

Keypad Programming

The PC2550 comes with a default program so it is operational with a minimum of programming. It is completely programmable from the keypad. The panel uses EEPROM memory so that all information is retained even if the panel loses both AC and battery power.

Multiple Level Static/Lightning Protection

The PC2550 has been carefully designed and tested to provide reliable service. It is built to take static and lightning induced surges and keep on working. Multiple level surge filters are on all zone inputs, the power supply, the keypad connections, the bell output, the auxiliary power supply and the telephone interface. A special "ZAP-TRAC" circuit board configuration catches high voltage impulses right at the wiring terminals. Protective ground planes surround sensitive areas preventing the spread of damaging voltage surges. Metal Oxide Varistors (MOV's) are placed in all the critical areas to further reduce impulses to safe levels.

"WATCHDOG MONITOR" Circuit

Even when all precautions are taken so that voltage surges do not cause damage to the control panel, it is possible to cause temporary disruption to the operation of the microprocessor causing it to lose track of the program sequence. The PC2550 is equipped with an external "Watchdog Monitor" circuit which continually checks the microprocessor program execution.

System Supervision Features

The PC2550 continuously monitors a number of possible trouble conditions including:

- An active battery supervision circuit that periodically tests the battery under load.
- A loss of the AC power supply.
- A supervised circuit trouble condition.
- A telephone line monitoring circuit.
- A bell circuit failure indicates open circuit or fuse failure.
- A test code feature which transmits a communicator test code to the monitoring station at a selected time everyday. The test code can be sent at intervals from 1 to 99 days.
- A bell/siren/communicator test feature which can be activated from the keypad.
- TLM (Telephone Line Monitoring) restoral transmission.

Advanced Features

The PC2550 has many advanced features. Features which provide the security system design flexibility and selling advantage necessary to win those demanding jobs and make them profitable.

Some of these features include:

- EEPROM memory retains all data even on complete AC and battery failure. Panel powers up in last armed or disarmed state before power loss.
- All programmable zones may be selected as one of 10 different types including: delay, auxiliary delay, instant, interior, interior with home-away, delay with home-away, and 4 types of 24 hour emergency and supervisory circuits.
- Keypad programming of up to sixteen security codes.
- Zone bypassing from the keypad.
- Individual zone and system function indicators on keypad.
- A keypad activated utility output function for operating lights, door openers, cameras or other devices.
- Optional keypad LED status timeout as an energy saver.

Although the PC2550 has many features, it is not difficult to use. All keypad commands are similar and are assisted by audible and visual cues.

Control Panel Specifications

13 zones including:

- 8 fully programmable supervised zones (EOL resistors)
- Supervised fire zone
- 1 auxiliary normally open zone
- 3 keypad activated zones

Audible alarm output:

- Bell output
700 mA, fused at 5 Amps, 12 V_{dc} unregulated
- Steady or pulsed output

EEPROM memory:

- Does not lose codes or system status on complete AC and battery failure

Programmable output:

- Transistor switch sinks 50 mA to ground
- Operation controllable through program options

Powerful 1.5 amp regulated power supply:

- 400 mA auxiliary supply, 12 V_{dc} unregulated
- Separately fused for battery, keypad/auxiliary supply and bell output
- Supervision for loss of AC power, low battery
- Internal clock locked to AC power frequency

Switched Smoke Detector Supply Output:

- Controlled from keypad [*][4] command

Battery required:

- 12 volt 4 Ah minimum rechargeable gel-cell or sealed lead-acid battery

Transformer required:

- 16.5 VAC, 40VA

Dimensions:

- 11" x 11.8" x 3.3" deep (279 x 300 x 84 mm)

Weight:

- 6.5 lbs (3 kg)

Remote Keypad Specifications (PC2550RK)

- Four wire (QUAD) hook-up and up to 3 keypads per system
- Built-in piezoelectric buzzer

- Full annunciation of zones and system status
- Nominal current draw 60 mA
- Dimensions 5.5" x 4.5" x 1" deep (140 x 114 x 25 mm)

Output Voltage Specification

Typically, with normal AC in and a fully charged battery, the output voltage will be 13.8 VDC. With AC off and a discharged battery, the voltage will go to 10 volts. Devices that require power from the control panel should be capable of normal operation over the voltage range of 10 to 14 VDC.

Digital Communicator Specifications

- DTMF super speed format
- Private Line format
- DTMF and Pulse dialling
- DPDT line seizure
- True dial tone detection
- Anti-jam feature
- Two telephone numbers and two account codes
- Split reporting of selected transmissions to each telephone number

Bench Testing

The PC2550 contains a factory default program. Any additional programming required can be done through the keypad. For many applications all that will be required is to enter the telephone number and alarm codes with keypad entries that are as straight forward as dialling a telephone number. If you need help talk to your DSC equipment distributor.

Connect 1K ohm 1/2 watt end of line resistors from each zone (Z1 to Z8) input to the closest common "COM" terminal. Connect an end of line resistor between the "Fire" input terminal and the "COM" terminal between "Z1" and "Z2". Unless all zone zones are properly terminated with end of line resistors the "Ready" light will not be on and the panel will not arm

Connect the four keypad wires to the control panel as shown in the connection drawing.

To completely test the PC2550 including the communicator data, it is necessary to connect the panel to a digital receiver through a telephone line connection or by connecting the telephone terminals on the PC2550 to a digital communicator test set such as the DSC DTS-1. The DSC DTS-1 digital communicator test set is an inexpensive unit which can simulate the telephone system dial tone and the receiver hand shake and kiss-off tones as well as display the data sent out by a digital communicator.

Also, the DTS-1 has a "listen-in" feature which makes it ideal for monitoring the transmission between communicator and receiver when the PC2550 is connected to the telephone line.

If you are using a DTS-1, connect the green and red telephone clips to the "TIP" and "RING" terminals and connect the red and black power clips to the "AUX [+]" and "AUX [-]" terminals on the PC2550. When power is applied to the panel press the red local-line button on the DTS-1 and observe the display window area. The "local-line" indicator should be in the local position.

For testing purposes, so that the sound level is not too loud, connect a small buzzer to the “BELL [+]” and “BELL [-]” terminals to indicate when the panel is in alarm.

Connect a 16.5 VAC, 40 VA transformer to the “AC” terminals. Before plugging in the transformer be sure the circuit board is not resting on anything metallic which may cause a short.

Note: The PC2550 will not start up if “AC” is off and the battery is low. Keypad buzzer will sound continuously under these conditions.

When the transformer is plugged in there should be lights on the keypad and the buzzer connected to the bell terminals may go on for a few seconds. The “Armed” light may be on or off the first time the panel is powered. The last armed/disarmed condition is stored in the EEPROM memory so the panel will always power up in the last armed/disarmed state. If the “Armed” light is on, enter the default Master Code [1234] to disarm the panel. If the keypad is not active, check for the presence of AC power at the “AC” terminals, check the keypad connections and check the panel fuses.

If all the zones are properly connected with end of line resistors all of the zone lights will be off. Note that the panel will arm only if all zones are properly connected with end of line resistors (including FIRE circuit) so that the “Ready” light is on. The keypad should beep several times to indicate acceptance of the Master Code. Enter the Master Code to arm or disarm the panel.

Read the “Keypad Commands” section of this manual or the Instruction Manual and enter commands on the keypad to become familiar with the different commands.

Turn to the “Programming Guide” in this manual and enter a sample program into the panel through the keypad to become familiar with the programming commands.

Mounting Panel

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

Remove printed circuit board, mounting hardware and keypad from cardboard retainer inside panel. Before attaching cabinet to wall, press the five white nylon printed circuit board mounting studs and the ground connection screw into cabinet from the back.

Pull all cables into cabinet and prepare them for connection before mounting the circuit board to the back of the cabinet. Press circuit board down onto mounting studs.

Hook-up Procedure

DO NOT connect transformer or battery until all other wiring has been connected. See power-up procedure.

Connect a ground cable from the cabinet ground connection by the shortest and most direct route to a grounding rod.

Connect zone cables to zone inputs and put end of line resistors on any unused zones. Connect wires supplying power for motion detectors to auxiliary supply.

Install keypads and connect wires to keypad terminals on panel. Connect RJ31-X cord to telephone terminals. Do not insert plug into RJ31-X jack.

Warning: Do not use this equipment on a telephone line equipped with “call holding” feature because the tone generated may interfere with the communicator operation.

Connect bell or siren to “BELL [+]” and “BELL [-]” terminals. Observe correct polarity for sirens and polarized bells. Connect 1K ohm 1/2 watt resistor across terminals to eliminate trouble condition if bell circuit is not being used.

Terminal Connections

“AC” Power Terminals

Use a 16.5 VAC transformer with a minimum 40 VA rating to supply AC power to the PC2550.

The transformer should not be connected to an outlet that is controlled by a switch. If AC failure occurs it is displayed as a trouble on the keypad (see “Keypad Functions [∗][2] Trouble Conditions”). It can also be transmitted to the monitoring station as a trouble condition (see “Programming Guide [∗][8]” sections [12] and [13] for alarm and restore codes and section [20] for AC transmission delay).

Auxiliary Power Terminals “AUX” and “GND”

The auxiliary power supply can be used to power motion detectors and other devices requiring 12 VDC. 400 mA 12 VDC is available from the “AUX” (positive) and “GND” (negative) terminals when the PC2550 is used with one keypad. For each additional keypad the auxiliary supply rating must be reduced by 60 mA. The auxiliary supply is fused with the keypad supply at 1 amp. Auxiliary fuse failure transmission can be sent (see [∗][8] sections [12] and [13]).

Switched Auxiliary Power Terminals

“SW AUX” and “GND”

The switched auxiliary supply can be switched off momentarily from the keypad (see “Keypad Commands [∗][4]”). The “SW AUX” terminal is positive and the “GND” terminal negative. The 400 mA auxiliary supply rating must be reduced by any current taken from the switched auxiliary supply. The switched supply shares the same fuse as the auxiliary supply.

Bell/Siren Terminals “BELL [+]” and “BELL [-]”

These terminals are for powering bells or other devices requiring a steady output voltage on alarm. The bell output is fused for 5 amps. When connecting sirens (speakers with siren driver already built-in), be sure to observe the correct polarity. Connect the positive lead to the “BELL [+]” terminal and the negative lead to the “BELL [-]” terminal.

If no siren or bell is used, connect a 1000 ohm resistor between “BELL [+]” to “BELL [-]”. The bell/siren alarm output is pulsed (1 second on 1 second off) when an alarm is created by the [F] keypad zone, by the FIRE zone, or when the Bell Pulse option is enabled in section [18] light 2.

Keypad Terminals “RED”, “BLK”, “YEL” and “GRN”

Connect the four coloured wires from the keypads to these terminals. When connecting more than one keypad, connect in parallel across the keypad terminals at the control panel (i.e. all reds wires together, all blacks together, all yellows together and all greens together). The keypad red and black power supply terminals are fused through the auxiliary fuse.

Programmable Output Terminal “PGM OUT”

The operation of the Programmable Output depends upon which option is selected in the programming table. See the “Programming Guide” section [30] for a list of options for the “PGM OUT” output. The “PGM OUT” is a 50 mA maximum switch to ground. A 100 ohm current limiting resistor is connected in series. A small relay, a buzzer or other DC operated device may be connected between the 12 VDC “AUX” (positive) terminal and the “PGM OUT” (switched negative) terminal on the main board.

Auxiliary Input Terminal “AUX IN” (also KEY ARMING)

The “AUX IN” input terminal is a normally open 24 hour zone. It can be programmed from the keypad to be silent or audible. There is no display on the keypad for the “AUX IN” input.

An alarm on this input is created by applying a positive voltage or by closing a contact between the “AUX IN” terminal and the positive auxiliary supply. See “Programming Guide [*] [8]” section [11] for programming the alarm and restoral codes.

The “AUX IN” terminal can also be used as a momentary key arming/disarming input. See “Programming Guide” section [30] for a list of options for the “AUX IN” terminal.

The “FIRE” zone is a supervised (normally open alarm initiating contact) end-of-line resistor circuit designed to accept “Latching” four-wire smoke detectors.
(See “Fire Circuit Hookup Diagram”, page 33.)

On alarm, (fire zone shorted) the bell output will pulse the signal to indicate that the fire zone has been activated. Alarm memory and transmission by the digital communicator is delayed 30 seconds. If the alarm is acknowledged, by pressing the [#] key before the 30 second delay has expired the signals will silence and the transmission will be aborted. If the alarm is not acknowledged and the 30 second delay expires, the fire memory latches and the transmission cannot be aborted.

If after signal silence, the smoke detector is not restored to normal, the signals will resound after 90 seconds, and 30 seconds after that, the communicator will transmit. If the signals resound, they may again be silenced, [#] key, and the communicator will be aborted if silence occurs within the 30 second delay period.

To restore the smoke detector to normal, clear all products of combustion from the detector and reset the detector by pressing [*] and then holding down [4] for 2 or 3 seconds.

This action will remove power from the smoke detector and if it is clear of smoke, the detector will return to normal. If the detector is still in alarm, the signals will sound immediately and the above sequence will repeat.

For an open on the FIRE zone, the keypad sounder will beep twice every 10 seconds and the “Trouble” light will show on the keypad. The communicator will transmit the trouble condition if programmed for trouble transmission. The audible trouble signal may be silenced by pressing the [#] key. To determine the nature of the trouble, press [*][2]. (See the “Trouble

Zone Input Terminals “Z1” to “Z8”

Zone inputs “Z1” to “Z8” are supervised end of line (E.O.L.) resistor circuits. Each input must be terminated with a 1K ohm E.O.L. resistor. An alarm condition will be created if a

normally open contact is used to short across the E.O.L. resistor. An alarm is also created if normally closed contacts, wired in series with the E.O.L. resistor, are opened. See the wiring diagram for normally open and normally closed contact connection. The type of circuit or zone definition (delay, instant, 24 hour etc.) is programmed from the keypad using the [*][8] Installer's Programming commands ("Programming Guide" section [14]).

Telephone Terminals "TIP", "RNG", "T-1" and "R-1"

The wires from the RJ31-X telephone jack are connected to these terminals in the following way.

TIP	Green wire	Incoming line from
RNG	Red wire	telephone company
T-1	Brown wire	Outgoing line to
R-1	Grey wire	house telephone(s)

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

Battery Connections

Do not connect the battery or the transformer until the wiring is complete. Connect the red battery lead to the positive battery terminal and the black lead to the negative battery terminal. If the connection is made in the reverse the battery fuse will fail. The small "pot" below the heat sink can be used to adjust the battery charging voltage. It is factory adjusted for 13.8 volts and normally needs no adjustment.

Keypad Installation

Mount the keypads near the exit-entry doors. The PC2550RK keypad has a red, a black, a green and a yellow wire on the back. Connect these four wires to the four keypad terminals on the control panel using four conductor (quad) telephone wire. Up to three keypads may be connected to one PC2550. Connect all green wires from the keypads to the "GRN" terminal on the panel. Connect all yellow wires from the keypads to the "YEL" terminal on the panel. Connect all red wires from the keypads to the "RED" terminal. Connect all black wires from the

Power-up Procedure

If the keypads are located a distance from the panel, install an extra keypad temporarily at the panel during power up testing. An extra keypad with a short length of cable and alligator clips attached is helpful for testing and programming PC2550 systems.

Connect the transformer, wait approx. 5 seconds.

Enter a few keypad commands and open a zone to be sure that the panel and keypad are responding to signals. If the keypad does not respond and there are no indicators on, check for AC voltage at the "AC" terminals. If there is 16 VAC present, check that the keypad wiring is correct and check the keypad/auxiliary supply fuse. If the keypad/auxiliary supply fuse is blown check for a short between the keypad red and black wires before replacing the fuse.

If the keypad is responding normally, connect the battery. The red battery lead attaches to the positive battery post and the black battery lead attaches to the negative battery post.

Note: The PC2550 will not start up if "AC" is off and the battery is low. Keypad buzzer will sound continuously under these conditions.

Testing The System

See Installer's test - [*] [6] [Master Code] [0] (page 9), or do the following. Contact the monitoring station to request a transmission test. Plug the telephone cord into the RJ31-X jack. If a DTS-1 is being used to monitor communicator transmissions, connect as described in "Bench Testing" section and place the DTS-1 in the line mode by pressing the red "LINE/LOCAL" button. Arm the panel, wait for the exit delay to expire and trip a detector on an instant circuit. Wait for the communication to complete. Disarm panel and check with the monitoring station to confirm the transmission. Perform additional transmissions required by the monitoring station.

Check the "Trouble" light on the keypad. If it is on, press [*] then [2] to determine if there is a system trouble. The "Trouble Display" section in "Keypad Commands" gives a description of the different trouble conditions.

Instructing End-User

Fill out the system reference guide in the PC2550 Instruction Manual. Check off sections in the manual which apply to the user's system and make additional notes if necessary.

Describe the system to an authorized user. Describe arming and disarming procedures. Describe the basic keypad functions. Assist the user in working through examples of each type of command.

Provide user(s) with the Instruction Manual and instruct them to read the manual to become familiar with the system operation.

Instruct the user to test the system on a regular basis as described in the Instruction Manual. The Master Code should be changed from the default setting and recorded in the Instruction Manual.

Introduction

The PC2550RK remote keypad provides complete information and control of the PC2550 control panel. The panel can be fully programmed from the keypad. The 8 zone lights and the fire alarm light provide alarm and status indication for the alarm circuits. The 6 function lights guide the user in operating the system. The built-in buzzer lets the user hear correct key entries and other alert signals. The 12 digit keypad is used for code entry and other programming functions. All keypad entries are made by pressing one key at a time.

The keypad is normally resting in the arm-disarm mode. In this condition the zone lights are indicating the opening and closing of zones. The "Ready" light comes on when all zones are closed. The system can be directed to perform other functions such as zone bypassing, displaying trouble conditions, displaying alarm memory and programming by entering one of the various [*] commands described below. Pressing the [#] key or not making any key entry for 2 minutes always returns the keypad to the arm-disarm mode.

Master Code

A default Master Security Code "1234" is programmed into the PC2550 at the factory. The Master Security Code is used for arming and disarming the control panel, for programming up to fifteen additional security codes using the [*][5] command and for entering other user functions using the [*][6] command. The Master Code can be reprogrammed if the installer leaves section

[16] light 2 off. Because the PC2550 uses EEPROM memory the codes and other data are retained even after complete AC and battery failure.

2nd Master Code

A second master security code “xxxx” can be programmed into the PC2550. This code can be changed by the installer only, and is useful where there are multiple panels in a complex. The 2nd Master Code can be used as a “Master Key”. The default 2nd Master Code is blank.

A default Installer’s Programming Code “2550” is programmed into the PC2550. This code is used with the [*][8] command by the installer to gain access to the system in order to enter panel or communicator program information. The Installer’s Programming Code may be changed by the installer.

Arming

Check to see if the “Trouble” or “Bypass” light is on before arming the PC2550. Close all protected doors and windows and stop movement in areas covered by motion detectors. Check to see that the “Ready” light is on (all zones are closed). The system cannot be armed unless the “Ready” light is on. Enter a [4 Digit Security Code]. As each digit is entered the keypad buzzer will beep. If the security code was entered incorrectly, the sounder will beep steadily for 2 seconds.

If the code was entered correctly but the “Ready” light was not on, the keypad will beep quickly followed by a steady tone. When the correct code is entered, the “Armed” light will come on and the keypad buzzer will beep quickly. Exit the premises through the designated exit-entry door. At the end of the allowed exit time all lights on the keypad will go out except the “Armed” light. See the “Installer’s Programming [*][8] Command” section for instructions on how to change the exit time. Also see, “Quick Arm” and “At Home Arming”.

Disarming

Enter the premises through the designated exit-entry door. The keypad buzzer will be on. Go to the keypad and enter the [4 digit security code]. If an error is made in entering the code, press the [#] key and enter the code again. The “Armed” light will go out and the keypad sounder will stop. The correct security code must be entered before the allowed entry time expires. To change the entry time see “Installer’s Programming Command”, [*][8]. If an alarm occurred while the panel was armed, the “Memory” light and the “Zone” light which caused the alarm will start to flash and stay flashing for 2 minutes when the panel is disarmed. Pressing the [#] key returns the panel to the normal arm-disarm mode.

Auto-bypass/Home-Away Arming

If a correct security code is entered, and you do not exit the premises, the system will, at the end of the Exit delay time, arm with interior zones automatically bypassed if those interior zones have been programmed as “Home-Away” zones. The “Bypass” light will come on immediately following the arming code being entered until a delay zone is tripped or [*] [1] is

entered to reactivate bypassed home-away zones. (See programming section [14], zone definitions for programming zones as “Home-Away”.)

This is a convenience feature for the user who wishes to remain at home with the system armed. The user does not have to manually bypass the home-away zones.

To reactivate the home-away zones that have been automatically bypassed, press ['] [1]. The “Bypass” light will go out. This command is a quick method of fully arming the system before going to bed.

Zone Bypassing

[']+[1]

A bypassed zone will not cause an alarm. If a zone is bypassed the panel may be armed (“Ready” light will be on) even if the zone is open. Use zone bypassing when access is needed to part of the protected area. Also, damaged wiring or contacts on a zone may be temporarily bypassed until repairs can be made so that the panel can be armed.

If section [17] light 8 is on then the bypass status will always be shown.

To bypass zones, enter ['] [1] and the zone number(s) to be bypassed. Press [#] to return to “Ready” (arm-disarm mode). When bypassing zones, one digit must be entered for each zone number(s) to be bypassed (e.g. ['] [1] [1]....[8]). To remove all bypasses, enter [*] [1] [0] [#]. The “Zone” lights which are on, while the “Bypass” light is flashing, indicate the bypassed zones. Remember that if no keypad entry is made for more than 2 minutes the keypad will return to the arm-disarm mode. Then, in order to bypass a zone the complete command must be re-entered. Once the bypass command is entered, pressing [9] recalls the last zone or group of zones which was bypassed. If the same group of zones is bypassed each time, this bypass recall feature can be used instead of having to bypass zones individually.

When the PC2550 is programmed, the ability to bypass certain zones may be eliminated. In this case, the “Zone” lights for those zones will not come on in response to the bypass command. See the “Zone Bypass Mask” instruction in the ['] [8] Installer’s programming section. If the “Bypass” light is on when arming the panel, the ['] [1] command should be used to see which zones are bypassed so that zones are not unintentionally bypassed. Zone bypasses are automatically cancelled when the panel is disarmed.

If light 8 in section [16] is on then a code must be entered with [']+[1] to bypass zones. Only the zones assigned to the same side of the system as the user code can be bypassed. The ability to bypass using certain access codes can be eliminated. See the “Access Bypass Mask” instruction in the ['] [8] Installer’s Programming section.

Note: At no time can any armed zone be bypassed.

Trouble Display

[']+[2]

The PC2550 continuously monitors a number of possible trouble conditions. If one of these conditions occurs, the keypad “Trouble” indicator will light and the audible indication will sound (two short beeps every 10 seconds). When the [#] key is pressed the audible indication will stop but the “Trouble” indicator light will remain on until the trouble is cleared. Trouble conditions can also be transmitted to the monitoring station (see “Programming Guide” sections [12] and [13] for alarm and restoral trouble codes). Press the ['] then [2] keys to display the type of trouble. The “Zone” lights indicate the type of trouble condition.

- 1 Low stand-by battery
- 2 AC power failure

- 3 Day zone trouble
 - 4 Telephone line trouble
 - 5 Unsuccessful communication attempt with monitoring station
 - 6 Bell circuit failure
 - 7 Smoke detector loop trouble
 - 8 Loss of time on internal clock
- Press [#] to return to “Ready”.

1 Low Battery...A battery trouble will be displayed and can be reported if the battery is weak, disconnected or the battery fuse is blown. Only one low battery alarm and restoral transmission takes place per arming period. Low battery trouble display is latching and can only be cleared by battery restoration.

2 AC Power Failure...There is no audible annunciation on AC power failure. The system “Trouble” light will come on but the audible indication will not sound until there is a low battery condition. Transmission delay can be programmed for 1 to 99 minutes. See “Programming

3 Day Zone Trouble...This trouble applies only to zones which have been programmed as day zones. (“Programming Guide” section [14]). A day zone creates a trouble signal when the panel is disarmed and an alarm signal when the panel is armed.

4 Telephone Line Trouble...A telephone line trouble is generated when the line voltage drops below 3 volts for more than 30 seconds. It generates a keypad trouble when the system is disarmed and rings a local alarm when the panel is armed. See section [16] for options. The TLM restoral reporting code is programmed in section [50].

5 Unsuccessful Communication...If the digital communicator is unsuccessful communicating with the monitoring station after eight attempts to each phone number that is to be tried, a trouble is generated. If a later attempt to communicate is successful the trouble is cleared. This trouble can also be cleared by pressing the [#] key to exit the trouble view mode.

6 Bell Circuit Failure...If the bell fuse fails or the bell circuit is open, a keypad trouble and a trouble transmission are generated.

7 Smoke Detector Loop Trouble...If a FIRE loop is open circuit, a keypad trouble and a trouble transmission are generated. A trouble on the FIRE loop will unconditionally initiate an audible indication on the keypad. This means that even if any other previous trouble has been silenced, a FIRE loop trouble will restart the keypad buzzer.

8 Loss of Internal Time...When the PC2550 is powered up or reset, the internal time of day clock needs to be set to the correct time. This trouble is cleared when the trouble display is viewed and exited or when an attempt is made to reset the internal time of day clock. See “[*][6] User’s Function Command” for resetting time of day clock.

If the [9] is pressed while in the trouble display mode the most recent trouble will be displayed on the zone LEDs. This trouble memory feature is useful as a diagnostic aid when installing and servicing the PC2550.

Alarm Memory Display

[*]+[3]

Press [*] then [3] to enter the alarm memory mode. The “Memory” light will flash and any alarm caused during the last armed period will be displayed on the zone lights. In addition to the last alarm memory there are 2 history levels. After entering the memory mode (pressing [*] then [3]), pressing [9] will cause the keypad to display the two other levels of alarm history. Each time [9] is pressed the keypad will beep 1, 2 or 3 times to indicate which level of history is being viewed. When the panel is armed, the last alarm memory is cleared and the contents move to the 1st history level. The “Memory” light will only be on when there was an alarm during the last armed period.

Press [#] to return to “Ready”.

Switched Auxiliary Supply Control

[*]+[Hold Down 4]

To interrupt the switched auxiliary power supply press [*] then hold down [4] for the desired interrupt time. When the [4] is released the system returns to the ready mode and the switched auxiliary supply is restored. This command will only function while the system is disarmed.

User’s Programming Commands

[*]+[5]+[MASTER CODE]

The [*][5] user’s programming commands are used to program additional access codes. Up to 16 user arm-disarm codes may be programmed. The 1st code is the Master Code (factory default [1234]). The 16th code is optionally a “One Time Use” or maid code. The 16th code may be changed from a “One Time Use” code to a regular code using an installer’s programming command (section [15]...light 8). Remember if no keypad entry is made for more than 2 minutes the keypad will return to the normal arm-disarm display and the complete command will have to be re-entered to program a new access code.

Programming Additional Access Codes

1 Press the [*] and [5] keys then enter the Master Security Code (default [1234]) to enter the additional code programming mode. The “Program” light and “Zone 1” light will be on to show that the first code (the Master Code) is already programmed with the factory default code [1234]. The Master Code may be changed but do not try to erase the Master Code. The installer can disable user changing of the Master Code by turning on light 2 in section [16].

2 15 additional codes may be programmed. The zone lights are used to indicate which of these codes are already programmed (zone light on steady) and the one which is currently being programmed (zone light is flashing).

3 To program the second code, press [2] and zone 2 light will flash. Then enter a 4 digit code and the buzzer will beep three times and zone light 2 will come on steady indicating a programmed code.

4 To remove the second code, press [2] - the buzzer will beep three times and zone light 2 will flash. Enter [*] [*] [*] [*], the buzzer will beep three times and zone 2 light will go out to show that the code has been removed.

5 Follow the instructions in **3** or **4** for programming or removing any of the other additional codes from 2 to 8.

6 To program access codes 9 to 16, press 9 to toggle into the upper code region. Zone lights 1 to 8 now represent access codes 9 to 16 (light 1 is code 9.... light 8 is code 16). The “Ready” and “Armed” LEDs will flash to indicate that the user is in the upper programming region. Program or remove access codes 9 to 16 as stated in 3 and 4 above. Press 9 again to toggle back down to the lower region (access codes 1 to 8).

7 Do not try to remove the Master Code (1st code). The Master Code may be changed but it must not be removed. When changing the Master Code be sure to enter a valid 4 digit number (use only number keys 0 to 9). Do not enter [#] or [*] as one of the digits. If the Master Code is forgotten and the panel is left disarmed, program a new Master Code using the [*][8][Installer’s Code][25] command. If the Master Code is forgotten and the panel is left armed, use the 2nd Master Code to disarm the system. If the 2nd Master Code is not programmed then the entire programming can be reset to factory default by using the “Hardware Reset” method described on page 21.

8 To successfully program or remove additional codes, the panel must be put into the code program mode by following step 1 followed by steps 3 or 4. Note that if no key entry is made for 2 minutes the panel will go back to the normal arm/disarm mode, after which step 1 must be repeated to get back into the code program mode.

9 To exit the code program mode press [#].

To review:

programming a new code;

enter [*] [5] [Master Code] [1 to 8] [4 digit code], or

[*] [5] [Master Code] [9] [1 to 8] [4 digit code]

eliminating an existing code;

enter [*] [5] [Master Code] [2 to 8] [****], or

[*] [5] [Master Code] [9] [1 to 8] [****].

Note: The access code numbers must be entered as one digit. E.g. 2, 3,....., 7, 8.

User’s Functions Command

[*][6][MASTER CODE]

This command is used to set the system clock time and to set the auto-arm time. It is also used to turn on and off a number of system functions. The command is used by entering [*], [6], [Master Code] then a number from the following list to select the item to be changed.

[0] Installer’s test

[1] System 24 hour clock (enter HH:MM)

[2] Auto-arming time (enter HH:MM)

[3] DO NOT USE

[4] Quick arm enable/disable

[5] Auto-arm enable/disable

[6] Door chime enable/disable

[7] DO NOT USE

[8] Bell test function

[9] User Initiated Callup

Note: The system clock is a 24 hour clock and times must be entered as two digit numbers.

e.g. HH - 00, 01,.....10,11,.....22, 23

MM - 00, 01,.....35,36,.....58, 59

If a printer is attached

Day - 01.....31, Month - 01.....12, Year - XX (two digits)

e.g. HH: MM: DAY: MONTH: YEAR.

Items 1 and 2 are time setting functions. Enter 4 digits representing the time in hours and minutes (HH:MM) based on the 24 hour or military clock. Always enter a leading zero where only one digit is required, 8:05 am would be entered as 0805 and 1:30 pm would be entered as 1330. Items [0], [4], [5] and [6] turn on and off various features. When the item key is pressed, the feature is turned on if the keypad beeps quickly 3 times. The feature is turned off if the keypad sounds one long beep. Pressing item [8] gives a 2 second bell and keypad light test. Pressing [9] makes the panel call the Downloading computer if enabled in section [47].

If a printer is attached to the panel (see section [30]) and is enabled (see section [48]) the clock data entry will be automatically extended to include the day (two digits 01.....31), the month (two digits 01.....12) and the year (two digits...e.g. 91, 92, 93....etc.).

Installer's Test

[*]+[6]+[MASTER CODE]+[0]

This feature is designed to assist the installer in testing the system. In this mode, the bell or siren will operate for two seconds each time a device is tripped and the first level of memory will be affected. The feature is automatically disabled when the panel is armed and disarmed. Each time a zone is tripped or restored in this mode, a signal, if programmed, will be transmitted to the monitoring station. If this is not desired, it is possible to disable the communicator during the test (see section [15] "1st System Option Code"). A printer, if attached, will not function if the communicator is disabled.

Notes: Do not use the PC16OUT module during the installer's test.

Do not use the installer's test when the panel is partially armed.

Setting the Clock

[*]+[6]+[MASTER CODE]+[1]

Setting the "System 24 Hour Clock" (item [1]) tells the system the correct time of day. If the system is without battery and AC power it cannot continue to keep time. Therefore when the panel is first powered up or when it has been without AC power long enough to completely discharge the stand-by battery, the "System 24 Hour Clock" must be reset. If the time needs to be reset a "Trouble #8" will be indicated on the keypad (see [*][2] "System Trouble Command"). If a printer is attached to the panel, setting the clock must include the day, month and year. e.g. HH: MM: DAY: MONTH: YEAR.

Auto-arm Time of Day

[*]+[6]+[MASTER CODE]+[2]

The PC2550 can be programmed to arm at the same time each day. Programming item [2] sets this time and the feature must be enabled as shown in item [5] (see "Auto-arm Enable" on this page).

At the selected auto-arm time the keypad beeper begins to sound and the Bell/Siren will pulse once every 10 seconds to alert anyone on the premises that the system is about to arm. The Bell/Siren pulse can be silenced in section [17] by turning light 1 on.

The keypad beeper will sound for one minute before auto-arming unless one of the following two methods is used to abort the auto-arm.

- **Auto-arm abort:** Any key can be pressed to abort the auto-arm sequence and silence the keypad during the one minute pre-alert (this is the default condition). If section [17] light 4 is on, then a valid 4 digit access code is required to abort the auto-arm sequence. The auto-arm will be attempted at the same time the following day.
- **Auto-arm abort with transmission:** Any time an auto-arm is aborted using one of the above methods, the auto-arm abort reporting code programmed in section [08] will be transmitted to the monitoring station.

When the panel does arm by auto-arming, any open zones will be “Force-armed”. If section [16] light 1 is on, the zones that were force-armed will be identified by transmitting their alarm code along with the partial closing code.

Quick Arm

[*][6][MASTER CODE][4]

The “Quick Arm” feature is enabled by pressing the [4] key while in the “User Functions Command” section. When enabled (enabled 3 beeps....disabled one long beep) the panel can be armed by entering [*][0]. The closing code transmitted for “Quick Arm” is the same as the code which is programmed for the Master Code.

Auto-arm Enable

[*][6][MASTER CODE][5]

Entering [*] [6] [Master Code] [5] will enable/disable the Auto-arming feature. When the feature is being Enabled, the keypad buzzer will sound 3 beeps and when being Disabled the buzzer will sound one long beep.

Door Chime

[*][6][MASTER CODE][6]

The “Door Chime” feature is enabled by pressing the [6] key while in the “User’s Functions Command” section. When enabled the keypad buzzer will beep quickly 5 times each time any zone defined as a delay or instant circuit opens or closes. The “Door Chime” feature does not operate on other zone definitions. Zone bypass may be used to eliminate “beeping” on doors where it is not wanted. This feature operates only while the panel is disarmed.

System Test

[*][6][MASTER CODE][8]

The system test feature sounds the bell or siren, lights the keypad indicators and beeps the keypad buzzer for 2 seconds. If a code is programmed in section [50] it will be transmitted at the same time.

User Callup

[*][6][MASTER CODE][9]

This function is enabled in section [47]. When activated, the panel will call the downloading computer. The downloading computer must be waiting for the panel to call before downloading can be performed.

Utility Output Command

[*][7] OR [*][7][ACCESS CODE]

The programmable output (PGM terminal) on the PC2550 can be made to activate by a command from the keypad. This output can be used for operating other devices such as garage door opener, special lighting or door strikes.

The programmable output must be selected for keypad utility using the [*][8][Installer's Code][30] command and programming a [2], [3], [4] or [5].

Depending on the option chosen in the programming section, the programmable output is activated by pressing the [*] then [7] keys followed by a Group A access code, Group B access code, any access code, or no code at all. When the proper keys are pressed the keypad sounder and the programmable output are activated for 5 seconds.

Installer's Programming Commands

[*][8][INSTALLER'S CODE]

The PC2550 is completely programmed from the keypad by using commands in the [*] [8] section. The commands are described in detail in the programming section of this manual.

“At Home” Arming

[*][9]

Entering [*][9], will arm the panel and bypass zones that are defined as “Home-Away”. This command is used for arming the system while at home. When the panel is armed using [*][9], the “Armed” light will be on flashing and the “Bypass” light will be ON to indicate that the “Home-Away” zones are bypassed. All zones programmed as “Interior”, when tripped, will follow the standard entry delay time programmed in Section [20]. Once the panel is armed in this mode, using [*][1] will remove the bypass from the “Home-Away” zones and the entry delay from the “Interior” zones if they have NOT been manually bypassed. The [*][1] command used here, only removes the bypass from zones that have been Automatically bypassed with the [*][9] command.

Note: If you [][9] arm and then trip a Delay Zone, the “Home-Away” zones remain bypassed.*

[*][10]

Entering [*][0] is accepted as a valid arming code when the “Quick Arm” feature is activated. Quick Arm may be used as a convenience for regular users or when the system is to be armed by individuals who are not authorized to disarm the system. See instructions in the “[*][6] User's Functions Command” section for activating the “Quick Arm” feature.

Note: This feature should not be enabled if the One Time Use Code is enabled. The One Time Use Code must be used for arming before it is erased.

Quick Exit

[*][0] When Armed

Entering [*] [0] when the system is fully armed will allow the user 2 minutes to exit the premises through any delay zone without altering the status of the system if the Quick Exit feature is enabled. The Quick Exit feature can be enabled by turning on light 1 in section [18]. After [*] [0] is entered into an armed system, one and only one delay loop may be tripped. Any additional activity on any other active loop will cause that loop to begin its alarm sequence.

[*] [0] for Quick Exit on a partially armed system is not supported.

Quick Exit must not be used when auxiliary delay zones are force armed. Turn light 6 in section [17] off to ensure proper operation.

Keypad Zones

There are three zones which can be activated from the keypad. The alarm and restoral codes for keypad zones are programmed using the [*][8] command.

Pressing the [F] key or the [1] and [3] keys simultaneously for 2 seconds activates a Fire alarm. The fire alarm sounds the siren/bell in a pulsed mode and is annunciated as a memory condition. The Fire key can be turned off in section [18].

Pressing the [A] key or the [4] and [6] keys simultaneously for 2 seconds activates an Auxiliary keypad zone. If a reporting attempt is made to an alarm receiver and it is successful the PC2550 will acknowledge the transmission with a short series of beeps from the keypad.

Pressing the [P] key or the [*] and [#] keys simultaneously for 2 seconds activates the Police (or Panic) alarm. The panic alarm can be programmed for audible or silent operation (see sections [15] and [18] in "Programming Guide").

There is no light annunciation from the keypad for the last two keypad zones, however, the keypad buzzer beeps 3 times to confirm activation on any of the keypad zones.

See section [11] for alarm and restoral codes for all three keypad zones.

The PC2550 supports the DSC "downloading" package. See the downloading manual for details on specific capabilities.

There are several sections pertaining to the downloading feature which must be programmed.

Section [27] - Downloading Access Code

A four digit code must be programmed into this section to allow access to the control panel by the downloading computer.

Section [28] - Panel Identification Code

A four digit code must be programmed into this section to allow the downloading computer to identify the panel it is communicating with.

Section [46] - Downloading Computer Telephone Number

If Callback is enabled, section [47] zone light [8], then this section must be programmed with the telephone number of the downloading computer.

Section [47] - Modem Configuration

Zone lights [1] to [4] are programmed to set the number of rings the panel will look for before it answers a call from the downloading computer.

Zone light [5] is programmed to enable or disable the control panel for downloading. If downloading is disabled, all other programming sections relating to downloading need not be programmed.

Zone light [6] enables or disables user initiated callup to the downloading computer.

Zone light [7] enables or disables the answering machine defeat option (Answering Machine Over-ride).

Downloading and Answering Machine

The PC2550 software provides a means to handle downloading when an answering machine is also connected to the telephone line. In section [47], if zone light 7 is off, it is assumed that there is no answering machine connected to the telephone line and the panel will capture the line after the set number of rings.

If zone light 7 is off and an answering machine is connected and it is set to answer before the panel, the panel will be unable to receive a call from a downloading computer. If the panel is set to answer before the answering machine, the answering machine will be unable to receive incoming messages.

If zone light 7 is on and the panel is called for 1 or 2 rings only and then called again within a set time of 1 to 249 seconds (set in section [49]), the panel will then answer the second call on the first ring (Answering Machine Over-ride Timer).

Once the panel is connected to a downloading computer, no [*] functions can be performed. If the [*] key is pressed while the panel is connected to a downloading computer, the keypad buzzer will sound one long tone to indicate an error.

Zone light [8] is programmed to enable or disable callback. If callback is disabled, the downloading computer will have immediate access to the control panel. The disabled mode is useful if there are multiple downloading computers (at different telephone numbers). If callback is enabled the downloading computer will call, request access then hang up and wait for the control panel to call. After the control panel has called back and the downloading computer and the control panel accept each other as valid, downloading operations are enabled.

Section [48] - Test Transmission and/or Periodic Download Enabled

Zone light [7] programs the enable or disable of test transmission.

Zone light [8] programs the enable or disable of periodic download.

Section [49] - Answering Machine Over-ride Timer

This timer sets the amount of time that can be taken between calls when using the answering machine over-ride (see section [47] light 7). Valid entries are from 001 to 249 (in seconds) with a default of 060.

Introduction

The PC2550 is programmed by entering instructions from the panel keypad. The PC2550 memory is EEPROM and can be reprogrammed thousands of times. The EEPROM will not lose memory even on total AC and battery failure. All essential program information required to define the operation of the control panel and the communicator is stored in a section of the EEPROM which can only be accessed using the Installer's Programming Code. If the code is forgotten, the default program code can be re-inserted by using the "Hardware Reset" described on page 21, unless Installer's Lockout is enabled. See sections [90] and [91].

To begin programming the PC2550, enter [*] [8] [2550] while the panel is disarmed. Installer's Programming can only be done while the panel is disarmed and not in alarm. The factory default Installer's Programming Code is [2550]. This default code can be changed using the Section [24] command listed below (new Installer's Code). Once the basic Installer's command is entered ([*] [8] [2550]) the "Program" light will start to flash. The "Program" light will continue to flash while programming. Note that while programming, if no key entry is made for more than 2 minutes, the keypad will return to the arm-disarm mode and the complete installer's command ([*] [8] [2550]) must be entered before programming can resume.

The next step is to enter a 2 digit section entry for any of the commands described in the following pages. Note that while the keypad is waiting for the section entry the "Armed" light is on steady. As soon as the 2 digits are entered for the section the keypad will beep 3 times, the "Armed" light will go out and the "Ready" light will go on. The keypad is then ready to accept data entry for the selected section.

A complete description of each programming section will be given in the remaining pages of this section. A programming work sheet summarizing all programming commands is provided in the next section of the manual. Fill out the work sheet and use it as a guide when programming.

As the required data for a programming section is entered, the hexadecimal value of the information in that location is displayed on zone lights 1-4. Most sections contain several groups of two digit entries. The keypad beeps twice and the "Armed" light flashes after each group of two digits is entered. When the required data is completely entered for the section being programmed, the keypad will beep 5 times and the "Armed" light will come back on to indicate that the expected data has been entered and another section can be selected for programming. After completing one section, it is not necessary to re-enter the [*] [8] [Installers' code] portion of the command. Just enter the number of another programming section. When programming a section, it is possible to exit by pressing [#]. Only the data entered before pressing [#] will be changed in the EEPROM. Practice entering data in several sections until you become familiar with the programming commands.

Certain programming entries may require "HEX" data. That is the numbers 0 through 9 and the letters A through F (in "HEX" numbering the letters A...F represent the numbers 10...15). Where commands require "HEX" data A-F, first press [*]. The keys 1-6 now assume the hex values A-F and the "Ready" light begins to flash. Key 1=A, Key 2=B, Key 3=C, Key 4=D, Key 5=E and Key 6=F. Pressing the [*] again stops the "Ready" light from flashing and the keys assume the normal values for the numbers from 1 to 9. The most common mistake in entering "HEX" data is forgetting to press [*] again after entering the "HEX" digit to return to normal number entry.

The data for sections 15, 16, 17, 18, 19, 31, 32, 33, 34, 47, 48, 52 and 53 is entered using the keypad zone lights to indicate which functions are active and the number keys to turn functions on and off. When the section number is entered, the zone lights 1...8 will display which functions are currently on. Pressing the number key corresponding to the zone light

alternately turns the function on and off. All functions can be turned off by entering [0]. When the correct selections have been made press [#] to record them in memory and to go on to program the next section.

Binary Data Display

Zone lights 1 through 4 are used to display the binary value of the data as shown in the table below.

Reviewing Programmed Data

Enter the section you wish to review by entering the 2 digit section number. The zone LEDs will represent the value (hexadecimal format) of the first digit in that section. Each press of the 'F' key will advance the display to the next digit. At the end of the section, the keypad buzzer will beep several times and return you to the program mode where another section can be selected for review or programming.

Note: Only sections [01] through [14], [20] through [30], [35], [46], [49], [50], [54] and [55] can be reviewed using the above method.

[00] Binary Programming

This section is normally used upon instruction from factory technical personnel for specialized programming not covered by the standard programming instructions.

[01] 1st Phone Number

This is the 1st telephone to which the communicator will dial. See section [35] "Communicator Call Direction Options". After entering the section number [01], enter the communicator telephone number the way you would dial it on a telephone. Press [#] after the last digit to complete the telephone number programming.

Enter [* 2*] to dial a '*' (Hex B)

Enter [' 3 '] for a 4 second pause (Hex C)

Enter [' 4 '] for additional dial tone search (Hex D)

Enter [' 5 '] to dial a '#' (Hex E)

The total number of digits including dial tone searches and pauses must not exceed 17. Remember to press [#] after entering the last digit of the phone number. Press [02] to program the next section, enter another section number or press [#] a second time to return to the arm/disarm mode.

[02] 1st Account Code

The 1st account code is always transmitted to the 1st phone number to identify the alarm customer. After entering the Section number [02], enter a 4 digit number. If "HEX" digits A to F are required; enter [, [1]...[6] and ['] again to return keys to normal decimal entry.

[03] 2nd Phone Number

This is the second telephone number to which the communicator will dial. See section [01] "1st Phone Number" for programming instructions.

[04] 2nd Account Code

The 2nd account code is always transmitted to the 2nd phone number. See section [02] “1st Account code” for programming instructions.

Reporting Codes Explanation

Sections [05] to [13] are used to program the communicator reporting codes. A reporting code is transmitted along with the account code with each transmission. If the reporting codes are not programmed in these sections no transmission will be sent when an event takes place. To prevent a transmission from being sent for any event in the following sections enter [00] as the reporting code.

Once the section number is entered, the keypad expects 2 digit numbers to be entered for the number of reporting codes in that section. The keypad beeps twice and the “Armed” light flashes after each 2 digit number is entered. After the last code is entered, programming of the current section is complete. The keypad will beep 5 times, the “Ready” light will go off and the “Armed” light will go on. The keypad is then ready to accept the next section number for programming. For unused reporting codes, enter [0][0]. Then enter the desired reporting code in the appropriate location.

When changing the reporting codes in a section, only code entries up to the one which is being changed need to be entered. Press [#] to exit from the programming sequence. Only codes up to the last one entered will be changed.

Slot Programming Method

The Slot Programming Method is a DTMF high speed communication format. A transmission consists of a 4 digit Account Code, 8 single-digit Reporting Channels, and a single digit Status Channel.

Channels

a a a a	1 2 3 4	5 6 7 8	i
Account Code	x x x x	x x x x	Status Code
	Event Code		

Programming Codes

Slot Programming is used in Sections [05], [06], [08], [10], [11], [12], [13], and [50].

Program 2 digit codes in these sections.

- The first digit is the Transmission Channel, 1 to 8. This number determines which channel the zone will report to.
- The second digit is the Event Identifier, 1 to 9 and A to F. This number describes the type of event. Typically, “1” is used to report an alarm and “7” is used to report a restoral.

Example:

If zone 1 alarm has a reporting code of 4 1 then the received alarm will be:

a a a a 5 5 5 1 5 5 5 5 7

If the restoral was programmed as 4 3 the restoral transmission would be:

a a a a 5 5 5 3 5 5 5 5 7

[05] Alarm Reporting Codes Zones 1 to 8

Program the zone restorals according to the Slot Method mentioned above.

[06] Restoral Reporting Codes Zones 1 to 8

Program the zone restorals according to the Slot Method mentioned above.

[08] Auto-arm Abort Code

The Auto-arm Abort Code is described on page 10 under Auto-arm Abort with Transmission (Auto-arm Time of Day). See Reporting Code Explanation.

[10] Opening After Alarm Code

If the opening after alarm code is programmed, that code will be transmitted to the monitoring station on opening if an alarm occurred during the previous armed period. This feature is useful for installations where openings and closings are not reported normally but it is desired to have a report to the monitoring station on opening if an alarm did occur during the previous armed period. This feature allows the monitoring station to know when the user is on the premises and available to receive a report about alarms that occurred while the system was closed.

[11] Reporting Codes for Priority Alarms and Restorals

These reporting codes are used by the communicator to transmit the following list of alarm and restoral conditions. Use instructions in section [05] as a guide for programming. See “Terminal Connections” section of manual for a description of the operation of the Fire Zone and the Auxiliary Input Zone. Section [30] contains options for Auxiliary Input Zone.

- Fire Zone Alarm
- Auxiliary Input Zone Alarm/Keyswitch Arming
- Keypad Panic Alarm [P]
- Keypad Fire Alarm [F]
- Keypad Auxiliary Alarm [A]
- Fire Zone Restoral
- Auxiliary Input Zone Restoral/Keyswitch Disarming
- Keypad Panic Restoral [P]
- Keypad Fire Restoral [F]
- Keypad Auxiliary Restoral [A]

Program the priority alarms and restorals according to the Slot Method mentioned above.

Note: *Keypad Panic should be programmed as 11 in order to work properly.*

[12] Reporting Codes for Maintenance Alarms

The reporting codes in this section include trouble conditions and the periodic test reporting code (every 1 to 99 days). They are programmed in the following order:

- **Battery Trouble** is sent when the battery terminal voltage falls below the preset level. Enter [2][1] for proper receiver operation.
- **AC Trouble** is sent when there is loss of AC power. Enter [1][1] for proper receiver operation.
- **Day Zone(s) Trouble** is sent when any day zone (section [14]) opens while the system is disarmed.
- **Bell Circuit Trouble** is sent when the bell circuit is open or the fuse is blown.
- **Fire Zone Trouble** is sent if the fire zone circuit opens (the EOL resistor is disconnected).
- **Auxiliary Power Supply Trouble** is sent when the fuse for the AUX power supply is blown.

- **Periodic Test Transmission** Enter [5][5] for proper receiver operation.

See [*][2] Trouble Commands for additional descriptions of trouble codes and commands. The periodic test cycle time is set in section [20] and reporting time of day is set in section [23].

Program the Maintenance Alarms according to the Slot Method mentioned above.

Note: Battery Trouble should be programmed as 2 1 in order to work properly.

AC Trouble and System Test Code (Section [50]) should be programmed as 1 1 in order to work properly.

Periodic Test Code should be reprogrammed as 5 5 in order to work properly.

[13] Reporting Codes for Maintenance Restorals

See section [12] for further information.

- Battery Trouble Restoral: enter [2][3]
- AC Trouble Restoral: enter [1][3]
- Day Zone(s) Trouble Restoral
- Bell Circuit Trouble Restoral
- Fire Zone Trouble Restoral
- Auxiliary Power Supply Trouble Restoral

Program the Restoral Alarms according to the Slot Method mentioned above.

Note: Battery Trouble Restoral should be programmed as 2 3 in order to work properly.

AC Trouble Restoral should be programmed as 1 3 in order to work properly.

[14] Zone Definitions for Zones 1 to 8

As in section [5], once this section number is entered, 8 two digit numbers are required. Each 2 digit number entered describes how a zone will operate. The 8 two digit numbers entered correspond to zone definitions for zones 1 to 8.

1st DIGIT

- 0 = Slow, audible
- 1 = Slow, silent
- 2 = Fast, audible
- 3 = Fast, silent

2nd DIGIT

- 0 = Standard delay
- 1 = Instant
- 2 = Interior delay
- 3 = Home-Away
- 4 = 24 Hour..bell
- 5 = 24 Hour..bell/buzzer
- 6 = 24 Hour buzzer
- 7 = Auxiliary delay
- 8 = Day

The 1st Digit determines whether the zone will cause a silent alarm or an audible alarm and whether the zone response will be fast or slow. Slow zone response time can be programmed in section [20] and can be set from 10 ms to 990 ms. The factory default zone response time is 500 ms. If set at fast, the zone response time is 20 ms.

The 2nd Digit determines the zone type, [0] through [8] as described below.

[0] = Standard Delay Zone has an entry and exit delay and is normally used for entry/exit doors. The exit delay starts as soon as the panel is armed. The zone may be opened

and closed during the delay time without causing an alarm. After the exit delay time has expired, opening the zone will start the entry delay timer. During the entry delay time, the keypad buzzer will sound steadily to advise the user that the system should be disarmed. If the panel is disarmed before the entry time expires, no alarm will be generated.

The default times for this type of zone are a 30 second entry delay and a 45 second exit delay. The entry and exit delays may be independently programmed in section [20] for periods from 1 to 99 seconds.

[1] = Instant Zone is normally used for door and window contacts and has the standard exit delay but is instant when opened after the exit delay expires. The exit delay will be the default time of 45 seconds or the time as established in programming section [20].

[2] = Interior Delay Zone is normally used with interior motion detectors and has a standard exit delay time. Arm and exit through a standard delay zone, the type [2] zone will follow the standard entry delay. When the type [2] zone is tripped before a delay zone, the alarm will be instant.

If the system is [*][9] armed or armed without leaving the premises, the type [2] zone will have an entry delay equal to the standard entry delay time programmed in section [20].

[3] = Home-Away Zone operates the same as the type [2] zone, if a delay zone is tripped during the exit delay. But if the system is armed, and a delay zone is not tripped during the exit delay, the Home-Away zones will be bypassed. When light 5 in section [17] is on, Home-Away zones will have an entry delay equal to the standard entry delay. This will affect all Home-Away zones when they are not bypassed by [*][1], [*][9] arming, or arming without leaving the premises. If Home-Away zones are automatically bypassed or [*][9] arming bypassed and the user then goes [*][1], the Home-Aways will then have an exit delay if the feature is enabled and will be a type [2] zone if not.

[4] = 24 Hour Bell Zone is active at all times and will create an alarm if the panel is armed or disarmed. This zone will always activate the bell/siren output, unless programmed for silent operation.

[5] = 24 Hour Bell/Buzzer operates as the type [4] except the bell/siren output is activated only when the panel is armed and only the keypad buzzer is activated while the panel is disarmed.

[6] = 24 Hour Buzzer operates as the type [4] except only the buzzer will be activated in the armed or disarmed mode.

[7] = Auxiliary Delay Zone operates the same as the type [0] zone except the entry/exit times can be independently set in section [21]. This zone type is useful when a zone with an entry and/or exit time is required that is different from the standard times as established for type [0] zones in section [20]. If section [17], light 6 is on it will enable the system to be armed even if the auxiliary delay zone is open ("Ready" light ON). Also, the system can be armed with the auxiliary delay zone closed and then it can be opened before the auxiliary exit delay has expired. In both cases the auxiliary delay zone will not become active until both the auxiliary exit delay has expired and the zone is closed. If force arming of type [7] zones is used, quick exit must not be used.

[8] = Day Zone is a variation of a 24 hour circuit. It operates as a type [5] zone by ringing the bell or siren when armed and the keypad buzzer when disarmed (2 beeps every 10 seconds; pressing any key silences keypad buzzer). However, a trouble transmission (programmed in section [12]) is sent when the system is disarmed rather than an alarm transmission (programmed in section [05]).

[15] 1st System Option Code

The 1st system option code is set using the zone lights to indicate which options in the following list are active. Once section [15] is entered the 8 zone lights will indicate which options are active. Press the corresponding number key to turn an option on or off. Press [0] to turn all options off.

- [1]* Light off = Communications are enabled
Light on = Communications are disabled
- [2]* Light off = Restorals follow zones
Light on = Restorals sent on disarming
- [3]* Light off = No alarms are displayed while panel is armed
Light on = Alarms are displayed while panel is fully armed
- [4]* Light off = Panel dials pulse (rotary dialling).
Light on = Panel dials DTMF (touch tone dialling).
- [5]* Light off = Zones 1 to 8 use end-of-line-resistors
Light on = Zones 1 to 8 use normally closed zones
- [6]* Light off = Keypad panic [P], bell is silent
Light on = Keypad panic [P], bell is audible
(See Keypad Zones)
- [7] Light off = Call 1st phone number with backup to 2nd
phone number if unsuccessful for 3 attempts
* Light on = Becomes call 1st phone number only
(See section [35])

— Note: Do not program backup to 2nd phone number if no 2nd phone number is programmed.

- [8]* Light off = 16th code becomes normal access code
Light on = 16th code is maid's code (One Time Use code)
(Access codes are programmed with [·][5] command)
* is default condition

[16] 2nd System Option Code

Use same method of programming as used in section [15].

- [1]* Light off = Do not send bypass status
Light on = Send bypass status with openings/closings
(Bypassed zones will be identified upon arming and disarming.)

Note: Openings & Closings (section 18, zone light 3) must be enabled for this function to operate correctly

- [2]* Light off = Master Code changeable
Light on = Master Code changeable by installer only
(See [*][5] User's Programming Commands)
- [3]* Light off = Disable bell squawk
Light on = Enabled bell squawk upon arm or disarm
(1 burst on Arm/2 bursts on Disarm)
- [4]* Light off = PC16OUT module disabled
Light on = PC16OUT module enabled
(Module which provides 16 voltage outputs to indicate

- panel conditions. See distributor for details.)
- [5]* Light off = TLM trouble, audible bell when armed
Light on = TLM trouble only, armed or disarmed
(TLM = Telephone Line Monitoring)
 - [6]* Light off = Force dial disabled
Light on = Force dial enabled
(Force Dial - Panel begins dialling whether or not a dial tone was detected on the telephone line.)
 - [7]* Light off = TLM enabled
Light on = TLM disabled
(TLM = Telephone Line Monitoring)
 - [8]* Light off = No access code required for zone bypassing
Light on = Use [*]+[1]+[Access Code] for zone bypassing
* is default condition

[17] 3rd System Option Code

- [1]* Light off = Bell squawks once every 10 seconds during Auto-arm
Light on = Only the buzzer will sound during an Auto-arm
(See Auto-arm, [*]+[6]+[Master Code]+[2])
- [2]* Light off = Acknowledge AC as a valid trouble
Light on = AC is excluded from trouble group
- [3]* Light off = Duress code 15 disabled
Light on = Duress code 15 is enabled
- [4]* Light off = Any key will abort the Auto-arm
Light on = Auto-arm abort requires access code
(See Auto-arm, [*]+[6]+[Master Code]+[2])
- [5]* Light off = Home-Away zones act as interior zones when active
Light on = Home-Away zones act as delay zones when active
(See Zone Type 3, section [14])
- [6]* Light off = Auxiliary delay zones arm same as other zones
Light on = Auxiliary delay zones can be force armed
(See Zone Type 7, section [14])
- [7]* Light off = Transmission counter for swinger shutdown reset upon arming
Light on = Transmission counter reset every 24 hours at midnight
(See section [22])
- [8]* Light off = Bypass status shown when disarmed only
Light on = Bypass status shown when armed or disarmed
(See Zone Bypassing)
* is default condition

[18] 4th System Option Code

- [1]* Light off = Quick exit disabled
Light on = Quick exit enabled ([*]+[0] when armed)
(See Quick Exit)
- [2]* Light off = Bell responds normally
Light on = Bell pulses always
(Bell pulses for fire or alarm)
- [3] Light off = Openings and closings not transmitted
* Light on = Openings and closings transmitted.
- [4]* Light off = Keypad LEDs always active
Light on = Keypad LEDs turn off after 2 minutes if no key entry. Any alarm, entry delay, or keypress will reactivate LEDs.

Note: This feature must not be used with an LCD keypad.

- [5]* Light off = Private Line disabled
Light on = Private Line enabled
- [6]* Light off = Keypad buzzer audible indication of panic
Light on = Keypad no buzzer on panic alarm
(See Keypad Zones)
- [7]* Light off = The [F]ire key is enabled
Light on = The [F]ire key is disabled
- [8]* Light off = Disable bell shutdown
Light on = Enable bell shutdown
The bell will follow the swinger shutdown counter set in section [22].
* is default condition

Private Line Format

This format will only transmit alarms. When a zone goes into alarm, the panel will dial the first phone number programmed. When the call is answered, the panel will sound a double “beep” on the line. The listener receiving the call will then know that it is the panel making the call. Pressing 3, 6, 9 or # on a touch-tone (DTMF) phone will tell the panel to transmit the zone or zones that are in alarm.

The panel will indicate which zone is in alarm by sounding a number of beeps. One beep will sound for zone 1, two beeps for zone 2, 3 beeps for zone 3, and so on.

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

[19] Zones 1 to 8 Bypass Mask

Use the same method of programming as used in section [15]. Using this section it is possible to control which zones the user is able to bypass using the [*][1] command. If the zone light is on the zone can be bypassed. If the zone light is off that zone cannot be bypassed.

[20] System Times

Once the section number is entered, 6 two digit numbers are expected to be entered. The valid range for entries in this section is 01 to 99. Hex values or 00 are not allowed. The times are entered in the following order:

- Entry delay time (in seconds)
- Exit delay time (in seconds)
- Bell cut off time (in minutes)
- Delay before AC failure trouble reporting (in minutes)
- Slow zone response time (in 10 ms increments)
(Default zone response - 500 ms)
- Test transmission/periodic download cycle time (in days)

AC Failure Reporting Code Up to a 99 minute delay may be programmed before the AC failure reporting code is transmitted. The reporting code for AC Failure Trouble is programmed in sections [12] and [13].

The Zone Response Time is the length of time that an alarm condition must be present on a zone before it is detected. Certain vibration detectors, shock sensors and glass break detectors require a fast response zone in order to operate. The zones to which these types of detectors are connected should be programmed as fast response zones. All other zones should be programmed as slow response zones. Zones are defined as either fast or slow response time in section [14].

The fast response time is fixed at 20 ms. The Slow Zone Response Time is programmable in increments of 10 ms. The normal entry would be 50 for a 500 ms slow response time.

A test transmission or a periodic download is sent to the monitoring station on a regular basis to confirm that the communication link to the system is intact.

The test transmission/periodic download cycle time is how often (in days) the test transmission and /or periodic download is sent. The reporting code for the test transmission is programmed in section [12]. The time of day that the test transmission and/or periodic download is sent is programmed in section [23].

To enable either option, lights 7 and 8 in section [48] must be programmed. If both test transmission and periodic download are enabled, the same time will be used for both. The test transmission will transmit first and after it goes off line a periodic download will take place.

[21] Auxiliary Delay Zone Times

This section requires 2 three digit entries to establish the auxiliary entry and exit delay times. Do not press the [#] key during data entry. The entry default time is 45 seconds and may be changed to any time from '001' second to '255' seconds. The exit default time is 60 seconds and may be changed to any time from '001' second to '255' seconds.

For the auxiliary delay times to be effective on a zone, the zone must be set as type [7] in section [14] Zone Definitions.

[22] Communication Variables

Once this section is entered, 2 two digit numbers are expected. Do not press the [#] key while entering data. The first two digit number defines the number of alarm and restoral pairs per zone that the communicator will make before it shuts down for that zone. (Swinger shutdown). The system will still go into a local alarm (Bell or siren) unless section [18] light 8 is on to make the bell follow the swinger shutdown counter. The counter may be reset either when the panel is armed or on a 24 hour basis as defined in the 3rd system option code, zone light 7.

The number of alarms may be programmed from '00' to '99' where '00' means the communicator will never shutdown. The fire zone cannot be shutdown, it always transmits.

The second two digit number defines the delay before transmission. This delay is for zones defined as burglary zones only. 24 hour zones or the fire zone will not be delayed. The time may be programmed from '00' to '99' seconds where '00' means no delay. If the system is disarmed before the transmission delay expires, then no transmission will take place.

[23] System Clock Times

After the section number [23] is entered, three 4 digit numbers are expected. These numbers are the following system times:

- Automatic arming time of day (HH:MM)
- For future use (99:99)
- Test transmission time of day (HH:MM)

Times are entered using the "24 hour clock" (military time). Valid entries are 00 to 23 for HH (i.e. hours) and 00 to 59 for MM (i.e. minutes). **Note: IF INVALID TIMES ARE ENTERED FUNCTIONS WILL NOT WORK. The automatic arm function is enabled and disabled using the [*]+[6]+[Master Code] User's Function Commands.**

Note: Enter a new 4 digit code in these following sections ([24] to [28]). Once the section number has been entered, only use digits 0 to 9 as code numbers. Do not press the [] or [#] keys.

If an error is made in entering a code, continue to enter the four digits then enter the section number again and re-enter the correct code. Do not press the [] or [#] while entering these codes. Do not make any of these codes the same.*

[24] Installer's Code

[25] Master Code (Access Code Number 1)

[26] 2nd Master Code

[27] Downloading Access Code

This 4 digit code allows the panel to confirm that it is communicating with a valid downloading computer. The factory default code is [2525].

[28] Panel Identification Code

This 4 digit code allows the downloading computer to confirm the identity of the control panel. The factory default code is [2501].

[29] For Future Use

[30] Programmable Input and Output Options

Both the Auxiliary Input Zone and the Programmable Output have options which are programmed in this section. After the section number [30] is entered, enter 2 HEX digits from the following lists:

1st Digit Auxiliary Input Zone

[0] For future use

[1] Silent 24 hour input

[2] Audible 24 hour input

[3] Momentary arming input

See Auxiliary Input Terminal in the “Terminal Connections” section for details on the Auxiliary Input. When option [3] is selected, a momentary key closure between the Auxiliary Input and the Positive Auxiliary Power Supply will alternately arm and disarm the system. The reporting codes for the Auxiliary Input (section [11]) can be used as opening and closing codes for key arming.

2nd Digit Programmable Output

See Programmable Output Terminal in the “Terminal Connections” section for details on connecting the “PGM OUT” terminal.

[1] **Ground Start Pulse** provides a 2 second ground start pulse before dialing begins to obtain the dial tone on ground start telephone equipment.

[2] **Utility Output (*[7]) No Access Code**

[3] **Utility Output (*[7]) Any Access Code**

[4] **Utility Output (*[7]) Group A Access Code**

[5] **Utility Output (*[7]) Group B Access Code**

These options change the “PGM OUT” terminal to different options used with the keypad utility output [*][7] command. See Utility Output Command in the “Keypad Command” section.

[6] **Keypad Buzzer Follow Mode** With this option the “PGM OUT” terminal switches to ground as long as the keypad buzzer is on.

[7] **System Status (arm/disarm) Output** With this option the “PGM OUT” terminal switches to ground when the panel is armed. The switch is open when the panel is disarmed.

[8] **Stroke Output (Latched Alarm Output)** With this option the “PGM OUT” terminal switches to ground after an alarm and remains switched on until the system is disarmed.

[9] **Failure to Communicate Output** With this option the “PGM OUT” terminal switches to ground if the system fails to communicate with the monitoring station after 8 attempts. The output stays switched to ground until a successful communication takes place or until troubles are viewed (*[2]). This option may be used to tie two systems together. One system can then be made to report a communication failure for the other.

[A] **TLM and Alarm** With this option the “PGM OUT” terminal switches to ground if the system has a TLM fault before any alarm condition while fully armed. The output follows

[B] **Courtesy Pulse** With this option the “PGM OUT” terminal switches to ground during the course of the entry and exit times. It could be used to turn on a light near the exit for the duration of the entry/exit times.

[C] **For future use**

[D] **2nd Line Slave** With this option the “PGM OUT” terminal switches to ground after four unsuccessful attempts have been made to the phone number being dialed. The output will stay switched until the panel has hung up. This could be used to switch the panel to a backup set of phone lines.

[E] **Kissoff Output** With this option the “PGM OUT” terminal switches to ground after the kissoff has been received to complete a “successful” communication to the central station. The terminal switches to ground for 2 seconds.

[F] **Remote Operation** With this option the “PGM OUT” terminal can be switched remotely using the DLS-1 software (version 4.0 or later).

Note (1): If a printer is attached to the panel, both [0] for the 1st digit and [C] for the 2nd digit must be entered.

[31] [32] [33] [34] Split Arming

“Split Arming” feature permits a single control panel to act as two independent alarm systems, each with its own opening and closing schedules, zone assignments and authorized users.

The allowable zone and access code assignments to system A or system B are described below. Typically, zones and access codes are assigned to either Group A or Group B but the PC2550 can be programmed for zones and access codes that are common to both Group A and Group B.

The following four sections are each programmed the same as section [15].

Split System Zone and Access Assignments

[31] Group A Zone Assignment for Zones 1 to 8.

[32] Group B Zone Assignment for Zones 1 to 8.

[33] Group A Access Code Assignment for Codes 1 to 8.

Note: Codes 9 to 16 are always assigned to Group A.

[34] Group B Access Code Assignment for Codes 1 to 8.

Note: Codes 9 to 16 cannot be assigned to Group B.

Common Zones

If a zone is assigned to both Group A and Group B then both Group A and Group B must be armed for that zone to be armed.

Common Access Code

If an access code (1 through 8 only) is assigned to Group A and Group B then that access code will arm and disarm the entire panel.

Armed Status Indications

When the panel is established as a split system, and ONE side only [Group A or B] is armed, the “Armed” indicator will flash and the zone indicators for the group that has been armed will flash.

If both Group A and Group B are armed the “Armed” indicator will be on steadily and the zone lights will not flash.

Zone Bypassing Access Code

When the system is established for split arming, [*] [1] bypassing should be set so that bypassing requires the use of an access code. (See section [16].)

Communicator

When the PC2550 is set up for “split arming” and both Group A and Group B systems are reporting to the same telephone number with different account codes,

Group A burglar alarms and restorals are programmed as [1] in section [35] to call the 1st phone number only. Light 7 in section [15] must be turned “ON”.

Group B burglar alarms and restorals are programmed with a [2] in Section [35] to call the 2nd phone number only. It is necessary to program both the 1st and 2nd phone number locations with the same telephone number.

Notes:

1. *The following restrictions apply to split arming applications:*

- *The Master Code must be assigned to side A and B.*
- *All codes and zones must be assigned even if not used.*
- *Transmission delay must not be used.*
- *Home-Away and Interior Delay zones must not be used.*

2. *PGM OUT Option A, Quick exit, and alarms displayed while armed will only work in a fully armed system.*

[35] Communicator Call Direction Options

Programming this section tells the dialler whether to send transmissions to the 1st or 2nd telephone number.

There are four classes of dialler call direction options.

- [0] No transmission for this group
- [1] Call 1st phone number with back up to 2nd number*
- [2] Call 2nd phone number only
- [3] Always call both phone numbers

* Option [1] becomes “Call 1st number only” when light [7] in section [15] is turned on. Do not program backup to 2nd phone number if no 2nd phone number is programmed.

After entering the section number, enter [0], [1], [2] or [3] for each of the following reporting code groups in the order given (total of 6 digits).

- Zone Group A Alarms and Restorals
- Zone Group B Alarms and Restorals
- Access Codes Group A Openings and Closings
- Access Codes Group B Openings and Closings
- Priority Alarms and Restorals
- Maintenance Alarms and Restorals

Where all reporting codes are to be sent to one telephone number, enter [1] for all of the above groups.

[36] Software Reset EEPROM Memory to Factory Defaults

This section is used to reset the EEPROM memory to the original factory default values. As soon as [36] is entered the EEPROM is reset and the program is restarted and factory defaults are loaded into the EEPROM.

Hardware Reset of EEPROM Memory to Factory Defaults

If the Installer's Code is lost through inadvertent programming, the only means of reprogramming the system is with a hardware reset. If the Installer's Lockout is enabled, there is no way to reprogram the system without entering the correct Installer's Code.

Follow the sequence outlined below to reset the panel to factory default conditions.

1. Power unit down by removing both AC and battery power.
2. Using a short jumper, short pins marked "EEPROM RESET" together.
3. Power PC2550 up.
4. Wait for 10 seconds then remove shorting jumper.
5. The system will have reloaded the EEPROM with the factory default codes.

[37] Through [45] For Future Use

[46] Downloading Computer Telephone Number

This is the telephone number that the panel would use to call the downloading computer if the CALLBACK feature (section [47]) is enabled or if a user initiated call up is done. ([*]+[6]+[Master Code]+[9]).

[47] Modem Configuration

This section is used to enable the Downloading function. If Downloading is enabled then the Downloading access code must be entered, (section [27]) and the Panel Identification Code must be entered (section [28]). If Callback is enabled the downloading computer's telephone number must be entered (section [46]).

- [1]* Light off = 0 This section is used to set the number
 Light on = 1 of rings that the panel must see before
- [2]* Light off = 0 it will answer a call from the downloading
 Light on = 2 computer.
- [3] Light off = 0 The number of rings is the sum of the
 * Light on = 4 binary digits as represented by lights 1
 through 4, e.g. Light 1 = off = 0
 * Light on = 8 Light 2 = on = 2
 Light 3 = off = 0 Light 4 = on = 8
 Sum.....= 10 rings [
- 5)* Light off = Downloading disabled

Light on = Downloading enabled
(See "Downloading")

[6]* Light off = No user initiated call up
Light on = User initiated call up enabled
(See [*]+[6]+[Master Code]+[9])

[7]* Light off = Answering machine over-ride disabled
Light on = Answering machine over-ride enabled

[8]* Light off = Call back disabled
Light on = Call back enabled

*is default condition. (See "Downloading")

[48] Test Transmission Options

[
1 to 6 for future use
[7]*Light off = Periodic test TX disabled
Light on = Periodic test TX enabled
[8]*Light off = No periodic downloading
Light on=Periodic downloading enabled
*is default condition. (See "Downloading")

[49] Answering Machine Over-ride Timer

This timer sets the amount of time that can be taken between calls when using the answering machine over-ride. (See section [47] light 7 description.) Valid entries are from 001 to 249 (in seconds) with a default of 060.

[50] System Test Code and TLM Restoral Code

This section is programmed the same as section [05].

System Test Code

Once a valid code is programmed into the system test code it will be sent to the central station every time that a system test is done. ([*]+[6]+[Master Code]+[8])

TLM Restoral Code

Once a valid code is programmed into the TLM restoral code it will be sent to the central station every time that the phone line trouble is restored. This will also initiate transmission of all codes unsuccessfully transmitted during the phone line fault.

[52] Access Bypass Mask (Codes 1 to 8)

Use the same method of programming as used in section [15]. In this section it is possible to control which access codes can be used to bypass zones. If the zone light is on that access code can be used to bypass. Zone light 8 in section [16] must be on to enable access bypassing with an access code.

[53] Access Bypass Mask (Codes 9 to 16)

Use the same method of programming as used in section [52].
Note: Zone lights 1 to 8 represent codes 9 to 16.

[90] Installer's Lockout Enable

This feature is enabled by entering [90] while in the Installer's Programming mode. A factory default (hardware or software) **will not** reset the Installer's Code or the download access code once this feature is enabled. A panel that has this lockout feature enabled will give a distinctive audible indication upon power up. This indication is the phone line relay clicking ten times. Make sure that your new Installer's Code has been entered correctly before enabling this feature because there is no way of re-entering the programming mode without the new Installer's Code. Even a reset to the factory default will not change the Installer's Code back to default.

[91] Installer's Lockout Disable

Entering [91] when in the Installer's Programming mode will disable the Installer's Lockout feature.

Note: Panels returned to DSC with the Installer's Lockout feature enabled and no other apparent problems will be subject to an additional service charge.

Programming Worksheets

[01] 1st Phone Number

LLLLLLLLLLLLLLLLLLLLLLLL

- Be sure to enter [#] to end number
- * Enter [0] for digit "0" in phone number

[02] 1st Account Code Page 15

LLLL

[03] 2nd Phone Number Page 15

LLLLLLLLLLLLLLLLLLLLLLLL

[04] 2nd Account Code Page 15

LLLL

[05] Alarm Reporting Codes Zones 1 to 8

Default to ADEMCO High Speed reporting

[06] Restoral Reporting Codes Zones 1 to 8

Default to ADEMCO High Speed reporting

[07] Not used

[08] Auto-arm Abort Code

Auto-arm Abort Code

[09] Miscellaneous Report Codes

11 **L L** Duress Reporting Code

50 **L L** Keypad Lockout Reporting Code

[10] Opening After Alarm Code

FF **L L** Open After Alarm Code

[11] Reporting Codes for Priority Alarms and Restorals

Defaulted to ADEMCO High Speed reporting

[12] Reporting Codes for Maintenance Alarms

Defaulted to ADEMCO High Speed Reporting

[13] Reporting Codes for Maintenance Restorals

Defaulted to ADEMCO High Speed Reporting

[14] Zone Definitions for Zones 1 to 8 Page 16

Note: When defining zones, ASSIGN DELAY ZONES FIRST to zones 1, 2, 3....then assign the other types to the remaining zones in any order desired.

<u>Default</u>		<u>1st Digit</u>	<u>2nd Digit</u>
0 0	L L Zone1	0 = Slow, audible	0 = Delay

0 1	L L	Zone2	1 = Slow, silent	1 = Instant
0 1	L L	Zone3	2 = Fast, audible	2 = Interior Delay
0 1	L L	Zone4	3 = Fast, silent	3 = Home-Away
0 2	L L	Zone5		4 = 24 hr...Bell
0 2	L L	Zone6		5 = 24 hr...Bell/Buzzer
0 2	L L	Zone7		6 = 24 hr...Buzzer
0 2	L L	Zone8		7 = Auxiliary Delay
				8 = Day Zone

[15] 1st System Option Code

<u>Default</u>			<u>Zone Light On</u>	<u>Zone Light Off</u>
Off___	Zone Light	1.....	Communication disabled	enabled Communication
Off___	Zone Light	2.....	Restorals on disarm	Restorals follow zones
Off___	Zone Light	3.....	Alarm display while armed	No alarm display/armed
Off___	Zone Light	4.....	DTMF dialing	Pulse dialing
Off___	Zone Light	5.....	N/C loops	EOL resistors loops
Off___	Zone Light	6.....	Keypad [P]anic audible	Silent
On___	Zone Light	7.....	Call 1st phone only	Back up to 2nd phone
Off___	Zone Light	8.....	16th code = maid's code	Normal code

[16] 2nd System Option Code

<u>Default</u>			<u>Zone Light On</u>	<u>Zone Light Off</u>
Off___	Zone Light	1.....	Send bypass status with openings/closings	Do not send bypass status
Off___	Zone Light	2.....	Master Code not changeable	Master Code changeable
Off___	Zone Light	3.....	Bell squawk enabled	Bell squawk disabled
Off___	Zone Light	4.....	PC16 OUT enabled	PC16 OUT disabled
Off___	Zone Light	5.....	TLM trouble only	TLM audible when armed
Off___	Zone Light	6.....	Force dial enabled	Force dial disabled
Off___	Zone Light	7.....	TLM disabled	TLM enabled
Off___	Zone Light	8.....	Access code req'd for bypass	Access code not req'd

[17] 3rd System Option Code

<u>Default</u>			<u>Zone Light On</u>	<u>Zone Light Off</u>
Off___	Zone Light	1.....	No bell during Auto-arm	Bell during Auto-arm
Off___	Zone Light	2.....	AC excluded from trouble	AC included
Off___	Zone Light	3.....	Duress Code 15 enabled	Duress Code 15 disabled
Off___	Zone Light	4.....	Auto-arm cancel req. access code	No code required
Off___	Zone Light	5.....	Home-Away with delay	Home-Away as interior

Off___	Zone Light 6.....	Force arm on auxiliary delay	Auxiliary delay normal
Off___	Zone Light 7.....	TX limit to 24 hr. period	TX limit to armed period
Off___	Zone Light 8.....	Show bypass status always	Show bypass disarmed

[18] 4th System Option Code

<u>Defaults</u>			
Off___	Zone Light 1.....	Quick exit enabled	Quick exit disable
Off___	Zone Light 2.....	Bell pulses always	Bell pules only on fire
ON___	Zone Light 3.....	Openings & Closings transmitted	No Openings & Closings
Off___	Zone Light 4.....	2 min. keypad timeout enabled	2 min keypad timeout off
Off___	Zone Light 5.....	Private line dialling enable	Private line dialling diable
Off___	Zone Light 6.....	Keypad [P]anic silent buzzer	Keypad [P]anic audible
Off___	Zone Light 7.....	[F]ire key disable	[F]ire key enable
On___	Zone Light 8.....	Bell shutdown active	Bell shutdown not active

[19] Zones 1 to 8 Bypass Mask

<u>Defaults</u>	<i>Note if zone light is on, the zone can be bypassed using the [*] [1] command</i>	
On	Zone Light 1	
On	Zone Light 2	
On	Zone Lght 3	
On	Zone Light 4	
On	Zone Light 5	
On	Zone Light 6	
On	Zone Light 7	
On	Zone Light 8	

[20] System Times

<u>Default</u>	<i>Note: Valid entries are 01 to 99. Do not enter 00 - it is not avalid entry</i>
30	Entry delay time (seconds)
45	Exit delay time (seconds)
04	Siren cut-off time (minutes)
30	AC failure transmission delay
50	Normal response time (x10mS)
30	Test transmission cycle time (days)

[21] Auxiliary Delay Zone Times

<u>Default</u>	<i>Note: Valid entrys are 01 to 99</i>
045	Entry time (in seconds)
060	Exit time (in seconds)

[22] Communication Variables

Default

0 3

Maximum transmissions until swinger shutdown

Enter digits from 01 to 99 for number of transmissions per zone during the period as defined in section [17], 3rd system option code, zone light 7. "00" = Unlimited transmissions per burglary zone (Fire zone never shuts down).

_0 0

Delay Before Transmission (Burglary Zones only)

Enter digits from 00 to 99 - delay in seconds.

"00" = No delay (Fire zone and 24 hr. zones always transmit without

delay).

Transmission delay as programmed here is for burglary zones only.

[23] System Clock Times

Default

9 9 9 9

Automatic Arming Time of Day

Enter 4 digits from 0 to 9.

9 9 9 9

For Future Use

Do not enter [*] or [#].

9 9 9 9

Test Transmission/Periodic Download Time of Day

[24] Installer's Code

Default

Enter 4 digits from 0 to 9.

2 5 5 0

Do not enter [*] or [#].

[25] Master Code (Access Code Number 1)

Default

Enter 4 digits from 0 to 9.

1 2 3 4

Do not enter [*] or [#].

[26] 2nd Master Code

Default

Can be erased by entering [*1111]

A A A A

Enter 4 digits from 0 to 9. Do not enter [*] or [#]

[27] Downloading Access Code

Default

Enter 4 digits from 0 to 9.

2 5 2 5

Do not enter [*] or [#].

[28] Panel Identification Code

Default

Enter 4 digits from 0 to 9.

2 5 0 1

Do not enter [*] or [#].

[29] For Future Use

[30] Programmable Input and Output Options

Default

2

Auxiliary Input Zone

(Normally open, momentary closure to "Aux +")

Enter 0, 1, 2 or 3 for options below

- [0] For future use
- [1] Silent 24 hour input
- [2] Audible 24 hour input
- [3] Momentary key arming

0,1, 2 or 3 are the only valid entries

8

Programmable Output

(A 50 mA switch to ground.)

Enter 0 to F for options below

- [1] Ground start pulse
- [2] Utility output no access code
- [3] Utility output any access code
- [4] Utility output Group A access code

1 through F are only valid entries

Note: A relay must be used to obtain more current.

- [5] Utility output Group B access code
- [6] Keypad buzzer follow mode
- [7] System status (arm/disarm) output
- [8] Strobe output (latched alarm output)
- [9] Failure to communicate output
- [A] TLM and alarm
- [B] Courtesy pulse
- [C] Printer attached
- [D] 2nd line slave
- [E] Kissoff output
- [F] Remote operation

Note: Sections [31]...[34] are used for split arming or split reporting only.

[31] Group A Zone Assignment for Zones 1 to 8 Page 20

Default

Note: if zone light is on that zone is assigned to Group A

If a zone light is on in sections 31 & 32 the zone is common to both groups and will only be armed if both groups are armed

- On Zone Light..... 1
- On Zone Light..... 2
- On Zone Light..... 3
- On Zone Light..... 4
- On Zone Light..... 5
- On Zone Light..... 6
- On Zone Light..... 7
- On Zone Light..... 8

[32] Group B Zone Assignment for Zones 1 to 8

Default

Note: If zone light is on that zone is assigned to group B.

If one light is on in sections 31 & 32 the zone is common to both groups and will only be armed if both groups are armed.

- On Zone Light..... 1
- On Zone Light..... 2
- On Zone Light..... 3
- On Zone Light..... 4
- On Zone Light..... 5
- On Zone Light..... 6
- On Zone Light..... 7
- On Zone Light..... 8

[33] Group A, Access Code for Codes 1 to 8

Default

*Note: If zone light is on that code is assigned to group A.
Access codes 9 through 16 are permanently assigned to group A. If a zone light is on in sections 33& 34 the code is common to both sides and will arm and disarm the entire system*

On	Zone Light.....	1
On	Zone Light.....	2
On	Zone Light.....	3
On	Zone Light.....	4
On	Zone Light.....	5
On	Zone Light.....	6
On	Zone Light.....	7
On	Zone Light.....	8

[34] Group B Access Code Assignment for Codes 1 to 8

Default

*Note: If zone light is on that code is assigned to group B.
Access codes 9 through 16 are permanently assigned to group A. If a zone light is on in sections 33& 34 the code is common to both sides and will arm and disarm the entire system*

On	Zone Light.....	1
On	Zone Light.....	2
On	Zone Light.....	3
On	Zone Light.....	4
On	Zone Light.....	5
On	Zone Light.....	6
On	Zone Light.....	7
On	Zone Light.....	8

[35] Communicator Call Direction Options

Default

- 1 Zones Group A Alarms and Restorals
- 1 Zones Group B Alarms and Restorals
- 1 Access Codes Group A Openings and Closings
- 1 Access Codes Group B Openings and Closings
- 1 Priority Alarms and Restorals
- 1 Maintenance Alarms and Restorals

Enter:

- [0] No transmissions for this group
- [1] Call 1st phone number back up to 2nd (becomes 1st number only, when section [15] item [7] is on)
- [2] Call 2nd phone number only

[3] Always call both phone numbers

[36] Software Reset of EEPROM Memory to Factory Defaults

[37] Through [45] - For Future Use

[46] Downloading Computer Telephone Number

This telephone number is used by the panel to call the downloading computer at the downloading computer's request for access or during a user initiated call up. Enter [0] for digit '0' in the phone number

L L L L L L L L L L L L L L L L L

[47] Modem Configuration

This section is used to set up the panel for downloading functions. The following table shows the On/Off patterns of zone lights 1 through 4 which are used to set the Number of Rings before the panel will answer a call from the downloading computer. The default setting is 12.

	<u>Number of Rings</u>												<u>Default</u>
	1	2	3	4	5	6	7	8	9	10	11	12	
Zone Light 1	On	Off	On	Off	On	Off	On	Off	On	Off	On	Off	On
Zone Light 2	Off	On	On	Off	Off	On	On	Off	Off	On	On	Off	Off
Zone Light 3	Off	Off	Off	On	On	On	On	Off	Off	Off	Off	On	On
Zone Light 4	Off	Off	Off	Off	Off	Off	Off	On	On	On	On	On	On

Default

Off
Off
On
On
Off
Off
Off
Off

Zone Light 1
Zone Light 2
Zone Light 3
Zone Light 4
Zone Light 5
Zone Light 6
Zone Light 7
Zone Light 8

Zone Light On

Set light patterns for number of rings as described in the above table.
Minimum number = 1
Maximum number = 15 (all lights on)
At least one light must be on.
_____ Downloading enabled
_____ User initiated call up
_____ Answering machine over-ride enabled
_____ Call back enabled

Zone Light Off

Downloaded disabled
No user initiated call up
Answering machine over-ride disabled
Call back disabled

[48] Test Transmission Options

<u>Default</u>	<u>Zone Light On</u>	<u>Zone Light Off</u>
_____ Off	Zone Light 1.....For future use	For future use
_____ Off	Zone Light 2.....For futute use	For future use
_____ On	Zone Light 3.....For future use	For future use
_____ Off	Zone Light 4.....For future use	For future use
_____ Off	Zone Light 5.....For future use	For future use
_____ Off	Zone Light 6.....For future use	For future use

_____ Off	Zone Light 7.....	Test transmission enabled	Test transmission disabled
_____ Off	Zone Light 8.....	Periodic download enabled	Periodic download disabled

[49] Answering Machine Override

Default *Note: 3 are digits required, valid entry 001 to 249 (seconds)*
060

[50] TLM Restoral Code

Default
FF Location 1 for future use
83 TLM restoral code (entering FF will disable this report)

[52] Access Bypass Mask (codes 1 to 8)

Default *Note: If the zone light is on, the code can be used to bypass. If an access code is not required for bypass then this section is irrelevant.*

On	Zone light.....	1
On	Zone light.....	2
On	Zone light.....	3
On	Zone light.....	4
On	Zone light.....	5
On	Zone light.....	6
On	Zone light.....	7
On	Zone light	8

[53] Access Bypass Mask (Codes 9 to 16)

Default *Note: If the zone light is on, code can be used to bypass.*

On	Zone light	1
On	Zone light.....	2
On	Zone light.....	3
On	Zone light.....	4
On	Zone light.....	5
On	Zone light.....	6
On	Zone light.....	7
On	Zone light.....	8

[90] Installer Lockout Enable

[91] Installer Lockout Disable