



Installation Manual

1-800-387-3630

PC550

Software Version 1.1
DLS-1 V6.2 and up

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• W A R N I N G •

This manual contains information on limitations regarding product use and function and information on the limitations as to liability of the manufacturer. The entire manual should be carefully read.

WARNING Please Read Carefully

Note to Installers

This warning contains vital information. As the only individual in contact with system users, it is your responsibility to bring each item in this warning to the attention of the users of this system.

System Failures

This system has been carefully designed to be as effective as possible. There are circumstances, however, involving fire, burglary, or other types of emergencies where it may not provide protection. Any alarm system of any type may be compromised deliberately or may fail to operate as expected for a variety of reasons. Some but not all of these reasons may be:

■ **Inadequate Installation**

A security system must be installed properly in order to provide adequate protection. Every installation should be evaluated by a security professional to ensure that all access points and areas are covered. Locks and latches on windows and doors must be secure and operate as intended. Windows, doors, walls, ceilings and other building materials must be of sufficient strength and construction to provide the level of protection expected. A reevaluation must be done during and after any construction activity. An evaluation by the fire and/or police department is highly recommended if this service is available.

■ **Criminal Knowledge**

This system contains security features which were known to be effective at the time of manufacture. It is possible for persons with criminal intent to develop techniques which reduce the effectiveness of these features. It is important that a security system be reviewed periodically to ensure that its features remain effective and that it be updated or replaced if it is found that it does not provide the protection expected.

■ **Access by Intruders**

Intruders may enter through an unprotected access point, circumvent a sensing device, evade detection by moving through an area of insufficient coverage, disconnect a warning device, or interfere with or prevent the proper operation of the system.

■ **Power Failure**

Control units, intrusion detectors, smoke detectors and many other security devices require an adequate power supply for proper operation. If a device operates from batteries, it is possible for the batteries to fail. Even if the batteries have not failed, they must be charged, in good condition and installed correctly. If a device operates only by AC power, any interruption, however brief, will render that device inoperative while it does not have power. Power interruptions of any length are often accompanied by voltage fluctuations which may damage electronic equipment such as a security system. After a power interruption has occurred, immediately conduct a complete system test to ensure that the system operates as intended.

■ **Failure of Replaceable Batteries**

This system's wireless transmitters have been designed to provide several years of battery life under normal conditions. The expected battery life is a function of the device environment, usage and type. Ambient conditions such as high humidity, high or low temperatures, or large temperature fluctuations may reduce the expected battery life. While each transmitting device has a low battery monitor which identifies when the batteries need to be replaced, this monitor may fail to operate as expected. Regular testing and maintenance will keep the system in good operating condition.

■ **Compromise of Radio Frequency (Wireless) Devices**

Signals may not reach the receiver under all circumstances which could include metal objects placed on or near the radio path or deliberate jamming or other inadvertent radio signal interference.

■ **System Users**

A user may not be able to operate a panic or emergency switch possibly due to permanent or temporary physical disability, inability to reach the device in time, or unfamiliarity with the correct operation. It is important that all system users be trained in the correct operation of the alarm system and that they know how to respond when the system indicates an alarm.

■ **Smoke Detectors**

Smoke detectors that are a part of this system may not properly alert occupants of a fire for a number of reasons, some of which follow. The smoke detectors may have been improperly installed or positioned. Smoke may not be able to reach the smoke detectors, such as when the fire is in a chimney, walls or roofs, or on the other side of closed doors. Smoke detectors may not detect smoke from fires on another level of the residence or building.

Every fire is different in the amount of smoke produced and the rate of burning. Smoke detectors cannot sense all types of fires equally well. Smoke detectors may not provide timely warning of fires caused by carelessness or safety hazards such as smoking in bed, violent explosions, escaping gas, improper storage of flammable materials, overloaded electrical circuits, children playing with matches or arson.

Even if the smoke detector operates as intended, there may be circumstances when there is insufficient warning to allow all occupants to escape in time to avoid injury or death.

■ **Motion Detectors**

Motion detectors can only detect motion within the designated areas as shown in their respective installation instructions. They cannot discriminate between intruders and intended occupants. Motion detectors do not provide volumetric area protection. They have multiple beams of detection and motion can only be detected in unobstructed areas covered by these beams. They cannot detect motion which occurs behind walls, ceilings, floor, closed doors, glass partitions, glass doors or windows. Any type of tampering whether intentional or unintentional such as masking, painting, or spraying of any material on the lenses, mirrors, windows or any other part of the detection system will impair its proper operation.

Passive infrared motion detectors operate by sensing changes in temperature. However their effectiveness can be reduced when the ambient temperature rises near or above body temperature or if there are intentional or unintentional sources of heat in or near the detection area. Some of these heat sources could be heaters, radiators, stoves, barbecues, fireplaces, sunlight, steam vents, lighting and so on.

■ **Warning Devices**

Warning devices such as sirens, bells, horns, or strobes may not warn people or waken someone sleeping if there is an intervening wall or door. If warning devices are located on a different level of the residence or premise, then it is less likely that the occupants will be alerted or awakened. Audible warning devices may be interfered with by other noise sources such as stereos, radios, televisions, air conditioners or other appliances, or passing traffic. Audible warning devices, however loud, may not be heard by a hearing-impaired person.

■ **Telephone Lines**

If telephone lines are used to transmit alarms, they may be out of service or busy for certain periods of time. Also an intruder may cut the telephone line or defeat its operation by more sophisticated means which may be difficult to detect.

■ **Insufficient Time**

There may be circumstances when the system will operate as intended, yet the occupants will not be protected from the emergency due to their inability to respond to the warnings in a timely manner. If the system is monitored, the response may not occur in time to protect the occupants or their belongings.

■ **Component Failure**

Although every effort has been made to make this system as reliable as possible, the system may fail to function as intended due to the failure of a component.

■ **Inadequate Testing**

Most problems that would prevent an alarm system from operating as intended can be found by regular testing and maintenance. The complete system should be tested weekly and immediately after a break-in, an attempted break-in, a fire, a storm, an earthquake, an accident, or any kind of construction activity inside or outside the premises. The testing should include all sensing devices, keypads, consoles, alarm indicating devices and any other operational devices that are part of the system.

■ **Security and Insurance**

Regardless of its capabilities, an alarm system is not a substitute for property or life insurance. An alarm system also is not a substitute for property owners, renters, or other occupants to act prudently to prevent or minimize the harmful effects of an emergency situation.

LIMITED WARRANTY

Digital Security Controls Ltd. warrants the original purchaser 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. During the warranty period, Digital Security Controls Ltd. shall, at its option, repair or replace any defective product upon return of the product to its factory, at no charge for labour and materials. Any replacement and/or repaired parts are warranted for the remainder of the original warranty or ninety (90) days, whichever is longer. The original owner must promptly notify Digital Security Controls Ltd. in writing that there is defect in material or workmanship, such written notice to be received in all events prior to expiration of the warranty period.

International Warranty

The warranty for international customers is the same as for any customer within Canada and the United States, with the exception that Digital Security Controls Ltd. shall not be responsible for any customs fees, taxes, or VAT that may be due.

Warranty Procedure

To obtain service under this warranty, please return the item(s) in question to the point of purchase. All authorized distributors and dealers have a warranty program. Anyone returning goods to Digital Security Controls Ltd. must first obtain an authorization number. Digital Security Controls Ltd. will not accept any shipment whatsoever for which prior authorization has not been obtained.

Conditions to Void Warranty

This warranty applies only to defects in parts and workmanship relating to normal use. It does not cover:

- damage incurred in shipping or handling;
- damage caused by disaster such as fire, flood, wind, earthquake or lightning;
- damage due to causes beyond the control of Digital Security Controls Ltd. such as excessive voltage, mechanical shock or water damage;
- damage caused by unauthorized attachment, alterations, modifications or foreign objects;
- damage caused by peripherals (unless such peripherals were supplied by Digital Security Controls Ltd.);
- defects caused by failure to provide a suitable installation environment for the products;
- damage caused by use of the products for purposes other than those for which it was designed;
- damage from improper maintenance;
- damage arising out of any other abuse, mishandling or improper application of the products.

Digital Security Controls Ltd.'s liability for failure to repair the product under this warranty after a reasonable number of attempts will be limited to a replacement of the product, as the exclusive remedy for breach of warranty. Under no circumstances shall Digital Security Controls Ltd. be liable for any special, incidental, or consequential damages based upon breach of warranty, breach of contract, negligence, strict liability, or any other legal theory. Such damages include, but are not limited to, loss of profits, loss of the product or any associated equipment, cost of capital, cost of substitute or replacement equipment, facilities or services, down time, purchaser's time, the claims of third parties, including customers, and injury to property.

Disclaimer of Warranties

This warranty contains the entire warranty and shall be in lieu of any and all other warranties, whether expressed or implied (including all implied warranties of merchantability or fitness for a particular purpose) And of all other obligations or liabilities on the part of Digital Security Controls Ltd. 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.

This disclaimer of warranties and limited warranty are governed by the laws of the province of Ontario, Canada.

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.

Installer's Lockout

Any products returned to DSC which have the Installer's Lockout option enabled and exhibit no other problems will be subject to a service charge.

Out of Warranty Repairs

Digital Security Controls Ltd. will at its option repair or replace out-of-warranty products which are returned to its factory according to the following conditions. Anyone returning goods to Digital Security Controls Ltd. must first obtain an authorization number. Digital Security Controls Ltd. will not accept any shipment whatsoever for which prior authorization has not been obtained.

Products which Digital Security Controls Ltd. determines to be repairable will be repaired and returned. A set fee which Digital Security Controls Ltd. has predetermined and which may be revised from time to time, will be charged for each unit repaired.

Products which Digital Security Controls Ltd. determines not to be repairable will be replaced by the nearest equivalent product available at that time. The current market price of the replacement product will be charged for each replacement unit.

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 compatible receivers and their formats
 - Silent Knight Model 9000: 3/1, 4/1, 4/2 non-extended, 3/1 extended, 20 bps, 1400 Hz handshake.
 - Ademco Model 685: 3/1, 4/1, 4/2 non-extended, 3/1 extended, 20 bps, 1400 Hz handshake.
 - SESCOA Model 3000: 3/1, 4/1, 4/2 non-extended, 3/1 extended, 20 bps, 1400 Hz handshake.
 - Radionics Model D6500: 3/1, 4/2 non-extended, 3/1 extended, with or without parity, 1400 and 2300 Hz handshake.
 - Sur-Gard Model MLR2-DG: 3/1, 4/1, 4/2, without parity, 20 bps, 1400 and 2300 Hz handshake.
- 4 End-of-Line Resistor Supervised Zones
- 6 Programmable Zone Types with Silent or Audible alarms
- Programmable Output with 4 options
- 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

PC550 Control Panel

- Four fully programmable zones
- Zones are End-of-Line Resistor supervised
- All zones programmable as 24-Hour Fire Alarm
- Maximum zone loop resistance: 100 ohms
- Bell/Siren Output: PTC 3A
- Bell / Siren Alarms: steady and pulsed alarms
- Programmable Output: 50 mA with 4 options
- Auxiliary Power Output:
 - 150 mA (Fire and Burglary), 24-hour standby
 - 300 mA (Burglary only), 4-hour standby
- Maximum 3 keypads per system
- Required Battery: 12 V_{DC}, 4 Ah sealed lead-acid type
 - Standby @ 150 mA auxiliary output: 24 hours
 - Standby @ 300 mA auxiliary output: 4 hours
- Required Transformer: 16 V_{AC}, 40 VA
- Panel dimensions: 10" high x 8" wide x 3" deep (254 x 208 x 76 mm)
- Panel Colour: light beige

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 x 2.75" wide x 1.2" deep (120mm x 70mm x 30mm)
- Keypad Color: Designer White with Grey display

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 x 4.5" wide x 1" deep (114mm x 114mm x 25.4mm)
- Keypad Color: Mist

PC500RK APS Keypad

- 10-key keypad
- One one-touch Zone: [P]
- 3 Status Lights: Ready, Armed, System
- 4 Zone Lights
- Keypad dimensions: 4.5" high x 4.5" wide x 1" deep (114mm x 114mm x 25.4mm)
- Keypad Color: Mist

[10] Opening and Closing Reporting Codes Page 11

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 | |

[11] Maintenance and Priority Codes Page 11

- | | |
|-----|--------------------|
| ___ | [P] Key Alarm |
| ___ | [A] Key Alarm |
| ___ | [F] Key Alarm |
| ___ | Battery Trouble |
| ___ | Battery Restore |
| ___ | Periodic Test Code |

[12] Downloading Access Code Page 11

Default

0 5 0 5 ___

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

[13] Maintenance and Priority Codes Page 11

- | | |
|-----|----------------------|
| ___ | Fire Trouble |
| ___ | Fire Trouble Restore |
| ___ | AC Trouble |
| ___ | AC Trouble Restore |

[06] 2nd System Option Code Page 11

Default		Zone Light ON	Zone Light OFF
ON	<input type="checkbox"/>	Zone Light 1	Pulse dialing
OFF	<input type="checkbox"/>	Zone Light 2	2300Hz Handshake
OFF	<input type="checkbox"/>	Zone Light 3	DLS Answer disabled
OFF	<input type="checkbox"/>	Zone Light 4	Temporal Fire Bell
		DTMF dialing	1400Hz Handshake
		DLS Answer enabled	DLS Answer disabled
		Standard Fire Bell	Temporal Fire Bell

[07] Phone Number Page 11

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

[08] Customer Account Code Page 11

Enter [*1*] (HEX A) for the digit "0" in the account code. For a 3-digit code, enter [0] for the 4th digit.

[09] Zone Alarm and Restoral Reporting Codes Page 11

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
- Zone 1 Restoral
- Zone 2 Restoral
- Zone 3 Restoral
- Zone 4 Restoral

NOTE: 24-Hour Zone restorals are transmitted when the zone is restored. All other restorals are transmitted on Bell Time-out, or when the alarm is silenced by entering an Access Code.

Installation

Mounting the 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 panel to drywall, plaster, concrete, brick or other similar surfaces.

Press the PC550 Control Panel onto the nylon mounting studs. Pull all cables into the cabinet and prepare them for connection.

Mounting the Keypad

The PC500 Control Panel is controlled by the SL-40 or PC500RK Keypad. The Keypad should be located close to the designated "Entry-Exit" door and mounted at a height convenient for all users.

Refer to the illustrations for the keypad included with your control panel. 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.

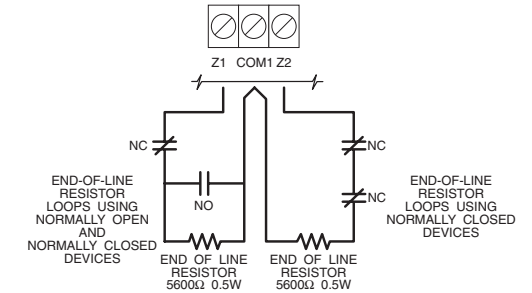
Align the keypad with the mounting tabs on the top of the backplate. With the top mounting tabs engaged, swing the keypad down and engage the bottom locking tab. Ensure that the top mounting tabs and the bottom locking tab are securely engaged.

Wiring

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

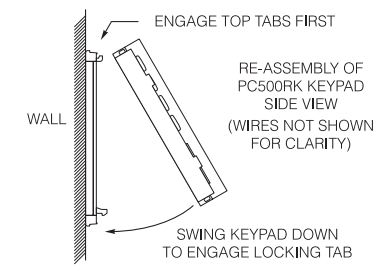
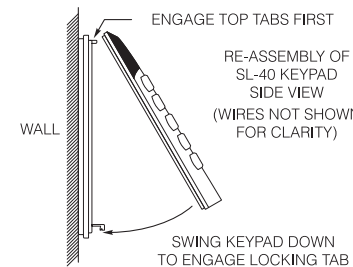
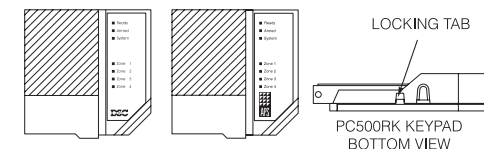
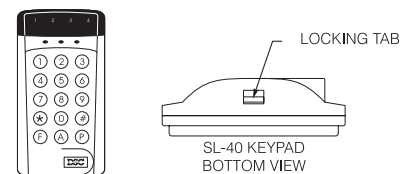
Burglary Zone Wiring

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



SL-40 Keypad

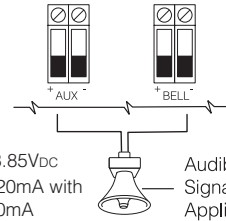
PC500RK or PC500RK APS Keypad



Burglary Zone Wiring Chart

Wire Gauge	Maximum wire length to End of Line Resistor (feet/meters)
24	1900 / 579
22	3000 / 914
20	4900 / 1493
19	6200 / 1889
18	7800 / 2377

Figures are based on maximum wiring resistance of 100 ohms.



PGM Terminal Connections

The PGM terminal is a normally open output that will switch to ground when activated. This output can be controlled by various programming options; refer to Programming Guide Section [04]. Devices controlled by the PGM output must be connected between the PGM terminal and the Aux (+) terminal.

AC Power Wiring

Complete all wiring to the control panel before connecting AC power or the battery. The transformer should not be connected to an outlet that is controlled by a switch.

Battery Connection

If the battery is connected in reverse, the 3A battery PTC will open and will reset when the voltage is removed. The battery charging voltage is factory set 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 panel 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.

Telephone Line Wiring

Notice: Ensure that plugs and jack meet the dimension, tolerance and metallic plating requirements of 47 C.F.R. Part 68, Subpart F.

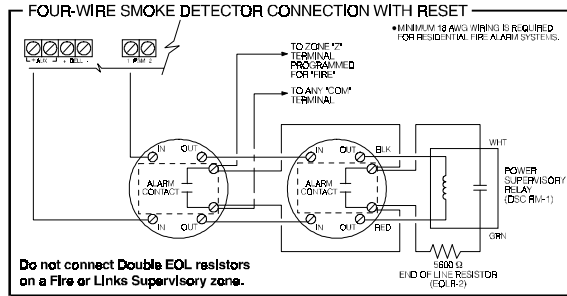
For proper operation, there must be no other telephone equipment connected between the control panel and the telephone company's facilities.

Warning: FCC restricts the use of this equipment on certain types of telephone lines. Read the FCC Compliance Statement at the rear of this manual. Also, do not use this equipment on a telephone line equipped with "call holding" features as the tones generated by these features may interfere with communicator operation.

Do not connect the alarm panel 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 panel communicator.

Fire Zone Wiring

All fire zones must be wired according to the following diagram:



Auxiliary Power Connection

The Auxiliary Power Supply can be used to power keypads, 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 +/- terminals and for devices connected between the AUX + and PGM terminals. The output current cannot exceed 150 mA (300 mA for Burglary only) when using a 40VA transformer.

Bell Connection

For UL installations, when a bell or siren is used for fire signaling with a pulsed cadence, it must be connected between the AUX+ and BELL- terminals. To maintain bell circuit supervision, do not connect more than one device to the BELL- terminal. A fire bell or siren used for this application must be UL Listed and have a current consumption of 400mA or less (e.g. Wheelock MT-12/24-R).

For UL installations you must use a BSM-100 (Bell Supervision Module) to supervise the Bell circuit.

The following connections of this module refer to BSM-100 Installation Instructions P/N# 29003252.

Programming Worksheets

[01] Zone Definitions Page 9

NOTE: When defining zones, assign Delay Zones starting with Zone 1, then Zone 2, and so on. Then, assign the other zone types to the remaining zones in any order desired.

Default

0 0 ___ Zone 1
 0 1 ___ Zone 2
 0 2 ___ Zone 3
 0 2 ___ 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] Fire Zone

[02] System Times Page 10

Default

0 3 0 _____ Entry Delay (seconds)
 1 2 0 _____ Exit Delay (seconds)
 0 0 4 _____ Bell Cut-off (minutes)

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

NOTE: For UL Installations, Entry Delay must be 45 seconds and Exit Delay must be 60 seconds.

[03] Installer's Code Page 10

Default

0 5 5 0 _____

[04] Programmable Output Options (PGM Terminal) Page 10

Default

0 1 ___ Programmable Output [01] [*][7] Utility Output Command activates PGM
 [02] PGM follows Keypad Buzzer
 [03] Latched alarm
 [04] Remote Operation (through Downloading)

[05] 1st System Option Code Page 10

Default

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

Zone Light ON

For Future Use

[P] Key: silent alarm

For Future Use

For Future Use

Zone Light OFF

[P] Key: audible 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 panel is disarmed.

To Bypass Zones:

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

Note: Do not bypass fire zones.

[*]+[2]: Display Trouble Conditions

The PC550 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 Sections [11] and [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; if a zone light comes ON, then that trouble condition is present:

Zone Light

- 1 Battery Trouble.** If the battery is disconnected, its voltage is low, 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 Fire Trouble**
- 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 that 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.

[06] 2nd System Option Code

Refer to Section [05] for programming information.

LIGHT

- [1] • ON = DTMF dialing
OFF = Pulse dialing
- [2] ON = 1400 Hz Handshake
• OFF = 2300 Hz Handshake
- [3] ON = DLS Answer enabled
• OFF = DLS Answer disabled
- [4] ON = Fire bell follows standard bell pulse
• OFF = Temporal bell pulse

• Factory default settings

If DLS Answer is **disabled**, the PC550 will not answer calls from a downloading computer.

If DLS Answer is **enabled**, the PC550 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 place another call to the PC550 within 60 seconds. The PC550 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.

Disabling Communications

To disable the communicator, program all the reporting codes in Sections [09], [10], [11] and [13] with HEX "FF".

[07] Phone Number

This is the 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. **NOTE:** Do not program any HEX digits other than 'D' in the telephone number.

[08] 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 [08]; HEX digits may be used in the Account Code. Where a zero is required in the account code, enter HEX 'A' [*] [1] [*]. If a 3-digit code is required, as in 3/1 formats, enter [0] as the LAST digit. The [0] represents a null digit where no pulses are transmitted.

[09] Zone Alarm and Restoral Reporting Codes

When Section [09] is entered, the panel expects eight 2-digit numbers for the Alarm and Restoral Reporting Codes for zones 1 to 4. The alarm codes are transmitted when there is an alarm on a zone; the restoral codes are transmitted on bell time-out, or when the alarm is silenced by entering an Access Code.

[10] Opening and Closing Reporting Codes

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

[11] 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:

- [P] Key alarm
- [A] Key alarm
- [F] Key alarm
- Battery Trouble
- Battery Trouble Restore
- Periodic Test 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.

[12] Downloading Access Code

This 4-digit code allows the panel to confirm that it is communicating with a valid downloading computer. Enter a 4-digit code using the numbers 0 through 9 and the hexadecimal numbers A through F. The default code is [0505].

[13] Maintenance Codes

Maintenance Codes are transmitted to indicate various trouble conditions and their restorals. Program a 2-digit code for each of the following conditions:

- Fire trouble
- Fire trouble restore
- AC trouble
- AC Trouble Restore

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][Access Code] 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 panel 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 Fire Zone: Fire zones are active at all times and are not bypassable. Alarms on these zones will activate the bell in either a temporal bell pattern or a pulsed bell pattern, depending on the programming of section [06], option 4. Alarms on these zones are communicated immediately.

[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.

[1] 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 30 seconds.

[2] 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 120 seconds.

[3] 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 4 minutes.

[03] Installer's Code

The default setting for the Installer's Code is [0550]. 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 Terminal)

The PGM output can be programmed to operate in response to various panel operations. The output pulse connects the PGM terminal to ground.

[01] Utility Output

When activated by entering the [*][7] command, the PGM output will switch to ground for 5 seconds and the keypad buzzer will sound.

[02] Keypad Sounder Follow Mode

The PGM output will switch to ground as long as the keypad buzzer is ON. For example, the PGM output will switch to ground when the keypad buzzer sounds during the Entry Delay.

[03] Latched Alarm Output

The PGM switches to ground on an alarm and remains switched to ground until an access code is entered. This output can be used to indicate that an alarm has occurred before entering the premises.

[04] Remote Operation (through Downloading)

When programmed for Remote Operation, the PGM output 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 indicate which options are enabled. If a light is ON, that option is enabled; if a light is OFF, that option is disabled.

To enable or disable an option, press a number from [1] to [4]. If the light indicating the option was OFF, it will come ON; if the light indicating the option was ON, it will go OFF.

LIGHT

- [1] • OFF = **For future use**
- [2] • ON = [P] Key: silent alarm
OFF = [P] Key: audible alarm
- [3] • OFF = **For Future Use**
- [4] • OFF = **For Future Use**

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. 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.

[*][7]: Utility Output Command

If Programming Section [04] is programmed as [01], entering [*][7] on the keypad will activate the keypad sounder and the PGM output for 5 seconds.

This feature can be used to operate devices such as door strikes or special lighting, or with a relay to perform a sensor reset.

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

The PC550 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 [0550].

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

Entering [*][9] before entering an Access Code will arm the panel and remove the Entry Delay from the Delay Zones. All "Home-Away" zones will be automatically bypassed.

When the system is armed using the [*][9][Access Code] command, the "Armed" light will FLASH to remind the user that the Entry/Exit zones do not have the Entry Delay. This command allows the user to remain on the premises and have an instant alarm on the entry doors.

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, Alarm Reporting Codes must be programmed in Section [11].

[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 with a loud tone, a softer tone, 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.

Programming Guide

With the panel disarmed, enter [*][8][Installer's Code]. The panel can only be programmed while it is disarmed. The default Installer's Code is [0550]. 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 panel is ready for programming.

NOTE: If no key entry is made for 2 minutes, the panel 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 [13], 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 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] and [06]

These sections allow you to enable or disable various system functions. Refer to the Programming Worksheets to see which features are represented by the Zone Lights. If a feature is enabled, its Zone Light will be ON; if a feature is disabled, its Zone Light will be OFF.

To enable or disable a feature, press a number from 1 to 4. If a feature is being enabled, its light will come ON; if a feature is being disabled, its light will be shut 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][*]
B	Enter	[*][2][*]
C	Enter	[*][3][*]
D	Enter	[*][4][*]
E	Enter	[*][5][*]
F	Enter	[*][6][*]

Enter [*] **before** and **after** each digit. The last digit in each section does not require the final 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 PC550
- 2 Remove all wiring connections from the PGM and Zone 1 terminals
- 3 Connect the PGM and Zone 1 terminals together
- 4 Apply power to the PC550 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 PC550
- 7 Remove the connection between the PGM and Zone 1 terminals
- 8 Re-connect original wiring to the PGM and Zone 1 terminals
- 9 Restore power to the PC550; 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 500ms.

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 120 seconds for the Exit Delay, and 30 seconds for the Entry Delay. **NOTE:** Do not program the Entry or Exit Delays with [000]. For UL Installations, Exit Delay must be 60 seconds and Entry Delay must be 45 seconds.

[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 120 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 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 violated during the Exit Delay time, the Home-Away zones will be automatically bypassed. This feature allows the system to be armed with the Interior Zones automatically bypassed so that the user may remain on the premises.