear this trouble.

[*] [3] Alarm Memory
The 'Memory' light will be on if any alarm occurred during the last armed period or if an alarm occurred while the panel was disarmed (24 hour zones).

To view alarm memory:
1. Press [*] [3].
2. The keypad will flash the Memory light and light up zone lights to indicate alarm or tamper conditions that occurred during or since the last armed period.
When the panel is armed the 'Memory' light will go out.

> ❗ *If the alarm memory is cleared, the events can be viewed in the event buffer.*

[*] [5] Programming Access Codes
There are 37 Access Codes available. They are as follows:
Access Code [01] to [32] . User Codes 1 to 32
Access Code [33] .... Duress Code
Access Code [34] .... Duress Code
Access Code [40] .... System Master Code
Access Code [41] .... Master Code
Access Code [42] .... Master Code

All Access Codes have the ability to arm/disarm the system and activate the PGM Outputs using the *[] [7] [Access Code] [1] and [*] [7] [2] commands *(See Section 3.4 "[*] Commands, [*] [7]")*.

Additional Access Code Attributes are also programmable. Attributes determine what abilities the code will have. The programmable attributes are as follows:
- Pager Communications
- Zone Bypassing
- Day Zone Reset
- Phone Access on WSS5580

User Codes - Access Codes [01] to [32]
Each User Code can be programmed to have the ability to bypass zones and access the system through the WSS5580.

> ❗ *"Master code" attributes cannot change. By default, each code has the attributes of the code used to program it.*

Duress Codes - Access Codes [33] and [34]
When a Duress Code is used to perform any function the panel will report a Duress Reporting Code *(See Section 5.7 "Communicator - Reporting Codes")*.

Master Codes - Access Codes [41] and [42]
Master Codes can program additional User Codes and the Duress Codes.

System Master Code - Access Code [40]
By default the System Master Code is enabled to perform any keypad function. This code can be used to program all User Codes as well as the Master Codes and Duress Codes.
If the **Master Code Not Changeable** option is enabled the System Master Code can only be changed using Installer Programming.

How to program Access Codes:
Programming Access Codes is a two step process. First the Code must be programmed followed by the Code Attributes.
1. Enter [*] [5] [Master Code]. The keypad will flash the 'Program' light and turn on the zone light for any code already programmed.
2. Enter the 2 digit number for the code you want to program. The corresponding zone light will flash.
3. Enter a 4 digit code. The zone light will turn on steady.
4. Continue with steps 2 and 3 until all codes are programmed.

> ❗ *Do not press [*] or [#] when programming the 4 digit code.*
> *When programming Duress Codes or Master Codes no zone light will flash.*

After all the Codes have been programmed press the [#] key to return to the Ready mode.

How to program Access Code Attributes:

> ❗ *"Master Code" attributes cannot change. By default, each code has the attributes of the code used to program it.*

1. Enter [✱] [5] [Master Code]. The keypad will flash the 'Program' light and turn on the zone light for any code already programmed.
2. Press [9] to enter the Attribute mode. The keypad will turn on the 'Ready' light and turn off the armed light.
3. Enter the 2 digit number for the code you want to program Attributes for. Zone lights [1] to [4] will be on or off. Refer to the following chart:
    Zone Light 1 - ON - Pager Communications enabled
    Zone Light 2 - ON - Day Zone Reset enabled
    Zone Light 3 - ON - enable zone bypass
    Zone Light 4 - ON - Phone Access through WSS5580 enabled
4. Enter [1] to [4] to turn the zone lights ON or OFF.
5. Continue with steps 2 and 3 until all code attributes are programmed.

After all the codes and attributes have been programmed press the [#] key to exit Access Code Programming.

How to erase Access Code:
Select the code to be erased and press [✱].

[✱] [6] **User Functions**
This keypad command can be used to program several different functions. The following are the items programmable:
    [1] - Time and Date
    [2] - System Test
    [3] - User Call-Up (Downloading)
    [4] - [7] For future use

To program User Functions:
1. Press [✱] [6] [Master Code]. The keypad will flash the 'Program' light.
2. Press the number [1] to [7] for the item to be programmed.
* [1] - Time and Date
    The time and date must be accurate for the Test Transmission function to work properly. In addition the event buffer time and date stamps all events.
    - Enter the time: hour and minute, using 24-hour format [HH MM]. (00:00 to 23:59)
    - Enter the date: month, day and year [MM DD YY].

> ❗ *All entries must be 2 digits. For example, eight o'clock in the morning would be [08] hours and [00] minutes, and January would be month [01].*

* [2] - System Test
    When [2] is pressed the panel will perform the following:
    - sound the alarm output for two seconds
    - light all lights on the keypad
    - sound the keypad buzzer for two seconds
    - test the main panel battery
    - send a System Test Reporting code, if programmed *(See Section 5.7 "Communicator - Reporting Codes")*.

> ❗ *System Test will not activate any Fire outputs.*

* [3] - User Call-Up (Downloading)
    When [3] is pressed the panel will call the downloading computer *(See Section 5.8 "Downloading")*.

* [4] - [7] For future use

> ❗ *Additional Features are available using on the LCD keypad. These features do not have numbers assigned. Use the arrow keys (< >) to scroll through the [✱] [6] menu and press the [✱] key to select the following commands.*

View Event Buffer
The 128 Event Buffer can be viewed through any LCD keypad *(See Section 5.15.1 "Viewing the Event Buffer Through the LCD Keypad")*.

Brightness Control
When this option is selected the keypad will allow you to scroll through 10 different backlight level options. Use the arrow keys (<>) to scroll to the desired backlight level and press the [#] key to exit.

Contrast Control
When this option is selected the keypad will allow you to scroll through 10 different contrast level options. Use the arrow keys (<>) to scroll to the desired contrast level and press the [#] key to exit.

Keypad Buzzer Control
When this option is selected the keypad will allow you to scroll through 21 different keypad sounder tone options. Use the arrow keys (<>) to scroll to the desired keypad beeper level and press the [#] key to exit. This function can be achieved on LED keypads by holding the [*] key.

[*] [7]   Output Functions
Two Output Functions can be performed at a keypad. They are Utility Output and Smoke Detector Reset.

To activate Utility Output:
Press [*] [7] [1] [Access Code]. The panel will activate all PGM Outputs for 5 seconds programmed as Utility Output *(see Section 5.9 "PGM Outputs")*.

To activate Smoke Detector Reset:
Press [*] [7] [2]. The panel will activate all PGM Outputs for 5 seconds programmed as Sensor Reset. This command will also reset two wire smoke detectors connected to PGM2 programmed as Two Wire Smoke Support *(see Section 5.9 "PGM Outputs")*.

[*] [8]   Installer Programming
Enter [*] [8] followed by the 6-digit Installer Code to enter Installer Programming *(see Section 4.0 "How to Program")*.

[*] [9]   Arming Without Entry Delay
When the system is armed with the [*] [9] command the panel will remove the entry delay from the system. After the exit delay, Delay 1 and Delay 2 type zones will be instant and Stay/Away zones will remain bypassed *(see Section 5.1 "Zone Definitions")*.
[*] [9] must be entered after the 'Stay' or 'Away' function key has been pressed.

● ●
Master Code Not Changeable option .... Section [015], Option [4]
Quick Exit Enable .... Section [015], Option [2]
● ●

3.5   Function Keys
There are 5 function keys on the WSS5010 keypads labelled Stay, Away, Chime, Reset and Exit. The operation of these keys is described below. The function is activated by pressing and holding the key for 2 seconds.

"Stay" - Stay Arm
Arms the system. All Stay/Away type zones will be automatically bypassed. Delay type zones will provide entry and exit delay.

"Away" - Away Arm
Arms the system. All Stay/Away type zones will be active at the end of the exit delay. Delay type zones will provide entry and exit delay.

"Chime" - Door Chime On/Off
Pressing the key will toggle the Door Chime feature ON or OFF. One solid beep means the feature has been disabled, three short beeps means it has been enabled.

"Clear" - Clears Alarm Memory
Pressing this key will cause the panel to clear any alarm memory that the panel may have without having to arm and disarm again. Pressing this key will also clear partially entered access codes, or return the keypad to the base menu from [*] functions.

"Exit" - Activate Quick Exit
Pressing this key will cause the panel to activate the Quick Exit function. If the Quick Exit Enabled option is enabled, the panel will provide a two minute window to exit. During this time the panel will ignore any activation of a delay type zone. When the delay zone is secured the panel will end the two minute time period. If a second delay zone is tripped, or if the zone is not restored after two minutes, the panel will start entry delay.

❶   *Quick Exit is not designed to extend the standard exit delay.*

How to Program

The following section of the manual describes how to enter Installer Programming and how to program the various sections.

❗ *It is extremely important that you read the following section of the manual to completely understand how to program the panel.*

4.1 How to Enter Installer Programming

Installer Programming is used to program all communicator and panel options.

LED Keypad

Step 1 From any keypad enter [*] [8] [Installer Code].
- The 'Program' light will flash to indicate you are in programming
- The 'Armed' light will turn on to indicate the panel is waiting for the 3 digit Section number to program

Step 2 Enter the 3 digit Section number you want to program.
- The Armed light will turn off
- The Ready light will turn on to indicate the panel is ready for the information for the selected Section

❗ *If the 3 digit section number entered is not valid or the module that pertains to the Section is not present the keypad will sound a 2 second beep or error tone.*

LCD Keypad

Step 1 From any keypad enter [*] [8] [Installer Code].
   The Keypad will display 'Enter Section' followed by three dashes.

Step 2 Enter the 3 digit Section number you want to program.
   The keypad will now display information for the section entered.

● ●

Installer Code .... Section [006]

● ●

4.2 Programming Decimal Data

When the Ready light is ON the panel is waiting for the information to be programmed for the selected Section. Enter the information written in the boxes for the Section found in the Programming Worksheets.

If a digit is entered for each program box in a Section the panel will automatically exit from the Section. It will turn OFF the Ready light and turn the Armed light back ON.

You can also press the [#] key to exit a Section before entering data for every box. This is handy if you only need to change the first few program boxes. All other locations in the Section will remain unchanged. If the [#] key is pressed the panel will turn OFF the Ready light, turn ON the Armed light and exit you from the Section.

4.3 Programming HEX Data

On occasion, hexadecimal (HEX) digits may be required. To program a HEX digit press the [*] key. The panel will enter HEX programming and Ready light will begin to flash.

The following table indicates which number should be pressed to enter the corresponding HEX digit:

1 = A   2 = B   3 = C   4 = D   5 = E   6 = F

After the correct HEX digit is entered the 'Ready' light will continue to flash. If another HEX digit is required press the corresponding number. If a decimal digit is required press the [*] key again. The 'Ready' light will turn on solid and the panel will return to regular decimal programming.

❗ *It is important to watch the 'Ready' light. If the light is flashing any number you enter will be programmed as the HEX equivalent.*

Example: To enter 'C1' for the first 2 digits of the Account Code, enter [*] [3] [*] [1].
[*] to enter Hexadecimal mode ('Ready' light flashes)
[3] to enter C
[*] to return to decimal mode ('Ready' light is solid)
[1] to enter 1
If you enter information into a section and make a mistake, press the [#] key to exit the section. Select that section again and re-enter the information correctly.

4.4   Programming Toggle Option Sections

Some Sections contain several toggle options. The panel will use zone lights 1 through 8 to indicate if the different options are enabled or disabled. Refer to the Programming Worksheets to determine what each option represents and whether the light should be ON or OFF for your application.

Press the number corresponding to the option to toggle the light ON or OFF.

Once all the toggle options have been selected correctly press the [#] key to exit the Section and save the changes. The panel will turn off the Ready light and turn on the Armed light.

4.5   Viewing Programming

4.5.1   LED Keypad

Any program Section can be viewed through the keypad. When a Section is entered the keypad will immediately display the first digit of information programmed in that Section.

The keypad displays the information using a binary format where:

Zone Light 1 = 1
Zone Light 2 = 2
Zone Light 3 = 4
Zone Light 4 = 8

Add up the values for the zone lights to determine the number displayed (for example, no zone lights = 0, all 4 zone lights = 15 HEX 'F').

Press any of the Emergency Keys (Fire, Auxiliary or Panic) to advance to the next digit. When all the digits in a Section have been viewed the panel will exit the Section, turn off the Ready Light, turn on the Armed light and wait for the next three digit Section number to be entered. If the [#] key is pressed the panel will also exit the Section.

4.5.2   LCD Keypad

Any program section can be viewed through the keypad. Depending on the section entered, the LCD will display the information differently as below:

Sections Entered	LCD Display
Phone number	Entire phone number
Account identifier code	Entire account identifier code
Toggle option	Entire section (all options)
Reporting code	Each 2-digit reporting code at a time

Use the arrow keys (< >) to scroll through the data being displayed.
Scroll past the end of the data displayed or press the [#] key to exit the section.

Program Descriptions

The following section explains all the programmable features including how the feature operates, options that pertain to the feature and a summary of program locations that require programming.

5.1 Zone Definitions

These sections will allow you to select how each of the 32 zones will operate. Each zone requires a 2 digit entry.

> **❗** *In addition to selecting how each zone will operate, attributes may be programmed by zone (See Section 5.2 "Zone Attributes").*
> *All main board zones that are disabled and are not used as wireless, must be programmed as Null Zones.*

[00]   Null Zone

The zone will not operate in any way. Zones that are not used should be programmed as Null zones.

[01]   Delay 1 Zone

If this zone is violated when the panel is armed it will provide entry delay. The keypad buzzer will sound to warn the user that the system must be disarmed. If the panel is not disarmed before the entry delay expires an alarm will be generated. Typically this type of zone will be used for the front door, back door or any other entry/exit point. Refer to Section [005], "System Times", to program the Delay 1 zone entry delay time.

[02]   Delay 2 Zone

This zone type operates the same as the Delay 1 zone option but can provide a different entry delay. Typically this zone will be used for a garage door. Refer to Section [005], "System Times", to program the Delay 2 zone entry delay.

[03]   Instant Zone

If this zone type is violated when the panel is armed it will cause an instant alarm. Typically this zone is used for windows, patio doors or other perimeter type zones.

[04]   Interior Zone

If this type of zone is violated when the panel is armed it will provide entry if a delay type zone was violated first. Otherwise it will cause an instant alarm. Typically this zone is used for interior protection devices, such as motion detectors.

[05]   Interior Stay/Away Zone

This zone type works the same as the Interior zone type with one exception. The zone will be automatically bypassed when the panel is armed with the "Stay" function key.

The automatic bypass avoids having the user manually bypass interior type zones when arming at home. If automatically bypassed, the user can reactivate the zones by entering the [✱] [1] command *(See Section 3.4 "[✱] Commands, [✱] [1] Zone Bypass")*. Typically this zone is used for interior protection devices, such as motion detectors.

[06]   Delay Stay/Away Zone

This zone type will operate the same as the Interior Stay/Away zone type except that it will always provide entry delay. Typically this zone is used for interior protection devices, such as motion detectors and will help prevent false alarms since it will always provide the user the entry delay time to turn off the panel.

[07]   Delayed 24 Hour Fire Zone

If this zone is violated the alarm output will immediately activate but the communicator will be delayed for 30 seconds. If during the 30 second delay the user presses any key on any keypad the alarm output and communicator will be delayed an additional 90 seconds, providing the user time to correct the problem. If after the 90 second delay the zone is still violated the process will begin again; the alarm output will be activated but the communication will be delayed 30 seconds...

If the user does not press a key, after 30 seconds the alarm output will latch and the panel will communicate. The alarm will sound for the Bell Cutoff time programmed in *Section [005], "System Times"* or can be programmed to sound until a valid code is entered, *Section [014], "Second System Option Code, option [5]"*.

> **❗** *If a second Fire type zone is violated or the Fire keys are pressed during the delay time the panel will latch the alarm output and communicate immediately.*

If a Delayed Fire zone is violated it will be displayed on all keypads and can be delayed at any keypad. Typically this zone is used for latching smoke detectors.

[08] **Standard 24 Hour Fire Zone**
When violated the panel will immediately latch the alarm output and communicate to central station. The alarm will sound for the Bell Cutoff time programmed in *Section [005], "System Times"* or can be programmed to sound until a valid code is entered, *Section [014], "Second System Option Code, option [5]"*.
If a Fire zone is violated it will be displayed on all keypads. Typically this zone is used for pull stations.

[09] **Auto Verify Fire (Hardwired)**
When this zone type is shorted, the WSS5010 performs a "Sensor Reset" on all programmable outputs that removes the power from the smoke detectors for 5 seconds. After the 5 second rest pulse, power will be restored to the sensors and all fire zone troubles will be bypassed for 10 seconds to allow the detectors to settle.
If the smoke detectors initiated another alarm within 60 seconds after the power is restored, a fire alarm will immediately sound and the monitoring station will be notified. If the smoke detector cannot be reset by the Sensor Reset, the zone will not be restored and a fire alarm will be initiated immediately.
The smoke detector must be powered from the PGM terminal to allow for the automatic reset.

> 🛈 *Auto-verified fire zone will have to be violated twice in 60 seconds in order to log during Installer's Walk Test.*

[10] **24 Hour Supervisory Zone (with LINKS)**
If this zone is violated, whether armed or disarmed, the panel will report to the central station, and log the zone fault.

[11] **24 Hour Supervisory Buzzer Zone**
Whether armed or disarmed, when this zone type is violated the panel will immediately latch the keypad buzzer until a valid user code is entered and will communicate immediately to central station.

[12] **24 Hour Burglary Zone**
If this zone is violated, whether armed or disarmed, the panel will immediately latch the alarm output and communicate to the central station. The alarm will sound for the Bell Cutoff time programmed in *Section [005] "System Times"* or until a valid user code is entered.

[13]-[21] The following zone definitions operate similar to the 24 Hour Burglary except for System Event output type and SIA identifier:

[13] 24 Hour Holdup Zone	**[16] 24 Hour Medical Zone**	**[19] 24 Hour Sprinkler Zone**
[14] 24 Hour Gas Zone	**[17] 24 Hour Panic Zone**	**[20] 24 Hour Water Flow Zone**
[15] 24 Hour Heat Zone	**[18] 24 Hour Emergency Zone** *(Non-medical emergency only)*	**[21] 24 Hour Freezer Zone**

[22] **24 Hour Latching Tamper**
If this zone is violated the installer must enter Installer Programming before the panel to be armed.

[23] **Day Zone**
If this zone is violated while the system is disarmed, the keypad buzzer will activate for the time programmed as Bell Cut-Off with NO alarm transmission. If it is violated while armed, the bell output will sound and the alarm will be transmitted. The keypad buzzer will not sound if armed. A user attribute dictates whether if this zone can be bypassed by users through the [✱] [1] Bypass command.

[24] **LINKS Answer Zone**
If the LINKS 1000 cellular communicator is being used it is possible to perform downloading through the unit if the phone line is disconnected. If this is required connect the RING terminal of the LINKS 1000 to this zone. Refer to the LINKS 1000 Installation sheet for more information.

> 🛈 *LINKS Answer zone cannot be tested using Installer's Walk Test.*

[87] **Delayed 24 Hour Fire (Wireless)**
This is to be used only with the wireless smoke detector. It functions the same as zone type [07].

[88] **Standard 24 Hour Fire (Wireless)**
This is to be used only with the wireless smoke detector. It functions the same as zone type [08].

5.2   Zone Attributes

Each zone will operate according to the Zone Definition selected for it *(See Section 5.1 "Zone Definitions")*. Additional zone attributes can be programmed to customize the operation of a zone for a specific application. The following attributes are programmable by zone:

! *Attributes for Fire Zones should not be changed from default.*

Audible/Silent
Determines whether the zone will activate the alarm output or will be silent.

Pulsed/Steady
Determines if the alarm output will be steady or pulse on for one second and off for one second.

Activate Chime
Determines if the zone will activate the chime feature *(See Section 3.5 Function Keys, "Chime" - Door Chime ON/OFF")*.

Bypass Enable
Determines if the zone can be manually bypassed *(See Section 3.4 "[*] Commands, [*] [1] - Zone Bypass")*.

Force Arming Enable
Determines whether the system may be armed with the zone violated. The zone will be temporarily bypassed. When the zone is secured it will be added back into the system.

Wireless Device Enable
Determines that the zone is a wireless zone and that the proper sensor fault supervision is enabled.

Transmission (TX) Delay Enable
Determines if the panel will delay communicating the alarm reporting code to the central station (See Section 5.18 "Transmission Delay").

! *Transmission Delay and Cross Zoning cannot be enabled on the same zone.*

Cross Zoning Enable
Cross Zoning is used for alarm verification and false alarm reduction. Zones are enabled as cross zones using the Cross Zone attribute. If a valid time is programmed in the Cross Zone Timer AND there are multiple zones assigned to the Cross Zone Group, the feature functions will be described as below.

When a zone with the Cross option is violated, the Bell / Siren sounds if programmed and the timer begins. If there is a trip of a second Cross Zone (different zone) before the expiry of the timer, both alarms are logged and transmitted. If there is no second zone violation before the expiry of the timer, the first alarm is logged but not transmitted.

When a Cross Zone alarm has been validated, all alarms generated while the communicator is still on-line will be transmitted. Once all alarms have been transmitted, a subsequent trip of the of a Cross Zone will restart the timer.

! *If only one Cross Zone is tripped within 2 minutes of arming the panel, a recent closing will be reported. And if only one Cross Zone is tripped during the armed period, upon disarming, an opening after alarm will be reported.*

Zones 1 to 32 Attributes .... Sections [101] - [132]
Audible/Silent Alarm .... Sections [101] - [132], Option [1]
Pulsed/Steady Alarm .... Sections [101] - [132], Option [2]
Activate Chime .... Sections [101] - [132], Option [3]
Bypass Enable .... Sections [101] - [132], Option [4]
Force Arming Enable .... Sections [101] - [132], Option [5]
Wireless Device Enable .... Sections [101] - [132], Option [6]
Transmission Delay Enable .... Sections [101] - [132], Option [7]
Cross Zoning Enable .... Sections [101] - [132], Option [8]
Cross Zone Timer .... Sections [170]

5.3 Communicator - Dialing

If the **Communicator Disable** option is selected the panel will not attempt to call central station. If enabled the panel will attempt to call central station when an event occurs that the corresponding dialing option is enabled for. *(See Section 5.7 "Communicator - Reporting Code").*

Telephone Number Dialing Options are used to select which phone number the panel will dial when an event occurs.

If **DTMF Dialing** is enabled the panel will dial using DTMF (touch tone). If **Switch to Pulse Dial** is enabled the panel will switch to pulse dialing on the 5th attempt to call the central station. If disabled the panel will always dial DTMF.

If **DTMF Dialing** is disabled the panel will always pulse dial.

The **Post Dial Wait for Handshake** determines the amount of time the panel will wait for a valid handshake from the receiver. If the panel does not hear the handshake it will consider the call a failed attempt, hang up and try again.

The **Maximum Dialing Attempts** determines the maximum number of attempts the panel will make to send a signal to the central station before indicating a Failure to Communicate (FTC) trouble condition.

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Pulse Dialing .... Section [380], Option [3]
Switch to Pulse Dial .... Section [380], Option [4]
Cross Zoning Enable .... Sections [101] - [132], Option [8]
Delay Between Dialing Attempts .... Section [162]
Post Dial Wait for Handshake .... Section [161]
Maximum Dialing Attempts to Each Number Section [160]
Communicator Disable .... Section [380], Option [1]
Telephone Number Dialing Options .... Sections [360], [361], [365]

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5.4 Communicator - Phone Numbers

The panel can call 2 different phone numbers for communication purposes. The **1st Phone Number** is used to call central station using SIA format, the **2nd Phone Number** is used to call a personal pager. Phone numbers can be up to 32 digits which will allow you to add special digits if required. To program the phone number enter numbers 0 through 9 as required. The following is a list of HEX digits which can also be programmed and the function they perform:

HEX (B) - simulates the [✱] key on a touch tone phone
HEX (C) - simulates the [#] key on a touch tone phone
HEX (D) - forces the panel to search for dial tone
HEX (E) - forces the panel to pause for 2 seconds
HEX (F) - end of phone number marker

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1st Phone Number .... Section [301]
2nd Phone Number .... Section [302]

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5.5 Communicator - Account Identifier Code/DLS Panel ID Code

The System Identifier Code is used by central station to determine which panel is calling. This is also used for identifying the panel for downloading purposes.

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System Identifier Code .... Section [310]

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Note: UL has only verified compatibility with the Sur-Gard SG-MLR2-DG.

5.6 Communicator - Reporting Formats

The First Phone Number uses the SIA format and the Second Phone Number uses the Pager format.

5.6.1 SIA (Level 1)

SIA is a specialized format that will communicate information quickly using frequency shift keying (FSK) rather than pulses. The SIA format will automatically generate the type of signal being transmitted, such as Burglary, Fire, Panic etc. The two digit reporting code is used to identify the zone or user code number.

The Telephone Number Dialing options can be used to disable reporting of events such as Openings/Closings. Refer to Appendix A for a list of SIA identifiers.

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SIA Identifiers .... Appendix A

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5.6.2 Pager Format

If an event occurs and the **Second Phone Number** is programmed with appropriate Second Telephone Number Dialing options, the panel will attempt to page. When calling a pager extra digits will be required to make it work properly. The following is a list of Hex digits and what function they perform:

Hex [B] - simulates the [*] key on a touch tone phone
Hex [C] - simulates the [#] key on a touch tone phone
Hex [D] - forces the panel to search for dial tone
Hex [E] - two second pause
Hex [F] - end of phone number marker

The panel will attempt to call the pager one time. After dialing the digits in the phone number the panel will send the account number and reporting code followed by the [#] key (Hex [C]).

The panel has no way of confirming if the pager was called successfully which means a failure to communicate trouble will never be generated.

If the pager option is enabled by the installer, the pager reporting code may report to the pager. Refer to Appendix B for the list of Pager Reporting Codes.

> **!** **When using the pager phone number, DTMF dialing must be enabled.**

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Telephone Number Dialing Options .... Sections [360] - [361], [365]

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5.7 Communicator - Reporting Codes

The panel can be programmed to report events to a central station. The following is a description of the different reporting codes that can be enabled and when the events will be reported to central station.

5.7.1 Zone Alarm

The panel will transmit the **Zone Alarm** Reporting Code for a zone when the zone goes into alarm. 24 hour type zones will go into alarm whether the panel is armed or disarmed and report to the central station. All other zone types will only go into alarm if the panel is armed.

5.7.2 Zone Restoral

If the **Restoral on Bell Timeout** option is selected the panel will send the **Zone Restoral** Reporting Code for the zone when the alarm output times out AND the zone is secure. If the zone is not secured when the alarm output times out the panel will send the restoral immediately after the zone is secured.

If the **Restoral on Bell Timeout** option is not selected the panel will immediately send the **Zone Restoral** Reporting Code when the zone is secured or when the panel is disarmed, regardless if the alarm output is active or not.

> **!** **24 Hour type zones will report the restoral immediately after the zone is secured.**
> **Restorals on BTO must not be used with Cross Zones enabled.**

5.7.3 Closings

The panel will transmit a **Closing** Reporting Code to indicate the system is armed. A different reporting code can be transmitted for each User Code, Master Code and System Master Code to identify who armed the system.

A **Partial Closing** Reporting Code will be transmitted if the system is armed with zones manually bypassed.

A **Special Closing** Reporting Code will be transmitted if the system is armed using any of the following methods:

- Arming via the DLS Software
- Arming via Wireless Key
- 'Away' Function Key arming
- 'Stay' Function Key arming

A **Closing by Duress** Reporting Code will be transmitted in addition to the Duress reporting code if the system is armed using a Duress Code.

A **Recent Closing** Reporting Code will be transmitted if an alarm occurs within 2 minutes of the exit delay expiring.

5.7.4 Openings

The panel will transmit an **Opening** Reporting Code to indicate the system has been disarmed. A different reporting code can be transmitted for each User Code, Master Code and System Master Code to identify who disarmed the system.

A **Special Opening** Reporting Code will be transmitted if the system is disarmed using any of the following methods:
- Disarming via the DLS Software
- Disarming via Wireless Key

An **Opening After Alarm** Reporting Code will be transmitted in addition to the opening when the system is disarmed after an alarm has occurred.

An **Opening by Duress** Reporting Code will be transmitted in addition to the Duress reporting code if the system is disarmed using a Duress Code.

5.7.5 Tampers

If the panel is programmed for Double EOL zones *(See Section 2.9 "Zone Wiring")* or wireless zones, the panel will report a **Zone Tamper Alarm** Reporting Code if an open condition is present on a zone.

A **General System Tamper** Reporting Code will be transmitted when the tamper zone on any module is violated.

5.7.6 Priority/Emergency

The panel will transmit a **Keypad Fire Alarm** Reporting Code when the Fire Keys on any keypad is pressed for two seconds.

The panel will transmit a **Keypad Auxiliary Alarm** Reporting Code when the Auxiliary Keys on any keypad is pressed for two seconds.

The panel will transmit a **Keypad Panic Alarm** Reporting Code when the Panic Keys on any keypad is pressed for two seconds.

The panel will transmit a **Duress** Reporting Code any time either Duress Code is entered at any keypad. If the panel is armed using the Duress Code the panel will also transmit a **Closing by Duress** Reporting Code or if the panel is disarmed it will also transmit an **Opening by Duress** Reporting Code.

If PGM2 is being used for two wire smoke detectors *(See Section 5.9 "PGM Outputs")* the panel will send a **Two Wire Smoke Alarm** Reporting Code if a smoke detector goes into alarm.

5.7.7 Maintenance

The panel will transmit a **Battery Trouble Alarm** Reporting Code when the backup battery drops below 11.5 Vᴅᴄ. The **Battery Trouble Restoral** Reporting Code will not be transmitted until the battery has been charged over 12.5 Vᴅᴄ.

To prevent the panel from transmitting an **AC Failure Trouble Alarm** Reporting Code during short power outages the panel will not send the signal unless AC power is lost for the amount of minutes programmed for the AC Failure Communication Delay. The **AC Failure Trouble Restoral** Reporting Code will be transmitted as soon as AC power is restored.

A **Bell Circuit Trouble Alarm** Reporting Code will be transmitted immediately an open condition is measured on the Bell Output of the main panel. The **Bell Circuit Trouble Restoral** Reporting Code will be transmitted as soon as the problem is corrected.

A **Fire Trouble Alarm** Reporting Code will be transmitted immediately when an open condition is measured on any Fire type zone *(See Section 5.1 "Zone Definitions")*. The **Fire Trouble Restoral** Reporting Code will be transmitted as soon as the problem is corrected.

The **Auxiliary Power Supply Trouble Alarm** Reporting Code will be transmitted if the AUX output is shorted. The AUX output control incorporates a fuseless design. When excessive current is drawn the panel will automatically shut off the output. The panel will constantly check the AUX output and when the excessive current draw is removed the panel will reset the output and transmit an **Auxiliary Power Supply Trouble Restoral** Reporting Code.

A **TLM Trouble** Reporting Code can only be transmitted if a LINKS 1000 Cellular Communicator is being used *(See Section 5.26 "LINKS 1000 Cellular Communicator")*. The panel will only transmit the signal after the time programmed for the TLM Trouble Delay. The **TLM Restoral** Reporting Code will be transmitted within 10 seconds of the problem being corrected.

A **General System Trouble** Reporting Code will be transmitted if the panel detects any of the following on the WSS5204 Power Supply/Output Module: AC Power Failure, Low Battery, AUX Output Trouble Output #1 Supervisory trouble or the WSS5400 is off-line. The **General System Trouble Restoral** Reporting Code will be transmitted when all of the listed problems are corrected.

A **General System Supervisory Trouble** Reporting Code will be transmitted if any module goes missing from the KEYBUS. If the module is a zone expander the panel will also transmit the **Zone Expander Supervisory Alarm Trouble** Reporting Code. The panel will send a **General System Supervisory Restoral** Reporting Code when the problem is corrected as well as a **Zone Expander Supervisory Restoral** Reporting Code if the module is a zone expander.

> **❶** *The panel may need to be powered down upon the AUX restoral to get the correct zone status.*

5.7.8   Test Transmissions

The panel can be programmed to transmit a **Periodic Test Transmission** Reporting Code *(See Section 5.12 "Test Transmissions")*, a **System Test** Reporting Code *(See Section 3.4 "[✱] Commands, [✱] [6]")* or a **LINKS 1000 Test Transmission** Reporting Code *(See Section 5.24 "LINKS 1000 Cellular Communicator")*.

If an Installer Walk Test is ended with Communications, there will be a **Test Start**, a **Zone Test** for each zone violated during the walk test, and a **Test End** reporting code transmitted.•

5.7.9   Wireless Maintenance

The panel will transmit a **General Transmitter Low Battery Alarm** Reporting Code if a low battery condition is indicated by a detector. The transmission of the trouble will be delayed by the number of days programmed for **Wireless Low Battery Transmission Delay**. The **General Transmitter Low Battery Restoral** Reporting Code will be transmitted when the problem is corrected. The specific zone that caused the trouble will be stored to the Event Buffer.

5.7.10   Miscellaneous

The panel will transmit the **Keypad Lockout** Reporting Code if the lockout is activated *(See Section 5.21 "Keypad Lockout")*.

If the panel fails to transmit information to the central station it will display a failure to communicate trouble condition. The panel will transmit a **Failure to Communicate** Reporting Code the next time it calls the central station. The panel will transmit the old events, followed by the failure to communicate, followed by the new events. This will allow central station to determine which events are old or new.

5.7.11   Up and About Timer

When a valid time is programmed in this section (001-255 hours), the WSS5010 will look for an Interior zone activity. If there is no activity (Interior, Interior Stay Away, Delay Stay Away) for the time programmed as "Stay" armed/disarmed, a report will be transmitted to the programmed telephone number. Once the exception report has been transmitted, no more report will be sent until an interior movement detected and the timer once again expired.

> ❗ *This timer should be set for a minimum of 2 hours.*

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Up and About Timer .... Section [171]

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5.8   Downloading

Downloading allows programming of the entire control panel via a computer, modem and telephone line. All functions and features, changes and status, such as trouble conditions and open zones can be viewed or programmed by downloading.

If the **Double Call** option is enabled the panel will answer incoming calls for downloading provided the following conditions occur:

1. The panel hears one or two rings then misses a ring.
2. At this point the panel will start a timer.
3. If the panel hears another ring before the **Answering Machine Double Call Timer** expires it will answer on the first ring of the second call.

> ❗ *If only the Double Call routine is to be used, the value for the Number of Rings should be programmed to 255.*

The panel will immediately go on line and begin the download process unless the **Call Back** option is enabled. If enabled, the panel and computer will both hang up. The panel will then call the **Download Computer Telephone Number** and wait for the computer to answer. Once the computer answers downloading will begin.

> ❗ *The Call Back option should not be enabled if downloading through the LINKS.*

If the Double Call is disabled, then the panel will answer incoming calls for downloading on the **Number of Rings to Answer**. If the Number of Rings to Answer is [000], then downloading is disabled.

User Call-Up is used so the user using a Master Code can initiate a download (See Section 3.4 "[✱] Commands, [✱] [6] User Functions"). This should only be done under the instruction of the Installer.

The **Download Access Code** and **Account Identifier Code/DLS Panel ID Code** are for security and proper identification. Both the panel and the computer file should have the same information programmed before attempting to download.

PC Link
The PC Link is used for uploading and downloading with an on-site computer. The PC Link Module connects to the 4 pin header located on the WSS5010 board. The module is placed on the header according to the cut sheet provided with the PC-LINK module.

Enter into the DLS package an initiate the direct link mode of operation. Select the operation that is required to be performed. On the panel, enter into installer programming and enter into section [490], Initiate PC Link. The system will "Busy" or unavailable for the duration of the Direct Connect session.

> **❗** *For more information refer to the Download Manual included with the computer software.*

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Double Call .... Section [401], Option [1]
User Call-Up .... Section [401], Option [2]
Call Back .... Section [401], Option [3]
Answering Machine Double Call Timer .... Section [405]
Download Computer Telephone Number .... Section [402]
Download Access Code .... Section [403]
Initiate PC-LINK (Direct Connect Local Download) .. Section [490]
Account Identifier Code/DLS Panel ID Code .... Section [310]
Number of Rings to Answer .... Section [404]

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5.9   PGM Outputs

There are 3 different types of Programmable Outputs available. They are listed as follows:
● PGM1 and PGM2 on the main board
● 8 low current outputs available with the WSS5208 Output Module
● 4 high current outputs available with the WSS5204 Power Supply/Output Module

A PGM Output Option must be selected from the following list:

5.9.1   PGM Output Options

[01] Burglary and Fire Bell Output
The PGM output will activate when the alarm output is active and will turn off when the alarm output is silenced. If the alarm output is pulsing the PGM output will pulse as well. This output will follow the pre-alert for delayed fire zones, but it only comes on steady for fire zones.

[02] Utility Output
The PGM output will activate for 5 seconds when the [✱] [7] [1] [Access Code] command is entered *(See Section 3.4 "[✱] Commands, [✱] [7] Utility Output Functions")*.

[03] Sensor Reset
This option is used to reset power for latching smoke detectors.

> **❗** *The output will normally be active, switched to ground.*

The output will deactivate for 5 seconds when the [✱] [7] [2] command is entered *(See Section 3.4 "[✱] Commands, [✱] [7] Utility Output Functions")* or on the first trip of an auto-verify fire zone. The keypad buzzer will not sound for the 5 second period.

Refer to the Hook-Up diagram in this manual for wiring instructions.

[04] Two-Wire Smoke Support (PGM2 Only!)
PGM2 may be used in conjunction with two-wire smoke detectors.

The 2 wire smoke can be set up so that it operates as a Delay Fire or an Instant Fire (section [014] light 8). Refer to the zone definitions for Delay Fire or Standard Fire zones in order to determine the operation of the 2 wire smoke.

> **❗** *Do not program any PGM output other than PGM2 for two-wire smoke detector support.*

Refer to the Hook-Up diagram in this manual for wiring instructions *(See Section 2.9.5 "Fire Zone Wiring - 2-Wire Smoke Detectors")*.

[05] System Armed Status
The PGM output will activate when the System is armed and deactivate when disarmed.

[06] Ready Output
The PGM output will activate when the System is ready to arm. The output will deactivate when the system is not secure or upon arming.

[07] Keypad Buzzer Follow
The PGM will activate when any of the following events occur and will remain active for as long as the keypad buzzer is active:
- Door Chime
- Entry Delay
- Audible Exit Delay
- 24 Hour Supervisory Buzzer Zone

[08] Courtesy Pulse
Upon arming the PGM output will activate for the duration of the exit delay plus two minutes. Upon entry the PGM output will activate for the duration of the entry delay plus two minutes. Only one courtesy pulse output may be programmed on a system.

[09] - [11] Not Used

[12] TLM and Alarm
The PGM Output will activate when a telephone line fault condition is present AND an alarm occurs. The PGM Output will remain active until the panel is disarmed. If the panel is disarmed when the PGM Output activates, it will shut off upon arming, TLM restoral or clearing alarm memory. The output will activate for both audible and silent alarms if a TLM trouble is present.

> ❗ *This output will activate for all audible and silent alarms except Duress, but it will NOT deactivate using the Duress Code.*

[13] Kissoff
The PGM Output will activate for two seconds after the panel receives the kissoff from the central station.

[14] Ground Start *(Shall not be used on UL Listed systems)*
The PGM Output will activate for two seconds before the panel attempts to dial to obtain dial tone on Ground Start telephone equipment. Two 2-second pauses should be inserted at the beginning of the phone number when using this option.

[15] Remote Operation (DLS Support)
The PGM output can be activated or deactivated through the DLS-1 downloading software package.

[16] LINKS 1000 Support (PGM1 Only)
The PGM output will be used as a data wire to communicate phone number information for the LINKS 1000 cellular unit.

[17] Fire Bell Follower
The PGM output will activate for any Fire bell activities and will be steady at all times. It will follow the bell time out and activate for Delayed Fire pre-alerts.

[18] Burglary Bell Follower
The PGM output will activate for any Burglary bell activities. It will follow the bell time out and the bell attribute of the violated zone.

[19] Latched Strobe
The PGM output will activate for any alarm condition and remain on until the following occurs.
- In the Armed state, the output will deactivate only when an access code is entered to disarm the system.
- If an alarm occurs in the disarmed state, it will deactivate if a code is entered during bell time out or if the system arms after bell time out. This output will only activate for alarm conditions, but not for pre-alerts or delays.

[20]-[26] These outputs operate similar to option [19], but will operate only for the following conditions.

[20] Latched Burglary
Burglary alarm conditions including Delay, Instant, Interior, Stay Away, 24 Hour Burglary and (Armed) Day zones.

[21] Latched Fire
Fire alarm conditions including Fire key, Standard and Delay zone (1-32) alarms, Auto-Verify Fire zone (1-32) alarms, and 2 wire smoke alarms (PGM).

[22] Latched Panic - Panic alarm conditions including Panic key and Panic zone alarms.

[23] Latched Medical - Medical alarm conditions including Auxiliary key, Medical and Emergency alarms.

[24] Latched Supervisory
Supervisory alarm conditions including Supervisory, Freeze and Water zone alarms.

[25] Latched Priority
Priority alarm conditions including Gas, Heat, Sprinkler, and 24 Hour Latching Tamper zone alarms.

[26] Latched Holdup - Holdup alarm conditions including Holdup zone and Duress code alarms.

[27] Wireless Key Support (On/Off)
The output is used in conjunction with the Wireless Key AUX programmed for PGM Output Activation. It will activate when the AUX key is pressed on the Wireless Key and will stay on until the key is pressed again.

[28] Wireless Key Support (Pulse)
The output is used in conjunction with the Wireless Key AUX programmed for PGM Output Activation. This PGM will turn on when the AUX key is pressed on the Wireless Key and will stay on for the duration of the Wireless Key PGM Pulse Timer.

> ❶ **Both the Pulse and On/Off PGMs will be active when a Wireless Key AUX button, programmed for PGM Output Activation, is pressed.**

● ●

Main Board PGM Outputs .... Section [009]
WSS5208 PGM Output Options.................... Section [010]
WSS5204 PGM Output Options.................... Section [011]

● ●

5.9.2   Wireless Key PGM Pulse Timer
When the AUX key is pressed on a wireless key, the Wireless Key PGM Pulse Timer will come on (001-255 seconds). The AUX key must be programmed for PGM Output Activation and a PGM output for Wireless Key Support On Pulse.

● ●

Wireless Key PGM Pulse Timer .... Section [172]

● ●

5.10   Telephone Line Monitor (TLM)
The panel will supervise the presence of the phone line and indicate a trouble condition if disconnected. If **TLM Enabled** is selected the panel will wait the **TLM Trouble Delay** time before indicating the trouble so that a momentary interruption of the phone line will not cause a trouble condition.

The **TLM Trouble Only** or **Audible When Armed** option will allow you to select if the panel will indicate a trouble condition at the keypad or indicate a trouble at the keypad when disarmed and activate the alarm output when armed.

When the trouble condition is restored the panel can send a **TLM Restoral Reporting Code**. Any events that occurred while the phone line was down will also be communicated.

If the LINKS 1000 cellular communicator is being used the panel can be programmed to report a **TLM Trouble Reporting Code**.

● ●

TLM Enable/Disable .... Section [013], Option [5]
TLM Trouble Only or Audible When Armed... Section [013], Option [6]
TLM Trouble Delay .... Section [370]

● ●

5.11   Siren Supervision
The panel supervises the Bell output. If an open condition is detected or the fuse is blown the panel will immediately indicate a trouble condition and beep the keypad twice every ten seconds to alert the owner of the problem. The panel can send a **Bell Circuit Trouble** Reporting Code immediately. Once the problem is corrected the panel can send a **Bell Circuit Trouble Restoral** Reporting Code.

5.12   Test Transmission
To ensure the communication link with the central station is functioning properly the panel can be programmed to send a test transmission signal.

The panel can send a **Periodic Test Transmission Reporting Code**. The **Test Transmission Cycle** determines the number of days (001 to 255) between tests. If the test transmission is being programmed with a lesser value than the previous value, the system will wait the original period before the next test transmission is sent, and then begin reporting with the new interval.

If the LINKS 1000 cellular communicator is being used the panel will also send a cellular test at the same time as the land line test transmission.

The end user can generate a communicator test when the System Test keypad command is entered *(See Section 3.4 "[*] Commands, [*] [6] User Functions")*.

5.13   Fire, Auxiliary, Panic Keys

The emergency keys are available on all keypads. These keys must be pressed and held for 2 seconds before they will activate. This 2 second delay is designed to help prevent accidental activation.

If the **Fire Keys** option is enabled, when the Fire keys are pressed and held for 2 seconds, the panel will activate the alarm output, pulsing one second on, one second off. If **Fire Bell Continuous** is selected the alarm output will sound until a code is entered, otherwise it will sound until a code is entered or the alarm output times out. Communication of the signal to central station is immediate.

If the **Auxiliary Keys** are pressed and held for 2 seconds the panel will sound the keypad beeper three times to verify activation. The panel will beep the keypad ten times rapidly to verify communication to the central station.

If the **Panic Keys** are pressed and held for 2 seconds, the panel will immediately communicate the signal to central station. The panel will beep the keypad three times upon activation and activate the alarm output until a code is entered or the alarm output times out.

> **!** *The Fire, Auxiliary, Panic keys will operate even if Keypad Blanking is active (See Section 5.22 "Keypad Blanking").*

●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●

Fire Keys Enable .... Section [015], Option [1]
Fire Bell Continuous .... Section [014], Option [5]

●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●

5.14   Entry/Exit Delay Options

Upon arming, the panel will begin the exit delay. If **Audible Exit Delay** is enabled the keypad will beep every second until the exit delay expires. The keypad will beep rapidly for the last 10 seconds of exit delay to warn the user the system is about to arm.

Upon entry, if a Delay type zone is violated, the panel will begin entry delay. The keypad will emit a steady tone. The keypad will pulse the keypad sounder during the last 10 seconds to warn the user the system is about to go into alarm. If there was an alarm during the armed period, the keypad sounder will pulse for the entire entry delay to warn the user of the previous alarm.

> **!** *Since two Delay zones are programmable, and therefore two different Entry Delays, when the panel is armed it will use the Entry Delay for the first Delay zone violated.*

If **Exit Delay Termination** is enabled the panel will monitor the Delay zones during exit delay. If a Delay type zone is violated then secured during the exit delay, the exit delay will be terminated and the panel will be armed immediately.

To prevent false alarms on exit the WSS5010, use the built-in feature **Audible Exit Fault**. If a delay type zone is violated 4 seconds after the exit delay has expired, the panel will sound the entry delay warning through the keypad and siren alerting the customer that an improper exit was made. If the panel is disarmed within the entry delay no signal is sent. If not, the panel will continue to sound the alarm and send a signal to central station.

●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●

Audible Exit Delay .... Section [014], Option [3]
Exit Delay Termination .... Section [014], Option [4]

●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●

5.15   Event Buffer

The panel will store the last 128 events that have occurred on the system. Each event will contain the time, date and the event itself along with the zone number, user code number or any other information pertaining to the event.

If the **Event Buffer Follows Swinger Shutdown** feature is enabled the event buffer will not store events after the swinger shutdown level has been reached. This will prevent the panel from overwriting the entire buffer if a problem exists. *(See Section 5.16 "Swinger Shutdown".)*

The event buffer can be viewed three different ways. It can be viewed through an LCD keypad, printed on-site using the WSS5400 printer module *(See Section 5.27 "On-Site Printer")* or it can be uploaded through the DLS software.

5.15.1   Viewing the Event Buffer through the LCD Keypad

The following is the procedure for viewing the event buffer through the LCD keypad:

Step 1 - Enter [∗] [6] [Master Code]

Step 2 - Select 'View Event Buffer' by pressing [∗]

The keypad will display the Event Number, Time and Date of the event in question. Use the [∗] key to toggle between this information and the event itself. Use the arrow keys (<>) to scroll through the events in the buffer.

When you have finished viewing the event buffer press the [#] key to exit.

5.15.2   Stored Events

The following is a list of all events that will be stored to the buffer.

[*] indicates the buffer will also store the time the event occurred.

'XX' indicates the buffer will also store the zone number, user code number or module the event occurred on

- Zone Alarm and Restoral - [*] 'XX'
- Zone Tamper and Restoral - [*] 'XX'
- Zone Trouble and Restoral - [*] 'XX'
- Two Wire Smoke Alarm and Restoral
- Transmitter Low Battery and Restoral - [*] 'XX'
- Opening and Closing - [*] 'XX'
- Zone Bypass Access - [*] 'XX'
- Partial Closing - [*]
- Stay Arm, Away Arm - [*]
- No Entry Arm - [*] 'XX'
- Zone Bypass - [*] 'XX'
- Reactivate Stay/Away Zones - [*]
- Special Opening and Closing - [*]
- Opening by Wireless Key and Downloading - [*]
- Closing by Wireless Key and Downloading - [*]
- Duress - [*] 'XX'
- Opening After Alarm - [*] 'XX'
- Recent Closing - [*]
- Utility Output Activated - [*] 'XX'
- Sensor Reset - [*] 'XX'
- [*] [6] Access - [*] 'XX'
- Keypad Lockout - [*]

- Fire, Auxiliary, Panic Keys Alarm and Restoral - [*] 'XX'
- Periodic, System and LINKS Test Transmission
- Low Battery, AC Power and AUX Output Trouble and Restoral - 'XX'
- Fire Zone Trouble and Restoral - [*] 'XX'
- Bell Circuit Trouble and Restoral
- Telephone Line Trouble and Restoral
- Phone Number 1 and 2 Failure to Communicate and Restoral - [*]
- Installer Lead In and Lead Out
- Downloading (DLS) Lead In and Lead Out
- Walk Test Begin and End
- Zone Walk Test - 'XX'
- Module Tamper Alarm and Restoral - 'XX'
- Module Supervisory Alarm and Restoral - 'XX'
- WSS5400 Module Off and On Line
- KEYBUS Fault and Restoral
- Cold Start and Warm Start
- Default Successful and Default Failed
- Critical Shutdown
- Swinger Shutdown - [*]

● ●

Event Buffer Follows Swinger Shutdown ...... Section [013], Option [7]

● ●

5.16   Swinger Shutdown

The swinger shutdown feature is designed to prevent a runaway communicator from tying up the central station. Different limits can be programmed for **Zone Alarms**, **Zone Tampers** and **Maintenance** signals. After the panel has communicated the programmed number of transmissions for an event it will no longer report that event until the swinger shutdown is reset.

For example, the swinger shutdown limit for Zone Alarms is set to [005]. The panel will not send more than 5 alarm signals for each zone with a swinger attribute until the swinger shutdown is reset.

Swinger Shutdown will be reset when the panel is armed or every day at midnight. Once reset, the panel will again communicate normally.

> 🛇 *Only Delay 1 and 2, Instant, Interior, Interior Stay/Away, Delay Stay/Away and Day zone types will follow Swinger Shutdown.*

● ●

Swinger Shutdown Limit (Alarms) .... Section [370]
Swinger Shutdown Limit (Tampers) .... Section [370]
Swinger Shutdown Limit (Maintenance) .... Section [370]

● ●

5.17   Transmission Delay

If **Transmission Delay** is selected for a zone the panel will delay reporting the alarm for the number of seconds programmed for **Transmission Delay Time**. If the panel is disarmed before the delay time expires the panel will not report the alarm to central station. If the panel is not disarmed in time the panel will communicate normally.

● ●

Transmission Delay Enable .... Sections [101] - [132], Option [7]
Transmission Delay Time .... Section [370]

● ●

5.18 Keypad Backlighting

The keys of all the keypads can be backlit to provide easy viewing in dim lighting conditions. If the **Keypad Backlighting Option** is enabled the keys will be illuminated.

• •

Keypad Backlighting Option .... Section [015], Option [7]

• •

5.19 Arming/Disarming Options

If the **Arm/Disarm Bell Squawk** option is enabled the panel will squawk the alarm output once upon arming and twice upon disarming.

Closing Confirmation, if enabled, will cause the keypad to beep 10 times rapidly after the closing reporting code has been transmitted to central station.

• •

Arm/Disarm Bell Squawk .... Section [014], Option [1]
Closing Confirmation .... Section [380], Option [5]

• •

5.20 Bell Output Options

The main bell can be enabled and disabled for Burglary zone transitions in section [014] Light 6 and for Fire zone transitions in section [014] Light 7.

> **!** *It is important to have PGMs programmed for a bell type output if either or both of these bell options are disabled.*
> *Bell Squawk features can only be used when the main bell is set for Burglary or Burglary and Fire zone transitions.*

5.21 Keypad Lockout

The panel can be programmed to 'lockout' keypads if a number of incorrect user code entries are made. After the **Number of Invalid Codes Before Lockout** has been reached the panel will lock out the keypad for the **Lockout Duration** and log the event to the event buffer. For the duration of the lockout the panel will sound an error tone when any key is pressed.

> **!** *Keypad Lockout will reset every hour.*

To disable Keypad Lockout program the **Number of Invalid Codes Before Lockout** as [000].

• •

Number of Invalid Codes Before Lockout ..... Section [012]
Lockout Duration .... Section [012]

• •

5.22 Keypad Blanking

If the **Keypad Blanking Option** is enabled the panel will turn off all lights on the keypads except the backlighting of the keys if no key is pressed for 30 seconds.

The panel will turn the lights back on if entry delay begins or an audible alarm occurs. The lights will also come on if a key is pressed .

The **Power Save Mode** will blank all keypad lights including backlighting when AC power fails, in order to conserve the back up battery.

• •

Keypad Blanking Option .... Section [015], Option [6]

• •

5.23 Loop Response

The normal loop response time for all zones is 500 milliseconds. The panel will not consider a zone violated unless it is violated for at least 500 milliseconds.

5.24 LINKS 1000 Cellular Communicator

The LINKS 1000 cellular communicator can be used as a back up for the first phone number. A **LINKS Preamble** is programmable for the phone number in the event that the land line number is local but the LINKS is required to dial an exchange. When programming a LINKS Preamble, all unused digits must be programmed with a hexa decimal "F".

5.24.1   Using the LINKS as a Backup Communicator
The panel can be programmed to call using the LINKS 1000 cellular communicator if the panel is having difficulty communicating an event using the land line. The LINKS will only backup options selected in both the First Telephone Number Dialing Options and the First Telephone Number LINKS Backup Dialing Options.

When used as a backup communicator the panel will attempt to call the central station in the following manner:
* the panel will try to call using land lines - if unsuccessful the panel will try to call using the LINKS
* if unsuccessful the panel will try to call using the land lines
* if unsuccessful the panel will try to call using the LINKS

This process will continue until the panel has successfully communicated with the central station or the **Maximum Dialing Attempts** has been reached.

• •

LINKS Preamble (First Telephone Number) .... Section [390]
First Telephone Number LINKS Backup Dialing Options .... Sections [361]

• •

5.25   Wireless Expansion
Any number of zones, up to all 32, can be programmed for wireless. Adding wireless devices to the panel is done by simply selecting the zone number and entering the 5 digit ESN number written on the unit.

If the **Zones 1-4 Enable** Option is disabled zones 1 to 4 will be disabled for hardwire operation and wireless devices can be substituted. Also if **Zones 5-8 Enable** Option is disabled zones 5 to 8 will be disabled for hardwire operation and wireless devices can be substituted.

> **❗** *After disabling or enabling main board zones, the panel should be powered down.*
> *Do not add wireless devices to the same zone as a hardwire zone. Hardwire and wireless*
> *zones cannot share the same zone.*

Each wireless device will send a supervisory round every 12 minutes. If the receiver hears from the wireless device at least once during the **Wireless Supervisory Window** it will not report a trouble. If the receiver does not it will generate a **General Zone Supervisory** trouble and reporting code. The panel will report Supervisory trouble by zone using the SIA format *(See Section 5.6.1 "SIA")*.

Within the supervisory transmission the device will also indicate the status of the battery. If a low battery condition exists the panel will indicate a **General Transmitter Low Battery** trouble. The panel will delay reporting the event for the number of days programmed for **Wireless Low Battery Transmission Delay**. If the customer has been instructed on how to replace batteries this will prevent unnecessary reporting of the event provided the batteries are changed.

5.25.1   Supervision of Wireless Zones
Step 1 - Enter Installer Programming

Step 2 - Enter Program Section [804]

Step 3 - Enter Sections [82], [83], [84] and [85] to enable or disable supervision by turning the bits on or off

> **❗** *The wireless zone attribute needs to be set for all enrolled wireless zones. The supervisory*
> *bit for any Panic Pendants enrolled on the system must be OFF.*

• •

WSS5132-900 Programming .... Section [804]

• •

5.26   WSS5580 Module
Many consumers will often purchase wants before needs. The alarm system is an identifiable need however rarely is it an item someone wants. The WSS5580 module will help you change the way in which they feel about security.

There are many benefits when adding the WSS5580 module to a security system. The WSS5580 module will turn any touch tone phone in the world into a fully functional keypad. Imagine the security a customer would feel if they had the ability to arm, disarm and check status of the alarm while at the office or on vacation.

In addition, all touch tone phones in the home also become fully functional keypads. This may help reduce the cost of the overall installation because additional keypads (and labour in running wires) can be eliminated.

The WSS5580 will also act as a tutor for the system. By speaking in clear, easy to understand sentences it helps guide a user through functions they may otherwise have difficulty with. Programmable zone labels (up to 6 words each from our library of over 240 words) makes the system even easier to use.

The module also has a built-in power line control interface and can control up to 32 power line control devices for lighting and temperature control, giving you the power to add home automation in a very cost effective manner. Devices can be activated individually, as a group, by schedule or can be activated when an event occurs on the system, such as an alarm.

Additional information can be found in the WSS5580 Installation Manual.

5.27 On-Site Printer

The panel, with the addition of the WSS5400 printer module, will print all events as they occur to a local, on-site serial printer. All events printed will include the time, date and the event.

If a problem develops with the printer, such as power loss or paper outage the panel will store events until the problem is corrected, at which point it will print the events from the buffer. The panel can store up to 128 events if such a condition occurs.

• •

WSS5400 Programming.......:......................... Sections [801]

• •

5.28 Audio Interface Module

The WSS5908 Audio Interface will allow you to connect up to 7 Interior (WSS5903) or exterior (WSS5903EXT) Intercom Stations. These attractive, surface mount stations contain both speaker and microphone and will allow you to add intercom features to your alarm system such as:

• Page/Answer   • Do Not Disturb   • Baby Listener Broadcast
• Answer Incoming Calls   • Doorbell Function

In addition to these features the module also has built-in two-way voice for central station monitoring. The central station can select the audio station, listen/talk, extend on-line time and hang up.

Each station home-runs to the Audio Interface module using standard 22 gauge, 4 conductor, two pair twist preferred.

For more information regarding the WSS5908 Audio Interface Module refer to the Installation Manual for the product.

• •

WSS5908 Programming............................... Sections [802]

• •

5.29 Default (Factory)

On occasion it may be necessary to default the main control panel or one of the modules that can be connected. There are several different defaults available including defaulting the main control panel, WSS5580 module, WSS5132-900 Wireless Expander Module and WSS5400 Printer module.

5.29.1 Factory Default Main Panel (Hardware)

To default the main control panel perform the following:

Step 1 - Remove AC and battery from the panel.

Step 2 - Remove all wires from the Zone 1 and PGM1 terminals.

Step 3 - With a piece of wire, short the Zone 1 terminal to the PGM1 terminal.

Step 4 - Apply AC power to the main panel.

Step 5 - When Zone Light 1 is lit on the keypad the default is complete.

Step 6 - Remove AC power from the control

Step 7 - Reconnect all original wiring and power up the control.

❗ AC power must be used to power the panel. The panel will not default if the battery is used.

5.29.2 Factory Default Main Panel (Software) and other Modules

Step 1 - Enter the Installer Programming mode.

Step 2 - Enter Program Section [XXX].

Step 3 - Enter the Installer Code.

Step 4 - Enter Program Section [XXX] again.

The panel will take a few seconds to perform the default. When the keypad is again operational the default is complete.

●●●

●●●

5.30   Installer Lockout

If **Installer Lockout** is selected a hardware default cannot be performed. If a software default is performed all programming will restore to factory default.

When **Installer Lockout Disable** is selected the panel will restore all programming to factory defaults if a hardware or software default is performed on the main control panel.

To enable Installer Lockout perform the following:
Step 1 - Enter Installer Programming
Step 2 - Enter Program Section [990]
Step 3 - Enter the Installer Code.
Step 4 - Enter Program Section [990] again.

To disable Installer Lockout perform the following:
Step 1 - Enter Installer Programming.
Step 2 - Enter Program Section [991].
Step 3 - Enter the Installer Code.
Step 4 - Enter Program Section [991] again.

5.31   Walk Test (Installer)

The Installer Walk Test can be entered in 2 different modes.

> ❶ *During Walk Test, [F], [A] and [P] keys, and 2-wire smokes will report real alarms. In order to test these, call the monitoring station to notify once walk test has started.*
> *Violating a fire zone in walk test will transmit a zone tamper.*
> *One walk test must be ended before another walk test can be started.*

5.31.1   Buzzer Walk Test Mode

Enter the following to perform this walk test:
Step 1 - Enter Installer Programming
Step 2 - Enter Section [980]
When any zone is violated the panel will activate the keypad buzzer for 2 seconds and log to the Event Buffer.

> ❶ *Latched PGM outputs will activate for zone types 1 to 9, 87 and 88.*

5.31.2   Bell/Buzzer Walk Test Mode

Enter the following to perform this walk test:
Step 1 - Enter Installer Programming
Step 2 - Enter Section [981]
When any zone is violated the panel will activate the Bell output and the keypad buzzer for 2 seconds and log to the Event Buffer.
The Installer Walk Test can be ended in 2 different modes.

> ❶ *All zones opened during the test must be restored upon completion of the Walk Test.*

5.31.3   To end the Installer Walk Test with no communications

Enter the following to end this walk test with no communications:
Step 1 - Enter Installer Programming
Step 2 - Enter Section [982]
This will cause the panel to exit Installer's Programming.

5.31.4   To end the Installer Walk Test with communications

Enter the following to end this walk test with communications:
Step 1 - Enter Installer Programming
Step 2 - Enter Section [983]
This will cause the panel to exit Installer's Programming, and communicate to the monitoring station the zones that were violated during the walk test.

For the Record

Customer: _____

Address: _____

_____

Phone: _____ Installation Date: _____

Installer's Code: _____

Module Name	Description	Physical Location
WSS5010	Main Panel	L_____J
WSS5108	Zone Expander 1	L_____J
WSS5108	Zone Expander 2	L_____J
WSS5108	Zone Expander 3	L_____J
WSS5108	Zone Expander 4	L_____J
WSS5108	Zone Expander 5	L_____J
WSS5108	Zone Expander 6	L_____J
WSS5132-900	Wireless Expander	L_____J
WSS5204	Power Supply / Output Expander	L_____J
WSS5208	Output Expander	L_____J
WSS5400	Serial Printer Module	L_____J
WSS5580	Voice Prompt Module	L_____J
WSS5908	Audio Interface Module	L_____J

Keypads	Keypad Type	Physical Location
Keypad 1	L_____J	L_____J
Keypad 2	L_____J	L_____J
Keypad 3	L_____J	L_____J
Keypad 4	L_____J	L_____J
Keypad 5	L_____J	L_____J
Keypad 6	L_____J	L_____J
Keypad 7	L_____J	L_____J
Keypad 8	L_____J	L_____J

WSS5010 — Zone 1-32 Assignment (Section 5.1 "Zone Definitions")

System Zone	Zone Label												Zone Type	Zone Attributes								Serial Number (Wireless)				
														Audible/Silent	Steady/Pulsed	Chime	Bypass	Forced	Wireless	Tx Del.	Cross Zones					
Zone 1																										
Zone 2																										
Zone 3																										
Zone 4																										
Zone 5																										
Zone 6																										
Zone 7																										
Zone 8																										
Zone 9																										
Zone 10																										
Zone 11																										
Zone 12																										
Zone 13																										
Zone 14																										
Zone 15																										
Zone 16																										
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Zone 24																										
Zone 25																										
Zone 26																										
Zone 27																										
Zone 28																										
Zone 29																										
Zone 30																										
Zone 31																										
Zone 32																										

Keypad Programming

[000] Keypad Assignment (Section 2.6 "Keypad Assignment")

Note: This must be done at each keypad requiring supervision.

[0] Slot (Address) – Valid entries are 11-18

	Default		Default
WSS 5508	1 1	WSS5500	1 8

KEYPAD 1	l___l___l	KEYPAD 5	l___l___l
KEYPAD 2	l___l___l	KEYPAD 6	l___l___l
KEYPAD 3	l___l___l	KEYPAD 7	l___l___l
KEYPAD 4	l___l___l	KEYPAD 8	l___l___l

Basic System Programming

Zone Definitions (Section 5.1 "Zone Definitions")

00 Null Zone (Not Used)	**09** Auto Verified 24 Hour Fire	**18** 24 Hour Emergency
01 Delay 1	**10** 24 Hour Supervisory (LINKS) ◆	**19** 24 Hour Sprinkler
02 Delay 2	**11** 24 Hour Supervisory Buzzer	**20** 24 Hour Water
03 Instant	**12** 24 Hour Burglary	**21** 24 Hour Freeze
04 Interior	**13** 24 Hour Holdup	**22** 24 Hour Latching Tamper
05 Interior, Stay/Away	**14** 24 Hour Gas	**23** Day Zone
06 Delay, Stay/Away	**15** 24 Hour Heat	**24** LINKS Answer ◆
07 Delayed 24 Hour Fire (Hardwired)	**16** 24 Hour Medical	**87** Delayed 24 Hour Fire (Wireless)
08 Standard 24 Hour Fire (Hardwired)	**17** 24 Hour Panic	**88** Standard 24 Hour Fire (Wireless)

◆ **Shall not be used on UL listed systems.**

[001] Zone 1-8 Definitions (Section 5.1 "Zone Definitions")

Default			Default		
01	l___l___l	Zone 1	05	l___l___l	Zone 5
03	l___l___l	Zone 2	05	l___l___l	Zone 6
03	l___l___l	Zone 3	05	l___l___l	Zone 7
03	l___l___l	Zone 4	05	l___l___l	Zone 8

[002] Zone 9-16 Definitions (Section 5.1 "Zone Definitions")

Default			Default		
00	l___l___l	Zone 9	00	l___l___l	Zone 13
00	l___l___l	Zone 10	00	l___l___l	Zone 14
00	l___l___l	Zone 11	00	l___l___l	Zone 15
00	l___l___l	Zone 12	00	l___l___l	Zone 16

[003] Zone 17-24 Definitions (Section 5.1 "Zone Definitions")

Default			Default		
00	l___l___l	Zone 17	00	l___l___l	Zone 21
00	l___l___l	Zone 18	00	l___l___l	Zone 22
00	l___l___l	Zone 19	00	l___l___l	Zone 23
00	l___l___l	Zone 20	00	l___l___l	Zone 24

[004] Zone 25-32 Definitions (Section 5.1 "Zone Definitions")

Default

Default			Default		
00	L___I___I	Zone 25	00	L___I___I	Zone 29
00	I___I___I	Zone 26	00	L___I___I	Zone 30
00	L___I___I	Zone 27	00	L___I___I	Zone 31
00	L___I___I	Zone 28	00	L___I___I	Zone 32

[005] System Times

Default

030	L__I__I__I	Entry Delay 1	Enter 3 digits from [000-255]
120	L__I__I__I	Entry Delay 2	Enter 3 digits from [000-255]
060	L__I__I__I	Exit Delay	Enter 3 digits from [000-255]
006	L__I__I__I	Bell Cut-off	Enter 3 digits from [000-255]

[006] Installer's Code (Section 4.1 "How to Enter Installer Programming")

L__I__I__I__I__I__I Enter 6 decimal digits

[007] Master Code (Section 3.1 "Access Codes")

Default: 1234　　　L__I__I__I__I Enter 4 decimal digits

Programmable Output Options (Section 5.9 "PGM Outputs")

00 Not used	15 Remote Operation (DLS-1 Support)
01 Burglary and Fire Bell Output	16 LINKS 1000 Support (PGM 1 only)
02 Utility Output	17 Fire Bell
03 Sensor Reset	18 Burglary Bell
04 2-Wire Smoke Support (PGM2 ONLY)	19 Latched Strobe
05 System Armed Status	20 Latched Burglary
06 Ready To Arm	21 Latched Fire
07 Keypad Buzzer Follow Mode	22 Latched Panic
08 Courtesy Pulse	23 Latched Medical
09 For future use	24 Latched Supervisory
10 For future use	25 Latched Priority
11 For future use	26 Latched Holdup
12 TLM and Alarm	27 Wireless Key Support / ON-OFF
13 Kissoff Output	28 Wireless Key Support On Pulse
14 Ground Start Pulse	

[009] WSS5010 PGM Output Programming (PGM 1 & 2) (Section 5.9 "PGM Outputs")

Default

02	L__I__I	PGM 1	03	L__I__I	PGM 2

[010] WSS5208 PGM Output Programming (PGM 3-10) (Section 5.9 "PGM Outputs")

Default			Default		
01	L__I__I	PGM 3	01	L__I__I	PGM 7
01	L__I__I	PGM 4	01	L__I__I	PGM 8
01	L__I__I	PGM 5	01	L__I__I	PGM 9
01	L__I__I	PGM 6	01	L__I__I	PGM 10

[011] WSS5204 PGM Output Programming (PGM 11-14) (Section 5.9 "PGM Outputs")

Default			Default		
01	L__I__I	PGM 11	01	L__I__I	PGM 13
01	L__I__I	PGM 12	01	L__I__I	PGM 14

[012] Keypad Lockout Options (Section 5.21 "Keypad Lockout")

Default

005 |___|___|___| Number of Invalid Codes Before Lockout

001 |___|___|___| Lockout Duration (in minutes)

[013] First System Option Code

Default		Option	ON	OFF	Section
OFF	|___|	1	Normally Closed Loops	End-of-Line Resistors ◆	2.9
OFF	|___|	2	Double End-of-Line Resistors	Single End-of-Line Resistors ◆	2.9
ON	|___|	3	On-board Zones 1-4 enabled	On-board Zones 1-4 disabled	5.25
ON	|___|	4	On-board Zones 5-8 enabled	On-board Zones 5-8 disabled	5.25
OFF	|___|	5	TLM Enabled	TLM Disabled	5.10
ON	|___|	6	TLM Audible When Armed	TLM Trouble Only When Armed	5.10
ON	|___|	7	Event Buffer Follows Swinger Shutdown	Event Buffer Logs Events Past shutdown	5.15
OFF	|___|	8	For Future Use		

◆ **Required for UL listed Systems.**

[014] Second System Option Code

Default		Option	ON	OFF	Section
OFF	|___|	1	Arm / Disarm Bell Squawk enabled ◆	Arm / Disarm Bell Squawk disabled	5.19
OFF	|___|	2	Bell Squawk on Trouble	No Bell Squawk on Trouble	3.4
ON	|___|	3	Audible Exit Beeps with Urgency	Silent Exit Delay	5.14
OFF	|___|	4	Exit Delay Termination Enabled	Exit Delay Termination disabled	5.14
OFF	|___|	5	Fire Bell does not follow Bell Cut-off	Fire Bell follows Bell Cut-off	5.1
ON	|___|	6	Bell Output Burglary enabled	Bell Output Burglary disabled	5.20
ON	|___|	7	Bell Output Fire enabled	Bell Output Fire disabled	5.20
ON	|___|	8	Delayed Two-Wire Smoke on PGM2	Instant Two-Wire Smoke on PGM2	5.9

◆ **Required for UL Grade A Systems.**

[015] Third System Option Code

Default		Option	ON	OFF	Section
ON	|___|	1	[F] Keys Enabled	[F] Keys Disabled	5.13
ON	|___|	2	Quick Exit Enabled	Quick Exit Disabled	3.5
ON	|___|	3	Arming Keys Do Not Require Access Code	Arming Keys Require Access Code	3.2
OFF	|___|	4	Master Code Not Changeable	Master Code Changeable	3.1
OFF	|___|	5	For Future Use		
OFF	|___|	6	Blank Keypad when Not Used	Keypad Active	5.22
ON	|___|	7	Keypad Backlighting enabled	Keypad Backlighting disabled	5.18
ON	|___|	8	Bypass Status Displayed While Armed	Bypass Status Not Displayed While Armed	3.4

Zone Attribute Defaults

(Section 5.2 "Zone Attributes")

	00 Null Zone (Not Used)	01 Delay 1	02 Delay 2	03 Instant	04 Interior	05 Interior, Stay/Away	06 Delay, Stay/Away	07 Delayed 24hr Fire (Hardw.)	08 Standard 24hr Fire (Hardw.)	09 Auto Verified 24hr Fire (Hardw.)	10 24hr Supervisory (LINKS)	11 24hr Supervisory Buzzer	12 24hr Burglary	13 24hr Holdup	14 24hr Gas ♦	15 24hr Heat	16 24hr Medical	17 24hr Panic	18 24hr Emergency	19 24hr Sprinkler	20 24hr Water	21 24hr Freeze	22 24hr Latching Tamper	23 Day Zone	24 LINKS Answer	87 Delayed 24hr Fire (Wireless)	88 Standard 24hr Fire (Wireless)
Option 1 – Audible / Silent	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
Option 2 – Steady / Pulsed	N	Y	Y	Y	Y	Y	Y	N	N	N	Y	Y	Y	Y	N	N	Y	Y	Y	N	Y	Y	Y	N	N	N	N
Option 3 – Chime	N	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Option 4 – Bypass	N	Y	Y	Y	Y	Y	Y	N	N	N	N	Y	Y	N	N	N	N	N	N	N	N	N	N	Y	N	N	N
Option 5 – Force	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N
Option 6 – Wireless	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y
Option 7 – Tx. Delay	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Option 8 – Cross Zone	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Y = Option ON　　　　　　　　　　　　　　　　　　　　　　　　**N = Option OFF**
♦ Has not been investigated for use with a carbon monoxide detector.

Zone 1-32 Attributes (Section 5.2 "Zone Attributes")

		Opt 1 ON/OFF Audible Silent	Opt 2 Steady Pulsed	Opt 3 Chime No	Opt 4 Bypass No	Opt 5 Force No	Opt 6 Wireless No	Opt 7 Tx Del. No	Opt 8 Cross Zn. No
[101]	Zone 1	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡
[102]	Zone 2	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡
[103]	Zone 3	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡
[104]	Zone 4	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡
[105]	Zone 5	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡
[106]	Zone 6	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡
[107]	Zone 7	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡
[108]	Zone 8	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡
[109]	Zone 9	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡
[110]	Zone 10	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡
[111]	Zone 11	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡
[112]	Zone 12	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡
[113]	Zone 13	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡
[114]	Zone 14	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡
[115]	Zone 15	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡
[116]	Zone 16	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡
[117]	Zone 17	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡
[118]	Zone 18	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡
[119]	Zone 19	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡
[120]	Zone 20	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡
[121]	Zone 21	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡
[122]	Zone 22	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡	�L⌡

	Opt 1	Opt 2	Opt 3	Opt 4	Opt 5	Opt 6	Opt 7	Opt 8
[123] Zone 23	L__J	L__J	L__J	L__J	L__J	L__J	L__J	L__J
[124] Zone 24	L__J	L__J	L__J	L__J	L__J	L__J	L__J	L__J
[125] Zone 25	L__J	L__J	L__J	L__J	L__J	L__J	L__J	L__J
[126] Zone 26	L__J	L__J	L__J	L__J	L__J	L__J	L__J	L__J
[127] Zone 27	L__J	L__J	L__J	L__J	L__J	L__J	L__J	L__J
[128] Zone 28	L__J	L__J	L__J	L__J	L__J	L__J	L__J	L__J
[129] Zone 29	L__J	L__J	L__J	L__J	L__J	L__J	L__J	L__J
[130] Zone 30	L__J	L__J	L__J	L__J	L__J	L__J	L__J	L__J
[131] Zone 31	L__J	L__J	L__J	L__J	L__J	L__J	L__J	L__J
[132] Zone 32	L__J	L__J	L__J	L__J	L__J	L__J	L__J	L__J

[160] Maximum Dialing Attempts to Each Phone Number ◆ (Section 5.3 "Communicator Dialing")

Default: 008   L__l__l__l   Valid entries are 001-255 attempts (Do not enter 000)

◆ For UL listed systems, must be programmed between 5 and 10 attempts.

[161] Post Dial Wait for Handshake (Section 5.3 "Communicator Dialing")

Default: 040   L__l__l__l   Valid entries are 001-255 seconds

[162] Delay Between Dialing Attempts (Section 5.3 "Communicator Dialing")

Default: 010   L__l__l__l   Valid entries are 001-255 seconds

[170] Cross Zone Timer (Section 5.2 "Zone Attributes")

Default: 000   L__l__l__l   Valid entries are 001-255 seconds

[171] Up and About Timer (Section 5.7 "Communicator – Reporting Codes")

Default: 000   L__l__l__l   Valid entries are 001-255 hours

[172] Wireless Key PGM Pulse Timer (Section 5.9 "PGM Outputs")

Default: 005   L__l__l__l   Valid entries are 001-255 seconds

Communicator Programming

NOTE: For sections [301] to [310], the default setting is [F].

[301] First Telephone Number (Section 5.4 "Communicator – Phone Numbers")

SIA Communications – 32 Hexidecimal Digits

L__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l

[302] Second Telephone Number (Section 5.4 "Communicator – Phone Numbers")

Pager Format – 32 Hexidecimal Digits

L__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l__l

[310] Account Identifier Code/DLS Panel ID Code (Section 5.5 "Communicator – System Identifier Code")

L__l__l__l__l__l__l__l__l__l__l   10 Decimal Digits

[360] First Telephone Number Dialing Options (Section 5.3 "Communicator – Dialing")

Default		Option	ON	OFF
ON	L__J	1	Alarms Enabled	Disabled
OFF	L__J	2	Alarm Restores Enabled	Disabled
OFF	L__J	3	Tamper Alarms Enabled	Disabled
OFF	L__J	4	Tamper Restores Enabled	Disabled
OFF	L__J	5	Openings Enabled	Disabled
OFF	L__J	6	Closings Enabled	Disabled
ON	L__J	7	Maintenance Alarms Enabled	Disabled
OFF	L__J	8	Maintenance Restores Enabled	Disabled

[361] First Telephone Number LINKS Backup Dialing Options (Section 5.3 "Communicator – Dialing")

Default		Option	ON	OFF
OFF	L___I	1	Alarms Enabled	Disabled
OFF	L___I	2	Alarm Restores Enabled	Disabled
OFF	L___I	3	Tamper Alarms Enabled	Disabled
OFF	L___I	4	Tamper Restores Enabled	Disabled
OFF	L___I	5	Openings Enabled	Disabled
OFF	L___I	6	Closings Enabled	Disabled
OFF	L___I	7	Maintenance Alarms Enabled	Disabled
OFF	L___I	8	Maintenance Restores Enabled	Disabled

[365] Second Telephone Number Dialing Options (Section 5.3 "Communicator – Dialing")

Default		Option	ON	OFF
OFF	L___I	1	Closings Enabled	Disabled
OFF	L___I	2	Openings Enabled	Disabled
OFF	L___I	3	General System Event Enabled	Disabled
OFF	L___I	4-8	For Future Use	

[370] Communication Variables

Default			Section
005	L__I__I__I	◆ Swinger Shutdown (Alarms and Rest) (001-014 Transmissions, 000=disabled)	5.16
005	L__I__I__I	◆ Swinger Shutdown (Tampers and Rest) (001-014 Transmissions, 000=disabled)	5.16
005	L__I__I__I	Swinger Shutdown (Maint and Rest) (001-014 Transmissions, 000=disabled)	5.16
000	L__I__I__I	Communication Delay (001-255 seconds) ÷	5.17
060	L__I__I__I	AC Failure Communication Delay (001-255 minutes)	3.4
006	L__I__I__I	TLM Trouble Delay (No. of valid checks required - 000-255 x 10s)	5.10
000	L__I__I__I	Test Transmission Cycle (001-255 days; 000 to disable) ÷	5.12
007	L__I__I__I	Transmitter Low Battery Transmission Delay (000-255 days)	5.25

◆ **Shall not be used on UL listed systems.**

÷ **Must be set to 001 for UL listed systems.**

[380] First Communicator Option Code

Default		Option	ON	OFF	Section
ON	L___I	1	◆ Communications Enabled	Communications Disabled	5.3
ON	L___I	2	Restorals on Bell Time-out	Restorals Follow Zones	5.7
OFF	L___I	3	Pulse Dialing	DTMF Dialing	5.3
ON	L___I	4	Switch to Pulse Dialing on 5th Attempt	DTMF Dial For All Attempts	5.3
OFF	L___I	5	Closing Confirmation Enabled	Disabled	5.14
OFF	L___I	6	Partial Closings are Identified	Partial Closings are not Identified	5.7
OFF	L___I	7-8	For Future Use		

◆ **Required for commercial burglary applications.**

[390] LINKS Preamble (Telephone Number) (Section 5.24 "LINKS 1000 Cellular Communicator")

Default

FFFF   L__I__I__I__I   (Program all unused digits with Hex F)

Downloading Programming

[401] First Downloading Option Code (Section 5.8 "Downloading")

Default		Option	ON	OFF
ON	L__J	1	Double Call enabled	Disabled
ON	L__J	2	User Call-up enabled	Disabled
ON	L__J	3	Call-Back Enabled	Disabled
OFF	L__J	4-8	For Future Use	

[402] Downloading Computer's Telephone Number (32 Digits) (Section 5.8 "Downloading")

L_I_I_I_I_I_I_I_I_I_I_I_I_I_I_I_I_I_I_I_I_I_I_I_I_I_I_I_I_I_I_I_J

[403] Downloading Access Code (Section 5.8 "Downloading") Enter 6 Hexidecimal digits

L_I_I_I_I_I_I_J   Enter 6 Hexidecimal digits

[404] Number of Rings to Answer (Section 5.8 "Downloading")

Default
012   L__I__I__J   (Valid entries are 001-255 rings; 000=answer disabled)

[405] Answering Machine Double-call Timer (Section 5.8 "Downloading")

Default
060   L__I__I__J   (Valid entries are 001-255 seconds)

[490] Initiate PC-LINK (Direct Connect Local Download) (Section 5.8 "Downloading")

NOTE: The downloading feature has not been investigated by UL.

Module Programming

[801] RS232 Module (WSS5400) Programming ♦ (Section 5.27 "On-Site Printer")

[01] Printer Configuration

Default		Option	ON	OFF
OFF	L__J	1	Printer Enabled	Printer Disabled
ON	L__J	2	Handshake from Printer (DTR)	No Handshake
OFF	L__J	3	80 Column Printer	40 Column Printer
OFF	L__J	4	300 Baud enabled	300 Baud disabled
OFF	L__J	5	1200 Baud enabled	1200 Baud disabled
ON	L__J	6	2400 Baud enabled	2400 Baud disabled
OFF	L__J	7	4800 Baud enabled	4800 Baud disabled
OFF	L__J	8	For Future Use	

[05] Language Selection

Default
01   L__I__J   Printer Language

01 .... English	02 .... French	03 ...... Spanish

♦ **Shall not be used on UL listed systems.**

[804] WSS5132-900 Wireless Expansion Programming (Section 5.25 "Wireless Expansion")

[01] Zone 1 Serial Number
Default: 00000 |___|___|___|___|___|

5 digit Decimal entry is required

1st digit represents Transmitter Type (0,1,5-9 are not valid)

        2 = UTX   3 = PIR   4 = SMOKE   5 = Panic Pendant

Next 4 digits represent the serial number (Valid entries are 0001 to 4094)

[02] Zone 2 |___|___|___|___|___|		[18] Zone 18 |___|___|___|___|___|
[03] Zone 3 |___|___|___|___|___|		[19] Zone 19 |___|___|___|___|___|
[04] Zone 4 |___|___|___|___|___|		[20] Zone 21 |___|___|___|___|___|
[05] Zone 5 |___|___|___|___|___|		[21] Zone 21 |___|___|___|___|___|
[06] Zone 6 |___|___|___|___|___|		[22] Zone 22 |___|___|___|___|___|
[07] Zone 7 |___|___|___|___|___|		[23] Zone 23 |___|___|___|___|___|
[08] Zone 8 |___|___|___|___|___|		[24] Zone 24 |___|___|___|___|___|
[09] Zone 9 |___|___|___|___|___|		[25] Zone 25 |___|___|___|___|___|
[10] Zone 10 |___|___|___|___|___|		[26] Zone 26 |___|___|___|___|___|
[11] Zone 11 |___|___|___|___|___|		[27] Zone 27 |___|___|___|___|___|
[12] Zone 12 |___|___|___|___|___|		[28] Zone 28 |___|___|___|___|___|
[13] Zone 13 |___|___|___|___|___|		[29] Zone 29 |___|___|___|___|___|
[14] Zone 14 |___|___|___|___|___|		[30] Zone 30 |___|___|___|___|___|
[15] Zone 15 |___|___|___|___|___|		[31] Zone 31 |___|___|___|___|___|
[16] Zone 16 |___|___|___|___|___|		[32] Zone 32 |___|___|___|___|___|
[17] Zone 17 |___|___|___|___|___|			

One-Way Keypad Serial Numbers
[33] One-Way kpd 1 |___|___|___|___|___| [35] One-Way kpd 3 |___|___|___|___|___|

[34] One-Way kpd 2 |___|___|___|___|___| [36] One-Way kpd 4 |___|___|___|___|___|

Wireless Key Serial Numbers
[41] Wireless Key 1 |___|___|___|___|___| [45] Wireless Key 5 |___|___|___|___|___|

[42] Wireless Key 2 |___|___|___|___|___| [46] Wireless Key 6 |___|___|___|___|___|

[43] Wireless Key 3 |___|___|___|___|___| [47] Wireless Key 7 |___|___|___|___|___|

[44] Wireless Key 4 |___|___|___|___|___| [48] Wireless Key 8 |___|___|___|___|___|

One-Way Keypad Function Key Options

00	Null Key (Not Used)	**05**	For Future Use	**15**	For Future Use
01-02	For Future Use	**06**	Chime On / Off	**16**	Quick Exit
03	Stay Arm	**07-13**	For Future Use	**17-24**	For Future Use
04	Away Arm	**14**	Clear		

One-Way Keypad Function Key Settings
[57] One-Way kpd Function key 1 (Hold 1 Key) Default: 00 |___|___|

[58] One-Way kpd Function key 2 (Hold 2 Key)   00 |___|___|

[59] One-Way kpd Function key 3 (Hold 3 Key)   00 |___|___|

[60] One-Way kpd Function key 4 (Hold 4 Key)   00 |___|___|

Wireless Key Options
[65] Wireless Key 1 Option   Default: 00 |___|___|

The *first* digit represents the STAY, AWAY and OFF keys. Options:

0=STAY, AWAY and OFF disabled
1=STAY and AWAY (Arming) enabled
2=OFF (Disarming) enabled
3=STAY, AWAY and OFF enabled

The *second* digit represents the AUX key. Options:

0=Disabled
1=PGM Output Activation (see PGM Options)
2=Fire Alarm
3=Auxiliary (Medical) Alarm
4=Panic Alarm

[66] Wireless Key 2 Option   Default: 00   └──┴──┘

[67] Wireless Key 3 Option   00   └──┴──┘

[68] Wireless Key 4 Option   00   └──┴──┘

[69] Wireless Key 5 Option   00   └──┴──┘

[70] Wireless Key 6 Option   00   └──┴──┘

[71] Wireless Key 7 Option   00   └──┴──┘

[72] Wireless Key 8 Option   00   └──┴──┘

[81] Wireless Supervisory Window

Default: 03   └──┴──┘   RF Transmitter Supervisory Window (hours), Valid entries are 01-12

NOTE: Panic Transmitters are NOT supervised and must be disabled in the following sections

[82] Zone Transmitter Supervision Options (1-8) (Section 5.9 "Zone Assignment")

Default		Option	ON	OFF
ON	└──┘	1	Zone 1 Supervision enabled	Zone 1 Supervision disabled
ON	└──┘	2	Zone 2 Supervision enabled	Zone 2 Supervision disabled
ON	└──┘	3	Zone 3 Supervision enabled	Zone 3 Supervision disabled
ON	└──┘	4	Zone 4 Supervision enabled	Zone 4 Supervision disabled
ON	└──┘	5	Zone 5 Supervision enabled	Zone 5 Supervision disabled
ON	└──┘	6	Zone 6 Supervision enabled	Zone 6 Supervision disabled
ON	└──┘	7	Zone 7 Supervision enabled	Zone 7 Supervision disabled
ON	└──┘	8	Zone 8 Supervision enabled	Zone 8 Supervision disabled

[83] Zone Transmitter Supervision Options (9-16) (Section 5.9 "Zone Assignment")

Default		Option	ON	OFF
ON	└──┘	1	Zone 9 Supervision enabled	Zone 9 Supervision disabled
ON	└──┘	2	Zone 10 Supervision enabled	Zone 10 Supervision disabled
ON	└──┘	3	Zone 11 Supervision enabled	Zone 11 Supervision disabled
ON	└──┘	4	Zone 12 Supervision enabled	Zone 12 Supervision disabled
ON	└──┘	5	Zone 13 Supervision enabled	Zone 13 Supervision disabled
ON	└──┘	6	Zone 14 Supervision enabled	Zone 14 Supervision disabled
ON	└──┘	7	Zone 15 Supervision enabled	Zone 15 Supervision disabled
ON	└──┘	8	Zone 16 Supervision enabled	Zone 16 Supervision disabled

[84] Zone Transmitter Supervision Options (17-24) (Section 5.9 "Zone Assignment")

Default		Option	ON	OFF
ON	└──┘	1	Zone 17 Supervision enabled	Zone 17 Supervision disabled
ON	└──┘	2	Zone 18 Supervision enabled	Zone 18 Supervision disabled
ON	└──┘	3	Zone 19 Supervision enabled	Zone 19 Supervision disabled
ON	└──┘	4	Zone 20 Supervision enabled	Zone 20 Supervision disabled
ON	└──┘	5	Zone 21 Supervision enabled	Zone 21 Supervision disabled
ON	└──┘	6	Zone 22 Supervision enabled	Zone 22 Supervision disabled
ON	└──┘	7	Zone 23 Supervision enabled	Zone 23 Supervision disabled
ON	└──┘	8	Zone 24 Supervision enabled	Zone 24 Supervision disabled

[85] Zone Transmitter Supervision Options (25-32) (Section 5.9 "Zone Assignment")

Default		Option	ON	OFF
ON	└──┘	1	Zone 25 Supervision enabled	Zone 25 Supervision disabled
ON	└──┘	2	Zone 26 Supervision enabled	Zone 26 Supervision disabled
ON	└──┘	3	Zone 27 Supervision enabled	Zone 27 Supervision disabled
ON	└──┘	4	Zone 28 Supervision enabled	Zone 28 Supervision disabled
ON	└──┘	5	Zone 29 Supervision enabled	Zone 29 Supervision disabled
ON	└──┘	6	Zone 30 Supervision enabled	Zone 30 Supervision disabled
ON	└──┘	7	Zone 31 Supervision enabled	Zone 31 Supervision disabled
ON	└──┘	8	Zone 32 Supervision enabled	Zone 32 Supervision disabled

Special Installer Functions

[902] Module Supervision Enable/Reset (Section 2.7 "Enable Supervision")

[903] View Module Supervision Field (Section 2.7 "Enable Supervision")

[904] Wireless Module Placement Test (Section 5.25 "Wireless Expansion") •
* Select the module / transmitter (Zones 01-32).
* Press [#] to Cancel.

Placement	Led Keypad	LCD Keypad	Bell / Buzzer
Good	Light 1 ON Steady	GOOD	1 Beep / Squawk
Fair	Light 2 ON Steady	FAIR	2 Beeps / Squawks
Bad	Light 3 ON Steady	BAD	3 Beeps / Squawks

[980] Installer Buzzer Walk Test Mode Begin (Section 5.31 "Walk Test (Installer)")

[981] Installer Buzzer/Bell Walk Test Mode Begin (Section 5.31 "Walk Test (Installer)")

[982] Installer Walk Test Mode End (No Communications) (Section 5.31 "Walk Test (Installer)")

[983] Installer Walk Test Mode End (Communications) (Section 5.31 "Walk Test (Installer)")

[990] Installer Lockout Enable (Section 5.30 "Installer Lockout")

[991] Installer Lockout Disable (Section 5.30 "Installer Lockout")

[995] Restore WSS5580 Factory Default Programming (Section 5.29 "Default (Factory)")

[996] Restore WSS5132-900 Factory Default Programming (Section 5.29 "Default (Factory)")

[997] Restore WSS5400 Factory Default Programming (Section 5.29 "Default (Factory)")

[998] Restore WSS5908 Factory Default Programming (Section 5.29 "Default (Factory)")

[999] Restore Factory Default Programming (Section 5.29 "Default (Factory)")

Programming LCD Keypads

How to Program the WSS5500 Keypad

If you have an WSS5500 Keypad additional programming is required for proper operation. The following is a description of the programming options available:

How to Enter LCD Programming

Step 1 - Press [✱], [8], [Installer Code] (Enter Installer Programming). Press the [✱] key
Step 2 - Enter the 2 digit Section number to program.
Follow the programming procedure as outlined in Section 4 – "How To Program" – in the PC5010 Installation Manual.

Programmable Labels - Section [01] to [32]

LCD display labels can be changed to customise the system for the end user. The following is the procedure for changing LCD labels:
Step 1 - Enter LCD Programming.
Step 2 - Enter the number corresponding to the label to be programmed.
Step 3 - Use the arrow keys (<>) to move the underline bar underneath the letter to be changed.
Step 4 - Press the number key [1] to [9] corresponding to the letter you require. The first time you press the number the first letter will appear. Pressing the number key again will display the next letter. Refer to the following chart:

[1] - A, B, C, 1	[3] - G, H, I, 3	[5] - M, N, O, 5	[7] - S, T, U, 7	[9] - Y, Z, 9,0
[2] - D, E, F, 2	[4] - J, K, L, 4	[6] - P, Q, R, 6	[8] - V, W, X, 8	[0] - Space

Step 5 - When the required letter or number is displayed use the arrow keys (<>) to scroll to the next letter.
Step 6 - When you are finished programming the Zone Label press the [✱] key and scroll to "Save"; press the [✱] key again.
Step 7 - Continue from Step 2 until all Zone Labels are programmed.

NOTE: Zone labels must be no longer than 14 characters

	Default	
[01] Zone 1 Label	"Zone____1____"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[02] Zone 2 Label	"Zone____2____"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[03] Zone 3 Label	"Zone____3____"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[04] Zone 4 Label	"Zone____4____"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[05] Zone 5 Label	"Zone____5____"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[06] Zone 6 Label	"Zone____6____"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[07] Zone 7 Label	"Zone____7____"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[08] Zone 8 Label	"Zone____8____"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[09] Zone 9 Label	"Zone____9____"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[10] Zone 10 Label	"Zone___10____"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[11] Zone 11 Label	"Zone____11___"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[12] Zone 12 Label	"Zone____12___"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[13] Zone 13 Label	"Zone____13___"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[14] Zone 14 Label	"Zone____14___"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[15] Zone 15 Label	"Zone____15___"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[16] Zone 16 Label	"Zone____16___"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[17] Zone 17 Label	"Zone____17___"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[18] Zone 18 Label	"Zone____18___"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[19] Zone 19 Label	"Zone____19___"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[20] Zone 20 Label	"Zone____20___"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[21] Zone 21 Label	"Zone____21___"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[22] Zone 22 Label	"Zone____22___"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[23] Zone 23 Label	"Zone____23___"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[24] Zone 24 Label	"Zone____24___"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[25] Zone 25 Label	"Zone____25___"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[26] Zone 26 Label	"Zone____26___"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[27] Zone 27 Label	"Zone____27___"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[28] Zone 28 Label	"Zone____28___"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[29] Zone 29 Label	"Zone____29___"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[30] Zone 30 Label	"Zone____30___"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[31] Zone 31 Label	"Zone____31___"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[32] Zone 32 Label	"Zone____32___"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[33] Fire Alarm Label	"Fire_Zone____"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[40] Utility Output Label	"Utility_Output"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[44] Sensor Reset Label	"Sensor_Reset_"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[51] Fail to Arm Event Message	"System_Has_____ Failed_to_Arm___"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|
[52] Alarm When Armed Event Message	"Alarm_Occurred__ While_Armed_____"	|____|__|__|__|__|__|__|__|__|__|__|__|__|__|

[60] First User Display Mask

Default		Option	ON	OFF
ON	|___|	1	Hold [P] Keys prompt ON	Hold [P] Keys prompt OFF
ON	|___|	2	Zone Bypassing prompt ON	Zone Bypass prompt OFF
ON	|___|	3	Troubles prompt ON	Troubles prompt OFF
ON	|___|	4	Alarm Memory prompt ON	Alarm Memory prompt OFF
ON	|___|	5	Access Codes prompt ON	Access Codes prompt OFF
ON	|___|	6	User Functions prompt ON	User Functions prompt OFF
ON	|___|	7	Output Control prompt ON	Output Control prompt OFF
OFF	|___|	8	Installer Programming prompt ON	Installer Programming prompt OFF

[61] Second User Display Mask

Default		Option	ON	OFF
ON	L__I	1	View Event Buffer prompt ON	View Event Buffer prompt OFF
OFF	L__I	2	System Test prompt ON	System Test prompt OFF
ON	L__I	3	Time and Date prompt ON	Time and Date prompt OFF
OFF	L__I	4	User Call-up prompt ON	User Call-up prompt OFF
ON	L__I	5	Bright Control prompt ON	Bright Control prompt OFF
ON	L__I	6	Contrast Control prompt ON	Contrast Control prompt OFF
ON	L__I	7	Buzzer Control prompt ON	Buzzer Control prompt OFF
OFF	L__I	8	For Future Use	

[62] Third User Display Mask

Default		Option	ON	OFF
ON	L__I	1	Interior Arm prompt ON	Interior Arm prompt OFF
ON	L__I	2	No Entry Delay prompt ON	No Entry Delay prompt OFF
OFF	L__I	3-8	For Future Use	

[63] Downloaded LCD Message Duration

Default
003 L__I__I__I__I   (Valid entries are 000-255, 000=Unlimited Message Display. This number represents the number of times the Downloaded message is cleared by pressing any key while the message is up after timeout)

[64] Key Options

Default		Option	ON	OFF
ON	L__I	1	[F] Keys enabled	Fire Keys disabled
ON	L__I	2	[A] Keys enabled	Auxiliary Keys disabled
ON	L__I	3	[P] Keys enabled	Panic Keys disabled
OFF	L__I	4-8	For Future Use	

[66] Keypad Options

Default		Option	ON	OFF
ON	L__I	1	Display Access Code when Programming	Display 'X' when Programming
ON	L__I	2	Local Clock Display Enabled	Local Clock Display Disabled
OFF	L__I	3-8	For Future Use	

[97] View Software Version

[98] Initiate Global Label Broadcast

All LCD programming is done by keypad. If more than one LCD keypad is present it is not necessary to program each independently. Labels programmed in one keypad can be broadcast to all other LCD keypads. The following is the procedure for broadcasting labels:

Step 1 - Program one LCD keypad completely.
Step 2 - Make sure all LCD keypads are connected to the KEYBUS.
Step 3 - Enter LCD Programming at the keypad that was programmed.
Step 4 - Enter Section [98] at the keypad that was programmed. The keypad will now broadcast all the information programmed to all the other LCD keypads on the system. When the keypad is finished press the [#] key to exit.

[99] Factory Default LCD Keypad

The following is the procedure for restoring an LCD keypad to the factory default settings:
• Enter Installer Programming at the keypad to be defaulted. Enter Section [99].
• When the keypad is finished defaulting press the [#] key to exit programming.

ASCII Characters

	# 035	& 038	) 041	, 044	/ 047	< 060	? 063	^ 094		124	← 127	⊬ 228	9 231	n̄ 238	٩ 241	Σ 246	÷ 253
032																
! 033	$ 036	' 039	* 042	- 045	: 058	= 061	â 064	_ 095	} 125	▪ 176	ɕ 229	j 234	ö 239	Ω 244	X̄ 248	254
" 034	% 037	(040	+ 043	. 046	; 059	> 062	] 093	{ 123	→ 126	ä 225	P 230	¢ 236	P 240	ü 245	y 249	■ 255

Appendix A

SIA Format

Level 1 (Hardcoded)

The SIA communication format used in this product follows the level 1 specifications of the SIA Digital Communication Standard - February 1993. This format will send the Account Code along with its data transmission. At the receiver, the transmission would look similar to this example:

BA 01
BA = Burglary Alarm
01 = Zone 1

WSS5010 Reporting Codes	SIA Identifiers & Auto-Reporting Code
Delay Zone Alarm/Restore	BA-XX/BH-XX*
Instant Zone Alarm/Restore	BA-XX/BH-XX*
Interior Zone Alarm/Restore	BA-XX/BH-XX*
Delay H.A. Zone Alarm/Restore	BA-XX/BH-XX*
Interior H.A. Zone Alarm/Restore	BA-XX/BH-XX*
24 Hr Burg Zone Alarm/Restore	BA-XX/BH-XX*
Standard Fire Zone Alarm/Restore	FA-XX/FH-XX*
Delayed Fire Zone Alarm/Restore	FA-XX/FH-XX*
24 Hr Supervisory Buzzer Zone Alarm/Restore	UA-XX/UH-XX*
24 Hr Supervisory Zone Alarm/Restore	UA-XX/UH-XX*
24 Hr Medical Zone Alarm/Restore	MA-XX/MH-XX*
24 Hr Panic Zone Alarm/Restore	PA-XX/PH-XX*
24 Hr Holdup Zone Alarm/Restore	HA-XX/HH-XX*
24 Hr Gas Zone Alarm/Restore	GA-XX/GH-XX*
24 Hr Heat Zone Alarm/Restore	KA-XX/KH-XX*
24 Hr Emergency Zone Alarm/Restore	QA-XX/QH-XX*
24 Hr Sprinkler Zone Alarm/Restore	SA-XX/SH-XX*
24 Hr Water Zone Alarm/Restore	WA-XX/WH-XX*
24 Hr Freeze Zone Alarm/Restore	ZA-XX/ZH-XX*
24 Hr Latching Tamper Alarm/Restore	BA-XX/BH-XX*
Day Zone	BA-XX/BH-XX*
Auto Verify Fire Zone	FA-XX/FH-XX*
Duress Alarm	HA-00
Opening After Alarm	OR-00
Recent Closing	CR-00
Exterior Zone Supervisory/Restore	UA-00/UH-00
Keypad Fire Alarm/Restore	FA-99/FH-99
Keypad Auxiliary Alarm/Restore	MA-00/MH-00
Keypad Panic Alarm/Restore	PA-00/PH-00
2-Wire Smoke Alarm/Restore	FA-99/FH-99
Zone Tamper (1-32)	TA-XX*
Zone Tamper Restorals (1-32)	TR-XX*
General System Tamper/Restore	TA-00/TR-00
Keypad Latching	JA-00
Closing By Access Codes 1-34,40-42	CL-XX
Partial Closing	CG-XX▼

WSS5010 Reporting Codes	SIA Identifiers & Auto-Reporting Code
Special Closing (DLS, RF Keys, Stay/Away)	CL-00
Opening By Access Codes 1-34,40-42	OP-XX♦
Special Opening (DLS, RF Keys)	OP-00
Battery Trouble Alarm/Restore	YT-00/YR-00
AC Failure Trouble Alarm/Restore	AT-00/AR-00
Bell Circuit Trouble Alarm/Restore	UT-99/UJ-99
Fire Trouble Alarm/Restore	FT-00/FJ-00
Auxiliary Power Supply Trouble Alarm/Restore	YP-00/YQ-00
TLM Trouble Code (via LINKS)	LT-00
General System Trouble/Restore	YX-00/YZ-00
General System Supervisory/Restore	ET-00/ER-00
TLM Restoral	LR-00
FTC Restoral	YK-00
Periodic Test Transmission	RP-00
System Test	RX-00
LINKS1000 Test Transmission Code	TX-00
Low Battery Transmission/Restore	XT-00/XR-00
General Transmitter Low Battery/Restore	XT-XX/XR-XX●
General Zone Fault Alarm/Restore	UT-XX/UJ-XX*
Exit Alarm	EA-00
Test Start	TS-00
Burglary Test Zone	BX-XX*
Fire Test Zone	FX-XX*
Gas Test Zone	GX-XX*
Holdup Test Zone	HX-XX*
Heat Test Zone	KX-XX*
Medical Test Zone	MX-XX*
Panic Test Zone	PX-XX*
Emergency Test Zone	QX-XX*
Sprinkler Test Zone	SX-XX*
Untyped Test Zone	UX-XX*
Water Test Zone	WX-XX*
Freeze Test Zone	ZX-XX*
Test End	TE-00
Up and About Alarm	NA-00
Burglary Verified (Cross Zone Alarm)	BV-00

* Zone Number is Identified

♦ User Number is Identified

▼ Each Zone Number is Identified (using UB-XX)

● Zone (1-32), OWK (33-36) and FOBs (41-48) are identified

Appendix B

Pager Format

If the pager option is enabled by the installer, the pager reporting code may report to the pager.
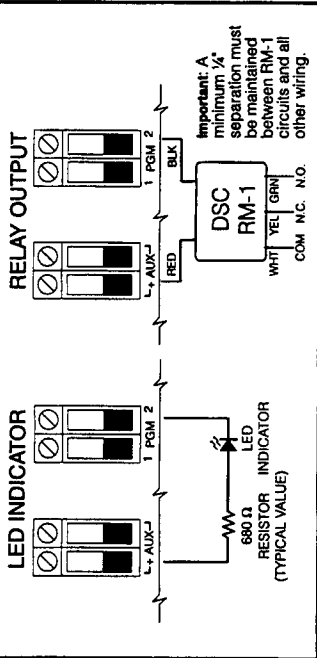
Pager Reporting Codes

Closing By User 01 01	Opening By User 01 51	Special Closing (DLS, Wireless Key) 00
Closing By User 02 02	Opening By User 02 52	Special Opening (DLS, Wireless Key) 50
Closing By User 03 03	Opening By User 03 53	
Closing By User 04 04	Opening By User 04 54	AC Failure Trouble Alarm 91
Closing By User 05 05	Opening By User 05 55	AC Failure Trouble Restore 92
Closing By User 06 06	Opening By User 06 56	
Closing By User 07 07	Opening By User 07 57	General System Event 90
Closing By User 08 08	Opening By User 08 58	Zone Alarms (Zones 1-32)
Closing By User 09 09	Opening By User 09 59	Duress Alarm
Closing By User 10 10	Opening By User 10 60	Zone Expander Supervisory Alarm
Closing By User 11 11	Opening By User 11 61	Keypad [F]ire Alarm
Closing By User 12 12	Opening By User 12 62	Keypad [A]uxiliary Alarm
Closing By User 13 13	Opening By User 13 63	Keypad [P]anic Alarm
Closing By User 14 14	Opening By User 14 64	2-Wire Smoke Alarm
Closing By User 15 15	Opening By User 15 65	Opening After Alarm
Closing By User 16 16	Opening By User 16 66	Up and About Alarm
Closing By User 17 17	Opening By User 17 67	Zone Tamper (1-32)
Closing By User 18 18	Opening By User 18 68	General System Tamper
Closing By User 19 19	Opening By User 19 69	
Closing By User 20 20	Opening By User 20 70	
Closing By User 21 21	Opening By User 21 71	
Closing By User 22 22	Opening By User 22 72	
Closing By User 23 23	Opening By User 23 73	
Closing By User 24 24	Opening By User 24 74	
Closing By User 25 25	Opening By User 25 75	
Closing By User 26 26	Opening By User 26 76	
Closing By User 27 27	Opening By User 27 77	
Closing By User 28 28	Opening By User 28 78	
Closing By User 29 29	Opening By User 29 79	
Closing By User 30 30	Opening By User 30 80	
Closing By User 31 31	Opening By User 31 81	
Closing By User 32 32	Opening By User 32 82	
Closing By User 33 33	Opening By User 33 83	
Closing By User 34 34	Opening By User 34 84	
Closing By User 40 35	Opening By User 40 85	
Closing By User 41 36	Opening By User 41 86	
Closing By User 42 37	Opening By User 42 87	

The following events will **NOT** be transmitted to the Pager.

Zone XX Bypass	Fire Trouble Alarm/Restore	Transmitter Low Battery/Restore
Zone XX Test	Auxiliary Power Supply Trouble Alarm/Restore	Zone Trouble/Restore
Test Begin	TLM Trouble Code (via LINKS)	Burglary Verified (Cross Zone Alarm)
Test End	General System Trouble/Restore	Exit Alarm
Zone Alarm Restorals (zones 1-32)	General System Supervisory/Restore	Zone Expander Supervisory Restoral
Recent Closing	TLM Restoral	Keypad [F]ire Restoral
Zone Tamper Restorals (1-32)	Phone Number 1 FTC	Keypad [A]uxiliary Restoral
Keypad Lockout	Periodic Test Transmission	Keypad [P]anic Restoral
Partial Closing	System Test	2-Wire Smoke Restoral
Battery Trouble Alarm/Restore	LINKS1000 Test Transmission Code	General System Tamper Restoral
Bell Circuit Trouble Alarm/Restore		

Hookup Diagram

W S S 5 0 1 0   C O N T R O L   P A N E L

GROUND CONNECTION

- Nut
- Washer
- Cabinet
- Bolt
- Ground Rod

RJ31X TELEPHONE PLUG

PROGRAMMABLE OUTPUT 2: 300 mA MAXIMUM
PROGRAMMABLE OUTPUT 1: 50 mA MAXIMUM

WARNING
Incorrect connections may result in fuse failure or improper operation.
Inspect wiring and ensure connections are correct before applying power.

Do not route any wiring over circuit boards.
Maintain at least 1" (25.4mm) separation.

WARNING
High voltage. Disconnect AC power and telephone lines prior to servicing.

RING TIP R-1 T-1 EGND
RED GRN GRY BRN

TO +AUX
TO +AUX

DEVICE
DEVICE

KEYBUS
TO ADDITIONAL KEYPADS AND EXPANSION MODULES

28 COM 27 26 COM 25 Z4 Z3 COM Z2 Z1 COM 1PGM2 GRN YEL BLK RED -BELL+ J AUX + L AC
GRN YEL BLK RED

WARNING
For continued protection against the risk of fire, replace only with the same type and rating of fuse.

JP1

PTC3 5A F3
PTC5 5A F1

COMPATIBLE SYSTEM KEYPAD
WSS5508
WSS5500

GRN YEL BLK RED

BELL / SIREN
700 mA MAXIMUM
OBSERVE POLARITY

BATTERY
12V 4.0Ah
Maximum battery charge current is 360 mA.

− BLK
+ RED

Battery capacity for standby is at least 4 hours. Example:
YUASA MNP4-12

60Hz PRIMARY

UL-LISTED TRANSFORMER
16.5VAC 40VA
AMSECO XP-1640
Do not connect transformer to receptacle controlled by a switch.

54

2-WIRE SMOKE DETECTORS

Use only Falcon 525T or Sentrol 429AT.
Maximum Number of Detectors: 15
Maximum Loop Resistance: 100 Ω (total).

L + AUX − + BELL − RED BLK YEL GRN 1 PGM 2

2200Ω
END-OF-LINE
RESISTOR
EOLR-3

(−)
(+)

4-WIRE SMOKE DETECTORS

It is mandatory to use at least one UL-listed indoor alarm signalling appliance with a minimum 85dB rating and a current rating of 700 mA or less. Recommended unit: Wheelock Model 34T-12-R.
Smoke Detector must be latching type (such as ESL Model 445C).
To reset smoke detectors, enter [∗] [7] [2].

RM-1 POWER LOOP
SUPERVISORY RELAY
12Vdc 35mA MAXIMUM

ALARM
INITIATING
LOOP
RESISTANCE:
100Ω

Zone Input

BLK WHT

COM

IN

NO
ALM

OUT

+

RED

GRN

WHT

EOLR3
END OF LINE
RESISTOR
5600Ω 0.5W

1 PGM 2

SMOKE
DETECTOR
POWER
12 Vdc

L + AUX −

IN

+

LATCHING 4-WIRE
SMOKE DETECTOR
FOR EXAMPLE,
ESL MODEL 445C

Refer to installation guidelines in Installation Manual and detector manufacture's literature when locating smoke detectors.

RESISTOR IDENTIFICATIONS

SINGLE ZONE EOL

5600Ω
5%

GRN
BLUE
RED
GOLD

2-WIRE SMOKE

2200Ω
2% or 1%

RED
BRN
BLK
RED (2%)
or
RED (1%) BRN

BELL CIRCUIT

1000Ω
5%

BRWN
BLK
RED
GOLD

PGM CONNECTIONS

LED INDICATOR

L + AUX −   1 PGM 2   1 PGM 2

680 Ω
RESISTOR
(TYPICAL VALUE)

LED
INDICATOR

RELAY OUTPUT

L + AUX −   1 PGM 2

RED   BLK

DSC
RM-1

WHT   YEL   GRN
COM   N.C.   N.O.

Important: A minimum ¼" separation must be maintained between RM-1 circuits and all other wiring.

TYPICAL ZONE CIRCUITS

END OF LINE RESISTOR VALUE: 5600Ω

ANY Z   ANY COM
TERMINAL TERMINAL

NORMALLY CLOSED
CONTACT WITH
END OF LINE
RESISTOR

ANY Z   ANY COM
TERMINAL TERMINAL

1 NORMALLY OPEN
CONTACT AND
1 NORMALLY CLOSED
CONTACT WITH
END OF LINE
RESISTOR

ANY Z   ANY COM
TERMINAL TERMINAL

NORMALLY OPEN
CONTACTS WITH
END OF LINE
RESISTOR

ANY Z   ANY COM
TERMINAL TERMINAL

2 NORMALLY OPEN
CONTACT AND
2 NORMALLY CLOSED
CONTACT WITH
END OF LINE
RESISTOR

Control Panel is suitable for the following UL installations:
• Household Fire and Grade A Household Burglary
• Grade A Local [Grade B Central Station and Police Connect with basic line security
• Grade C Central Station
• Refer to Installation manuals

Temperature Range: 0°C-49°C (32°F-120°F)
Maximum Humidity: 85% R.H.
Refer to the Installation and Instruction Manuals for complete operating instructions.

The WSS5010 (PC5010) is UL-listed for limited energy installations per NEC Article 760. Recognized limited energy cable should be used. Observe NEC wiring requirements and local codes defined by the authority having jurisdiction.

This equipment should be installed in accordance with ANSI/NFPA 72-1993 (National Fire Protection Association, Batterymarch Park, Quincy MA, 02269). Printed information describing proper installation, operation, testing, maintenance, evacuation planning, and repair service is to be provided with this equipment.

Security detection devices that require power from the control panel must be UL-listed for the intended application and operate over the range of 11.6 - 12.6 Vdc (residential), 12.0 Vdc (commercial). The DS835 is a recommended UL-listed motion detector.
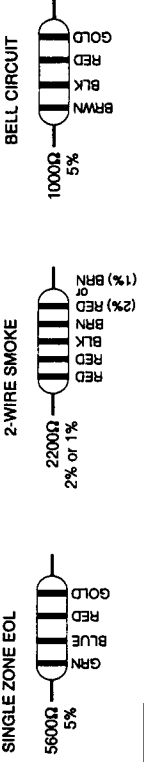
Westinghouse Security Systems
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