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Software Version 1.0

SYSTEM MASTER

Instruction Manual

DSC
Digital Security Controls

PC4020 SECURITY SYSTEM

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FCC COMPLIANCE STATEMENT

CAUTION: *Changes or modifications not expressly approved by Digital Security Controls Ltd. could void your authority to use this equipment.*

This equipment generates and uses radio frequency energy and if not installed and used properly, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for Class B device in accordance with the specifications in Subpart "B" of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in any residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to television or radio reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient the receiving antenna
- Relocate the alarm control with respect to the receiver
- Move the alarm control away from the receiver
- Connect the alarm control into a different outlet so that alarm control and receiver are on different circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the FCC helpful: "How to Identify and Resolve Radio/Television Interference Problems." This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402, Stock # 004-000-00345-4.

IMPORTANT INFORMATION

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

FCC Registration Number: F53CAN-20267-AL-E

Ringer Equivalence Number: 0.1B

MALFUNCTION OF THE EQUIPMENT In the event that this equipment should fail to operate properly, the customer shall disconnect the equipment from the telephone line to determine if it is the customer's equipment which is not working properly, or if the problem is with the telephone company network. If the problem is with this equipment, the customer shall discontinue use until it is repaired.

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

INCIDENCE OF HARM Should terminal equipment or protective circuitry cause harm to the telephone network, the telephone company shall, where practicable, notify the customer that temporary disconnection of service may be required; however, where prior notice is not practicable, the telephone company may temporary discontinue service if such action is deemed reasonable in the circumstances. In the case of such temporary discontinuance, the telephone company shall promptly notify the customer and will be given the opportunity to correct the situation. The customer also has the right to bring a complaint to the FCC if he feels the disconnection is not warranted.

CHANGE IN TELEPHONE COMPANY EQUIPMENT OR FACILITIES The Telephone Company may make changes in its communications facilities, equipment, operations or procedures, where such actions is reasonably required and proper in its business. Should any such changes render the customer's terminal equipment incompatible with the telephone company facilities the customer shall be given adequate notice to the effect of the modifications to maintain uninterrupted service.

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

RINGER EQUIVALENCE NUMBER (REN) The REN is useful to determine the quantity of devices that you may connect to your telephone line and still have all of those devices ring when your telephone number is called. In most, but not all areas, the sum of the REN's of all devices connected to one line should not exceed five (5). To be certain of the number of devices that you may connect to your line, you may want to contact your local telephone company.

EQUIPMENT MAINTENANCE FACILITY

Digital Security Controls Ltd. 160 Washburn St. Lockport, NY 14094

Introduction

The LCD4500 keypad provides easy to understand English language information about the status of your security system and makes daily operation simple by prompting the user through each operation.

The keypad provides audible feedback each time a key is pressed and with unique audible sequences it signals troubles and the correct or incorrect entry of information.

About Your Security System

Your DSC security equipment has been designed to give you the greatest possible flexibility and convenience. The LCD4500 keypad will guide you through each operation with English language prompts. Read this manual carefully and have your installer instruct you on system operation and on which features have been implemented on your system. All users of this system should be equally instructed in its use.

FIRE DETECTION

This equipment is capable of monitoring fire detection devices such as smoke detectors and providing a warning alarm if a fire condition is detected. Good fire detection depends on having adequate numbers of fire detectors placed in appropriate locations. This equipment should be installed in accordance with N.F.P.A. standard #74 (N.F.P.A. Batterymarch Park, Quincey MA 02269). Carefully review the Family Escape Planning guidelines in this manual.

Note: Your installer must enable the fire detection portion of this equipment before it becomes functional.

✎ *Important Note*

A security system cannot prevent emergencies. It is only intended to alert you and, if included, a monitoring station of an emergency situation. Security systems are generally very reliable but they may not work under all conditions and they are not a substitute for prudent security practices or life and property insurance. Your security system should be installed and serviced by qualified security professionals who should instruct you on the level of protection that has been provided and on system operation.

MONITORING

This system is capable of transmitting alarms, troubles, and emergency information over telephone lines to a monitoring station. If you inadvertently initiate an alarm, immediately call the monitoring station to prevent an unnecessary response.

Note: The monitoring function must be enabled by the installer before it becomes functional.

GENERAL SYSTEM OPERATION

Your security system is made up of a PC4020 and one or more LCD4500 and various detectors and sensors. The DSC control panel will be mounted out of the way in a utility room or basement. The metal cabinet contains the system electronics, fuses and stand-by battery. There is normally no reason for anyone but the installer or service person to have access to the control panel. The LCD4500 keypads have an audible indicator, an alphanumeric LCD, (Liquid Crystal Display), and command entry keys. The keypad is used to send commands to the system and to display the current system status. The keypad(s) will be mounted in convenient locations inside the protected premises close to the exit-entry doors.

The security system has several zones or areas of protection and each of these zones will have one or more detection sensors connected to it (motion detectors, glassbreak detectors, door contacts or shock sensors).

Trouble and Armed LED Displays

The LCD4500 has a yellow LED on the right side of the keypad which represents the trouble status of the panel. There is a red LED just below the yellow one which represents the armed status of the panel.

System Master Menu Functions

System Master Codes may perform any function for any partition on the system except changing or deleting the System Grand Master Code.

The System Master Menu can be accessed by entering [System Master Code] [9]. Use the [<] [>] keys to display the items of the System Master Menu. Press [✱] to select an item:

[0] View Event Buffer	[1] Set System Time	[2] Set System Date
[3] Enable DLS Window	[4] System Reset	[5] Previous Menu

[0] View Event Buffer - This function allows any Master Code to review the Event Buffer on the keypad display. The first line of the display will show the event number and the partition on which the event occurred; the second line of the display will show the date and time of the event. Press the [✱] key to display a description of the event. Use the [<] [>] keys to scroll through the list of events in the Event Buffer.

[1] Set System Time programs the system's 24 hour clock. Enter 4 digits in 24 hour time to set the clock, the first 2 digits are the hour, the last 2 digits are the minutes. For example, to program 2:35 pm, type in 1435.

[2] Set System Date programs the system's calendar. Enter 6 digits, the first two digits are the month, the middle 2 digits are the day, and the last two digits are the year. For example, to program February 14, 1992 type 021492.

[3] Enable DLS Window - The end user can enable ring detect for 60 minutes to allow a computer to call the panel. The installer can disable this function in the DLS section of the installer's programming.

[4] System Reset - A System Reset turns off the power to the COMBUS for 5 seconds and resets the main panel. No programming will be lost and the time will not have to be reprogrammed. A system reset should be done if there is a COMBUS Communications fault or an Internal fault.

[5] Previous Menu - If the user decides to do nothing, either select this option, or press the [#] key to return to the arm/disarm state.

Global Keypads

WHAT IS A GLOBAL KEYPAD?

A global keypad is a keypad which belongs to all partitions and may be accessed by all users on the system with valid access codes. The keypad will prompt the user to select the partition to edit, the keypad is then "loaned" to the partition selected by the user. The user can only access partitions which his/her code is assigned to.

HOW TO USE A GLOBAL KEYPAD?

The default message displayed on the keypad is "Enter Your Access Code", or the clock display if the option is enabled. From this state any user entering a valid access code may access the system.

The global keypad will display message

```
ENTER YOUR
ACCESS CODE
```

or will be the clock display if the option is enabled. From this state any user with a valid access code may access the system. The system can be directed to perform functions such as arming/disarming and all [✱] mode functions. No function can be performed without first entering a valid access code.

Single Partition

If a single partition access code is entered the user will be prompted with the message

```
SELECT (0)      <>
ARM PARTITION    R
```

if the partition is already disarmed. The lower right hand corner of the display will show the partition status using the letter R for Ready, and N for Not ready.

To arm the partition press [✱] or [0] the message

```
EXIT DELAY
IN PROGRESS...
```

will be displayed for 3 second. Then the display will return to

```
ENTER YOUR
ACCESS CODE
```

.

If the partition is armed the message on the LCD will be

SELECT (0) <>
DISARM PARTITION

Pressing the right arrow key displays the message

SELECT (1) <>
FOR OPTIONS

If option (0) is selected the panel will disarm the partition and display the message

KEYPAD LOANED TO
(Partition Label)

for 2 seconds on the LCD display. If the user chooses (1) "For Option" the LCD will display the message

KEYPAD LOANED TO
(Partition Label)

The user will be able to perform all [✱] functions (e.g. [✱] [7] Door Strike) and disarm the panel using conventional methods. Once the [#] key is pressed or 20 seconds of idle time (no key presses made or not active in a submenu) the keypad will return to its normal state displaying the message

EXITING FROM
(Partition Label)

- **Multi-partition**

If a multi-partition access code is entered the user will be prompted with the message

SELECT (1) <>
(Partition Label) R

The lower right hand corner of the display will show the partition status using the letter "R" for Ready, "A" for Armed and "N" for Not ready. The user can select the partition to access by using the [<] [>] keys. Only partitions which the access code belongs to will be displayed on the LCD.

If the selected partition is disarmed the message

SELECT (0) <>
ARM PARTITION R

will be prompted on the LCD. The lower right hand corner of the display will show the partition status. Using the letter "R" for Ready, and "N" for Not ready.

To arm the partition press [✱] or [0] the message

EXIT DELAY
IN PROGRESS...

will be displayed for 3 second. Then the display will return to

SELECT (1) <>
(Partition Label)

Pressing the right arrow key displays the message

SELECT (1) <>
FOR OPTIONS

If the selected partition is armed the LCD will prompt with the message

SELECT (0)
DISARM PARTITION

If option (0) is selected, the panel will disarm the partition and display the message

SYSTEM DISARMED
NO ALARM MEMORY

for 2 seconds. Then the display will return to

SELECT (1) <>
(Partition Label)

If the user chooses (1) "For Option" the LCD will display the message

KEYPAD LOANED TO
(Partition Label)

for 2 seconds. The user will be able to perform all [✱] functions (e.g. [✱] [7] Door Strike) and arm the panel using conventional methods. Once the [#] key is pressed or 20 seconds of idling time (no key presses made or not active in a submenu) the keypad will return to its normal state displaying the message

EXITING FROM
(Partition Label)

At any time pressing pound will take the user back to the "Enter Your Access Code" message.

The Armed LED of the Global keypad will activate only when all activated partitions are armed. The last partition armed from a Global keypad will display

EXIT DELAY
IN PROGRESS

and countdown timer if it is enabled. At the end of the exit delay the Global keypad will return to the message

ENTER YOUR
ACCESS CODE

with the Armed LED on.

To access the System Master Menu from a global keypad, select a partition and re-enter the System Master code.

Audible entry delay will only be heard on the Global keypad when all activated partitions armed. Disarming any one partition will disable the entry delay and turn the Armed LED off.

The Trouble LED of the Global keypad will activate for all troubles, including fire zones that belong to just one partition. The user must enter a valid access code and then loan the keypad to their partition. From here the user can enter [✱] [2] to view the trouble, if it belongs to their partition.

Keypad Zones

There are three keys on the keypad labelled [F] Fire, [A] Auxiliary and [P] Panic. These keys are only functional if they have been programmed by the installer. The installer should indicate which of these keys are active by placing a coloured label next to the key.

[F]ire - Holding this key down for 2 seconds will sound a fire alarm. The alarm will sound pulsing and a transmission will be sent to the monitoring station. The keypad will sound three beeps once the panel has accepted the alarm.

[A]uxiliary - Holding this key down for 2 seconds will send a transmission to the monitoring station.

[P]anic - Holding this key down for 2 seconds will send a transmission to the monitoring station. The installer can program this key to sound the alarm or to transmit the alarm silently.

The global keypad will always send (if programmed) the system area account code. The [F], [A] and [P] keys will activate for all active partitions. Any valid access code from any partition may silence the alarm.

Arming

Close all protected doors and windows and stop movement in areas covered by motion detectors.

The "Enter Code to Arm System" message should be on the LCD display. The system cannot be armed unless the "Enter Code to Arm System" or "Secure System or Enter Code..." message is displayed.

If Double EOL resistors are being used, 3 different messages can be displayed when viewing open zones, Zone Open, Zone Tamper and Zone Fault. Zone Open will be displayed if the zone is in the alarm state, Zone Fault will be displayed if the zone is shorted, and Zone Tamper will be displayed if the zone is open.

Enter a 4 digit or 6 digit access code. As each digit is entered the keypad will beep.

- If the access code was entered incorrectly, the keypad will beep steadily for 2 seconds.
- If the code was entered correctly but the system was not secure due to an open zone, the keypad will beep quickly followed by a steady tone.
- When the correct code is entered, the "Exit delay in Progress" message will be displayed and the keypad will beep three times quickly. If a System Master Code was entered, the system master menu will appear. See "System Master Codes".

A timer will appear in the right side of the display indicating the remaining time in the exit delay. Exit the premises through the designated exit-entry door. When the allowed exit time expired the message on the keypad will change to "Enter Code to Disarm System".

If a multi partition access code is entered the keypad will display the message

(0) TO ARM	<>
(Partition Label)	R

The lower right hand corner of the display will show the partition status using the letter "R" for Ready, "A" for Armed and "N" for Not ready.

Use the [<] [>] keys to scroll though the assigned partitions. Only partitions to which the access code is assigned will be displayed. The message

(2) TO SELECT	<>
(Partition Label)	R

with the partition status at the lower right hand side of the LCD.

To arm the partition which you are at simply press [✱] or use the hotkey (0). The message

EXIT DELAY
IN PROGRESS

will appear on the keypad with the exit delay timer if it is enabled. Instead of arming their own partition, if the user decides to select another partition to arm the message

SELECT (0)	<>
ARM PARTITION	R

.

Use the arrow keys to scroll to the "For Options" menu. Selecting (0) "To Arm" will arm the selected partition and display the message

EXIT DELAY
IN PROGRESS

for 2 seconds and then return the user to the arming menu of their own partition.

If (1) "For Options" is selected the user will be prompted with the message

KEYPAD LOANED TO
(Partition Label)

.

From here the user is capable of performing all [✱] functions (e.g. [✱] [7] Door Strike) and arm the panel using conventional methods.

Once the [#] key is pressed or 20 seconds of idle time (no key presses made or not active in a submenu) the keypad will return to its normal state displaying the message

RETURNING TO
(Partition Label)

.

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 or 6 digit access 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 buzzer will stop. The correct access code must be entered before the allowed entry time expires. If an alarm occurred while the panel was armed, the "View Memory" message will be on the display with the zone name for the zone that caused the alarm. The display will keep those messages on for two minutes or until the [#] key is pressed to return the panel to the normal arm-disarm mode.

Enter the premises through the designated exit-entry door. The keypad buzzer will be on. Go to the keypad and enter the 4 digit or 6 digit access 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 buzzer will stop. The correct access code must be entered before the allowed entry time expires. To change the entry time see "Installers Programming Command", [*][8]. If an alarm occurred while the panel was armed, the "View Memory" message will be on the display with the zone name for the zone that caused the alarm. The display will keep those messages on for two minutes or until the [#] key is pressed to return the panel to the normal arm-disarm mode.

To disarm by using a multi partition access code the keypad will display the message

(0) TO ARM	<>
(Partition Label)	R

.

The lower right hand corner of the display will show the partition status using the letter "R" for Ready, and "N" for Not ready.

Use the [<] [>] keys to scroll though the assigned partitions. Only partitions to which the access code is assigned will be displayed. The message

(2) TO SELECT	<>
(Partition Label)	A

will be displayed with the partition status at the right corner of the LCD.

To disarm the partition being viewed simply press [*] or use the hot key (0). If (1)"For Options" is selected the user will be prompted with the message

KEYPAD LOANED TO
(Partition Label)

on the LCD display. From here the user is capable of performing all [*] functions (e.g. [*] [7] Door Strike) and arm the panel using the conventional methods.

Once the [#] key is pressed or 20 seconds of idling time (no key presses made or not active in a submenu) the keypad will return to its normal state displaying the message

RETURNING TO
(Partition Label)

.

Display of Alarms/Bypassed Zones

Your installer may enable bypassed zones or zones in alarm to be viewed on armed partitions. If so, pressing the [<] [>] keys will display any zones on the partition that have gone into alarm with the message "View Alarms" followed by the zone label. Any zones on the partition which were manually bypassed may also be viewed by pressing the [<] [>] keys.

Note that Home-Away zones which are normally bypassed upon arming the system will not be displayed.

Auto-bypass/Home-Away Arming

A correct access code is entered and you do not exit the premises through a designated exit-entry door, 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. These zones will remain bypassed until a delay zone is tripped or [*] [1] is entered to reactivate bypassed home-away zones.

This is a convenience feature for someone who wishes to remain on the premises with the system armed. That person does not have to manually bypass the home-away zones.

If partitions are remotely armed using a global or multi partition access code i.e. a code that can arm/disarm partitions 1, 2 and 3. The home-away zones will be active on those partitions except the one being armed from if the user does not exit through a delay zone.

To reactivate the Home-Away zones that have been automatically bypassed, press [*] [1]. This command is a quick method of fully arming the system in residential applications.

Zone Bypassing

[*]+[1]

A bypassed zone will not cause an alarm. If a zone is bypassed the panel may be armed 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.

To bypass zones, enter [*] [1]. An access code may be required if the installer has enabled that option. A menu will appear.

[0] Bypass Zones - This selection takes you immediately to bypassing zones. Use the [<] [>] to select the zones to be bypassed and press the [*] key to select the zone. A "*" will appear beside the zone label to indicate the zone will be bypassed when the partition is armed.

A zone search routine allows the user to find the desired zone to bypass by entering in first letter of the zone to search for, and pressing one of the [<][>] keys. The [>] key will search for the first zone on the partition that begins with the letter selected. Pressing the [>] key again will search for the next zone on the partition that begins with the letter selected.

The letters of the alphabet have been divided up among the 1-9 number keys on the keypad.

(1) ABC1	(2) DEF2	(3) GHI3
(4) JKL4	(5) MNO5	(6) PQR6
(7) STU7	(8) VWX8	(9) YZ90
	(0) CLEAR	

[1] Clear Bypasses will remove bypasses from all the zones in your partition and then takes you to bypassing zones. None of the zones will have a "✱" beside them.

[2] Recall Bypasses will bypass all the same zones selected for the last time zon bypassing. This is for users who always bypass the same zones.

[3] Previous Menu takes the user back to the "Enter Code to Arm System".

When the PC4020 is programmed, the ability to bypass certain zones may have been eliminated by the installer. In this case, the "✱" message for those zones will not come on in response to the bypass command. Zone bypasses are automatically cancelled when the panel is disarmed.

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

While the system is disarmed, bypassing can be used to temporarily silence the door chime feature on a zone. Simply bypass the zone that the door chime feature enabled. The keypad will no longer beep when the zone is opened. Be sure to clear all bypasses before arming, to ensure no zones are unintentionally bypassed.

Trouble Display

[✱]+[2]

The PC4020 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 on that partition, but the trouble indicator light will remain ON until the trouble is cleared. Trouble conditions can also be transmitted to the monitoring station. Press the [✱] then [2] keys to display the trouble conditions.

- Battery Trouble
- AC Trouble
- Aux Supply Troub
- TLM Trouble
- FTC Trouble
- Bell CCT Trouble
- Fire Trouble
- Loss of Time
- Module Com Fault
- COMBUS Low Pwr
- Internal Fault
- 4204 Battery TBL
- 4204 AC Trouble
- 4204 Aux Trouble
- Cellular Trouble

Press [#] to return to "READY".

Battery Trouble - A battery trouble will be displayed if the battery is low, disconnected or the battery fuse fails.

AC Trouble - 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.

Aux Supply Troub is generated if the auxiliary fuse fails.

TLM (Telephone Line) Trouble is generated when the line voltage drops below 3 volts for more than 30 seconds. A keypad trouble is generated when the system is disarmed and if selected, a local alarm sounds when the panel is armed.

FTC Trouble - If the digital communicator is unsuccessful in communicating with the monitoring station after 10 attempts, a FTC (Fail To Communicate) trouble is generated. If a later attempt to communicate is successful the trouble is cleared.

Bell CCT Failure - If the bell fuse opens or the bell circuit is open, a keypad trouble and a bell circuit trouble transmission are generated.

Fire Trouble - If a fire zone is open circuit, a keypad trouble and a fire trouble transmission are generated. A trouble on the fire zone will unconditionally initiate an audible indication on the keypad. This means that even if any other previous trouble has been silenced, a fire trouble will restart the keypad buzzer.

If the PC4020 loses communication with a zone expander (PC4108 or PC4116) which has a Fire Zone Enabled on it, all Fire/Burglary outputs will "squawk" once every 10 seconds until a keypress is detected on a keypad.

Loss of Time - When the PC4020 is powered up, the internal time of day clock needs to be set to the correct time. Programming the time will clear this trouble.

Module Com Fault - Contact installer.

COMBUS Low Pwr - Contact installer.

Internal Fault - Contact installer.

4204 Battery TBL - If any PC4204 relay output module's battery drops below 11.3 volts, a battery trouble is generated.
The battery voltage is checked once every 4 minutes. So the battery trouble may not restore instantly when the battery voltage is restored.

4204 AC Trouble - If any PC4204 relay output module loses incoming AC power, the keypad trouble light will indicate a 4204 AC trouble. But there will be no audible annunciation until there is also a low battery condition.

4204 AUX Trouble - If the Aux fuse on any PC4204 relay module should open or if the Aux supply is overloaded, a 4204 Aux trouble is generated.

Cellular Trouble - If a LINKS 1000 module is installed on the system, a cellular trouble will be indicated if the module has an AC or battery trouble, or if the LINKS 1000 loses communication or is tampered with.

Alarm Memory Display

[✱]+[3]

Press [✱] then [3] to enter the alarm memory mode. Any alarm caused during the last armed period will be displayed. The "Alarm Memory" message will only be displayed when an alarm occurred during the last armed period.

Press [#] to return to "Ready".

Note: Tamper alarms will not be shown in alarm memory display.

Sensor Reset

[*]+[4] When Disarmed

Entering [*] [4] [access code] will reset smoke detectors assigned to that partition. The message "Sensor Reset In Progress..." will be displayed, along with a countdown in the lower right corner. Your installer may program the sensor reset option so that an access code is required.

User Programming Commands

[*]+[5]+[ACCESS CODE]

The [*] [5] [Access Code] command is used to program the Master Codes and regular access codes.

The first access code is the System Grand Master Code. Normally, only the installer can change the System Grand Master Code. The installer may also program the system to allow the user to change the System Grand Master Code.

The System Grand Master Code has no limitations to its use. It may be used to create or delete other System Master Codes or to perform any user function on the system. Note that only to the first access code can be the System Grand Master Code.

Note: When using a global keypad the System Master should assign access codes to avoid duplication.

Each access code may be programmed as one or a combination of the following options:

System Master Codes may perform any function for any partition on the system except change or delete the System Grand Master Code, or change or delete other System Master Codes.

Supervisory Codes allow the user to program and edit other access codes, except System Master and Duress Codes, for any partitions which the access codes belong to. Supervisory Codes are also used for arming, disarming, bypassing and all other functions that a System Master Code is capable of.

Arm Only Code allows the user to arm only the partitions to which the code is assigned.

Disarm Only Code allows the user to disarm only the partitions to which the code is assigned.

Door Strike Code allows the user to operate door strikes only within the partition to which the code is assigned. (The PC4020 has not been investigated to the requirements of UL294.)

Duress Codes are used to disarm partitions and send a duress code transmission to the monitoring station. A user would enter a Duress Code to indicate that they are being forced by an intruder to disarm the system. When a Duress Code is entered, the partition or partitions to which it is assigned will disarm normally, and a Duress Code transmission will be sent to the monitoring station. Also, any outputs programmed as "Duress Outputs" will be activated when the Duress Code is entered. A Duress Code may be programmed for arming and disarming; note that the "Duress Code" will be transmitted to the monitoring station for any event it performs.

One-Time Use Codes are used to allow infrequent users of the system, such as service personnel, to arm the system. When the system is armed using a One-Time Use Code, the code will be erased once the Exit Delay expires; after this time, the code may not be used again. If the One-Time Use Code is entered before the Exit Delay expires, arming of the system will be cancelled; the One-Time Use Code may then be entered again later to arm the system.

Log Only Codes are used strictly for logging to the event buffer. The system master can log the time, date and location which they were at with the Log Only codes. To enable this code type, enable just door strike or disable all options.

Note: Do not program access codes such as 1111 or 1234 which can be easily guessed and will compromise the security of your system.

Programming Additional Access Codes Using a System Master Code or a Supervisory Code

1 Press [*] then [5] to enter the User Programming Commands; the keypad will display the message "Enter Your Access Code". Any System Master Code or Program Code may be entered.

- If the Grand Master Code is entered, System Master Codes and regular access codes for any partition will be able to be programmed.
- If a System Master Code is entered, regular access codes for any partition will be able to be programmed. A System Master Code can also create Supervisory and Duress Codes.
- If a Supervisory Code is entered, only access codes belonging to the partition to which the Supervisory Code is assigned may be changed.

When a valid access code is entered, the keypad will display the number of available access codes on the first line of the screen.

2 The keypad will display the message "Sel Code (xxx) < >". "(xxx)" represents the number of the access code that has been selected for programming and the access code name on the second line. Use the [<] [>] keys to scroll through the list of access codes, or enter the code number 001 to 128. When the desired access code number is displayed, press the [*] key to program the code.

3 When an access code is selected for editing by pressing the [*] key, a menu for editing access codes will be displayed. Select one of the menu items by entering a number on the keypad.

[0] Program Code - When [0] is pressed, the keypad will display the message "Enter Digits" and the presently-programmed access code. Enter the new 4 digit or 6 digit access code. Do not press [*] or [#] while entering the access code. If you do not wish to change the code, press [#] key.

[1] Erase Code - If an access code is no longer needed, this selection will erase the code, but not the user's name.

[2] Edit Access Code Name - When a PC4400 RS232 module is enrolled on the system, the name of the code which is used to arm and disarm will be printed out. Also, the access code name helps keep track of the code when programming codes. Move the cursor to left or right by pressing the [<][>] keys. The letters of the alphabet have been divided up among the 1 to 9 number keys on the keypad as below:

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

For example, if you press the [4] key once, the letter 'J' will appear above the cursor on the display. Press the [4] key again, the next letter 'K' will appear, and so on. If a different number key is pressed, e.g. the [6] key, the cursor will automatically move to the right one space, i.e. the letter 'P'. To erase a character, use the [<] [>] keys to move the cursor under the character, then press the [0] key.

While programming the access code label, press the [*] key to call up an options menu. To select an option, press the corresponding number key or scroll through the options using the [<][>] keys, then press the [*] key to select.

[0] Clear Display will clear the entire code label.

[1] Clear to End will clear the display from the character where the cursor was located to the end of the display.

[2] Change Case will toggle the letter entry between upper case letters (ABC...) and lower case letters (abc...).

[3] ASCII Entry (see Appendix A) is for entering uncommon characters. There are 255 characters, but 000 to 031 are not used. Use the [<][>] keys to toggle through the characters or enter a 3 digit number from 032 to 255. Press the [*] key to enter the character into the code label.

[3] Edit Access Code Options - When [3] is pressed, the keypad will display the message "Select toggle < >". Use the [<] [>] keys to scroll through the list of options:

- System Master?
- Program Codes?
- Arm?
- Disarm?
- Bypass?
- Door Strike?
- Duress Pulse?
- One Time Use?

[4] Edit Partition Mask - The Partition Mask is used to assign the access code to one or more partitions. In order for an access code to function, the Partition Mask must be assigned to the access code; ***if no partition mask is assigned, the code will not operate on any partition.***

[5] To Exit the menu, press the [#] key.

4 To exit the Access Code Programming Mode, press [#].

User Functions Command

[*]+[6]+[ACCESS CODE]

Enter [*][6][Access Code] and then use the [<][>] keys to display the items of the function menu. Press [*] to select an item.

[0] Quick Arm	[1] Quick Exit	[2] Auto Arm Control	[3] Keypad Setup
[4] Bell/Comm Test	[5] Door Chime	[6] Spec. Messages	[7] User Call Up

Item [0], [1], [5] and [6] turn on and off various functions. To enable or disable these functions, press the [*] key to toggle "Y "or "N" on the keypad.

Y - The function is enabled
N - The function is disabled

[0] Quick Arm feature is enabled by toggling to "Y" on the keypad. When enabled the panel can be armed by entering [*] [0].

[1] Quick Exit function is enabled by toggling to "Y" on the keypad. When enabled the user can exit through any delay zone without altering the status of the system, by entering [*] [0] on the keypad.

[2] Auto arm Control - The PC4020 can be programmed to arm a partition at the same time each day, by enabling the auto arm function and programming the auto-arm time.

At the selected auto arm time, the system will give a pre-alert. The keypad 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 programmed by the installer to be silent.

The keypad will sound for 1 minute before auto arming unless the auto-arm is aborted. To abort the auto arm and silence the keypad press any key during the pre-alert. The auto arm will be attempted at the same time the following day. The PC4020 can be programmed by the installer to require a code to be entered for aborting the auto arm.

Upon selecting the auto arm control function, the auto arm control menu will appear on the LCD keypad:

[0] Auto Arm toggles "Y" or "N" to enable or disable the auto arm function.

[1] Auto Arm Time is the time the partition will automatically arm itself every day.

Note: The auto arm time 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

Enter 4 digits representing the time in hours and minutes (HH:MM) based on 24 hour or military time. Always enter a leading zero where only one digit is required, 8:05 am would be entered as 0805, 1:30 pm would be entered as 1330.

[3] Keypad Setup allows the user to adjust the backlighting and contrast of the LCD4500 keypad. When this function is selected, the keypad setup menu will appear on the keypad:

- **Bright Control** adjusts the level of back lighting on the LCD display and the backlighting on the keys.
- **Contrast Control** adjusts the contrast of the lettering on the LCD display.

Use the [<][>] keys to toggle through the 8 different settings, and press [*] to select the level of preference.

[4] Bell/Comm Test allows the end user to test the system. This option activates the bells for 2 seconds and sends a test code transmission to the monitoring station.

[5] Door Chime feature is enabled or disabled by pressing the [*] key to toggle from "N" to "Y" or "Y" to "N". When the chime zone is activated, the keypad will beep quickly 5 times. The "Beeping" on doors can be eliminated temporarily by using zone bypass, only when the panel is disarmed.

[6] Spec. Messages function enables 4 special event messages to be displayed when one of the special events occurs.

The first message is "Fail to Arm". It will be displayed if the user is unable to arm the partition after entering a valid code, e.g. because of activity on the zones.

The second message is "Alarm When Armed". It will be displayed if an alarm occurred during the previous armed period.

The third message is "Zone Fault will occur". It will be displayed if the zone loop is shorted while using Double EOL resistors.

The fourth message is "Zone Tamper". It will be displayed if the zone is opened while using Double EOL resistors.

Note: The Zone Fault and Zone Tamper event messages will only be displayed when Double EOL resistors are being used. These 2 messages will be displayed even when "Special Messages" is set to NO.

[7] User Call Up function must be enabled by the installer. The panel will call the downloading computer when selected. The downloading computer must be waiting for the panel to call before downloading can be performed.

WALK TEST

[*]+[6]+[Walk Test Code] When Disarmed

The Walk Test feature allows the user to test if the detectors on a partition are in proper working order. There are 4 options in the walk test menu. Press [*] to view and select the option.

[0] Local Walk Test
[1] Local + Comm. Test
[2] Disable Walk Test
[3] Previous Menu

[0] Local Walk Test is selected the keypad will sound 3 quick beeps and return to the normal disarmed display. The user can then test each detector on the partition and any zone violated will cause the burglary bell/siren to sound for 2 seconds, confirming that the detectors are working properly. Note that fire bell/sirens will not sound, and all zones including fire zones will activate burglar bell/siren alarms for 2 seconds in walk test mode.

During walk test mode no alarms on that partition will be transmitted to the monitoring station. However, if a printer module (PC4400) is installed on the system the zones violated will be printed.

[1] Local + Comm. (Communications) Test will operate the same as local walk test mode except that alarms will be transmitted to the monitoring station in order to test communications.

[2] Disable Walk Test will disable walk test mode, and the partition returns to its normal disarmed state. Walk test mode will also be automatically disabled if the partition is armed.

[3] Previous Menu will let the user exit the walk test menu. Pressing [#] key can also exit the menu.

Door Strike

[*]+[7] or [*]+[7]+[ACCESS CODE]

Entering [*] [7] or [*] [7] [Access Code] will activate a utility output for a preset time, during which the keypad buzzer will sound. The utility output may be used on an armed or disarmed partition, and the installer may program it so that an access code is required to activate the utility output.

Note: The Door Strike output will be deactivated at the end of the standard exit delay.

Installer's Programming Commands

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

This command is used by the installer to program the PC4020.

"At-Home" Arming

[*]+[9]+[ACCESS CODE]

Entering [*] [9] before the arming code, arms the panel without any entry delay on the delay zones and bypasses zones that are defined as "Home-Away". This command is used for arming the system while at home. Once the panel is Armed in this mode, using [*] [1] will remove the bypass from those zones defined as "Home-Away" if they have NOT been manually bypassed. The [*] [1] command, as used here, only removes the bypass from zones that were automatically bypassed with the [*] [9] command.

If [*] [9] proceeds a multi partition access code used to arm any partition, the partition(s) will be at-home armed.

Quick Arm

[*]+[0]

Entering [*] [0] is accepted as a valid arming code when the "Quick Arm" feature is activated. This command is often used when individuals are required to arm the system but not disarm it. This could be used with home visitors in the case of a residential alarm or junior employees and maintenance staff in the case of a commercial alarm. See instructions in the "[*] [6] Users Programming Commands" section for activating the "Quick Arm" feature. The One-Time Use Code users should not use this feature, because the One-Time Use Code will only be erased when it is used to arm the system.

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. 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. Quick exit activation will be logged onto the event buffer.

Keypad Lockout

If this feature is enabled on a partition and a programmable number of incorrect access codes are entered, the message "Keypad Lockout Is Active..." will be displayed on all partition keypads. The keypad will respond with an error tone to all further keypresses for a programmable amount of time.

Fire Safety in the Home

Most fires occur in the home and to minimize this danger it is recommended that a household fire safety audit be conducted and a family escape plan be developed.

Household Fire Safety Audit

1. Are all electrical appliances and outlets in a safe condition e.g. frayed cords, over-loaded lighting circuits? If you are uncertain about the condition of your electrical appliances or household service, have a professional evaluation.
2. Are all flammable liquids stored safely in closed containers in a well ventilated cool area? Cleaning with flammable liquids should be avoided.
3. Are fire hazardous materials (matches) well out of reach of children?
4. Are furnaces and wood burning appliances properly installed, clean and in good working order? Have a professional evaluation.

Family Escape Planning

There is often very little time between the detection of a fire and the time it becomes deadly. It is thus very important that a family escape plan be developed and rehearsed.

1. Every family member should participate in developing the escape plan.
2. Study the possible escape routes from each location within the house and since many fires occur at night, special attention should be given to the escape routes from sleeping quarters.
3. It is essential that escape from a bedroom be possible without opening the interior door. To facilitate such an escape:
   - Make sure that doors and/or windows that open to the outside are easily opened, e.g. not painted shut.
   - Simply making the exit may be too difficult for children, the elderly or handicapped, plans for rescue should be developed. This includes making sure that those who are to perform the rescue can promptly hear the fire warning signal.

- If the exit means is above the ground level, an approved fire ladder or rope should be provided as well as training in its use.
- Exits on the ground level should be kept clear, e.g. remove snow from exterior patio doors.
- The family should have a predetermined assembly point where everyone can be accounted for, e.g. across the street or at a neighbour.
- Once everyone is out of the house call the Fire Department.
- A good plan emphasizes quick escape. Do not investigate first or attempt to fight the fire and do not attempt to rescue valuables or pets as this takes up valuable time. Once outside, do not re-enter the house. Wait for the fire department.
- Write the plan down and rehearse frequently so that should an emergency arise, everyone will know what they are to do. Revise the plan as conditions change, e.g. more or fewer family member or changes to the house.
- Make sure your fire warning system is operational by conducting weekly tests as noted elsewhere in this manual. If you are unsure about system operation, contact your installing dealer.
- It is recommended that you contact your local fire department and request further information on home fire safety and escape planning. If available, have your local fire prevention officer conduct an in-house fire safety inspection.

Maintenance

With normal use, the system requires minimum maintenance. The following points should be observed.

1. Do not wash the keypad with a wet cloth. Light dusting with a barely damp cloth should remove normal accumulations of dust.
2. The battery/bell test is designed to determine battery condition, however it is recommended that the stand-by batteries be replaced every three years.
3. For other system devices such as smoke detectors, passive infrared, ultrasonic or microwave motion detectors, or glassbreak detectors, consult the respective manufacturer's literature for testing and maintenance.

Limited Warranty

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

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

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

WARNING

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

Appendix A

LIST OF AVAILABLE ASCII CHARACTERS

032	048	064	080	096	112	160	176	192	208	224	240
033	049	065	081	097	113	161	177	193	209	225	241
034	050	066	082	098	114	162	178	194	210	226	242
035	051	067	083	099	115	163	179	195	211	227	243
036	052	068	084	100	116	164	180	196	212	228	244
037	053	069	085	101	117	165	181	197	213	229	245
038	054	070	086	102	118	166	182	198	214	230	246
039	055	071	087	103	119	167	183	199	215	231	247
040	056	072	088	104	120	168	184	200	216	232	248
041	057	073	089	105	121	169	185	201	217	233	249
042	058	074	090	106	122	170	186	202	218	234	250
043	059	075	091	107	123	171	187	203	219	235	251
044	060	076	092	108	124	172	188	204	220	236	252
045	061	077	093	109	125	173	189	205	221	237	253
046	062	078	094	110	126	174	190	206	222	238	254
047	063	079	095	111	127	175	191	207	223	239	255