

INSTALLATION MANUAL



PC560

Version 1.0A
Australia

IMPORTANT NOTE:

The control panel will not power up with DC (battery) power only! Apply DC (battery) power first, then AC to power up the control panel. Refer to the AC Power Wiring instructions and the Hook-Up Diagram for instructions on connecting an AC transformer and powering the panel.

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INTRODUCTION

FEATURES

- Fully featured security system with Trouble Supervision, Alarm Memory, Master Code and 3 programmable Access Codes, Quick-Arming and At-Home Arming, Door Chime, 3 one-touch Keypad Zones, and more
- Digital Communicator with 40 BPS Non-Extended 4/2 with Parity format or Private Line format
- 4 End-of-Line Resistor Supervised Zones
- 6 Programmable Zone Types with Silent or Audible alarms
- Programmable Output with 2 options
- Dedicated Strobe (latched alarm) Output
- KEY Terminal can be used for Momentary or Maintained Keyswitch Arming, or as a 24-hour End-of-Line Resistor Supervised Tamper Zone
- To help prevent false alarms, all zones are automatically bypassed for 120 seconds on power-up to allow detectors to settle
- All Installer's Programming can be done at the keypad or through downloading
- EEPROM memory retains all programming even after all power is removed from the control panel
- Advanced static and lightning protection; unique "Zap-Trac" circuit board design stops damaging voltages at the wiring terminals, and transient protection devices are placed in all critical areas for further protection

SPECIFICATIONS

PC560 Control Panel

- Four fully programmable zones
- Zones are End-of-Line Resistor supervised
- Maximum zone loop resistance: 100 ohms
- Bell/Siren Output: fused for 5A
- Bell / Siren Alarms: steady and pulsed alarms
- Programmable Output: 300 mA with 2 options
- Auxiliary Power Output:
 - 800 mA with 40 VA transformer
 - 500 mA with 20 VA transformer
- Maximum 3 Keypads per system, and Keyswitch
- Required Battery: 12 VDC
 - 1.2 Ah provides 4 hours of stand-by at 200 mA Auxiliary Output
 - 4.0 Ah provides 4 hours of stand-by at 800 mA Auxiliary Output
- Required Transformer: 16 VAC, 20 - 40 VA
- Cabinet Dimensions: 7" high × 9" wide × 3" deep (178 × 229 × 76 mm)
- Cabinet Colour: light beige

PC500RK Keypad

- 12-key keypad
- Three one-touch Zones: [F], [A], [P]
- 3 Status Lights: Ready, Armed, System
- 4 Zone Lights
- Keypad dimensions: 4.5" high × 4.5" wide × 1" deep (114mm × 114mm × 25.4mm)
- Keypad Colour: Mist

SL-40 Keypad

- 12-key keypad
- Three one-touch Zones: [F], [A], [P]
- 3 Status Lights: Ready, Armed, System
- 4 Zone Lights
- All new slimline design
- Keypad dimensions: 4.75" high × 2.75" wide × 1.2" deep (120mm × 70mm × 30mm)
- Keypad Colour: Designer White with Grey display

INSTALLATION

Mounting the Control Panel

Select a dry location close to an unswitched AC source, a ground connection, and the telephone connection.

Remove the printed circuit board, mounting hardware and keypad from the cardboard retainer inside the control panel cabinet. Before attaching the cabinet to the wall, press the four white nylon printed circuit board mounting studs into the raised mounting holes from the back of the cabinet. Also, secure the ground screw to a hole in the cabinet.

Hold the cabinet in position and pull all wires into the cabinet. Mount the cabinet securely to the wall using the mounting screws provided. It is recommended that appropriate wall anchors be used when securing the cabinet to drywall, plaster, concrete, brick or other similar surfaces.

Press the PC560 Control Panel onto the nylon mounting studs. Pull all cables into the cabinet and prepare them for connection.

Mounting the Keypad

The PC560 Control Panel is controlled with the PC500RK or SL-40 Keypad. The Keypad should be located close to the designated "Entry-Exit" door and mounted at a height convenient for all users.

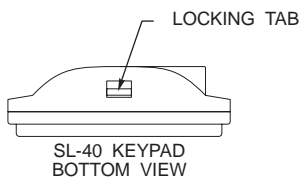
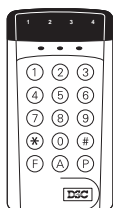
Disassemble the keypad by pressing gently on the locking tab found on the bottom of the unit. With the tab disengaged, pull the backplate from the keypad.

Prepare a hole in the wall at the desired location and pull the keypad wiring through the hole. Hold the backplate in position and pull the wires through the large opening in the backplate. Mount the backplate to the wall using the hardware provided; it is recommended that plastic wall anchors be used. When mounting the backplate, ensure that it is straight and level.

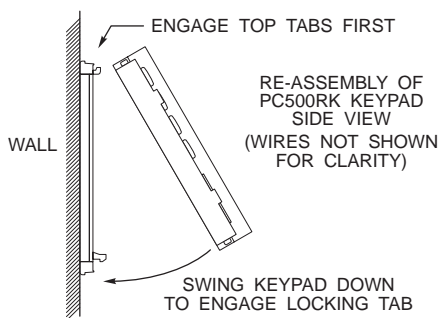
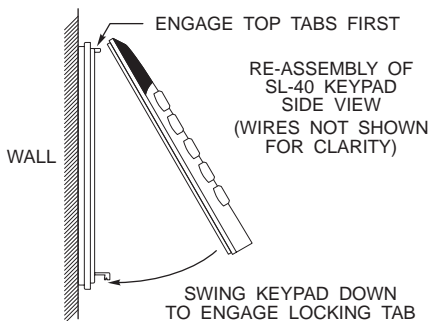
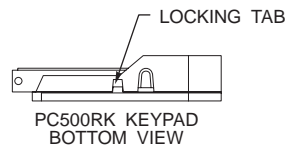
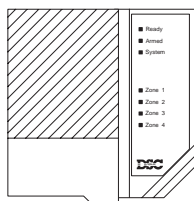
Prepare all wires for connection and connect the keypad wires to the in-wall wiring; refer to the Wiring Diagram in the back of this manual.

Align the keypad with the mounting tabs on the top of the backplate. With the top mounting tabs engaged, swing the keypad down and engage the bottom locking tab. Ensure that the top mounting tabs and the bottom locking tab are securely engaged.

SL-40 Keypad



PC500RK Keypad



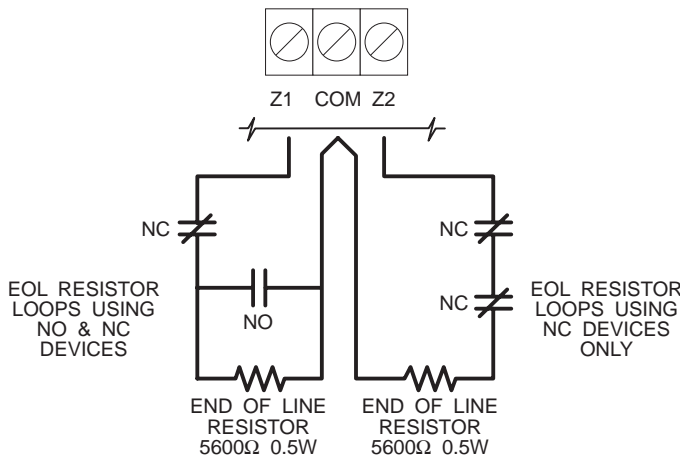
Wiring

NOTE: Complete all wiring to the control panel before applying battery or AC power.

Burglary Zone Wiring

Burglary zone definition, (for example, Delay, Instant, 24-Hour, and so on) is programmed using the keypad. Refer to Programming Guide Section [01].

NOTE: To help prevent false alarms, all zones are automatically bypassed for 120 seconds on power-up to allow detectors to settle.



Burglary Zone Wiring Chart

Wire Gauge	Maximum wire length to End of Line Resistor (feet/meters)
24	1900 / 579
22	3000 / 914
20	2400 / 1493
19	6200 / 1889
18	7800 / 2377

Figures are based on maximum loop resistance of 100 ohms.

Auxiliary Power Connection

The Auxiliary Power Supply can be used to power motion detectors and other devices that require 12 VDC. The total load for the Auxiliary Power Supply must be calculated for all devices connected across the AUX+ and AUX-, AUX+ and STR terminals, and for devices connected between the AUX+ and PGM terminals. The output current cannot exceed 800 mA when using a 40VA transformer.

PGM OUT Terminal Connection

The PGM OUT terminal is a switched negative output which can be controlled by various programming options; refer to Programming Guide Section [04]. Devices controlled by the PGM OUT terminal must be connected between the PGM OUT terminal and the AUX+ terminal.

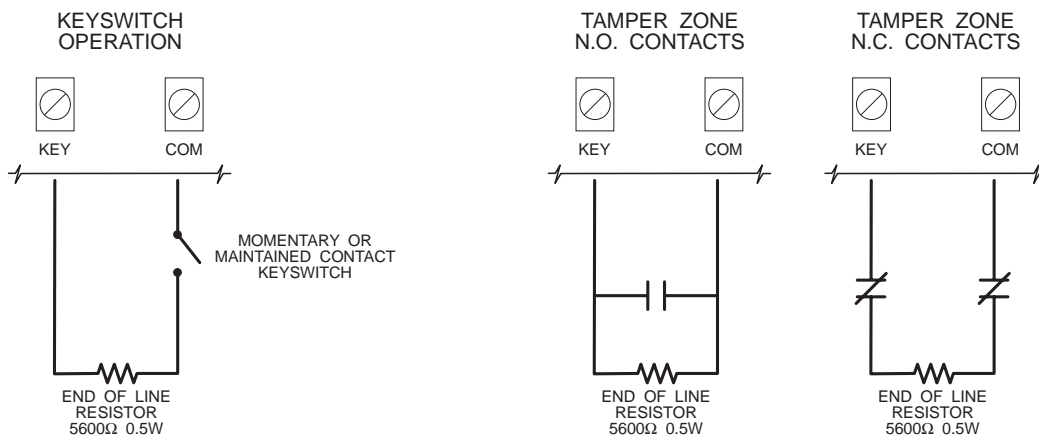
STR Terminal Connection

The STR (strobe output) terminal is a normally open output that will switch to ground when activated. This output will be activated when a zone alarm or tamper alarm is generated while the system is armed. The output will remain activated until the system is disarmed. Devices controlled by this output must be connected between STR and the AUX+ terminal.

KEY Terminal Connection

The KEY terminal may be programmed for keyswitch operation or for use as a tamper zone. If the KEY terminal is used as a tamper zone, the zone is wired as a typical burglary zone. The tamper zone is active at all times and will generate alarm and trouble conditions even while the system is disarmed.

NOTE: An end-of-line resistor must be connected between the KEY and COM terminals even if the tamper zone is not used.



Battery Connection

The control panel will not power up on DC (battery) power only. With the battery connected, apply AC power to power up the panel.

If the battery is connected in reverse, the 5 A battery fuse will open and will need to be replaced. The battery charging voltage is factory set to 13.8V and normally needs no adjustment. If the battery charging voltage is out of adjustment, contact your service representative.

If AC power is OFF and the battery voltage drops to approximately 9.5 V or lower, the battery will be automatically disconnected and the system will power down. To power up again, AC power will have to be re-established. This feature is designed to prevent damage to the battery due to deep discharging.

AC Power Wiring

Use only an Austel-approved 3-wire plug pack with protective earth, similar to EDM Model P108 (18V 1.5A AC). Connect the green earth wire from the plug pack to the AUX- terminal. The plug pack should not be connected to an outlet controlled by a switch.

Telephone Line Wiring

Do not connect the alarm communicator to telephone lines intended for use with facsimile (fax) machines. These lines may incorporate a voice filter which disconnects the line if other than fax signals are detected. This may result in incomplete transmissions from the alarm communicator.

KEYPAD FUNCTIONS

Introduction

The Keypad provides complete control of the PC560 control panel. The system can be completely programmed from the keypad. The 4 zone lights provide alarm and status indication for the alarm circuits, and three function lights advise the user of system status. The built-in sounder lets the user hear correct key entries and other alert signals. Keypad alarms may be activated by pressing and holding the [F], [A] or [P] Keys. Note that all keypad entries are made by pressing one key at a time.

Master Code

A default Master Code "1234" is factory programmed into the PC560. The Master Code is used to arm and disarm the system, to silence the bell or siren after an alarm, and to program additional Access Codes. The Master Code may be changed by the user through the [*][5][Master Code] Program Access Codes command.

Installer's Programming Code

A default Installer's Programming Code "0560" is programmed into the PC560. Using this code and the [*][8] command, the installer can perform programming functions. This code should be changed by the installer after the system is installed.

Arming

Before arming the system, close all protected doors and windows and stop movement in areas protected by motion detectors. If the "System" light is on, check for possible trouble conditions (refer to [*][2]: Display Troubles) and correct the condition. Ensure that any bypassed zones are bypassed intentionally; refer to [*][1][Access Code]: Bypass Zones. If the "Ready" light is not on, one or more zones are open; the system can only be armed when the "Ready" light is ON.

To arm the system, enter a 4-digit Access Code. As each digit is entered, the keypad sounder will beep. When the Access Code has been entered, the "Armed" light will come ON and the keypad will beep 6 times. If the Access Code has been entered incorrectly, the keypad will sound a single long tone; press the [#] Key and enter the Access Code again.

When an Access Code has been entered and the "Armed" light is ON, leave the premises through the designated Entry-Exit door before the Exit Delay expires. At the end of the Exit Delay, all lights on the keypad will be shut OFF except for the "Armed" light.

The default setting for the Exit Delay is 60 seconds. Refer to Programming Section [01] Zone Definitions for information on zone types that are affected by the Exit Delay. Also refer to Programming Section [02] for instructions on changing the Exit Delay. If an alarm occurs during the armed period, the Zone Light for the affected zone will remain ON until the system is disarmed.

Auto-Bypass/Home-Away Arming

If an Access Code is entered and the Exit-Entry zone is not activated during the Exit Delay, the system will arm with all Home-Away zones automatically bypassed. If the Exit-Entry zone is activated during the Exit Delay, the Home-Away zones will not be bypassed. If a standard Delay zone is activated while the system is armed, all automatic bypasses will be removed.

This feature is designed for the user who wishes to remain at home with the system armed. When this feature is enabled, the user does not have to manually bypass the interior zones.

At-Home Arming

When [*][9] is entered to arm the system, the system will arm as described above in Auto-Bypass/Home-Away Arming. However, an exit may be made through the Entry-Exit Zone during the Exit Delay; at the end of the Exit Delay, the system will be armed and Home-Away zones will be automatically bypassed. Note that the Entry Delay will still be applied to standard Delay zones.

Disarming

Enter the premises through the designated Entry-Exit door. The keypad will be sounding a tone to indicate that the system must be disarmed. Go to the keypad and enter an Access Code. If an error is made entering the code, press the [#] Key and enter the code again. The "Armed" light will be shut OFF and the keypad sounder will be silenced. An Access Code must be entered before the Entry Delay expires or an alarm will sound. To change the Entry Delay, refer to Programming Section [02].

If an alarm occurred while the system was armed, the "System" light and the zone lights of the zones that went into alarm will FLASH for two minutes. Press the [#] Key to cancel the flashing display and to return the system to the "Ready" mode. Refer to [*][3]: Alarm Memory Display.

Important Note about Keypad [*] Commands

The [*] commands will not function when the bell or siren is active. In order to use the [*] functions, an Access Code must first be entered to silence the alarm.

[*]+[0]: Quick-Arm

The Quick-Arm feature allows a user to enter [*][0] to arm the system. This command is designed to allow someone to arm the system without that person having to be provided with an Access Code. When [*][0] is entered, the Exit Delay will begin and the user may exit the premises through the Entry/Exit door. At the end of the Exit Delay, the system will be fully armed; activating any zone will cause an alarm.

[*]+[1]+[Access Code]: Zone Bypassing

A bypassed zone will not cause an alarm. Use zone bypassing when access is needed to part of a protected area when the system is armed, or if damage to sensors or wiring cannot be repaired immediately. The system may be armed with one or more zones bypassed even if the zones are open.

With the system disarmed, enter [*][1][Access Code] to display the bypassed zones; the zone lights of bypassed zones will come ON. Ensure that any zone displayed as being bypassed is intentionally bypassed. Zone bypasses are automatically cancelled when the system is disarmed.

To Bypass Zones: Enter [*][1][Access Code]; the "System" light will FLASH. Enter the number of the zone to be bypassed; the corresponding zone light will come ON to indicate that the zone is bypassed. To remove a bypass, enter the zone number and its zone light will be shut OFF. When all desired zones are bypassed, press the [#] Key to return to "Ready".

[*]+[2]: Display Trouble Conditions

The PC560 continuously monitors a number of trouble conditions. If one of these conditions occurs, the keypad "System" light will come ON and the sounder will sound two short beeps every 10 seconds. To silence the sounder, press the [#] Key; the sounder will be silenced but the "System" light will remain ON until the trouble condition is cleared. Refer to Programming Section [13] Maintenance Codes for a list of trouble conditions that can be reported to the monitoring station.

To display trouble conditions, enter [*][2]. Trouble conditions are represented with the zone lights:

Zone Light

- 1 Battery Trouble.** If the battery is disconnected, its voltage is low or the battery fuse is open, a trouble will be displayed and can be reported.
- 2 AC Failure.** If AC power is removed from the system, an AC trouble will be displayed.
- 3 Tamper Zone.** Zone Light 3 will come ON when the Tamper Zone is activated and will remain ON until the zone is restored. **NOTE:** The system cannot be armed until the Tamper Zone is restored.
- 4 Unsuccessful Communication Attempt.** If the digital communicator cannot communicate with the monitoring station after 8 attempts, a trouble is generated. If a later attempt at communication is successful, the trouble is cleared. The trouble can also be cleared by pressing the [#] Key to exit from the Display Trouble Conditions mode.

NOTE: If only an AC Failure trouble is present, the keypad sounder will not beep.

[*]+[3]: Display Alarm Memory

Alarms caused during the previous armed period are stored in memory. To display the zones that went into alarm, enter [*][3]. The "System" light will FLASH and the alarms will be displayed on the flashing zone lights.

NOTE: The alarm memory will be cleared the next time the system is armed.

[*]+[4]: Bell Test

Entering this command will sound the siren and turn ON all the keypad lights for 2 seconds.

[*]+[5]+[Master Code]: Program Access Codes

The [*][5][Master Code] command allows the user to program the Master Code and 3 additional Access Codes.

Programming Access Codes:

Enter [*][5][Master Code]. The "Ready", "Armed" and "System" lights will FLASH and the zone lights will indicate which Access Codes have been programmed and which Access Code is presently being programmed:

Zone Light	Access Code is...
OFF	not programmed
ON steady	programmed
Flashing	presently being programmed

When the [*][5][Master Code] command is entered, Zone Light 1 will be ON to indicate that the Master Code is programmed with the factory default code.

Changing or Adding a Code

To change Access Codes 1 to 4, enter the number of the code to be changed; the corresponding zone light will begin to FLASH. Enter a new 4-digit Access Code; **do not press [*] or [#] when entering the code.** After the code is entered, the keypad will beep 3 times and the zone light will stop flashing and remain ON. If an existing code is being changed, the new code will replace the old one. If another code is to be changed, press the number key for the code to be programmed and enter the new 4-digit code. When all desired changes are complete, press the [#] Key to return to "Ready".

Erasing a Code

To erase a code, enter [*][5][Master Code]. Enter the number of the code to be erased; the zone light for the code will FLASH. Enter [****] to erase the Access Code. **NOTE: Do not erase the Master Code!** If the Master Code is accidentally erased, reset the system's programming to the factory default settings. Refer to "Resetting Programming to the Factory Default Settings" for instructions on restoring the system's factory default programming.

[*]+[6]: Door Chime On/Off

The Door Chime feature causes the keypad to beep whenever a Delay or Instant Zone is activated. This feature is useful if the Entry/Exit door or doors are out of view, and the user desires an indication of when the door zones are opened and closed. The Door Chime feature only functions when the system is disarmed.

The Door Chime feature may only be turned on or off while the system is disarmed. To turn the Door Chime feature on or off, enter [*][6]. If the feature is being turned ON, the keypad sounder will beep 3 times. If the feature is being turned OFF, the sounder will emit a single long tone.

[*]+[8]+[Installer's Code]: Installer's Programming Command

The PC560 is programmed from the keypad by using commands in the [*][8][Installer's Code] section. These commands are described in detail in the Programming Section of this manual. The default Installer's Code is [0560].

[]+[9]: At-Home Arming*

Entering [*][9] will arm the system with all “Home-Away” zones automatically bypassed.

When the system is armed using the [*][9] command, the “Armed” light will FLASH to indicate that the system has been armed with the At-Home Arming option.

Important Note about Keypad [*] Commands

The [*] commands will not function when the system is in the disarmed state and the bell or siren is active. In order to use the [*] functions, an Access Code must first be entered to silence the alarm.

Keypad Zones

Three types of alarm may be activated by pressing and holding a single key on the keypad. For these alarms to be transmitted, Priority Alarm Reporting Codes must be programmed in Section [13].

- [F]** Press and hold the [F] Key for 2 seconds to sound an [F] Key alarm. The siren will sound a pulsed tone, and the alarm will be reported to the monitoring station. The keypad will sound a series of short beeps once the system has accepted the alarm.
- [A]** Press and hold the [A] Key for 2 seconds to generate an [A] Key alarm. An alarm will be transmitted to the monitoring station, but the siren will not sound when this function is activated. The keypad will sound a series of short beeps once the system has accepted the alarm.
- [P]** Press and hold the [P] Key for 2 seconds to generate a [P] Key alarm. An alarm will be transmitted to the monitoring station. The [P] Key alarm may be programmed as either silent or audible; refer to Programming Section [05]. When programmed as “audible”, the bell or siren will sound a steady alarm tone and the keypad will sound a series of short beeps once the system has accepted the alarm. When programmed as “silent”, the bell or siren **will not sound** on alarm and the keypad **will not beep** to indicate that the system has accepted the alarm.

Adjusting the Keypad Sounder Tone and Backlighting

The sounder tone and the lighting behind the keys for each Keypad may be individually adjusted. The sounder tone may be set as high, low, or no tone at all. The backlighting can be set at medium or high brightness, or it may be turned off.

To adjust the Keypad’s sounder, press and hold the [#] Key; after two seconds, the sounder will begin to beep. With each beep, the tone of the beep will increase or decrease. When the desired tone is achieved, release the [#] Key.

To adjust the Keypad’s backlighting, press and hold the [*] Key. The zone and status lights will be shut off, and the Keypad will beep as each of the three backlighting levels is shown: medium, high and off. When the desired level is reached, release the [*] Key. Press the [#] Key to return to the “Ready” mode.

If all power to the system is shut off, each Keypad’s tone and backlighting will be restored to the factory settings.

NOTE: WARNING

Some models of the PC560 have a special lockout feature that prevents the control panel from being reset to the factory default programming. Call DSC Australia if you are attempting to take over a system installed by another security company.

PROGRAMMING GUIDE

With the system disarmed, enter [*][8][Installer's Code]. The system can only be programmed while it is disarmed. The default Installer's Code is [0560]. The Installer's Code should be changed after the system is installed; refer to Programming Section [03].

When the Installer's Programming Command is entered, the "Armed" light will come ON and the "System" light will FLASH to indicate that the system is ready for programming. **NOTE:** If no key entry is made for 2 minutes, the system will return to the "Ready" mode and the Installer's Programming Command will have to be entered again.

With the "Armed" light ON and the "System" light flashing, enter 2 digits for the Section to be programmed. The Programming Sections are numbered from [01] to [14], and each section is programmed independently.

Once the 2 digits for the section to be programmed are entered, the keypad will beep 3 times, the "Ready" light will come ON and the "Armed" light will be shut OFF; the system is now ready to accept data for the selected section. In sections that contain groups of 2-digit numbers, the keypad will beep twice after each 2-digit number is entered.

To change the first digit in a section, enter a new digit from the keypad. If you wish to keep the first digit unchanged, enter the same number.

When all data for the section is completely entered, the keypad sounder will beep several times to indicate that all expected data has been entered. When a section is completely programmed, enter the number of the next section to be programmed.

Sections [05] through [06]: Selecting System Functions

These sections allow you to enable or disable various system functions. Refer to the Programming Worksheets to see which functions are represented by the Zone Lights.

To enable or disable a feature, press a number from 1 to 4 to turn the corresponding zone light ON or OFF. When all selections have been made, press the [#] Key to save the changes and return to the program mode.

HEX Data Programming

Certain programming entries may require the entry of data in HEX (hexadecimal, or base 16) format. HEX numbering uses the digits 0 through 9 and the letters A through F.

The letters A through F are represented by the number keys 1 through 6. To enter data in HEX format, first press the [*] Key. The "Ready" and "System" lights will FLASH. Enter the HEX value, then press the [*] Key again to return to the normal data entry mode; the "Ready" light will stop flashing, and the "System" light will continue to flash.

To enter HEX numbers:

A	Enter	[*][1][*]	D	Enter	[*][4][*]
B	Enter	[*][2][*]	E	Enter	[*][5][*]
C	Enter	[*][3][*]	F	Enter	[*][6][*]

Enter [*] **before** and **after** each digit. The last digit in each section does not require the last asterisk (*) to be entered.

Resetting Programming to the Factory Default Settings

The system may be reset to its factory default programming by following this procedure:

- 1 Remove all power, AC and battery, from the PC560
- 2 Remove all wiring connections from the PGM OUT and Zone 1 terminals
- 3 Short the PGM OUT and Zone 1 terminals together
- 4 Apply power to the PC560 and wait for 10 seconds
- 5 After approximately 10 seconds, the keypad sounder will beep and Zone Light 1 will come ON
- 6 Remove all power, AC and battery, from the PC560
- 7 Remove the short between the PGM OUT and Zone 1 terminals
- 8 Re-connect original wiring to the PGM OUT and Zone 1 terminals
- 9 Restore power to the PC560; the Programming Sections have now been restored to the factory default settings

PROGRAMMING SECTIONS

[01] Zone Definitions

Enter four 2-digit numbers in this section to determine the operating characteristics of each zone.

Zone Definitions: Digit 1

The first digit of each Zone Definition determines each zone's audible alarm characteristics. When programmed as *audible*, the siren will sound on alarm; when programmed as *silent*, the siren will not sound on alarm.

Note that zone response times are factory set at 500 ms.

Zone Definitions: Digit 2

Digit 2 determines the zone type as described below:

[0] Standard Delay: The Standard Delay Zone is normally used for Entry/Exit doors. The Exit Delay starts when the system is armed; the zone may be opened and closed during the delay without causing an alarm. When the Exit Delay expires, opening the zone will start the Entry Delay. During the Entry Delay, the keypad buzzer will sound steadily to indicate that the system should be disarmed. If the system is disarmed before the Entry Delay expires, no alarm will be generated.

Entry and Exit Delay times may be independently programmed for 1 to 255 seconds in Section [02]. The default settings are 60 seconds for the Exit Delay, and 15 seconds for the Entry Delay. **NOTE:** Do not program the Entry or Exit Delays with [000].

[1] Instant: Instant Zones are normally used for door and window contacts. Instant Zones have the standard Exit Delay, but will generate an *instant* alarm when opened after the Exit Delay expires. Refer to Section [02] for information on programming the Exit Delay; the default setting for the Exit Delay is 60 seconds.

[2] Interior: Interior Zones are normally used with interior motion detectors and have the standard Exit Delay. The zone will also have the standard Entry Delay provided that a Delay Zone has been activated before the Interior Zone. If the premises are entered without coming through a Delay zone and an Interior zone is tripped, an instant alarm will be generated.

[3] Home-Away with Delay: Home-Away Zones operate similarly to Interior Zones with the following additional feature: if the system is armed and a Delay zone is not activated during the Exit Delay time, the Home-Away with Delay zones will be automatically bypassed. This feature allows the system to be armed with the Home-Away with Delay Zones automatically bypassed so that the user may remain on the premises.

If a Delay Zone is activated during the Exit Delay, the Entry Delay will be applied to Home-Away with Delay zones when the Exit Delay expires. If a Home-Away with Delay zone is then activated, the Entry Delay will be initiated. If a Home-Away with Delay zone is activated during the Entry Delay, that zone will follow the Entry Delay before generating an alarm if the system is not disarmed.

If the system is armed with the [*][9] At-Home Arming Command, zones programmed as Home-Away with Delay will remain bypassed until the system is disarmed.

[4] 24-Hour Bell: 24-Hour Bell Zones are active at all times and will sound an alarm even if the system is disarmed. 24-Hour Bell Zones will activate the bell/siren output if programmed for audible operation. Alarms on these zones are communicated immediately.

[5] 24-Hour Pulsed Alarm: 24-Hour Pulsed Alarm Zones are active at all times and will sound an alarm even if the system is disarmed. Alarms on these zones are communicated immediately. **NOTE:** 24-Hour Pulsed Alarm Zones should always be programmed as audible so the bell/siren output will be activated when an alarm is generated. If a silent 24-Hour Zone is required, program the zone as [14].

[02] *System Times*

Three system times are programmed in Section [02]; each time requires a 3-digit number. Do not press the [#] Key during data entry.

Entry Delay (001 to 255 seconds) The Entry Delay determines the amount of time permitted between the activation of a Delay Zone and the disarming of the system. If the system is not disarmed during this delay, an alarm will be generated. Refer to Section [01] for information on which zone definitions are affected by the Entry Delay. The default Entry Delay is 15 seconds.

Exit Delay (001 to 255 seconds) The Exit Delay determines the amount of time permitted between entering an Access Code to arm the system and the activation of a Delay Zone to exit the premises. Refer to Section [01] for information on which zone definitions are affected by the Exit Delay. The default Exit Delay is 60 seconds.

Bell Cut-Off (001 to 255 minutes) This time determines how long the bell/siren will sound when an alarm is generated. When an alarm is initiated, the bell/siren will sound for this length of time, or until the alarm is silenced by entering an Access Code. The default setting is 10 minutes.

[03] *Installer's Code*

The default setting for the Installer's Code is [0560]. It is strongly recommended that the Installer's Code be reprogrammed before installation is complete. Be sure to record the new Installer's Code for later reference.

[04] *Programmable Output Options (PGM OUT Terminal)*

The PGM output can be programmed to operate in response to various system operations. When activated, the PGM OUT terminal will switch to ground.

[01] **Arm/Disarm Status**

The PGM OUT terminal is turned ON (switched to ground) on arming and remains ON as long as the system is armed. The output is shut OFF when the system is disarmed.

[04] **Remote Operation**

When programmed for Remote Operation, the PGM OUT terminal can only be turned ON (switched to ground) or turned OFF on command from the downloading computer. This function may be used to activate a sounder or other device to indicate that downloading is in progress.

[05] 1st System Option Code

When Section [05] is entered, the 4 Zone Lights will be ON or OFF to indicate which options are selected.

To turn a Zone Light ON or OFF, press a number from [1] to [4]. If the light was OFF, it will come ON; if the light was ON, it will be shut OFF.

LIGHT

- [1] ON = Momentary-contact Keyswitch Arming*
- OFF = Maintained-contact Keyswitch Arming
- [2] • ON = [P] Key: silent alarm
- OFF = [P] Key: audible alarm
- [3] • ON = KEY Terminal as Tamper Zone**
- OFF = Keyswitch Operation Enabled
- [4] • OFF = **For Future Use**
- Factory default settings

* If **Momentary-contact Keyswitch Arming** is selected, the keyswitch must be opened and then closed to arm or disarm the system. If **Maintained-contact Keyswitch Arming** is selected, OPEN the key contact to arm the system, and CLOSE the key contact to disarm the system.

** Turning Zone Light 3 ON programs the KEY Terminal as a Tamper Zone. Refer to the Hook-up Diagram for wiring instructions.

[06] 2nd System Option Code

Refer to Section [05] for programming information.

LIGHT

- [1] ON = Private line
- OFF = 40 BPS 4/2 with Parity
- If the communication format is changed:** when programming is complete, remove all power from the system, wait for 10 seconds, and then restore power to the system.
- [2] • ON = 1400 Hz Handshake
- OFF = 2300 Hz Handshake
- [3] ON = DLS Answer enabled
- OFF = DLS Answer disabled
- [4] ON = Ringback enabled
- OFF = Ringback disabled
- Factory default settings

If DLS Answer is **disabled**, the PC560 will not answer calls from a downloading computer.

If DLS Answer is **enabled**, the system will only connect to the downloading computer using the "double call" technique. The system must be called by the downloading computer, and the computer must allow the telephone line to ring only once or twice. After one or two rings, the downloading computer must hang-up the line and then call the system again within 60 seconds. The system will then answer the second call on the first ring. Note that the "double call" technique is the only means of connecting to the downloading computer.

If Ringback is **enabled**, the keypad will sound a series of beeps to acknowledge that communications have been completed successfully. The beeps will sound after the system has received the kiss-off handshake from the monitoring station's receiver. This is used to indicate to the user that the monitoring station has received communicated events. **NOTE:** Do not use the Ringback feature if silent zones are programmed on the system.

Private Line Format

The Private Line format will only transmit zone alarms for which reporting codes are programmed in Section [11]; [F], [A] and [P] Key alarms will not be reported by this format. ***Do not program any reporting codes other than the Alarm Reporting Codes for Zones 1 through 4 and the Tamper Zone.*** When a zone goes into alarm, the system will dial the telephone number programmed in Section [08]. The system will make up to eight attempts to communicate to the First Phone Number. After eight unsuccessful communication attempts, the system will dial the Second Phone Number programmed in Section [09].

When the call is answered, a double “beep” will sound on the line to indicate to the listener that a security system is placing a call. Press 3, 6, 9 or # on a touch-tone telephone to have the system transmit the zone or zones that are in alarm. The system will indicate which zone is in alarm by sounding a number of tones. One tone will sound for Zone 1, two tones will sound for Zone 2, and so on. Note that 5 tones will sound for a Tamper Zone alarm.

When the system has sounded the tones to indicate which zone is in alarm, it will wait for approximately 5 seconds for the listener to key in a closing handshake. Pressing 3, 6, 9 or # will send a closing handshake to the system. When the system receives the handshake, it will either hang up or will sound additional tones to indicate the next zone that is in alarm.

40BPS Non-Extended 4/2 with Parity Format

This communication format requires a 4-digit Account Code to be programmed in Section [10] and 2-digit reporting codes to be programmed in Sections [11], [12] and [13]. When an event is reported, the 4-digit Account Code, the appropriate 2-digit Event Code and a 1-digit parity character are transmitted. Since this format uses parity, only one round needs to be transmitted per event. Ensure that the handshake (Section [06] Light 2) is programmed to match the receiver to which the system will communicate.

[07] *For Future Use*

[08] *First Phone Number*

This is the first telephone number the Communicator will dial when an alarm is generated. Enter the telephone number the same way it would be dialled on a touch-tone phone. Press [#] after the last digit to complete the telephone number programming.

A pause of 2 seconds can be added by entering HEX ‘D’ between digits in the phone number. To enter HEX ‘D’, press [*] [4] [*]. The total number of digits and pauses must not exceed 17. ***Do not program any HEX digits other than ‘D’ in the telephone number.***

NOTE: If the Second Phone Number is to be used, program the First Phone Number first. If only one telephone number is to be used, program the number in Section [08].

[09] *Second Phone Number*

The system will call the Second Phone Number if 8 communication attempts to the First Phone Number are unsuccessful. Refer to Section [08] First Phone Number for programming instructions.

[10] Customer Account Code

The Customer Account Code is always transmitted to the telephone number to identify the customer. Enter a 4-digit number in Section [10]. Where a zero is required in the account code, enter HEX 'A' [*] [1] [*].

Disabling Communications

To disable the communicator, program all the reporting codes in Section [11], [12] and [13] with "00" or hexadecimal "FF".

[11] Zone Alarm and Restoral Reporting Codes

When Section [11] is entered, enter ten 2-digit numbers for the Alarm and Restoral Reporting Codes for zones 1 to 4 and the tamper zone. The alarm codes are transmitted when there is an alarm on a zone; the restoral codes are transmitted when the zone is restored and after the Bell Cut-off time has expired, or when the system is disarmed. 24-hour Zones and the Tamper Zone transmit their restoral codes when the zones are restored.

[12] Closing and Opening Reporting Codes

When the system is armed (closed) or disarmed (opened), a closing or opening reporting code will be transmitted to indicate which Access Code was used to arm or disarm the system.

If the Opening After Alarm Reporting Code is programmed, it will be transmitted to the monitoring station on disarming if an alarm occurred during the previous armed period. This feature is useful for installations where openings and closings are not normally reported, but it is desired to have a report on opening if an alarm occurred during the armed period. This feature allows the monitoring station to know that the user is on the premises and is available to receive a report on the alarms that occurred during the armed period.

[13] Maintenance and Priority Codes

Maintenance Codes are transmitted to indicate various trouble conditions and their restorals; Priority Codes are used to indicate the activation of the [F], [A] and [P] keys. Program a 2-digit code for each of the following conditions:

- Battery Trouble
- Battery Trouble Restore
- Periodic Test Code
- [P] Key alarm
- [A] Key alarm
- [F] Key alarm
- [P] Key restore
- [A] Key restore
- [F] Key restore
- Police Code

The Periodic Test Code is transmitted to the monitoring station once every 24 hours. The first transmission will be sent 12 hours after the system is first powered, and then once every 24 hours after the initial transmission.

If the Police Code is programmed it will be transmitted to the monitoring station if two or more alarms occur on different zones during the same armed period. The Police Code will be sent immediately after the transmission of the second alarm code.

[14] Downloading Access Code

This 4-digit code allows the system to confirm that it is communicating with a valid downloading computer. Enter a 4-digit code using the numbers 0 through 9; the hexadecimal numbers A through F may also be used in this code. The default code is [0505].

Sample Programming Worksheet
 Format: Ademco 4/2 with Parity

[06] 2nd System Option Code Page 14

Program

OFF	Zone Light 1	Ademco 4/2 with parity
ON	Zone Light 2	1400Hz Handshake
	Zone Light 3	DLS Answer Option: program as required
OFF	Zone Light 4	Ringback disabled

[08] First Phone Number Page 15

0, 2, 4, 1, 8, 9, 1, 6, #, _____

[09] Second Phone Number Page 15

[10] Customer Account Code Page 16

1, 2, 3, 4, _____

[11] Zone Alarm and Restoral Reporting Codes Page 16

	Ademco 685	Radionics	FBI CP220	MCM
Zone 1 Alarm	31	31	31	11
Zone 2 Alarm	32	32	32	12
Zone 3 Alarm	33	33	33	13
Zone 4 Alarm	34	34	34	14
Tamper Alarm	3A [3*1*]	3A [3*1*]	3A [3*1*]	1A [1*1*]
Zone 1 Restoral	91	91	E1 [*5*1]	71
Zone 2 Restoral	92	92	E2 [*5*2]	72
Zone 3 Restoral	93	93	E3 [*5*3]	73
Zone 4 Restoral	94	94	E4 [*5*4]	74
Tamper Restoral	9A [9*1]	9A [9*1]	EA [*5**1]	7A [7*1]

[12] Opening and Closing Reporting Codes Page 16

If a code is not required, leave blank; no entry required. To erase previously entered data, enter "00" or "FF" (*66*)**

	Ademco 685	Radionics	FBI CP220	MCM
Closing, Access Code 1	C1 [*3*1]	41	C1	C1
Closing, Access Code 2	C2 [*3*2]	42	C2	C2
Closing, Access Code 3	C3 [*3*3]	43	C3	C3
Closing, Access Code 4	C4 [*3*4]	44	C4	C4
Opening, Access Code 1	B1 [*2*1]	51	B1	B1
Opening, Access Code 2	B2 [*2*2]	52	B2	B2
Opening, Access Code 3	B3 [*2*3]	53	B3	B3
Opening, Access Code 4	B4 [*2*4]	54	B4	B4
Opening After Alarm Code				

[13] Maintenance and Priority Codes Page 16

If a code is not required, program as 00 or "FF" (*66*).**

	Ademco 685	Radionics	FBI CP220	MCM
Battery Trouble	89	89	F9 [*6*9]	F1 [*6*1]
Battery Restore	99	99	E9 [*5*9]	F6 [*6*6]
Periodic Test Code	21	A8 [*1*8]	21	FE [*6**5]
[P] Key Alarm	25	25	22	2D [2*4]
[A] Key Alarm	36	76	24	As required
[F] Key Alarm	17	17	25	21
[P] Key Restore	95	95	00	8F [8*6]
[A] Key Restore	96	96	00	As required
[F] Key Restore	97	97	00	81
Police Code				

Refer to the Installation Manual for additional programming instructions.

Press [#] to close the programming mode.

Sample Programming Worksheet

Format: Private Line calling a residential touch tone phone or mobile phone

[06] 2nd System Option Code Page 14

Program

ON	Zone Light 1	Private Line
OFF	Zone Light 2	2300Hz Handshake
	Zone Light 3	DLS Answer Option: program as required
OFF	Zone Light 4	Ringback disabled

[08] First Phone Number Page 15

0, 2, 4, 1, 8, 9, 1, 6, #, _____

[09] Second Phone Number Page 15

[10] Customer Account Code Page 16

Do not program

[11] Zone Alarm and Restoral Reporting Codes Page 16

Zone 1 Alarm	11
Zone 2 Alarm	21
Zone 3 Alarm	31
Zone 4 Alarm	41
Tamper Alarm	5A
Zone 1 Restoral	
Zone 2 Restoral	
Zone 3 Restoral	
Zone 4 Restoral	
Tamper Restoral	

Refer to the Installation Manual for additional programming instructions.

Press [#] to close the programming mode.

[01] *Zone Definitions* Page 12

NOTE: When defining zones, assign delay zones first, then assign the other types.

Default

00 Zone 1
02 Zone 2
01 Zone 3
01 Zone 4

Digit 1

[0] Audible
[1] Silent

Digit 2

[0] Standard Delay
[1] Instant
[2] Interior
[3] Home-Away with Delay
[4] 24-Hour Bell
[5] 24-Hour Pulsed Alarm

[02] *System Times* Page 13

Default

015 Entry Delay (seconds)
060 Exit Delay (seconds)
010 Bell Cut-off (minutes)

Valid entries are "001" to "255"; do not enter "000".

[03] *Installer's Code* Page 13

Default

0560

[04] *Programmable Output Options (PGM OUT Terminal)* Page 13

Default

01 Programmable Output [01] Arm/Disarm Status
[04] Remote Operation (through Downloading)

[05] *1st System Option Code* Page 14

Default

OFF Zone Light 1
ON Zone Light 2
ON Zone Light 3
OFF Zone Light 4

Zone Light ON

Momentary Keyswitch
[P] Key: silent alarm
KEY Terminal is Tamper Zone

Zone Light OFF

Maintained Keyswitch
[P] Key: audible alarm

For Future Use

NOTE: An end-of-line resistor must be connected between the KEY and COM terminals even if the KEY terminal is not used for keyswitch operation or as a tamper zone.

[06] 2nd System Option Code Page 14

Default			Zone Light ON	Zone Light OFF
<u>OFF</u>	<input type="checkbox"/>	Zone Light 1	Private Line	40 BPS 4/2 with parity
<u>ON</u>	<input type="checkbox"/>	Zone Light 2	1400Hz Handshake	2300Hz Handshake
<u>OFF</u>	<input type="checkbox"/>	Zone Light 3	DLS Answer enabled	DLS Answer disabled
<u>OFF</u>	<input type="checkbox"/>	Zone Light 4	Ringback enabled	Ringback disabled

If the communication format is changed: when programming is complete, remove all power from the system, wait for 10 seconds, and then restore power to the system.

[07] For Future Use Page 15

[08] First Phone Number Page 15

Enter [0] for the digit 0 in the phone number. Enter [*4*] (HEX D) for a 2-second pause between number digits. Enter [#] to end the phone number entry.

If only one phone number is to be used, program the number in Section [08].

[09] Second Phone Number Page 15

[10] Customer Account Code Page 16

Enter [*1*] (HEX A) for the digit "0" in the account code.

[11] *Zone Alarm and Restoral Reporting Codes* Page 16

For single digit reporting codes, enter [0] as the second digit.

___ Zone 1 Alarm Enter [*1*] (HEX A) to transmit a "0" (zero = 10 pulses)

___ Zone 2 Alarm

___ Zone 3 Alarm

___ Zone 4 Alarm

___ Tamper Alarm

___ Zone 1 Restoral

___ Zone 2 Restoral

___ Zone 3 Restoral

___ Zone 4 Restoral

___ Tamper Restoral

NOTE: 24-Hour Zone restorals are transmitted when the zone is restored. All other restorals are transmitted after the Bell Cut-off time expires, or when the alarm is silenced by entering an Access Code.

[12] *Closing and Opening Reporting Codes* Page 16

For single digit reporting codes, enter [0] as the second digit.

___ Closing, Access Code 1 Enter [*1*] (HEX A) to transmit a "0" (zero = 10 pulses)

___ Closing, Access Code 2

___ Closing, Access Code 3

___ Closing, Access Code 4

___ Opening, Access Code 1

___ Opening, Access Code 2

___ Opening, Access Code 3

___ Opening, Access Code 4

___ Opening After Alarm Code

[13] Maintenance and Priority Codes Page 16

For single digit reporting codes, enter [0] as the second digit.

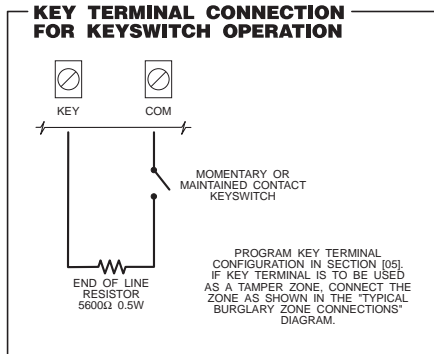
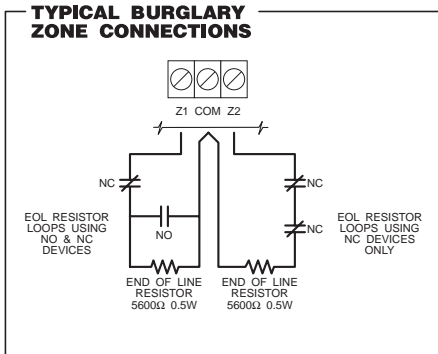
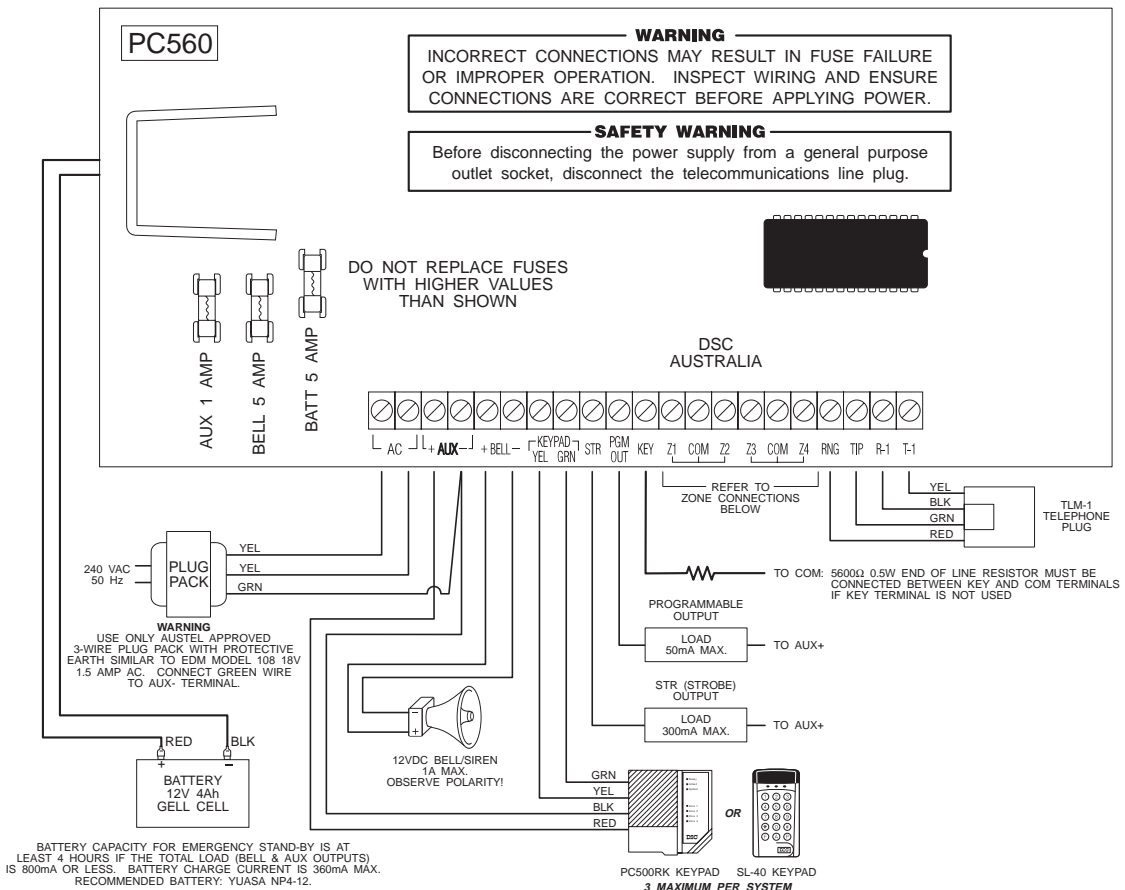
- | | | |
|----------------------|--------------------|--|
| <input type="text"/> | Battery Trouble | Enter [*1*] (HEX A) to transmit a "0" (zero = 10 pulses) |
| <input type="text"/> | Battery Restore | |
| <input type="text"/> | Periodic Test Code | |
| <input type="text"/> | [P] Key Alarm | |
| <input type="text"/> | [A] Key Alarm | |
| <input type="text"/> | [F] Key Alarm | |
| <input type="text"/> | [P] Key Restore | |
| <input type="text"/> | [A] Key Restore | |
| <input type="text"/> | [F] Key Restore | |
| <input type="text"/> | Police Code | |

[14] Downloading Access Code Page 16**Default**

0505

This code allows the panel to confirm that a valid downloading computer is requesting access to the panel.

HOOK-UP DIAGRAM



Recognized limited energy cable should be used. Observe local codes as defined by the authority having jurisdiction. Refer to Installation and Instruction Manuals for complete operating instructions. Detection devices that require power from the Control Panel should operate over the range of 10.0 to 14.0 VDC. The DSC BRAVO models are recommended motion detectors. The DSC DG-50 is a recommended glassbreak detector. Temperature Range: 0°C to 49°C (32°F to 120°F). Maximum Humidity: 85% relative humidity

LIMITED WARRANTY

Digital Security Controls Ltd. warrants that for a period of twelve months from the date of purchase, the product shall be free of defects in materials and workmanship under normal use and that in fulfillment of any breach of such warranty, Digital Security Controls Ltd. shall, at its option, repair or replace the defective equipment upon return of the equipment to its repair depot. This warranty applies only to defects in parts and workmanship and not to damage incurred in shipping or handling, or damage due to causes beyond the control of Digital Security Controls Ltd. such as lightning, excessive voltage, mechanical shock, water damage, or damage arising out of abuse, alteration or improper application of the equipment.

The foregoing warranty shall apply only to the original buyer, and is and shall be in lieu of any and all other warranties, whether expressed or implied and of all other obligations or liabilities on the part of Digital Security Controls Ltd. This warranty contains the entire warranty. Digital Security Controls Ltd. neither assumes, nor authorizes any other person purporting to act on its behalf to modify or to change this warranty, nor to assume for it any other warranty or liability concerning this product.

In no event shall Digital Security Controls Ltd. be liable for any direct, indirect or consequential damages, loss of anticipated profits, loss of time or any other losses incurred by the buyer in connection with the purchase, installation or operation or failure of this product.

WARNING: Digital Security Controls Ltd. recommends that the entire system be completely tested on a regular basis. However, despite frequent testing, and due to, but not limited to, criminal tampering or electrical disruption, it is possible for this product to fail to perform as expected.

