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PROGRAMMING
THE PC4020

The PC4020 incorporates a new method of programming which uses a menu system to find a specific program location when it is to be entered.

Book 3 contains the programming flow charts for the PC4020. The charts are arranged in such a way as to allow you to quickly find any option and the path required to arrive at the program location. In addition you will be able to see other options also available to you in the program area.

Plain boxes are program areas and shaded boxes are menu selections.

Two methods may be used to select the different menu items to arrive at a program location. With the first, you may use the arrow keys (< >) to scroll through the menu items. When the desired item is displayed press the [✱] key. The [✱] key is used as an 'ENTER' or 'SELECT' key. The panel will then move you to the next set of options.

The other method incorporates a 'HOTKEY' system. Every menu and program item contains a one or two digit 'HOTKEY' entry. Simply press the number(s) in the menu or program box and the panel will automatically select the item for you. DO NOT PRESS THE [✱] AFTER ENTERING THE 'HOTKEY' NUMBER. This second method is much quicker once you become familiar with it.

EXAMPLE: We wish to program the Exit Delay for Partition 4. The following is the flow chart located in Book 3.

```
┌ ─ ─ ┐ ┌ ─ ─ ┐
│ SYSTEM AREA      │   Scroll to desired option using
│              (0) │   the [<][>] keys and press [✱].
└ ─ ─ ┘ ┴ ─ ─ ┘
         ↓
```

PARTITION AREA (1)	→	ADD/EDIT PAR (0)	→	WHICH PARTITION (1)→(8)	►	CUSTOMER ID CODE (0)
						PAR TOGGLES (1)
					►	PARTITION TIMES (2)	►	ENTRY DELAY (0)
								EXIT DELAY (1)

Using the first method the arrow keys would have to be pressed many times to scroll to the various items followed by the [✱] key to select the item. Twelve keystrokes would be required after entering Installer Programming providing no mistakes are made. The keystrokes required are as follows:

[>], [✱]   to select PARTITION AREA   [>], [>], [✱] to select PARTITION TIMES
[✱]   to select ADD/EDIT PAR   [>], [✱]   to select EXIT DELAY
[>], [>], [>], [✱]to select to PARTITION 4

Using the second 'HOTKEY' method we require only 5 keystrokes:
[1] to select PARTITION AREA   [2] to select PARTITION TIMES
[0] to select ADD/EDIT PAR   [1] to select EXIT DELAY
[4] to select PARTITION 4

With less keystrokes required, programming is quicker as there is less chance of an error occurring.

At any time you may press the [#] key to exit a section. ANY DATA ENTERED WILL BE CHANGED. THE [#] KEY IS NOT AN ABORT KEY! The [#] key can also be pressed to move you back to the previous menu. Pressing the [#] key several times will exit you from Installer Programming.

To make programming easier the INDEX at the back of the Programming Manual includes the chart number beside every option as well as the page number for a description of the option.

Programming Toggle Options

Some program areas contain several toggle options which pertain to the menu item selected. Use the arrow keys (< >) to scroll through the various items. Press the [✱] key to toggle between [Y]es and [N]o for each feature. Once all the toggle options have been programmed press the [#] key to save your changes return to the previous menu.

Programming HEX Digits

Often HEX digits are required for a program item. When a HEX digit is required press the [✱] key to enter the HEX menu. You may use the arrow keys to scroll through the HEX digits (A through F) and when the desired letter is displayed press the [✱] key.

Another much quicker method for entering HEX digits is to, first, press the [✱] key followed by the number corresponding to the HEX letter i.e. A = 1, B = 2, C = 3, up to F = 6. The [✱] key must be pressed before entering each HEX digit as the software returns you to decimal programming automatically after each entry.

EXAMPLE: To enter data 'ABCD' on a PC4020 you would enter:
        [✱], [1], [✱], [2], [✱], [3], [✱], [4]
        Note: The [✱] key is required before every HEX digit entered.

PROGRAMMING MANUAL

The PC4020 Installer's Programming is broken down into 5 major sections:

System Area   For programming options which affect the operation of the entire system. For example communications, downloading, printer options etc. are options which affect the overall system and are programmed in the system area.

Partition Area   For programming options which pertain to individual partitions. For example the zone assignment, entry delay time and exit delay time are all options which can be programmed for each of the partitions.

Module Hardware   For enrolling and deleting modules.

Event Buffer   For the installer to reprint the entire event buffer.

Diagnostics   For viewing trouble conditions reported by the modules.

INSTALLER OPTIONS

INSTALLER OPTS (00)	This section contains the Installer's Code, Grand Master Code, 2nd Grand Master Code, Walk Test Code and Installer's Lockout options.

PGM INST CODE (0)

Program Installer's Code. A new Installer's Code can be programmed. The default setting is '4020' for 4 digit option, or '402000' for 6 digit option. Enter a new 4 digit code using numbers from 0 to 9 only. The installer's code is used to enter [✱][8] Installer's Programming Commands. This code should be changed from the default setting before programming is complete to ensure the security of the system.

Note: If the installer's code is lost, and installer's lockout is enabled, there is no way to enter installer's programming. The panel will have to return to DSC. Panels returned to DSC with the installer's lockout feature enabled and no other apparent problems will be subject to an additional service charge.

PGM GRAND MASTER (1)

Program Grand Master Code. Master code 001 is the System Grand Master Code. This is the only code which can program other system master codes. The default setting of this code is '1234' for 4 digit option, or '123456' for 6 digit option. This code should be changed from the default setting once programming is complete to ensure the security of the system.

PGM 2ND MAS CODE (2)

The Installer may program a second System Grand Master Code which has the same access as the System Grand Master Code 001. The Second Master Code is not one of the programmable 128 access codes in [✱][5] programming and therefore cannot be changed by the user. This code may be used as a Master Key for service and trades people. The default setting of this code is 'AAAA' for 4 digit option, or 'AAAA00' for 6 digit option.

PGM WALK TEST CD (3)

PGM Walk Test Code allows access to the Walk Test Mode [✱] [6] [Walk Test Code]. The walk test mode allows testing of zones that walk test is enabled on.
Each partition to be involved in the walk test must have [✱] [6] [Walk Test Code] entered on one of its keypads.

INS LOCKOUT OPTS (4)

Installer's Lockout prevents the installer's code and downloading access code from being returned to their default values when a hardware or software default occurs.
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.

ENABLE LOCKOUT (0)

Selecting this section will enable Installer's Lockout and display the message "Ins Lockout Enabled".

DISABLE LOCKOUT (1)

Selecting this section will disable Installer's Lockout and display the message "Ins Lockout Disabled".

EVENT MESSAGES

EVENT MESSAGES (01)

Event messages are two custom messages programmed by the installer. These messages will be displayed on the keypad when the user fails to arm or an alarm occurs while the system was armed.

A cursor will appear under the first character of the label. The cursor can be moved to left or right using the [<][>] keys. The letters of the alphabet have been divided up among the 1-9 number keys on the keypad.

[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, the letter 'J' will appear above the cursor on the display. Press the [4] key again, the letter 'K' will appear above the cursor. Press the [4] key a third time and the letter 'L' will appear above the cursor. Press it again and the number '4' will appear on the display. If a different key is pressed, for example the [6] key, the cursor will automatically move to the right one space, and the letter 'P' will be displayed. To erase a character, move the cursor under the character using the [<][>] keys, and press the [0] key.

While programming the zone label, press the [✶] key to call up an options menu. To select an option, either press the corresponding number key, or toggle through the options using the [<][>] keys and press the [✶] key to select.

[0] Clear Display   [1] Clear to End   [2] Change Case   [3] ASCII Entry (See appendix A)
[4] Save

[0] Clear Display will clear the entire zone 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 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 zone label (see Appendix A for the ASCII characters chart).

[4] Save the label programmed and return to the previous menu.

See [✶][6][Master Code][6] User Functions in the System Manual for enabling these messages on each partition.

FAIL TO ARM (0)

The "System Has Failed To Arm" message will appear on every keypad on a partition when a valid code is entered but the system is unable to arm because a zone is not secure.
The message will clear after 5 seconds.
This message can be used to remind the user to check all zones and make sure they are secure before attempting to arm the system.

ALARM WHEN ARMED (1)

The "Alarm Occurred While Armed" message appears when a partition is disarmed after an alarm has occurred. The message will be displayed on all keypads on the partition being disarmed.
The message will clear after 5 seconds and display the zone(s) that went into alarm.
This message can be used to remind the users of what to do in their situation.

SMOKE DETECTOR (2)

The third message is "Fire Alarm !!! 2 Wire Smoke", this message will only be displayed if the 2 wire smoke detector on the PC4700 fire module goes into alarm.

WATERFLOW ZONE (3)

The fourth message is "Fire Alarm !!! Waterflow Sensor", this message will be displayed if the waterflow detector on the PC4700 fire module goes into alarm.

Note: If there is more than one of these fire messages to be displayed at once the messages will scroll one every three seconds to the next message. Once any fire alarm has been silenced a message "Fire Bell Has Been Silenced" will be displayed on the partition and global keypads until the partition is armed.

`SENSOR RESET` `(4)`	This message will be displayed for the sensor reset option in the [✱] menu. This message will also be displayed when a sensor reset is performed.

`UTILITY OUTPUT` `(5)`	This message will be displayed for the utility output option in the [✱] menu. This message will also be displayed when a utility output is performed.

Notes: Since editing this label will affect how the Utility Output and Sensor Reset labels appear on all partitions if the outputs perform different functions on different partitions the labels should be left at default.
The logs to the viewable and printed event buffer will not use the programmable label. They will continue to log as "Utility Output" and "Sensor Reset".

`ZONE TAMPER` `(6)`	The "Zone Tamper" message will appear on every partition keypad when a zone using Double EOL is put into the tamper condition (zone open). The message is displayed while viewing open zones.

`ZONE FAULT` `(7)`	The "Zone Fault" message will appear on every partition keypad when a zone using Double EOL is put into the fault condition (zone shorted). The message is displayed while viewing open zones.

Note: Zone Tamper and Zone Fault sections will only appear when Double EOL is being used.

SYSTEM OPTIONS

SYSTEM OPTIONS (02)

This section contains options that are relevant to the entire system. System Toggle options, Keypad Toggle options, Keypad Lockout options and System Times can all be programmed in this section.

Sys Toggle Options

SYS TOGGLE OPT (0)

Toggle options are in question form. Use the [✱] key to toggle between Yes and No to enable or disable the feature. Use the [<] [>] keys to scroll through the options.

CHANGE SYS MAS Y

Changeable System Grand Master Code?
YES = System Grand Master Code can be changed by the end user via Grand Master Code.
NO = The System Grand Master Code can only be changed via installer's programming.

POWER UP SHUNT Y

Shunt Zones on Power Up?
YES = All zones are considered non-violated by the main control for the first 2 minutes that power has been applied to the system. This will allow time for the detectors to "settle" without causing false alarms.
NO = The zones are active upon power up.

AC TBL DISP Y

AC Trouble Displayed?
YES = The system will monitor and display an incoming AC power failure from the transformer.
NO = The system will not display the incoming AC power failures.

60 Hz LINE Y

Is the incoming AC Frequency 60 Hz?
YES = The incoming AC power from the transformer cycles at 60 Hz. The North American standard is 60 Hz.
NO = The incoming AC power cycles at 50 Hz.

XTAL TIMEBASE N

Crystal Timebase?
YES = The timebase is the internal crystal oscillator.
NO = The timebase is the AC power input.
Timing for the clock in the PC4020 can come from two sources. The 60/50 Hz frequency of the AC power or a crystal oscillator on the circuit board. The default is to use the frequency of the incoming AC because it normally is very stable. However in some locations, the stability of the AC frequency is less reliable. If this is the case then the crystal oscillator should be used.

AC INHIBIT ARM N

AC inhibits arming?
YES = When an AC trouble condition is present on the main panel or PC4204, the system cannot be armed.
NO = Regardless of the presence of an AC Trouble, the system can be armed.

DC INHIBIT ARM N

DC inhibits arming?
YES = When a low battery condition is present on the main control panel or on a PC4204 expansion module, the system can not be armed (DC Inhibit Arm does not apply to wireless zone that have battery troubles). If the partition is attempted to be armed the keypad display will show the message "Fail To Arm... DC Trouble". When an access code is entered the panel will perform a battery check on the main control panel and on each of the PC4204's enrolled on the system. This will ensure that the battery condition is good before the panel is armed. If the control panel has a battery trouble or any one of the PC4204's report back with a battery trouble the arming will be aborted.
No = No forced battery check will be performed and a Battery trouble will not inhibit arming.
Note: The Control panel and each of the PC4204 modules may only have 3 battery trouble alarms in a 24 hour period. After the third battery trouble for a given module the trouble condition will "Shutdown" until midnight of that day. The trouble will still be enunciated with the keypad Trouble LED but the event will not be logged to the event buffer or be communicated.

| MEMORY DISP | N |

Memory displayed?
YES = When the partition is armed, any zones have gone into alarm can be viewed by pressing the [<] [>] keys.
NO = Show memory after disarming only.

| BYPASS DISP | N |

Bypass displayed?
YES = When the partition is armed, bypassed zones can be viewed by pressing the [<][>] keys.
NO = Shows bypassed zones when disarmed only, by pressing [✱][1].

| BELL SHUT DOWN | Y |

Bell shut down?
YES = The bell output will no longer activate for a zone that has reached the swinger shut down threshold. (See 'Swinger Limit' and 'Swgr Shut Down'.)
NO = Every time a zone is violated it will reactivate the bell output.

| FOLLOWS + ALARMS | N |

Follow includes alarms?
YES = Enables all outputs programmed to follow zones (Zone Follow, Zn Tamp Follow and Zn Fault Follow), including PC4216s programmed as 'Follow XX-XX', to also annunciate alarms when those zones are armed.
When the zone is disarmed the output will follow the zone status. When the zone is violated the output will activate. When the zone is restored the output will deactivate.
When the zone is armed the output indicates alarm status. The output is not activated until the zone is violated and then remains active. When the zone is disarmed the output remains active to indicate which zone caused the alarm. To get the output to follow the zone status the partition must be armed and disarmed.
NO = Disables the ability to latch alarm status. The output follows zone activity whether armed or disarmed.

| 6 DIGIT CODES | N |

Six digit access codes?
YES = All access codes on the system will need to be 6 digits in length except Panel ID code and DLS access code.
NO = Regular 4 digit codes to be used.

| HOURLY PRINT | N |

Hourly printer test?
YES = Panel will print a line saying 'Hourly Printer Test' with time and date every hour.
NO = Panel will not log "Hourly Printer Test".

| MILITARY TIME | N |

Military time?
YES = Clock will show in 24 hour time (military time) and date will show as Month/Day/Year (MM/DD/YY). For example, 1:30 pm December 13, 1994 will be displayed as 12/13/94 13:30.
NO = Clock will show in 12 hour time with an 'a' for am or 'p' for pm, and date will show as Month/Day/Year (Mon/DD/YY). For example, 3:30 pm January 5, 1994 will be displayed as Jan 05/94 3:30 p.

| KEYPAD TAMPERS | N |

Keypad tampers?
YES = Keypad Tampers are used. This option should be enabled only if keypad tamper plates are attached to the keypad.
NO = Keypad Tampers are disabled.

| GLOB [F] ENAB | Y |

Global keypad [F] key enabled?
YES = The [F] key is enabled for global keypads.
NO = The [F] key is disabled for global keypads.

| GLOB [A] ENAB | Y |

Global keypad [A] key enabled?
YES = The [A] key is enabled for global keypads.
NO = The [A] key is disabled for global keypads.

GLOB [P] ENAB Y

Global keypad [P] key enabled?
YES = The [P] key is enabled for global keypads.
NO = The [P] key is disabled for global keypads.

GLOB DISP CLK Y

Global keypad displays clock?
YES = The time and date will be displayed on global keypads instead of the "Enter Your Access Code" message after 10 seconds of no key presses.
NO = No clock display.

GLOB KEYPAD LOCK N

Global keypad lookout?
YES = Keypad Lockout is enabled on global keypads.
NO = Keypad Lockout is disabled on global keypads.
(See "Total Bad Codes", "Lockout Duration" and "Lockout Rep Code".)

KYPAD #1 GLOBAL N

Keypad #1 global?
YES = Keypad #1 becomes a global keypad.
(See System Manual, Book 1 for further details about "Global Keypads".)
NO = Keypad #1 is not a global keypad.
Notes: Entry/Exit Delay with Urgency will always be present on a global keypad (See "Partition Toggles").

If a keypad is loaned to a deleted partition once Installer's Mode is exited, the keypad will be reassigned to the lowest assigned partition.

TAMPER INHIBIT N

Tamper inhibits arming?
YES = A Zone Tamper requires the Installer's Code entry before the partition can be armed and the Zone Trouble Restoral Code sent.
NO = Zone Tamper Restorals will follow the zone.

TROB REQ CODE N

Troubles require code?
YES = A valid access code will be required to silence the trouble beeps from the keypad (or the trouble condition must be restored. When the code is entered 3 quick acknowledgment beeps will be heard from the keypad and the trouble beeps will not restart until a new trouble condition occurs.
NO = No access code is required to silence trouble beeps. Any keypress or the trouble condition restoring will silence the trouble beeps.

UL COMMERCIAL N

YES = The following UL options are enabled when this toggle option is enabled: (1) Any Fire alarm will require an access code to be restored. The zone will show open even once the zone has been restored ([✱][4] sensor Reset) until an access code has been entered. When a code has been entered to reset the fire zones the keypads for that partition will display the message "Fire Zones Were Reset". (2) DLS Fault - This trouble condition will generate an audible and visual trouble when the control panel fails to complete communications with the downloading computer. (3) When a Module Com Fault occurs all Burglary outputs will squawk every 5 seconds (included are fire/burg, invert fire/burg, burg. and invert burg) for the partition(s). Pressing a key on the partition will silence the output squawks.
NO = An access code is not required to restore the fire zones

RF TMP DISARM Y

RF zone tamper while disarmed?
YES = RF Zones will always cause tamper alarm(s) and transmissions
NO = When this option is turned off and the partition is disarmed. RF tampers will create a trouble condition "RF Zn Tamper TBL". The Trouble LED will activate and the partition keypad will begin trouble beeps every 10 seconds. While the partition is disarmed the zone tamper will be logged to the event buffer but no Tamper alarm transmission will occur. The event is logged and transmitted while the partition is armed. This is done so that while the user is changing batteries in a Wireless Zone no tamper alarm will be sent.

SYS.FLT.SQUAWK N

System Fault Squawk
Yes = Causing a Zone tamper, zone fault or a Module tamper will cause all Burglary outputs to squawk every 5 seconds (included are fire/burg, invert fire/burg, burg. and invert burg) for the partition(s). The "Squawks" will be silenced when the alarm is silenced or a key is pressed on that partition. By default this option is set to No.
No = Zone Tampers, Faults and Module Tampers will not squawk the burglary outputs.

CD DISP INHIBIT N

Code Display Inhibited
Yes = When programming Access codes ([★][5] Access code Programming) the code numbers will be X'd out ([XXXX] or [XXXXX] if using 6 digit access codes). By default this option is set to No.
No = The digits of the access code will be displayed, as entered on the keypad being used for programming.

GLOB ALM ANNUN N

Global Alarm Annunciation
Yes = This system toggle will allow the Global keypads to sound the buzzer (5 seconds on and 5 seconds off) and display the message "Partition X In Alarm" (where Partition X is the programmed label of the partition) when any other partition is in alarm. The buzzer will be silenced and the message cleared from the keypad display when the alarm has been silenced or any key is pressed on the keypad. By default this option is set to No.
No = No notification of the alarm will be given on the Global Keypad.
Note: It is recommended that global alarm annunciation is enabled on multi partition systems.

GLB KYPD TRB Y

Global Keypad Trouble
Yes = Troubles present on the system can be viewed from global keypads. If a trouble is present on the system, the user will be prompt with the option to view system troubles.
No = Troubles can not be viewed from global keypads. The keypad must be loaned to a partition before troubles can be viewed.

GLB KYPD STAT N

Global Keypad Partition Status Enunciator
Yes = Enables the Partition Status Enunciator on global keypads. Global keypads will display the status of all active partitions on the system.
No = Global keypads will not display the Partition Status Enunciator.
Note: This option overrides the clock display option.

GLB KP ALL ENT N

Global Keypad Enunciates All Entry Delays
Yes = The entry delay for any Partition will be enunciated on Global Keypads.
No = All Partitions must be armed before entry delay will be enunciated on Global Keypads.

Keypad Toggle Options

```
┌─────────────────────────┐
│ KEYPAD TOG OPT          │
│                    (1)  │
└─────────────────────────┘
```

Programming the operation of the 3 keypad emergency keys ([F], [A] and [P]). Toggle options are in the form of questions. Use the [✶] key to toggle between Yes and No to enable or disable the feature. Use the [<][>] keys to scroll through the options. Regardless of programming each key must be pressed for 2 seconds before the alarm will be activated.

```
┌─────────────────────────┐
│ [F] BELL                │
│                    Y    │
└─────────────────────────┘
```

[F] key activates the Bell Outputs?
YES = The bell output will activate when the [F] key is pressed.
NO = The bell output will not activate when the [F] key is pressed.
The bell output for the [F] key is any output (Bell, SW Aux or PGM) that is programmed for Fire and Burg, Inv Fire and Burg, Fire Only and Inv Fire Only.

```
┌─────────────────────────┐
│ [F] PULSE BELL          │
│                    Y    │
└─────────────────────────┘
```

[F] key pulses the Bell Output?
YES = The bell output, if enabled, will pulse when the [F] key is pressed.
NO = The bell output, if enabled, will be steady when the [F] key is pressed.
The bell output for the [F] key is any output (Bell, SW Aux or PGM) that is programmed for Fire and Burg, Inv Fire and Burg, Fire Only and Inv Fire Only.

```
┌─────────────────────────┐
│ [F] BUZZER              │
│                    Y    │
└─────────────────────────┘
```

The keypad beeps when the [F] key is pressed?
YES = The keypad will beep 3 times when the [F] key has been pressed for 2 seconds.
NO = The keypad will not sound when the [F] key is pressed.

```
┌─────────────────────────┐
│ [A] SIL BELL            │
│                    Y    │
└─────────────────────────┘
```

The bell is silent when the [A] key is pressed?
YES = The bell output will not activate when the [A] key is pressed.
NO = The bell output will activate when the [A] key is pressed.
The bell output for the [A] key is any output (Bell, SW Aux or PGM) that is programmed for Fire and Burg, Inv Fire and Burg, Burg Only and Inv Burg Only.

```
┌─────────────────────────┐
│ [A] STDY BELL           │
│                    Y    │
└─────────────────────────┘
```

The bell is steady when the [A] key is pressed?
YES = The bell output, if enabled, will be steady when the [A] key is pressed.
NO = The bell output, if enabled, will pulse when the [A] key is pressed.
The bell output for the [A] key is any output (Bell, SW Aux or PGM) that is programmed for Fire and Burg, Inv Fire and Burg, Burg Only and Inv Burg Only.

```
┌─────────────────────────┐
│ [A] AUD BUZZ            │
│                    N    │
└─────────────────────────┘
```

The keypad beeps when the [A] key is pressed?
YES = The keypad will beep 3 times when the [A] key has been pressed for 2 seconds.
NO = The keypad will not sound when the [A] key is pressed.

```
┌─────────────────────────┐
│ [P] SIL BELL            │
│                    Y    │
└─────────────────────────┘
```

[P] key activates the Bell Outputs?
YES = The bell output will not activate when the [P] key is pressed.
NO = The bell output will activate when the [P] key is pressed.
The bell output for the [P] key is any output (Bell, SW Aux or PGM) that is programmed for Fire and Burg, Inv Fire and Burg, Burg Only and Inv Burg Only.

```
┌─────────────────────────┐
│ [P] STDY BELL           │
│                    Y    │
└─────────────────────────┘
```

The bell is steady when the [P] key is pressed?
YES = The bell output, if enabled, will be steady when the [P] key is pressed.
NO = The bell output, if enabled, will pulse when the [P] key is pressed.
The bell output for the [P] key is any output (Bell, SW Aux or PGM) that is programmed for Fire and Burg, Inv Fire and Burg, Burg Only and Inv Burg Only.

```
┌─────────────────────────┐
│ [P] SILENT BUZ          │
│                    Y    │
└─────────────────────────┘
```

The keypad does not beep when the [P] key is pressed?
YES = The keypad will not sound when the [P] key is pressed.
NO = The keypad will beep 3 times when the [P] key has been pressed for 2 seconds.

Keypad Lockout Options

KYPD LOCKOUT OPT
(2)

Keypad Lockout Options
This section contains programming for the keypad lockout feature. After a programmed number of incorrect attempts to enter an access or installer's code the keypad will lockout, preventing the user from performing any function. A message "Keypad Lockout is Active" will be displayed for the lockout duration. See "KYPD LOCKOUT" under "PAR TOGGLES" to enable the keypad lockout feature on a partition.

TOTAL BAD CODES
(0)

Enter the number of incorrect code entries (from 000 to 255) required to activate keypad lockout if the option is enabled. See "PAR TOGGLES", "KYPD LOCKOUT" to enable the keypad lockout feature on a partition. The default setting is 005.

LOCKOUT DURATION
(1)

This section determines the number of minutes the keypad lockout will remain active for. Enter the duration of the keypad lockout. Valid entries are from 000 to 255. The default setting is 015.

System Times

SYSTEM TIMES
(3)

They are system times relevant to the whole system.

ZONE RESPONSE
(0)

The zone loop response time is the length of time (005 - 255 x 100 ms) a zone must be violated before it is detected. (100 ms = one tenth of a second.) Minimum zone loop response time is 500 ms. The factory default setting is 005 (500 ms).

BELL CUTOFF
(1)

Program the amount of time (from 000 to 255 minutes) the bell output will activate when an alarm occurs. The factory default setting is 004 (4 minutes). Bell Cutoff is for any output (Bell, SW Aux or PGM) that is programmed for Fire and Burg, Inv Fire and Burg, Burg Only, Inv Burg Only, Fire Only, and Inv Fire Only.

POLICE CODE TIME
(2)

Program the amount of time (000 - 255 Minutes) before a Police Code Alarm reporting code will be sent to the monitoring station. A Police Code Alarm is sent when 2 zone alarms occur within the programmed time. Default is 060 minutes.

KEYPAD TIMEOUT
(3)

Whenever a keypad is loaned to another partition, the keypad will return to it's home partition after the programmed amount of time. (000 - 255 seconds) default = 20 seconds.

Zone Supervision

ZONE SUPERVISION
(4)

NO EOL

The zone is a normally closed loop to ground. The zone will be violated when it is open.

SINGLE EOL

All zones must have a 5600 ohm resistor across them. If the zone is shorted or open, it will be in a violated condition. If the zone is open and programmed as a fire zone, it will be in a trouble condition. See "[★][2] Trouble Display".
Notes: If zones are programmed for Fire or Links Supervisory, EOL resistors must be used.

DOUBLE EOL

This configuration will allow the panel to detect zone Faults (zone shorted), zone tampers (open circuit), open zones (Alarm condition of the 11200 Ohms) and restored zones. If the zone is disarmed and placed in the Tamper (open) or Fault (Short) state the keypad buzzer will sound from all partition keypads (that the zone belongs to) for the length of bell time out or until an access code is entered. A zone tamper (or Fault) alarm reporting code will be sent to the monitoring station if programmed. When the partition is armed and a zone is Tampered or Faulted all burglary outputs for the partition will activate for the length of bell time out or a valid access code is entered. There will be no buzzer sounded while the zone is armed. A zone tamper (or Fault) alarm reporting code and zone alarm reporting code will be sent to the monitoring station if programmed. See Reporting Codes for details. Refer to the System Manual for detail on the hookup procedure. All zones on the PC4020 can use Double end Of Line resistors, except wireless zones (Zone that belong to the PC4164), Fire Zones all types (Standard Fire, Delay Fire, Auto Verify Fire, Sprinkler PC4700 2 Wire Smoke and Waterflow), Links Supervisory, Links Answer and Forced Answer zones. These zone types must only be used with Single EOL. Double EOL resistors allow the zone to be capable of detecting zone tampers and zone faults. The Tamper resistor (5600 Ohms) is placed across the alarm contact, and the single EOL resistor (5600 Ohms) is placed between the alarm contact and the tamper contact.

DOWNLOAD SECTION

DLS SECTION	
	(03)

This section will allow you to program all options related to downloading.

Download Toggles

DLS TOGGLES	
	(0)

Downloading Toggle Options. Toggle options are in the form of questions. Use the [✶] key to toggle between Yes and No to enable or disable the feature. Use the [<][>] keys to scroll through the options.

DLS ENABLE	
	N

Downloading enable?
YES = The panel will answer after the programmed number of rings.
NO = DLS Enable disabled. The only way downloading can occur is by using either the "USER CALL UP" feature or the "PERIODIC CALLUP" feature. DLS Enable can be turned on by the end user for 60 minutes if the "USER ENABLE DLS" option is enabled.

USER CALL UP	
	N

User call up?
YES = The user can cause the panel to call a remote computer by entering the [✶][6][Master Code][7] user callup command. (See also "PHONE NUMBER" and "PANEL ID CODE" in the DLS options.)
NO = The feature is disabled.

DOUBLE CALL	
	N

Double call?
YES = If the panel detects 1 or 2 rings on the first call and then is called again within a variable time of 000 to 255 seconds (programmable - see "2 CALL TIMER"), the panel will answer the second call on the first ring. This is useful for bypassing an answering machine on the same line as the panel.
NO = The panel will only answer after the programmed number of rings is reached. See "# OF RINGS".

DLS CALLBACK	
	N

Downloading call back?
YES = Callback is enabled. After connection to the panel both the computer and the panel will hang up. The computer will then wait for the panel to call. If there is more than one downloading computer, callback should be disabled.
NO = Callback is disabled. The downloading computer will have immediate access to the control panel once accepted as valid.

PERIODIC DLS	
	N

Periodic downloading?
YES = Periodic Downloading is enabled. Periodic downloading is used to allow the computer to execute batch files. The computer must be waiting for a call for this feature to be useable. See "Periodic Callup" for programming the time of day and the number of days in between periodic downloads.
NO = Periodic Downloading disabled.

USER ENABS DLS	
	Y

User Enables Downloading?
YES = The end user may enable ring detect for 60 minutes to allow a computer to access the control panel. If the "DLS ENABLE" option has been enabled, this option is overridden.
NO = Option disabled.

DLS Options

| PERIODIC CALLUP (1) | Programming the time and number of days between periodic downloads. (See "Periodic DLS" for enabling Periodic Downloading.) |

| SET CYCLE DAYS (0) | Set downloading cycle days? Program the number of days (from 001 to 255 days) between periodic downloads. The default setting is 030. |

| SET 24HR TIME (1) | Set 24 hour time? Program, in military time, the time of day the panel will call the computer for periodic downloading. The default setting is 0000. |

| PHONE NUMBER (2) | Downloading phone number? Enter the telephone number for computer if User Call Up, Periodic DLS, or DLS Callback is enabled. See "PGM TEL NUMBER" for entering a telephone number and options when programming the phone number. |

| PANEL ID CODE (3) | Panel identifier code? Panel Identifier Code. This four digit code will allow the computer to identify the panel that is calling. It must be programmed differently for every panel if User Call Up, Periodic DLS or DLS Callback is used. The default setting is 4921. |

| ACCESS CODE (4) | Panel downloading access code? This 4 digit code must be programmed the same as the computers. If the code is different the panel will NOT allow any uploading or downloading to take place. It is used to help ensure the security of the system. The default setting is 4920. |

| 2 CALL TIMER (5) | Double call timer? This is the maximum allowable time in seconds between two phone calls when the "Double Call" option has been enabled. Valid entries are between 000 and 255 seconds. The default setting is 060. (See "Double Call" for enabling the double call feature.) |

| # OF RINGS (6) | Number of rings? This is the number of consecutive rings the panel must detect before answering the call. (See "DLS Enable" or "User Enabs DLS" for enabling DLS Enable.) Valid entries are between 001 and 255 rings. The default setting is 008. |

COMMUNICATOR SECTION

COMMUNICATOR (04)	All options concerning communications can be programmed, including phone numbers, reporting codes, account numbers and communicator options.

Main Items - Phone Numbers/Communication Format/Dialer Direction

MAIN ITEMS (0)	Handling the phone numbers of monitoring stations or remote areas the panel communicates with.

The PC4020 can call up to 3 different phone numbers when reporting any event to a monitoring station. The second and third numbers can be used as backups if the first or second fail.

Note: Dial Tone Search must be included for a number to backup to its Links Number.

1ST NUMBER (0)	1st Number can report any event program set in the dialer directions. By default all events are sent through the first phone number. See 'Communicator Toggles' for more detail on backups.
2ND NUMBER (1)	2nd Number can report any events programmed if set in the dialer directions and can back up the 1st Number. See 'Communicator Toggles' for more detail on backups.
3RD NUMBER (2)	3rd Number can report any events programmed if set in the dialer directions. It can also be used to back up the first and/or second phone number. See 'Communicator Toggles' for more detail on backups.
PGM TEL NUMBER (0)	Enter the communicator telephone number the way you would dial it on a telephone. The total number of digits including dial tone searches and pauses must not exceed 31. Press the [✱] key to enter the telephone entry options menu. A 'D' for dial tone search is already programmed as the first digit.

[0] Save   [1] Dial tone   [2] Pause 2 Seconds   [3] Pause 4 Seconds
[4] DTMF [✱]   [5] DTMF [#]   [6] Previous Menu

> **[0] Save** can be selected for the telephone number to be stored into the panel's memory, or simply press [#] when finished entering the phone number.
> **[1] Dial tone** will add a dial tone search to the telephone number, which will be represented by a 'D' on the display. When the panel does a dial tone search, it looks for dial tone before dialing the programmed telephone number.
> **[2] Pause 2 Seconds** will add a two second pause to the dialing sequence, which will be represented by the letter 'A' on the display.
> **[3] Pause 4 Seconds** will add a four second pause to the dialing sequence, which will be represented by the letter 'E' on the display.
> **[4] DTMF [✱]** will input an asterisk, represented by a 'B' on the display. The dialer will output the same frequencies as a touch tone phone would if the [✱] key were pressed. (Frequently required to disable call waiting.)
> **[5] DTMF [#]** will add a '#' to the telephone number, represented by the letter 'C' on the display. The dialer will output the same frequencies as a touch tone phone when the '#' key is pressed. (In some instances it is used to disable call waiting.)

COMMS FORMAT
(1)

There are 19 formats in the PC4020 for communicating with the monitoring station. The system must be programmed to use the same communications format as the receiver at the monitoring station. The default format is (01).
(00) 10 Bps 1400 - Silent Knight, Ademco Slow
(01) 20 Bps 2300 - Sescoa, Franklin, DCI, Vertex
(02) 20 Bps 1400 - Silent Knight Fast
(03) 40 Bps 2300 - Radionics
(04) 40 Bps 1400 - Radionics
(05) 40 Bps 2300 P - Radionics with Parity
(06) 40 Bps 1400 P - Radionics with Parity
(07) 10 Bps 1400 X - Silent Knight, Ademco Slow extended
(08) 20 Bps 2300 X - Sescoa, Franklin, DCI, Vertex extended
(09) 20 Bps 1400 X - Silent Knight, Ademco Fast extended
(10) 40 Bps 2300 X - Radionics Extended
(11) 40 Bps 1400 X - Radionics Extended
(12) 40 Bps 2300 XP - Radionics Extended with Parity
(13) 40 Bps 1400 XP - Radionics Extended with Parity
(14) SIA Fsk Format
(15) Sescoa Super Speed
(16) Sescoa Super Speed ID
(17) DTMF Contact ID
(18) 4/3 DTMF Format - Surgard
(19) Pager 1
(20) Pager 2
(21) Pager 3

Communications Compatibility
All these communication formats are compatible with the Silent Knight SK9000 and Ademco model 685 receivers with the exception of formats (15), (16), (17) and (18). Formats (15) and (16) are compatible with the Linear/Sescoa model 3000C receiver.

10, 20 and 40 BPS Formats
10 Bits Per Second is the standard slow format used on Silent Knight and Ademco receivers.
Data = 1900 Hz   Kissoff = 1400 Hz   Speed = 10 Baud
20 Bits Per Second is the standard fast format used on DCI, Franklin, Sescoa and Vertex receivers.
Data = 1800 Hz   Kissoff = 1400/2300 Hz   Speed = 20 Baud
40 Bits Per Second is the standard format used on Radionics receivers.
Data = 1800 Hz   Kissoff = 1400/2300 Hz   Speed = 40 Baud

These formats will send an account code to identify which customer is sending the alarm, and a reporting code to identify the type of alarm. Depending on the receiver, the account code must be either 3 or 4 digits, and the reporting code must be either 1 or 2 digits. If the account code needs to be only 3 digits, program the 'System ID Code' and each partition's 'Customer ID Code' with 3 digits, followed by a '0'. If you wish to send a zero in the account code, program it with a HEX A. For example, if you wish to send 103 as your account code, program the System or Customer ID code with '1A30'. If the reporting code needs to only be 1 digit, program the reporting codes with one digit followed by a '0'. For example, to send a '3', program '30' into the reporting codes. To send a zero, program HEX A into the reporting code. For example, to send 30, enter 3A.

Radionics Format

For conventional 3/1 Radionics format the communications mode should be set to either (10) or (11), the 40 Bps extended format. The following guidelines have been provided to help in configuring the PC4020 for Radionics format.

1. The system ID code and customer ID codes must be only 3 digits with a zero making up the 4th digit (i.e. program 1230 for ID code 123.)
2. The zone alarm reporting codes must all be single digit numerical codes with no extended 2nd round being sent. The zero in the 2nd digit of the reporting code tells the PC4020 not to send an extended code.
3. All other non-alarm reporting codes must be set up to send an extended 2nd round. The 1st digit of the reporting code is used to identify the event while the 2nd or extended digit is used to associate the event with a particular item. (i.e. A reporting code of E3 means restore zone 3 - E for restore and 3 for zone 3.)
4. The following is a list of 1st digit identifiers that should be used with the Radionics format.

Restorals	"E"	Example	"E3"	=	Restore zone 3
Openings	"B"	Example	"B2"	=	Opening by User 2
Closings	"C"	Example	"C4"	=	Closing by User 4
Troubles	"F"	Example	"F5"	=	Trouble from Source 5
Alarm	"A"	Example	"A7"	=	Alarm zone 7
Misc	"D"	Example	"D1"	=	Partial Closing

SIA 1986 Format

The system ID codes and the customer ID codes must be four decimal digits in length. The reporting codes must be 2 digits.

The SIA format will transmit a 4 digit account code, a 2 digit identifier code and a 2 digit reporting code. The 2 digit identifier is preprogrammed by the PC4020. The 2 digit reporting code is programmed by the installer with any hex number from 01 to FE.

	Preprogrammed Identifiers		Preprogrammed Identifiers
2 Wire Smoke Alarm	FA	Hold Up Restore	HR
2 Wire Smoke Trouble	FS	Installer's Lead In	LB
2 Wire Smoke Alarm Restore	FR	Installer's Lead Out	LS
2 Wire Smoke Trouble Restore	FR	Keypad Lockout	DC
2nd Master Close	CL	Keypad [F] Key Alarm	FA
2nd Master Open	OP	Keypad [A] Key Alarm	MA
4204 AC Trouble Restore	AR	Keypad [P] Key Alarm	PA
4204 Aux Supply Trouble Restore	UR	Keypad [P] Key Restore	PR
4204 Battery Trouble Restore	YR	Keypad [F] Key Restore	FR
4204 Battery Trouble Alarm	YT	Keypad [A] Key Restore	MR
4204 Aux Supply Trouble Alarm	UT	Links Test	RP
4204 AC Trouble Alarm	AT	Module Tamper Restoral	TR
Auto Arm Abort	CE	Module Tamper Alarm	TA
Automatic Arming Closing	CA	Opening After Alarm	OR
Cellular Trouble	LT	Opening Access Codes 1 to 128	OP
Cellular Trouble Restoral	LR	Opening Keyswitch	OP
Closing Access Codes 1 to 128	CL	Opening Automatic	OA
Closing Keyswitch	CL	Panic Alarm	PA
COMBUS Trouble Alarm	UT	Panic Restoral	PR
COMBUS Trouble Restoral	UR	Partial Closing Code	CG
Downloading Lead In	RB	Partition Close	CL
Downloading Lead Out	RS	Partition Open	OP
Duress	HA	Periodic Test UL	RP
Ground Fault Restore	UR	Periodic Test	RP
Ground Fault	US	Police Restore	BR
DVAC Trouble	YS	Police Alarm	BA
DVAC Trouble Restore	YK	Printer Buffer Nearly Full	JL
Hold Up Alarm	HA	Quick Arm Closing Code	CL

RS-232 Trouble	VT		Technical Restore	UR
RS-232 Restore	VR		Waterflow Trouble Restore	SR
Sprinkler Zone Trouble	ST		Waterflow Alarm	SA
Sprinkler Zone Trouble Restore	SR		Waterflow Alarm Restore	SR
Sprinkler Zone Alarm	SA		Waterflow Trouble	SS
Sprinkler Zone Restore	SR		Automation Fault	ET
System TLM Restore Line 2	LR		Automation Fault Restore	ER
System TLM Trouble	LT		Zone Alarms 1 to 128 - Fire	FA
System Bell Trouble Alarm	UT		Zone Alarms 1 to 128 - All others	BA
System AC Trouble Alarm	AT		Zone Sensor Fault	ET
System Battery Trouble Alarm	YT		Zone Low Bat Alarm	XT
System TLM Trouble Line 2	LT		Zone Sensor Fault	ET
System FTC Restoral	UR		Zone Low Bat Restore	XR
System TLM Restoral	LR		Zone Troubles 1 to 128 - Fire	FT
System AUX Supply Trouble Alarm	UT		Zone Fault Restore	TR
System Test	RX		Zone Tamper 1 to 128	TA
System AC Trouble Restoral	AR		Zone Fault	TA
System Aux Supply Trouble Restoral	UR		Zone Sensor Fault Restore	ER
System Battery Trouble Restoral	YR		Zone Restorals 1 to 128 - All others	BR
System Bell Trouble Restoral	UR		Zone Restorals 1 to 128 - Fire	FR
Technical Alarm	UA		Zone Tamper Restorals	TR

Sescoa Super speed and Sescoa Super Speed ID
The system ID code and customer ID codes must be four decimal digits in length and in the range of 0001 to 3374.
The reporting codes must be 2 digits in length and programmed as follows. All zero's must be replaced with 'A's. For example, to send 20, the PC4020 must be programmed with a 2A. (To disable a reporting code, leave as FF.)
Notes: Do not program the Downloading Lead In reporting code, the Downloading Lead Out reporting code, the Installer's Lead In reporting code, the Installer's Lead Out Reporting Code. The keyswitch zones will be identified as the zone number plus 128. For example, if the closing user zone and the closing keyswitch zone numbers are both 002, the closing keyswitch zone will then be identified as 130 (zone number 2 + 128 = 130).
Program different reporting codes for zone tamper and zone alarm for identifying a zone tamper from a zone alarm.

	Code			Code
2 Wire Smoke Alarm Trouble	A1 to 9A		DVAC Trouble	EE
2 Wire Smoke Alarm Restore	A1 to 9A		DVAC Trouble Restore	EE
2 Wire Smoke Alarm	A1 to 9A		Duress	D1
2 Wire Smoke Alarm Trouble Restore	A1 to 9A		Ground Fault	A1 to 9A
2nd Master Close	CA		Hold Up Restore	A1 to 9A
2nd Master Open	BA		Hold Up Alarm	A1 to 9A
4204 Battery Trouble Restore	E1		Keypad [P] key Restoral	A1 to 9A
4204 Aux Supply Trouble Restore	A1 to 9A		Keypad [F] key Alarm	A1 to 9A
4204 AC Trouble Alarm	E1		Keypad Lockout Code	A1 to 9A
4204 Battery Trouble Alarm	E1		Keypad [F] key Restoral	A1 to 9A
4204 Aux Supply Trouble Alarm	A1 to 9A		Keypad [A] key Restoral	A1 to 9A
4204 AC Trouble Restore	E1		Keypad [A] key Alarm	A1 to 9A
Auto Arm Abort	C1		Keypad [P] key Alarm	A1 to 9A
Automatic Closing	CA		Keyswitch Opening	BA
Automatic Opening	BA		Keyswitch Closing	CA
Buffer Near Full	A1 to 9A		Links Test	1C
Cellular Trouble Restoral	EE		Module Tamper Restorals	A1 to 9A
Cellular Trouble	EE		Module Tamper Alarms	A1 to 9A
Closing Reporting Codes 1 to 128	CA		Opening After Alarm Code	BA
COMBUS Trouble Restore	A1 to 9A		Opening Reporting Code 1 to 128	BA
COMBUS Trouble Alarm	A1 to 9A		Panic Alarm	A1 to 9A

	Code		Code
Panic Restore	A1 to 9A	System TLM Line 2 Trouble	EE
Partial Closing Code	C1	System Test	1C
Partition Open	BA	System FTC Restoral	EE
Partition Close	CA	Technical Alarm	A1 to 9A
Periodic Test	1C	Technical Restore	A1 to 9A
Periodic UL Test	1C	Waterflow Alarm Trouble Restore	A1 to 9A
Police Restore	A1 to 9A	Waterflow Alarm	A1 to 9A
Police Alarm	A1 to 9A	Waterflow Alarm Restore	A1 to 9A
Quick Arm Closing Code	CA	Waterflow Alarm Trouble	A1 to 9A
RS-232 Trouble	A1 to 9A	Automation Fault Restore	A1 to 9A
RS-232 Restoral	A1 to 9A	Automation Fault	A1 to 9A
System Aux Supply Trouble Alarm	A1 to 9A	Zone Sensor Fault Restore	A1 to 9A
System Bell Trouble Restoral	F1	Zone Low Battery	E1
System TLM Line 2 Restoral	EE	Zone Sensor Fault	A1 to 9A
System Battery Trouble Alarm	E1	Zone Fault 1 to 128	A1 to 9A
System AC Trouble Alarm	E1	Zone Fault Restore 1 to 128	A1 to 9A
System Battery Trouble Restoral	E1	Zone Low Battery Restore	E1
System AC Trouble Restoral	E1	Zone Alarms 1 to 128	A1 to 9A
System Aux Supply Trouble Restoral	A1 to 9A	Zone Trb./Tamp Restoral 1 to 128	A1 to 9A
System Bell Trouble Alarm	F1	Zone Restoral 1 to 128	A1 to 9A
System TLM Line 1 Restoral	EE	Zone Trb./Tamp 1 to 128	A1 to 9A
System TLM Line 1 Trouble	EE		

Contact ID

The System ID code and 8 Customer ID codes must be 4 decimal digits. The reporting codes must be 2 digits and programmed as follows.

Note: Do not program the Opening After Alarm, Buffer Nearly Full, Installer Lead In and Installer Lead Out reporting codes.

Do not use this format with 1300 Hz I.D.

Zone Alarms and Restorals can be programmed to send different messages to the monitoring station. For example, if the Reporting code for zone 5 is programmed with '34', the monitoring station will receive the message '✶BURG✶ - ENTRY/EXIT - 5', where 5 is the number of the zone which has been activated. Different messages to be sent to the monitoring station are:

Code	Message as seen on receiver
Fire Alarms	
1A	✶FIRE✶ - FIRE ALARM - #
11	✶FIRE✶ - SMOKE DETECTOR - #
12	✶FIRE✶ - COMBUSTION - #
13	✶FIRE✶ - WATER FLOW - #
14	✶FIRE✶ - HEAT SENSOR - #
15	✶FIRE✶ - PULL STATION - #
16	✶FIRE✶ - DUCT STATION - #
17	✶FIRE✶ - FLAME SENSOR - #

Code	Message as seen on receiver
Panic Alarms	
2A	✶PANIC✶ - PANIC - #
21	✶PANIC✶ - DURESS - #
22	✶PANIC✶ - SILENT PANIC - #
23	✶PANIC✶ - AUDIBLE PANIC - #

Code	Message as seen on receiver
Burglar Alarms	
3A	✶BURG✶ - BURGLARY - #
31	✶BURG✶ - PERIMETER - #
32	✶BURG✶ - INTERIOR - #
33	✶BURG✶ - 24 HOUR - #
34	✶BURG✶ - ENTRY/EXIT - #
35	✶BURG✶ - DAY/NIGHT - #
36	✶BURG✶ - OUTDOOR - #
37	✶BURG✶ - TAMPER - #

Code	Message as seen on receiver
General Alarms	
4A	✶ALARM✶ - GENERAL ALARM - #
44	✶ALARM✶ - SENSOR TAMPER - #

Code   **Message as seen on receiver**

24 Hour Non-Burglary

Code	Message
5A	✶ ALARM ✶ - 24 HR. NON-BURG - #
51	✶ ALARM ✶ - GAS DETECTED - #
52	✶ ALARM ✶ - REFRIGERATION - #
53	✶ ALARM ✶ - HEATING SYSTEM - #
54	✶ ALARM ✶ - WATER LEAKAGE - #
55	✶ ALARM ✶ - FOIL BREAK - #
56	✶ ALARM ✶ - DAY ZONE - #
57	✶ ALARM ✶ - LOW GAS LEVEL - #
58	✶ ALARM ✶ - HIGH TEMPERATURE - #
59	✶ ALARM ✶ - LOW TEMPERATURE - #
61	✶ ALARM ✶ - AIR FLOW - #

The rest of the reporting codes must be programmed as follows or left as FF to be disabled.

2 Wire Smoke Trouble	AA	Partition Open	AA
2 Wire Smoke Restore	11	Partition Close	AA
2nd Master Open	A2	Periodic Test Transmission	A2
2nd Master Close	A2	Quick Arm Closing	A8
4204 Battery Trouble Restoral	3A	RS-232 Trouble Alarm	35
4204 AC Trouble Restoral	3A	RS-232 Trouble Restoral	35
4204 Battery Trouble Alarm	3A	System Test	A1
4204 Aux Supply Trouble Alarm	3A	System AC Trouble Restoral	A1
4204 Aux Supply Trouble Restoral	3A	System TLM Line 2 Restore	52
4204 AC Trouble Alarm	3A	System FTC Restoral	54
Access Codes 1 to 128 Closing	A2	System TLM Line 2 Trouble	52
Access Codes 1 to 128 Opening	A2	System Battery Trouble Restoral	A2
Auto Arm Abort	A5	System Aux Supply Trouble Alarm	AA
Automatic Opening	A3	System Battery Trouble Alarm	A2
Automatic Closing	A3	System Bell Trouble Alarm	21
Cellular Trouble Restoral	51	System AC Trouble Alarm	A1
Cellular Trouble	51	System Aux Supply Trouble Restoral	AA
COMBUS Trouble Restore	33	System TLM Line 1 Restoral	51
COMBUS Trouble Alarm	33	System TLM Line 1 Trouble	51
Downloading Lead Out	12	System Bell Trouble Restoral	21
Downloading Lead In	11	Waterflow Trouble	A1
Duress	21	Waterflow Trouble Restoral	A1
Fire Zone Troubles	73	Zone Fault	44
Keypad Lockout	21	Zone Fault Restore	44
Keypad [P] key Restoral	2A	Zone Low Battery	84
Keypad [F] key Alarm	15	Zone Low Battery Restore	84
Keypad [A] key Restoral	AA	Zone Sensor Fault	81
Keypad [A] key Alarm	AA	Zone Sensor Fault Restore	81
Keypad [F] key Restoral	15	Zone Tamper	44
Keypad [P] key Alarm	2A	Zone Tamper Restore	44
Keyswitch	A9	Automation Fault	3A
Links Tx	A3	Automation Fault Resotre	3A
Module Tamper Restoral	45	DVAC Trouble	5A
Module Tamper Alarm	45	DVAC Trouble Restore	5A
Partial Closing	74		

Surgard 4/3 DTMF Format

This is a 7 digit format sent by DTMF tones and uses a 2300 Hz handshake. Each round pair represents a single event as follows:

    SSSSXCC

where, SSSS=4 digit account code

            X = Event descriptor, preprogrammed in the PC4020.

            CC = 2 digit reporting code programmed by the installer.

The reporting codes can be programmed with any hex number from 01 to FE (00 or FF will disable the reporting code).

Note that both "0" and "A" will both represent and be received as "0".

Normally the Zone Alarm reporting codes will transmit a "3" as the event descriptor for most zone types, to indicate a burglary alarm. However, if the zone type is a Standard Fire Zone, Delayed Fire Zone or Auto Verify Fire Zone, the PC4020 will transmit a "1" as the event descriptor for these zone types to indicate a fire alarm is being transmitted.

For zones programmed as momentary keyswitch arming or maintained keyswitch arming, the PC4020 will transmit a "4" and the reporting code programmed in the "Zone Alarm" section to indicate a closing (arming) of a partition.

In the Zone Restore reporting codes section, a zone will normally transmit a "9" as the event descriptor for burglary or fire zones to indicate the zone has been restored. However, if the zone has been programmed as a momentary or maintained keyswitch arming zone, when the zone is used to disarm a partition it will transmit a "5" and the reporting code programmed in the zone restoral section to indicate an opening (disarming) of a partition.

PC4020 Reporting Code Section	Event Descriptor	PC4020 Reporting Code Section	Event Descriptor
2 Wire Smoke Alarm Trouble	6	Partition Open	5
2 Wire Smoke Trouble Restore	9	Partition Close	4
2 Wire Smoke Alarm	1	Periodic Test	0
2 Wire Smoke Restore	9	Periodic UL Test	0
2nd Master Close	4	Police Restore	9
2nd Master Open	5	Police Alarm	3
4204 Aux Supply Trouble Alarm	6	Quick Arm Closing Code	4
4204 Battery Trouble Restore	9	RS 232 Trouble	F
4204 AC Trouble Alarm	6	RS 232 Restore	9
4204 AC Trouble Restore	9	System TLM Line 1 Trouble	F
4204 Aux Supply Trouble Restore	9	System Test	0
Auto Arm Abort	F	4204 Battery Trouble Alarm	6
Automatic Opening	5	System TLM Line 2 Trouble	F
Automatic Closing	4	System TLM Line 2 Restore	9
Buffer Near Full	F	System Bell Trouble Alarm	6
Cellular Trouble Restoral	9	System Bell Trouble Restoral	9
Cellular Trouble	F	System Aux Supply Trouble Restoral	9
Closing Access Codes 1 to 128	4	System Aux Supply Trouble Alarm	6
Closing Keyswitch 1 to 128	4	System Battery Trouble Restoral	9
COMBUS Trouble Alarm	6	System Battery Trouble Alarm	6
COMBUS Trouble Restoral	9	System AC Trouble Restoral	9
Downloading Lead In	F	System FTC Restoral	9
Downloading Lead Out	F	System AC Trouble Alarm	6
Duress Code	2	System TLM Line 1 Restoral	9
Fire Zone Troubles 1 to 128	6	Technical Alarm	3
Ground Fault	F	Technical Restore	9
Ground Fault Restoral	9	Waterflow Trouble	6
Hold Up Alarm	2	Waterflow Trouble Restore	9
Hold Up Restore	9	Waterflow Alarm	1
Installer's Lead In	8	Waterflow Restore	9
Installer's Lead Out	8	Automation Fault	6
Keypad [A] key Alarm	7	Automation Fault Restore	9
Keypad [F] key Alarm	1	Zone Sensor Fault Restore	9
Keypad [F] key Restore	9	Zone Sensor Fault	6
Keypad [P] key Restore	9	Zone Fault Restore	9
Keypad [P] key Alarm	2	Zone Alarms 1 to 128 (All others)	3
Keypad Lockout Code	F	Zone Low Battery	6
Keypad [A] key Restore	9	Zone Low Battery Restore	9
Links Test	0	Zone Tamper Restoral	9
Module Tamper Alarm	F	Zone Restorals 1 to 128 (All others)	9
Module Tamper Restoral	9	Zone Alarms 1 to 128 (Fire Alarms)	1
Opening After Alarm	F	Zone Fault	6
Opening Access Codes 1 to 128	5	Zone Fault Restore	9
Opening Keyswitch 1 to 128	5	Zone Tamper	6
Panic Restore	9	Zone Tamper Restore	9
Panic Alarm	2	DVAC Trouble	6
Partial Closing Code	D	DVAC Trouble Restore	9

Pager Format 1

Pager Format 1 (Semadigit) transmits 7 DTMF digits for each event. Each round is transmitted as follows: AAAA XX C Where AAAA is the 4 digit Account Code.

    XX is the 2 digit reporting code.

    C is the DTMF Character #

Only one event is communicated per call. This format requires and initial handshake of 440Hz, and a kissoff handshake of 1400Hz.

Note: Pager Formats should only be used as a backup, If using other communication formats do not program Dialer Directions for the pager format.

Pager Format 2

Pager Format 2 (Semaphone) transmits no data. The system will call the number programmed once for every event that occurs. This format is intended to be used with a pager but can be used to call a private residence. This format will "beep" the line every 2 seconds after dialing the phone number. Although this event is not identified, the recipient is made aware of the alarm. Only one event is communicated per call. No handshake of kissoff signals are required for this format.

Note: Pager Formats should only be used as a backup, If using other communication formats do not program Dialer Directions for the pager format.

Do not use this format with 1300 Hz I.D.

Pager Format 3

Pager Format 3 transmits 7 DTMF digits for each event. Each round is transmitted as follows: AAAA XX C Where AAAA is the 4 digit Account Code.

    XX is the 2 digit reporting code.

    C is the DTMF Character #

Only one event is communicated per call. No handshake or kissoff signals are required for this format.

Note: Pager Formats should only be used as a backup, If using other communication formats do not program Dialer Directions for the pager format.
Do not use this format with 1300 Hz I.D.

DIALER DIRECTION (2)

This section determines which reporting codes are sent to the selected phone number. All reporting codes can be programmed to communicate to any or all of the phone numbers. By default, all reporting codes are sent to phone number 1 only. See "Comms Toggles" for using phone numbers 2 and 3 as backup phone numbers.

ALARM/RESTORE Y

YES = Alarm and Restoral reporting codes are transmitted to the monitoring station by the selected phone number.
NO = Alarm and Restoral reporting codes are not sent.
The reporting codes are:

• Zone Alarms	• Module Tamper Alarms	• Cellular Trouble
• Zone Restorals	• Module Tamper Restorals	• Cellular Trouble Restorals
• Zone Troubles	• [F] [A] [P] Key Alarms	• Water Flow Trouble (PC4700)
• Zone Trouble Restorals	• [F] [A] [P] Key Restorals	• Water Flow Alarm (PC4700)
• Duress	• 2 Wire Smoke Alarm (PC4700)	• 2 Wire Smoke Trouble (PC4700)
• Zone Faults	• Zone Fault Restorals	

See "Reporting Codes" for a description of these groups of reporting codes.

OPEN/CLOSE Y

YES = Opening and Closing reporting codes are transmitted to the monitoring station by the selected phone number.
NO = Opening and Closing reporting codes are not sent.
The groups of reporting codes, that are Openings and Closings, are:

• Closings by Access Codes 001 to 128	• Openings by Access Codes 001 to 128
• Misc Closing Reporting Codes	• Misc Opening Reporting Codes
• 2nd Master Close	• 2nd Master Open
• Momentary/Maintained arm	

See "Reporting Codes" for a description of these groups of reporting codes.

```
ALL OTHERS
               Y
```

YES = All other reporting codes are sent to the selected phone number
NO = All other codes are not sent.
"All other" refer to every other reporting code that is not an alarm or restoral, opening or closing.
"All other" groups of reporting codes are:
• System Maintenance Reporting Codes   • 4400 Module Maintenance Reporting Codes
• 4204 Module Maintenance Reporting codes   • Ground Fault (PC4700)
See "Reporting Codes" for a description of these groups of reporting codes.

```
SYSTEM ID CODE
             (3)
```

When a reporting code is sent to the monitoring station, a four digit account code is also sent to identify the user. Each partition has its own account code (See "Customer ID Code"). But for reporting codes that do not pertain to a particular partition, such as AC line trouble etc., the system ID code is sent to identify the panel/user. The reporting code groups that send the system ID code are:
• Module Tamper Alarms   • System Maintenance Reporting Codes
• Module Tamper Restorals   • 4204 Module Maintenance Reporting Codes
• 4400 Module Maintenance Reporting Codes   • [F] [A] [P] Key Alarms (global keypads)
• Duress (global keypads)   • [F] [A] [P] Key Restorals (global keypads)
• 4700 Reporting Codes
See "Reporting Codes" for a description of these groups of reporting codes.
See "Comms Formats" for a description of communication formats and if there are limitations set on what the System and Partition account codes may be programmed as.

Communicator Toggles

COMMS TOGGLES (1)

Selecting options relevant to the communications of the panel. Toggle options given in the form of a question. Use the [∗] key to toggle between [Y]es and [N]o to enable or disable the feature. Use the [<][>] keys to scroll through the options.

COMMS ENABLED Y

Communications are enabled?
YES = The communications are enabled.
NO = The communications are disabled. No reporting codes will be transmitted to the monitoring station. Note that downloading can still be accomplished with the communicator disabled.

DTMF DIALING Y

YES = The dialer will use DTMF dialing.
The PC4020 can switch to pulse dialing after a programmed number of attempts at DTMF dialing have failed. See "DTMF Attempts".
NO = The dialer will use pulse dialing.

RESTORE ON BTO Y

Restore on Bell Time Out?
YES = The panel will send the restoral reporting code when both the zone is restored and the bell has timed out (see "BELL CUTOFF" for the time the bell will time out). Note that if the zone is not restored, the restoral will be sent when the partition is disarmed. DO NOT enable this feature if "REST ON DISARM" is enabled.
NO = The panel will send the restoral reporting code when the zone is restored, or if "REST ON DISARM" is enabled, the restoral is sent when the partition is disarmed. (See "REST ON DISARM".)

REST ON DISARM N

Restore on Disarming?
YES = The panel will send a restoral when the partition has been disarmed. The panel will not send another alarm transmission for the zone until the partition is disarmed. DO NOT enable "RESTORE ON BTO" if this feature is enabled. (See "RESTORE ON BTO".)
NO = The panel will send the restoral immediately when the zone is restored, or if "RESTORE ON BTO" is enabled, the restoral is sent when the bell times out. (See "RESTORE ON BTO".)
Note: If Bell Shutdown is to be used, do NOT use "Rest On Disarm" for Shutdown to occur.

SHUT DOWN 24HRS N

Swinger Shutdown reset every 24 hours?
YES = The swinger shutdown counters will be reset everyday at midnight. The swinger shutdown counters keep track of how many alarms have occurred on each zone before entering shutdown, in which the zones will no longer cause an alarm. See "SWINGER LIMIT" and "SWGR SHUT DOWN" to enable swinger shutdown.
NO = The swinger shutdown counters will be reset when the partition is armed.

PC ID N

Partial Closings Identified?
YES = The panel will identify all manually bypassed zones when the partition is armed. The bypassed zones are identified by sending the zone alarm reporting codes for the bypassed zones between the partial closing reporting code and the closing code. The partial closing reporting code must be programmed for this feature to work.
See "MISC CLOSING" to program the partial closing reporting code.
See "PC ID RESTORES" to use zone restoral reporting codes instead of zone alarm reporting codes to identify the bypassed zones.
NO = The panel will only send a partial closing reporting code to tell the monitoring station that zones were bypassed when the partition was armed.

PC ON AUTO ARM Y

Partial Closings on Auto Arming?
YES = The panel will send the partial closing reporting code to the monitoring station when a zone is force armed (temporarily bypassed) by an auto arm. If the option "PC ID" is enabled, the force armed zone will be identified by sending its zone alarm reporting code after the partial closing reporting code. See "FORCE ARM" for an explanation of force arming.
NO = No partial closing reporting code will be sent when zones are force armed during auto arming.

PC ID RESTORES	
	N

Partial Closings Identified send Zone Restorals?
YES = The zone restoral reporting codes are transmitted to the monitoring station instead of the zone alarm reporting codes to identify the manually bypassed zones and force armed zones on auto arm. See "PC ID".
NO = The zone alarm reporting codes are used to identify the bypassed zones.

TLM ENABLED	
	Y

Telephone Line Monitoring Enabled?
YES = The system tests for telephone line faults. If a fault is detected, the trouble is annunciated on the keypads. A telephone line trouble is generated when the line voltage drops below 3 volts for more than 30 seconds.
NO = Does not test for Telephone Line faults.

TLM AUD BELL	
	Y

Telephone Line Monitoring has Audible Bell Alarm?
YES = If there is a Telephone Line trouble and a partition is armed, the bell outputs for the armed partition will be activated, along with the keypad annunciation. The bell outputs are any outputs (Bell, SW Aux or PGM) programmed for "FIRE AND BURG", "INV FIRE / BURG", "BURG ONLY" and "INV BURG ONLY".
NO = If there is a Telephone Line trouble, the panel will annunciate the trouble at the keypad only.

FTC AUD BELL	
	N

Should a Failure to Communicate sound the Bells?
YES = If a partition is armed, the bell outputs for the armed partition will sound when the PC4020 fails to communicate with the monitoring station.
NO = A failure to communicate will not cause the PC4020 to sound the bells.

TLM + ALARM AUD	
	N

Should a Transmission Line Monitoring trouble and an alarm occurring cause the bells to sound?
YES = If a partition is armed, the bell outputs for the armed partition will sound when the PC4020 has both a TLM fault and an alarm occurring.
NO = The TLM and Alarm Audible Function is disabled.

RINGBACK	
	N

Enable Ringback?
YES = The Ringback option is enabled.
A successful communication of a closing to the monitoring station will be annunciated by the keypads beeping 5 times. Only the keypads belonging to that partition will beep.
Note: If communications are being sent to more than one telephone number, communications to all numbers will produce a ringback.
NO = The Ringback option is disabled.
Note: Ringback must be enabled on a commercial burglar alarm system.

RINGBACK SQUAWK	
	N

Ringback Squawk?
YES = Ringback Squawk option is enabled.
NO = Ringback Squawk option is disabled.
If Ringback and Ringback Squawk are both enabled upon a successful communication of a closing, the Fire / Burg, Inv Fire / Burg, Burg and Invert Burg outputs for that partition will squawk 4 times.
Note: Ringback must be enabled for this feature to function.

PERIODIC TX ?	
	N

Periodic Test Transmission?
YES = The panel will send a test transmission to the monitoring station. See "TEST CODE TX" for programming time and frequency the code is sent. See "SYSTEM MAINT" for programming the reporting code.
NO = The panel will not send a test transmission.

EUROPE DIAL	
	N

European Dialing?
YES = When the communicator is pulse dialing, the contact closure to the phone line is made in a 67/33 make/break ratio. This is the European standard method of dialing.
NO = The contact closure to the phone line is made in a 60/40 make/break ratio. This is the American/Canadian standard method of dialing.

DEFAULT DIAL	Y

Dial if No Dial Tone Present?
YES = If the first attempt by the panel to call the monitoring station fails, on every subsequent attempt the panel will dial regardless of the presence of dial tone.
NO = If a 'D' for dial tone search precedes the phone number, the panel will not dial if dial tone is not present. See "PGM TEL NUMBER" for programming the telephone numbers with dial tone search.

PH 1-2 BACKUP	N

Phone #2 back up Phone #1?
YES = The PC4020 will send the reporting code to the 2nd phone number if the 1st phone number fails to communicate with the monitoring station after 10 attempts. Dialer directions for the 2nd phone number should be disabled (set to "N") if the 2nd number is used for backup only, otherwise the reporting codes will be sent to the 2nd phone number whether the 1st number failed or not.
NO = Disabled. The 2nd phone number does NOT back up the 1st phone number.

PH 1-3 BACKUP	N

Phone #3 back up Phone #1?
YES = The PC4020 will send the reporting code to the 3rd phone number if the 1st phone number fails to communicate with the monitoring station after 10 attempts. Dialer directions for the 3rd phone number should be disabled (set to "N") if the 3rd number is used for backup only, otherwise the reporting codes will be sent to the 3rd phone number whether the 1st number failed or not.
If "PH 1-2 BACKUP" is enabled when 1st phone number fails, the reporting code will be sent to both the 2nd and 3rd phone number.
NO = Disabled. The 3rd phone number does NOT back up the 1st phone number.

PH 2-3 BACKUP	N

Phone #3 back up Phone #2?
YES = The PC4020 will send the reporting code to the 3rd phone number if the 2nd phone number fails to communicate with the monitoring station after 10 attempts. Dialer directions for the 3rd phone number should be disabled (set to "N") if the 3rd number is used for backup only, otherwise the reporting codes will be sent to the 3rd phone number whether the 2nd number failed or not.
If "PH 1-2 BACKUP" is enabled when 1st phone number fails, the reporting code will be sent to the 2nd phone number. If the 2nd phone number fails, the reporting code will then be sent to the 3rd phone number.
NO = Disabled. The 3rd phone number does NOT back up the 2nd phone number.

BUSY TONE DET	N

Busy Tone Detection?
Yes = If a busy tone is detected for 4 seconds the panel will hang-up and re-dial 60 seconds after hearing the busy tone. By default this option is set to No.
No = The panel will not search for Busy Tone when dialing the phone number.

1300 HZ I.D.	N

1300 Hz Identification Tone?
Yes = This Communications Toggle when enabled will allow the panel to emit a 1300Hz Identification tone from the time the end of the phone number is dialed to the time that it receives a handshake. By default this option is set to No.
No = No Identification tone will be transmitted when the panel dial out.
Note: This option must not be used with Pager 2, Pager 3 or Contact ID communications formats.

ALTERNATE DIAL	N

Alternate Dialing?
Yes = This communications toggle option allows the panel to switch telephone number after a failed communication attempt. If the panel is able to dial (force dialing not included) on Phone Number One, but no handshake is received then the next communication attempt will be to Phone Number 2 regardless of the dialer direction settings. This will cause the panel to switch between phone number 1 and 2 until a handshake is received. If a handshake is received but no kissoff is received from the receiver the panel will continue to dial that phone number until the event FTC's or a phone number backup occurs. By Default is option is set to No.
Note: When alternate dialing is enabled the control panel will ignore all dialer directions and backup settings for phone number 2. Phone number 1 may be backed up to phone number 3, however phone number 2 will not backup to phone number 3 with Alternate Dialing enabled.
No = The panel will not switch phone numbers if no handshake is received until the programmed backup or dialer direction occurs.

Communicator Miscellaneous

| COMMS MISC (2) |

Program other options relating to the communications of the panel including DTMF attempts, swinger shutdown limit, AC failure and zone transmission delay.

| DTMF ATTEMPTS (0) |

The number of attempts using DTMF dialing (e.g. a touch tone phone) before switching to pulse dialing (e.g. a rotary phone). Enter a three digit number from 000 to 010 attempts. Note that the PC4020 will only call a number 10 times before a Failure to Communicate trouble occurs. By default, the panel will have 2 attempts of DTMF dialing before pulse dialing. If "DTMF DIALING" is not enabled, the panel will only pulse dial.

| SWINGER LIMIT (1) |

Enter the number of alarm/restore pairs the panel will communicate per zone before communications for that zone shut down. The bell will also shut down if so programmed (see "BELL SHUTDOWN"). Valid entries are from 000 to 255. The default setting of swinger shutdown is 003. Entering 000 in this section will disable swinger shutdown. See "SWGR SHUT DOWN" to enable swinger shut down on each zone.

| AC FAIL TX DELAY (2) |

Enter the time in hours and minutes, AC trouble on the main panel must be present before the AC trouble reporting code will be communicated. Valid entries are from 0000 to 23:59. The default setting is 0700.

| ZONE TX DELAY (3) |

Enter the time in seconds, the panel will delay communication of an alarm zone. Valid entries are from 000 to 255. The default setting is 000. If the panel is disarmed within the programmed time, no alarm communication will be sent. See "TX DELAY?" under zone toggle options to enable the transmission delay on each zone.
This option will not be supported with DVAC. Zone events programmed to follow TX Delay will be sent immediately regardless of what the TX Delay is set for.

Test Code Transmission

| TEST CODE TX (4) |

Test Code Transmission. Programs items regarding the test transmission of the panel. To send a test transmission, the time of day, the number of days between test transmissions and the test transmission reporting codes must be programmed. Also the "PERIODIC TX?" comms toggle options must be enabled.

| SET CYCLE DAYS (0) |

Enter the number of days between test code communications. Valid entries are from 001 to 255. The default setting is 030.

| SET 24HR TIME (1) |

Enter the time of day the test code will be communicated. Times are entered using military format HH:MM. The default setting is 0000.

Reporting Codes

| REPORTING CODES (3) |

Reporting codes are 2 digit codes which are sent to the receiver at the monitoring station along with the customer ID code for each transmission. They identify the type of alarm to the receiver (See "Comms Format"). Once you have selected which group of reporting codes to program, use the arrow keys to toggle through the reporting codes, and enter in a 2 digit number. If you are sending a 3/1 or 4/1 format where the reporting code needs to only be one digit, program the one digit followed by a "0". For example, if you want to send a "5" to the monitoring station, program "50" into the reporting code. To disable a reporting code, program it with FF (default setting). Pressing the [✶] key when entering the code will call up a menu for hex digit entry and to "Save and Exit" from the Reporting Codes menu.
Note: When programming Hex digits, the second ✶ is no longer used as in previous panel versions i.e. PC3000 and PC2550. For example in the PC4020:   ✶ 1 ✶ 2 is AB
       ✶ 1   2 is A2

| ZONE ALARM (00) |

Alarm Reporting Codes for Zones 001 to 128. Momentary and maintained arm zones will send the reporting code programmed in this section for a closing.

| ZONE RESTORE (01) |

Restoral Reporting Codes for Zones 001 to 128. See Restore on BTO and Rest on Disarm for when the zone restoral will be sent to the monitoring station. Momentary and maintained arm zones will send the reporting code programmed in this section for an opening.

| ZONE TROUBLE (02) | Zone trouble and Zone Tamper reporting codes for zone 001 to 128. The only types of zone that will cause a zone trouble are the Standard Fire, Delayed fire, Auto Verify Fire, Sprinkler Zone, and the LINKS Supervisory Zones. Regardless of the End Of Line type being used these zone types will send the programmed reporting code for a zone trouble condition. When using Double End Of Line and an open circuit condition occurs (Zone Tamper) the remaining zone types will send the programmed reporting code as a Zone Tamper condition. This will include a zone tamper on a Wireless zone (See RF Zone Options for details on the Wireless Zones). |

| ZONE TROB.REST (03) | Zone trouble and Zone Tamper Restoral reporting codes for zone 001 to 128. The only types of zone that will cause a zone trouble restoral are the Standard Fire, Delayed fire, Auto Verify Fire, Sprinkler Zone, and the LINKS Supervisory Zones. Regardless of the End Of Line type being used these zone types will send the programmed reporting code for a zone trouble restoral condition. When using Double End Of Line and an open circuit restoral condition occurs (Zone Tamper restoral) the remaining zone types will send the programmed reporting code as a Zone Tamper restoral condition. This will include a zone tamper restorals on a Wireless zone (See RF Zone Options for details on the Wireless Zones). |

| ZONE FAULT (04) | Zone Fault reporting codes for zone 001 to 128. . The following types of zone will not cause a zone Fault are the Standard Fire, Delayed fire, Auto Verify Fire, Sprinkler Zone, LINKS Supervisory, and Wireless Zones. When using Double End Of Line and an Short circuit condition occurs (Zone Fault) the remaining zone types will send the programmed reporting code as a Zone Fault condition. |

| ZONE FAULT REST (05) | Zone Fault Restoral reporting codes for zone 001 to 128. . The following types of zone will not cause a zone Fault restoral are the Standard Fire, Delayed fire, Auto Verify Fire, Sprinkler Zone, LINKS Supervisory, and Wireless Zones. When using Double End Of Line and an short circuit restoral condition occurs (Zone Fault restoral) the remaining zone types will send the programmed reporting code as a Zone Fault restoral condition. |

| ZONE SENSOR FLT (06) | Zone Sensor Fault trouble reporting code for wireless zones 1 - 64. When a wireless zone has not reported in to the PC4164 during the Zone Supervisory time then the panel will generate a "Zn Sensor Fault" trouble and transmission. |

| ZONE SEN FLT RES (07) | Zone Sensor Fault trouble restoral reporting code for wireless zones 1 - 64. When a wireless zone regains communication with the PC4164 then the panel will restore the "Zn Sensor Fault" trouble and send the programmed reporting code. |

| ZONE LOWBAT ALARM (08) | Zone Low Battery trouble reporting codes for wireless zones 1 - 64. When a wireless zone sends a zone low battery trouble condition to the PC4164 the main panel will generate a "Zn LwBatt Fault" trouble and transmission. |

| ZONE LOWBAT REST (09) | Zone Low Battery trouble restoral reporting codes for wireless zones 1 - 64. When a wireless zone sends a zone low battery restoral condition to the PC4164 the main panel will restore the "Zn LwBatt Fault" trouble and send the programmed reporting code. |

| MOD TAMP ALARM (10) | Reporting Codes for Tamper Alarms on Modules. All modules have a tamper zone, if the tamper is activated. |

| LCD4500 KEYPADS (0) | There are 16 keypad tamper alarm reporting codes, one for each keypad that can be enrolled onto the system. |

| PC4400 RS-232 (1) | There is an RS-232 tamper alarm reporting code. |

| PC41XX ZONE EXP (2) | There are 16 reporting codes for tamper alarms on 4108, 4116 and 4164 zone expansion modules. If you use all 4108s, the maximum number of expansion modules you will use is 14. (14 x 8 zones = 112 zones + 16 zones on the main panel = 128 zones) For this reason, 15 and 16 are for future use. |

```
PC4216 16 O/P
            (3)
```

There are 9 module tamper alarm reporting codes, one for each 4216 module that can be enrolled onto the system.

```
PC4204 4 O/P
            (4)
```

There are 16 module tamper alarm reporting codes, one for each 4204 module that can be enrolled onto the system.

```
MOD TAMP RESTORE
            (11)
```

Reporting Codes for the restoral of a modules tamper.

```
LCD4500 KEYPADS
            (0)
```

There are 16 keypad tamper restoral reporting codes, one for each keypad that can be enrolled onto the system.

```
PC4400 RS-232
            (1)
```

There is an RS-232 tamper restoral reporting code.

```
PC41XX ZONE EXP
            (2)
```

There are 16 reporting codes for tamper restorals on 4108, 4116 and 4164 zone expansion modules. If you use all 4108s, the maximum number of expansion modules you will use is 14 (14 x 8 zones = 112 zones + 16 zones on the main panel = 128 zones). For this reason, reporting codes 15 and 16 are for future use.

```
PC4216 16 O/P
            (3)
```

There are 9 tamper restoral reporting codes, one for each 4216 module that can be enrolled onto the system.

```
PC4204 4 O/P
            (4)
```

There are 16 module tamper restoral reporting codes, one for each 4204 module that can be enrolled onto the system.

```
[F][A][P] KEYS
            (12)
```

[F] [A] [P] Keys Reporting Codes for [F]ire, [A]uxiliary, [P]anic key alarms, [F]ire, [A]uxiliary, [P]anic key restoral and Duress Reporting Codes.

```
CLOSINGS
            (13)
```

Reporting Codes for Closings by Access Codes. There are 128 reporting codes, one for each access code.

```
MISC CLOSINGS
            (14)
```

Miscellaneous Reporting Codes for Closings. These 5 reporting codes are for Quick Arm, Partial Closing, Auto Arm Closing, Auto Arm Abort and Keypad Lockout.
- **Quick Arm** - See [✱][0] user function in the system manual.
- **Partial Closing** - If a partition auto-arms, and some zones were open, the system will force arm itself, bypass the open zones and send the partial closing reporting code to the monitoring station along with the alarm reporting codes of the zones that are open. Also, if zones were manually bypassed, the partial closing reporting code will be transmitted.
- **Auto Arm Abort** - If the auto-arming is aborted with or without an access code, this reporting code will be sent.
- **Auto Arm Closing** - When the system Auto-arms, the panel will send the auto-arm reporting code to the monitoring station. See Auto-arm [✱][6] functions in the System Manual.
- **Keypad Lockout** - If too many incorrect access codes (see "TOTAL BAD CODES" under Keypad Lockout Options for programming the number of incorrect code entries) are entered, the keypad will lock up, preventing anyone from attempting to enter any more access codes. When keypad lockout occurs, the keypad lockout reporting code is sent to the monitoring station.

```
PARTITION CLOSE
            (15)
```

This code will be sent when the partition is armed. The system account code is sent followed by the programmed reporting code. If there is a user closing reporting code programmed it will also be sent. This is to allow identification of the partition which armed when only one account code is used for each of the Partitions and System Account codes. The user is identified with the closing reporting code and the partition is identified with the Partition Close Reporting Code.
Note: During a Closing Suppression window the Partition Close reporting code will not be sent.

```
┌─────────────────────────┐
│ OPENINGS                │
│                   (16)  │
└─────────────────────────┘
```

Reporting Codes for openings by Access Codes. There are 128 reporting codes, one for each access code.

```
┌─────────────────────────┐
│ MISC OPENINGS           │
│                   (17)  │
└─────────────────────────┘
```

Opening After Alarm - This reporting code will be sent to the monitoring station when the system is disarmed, and there was an alarm while the partition was armed.
Opening Automatic - This reporting code will be sent any time an auto disarm schedule occurs that disarms the partition.
Note: During an Opening Suppression schedule the Opening Automatic reporting code will only be sent if there are alarms in memory.

```
┌─────────────────────────┐
│ PARTITION OPEN          │
│                   (18)  │
└─────────────────────────┘
```

This code will be sent when the partition is disarmed. The system account code is sent followed by the programmed reporting code. If there is a user opening reporting code programmed it will also be sent. This is to allow identification of the partition which disarmed when only one account code is used for each of the Partitions and System Account codes. The user is identified with the opening reporting code and the partition is identified with the Partition Open Reporting Code.
Note: During an Open Suppression Window the Partition Open reporting code will not be sent unless there was an alarm during the armed period for that partition.

```
┌─────────────────────────┐
│ SYSTEM MAINT            │
│                   (19)  │
└─────────────────────────┘
```

System Maintenance Reporting Codes. There are 19 reporting codes dealing with the operation and maintenance of the system. The reporting codes are:
• **Battery Trouble and Battery Restoral** - If the battery voltage on the PC4020 main panel is weak, disconnected or if the battery fuse fails, a battery trouble occurs, and the battery trouble reporting code is sent. When the battery voltage and fuse are restored, the battery restoral code is sent. See Battery Trouble under Trouble Display [✶][2] in the System Manual.
• **AC Line Trouble and AC Line Restoral** - If the incoming AC voltage to the AC terminals fails, an AC trouble occurs and the AC trouble reporting code is sent to the monitoring station after the AC Fail Tx Delay has elapsed (see "AC FAIL TX DELAY"). When the incoming AC is restored, the AC restoral reporting code is sent to the monitoring station. See AC Trouble under Trouble Display [✶][2] in the System Manual.
• **Main Bell Trouble and Main Bell Restoral** - If a bell trouble occurs, either from the bell fuse failure or the open bell terminals, the Main Bell Trouble reporting code will be sent to the monitoring station. When the trouble condition is restored, the Main Bell Restoral reporting code will be transmitted.
• **Main Aux Trouble and Main Aux Restoral** - If an auxiliary voltage supply trouble occurs, the Main Aux Trouble reporting code is transmitted, and when the auxiliary voltage supply is restored, the Main Aux Restoral code is transmitted.
• **COMBUS Trouble and COMBUS Restoral** - When the main panel losses communication with a module, the COMBUS Trouble reporting code will be transmitted, and when communications resume the COMBUS Restoral reporting code will be sent.
• **TLM Failure** - If the Links unit is being used, a TLM reporting code will be sent through the Links when a TLM trouble occurs. Do NOT program this code if the Links is not used.
• **TLM Restoral** - If there is a telephone line monitoring trouble, the PC4020 will not be able to communicate with the monitoring station until the telephone line is restored, then the TLM Restoral reporting code will be sent.
• **TLM Fail Line 2** - If the LINKS unit is being used, a TLM reporting code will be sent through the LINKS when a TLM trouble occurs.
  Note: Do not program this reporting code if the LINKS module is not being used.
• **TLM Restoral Line 2** - If there is a Telephone Line Monitoring Trouble, when the trouble restores the panel will transmit the programmed reporting code reporting code.
• **FTC Restoral** - If a failure to communicate trouble occurs, where the PC4020 could not get through to the monitoring station, the next time the panel attempts to communicate and is successful, it will also transmit the FTC restoral reporting code.
• **Periodic Test** - This is the reporting code that is sent to the monitoring station to test communications.
• **Buf Near Full** - This reporting code is sent only if a printer is not being used, or the printer is off line for 450 events.

- **User System Test** - When the user does a [✱][6] bell/comm test, the User System Test reporting code is sent to the monitoring station to test communications. See "BELL/COMM TEST" in the System Manual.
- **Links Test** - If this code is programmed and Links Test Transmission is enabled (see Links Toggles), this reporting code will be sent via the Links unit. This code will never be sent through the regular telephone line.
- **Per. Test UL** - Periodic Test Transmission UL This test transmission code is sent inplace of a Periodic Test Transmission if a Fire Trouble is present on the system at the time that the periodic test transmission is supposed to be sent. The default reporting code is 99.
- **DLS Lead In and DLS Lead Out** - If the DLS Lead In reporting code is to be used, the DLS callback feature must be enabled. (See DLS callback under DLS Toggles). When a computer calls the PC4020 panel, after connection is made, both the panel and the computer will hang up the telephone line. The panel will then transmit the DLS Lead In reporting code to the monitoring station. The panel will then call the computer and begin downloading. When the computer is finished downloading to the panel, they will both hang up the phone line, and the PC4020 will transmit the DLS Lead Out reporting code to the monitoring station.
  Note: DLS Lead In/Out reporting code is only sent for User Call Up and DLS Call Back.
- **Ins Lead In and Ins Lead Out** - The Installer's Lead In reporting code is sent to the monitoring station when an installer enters the [✱] [8] installer's programming mode. The Lead Out code is sent when the installer leaves [✱] [8] installer's programming.
- **Automation Fault** - This trouble condition will occur when the Escort4580 loses communication with the Automation Output control module. An audible trouble (VIA keypad buzzer) will be generated as well as the trouble LED activating for the keypads. An Automation Fault trouble reporting code will be sent to the monitoring station if programmed. If there is an AC trouble present at the time the panel will not transmit the Automation Fault reporting code.
- **Auto Fault Restoral** - This reporting code is sent when the Automation Fault trouble condition clears.

4204 MOD MAINT (20)	The PC4204 module maintenance reporting code section has reporting codes for sixteen modules, with 6 codes for each module, in a total of 96 reporting codes. The 6 codes for each module are Battery Trouble, AC Line Trouble, Aux Supply Trouble, Battery Restoral, AC Line Restoral and Aux Supply Restoral. These reporting codes are similar to the system maintenance reporting codes for the PC4020 main panel.

4400 MOD MAINT (21)

The PC4400 module maintenance reporting codes:
- **RS-232 Trouble** - This trouble is sent when the serial printer connected to the PC4400 module goes off line, or when the PC4400 module loses communications with the serial printer.
- **RS-232 Restore** - The reporting code is sent when the RS-232 trouble condition restores.
- **DVAC Trouble** - This reporting code will be sent if the DVAC line is no longer present, if the self diagnostics in the PC4400 module has failed or if DVAC communications has been shut down by the central station.
- **DVAC Restore** - This reporting code will be transmitted when all of the DVAC trouble conditions have been restored.

2ND MASTER CLOSE (22)

The Second System Grand Master Code used by the installer has a reporting code to report when it has been used to arm a partition.

2ND MASTER OPEN (23)

The Second System Grand Master Code used by the installer has a reporting code to report when it has been used to disarm a partition.

4700 MODULE (24)

The PC4700 Fire Module reporting codes:
- **2 Wire Alarm** - This reporting code will be sent when there is a 2 Wire Smoke zone alarm condition. The 2 Wire Smoke zone acts as a standard fire zone.
- **2 Wire Alarm Restore** - This reporting code will be sent when there is a 2 wire smoke zone alarm restoral occurs.
- **Waterflow Alarm** - This reporting code will be sent when there is a Waterflow zone alarm condition.
- **Waterflow rest.** - This reporting code will be sent when there is a Waterflow zone restoral occurs.
- **2 Wire Trouble** - This trouble code will be sent when the 2 wire smoke detector zone has a trouble (open) condition.

- **2 Wire TBL Rest.** - This trouble restoral code will be sent when the 2 wire smoke detector zone trouble has restored.
- **Waterflow TBL** - This trouble code will be sent when the Waterflow detector zone has a trouble (WFA or WFB loops are open) condition.
- **Waterflw TBL Rest** - This trouble restoral code will be sent when the Waterflow detector zone trouble has restored.
- **Ground Fault** - This trouble code will be sent when the earth ground connection detects a ground fault. Note: The Ground terminal must not be connect to the COMBUS ground, Connecting earth ground to the Combus ground will interfere with system performance an generate a Ground Fault Trouble.
- **Ground FLT Rest.** - This trouble code will be sent when the earth ground fault connection is restored.

POLICE CODE ALARM
(25)

Police Code Alarm is an alarm notification feature such that when a zone on an armed partition goes into alarm and the zone transmits a zone alarm (or tamper alarm) reporting code a timer (Police Code Time - see System Times) will being. If during this time (60 minutes by default) a second zone goes into alarm, this zone will transmit its alarm reporting code followed by the partition(s) Police Code Alarm Reporting code (there is a Police Code Alarm reporting code for each partition). A second police code will only be sent once the police code restore has been transmitted for that partition (see Police Code Restoral). Police Code Alarm will only function for burglary zones and only while the partition is armed. This includes 24 hour Burg zones (24 Bell, Bell/Buzz, and Buzzer, latching 24 Hour). The only zone that will activate the police code are the following; Standard Delay; Auxiliary Delay; instant; interior; Interior Home Away; Delay Home Away; 24 Hr Bell; 24 Hr Bell/Buzz; 24 Hr Buzzer; and the Latching 24 hr.

POLICE CODE REST
(26)

The Police Code Restoral will be transmitted when the partition is disarmed or when using Restorals Follow Bell Time-Out (BTO) when the bell times out.. A second police code will only be sent once the Police Code Restore has been transmitted for that partition.

Links Module

LINKS MODULE
(4)

These section options are relevant to the Links operation.

Note: Dial Tone Search must be included in the land phone number. See 'Main Item' for programming details.

1ST NUMBER
(0)

Phone Number 1. If the Links module is enabled on the PC4020 this number will be used to back up the land line first number should the telephone line fail.

2ND NUMBER
(1)

Phone Number 2. If the Links module is enabled on the PC4020 this number will be used to back up the land line second number should the telephone line fail.

3RD NUMBER
(2)

Phone Number 3. If the Links module is enabled on the PC4020 this number will be used to back up the land line third number should the telephone line fail.

DLS NUMBER
(3)

This number is used if downloading is to be done or backed up with the Links 1000 unit. Enter the telephone number for computer if User Call Up, Periodic DLS or DLS Callback is enabled. See "PGM TEL NUMBER" for entering a telephone number and options when programming the phone number.

Programming Telephone Numbers
Enter the telephone number the way you would on a telephone. the total number of digits including the dial tone search and pauses must not exceed 31. Press the [✱] key to enter the telephone entry options menu. A "D" for dial tone search is already programmed as the first digit.
Note: There must be a dial tone search programmed into the land line phone number for the links unit to operate.
[0] Save   [1] Dial tone   [2] Pause 2 Seconds   [3] Pause 4 Seconds
[4] DTMF [✱]   [5] DTMF [#]   [6] Previous Menu
[0] Save can be selected for the telephone number to be stored into the panel's memory, or simply press [#] when finished entering the number.

[1] Dial tone will add a 2 second search to the telephone number, which will be represented by a letter "D" on the display. When the panel does a dial tone search, it looks for dial tone before dialing the programmed phone number.

[2] Pause 2 Seconds will add a 2 second pause to the dialing sequence, which will be represented by the letter "E" on the display.

[3] Pause 4 Seconds will add a 4 second pause to the dialing sequence, which will be represented by the letter 'A' on the display.

[4] DTMF [✶] will input an asterisk, represented by a 'B' on the display. The dialer will output the same frequencies as a touch tone phone would if the [✶] key were pressed. (Frequency required to disable call waiting.)

[5] DTMF [#] will add a '#' represented by a 'C' on the display. The dialer will output the same frequencies as a touch tone phone would if the [#] key were pressed.

LINKS TOGGLES
(4)

This section contains all options related to the use of the Links module.

LINKS MODULE
N

Links Module?
YES = Links module enabled. This selection must be enabled in order for the Links unit to operate.
NO = Links module disabled.
Note: Once the Links module is selected the Main PGM OUT automatically changes to Links Operation and cannot be reprogrammed until the Links module is deactivated.

PERIODIC TX
N

Links Test Transmission?
YES = A test transmission is sent by the panel for the Links unit. (See 'Tx Cycle Days' and 'Tx Cycle Time'.)
NO = No test transmission is sent by the panel for the Links unit.
Note: The Links Test Transmission Code can be programmed under system maintenance of the reporting code section.

ZONE 1 SUP
N

Zone 1 Links Supervisory?
YES = Zone 1 Links Supervisory enabled. This zone is used to indicate the trouble conditions of the Links unit. The troubles are: Loss of Cellular Communications, AC, DC and Tamper.
Notes: Cellular trouble reporting codes are programmed as Zone Trouble and Restoral. For clear identification of the Cellular Trouble, program a zone label that will identify the zone as Links zone.
If Partial Closings identify alarms are used the Alarm Reporting Code must be programmed for the feature to function properly.
End of Line resistors must be used for the Links Supervisory zone (see System Toggle Options). Do NOT use the Double EOL resistor on the Links Supervisory zone.
NO = Zone 1 Links Supervisory disabled
Note: When this option is enabled the PC4020 will automatically reprogram the zone type and options to be Links Supervisory for zone 1. The zone type cannot be changed until this option is disabled.

ZONE 2 ANSWER
N

Zone 2 Links Answer?
YES = Zone 2 Links Answer enabled. This zone is used when downloading is to be performed through the Links unit.
Note: End of Line resistors must not be used on the Links Answer zones.
NO = Zone 2 Links Answer disabled.
Note: When this option is enabled the PC4020 will automatically reprogram the zone type and options to be Links Answer for zone 2. The zone type cannot be changed until this option is disabled.

TX CYCLE DAYS
(5)

Enter the number of days between test code communications. Valid entries are from 001 to 255. The default setting is 030.

TX CYCLE TIME
(6)

Enter the time of day the test code will be communicated. Times are entered using military format HH:MM. The default setting is 0000.

SWITCHED AUXILIARY OUTPUT

```
SW AUX OUTPUT
            (05)
```

The switched auxiliary output terminal on the main panel is a 12 volt power supply activated and deactivated by any one of 35 options. When the switched auxiliary is activated, it outputs 12 volts (if measured, will read 13.8 volts). The switched auxiliary output, for some options can also be programmed to activate for only selected partitions.

For example:
If the SW AUX output has been programmed for Sensor Reset and enabled on partition 1 and partition 2.

Pressing [✶][4] on any keypad assigned to partition 1 or partition 2 will deactivate the output for the amount time programmed in "PGM PULSE TIME".
Pressing [✶][4] on a keypad assigned to partitions 3 to 8 will not deactivate the output.

Note: Refer to the PGM Outputs List for available options.

MAIN BELL OUTPUT

```
MAIN BELL OUTPUT
          (06)
```

The bell output on the main control board can be programmed to activate for any one of the 35 PGM output options on any number of partitions. The BELL terminal is normally 13.8 V$_{DC}$ and will switch to ground potential when activated. The BELL terminal will be at ground potential and switch to 13.8 V$_{DC}$ if any "INV" option is selected. If the bell output is not being used, a 1000 ohm resistor (brown, black, red, gold) must be connected across the terminals as the output is supervised.

Note: Refer to the PGM Outputs List for the available options.

PGM OUTPUTS

PGM OUTPUTS
        (07)

Main PGM Output

MAIN PGM OUT
            (0)

The PGM output can be programmed to activate for any one of the 35 options listed in the PGM outputs list. Normally the output will be open collector (not active) and will switch to ground potential (active). The output will switch from ground potential (active) to open collector (not active) if any "INV" options are selected.

Notes: Refer to the PGM Outputs List for the available options.
If the Links Module is enabled the Main PGM Output cannot be programmed. The message 'LINKS Module is Active' will appear if the section is entered.

PC4204 Options

4204 OPTIONS
            (1)

Each relay of any 4204 relay module can be programmed to activate for any one of the 35 options listed in the PGM outputs list. Normally each relay will be de-energized and energized when active. The relay will normally be energized and then de-energized if any "INV" option is selected. Output 1 will always be active if left at default of (19) COMBUS power. It will always be active unless there is no incoming COMBUS power.

PC4216 Options

4216 OPTIONS
            (2)

A maximum of nine 4216 output modules can be connected to the system.
First select the PC4216 to be programmed, then select the option it is going to be programmed for. The PC4216 can be an alarm annunciator, a zone follower or one of nine custom PGM arrays.

CUSTOM GROUP
        (01)→(09)

The custom group allows each of the 16 outputs to be individually programmed with one of the 35 options listed in the PGM outputs list. Each output is programmed in the "4216 CUSTOM" section.

ALARMS 1-16
            (10)

The 8 selections of "ALARMS XX-XX" are for programming the PC4216 to annunciate alarms.
The 16 outputs will activate for each of the corresponding selected zones. The output will remain active, even when the partition is disarmed, for continuously showing the zones which have gone into alarm. The outputs will deactivate the next time the partition is armed.
For example, a PC4216 is programmed for Alarms 49-64. If zone 53 goes into alarm, the output will activate and remain active even when the bells are silenced and the partition is disarmed. The outputs will reset when the partition is armed again.
More than one PC4216 can be programmed to annunciate the same zones.

FOLLOW 1-16
            (18)

The 8 selections of "FOLLOW XX-XX" are for programming the PC4216 to annunciate open zones.
The 16 outputs will activate for each of the corresponding selected zones. The output will activate when the zone is open, and deactivate when the zone is restored.
More than one PC4216 can be used to annunciate the same group of 16 zones. For example, PC4216 #1 is programmed as Follow 33-48 and #5 is programmed as Follow 33-48. If zone 34 is opened, output 2 on both 4216s will activate.
See "Follows + Alarms" for making outputs act as a zone follower and alarm annunciator.

PC4216 Custom

```
4216 CUSTOM
              (3)
```

```
CUSTOM GROUP
       (01)→(09)
```

This section is for programming each of the 9 custom groups for different options. Each group can be programmed with 16 outputs from the 28 listed options. The PC4216 modules can then be assigned to one of these groups.

Escort4580 Automation Items

```
4580 AUTO. ITEMS
        (01)→(32)
```

This programming section allows the panel to have control over the Escort4580s (Voice Prompting Module) automation outputs. Each of the 32 Automation Output Modules may be programmed to follow one of the 35 Programmable Outputs that are available to the panel (See PGM Output List for a listing and description of each of the PGM Output options).
The Automation Output Control Module (Power House PL513) use the existing AC power lines of the building to transfer data to the Automation Output Modules controlling when an output will activate or deactivate. The Output Modules are then connected to devices such as lamps. Refer to the Escort4580 manual for programming Item Options and Output Conditions.

PGM Pulse Times

```
PGM PULSE TIMES
              (5)
```

This section will allow you to select the amount of time the PGM output will remain active after being triggered.

```
UTILITY/SENSOR
              (0)
```

The main bell, switched auxiliary or any of the PGM outputs programmed for "Utility Output", "Sensor Reset" and "Duress", can be active for 000 to 255 seconds. The default setting is 005.

```
KISSOFF PULSE
              (1)
```

Any output programmed for "Kissoff Output" can be active for 000 to 255 seconds. The default setting is 003.

```
GROUND START
              (2)
```

Any output programmed for "Ground Start" can be active for 000 to 255 seconds. The default setting is 002.
Note: The panel will wait until the end of the Ground Start before dialing.

```
CHIME PULSE
              (3)
```

Any output programmed for "Chime Pulse" can be active for 000 to 255 seconds. The default setting is 002.

```
DURESS PULSE
              (5)
```

The Duress Pulse time is the programmable amount of time from 000 - 255 seconds that the Duress Pulse Programmable output will activate for when a duress code is entered. The default value is 005 Seconds.

PGM
OUTPUTS LIST

| FIRE AND BURG (00) | The output will activate when any fire or zone alarm occurs on any of the selected partitions. |

| INV FIRE/BURG (01) | The output will deactivate when any fire or zone alarm occurs on any of the selected partitions. |

| BURG ONLY (02) | The output will activate when any zone alarm occurs on any of the selected partitions. |

| INV BURG ONLY (03) | The output will deactivate when any zone alarm occurs on any of the selected partitions. |

| FIRE ONLY (04) | The output will activate when any fire alarm occurs on any of the selected partitions. |

| INV FIRE ONLY (05) | The output will deactivate when any fire alarm occurs on any of the selected partitions. |

| UTILITY OUTPUT (06) | The output will activate when [✱][7] is entered on any keypad on any of the selected partitions. **Note: This output will follow the "Utility/Sensor" PGM pulse time.** |

| SENSOR RESET (07) | The output will deactivate when [✱][4] is entered on any keypad on any of the selected partitions. **Note: This output will follow the "Utility/Sensor" PGM pulse time.** |

| PARTITION STATUS (08) | The output will activate when any of the selected partitions are armed. |

| LATCHED STROBE (09) | The output will activate when any alarm occurs on any of the selected partitions. The output will stay activated until the partition that caused the alarm is disarmed. |

| TROUBLE OUTPUT (10) | The output will activate when a trouble condition is present on any of the selected partitions. If a system trouble occurs (i.e. loss of time, TLM) all trouble outputs will activate. |

| COURTESY PULSE (11) | The output will activate during exit and entry delay on any of the selected partitions. |

| CHIME FOLLOWER (12) | The output will activate when door chime is activated on any of the selected partitions, and deactivate when the chime pulse timer expires. (See "CHIME PULSE" under "PGM PULSE TIMES".) Door chime activates when a zone is opened and activates again when a zone is closed. For Door Chime to activate, the user must enable the door chime (see "DOOR CHIME" under [✱][6] User Functions in the System Manual) and the installer will enable door chime for the individual zones (see "CHIME FUNCTION" under "ZONE OPTIONS"). |

| TLM ONLY (13) | The output will activate when a telephone line trouble is present. |

TLM AND ALARM (14)	The output will activate when a Telephone Line Trouble is present and an alarm occurs on any of the selected partitions.
FAILURE TO COMM (15)	The output will activate when a Failure to Communicate Trouble is present. The output will stay activated until the trouble is cleared by the user or a successful communication is sent to the central station.
COMMS ACTIVE (16)	The output will activate while the panel is attempting to communicate with the central station.
GROUND START (17)	The output will activate for a programmable number of seconds before the panel attempts to communicate with the central station. See 'PGM Pulse Times'. ***Note: This output will follow the "Ground Pulse" PGM pulse time.***
KISSOFF OUTPUT (18)	The output will activate for a programmable number of seconds after a successful communication to the central station. See 'PGM Pulse Times'. ***Note: This output will follow the "Kissoff Pulse" PGM pulse time.***
COMBUS POWER (19)	This output will remain active at all times unless a system reset is ordered by the main panel.
READY STATUS (20)	The output will activate when all the zones in the partition are closed, and the partition is disarmed. If a zone opens or the partition is armed, the output will deactivate.
ZONE ALARM (21)	This output will annunciate when a selected zone has gone into alarm. Any one of the 128 zones can be selected. If the zone is armed and goes into alarm, the output will activate and remain active, even when the partition the zone belongs to has been disarmed. The output will remain active until the partition is armed again.
ZONE FOLLOW (22)	This output will follow a selected zone. Any one of the possible 128 zones can be selected. If the zone is opened, the output will activate. When the zone is closed the output will deactivate. See 'Follows + Alarms' for enabling the output to be a zone follower and zone alarm annunciator.
DURESS OUTPUT (23)	This output will be turned on when a duress type code is used to perform any function. It will follow the utility output timer. ***Note: This output will follow the Utility/Sensor Reset PGM pulse time.***
BUZZER FOLLOW (24)	This output will activate when a programmed partition(s) keypad buzzer activates for Entry Delays, Auto Arm Pre-alert, 24 Hour Buzzer and Door Strike.
REMOTE OPERATION (25)	This option can be remotely activated with DLS-1 (version 5.3 or later), and remain active until deactivated by the DLS-1 package.
EXIT FOLLOW (26)	This option will follow the exit delay timer of the partition(s) it is assigned to.
ENTRY FOLLOW (27)	This option will follow the entry delay timer of the partition(s) it is assigned to.
DATE SCHEDULE (28)	This output type may be programmed to follow any of 99 Date Schedule (See Event Scheduling) The schedule Number (01-99) which the output is programmed to follow may be activated at any time (Start Time) and remain on uhtil an End Time occurs for the schedule. **Pulse Timer** The on time duration of the Date Schedule output (Pulse Timer) may be programmed in seconds. Once the schedule number has bee selected the panel will prompt for a 2 digit entry between 00 and 59s. If a number between 01 and 59 is entered the output will remain on for that number of seconds. If 00 is enter in this section the output will follow the Date Schedule Interval timer for both Start Time and End Time. See Event Scheduling for programming detail of the Date Schedules and Intervals.

ZONE TAMPER (29)	This output will activate when any zone tamper alarm occurs for the selected partition(s) and remain active until the partition is disarmed (alarm silenced) or Bell Time-out occurs.
ZONE FAULT (30)	This output will activate when any zone fault alarm occurs for the selected partition(s) and remain active until the partition is disarmed (alarm silenced) or Bell Time-out occurs.
ZN. TAMP. FOLLOW (31)	Zone Tamper Follow, this output will enunciate when a zone goes into tamper alarm. Any one of the 128 zones can be selected. If the zone is tampered, the output will activate, when the zone is restored the output will deactivate. When "Follows + Alarms" is enabled then the output will remain active until the partition that the zone belongs to is armed.
ZN. FAULT. FOLLOW (32)	Zone Fault Follow, this output will enunciate when a zone goes into Fault alarm. Any one of the 128 zones can be selected. If the zone is faulted, the output will activate, when the zone is restored the output will deactivate. When "Follows + Alarms" is enabled then the output will remain active until the partition that the zone belongs to is armed.
ARMED HOME MODE (33)	This output will activate when the selected partition(s) are At-Home armed ([✱][9]), or when the partition is armed with interior zones bypassed.
ARMED AWAY MODE (34)	This output will activate when the selected partition is armed and interior zones are active.

PC4400 OPTIONS

<table>
<tr><td>PC4400 OPTIONS
(08)</td><td>This section will allow you to select the baud rate and handshake requirements for a PC4400 module if an on-site printer is being used.</td></tr>
<tr><td>BAUD RATE
(0)</td><td>The Baud Rate is the communications speed of the PC4400 module. The PC4400 can communicate at 300, 600, 1200, 2400 or 4800 baud. If the printer is experiencing problems with missing characters, try lowering the baud rate.
Note: 4800 baud is only available on PC4400 software version 2.0 and above.</td></tr>
<tr><td>HANDSHAKE
(1)</td><td>This section is used to program the type of handshake signal used with the printer.</td></tr>
<tr><td>HANDSHAKE OFF
N</td><td>This selection is for printers that do not use handshakes.
YES = No handshake (XON/XOFF).
NO = A handshake signal is sent from the printer (DTR Protocol).</td></tr>
<tr><td>DVAC SECTION
(2)</td><td>This section will only be available if the PC4400 module is enrolled as a DVAC module.</td></tr>
<tr><td>DVAC OPTIONS
(0)</td><td>This section is used to program options for the DVAC communicator.
Option 01 - ID Code is the ID code the PC4400 module will use when communicating DVACS. Valid ID codes range from 01 to EF. The default ID code is FF, with this setting the PC4400 will respond to ID code 01.
Option 02 - All Call Select determines how the PC4400 module will respond to all calls from the central station. Valid entries are from 00 to 04.
00 = No response on all calls.
01 = Respond to all call #1 only.
02 = Respond to all call #2 only.
03 = Respond to both all calls.
04 = Respond to all call #1 if ID code is odd or on all call #2 if ID code is even.
The default all call select option is FF, with this setting the PC4400 will follow the all call select option 04.</td></tr>
<tr><td>DVAC IDENTIFIERS
(1)</td><td>This section is used to program the function byte and reporting code for events that are transmitted over DVAC. The function byte is a hex entry and the reporting code is a decimal entry. After entering this section the installer will be prompt to enter a reporting code number. Valid entries are from 0000 to 0346.
Special FB values
    - FF = Transmit the default FB (function byte)
Special RC values
    - 000 = Disable transmission
    - 254 = Transmit a zero
    - 255 = Transmit the default RC (reporting code)
Note: When programming a section, if the panel loses communications with the PC4400 module, the message "DVAC module not present" will be displayed. If this occurs check your wiring, then program the section again.</td></tr>
</table>

Rep #	Title	FB	RC	Printed Mess
000 - 07F	Zone Alarms/Restore	*	001 - 128	(See Zone Events Section)
080 - 0FF	Zone Troubles/Restore	*	001 - 128	(See Zone Events Section)
100 - 17F	Zone Faults/Restore	*	001 - 128	(See Zone Events Section)
180 - 1C9	Module (1-74) Tamper/Restoral	17/97	131 - 204	Tamper Zn#
1CA	Fire Key	00	129	Fire Zn#129
1CB	Aux. Key	04	129	Medical Zn# 129
1CC	Panic Key	02	129	Panic Zn#129
1CD	Duress Code	03	129	Holdup Zn#129
1CE - 24D	Open/Close by users	76/F6	001 - 128	Open/Close User#
24E	Quick Arm	F6	130	Close User#130
24F	Partial Close	7E	004	PartClos
250	Auto Arm Abort	7E	011	Late to Close
251	Automatic Arming	7E	001	Automat Closing

Rep #	Title	FB	RC	Printed Mess
252	Keypad Lockout	7E	029	User cd Tamper
253	Open/Close 2nd Master	76/F6	131	Close User#131
254 - 256	For Future Use	00	-	**Not Transmitted**
257	Opening after Alarm	7E	017	Disarm from alm
258	Auto Disarm	7E	002	Automatic Open
259 - 260	Partition Open/Close	77/F7	001 - 008	Open/Close Group#
261	For Future Use	00	-	**Not Transmitted**
262	System Battery Trouble/Restoral	3D/BD	001	SysLBat
263	System AC Trouble/Restoral	3A/BA	001	AC Cut
264	System Bell Trouble/Restoral	32/B2	135	System trb
265	System Aux. Supply Trouble/Restoral	3C/BC	001	PwSuply
266	COMBUS Trouble/Restoral	32/B2	131	System trb
267 - 268	TLM Line 1 & 2 Trouble/Restoral	3E/BE	001 - 002	Line
269	FTC Restoral	00	-	**Not Transmitted**
26A	System Periodic Test	00	-	**Not Transmitted**
26B	Event Buffer %75 Full	32	132	System trb
26C	System Test	7E	055	Manual Test
26D	LINKS Periodic Test	00	-	**Not Transmitted**
26E	Periodic UL Test	7A	002	Test
26F	DLS Lead In	7E	047	Remote P. Begin
270	DLS Lead Out	7E	049	Remote P. Success
271	Installer Lead In	7E	039	Local Prg Begin
272	Installer Lead Out	7E	043	Local Prg Ended
273	Automation Fault/Restoral	32/B3	133	System Trb
274 - 277	For Future Use	00	-	**Not Transmitted**
278 - 2A7	PC4204 Battery Trouble/Restoral	3D/BD	011 - 026	SysLBat
	PC4204 AC Trouble/Restoral	3A/BA	011 - 026	AC Cut
	PC4204 Aux. Supply Trouble/Restoral	3C/BC	011 - 026	PwSuply
2A8	For Future Use	00	-	**Not Transmitted**
2A9	Fire Alarm 2 WR Smoke	00/80	130	Fire
2AA	Water Flow Alarm	01/81	130	Sprnklr
2AB	2 WR Smoke Trouble	20/A0	130	Fire Trb
2AC	Water Flow Trouble	21/A1	130	Sprnklr Trb
2AD	Ground Fault	32/B2	130	System Trb
2AE - 2ED	Wireless Zone Low Battery Alarm	3B/BB	151 - 214	WirLBat
2EE - 32D	Wireless Zone Supervisory	18/98	151 - 214	Supervi
32E - 335	Partition Police (1 - 8)	19	001 - 008	Burglary Verified
336-337	For Future Use	00	-	**Not Transmitted**
338	Line Fault	3E/BE	004	Line
339	Module Fault	32/B2	137	System Trb
33A	Shut Down by C.S	32/B2	138	System Trb
33B	Bypassed Zone **	*	001 - 128	(See Zone Events Section)
33C-346	For Future Use	00	-	**Not Transmitted**

** To disable this transmission, program the function byte as 00 and the reporting code as 000. Programming any other value will result in the default function byte and reporting code being transmitted.

If the reporting code is left as default FF, the RC (reporting code) will be the same as the zone number and the FB (function byte) for the zone events will be chosen form the corresponding zone type. A zone has 7 associated events that will modify the printer MSG:

PC4020 Event	DVAC Printer MSG
Zone Alarm	Alm
Zone Restore	Rst
Partial Closing+ Zone Alarm	Byp
Zone Trouble/Tamper	Trb
Zone Trouble/Tamper Restore	T_R
Zone Fault	Sup
Zone Fault Restore	S_R

The following is a list of the default settings for zone transmissions:

Zone Type	FB:	Alm	Rst	Byp	Trb	T_R	Sup	S_R	Printer MSG
Standard Delay		08	88	48	28	A8	68	E8	Delay
Aux. Delay		08	88	48	28	A8	68	E8	Delay
Instant		09	89	49	29	A9	69	E9	Instant
Interior		0A	8A	4A	2A	AA	6A	EA	Interior
Interior H.A		0B	8B	4B	2B	AB	6B	EB	InteriHA
Delay H.A		07	87	47	27	A7	67	E7	DelayHA
24 hr Bell		11	91	51	31	B1	71	F1	24 hr
24 hr Bell/Buzzer		11	91	51	31	B1	71	F1	24 hr
24 hr Buzzer		11	91	51	31	B1	71	F1	24 hr
Standard Fire		00	80	40	20	A0	60	E0	Fire
Delayed Fire		00	80	40	20	A0	60	E0	Fire
Auto Ver. Fire		00	80	40	20	A0	60	E0	Fire
Momentary Arm		XX							
Maintained Arm		XX							
Latching 24 hr		16	96	56	36	B6	76	F6	24hrLat
Forced Answer		XX							
Links Supervisory		18	98	58	38	B8	78	F8	Supervi
Links Answer		XX							
Sprinkler		01	81	41	21	A1	61	E1	Sprnklr
Hold Up		03	83	43	23	A3	63	E3	Hold Up
Panic		02	82	42	22	A2	62	E2	Panic
Technical		18	98	58	38	B8	78	F8	Supervi

```
DEFAULT DVAC
              (2)
```

Enter this section to restore the PC4400 programming back to the default values.
Note: When exiting installers mode, if the panel loses communications with the PC4400 module, the message "DVAC module not present" will be displayed. If this occurs check your wiring, then enter and exit installers mode again.

SYSTEM LABEL

```
SYSTEM LABEL
            (09)
```

This selection will allow the system label to be programmed for events that do not pertain to a partition such as AC Trouble, which is logged to the event buffer. See Label Programming in "Event Messages" for programming instructions.

Note: The maximum length of the system label is 14 characters.

EVENT SCHEDULING

<table>
<tr><td>

EVENT SCHEDULING
(10)

</td><td>

Event scheduling allows for a variety of timed events to occur on specific dates and times. Openings and Closings can be suppressed during high traffic times, outputs may be programmed to follow Date Schedules and partitions may be Auto Armed and Auto Disarmed by specific times programmed in the Date Schedule.

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<tr><td>

OPEN/CLOSE SUPPR
(0)

</td><td>

This group of schedules can be programmed to suppress openings or closing (each schedule is capable of suppressing either opening or closings only) for any partition on the system. There are 99 different Open/Close Suppression schedules that the panel is capable of following. Each schedule is programmed to follow one of 99 Date Schedules. Date Schedules is where the time(s) for the Open/Close Suppression schedule are programmed. If desired the schedule can be programmed to follow a Holiday Schedule this will allow the Schedule to have exceptions. Each Schedule may be programmed to function for one or more partitions at the same time. Programming sections of Open/Close suppression are:

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• Openings Y/N - Selects to suppress openings or closings - Default N
• Date Schedule # 01 - 99 - Selects the date schedule to follow - Default 01
• Partition Mask - Selects the Partition(s) to be active on - Default All off

An example of an Open/Close Suppression Schedule:

Open/Close Suppression Schedule 05 is programmed with;

　　Openings - Y
　　Sch. # (Date Schedule Number) - 03
　　Partition 1 - Y　　　　Partition 5 - N
　　Partition 2 - Y　　　　Partition 6 - N
　　Partition 3 - N　　　　Partition 7 - N
　　Partition 4 - N　　　　Partition 8 - N

Date Schedule - 03 is programmed with;

Interval 1		**Interval 2**	
Start Time	0730	Start Time	1630
End Time	0930	End Time	1830
Sunday	N	Sunday	N
Monday	Y	Monday	Y
Tuesday	Y	Tuesday	Y
Wednesday	Y	Wednesday	Y
Thursday	Y	Thursday	Y
Friday	Y	Friday	Y
Saturday	N	Saturday	N
Holiday 1	N	Holiday 1	N
Holiday 2	N	Holiday 2	N
Holiday 3	N	Holiday 3	N
Holiday 4	N	Holiday 4	N
Autoarm	N	Autoarm	N
Autodisarm	N	Autodisarm	N

Intervals 3 - 4 are left unprogrammed.

In this example Open/Close Suppression schedule 05 will suppress openings for partitions 1 and 2, following Date Schedule 03 Monday to Friday 7:30AM to 9:30AM and 4:30PM to 6:30PM. In this example Holiday Schedules and Autoarm/Disarm Schedules are not used.

Notes: In an opening suppression window if a partition is disarmed with alarms in memory the opening (or Autodisarming) and opening after alarm will be transmitted. In a opening/ closing suppression window the openings and closings will be logged to the event buffer, but no transmission will be made for the event.

<table>
<tr><td>

DATE SCHEDULES
(1)

</td><td>

Date Schedules are used by the panel to control the times that an event will occur. There are 99 Date schedule each containing 4 intervals. Date schedules are used by Open/Close Suppression Schedules, Holiday Schedules, Autoarm/AutoDisarm Schedule and the Date Schedule Output (See PGM OUTPUT OPTIONS).

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Interval - An Interval is used by the control panel to determine the time(s) and day(s) that a schedule is to be active and if the schedule should follow a Holiday Schedule or AutoArm/AutoDisarm schedule.

Each Interval contains the following programming Items:
- **Start Time** - Indicates the time of day that the schedule Interval will start. Valid entries are from 00:00 to 24:00. And 9999- Default is 0000.
  Note: If two Intervals in a schedule are programmed for the same start time the schedule will follow the longest End Time.
- **End Time** - Indicates the time of day the schedule Interval will end. Valid entries are from 00:00 to 24:00. And 9999 - Default is 0000.
  NOTE: The End Time must be equal to or greater than the Start Time.
- **Day Toggles** - Each day of the week may be selected to be active for the interval. - Default each Day is off (N).
- **Holiday Group Toggles** - These toggles allow the Interval to follow a Holiday Schedule(s). Each Interval may follow any of the 4 Holiday Schedules. - Default each Holiday Group is off (N).
- **Autoarm** - This will enable the Interval to Autoarm any partition(s) selected by the "Arm/Disarm Sched" - Default Autoarm is set to N.
- AutoDisarm This will enable the Interval to AutoDisarm any partition(s) selected by the "Arm/Disarm Sched" - Default AutoDisarm is set to N.
  Note: Do not program an Interval with both Autoarm and AutoDisarm enabled. For the Autoarm AutoDisarm feature to work they must be put into separate Intervals.

Each Date Schedule may be used to control more than one schedule type at a time. One schedule could be programmed to follow an Autoarm/disarm schedule, opening/closing suppression schedule, or Date Schedule output. These items can all be programmed to follow the same schedule.

Each Interval is independent of each other, but any of the scheduled items that are programmed to follow the Schedule will follow all intervals.

To Program The On Times Under 1 Minute

When using the Date Schedule output and the on time duration is to be less than one minute the outputs "Pulse Timer" must be programmed to be between 01 and 59. If the pulse timer is programmed to be [00] the output will remain active until the End Time of the schedule occurs.

Activating Outputs For Specific Dates

In order for a Date Schedule to become active for a specific day of the year a Holiday Schedule Group can be programmed for the desired day and then assigned to an interval on the Date schedule. Do not program a day of the week, this will allow the Date Schedule to activate at the Start Time of the day and remain active until the End Time of the that day.

Turning A Schedule On or Off

Programming 9999 into the start time will allow the schedule to deactivate at the end time. This is useful when an X-10 Item is to be turned off at a specific time. The output will deactivate regardless of its state (on or off). Programming 9999 into the End Time will allow the schedule to activate and not have an End Time. This will allow the schedule to be active for more than one day if desired. The schedule can then be deactivated by another interval at a desired time.

Example:

An Example of Date Scheduling to control a programmable output is:

    Main PGM output programmed to be a Date Schedule output following
        Date Schedule - 04
        Pulse Timer - 10
    PC4204 - output number 2 programmed to be a Date Schedule following
        Date Schedule number 04
        Pulse Timer - 00
    Date Schedule 04 programmed with

Interval 1		Interval 2		Interval 3		Interval 4	
Start Time	0830	Start Time	1200	Start Time	1230	Start Time	1700
End Time	0900	End Time	1230	End Time	1231	End Time	1800
Sunday	N	Sunday	N	Sunday	N	Sunday	N
Monday	Y	Monday	Y	Monday	Y	Monday	N
Tuesday	Y	Tuesday	Y	Tuesday	Y	Tuesday	N
Wednesday	Y	Wednesday	Y	Wednesday	Y	Wednesday	N
Thursday	Y	Thursday	Y	Thursday	Y	Thursday	N
Friday	Y	Friday	Y	Friday	Y	Friday	N
Saturday	N	Saturday	N	Saturday	N	Saturday	N
Holiday 1	N	Holiday 1	N	Holiday 1	N	Holiday 1	N

Holiday 2	N	Holiday 2	N	Holiday 2	N	Holiday 2	N
Holiday 3	N	Holiday 3	N	Holiday 3	N	Holiday 3	Y
Holiday 4	N	Holiday 4	N	Holiday 4	N	Holiday 4	N
Autoarm	N	Autoarm	N	Autoarm	N	Autoarm	N
Autodisarm	N	Autodisarm	N	Autodisarm	N	Autodisarm	N

Holiday Group #3 - Is programmed with the following day 1225 (December 25)

In this example the Main PGM output will activate 3 times during the day, Monday to Friday at 8:30AM,12:00PM,12:30PM for ten seconds each time (this was done by programming the PGM output pulse timer to 10 instead of leaving it at 00). This output will also activate for December 25 (1225) at 5:00PM for 10 seconds regardless of what day of the week it is. PC4204 relay number 2 will activate on the same days (as well as December 25) and at the same time but will remain on until the programmed End Time occurs. This was accomplished by programming 00 into the PGM output Pulse Timer section for that output.

```
HOLIDAY SCHEDULE
              (2)
```

Holiday Schedules are used by the panel to provide exceptions to the scheduled events. Open/ Close Suppression, Date Schedules, and Arm/Disarm Scheduling are capable of following Holiday Schedules. There a re 4 Holiday groups that can have as holidays programmed as there are days in the year. Select the Holiday group to be edited (1-4) and the display will prompt with "Enter Date". This is a 4 digit entry for the month and day (MM/DD). Once the date has been entered the year will be auto programmed for the selected date. If the date programmed has not occurred yet for the present year then the present year will be auto inserted into the date. If the date has already occur for the year then the next year will be auto inserted. Once a Holiday Schedule has occurred the holiday will be erased from memory allowing for a new schedule to be placed into the programming section.

Sections to be programmed for Holiday Schedules are
　　Holiday Group 1-4 - default is 1
　　Date - There can be up to 366 (leap year) days programmed into each of the Holiday groups
An Example of Holiday Scheduling is:
　　Date Schedule 04 is programmed with

Interval 1		Interval 2		Interval 3		Interval 4	
Start Time	0800	Start Time	1800	Start Time	2200	Start Time	2200
End Time	0801	End Time	9999	End Time	9999	End Time	9999
Sunday	N	Sunday	N	Sunday	Y	Sunday	N
Monday	Y	Monday	Y	Monday	N	Monday	N
Tuesday	Y	Tuesday	Y	Tuesday	N	Tuesday	N
Wednesday	Y	Wednesday	Y	Wednesday	N	Wednesday	N
Thursday	Y	Thursday	Y	Thursday	N	Thursday	N
Friday	Y	Friday	Y	Friday	N	Friday	N
Saturday	N	Saturday	N	Saturday	Y	Saturday	N
Holiday 1	N	Holiday 1	N	Holiday 1	N	Holiday 1	N
Holiday 2	Y	Holiday 2	Y	Holiday 2	N	Holiday 2	Y
Holiday 3	N	Holiday 3	N	Holiday 3	N	Holiday 3	N
Holiday 4	N	Holiday 4	N	Holiday 4	N	Holiday 4	N
Autoarm	N	Autoarm	Y	Autoarm	Y	Autoarm	Y
Autodisarm	Y	Autodisarm	N	Autodisarm	N	Autodisarm	N

Holiday Schedule 02 is programmed with the following day: 1225
Arm/Disarm Schedule 05 is programmed with the following data.
　　　Schedule Number - 04
　　　Partition 1 - Y　　　Partition 5 - N
　　　Partition 2 - Y　　　Partition 6 - N
　　　Partition 3 - N　　　Partition 7 - N
　　　Partition 4 - N　　　Partition 8 - N
PC4204 # 10 output number 3 this programmed as a Date Schedule Output with the pulse timer programmed as 00.

In this example Partition one will Autodisarm Monday to Friday at 8:00AM and AutoArm at 6:00PM Monday to Friday.On Saturday and Sunday the partition will autoarm at 10:00PM. Interval 4 is programmed to activate the schedule on 1225. When December 25 occurs the partition will AutoArm at 10:00PM regardless of the day of the week.. Because interval 1 and 2 follow holiday schedule number 2 as well the programmed events will not occur on that day. PC4204 #10 output #3 will activate whenever following the same pattern as the autoarming and auto disarming schedule does.

Note: Be sure the system Time and Date are set before programming Holiday schedules.

```
ARM/DISARM SCHED
           (3)
```

Arm/Disarm Scheduling is used by the panel to control when a partition will Auto Arm or Auto Disarm. There are 50 schedules that may be used to program when the Auto Arming/Disarming will occur. Once the schedule is selected the display will show "Enter Sch.#" on the top line of the display. This is the Date Schedule that the partition(s) that are selected will follow for the Auto Arm or Auto Disarm schedule. Next the display will prompt to select the partition(s) that are to be enabled on this schedule. Used the [<][>] keys to scroll the to the partition(s) to be selected. Press [★] to changed the toggle option from "N" to "Y".

Sections to be programmed for Arm/Disarm Scheduling are:
    Date Schedule 01-99 - Default 01
    Partition Mask - Default all off.
An Example of Auto Arm/Disarm Scheduling is:
    Arm/Disarm Schedule 25 programmed with
        Date Schedule 11
        Partition 1 - Y   Partition 5 - N
        Partition 2 - N   Partition 6 - N
        Partition 3 - N   Partition 7 - N
        Partition 4 - N   Partition 8 - N
Date Schedule 25 programmed with

Interval 1		**Interval 2**		**Interval 3**	
Start Time	1830	Start Time	0830	Start Time	1030
End Time	1831	End Time	0831	End Time	1031
Sunday	N	Sunday	N	Sunday	Y
Monday	Y	Monday	Y	Monday	N
Tuesday	Y	Tuesday	Y	Tuesday	N
Wednesday	Y	Wednesday	Y	Wednesday	N
Thursday	Y	Thursday	Y	Thursday	N
Friday	Y	Friday	Y	Friday	N
Saturday	N	Saturday	N	Saturday	Y
Holiday 1	N	Holiday 1	N	Holiday 1	N
Holiday 2	N	Holiday 2	N	Holiday 2	N
Holiday 3	N	Holiday 3	N	Holiday 3	N
Holiday 4	N	Holiday 4	N	Holiday 4	N
Autoarm	Y	Autoarm	N	Autoarm	Y
Autodisarm	N	Autodisarm	Y	Autodisarm	N

In this example Partition 1 will AutoArm Monday to Friday at 6:30PM and Auto Disarm Monday to Friday at 8:30AM. On Saturday and Sunday the partition will autoarm at 10:30PM.

Note: For Auto Arming and Auto Disarming schedule to function on a partition the following toggle options must be enabled:
- A Date Schedule must be programmed with Autoarm or Autodisarm enabled **(Do Not Program A Single Interval With Autoarm And Autodisarm Enabled)**.
- Partition toggle option "AutoArm /Dis." must be enabled.
- User Function toggle option "Auto Arm" must be enabled for "Schedule Arm" to function. The Auto Arm toggle option has no effect on the "Sched. Disarm" toggle option. To disable a scheduled disarm only "Sched. Disarm" has to be disabled.
- User Function Toggle option "Schedule Arm" or "Sched. Disarm" must be enabled.

ADD/EDIT PARTITIONS

ADD/EDIT PAR (0)	Add/Edit Partition. Default settings has only the first partition enabled. To enable more partitions, select the Add/Edit partition section, then select the partition. The partition is now enabled.
WHICH PARTITION (1)➔(8)	The PC4020 can be divided into 8 partitions. This section selects which of the 8 partitions the installer is programming.
CUSTOMER ID CODE (0)	Each partition has its own 4 digit customer account number that will be transmitted to the monitoring station when a reporting code is sent. The monitoring station can then identify the customer. Where a zero digit is required, use Hex A to transmit ten pulses. The receiver at the monitoring station interprets ten pulses as a zero. If a three digit code is required, enter [0] as the last digit. [0] represents a null digit, no pulses will be transmitted.

Partition Toggles

PAR TOGGLES (1)	Enabling or disabling options for individual partitions.
[F] ENABLED Y	[F] Key Enabled? YES = The [F]ire key is enabled. NO = The [F]ire key is disabled. (See "KEYPAD TOG OPT".)
[A] ENABLED Y	[A] Key Enabled? YES = The [A]uxiliary key is enabled. NO = The [A]uxiliary key is disabled. (See "KEYPAD TOG OPT".)
[P] ENABLED Y	[P] Key Enabled? YES = The [P]anic key is enabled. NO = The [P]anic key is disabled. (See "KEYPAD TOG OPT".)
DISPLAY CLOCK Y	Display Clock? YES = The time and date will be displayed on every keypad of the partition instead of the "ENTER CODE TO ARM SYSTEM" message after 10 seconds of no key presses. NO = No clock display.
DISP EXIT TIME Y	Display Delay Exit Time? YES = The exit delay time remaining will be displayed in the lower corner on all keypads on the partition during the exit delay. NO = No exit time display.
BYPAS REQ CODE Y	Bypass requires an Access Code? YES = Bypassing zones requires a valid access code ([✱][1][code]), either a System Master code or an access code assigned to that partition. NO = No access code required to bypass zones. ([✱][1])
AUTOARM/DIS Y	Auto Arming/Auto Disarming? YES = Auto Arm control enabled. NO = Auto Arm control disabled. If disabled, the user will not be able to enter the Auto Arm control menu in the [✱][6] user functions. ***Note: The panel will not auto arm or auto disarm, if there is a loss of time trouble present on the system.***
ABORT REQ CODE N	Auto Arm Abort requires an Access Code? YES = An access code must be entered during the auto-arm pre-alert to abort the auto arm. NO = Pressing any key during the pre-alert will abort the auto arm. ***Notes: If the Auto Arm Abort Code is programmed it will be sent for one of these conditions. Auto Arm Abort requires access code must be enabled for CTT arming to function properly.***

| AUTOARM SQUAWK | | N |

Auto Arm Squawk?
YES = The bell output will activate for one second every ten seconds during the auto-arm pre-alert.
NO = The bell output will not activate during auto-arm pre-alert.

| BELL SQUAWK ON | | N |

Bell Squawk On?
YES = The bell output will activate once briefly when the partition is armed, twice when disarmed. Only the bell terminals on the PC4020 main board, when programmed for "Fire and Burg", "Inv Fire/Burg", "Burg Only" or "Inv Burg Only", will squawk.
NO = Bell Squawk disabled.

| KYPD LOCKOUT? | | N |

Keypad Lockout?
YES = Keypad Lockout enabled.
NO = Keypad Lockout disabled.
      (See "TOTAL BAD CODES", "LOCKOUT DURATION" and "LOCKOUT REP CODE".)

| UTIL REQ CODE | | N |

Utility Output requires an Access Code?
YES = Utility output requires a valid access code - [✶] [7] [access code].
NO = No access code required - [✶] [7].
(See "UTILITY OUTPUT".)

| SEN RES REQ CD | | N |

Sensor Reset requires an Access Code?
YES = Sensor Reset Requires Code - [✶] [4] [access code].
NO = Sensor Reset does not require a code - [✶] [4].
(See "SENSOR RESET".)

| USER FN ANY CD | | N |

User functions any code?
YES = User functions require [✶] [6] [any code].
NO = User functions require [✶] [6] [Master Code]. This means a Grand Master, System Master or a Supervisory Code assigned to that partition.

| AUD.EXIT URGEN | | N |

Audible Exit Urgency?
YES = 1 beep every second on keypad. During the last 10 seconds, keypad will beep 3 times per second.
NO = Keypad is silent during exit delay.

| SQUAWK EX.DEL | | N |

Bell Squawk Exit Delay?
YES = Bell squawks once every second on exit delay. During the last 10 seconds, bell will squawk twice every second.
NO = Silent bell on exit delay.

| AUD.EXIT FAULT | | N |

Audible Exit Fault?
YES = A standard delay will sound the siren for entry delay if zone is still violated at the end of exit delay.
NO = Siren will not be on for entry delay if zone is still violated at the end of exit delay.

| URG.ENTRY DEL | | N |

Urgency during the Exit Delay?
YES = During the last 10 seconds of entry delay, keypad beeps 3 times per second.
NO = Keypad entry is steady.

| SQUAWK EN.DEL | | N |

Bell Squawk Entry Delay?
YES = Bell squawks once every second on entry delay. During the last 10 seconds, bell will squawk twice every second.
NO = Bell is silent during entry delay.

EXIT DEL TERM
N

Exit Delay Termination?
YES = During the exit delay if a Standard Delay zone is tripped and restored then the exit delay will be reduced to 5 seconds. Audible Exit Delay and Exit Delay Squawk will be terminated upon the restoral of the standard delay zone. At the end of the shortened exit delay all functions will return to normal, and the partition will be armed.
NO = The exit delay will count down for the full programmed duration.

GLOB ALM ANNUN
N

Global Alarm Annunciation?
Yes = This system toggle will allow the partition keypads to sound the buzzer (5 seconds on and 5 seconds off) and display the message "Partition X In Alarm" (where Partition X is the programmed label of the partition) when any other partition is in alarm. The buzzer will be silenced and the message cleared form the keypad display when the alarm has been silenced or any key is pressed on the keypad. By default this option is set to No.
No = No notification of the alarm will be given on the Global Keypad.
Note: It is recommended that global alarm annunciation is enabled on multi partition systems.

FULL SYS. STAT
N

Full System Status Enunciator
Yes = Enables the Partition Status Enunciator on partition keypads. Partition keypads will display the status of all active partitions on the system.
No = Partition keypads will not display the Partition Status Enunciator.
Note: This option overrides the clock display option.

Partition Times

PARTITION TIMES
(2)

The following programming sections are for programming various times separately for each partition.

ENTRY DELAY
(0)

The keypads will give a tone to signal an entry delay when a Standard Delay zone or a Delay Home Away zone is activated. This gives the user time to disarm the system when they enter through a door. The entry delay time is programmable from 000 to 255 seconds (see Standard Delay zones and Delay Home Away Zone Types). The default setting is 030.

EXIT DELAY
(1)

When a system is armed, the zones will not become active until the exit delay has expired, this gives the user time to exit the building without tripping alarms. The exit delay time is programmable from 000 to 255 seconds. This time can be displayed on the keypad (see "Disp Exit Time"). The default setting is 120.

AUX ENTRY DELAY
(2)

This entry time is for auxiliary delay zones, for doorways that may need a longer entry delay than standard delay zones. This time is programmable from 000 to 255 seconds (See Auxiliary Delay Zone Types). The default setting is 045.

AUX EXIT DELAY
(3)

This exit time is for auxiliary delay zones, for doorways that may need a longer exit delay than standard delay zones. This time is programmable from 000 to 255 seconds (See Auxiliary Delay Zone Types.). The default setting is 120.
Note: The auxiliary entry/exit delays should not be shorter than the standard entry/exit delay times.

CTT TIME
(4)

This is the amount of time the panel will wait before CTT arming. Valid entries are from 000 to 255. The timer value is the programmed value multiplied by 5 minutes. Programming a value of 000 will disable this feature.
- The CTT timer will begin when the partition is disarmed.
- 15 minutes before the CTT arming takes place, the CTT arming prealert will begin. The keypads will beep once every 4 seconds and the keypads will display the message

CTT ARMING
IN PROGRESS...

- At 5 minutes before the CTT arming takes place the keypads will beep twice every four seconds (urgency)
- At 1 minute before the CTT arming the panel will begin the normal autoarm procedure.
If a valid access code with the disarmed bit enabled is entered during the CTT arming prealert, a user log will be logged to the event buffer and the CTT timer will be set to 1 hour. If the access code is entered during the autoarm prealert, the panel will log and transmit an autoarm abort reporting code.
Notes: For the CTT arming feature to function properly, the autoarm abort requires access code option must be enabled.
During the CTT arming prealert, the Escort4580 will prompt the user with autoarm active.

Zone Assignment

ZONE ASSIGNMENT (3)

This section is for assigning type and options for each individual zone.

ADD NEW ZONE (0)

By default, the first 16 zones on the main panel are assigned to partition 1. If zone expanders have been enrolled, the zones must be added to a partition for the PC4020 to be able to monitor them. Upon entering this section, the zones which have not been assigned to the selected partition will be displayed. Use [<][>] keys to scroll through the zones, and the [✱] key to select which zone to add to the selected partition.

Global Zones: If zone(s) are added to more than one partition (global zones), the zone(s) will follow the following rules:
- A global zone is not armed until all partitions which the zone belongs to are armed.
- A global delay zone will follow the longest delay of all partitions which it is assigned to. For example, if Partition 1 has an entry delay of 30 seconds and Partition 2 has an entry delay of 45 seconds, the global delay zone will not be in alarm until Partition 2 finishes with its entry delay.
- If one or more partitions that a global interior home-away zone(s) belongs to is [✱] [9] armed (At-home Armed), and the other partitions which the zone(s) belongs to are not, the zone will not be active until the interior zones are activated ([✱] [1]).
- If a global zone is manually bypassed and any partition that the zone belongs to is disarmed, the bypass will be removed from the zone.

EDIT ZONE (1)

This section is for editing zones which have already been assigned to a partition. Upon entering this section, the zones which have been assigned to the selected partition will be displayed. Use the [<] [>] keys to toggle through the zones, and the [✱] key to select the zone to edit.

DELETE ZONE (2)

Deleting zones from the partition. When selecting which zone to delete, the keypad will only display zones which are assigned to the partition.

ZONE LABEL (0)

Each zone can have its own unique label to help identify it on the LCD keypad. Upon first entering this section, the LCD will display the current zone label. See 'Label Programming' in Event Messages.
Note: The maximum length of the zone label is 14 characters.

Zone Type

ZONE TYPE (1)

Select the zone type for the selected zone. Upon entering this section, the current programmed zone type is displayed.
For example, zone 001 will display 'Standard Delay' the first time it is programmed. The default setting is for Standard Delay. All other zones (002 through 128) are instant zones by default.
Note: Every time a new zone type is selected, the zone options for the selected zone will be set to a default setting. The default setting will be different depending on the zone type selected.

Zone Options / **Zone Type Default Settings**

Zone Options	Standard Delay	Auxiliary Delay	Instant	Interior	Int Home Away	Delay Home Away	24 hr Bell	24 hr Bell/Buzz	24 hr Buzzer	Standard Fire	Delayed Fire	Auto Ver Fire	Momentary Arm	Maintained Arm	Latching 24 hr	Forced Answer	Links Supervisory	Links Answer	Sprinkler	Hold Up	Panic	Technical
Bell Audible	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N
Bell Pulsed	N	N	N	N	N	N	N	N	N	Y	Y	Y	N	N	N	N	N	N	Y	N	N	N
Bypass Enabled	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	Y	Y	Y	N	N	N	N
Chime Function	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Force Arm	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	N	N	N
Swgr Shut Down	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Tx Delay ?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

For example, if zone 009 is programmed for zone type "24 HR BUZZER", the zone options "BELL AUDIBLE" and "BYPASS ENABLED" will be enabled, and all other options will be disabled for zone 009.

```
STANDARD DELAY
           (00)
```

Standard delay zones have an entry and exit delay. The exit delay starts as soon as the panel is armed. The loop may be opened and closed during the delay time without causing an alarm. After the exit delay time has expired, opening the loop will start the entry delay timer. During the entry delay time, the keypad 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.

```
AUXILIARY DELAY
           (01)
```

The auxiliary delay zone operates the same way as the standard delay zone. However different entry/exit times may be programmed. This is useful when a system has two delay zones, each requiring a different entry/exit time.

```
INSTANT
           (02)
```

The zone opened will activate instantly after the partition is armed and the exit delay has expired.

```
INTERIOR
           (03)
```

The zone will follow the entry time of a delay zone. If no delay zone has been tripped the zone will activate instantly.

```
INT HOME AWAY
           (04)
```

The zone will operate the same as the interior option with one exception: the zone will automatically bypass if no delay zone on the partition is tripped during exit delay.

```
DELAY HOME AWAY
           (05)
```

The zone will operate the same as the Interior Home/Away option with one exception: the zone has entry delay.

```
24 HR BELL
           (06)
```

A 24 Hour Bell zone is active at all times, and will create an alarm whether the partition is armed or disarmed. This zone will not go into alarm if the zone is bypassed.

```
24 HR BELL/BUZZ
           (07)
```

This zone operates like the 24 hour bell option except the bell output terminals are activated when the partition is armed, and the keypad buzzer will be activated when the partition is disarmed.

```
24 HR BUZZER
           (08)
```

Operates the same as the 24 hour bell, except this zone will only activate the keypad buzzer. The buzzer will remain active until Bell Time out.

```
STANDARD FIRE
           (09)
```

A fire zone is a 24 Hour zone that is specially used for fire detection circuits. On alarm, the bell output will pulse the bells to indicate that the fire loop has been activated. The communicator will immediately transmit the alarm to the monitoring station if a reporting code is programmed.
If the fire zone is open circuit, the keypads will beep every 10 seconds and a fire zone trouble will be displayed on the LCD. If programmed the communicator will transmit the trouble to the monitoring station. The keypad beeping may be silenced by pressing any key.
Note: Do NOT program fire zones as silent and do NOT use the Double EOL resistors with this zone type.

```
DELAYED FIRE
           (10)
```

This fire zone works the same way as a 24 Hour fire zone, except the alarm memory and transmission by the communicator is delayed by 30 seconds. If the alarm is acknowledged by pressing any key before the 30 second delay expires, the bells will silence and the transmission will be aborted.
If after the alarm has been acknowledged, and the smoke detector has not been restored to normal, after 90 seconds the bell output will be activated again, in which the user then has another 30 second delay before the bell output latches and communicator are activated. A code would then be required to silence the bell output.
Note: Do NOT program fire zones as silent and do NOT use the Double EOL resistors with this zone type.

```
AUTO VER FIRE
           (11)
```

Automatically Verifying Fire Zone.
This zone works the same way as the Standard Fire Zone with the exception that it will reset the smoke detectors and wait for it to go into alarm again before sounding the bells and transmitting the alarm to the monitoring station. If the smoke detectors do not go into alarm again, it assumes there is a false alarm and no fire alarm will be initiated.
For activating an automatically verifying fire zone, the smoke detectors must be powered by the SW AUX power supply on the main panel, or controlled by a relay on a PC4204 module. Otherwise the PC4020 has no control over the power to the sensors.
When an automatically verifying fire zone is shorted, the PC4020 performs a "SENSOR RESET", which removes the power from the smoke detectors for 20 seconds. All SW AUX, BELL or PGM outputs programmed for "SENSOR RESET" will be activated. The outputs will be deactivated for 20 seconds, regardless of the time programmed in the "PGM PULSE TIMES" section. After the 20 second reset pulse time, power will be restored to the sensors and all fire zone troubles will be bypassed for 10 seconds to allow the detectors to settle.

If the smoke detectors initiate another alarm within 60 seconds after the power is restored, a fire alarm will immediately sound and the monitoring station will be notified.

If the smoke detector is not reset during the sensor reset, the zone will not be restored. Because the zone is not restored, a fire alarm will be initiated immediately.

See PGM OUTPUTS for programming an output as "SENSOR RESET", "Smoke Detector Power Supply" on the PC4204 Wiring Diagram for using the PC4204 to power up the smoke detectors, and PC4020 Wiring Diagram in the System Manual for using the SW AUX on the main panel to power up the smoke detectors.

Note: Do NOT program fire zones as silent and do NOT use the Double EOL resistors with this zone type.

```
MOMENTARY ARM
            (12)
```

A momentary closure of this zone will alternately arm and disarm the partition. This zone can be used as a key switch to arm and disarm the system. The zone is monitored for End of Line resistors if the "ZONES EOL" option is enabled in the system options.

Notes: This zone type must not be used as a global zone.

```
MAINTAINED ARM
            (13)
```

When the zone is closed the partition will disarm. When the zone is opened the partition will be armed. The zone is monitored for End of Line resistors if the "ZONES EOL" option is enabled in the system options.

```
LATCHING 24 HR
            (14)
```

The zone will operate the same as the 24 hour bell option with one exception: the installer's mode ([✶][8]) must be entered before the system can be armed. This will ensure the problem has been examined by the installer.

```
FORCED ANSWER
            (15)
```

When this zone is tripped, the panel will instantly pick up the phone lines looking for a downloading computer. Do not use this zone type to monitor for alarms.

```
LINKS SUP
            (16)
```

"Links Supervisory" is used with the Links cellular communications unit to monitor for Links troubles. When the Links PGM output activates, a Links trouble will be logged on the event buffer and the zone trouble transmitted. This zone type may be programmed through the Links Toggle Option section.

Note: If Partial Closings identify alarms are used the Alarm Reporting Code must be programmed for the feature to function properly. Do NOT use the Double EOL resistors with this zone type.

```
LINKS ANSWER
            (17)
```

It provides the Links with a forced answer for downloading purposes. This zone type may be programmed through the Links Toggle Option section.

Note: Do NOT use the Double EOL resistors with this zone type.

```
SPRINKLER
            (18)
```

A Sprinkler zone is a 24 hour zone that is specifically used for sprinkler alarm circuits. On alarm, the keypad buzzer will activate and the message "Sprinkler Zone In Alarm" will be displayed until the zone has been restored. If enabled the communicator will immediately transmit the alarm to the monitoring station if a reporting code is programmed. If the Sprinkler zone is open circuit the keypads will beep every 10 seconds and a sprinkler supervisory trouble will be sent to the monitoring station. The message "Fire Trouble !! <> To View" will be displayed until the zone has been restored. ***Note: Do not use Double EOL with the sprinkler zone.***

```
HOLD UP
            (19)
```

This zone type is a 24 hour silent zone. This output does not activate Burg. outputs or the Latched Strobe output (See Comms Format - for a list of Identifiers sent where applicable).

```
PANIC
            (20)
```

This zone type is a 24 hour silent zone. This output does not activate Burg. outputs or the Latched Strobe output (See Comms Format - for a list of Identifiers sent where applicable).

```
TECHNICAL
            (21)
```

This zone type is a 24 hour silent zone. This output does not activate Burg. outputs (See Comms Format - for a list of Identifiers sent where applicable). Typical application of the zone is for supervisory of equipment (i.e. Freezers).

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Zone Options

| ZONE OPTIONS (2) | Enabling or disabling options by zone. |

| BELL AUDIBLE Y | Bell Audible?
YES = An alarm causes the bell output to activate.
NO = Silent alarm. |

| BELL PULSED N | Bell Pulsed?
YES = The bell output will pulse when the zone is in alarm.
NO = The bell output will be steady when the zone is in alarm. |

| BYPASS ENABLED Y | Zone Bypass Enabled?
YES = The zone may be manually bypassed.
NO = The zone cannot be bypassed. |

| CHIME FUNCTION Y | Door Chime Function?
YES = Every keypad on the partition will chime both when the zone is violated and when the zone is then secured. The partition must be disarmed for the chime option to function.
NO = The zone will not chime the keypads. |

| FORCE ARM N | Zone can force arm?
YES = The partition may be armed with the zone violated. The zone will be temporarily bypassed, and when the zone is secured it will be added back into the system.
NO = The partition cannot be armed if this zone is open. |

| SWGR SHUT DOWN Y | Swinger Shut Down?
YES = After a zone causes a programmed number of alarms, the zone will shut down so that no further transmissions are sent to the monitoring station. The bell can follow Swinger Shut Down if programmed. (See "Shut Down 24 Hrs ", "Swinger Limit" and "Bell Shut Down.)
NO = Swinger Shut Down disabled. |

| TX DELAY ? N | Transmission Delay?
YES = The reporting of zone alarm will be delayed for the programmed time. If the system is disarmed within this time, no alarm signal will be communicated. (See "Zone TX Delay".)
NO = When an alarm occurs, the reporting code is transmitted immediately. |

Partition Label

| PAR NAME LABEL (4) | Programming a partition name label. This label is programmed in the same manner as LCD messages or custom zone ID (see "Event Messages").
Note: The maximum length of the partition name label is 14 characters. |

DELETE/COPY PARTITION

DELETE PARTITION (1)	Disables a partition. If a partition is deleted, it does not erase any programming assigned to it, so if the installer decides to re-enable the partition, the programming is still there. ***Note: When a partition is deleted, the zones assigned to it are removed from the Zone Assignment.***
COPY PARTITION (2)	Copies a partition. Copies the programming from one partition to another one. This includes the Customer ID Code, Partition Toggles, Partition Times and the Partition Name Label. The zone assignment is not copied.

MODULE HARDWARE

Enroll Module

ENROLL MODULE (0)

Each time a module is added, it must be enrolled on the system.
When adding modules to the system ensure that the power is off when connecting the COMBUS wiring.

LCD4500 KEYPADS (0)

'Press Any Key On Desired Unit' will be displayed on the keypad being used for programming. After the module has been added it will display its module number. Then press any key and the display will prompt with "Select (01)" on the top line of the LCD display. The second line of the display will prompt with 9 options. Options 01 through 08 are partition assignments, and options 09 is global keypad.
Note: To change the partition to which a keypad is assigned to, the keypad must be deleted and then re-enrolled with the new partition mask selected.

PC4400 (1)

'Create Tamper On Desired Unit' will be displayed on the keypad being used for programming after the module has been chosen to be added. Open the tamper zone to enroll the module.

DVAC ENABLED ▓

After the module is enrolled the installer will be prompt with this option.
YES = PC4400 module will be used for DVAC communications.
NO = PC4400 module will be used with a serial printer.

PC41XX ZONE EXP. (2)

"Create Tamper On Desired Unit" will be displayed on the keypad being used for programming after the module type has been chosen to be added. Open the tamper zone to enroll the module. There are three types of zone expansion module capable of being used on the PC4020 control panel. The PC4108, the PC4116, and the PC4164. The PC4108/16 are 8/16 zone expansion modules comprised of wired zones capable of being programmed as any zone type the PC4020 can provide. The PC4164 is a 64 zone wirless expansion module. The PC4164 support all zone types that are provided by the PC4020 except Fire zones, the Links Supervisory and Links Answer zone types. See RF Zone Options for details on assigning wireless zones to the module. Note: When enrolling zone expansion modules zone above 128 will not be accessible in the programming sections.

PC4216 16 O/P (3)

'Create Tamper On Desired Unit' will be displayed on the keypad being used for programming after the module has been chosen to be added. Open the tamper zone to enroll the module.

LAMP TEST? N

YES = This module will activate all outputs when a lamp test is performed.
NO = This module will not activate all outputs when a lamp test is performed.

PC4204 4 O/P (4)

'Create Tamper On Desired Unit' will be displayed on the keypad being used for programming after the module has been chosen to be added. Open the tamper zone to enroll the module.
Note: The keypad being used to program with will indicate the module number after the module has been tampered. Make sure this number is recorded on the module programming work sheets.

PC4700 (5)

"Looking For Fire Module..." will be displayed on the keypad being used for programming when this module type has been selected. The PC4700 Fire Module does not require a tamper to be enrolled. This module type will "auto-enroll" itself onto the system once this selection has been made. If the enroll of the module is successful then the keypad will display the message "PC4700 Fire Mod 01 Enrolled". Only one PC4700 module may be used on the system at a time. If the module can not be found by the control panel, the message "PC4700 Fire Mod Not Present" will be displayed on the keypad. Recheck the connection between the control panel and the PC4700 referring to the module work sheet.

| ESCORT 4580 |
| (6) |

"Looking For 4580 Module..." will be displayed on the keypad being used for programming when this module type has been selected. The Escort4580 Voice Prompting Module does not require a tamper to be enrolled. This module type will "auto-enroll" itself onto the system once this selection has been made. If the enroll of the module is successful then the keypad will display the message "4580 Mod 01 Enrolled". Press any key and the display will prompt with "Select (01)" on the top line of the display, and on the bottom line will be the partition name that the module is going to be assigned to. Options 01 through 08 are partition assignments and option 09 is Global Module. The Escort4580 will behave as a keypad on the partition it is assigned to. Only one 4580 module may be used on the system at a time. If the module can not be found by the control panel, the message "4580 Mod Not Present" will be displayed on the keypad. Recheck the connection between the control panel and the Escort4580 referring to the module work sheet.

Delete Module

| DELETE MODULE |
| (1) |

Before removing any module from the system be sure to first delete the module from the system. To delete a module from the system first select the module class (e.g. LCD4500). Then select the module number (e.g. Module #05) to be removed from the system, by either scrolling to the selected module an d pressing the [✶] key or entering the digits directly (LCD4500 #05) would be deleted.
Notes: If the module number is not know use CONFIRM MODULE to verify the Module number before attempting to delete the module. The PC4700 Fire Module and the Escort4580 Voice Prompting Module will not require the module number to be entered in order to delete the module.
DVAC module must be deleted before removing from the system.

Confirm Module

| CONFIRM MODULE |
| (2) |

This is used to identify a module on the system in case the module number has been lost and further programming on that module is desired. Once the tamper is created the keypad display will indicate the module number.
Note: The PC4700 and Escort4580 Confirm without Keypresses or Tamper being performed.

RF Zone Options

| RF ZONE OPTIONS |
| (3) |

RF Zone option refer the wireless zone modules that may be enrolled onto the system when using the PC4164. This section will only be made available when the PC4164 is enrolled. This section will describe the procedure for enrolling, deleting, placing and defaulting the PC4164 zones.

| ENROLL RF ZONE |
| (0) |

This section is used to assign a wirless zone to the PC4164. Unlike the PC4108 and the PC4116 zone must be assigned to the module and then assigned to the partition. "Enroll RF Zone" allows the PC4164 know which zones belong to the module. When this section is entered the display will read "Enroll RF Zone" on the top line of the Display and "Serial # [   ]" on the bottom line of the LCD. Enter in the 5 digit serial number (SN:XXXXX) found on the bottom of the zone transmitter section. Once the serial number has been entered the keypad display will show the "RF Zone enrolled" on the top line to the display and "Zone XXX" on the bottom line of the display(where XXX is the actual zone number the module is assigned to on the control panel). As the zones are enrolled the serial number will fill the first available empty position. Example if zones 17 to 23 are used but zone 20 is empty the next zone that is enrolled will be placed in zone number 20 position.
NOTE: The PC4164 supports wireless door contacts and motion detectors.

| DELETE RF ZONE |
| (1) |

This section allow the wireless zone to be deleted from the PC4164. When this section is entered the display will read "Serial# [   ]" on the top line of the display and the zone label on the bottom line of the display. Use the [<][>] keys to scroll to the zone that is to be deleted then press the [✶] key. The bottom line of the display will then read "Zone Deleted". Adding a new zone to the system will automatically fill this location with the new serial number.

| REPLACE RF ZONE |
| (2) |

This section allow one RF zone to be replace with another RF Zone. All programming that was used with the old zone will be used with the new zone. When this section is entered the display will read "Serial# [   ]" on the top line of the display and the zone label on the bottom line of the display. Use the [<][>] keys to scroll to the zone that is to be replaced then press the [✶] key. The top line of the display will then read "With RF Zone", the bottom line of the display will read "Serial# [   ]". Enter the serial number of the zone to replace the selected zone.

```
┌─────────────────────────┐
│ PLACEMENT TEST          │
│                    (3)  │
└─────────────────────────┘
```

This section will determine if the location of a zone is good. Once this section has been entered the panel will then prompt the installer to select a zone to be tested. Use the [<][>] keys to scroll to the desired zone. Then press the [✶] key to select the zone. The keypad will now display the message "Please Activate Zone". When this message is displayed open then close the zone from the intended mounting location. The keypad will display the result of the module placement test (with respect to RF strength). Placement results are as follows:

Good - This result will be displayed on the keypad as ***good*** and the keypad will beep once indicating that the placement was good. A placement result of good means that the zone is placed in a location that has a strong RF transmission strength.

Fair - This result will be displayed on the keypad as ***fair*** and the keypad will beep twice indicating that the placement was fair. A placement result of fair means that the zone is placed in a location that has passed the module placement test.

Poor - This result will be displayed on the keypad as ***poor*** and the keypad will beep three times, indicating that the placement was poor. A placement result of poor means that the zone is placed in a location that has weak RF transmission strength and should be relocated. In most cases it should only be necessary to move the zone a short distance from it's original intended location. After relocating the zone repeat the module placement test. When the test results are satisfactory, continue with the next zone to be tested.

Note: To perform a module placement test on an RF PIR motion detector, the zone must be tampered then restored instead of opened then closed.

```
┌─────────────────────────┐
│ DEFAULT SRL #'S         │
│                    (4)  │
└─────────────────────────┘
```

Once this selected has been made the LCD will display the message "Confirm Default Press ✶". To abort press any other key. Once the [✶] key has been pressed the LCD will display the message "Resetting ". All RF zone signatures will have been erased from the PC4164. Note: Deleting the RF signatures from the PC4164 will not remove the zone(s) from the partition assignment(s).

RF Zones - Summary

Placing Components

Before Permanently mounting components, each component should be tested in its intended mounting location to ensure it can communicate properly with the PC4164. It is recommended that the **Module Placement Test** is performed more than once for each zone. For the best system performance, it is suggested that the PC4164 be mounted;
- in as central location as possible
- in as elevated a location as possible

In most installations, selecting a central location for the PC4164 will ensure reliable system operation. When mounting the PC4164 in a basement, it is recommended that the PC4164 be mounted as high - and as close to the underside of the first floor as possible.

Wireless PIR Motion Detectors

To prolong battery life of a PIR Motion Detector the detector features a High Traffic Shutdown Mode. If a motion detector is activated more than once within a 6 minute period, the detector will temporarily delay reporting activity to the PC4164. The Motion detector will then require a 12 minute period of no activity before it will resume transmissions to the PC4164. Because the High Traffic Shutdown Mode prevents Motion Detectors from being tested during a regular walk test, the Motion Detector features its own built in Walk Test Mode. To active this mode remove the back plate from the detector to be tested, and then re-attach it. The motion detector will be in Walk Test Mode for 90 seconds. The LED will come on for 3 seconds each time the detector is tripped. At the end of the 90 second period the Motion detector will return to normal operation.

Zone Supervisories

A zone supervisory is a transmission sent from the wireless zone to the PC4164 as a test transmission to ensure that communications between the zone and the PC4164 are still present. When the PC4164 receives the supervisory from the zone it will then transmit this information to the control panel. If the control panel does not get a supervisory within the "supervision time", the zone will be considered lost and go into the open state..(if Double EOL is being used the zone will go into the Tamper Alarm state). The next supervisory that the PC4164 receives for a missing zone will restore communication with that zone and restore the Zone Supervisory Fault.

Battery Troubles

If a zone has a low battery trouble, then that zone does not report in with a zone supervisory within the "supervision time", the zone will not go into alarm. This has been included to reduce the possibility of a false alarm from batteries that do not get changed in the zone, and then the zone going into sensor fault.

Restoring Battery Troubles

A wireless zone battery trouble will only be restored after that zone has been Tampered and Restored. This will allow the batteries to be changed without multiple Battery trouble/Battery restoral transmissions taking place. In order for the batteries to be changed the cover must be removed from the back plate. When the tamper is restored and the zone sends a battery trouble restoral signal to the PC4164, the battery trouble will clear.

EVENT BUFFER

EVENT BUFFER   (3)

The installer can review the events stored in the event buffer by sending the contents of it to a printer.

PRN ENTIRE BUFF   (0)

Printing out the event buffer through the PC4400 module. All events stored in the event buffer will be printed out. The event buffer can store up to 600 events.

Note: If the printer is left on line hooked up to the PC4400 (RS-232) module, it will always print out events as they occur.

DIAGNOSTICS

| DIAGNOSTICS | (4) |

The Diagnostics function helps the installer to track down any problems that may be occurring with the modules. If this section is entered during the first minute after powering up the system, the selections Diagnostics, Binary Program, Memorize Vbat and Factory Default will be available to the installer. After the first minute, Diagnostics will automatically be selected.

| DIAGNOSTICS | (0) |

The Diagnostics function helps the installer to track down any problems that may be occurring with the modules.

If there is no problem the keypad will display 'PC4020 System No Faults Found'.

If there is a problem, the keypad will display 'Error ... Module' along with 'E- T- LV-' and a number following one of them. The number represents a module (See Appendix C). The 'E' stands for a communications error, if the number follows the 'E', the main panel has lost communications with the module represented by the number. The 'T' stands for tamper, which means the tamper zone on the module has been activated. The 'LV' stands for low voltage, for when the module is not receiving enough voltage from the COMBUS. For example, if the display shows 'E- T-25 LV- ', this means the tamper on the PC4400 module has been activated. The [<][>] keys are used to scroll through the display if there is more than one module with a trouble.

Note: The following items are available during the first minute after power up.

| BINARY PROGRAM | (1) |

Normally used upon instruction from factory technical personal for specialized programming not covered by the standard programming instructions.

| MEMORIZE VBAT | (2) |

Programs the battery offset voltage. Normally this is already set at the factory and need not be done again. To set the VBAT = 13.85 volts, remove the battery from the battery terminals. The battery terminals should now output 13.85 volts. If it is not 13.85, turn the 'pot' above the heatsink until the voltage is the correct value. (If the voltage is 0 volts, check the battery fuse).

| FACTORY DEFAULT | (3) |

Once this selection has been made, the LCD will display "Confirm Default Press ✶". The abort press any other key once the [✶] key is pressed, the programming keypad will display the message 'Power System Down and Restart'. Remove all power to the main panel. This will erase all programming and reset the system to factory default settings. All modules will have to be re-enrolled.

| DEFAULT 4580 | (4) |

Once this selected has been made the LCD will display the message "Confirm Default Press ✶". To abort press any other key. Once the [✶] key has been pressed the LCD will display the message "Resetting 4580 Module". Once the default is complete the keypad will display "4580 Default is Complete" All programming done in the 4580 will now be erased.

APPENDIX A

List of Available ASCII Characters

032	0 048	@ 064	P 080	` 096	p 112	― 160	ﾀ 176	ミ 192	ﾈ 208	α 224	ﾍ 240
! 033	1 049	A 065	Q 081	a 097	q 113	▪ 161	ﾁ 177	ﾁ 193	ﾑ 209	ä 225	q 241
" 034	2 050	B 066	R 082	b 098	r 114	ﾏ 162	ﾂ 178	ﾂ 194	ﾒ 210	β 226	θ 242
# 035	3 051	C 067	S 083	c 099	s 115	ﾜ 163	ﾈ 179	ﾃ 195	ﾓ 211	ε 227	∞ 243
$ 036	4 052	D 068	T 084	d 100	t 116	ﾞ 164	I 180	ﾄ 196	ﾔ 212	μ 228	Ω 244
% 037	5 053	E 069	U 085	e 101	u 117	▪ 165	ﾅ 181	ﾅ 197	ﾕ 213	σ 229	Ü 245
& 038	6 054	F 070	V 086	f 102	v 118	ﾗ 166	ﾆ 182	= 198	ﾖ 214	ρ 230	Σ 246
' 039	7 055	G 071	W 087	g 103	w 119	ﾇ 167	ﾆ 183	ﾇ 199	ﾗ 215	g 231	π 247
(040	8 056	H 072	X 088	h 104	x 120	ﾘ 168	ﾋ 184	ﾈ 200	ﾘ 216	√ 232	x̄ 248
) 041	9 057	I 073	Y 089	i 105	y 121	ﾝ 169	ﾌ 185	ﾉ 201	ﾙ 217	⁻¹ 233	y 249
* 042	: 058	J 074	Z 090	j 106	z 122	ﾍ 170	ﾍ 186	ﾊ 202	ﾚ 218	j 234	￥ 250
+ 043	; 059	K 075	[091	k 107	{ 123	ﾒ 171	ﾎ 187	ﾋ 203	ﾛ 219	× 235	ﾒ 251
, 044	< 060	L 076	¥ 092	l 108		124	ﾔ 172	ﾏ 188	ﾌ 204	ﾜ 220	ф 236	ﾒ 252
― 045	= 061	M 077	] 093	m 109	} 125	ﾕ 173	ﾐ 189	ヽ 205	ﾝ 221	t 237	÷ 253
. 046	> 062	N 078	^ 094	n 110	→ 126	ﾖ 174	ﾑ 190	ﾎ 206	ﾟ 222	ñ 238	254
/ 047	? 063	O 079	_ 095	o 111	← 127	ﾃ 175	ﾒ 191	ﾏ 207	▪ 223	ö 239	▉ 255

APPENDIX B

List of Diagnostics

E = Communication error
T = Tamper open
LV = Low voltage to module

Indicated # Number	For Future Use
1	
2	
3	
4	
5	
6	
7	
8	

Indicated Number	LCD4500 Module
9	1
10	2
11	3
12	4
13	5
14	6
15	7
16	8
17	9
18	10
19	11
20	12
21	13
22	14
23	15
24	16

Indicated Number	PC4400 Serial Interface Module
25	1

Indicated Number	PC41XX Zone Module
26	1
27	2
28	3
29	4
30	5
31	6
32	7
33	8
34	9
35	10
36	11
37	12
38	13
39	14
40 For future use	15
41 For future use	16

Indicated Number	PC4216 O/P Module
42	1
43	2
44	3
45	4
46	5
47	6
48	7
49	8
50	9

Indicated Number	PC4204 O/P Module
51	1
52	2
53	3
54	4
55	5
56	6
57	7
58	8
59	9
60	10
61	11
62	12
63	13
64	14
65	15
66	16

Indicated Number	PC4700 Fire Module
67	1

Indicated Number	Escort4580 Voice Prompting Module
68	1

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PC4O2O Software Version 2.1