April 26, 1994
Software Version 1.0

PROGRAMMING FLOW CHARTS

DSC
Digital Security Controls

PC4020

Book 3

PROGRAMMING THE PC4020

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

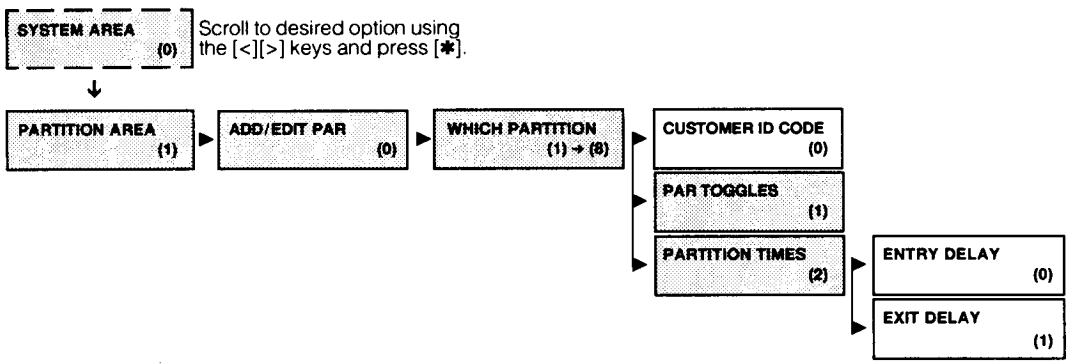
This book contains the programming flow charts for the PC4020. The charts are arranged in such a way as to allow you to quickly find any option and the path required to arrive at the program location. In addition you will be able to see other options also available to you in the program area.

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 this book.



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

Using the second 'HOTKEY' method we require only 5 keystrokes:

[1]	to select PARTITION AREA
[0]	to select ADD/EDIT PAR
[4]	to select PARTITION 4
[2]	to select PARTITION TIMES
[1]	to select EXIT DELAY

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 the changes and 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.

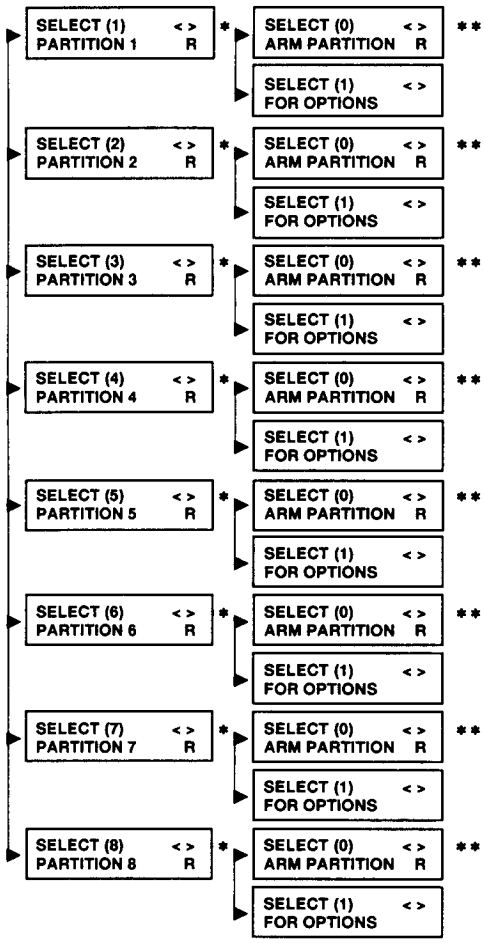
EXAMPLE: To enter data 'ABCD' on a PC4020 you would enter:
[*], [1], [*], [2], [*], [3], [*], [4]

Note: The [*] key is required before every HEX digit entered.

USER FUNCTIONS PROGRAMMING FLOW CHARTS

Global Keypad

Enter a valid access code from a global keypad to call up this menu.



* These partitions will only be displayed if the partition is enabled and the access code is assigned to that partition. The partition status indication on the lower right corner of the display will change according to the status of the partition. R = Ready; N = Not Ready; A = Armed.

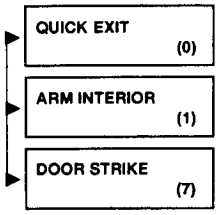
** If the partition is armed the bottom line of the LCD will display "Disarm Partition".

Note: If a global keypad is used a valid access code must be entered and the desired partition should be selected before any [*] function is performed. The exception is entering [*] [8] [Installer's Code] without selecting a partition.

Partition Keypad

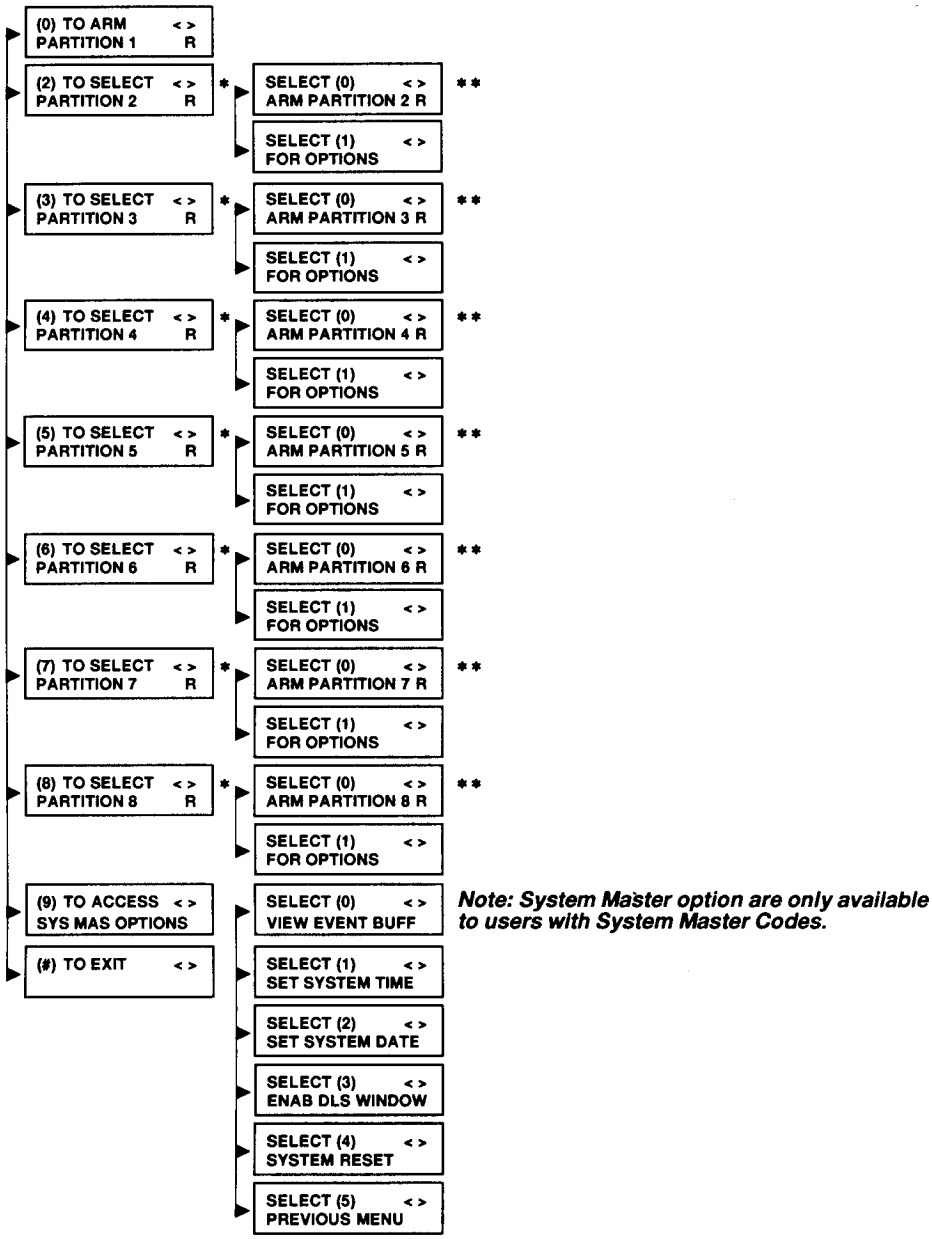
Armed State

While the partition is armed, press the [✱] key to call up this menu.



Disarmed State

While the partition is disarmed, enter a valid Multi Partition Code to call up this menu.

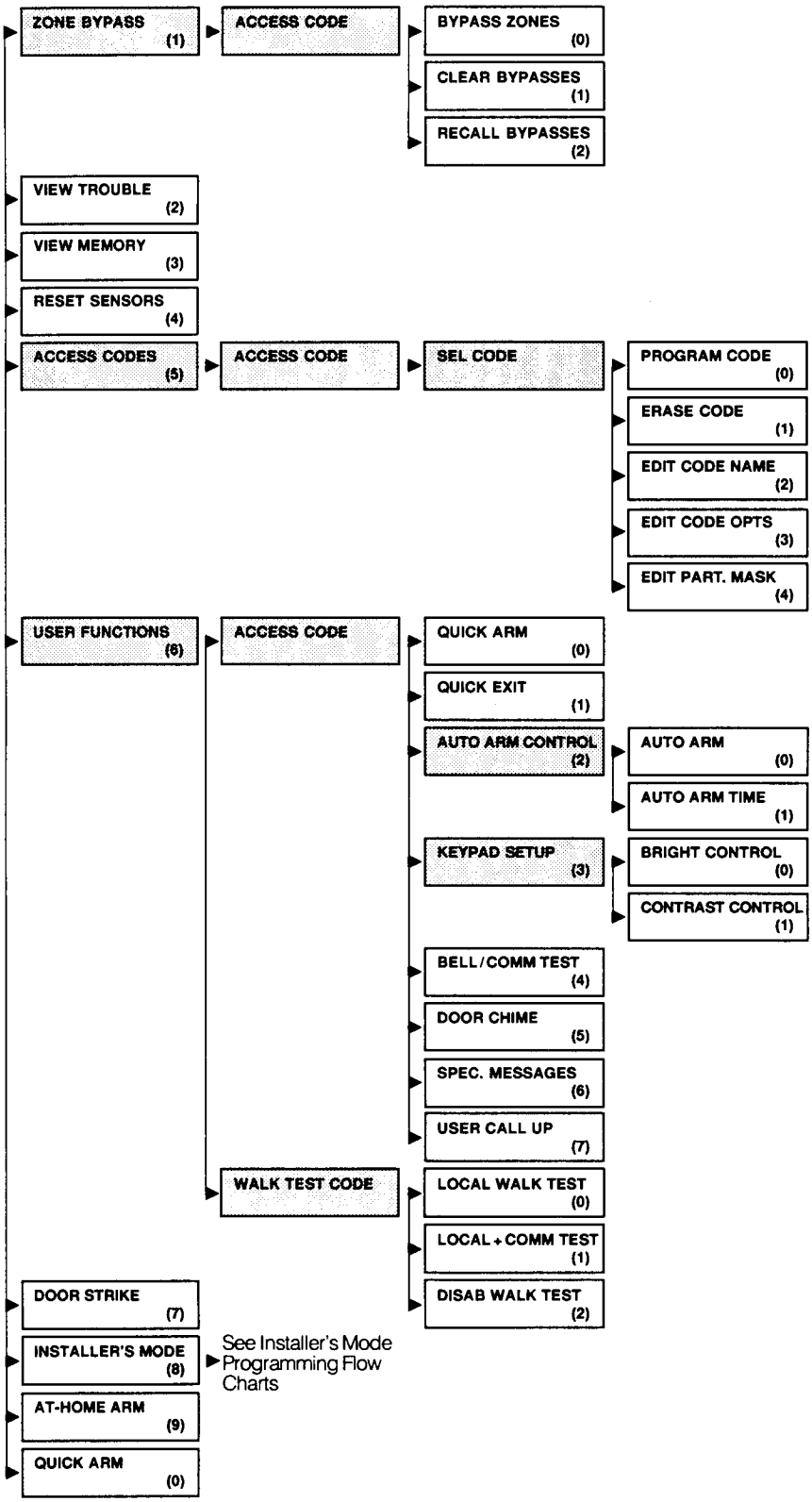


Note: System Master option are only available to users with System Master Codes.

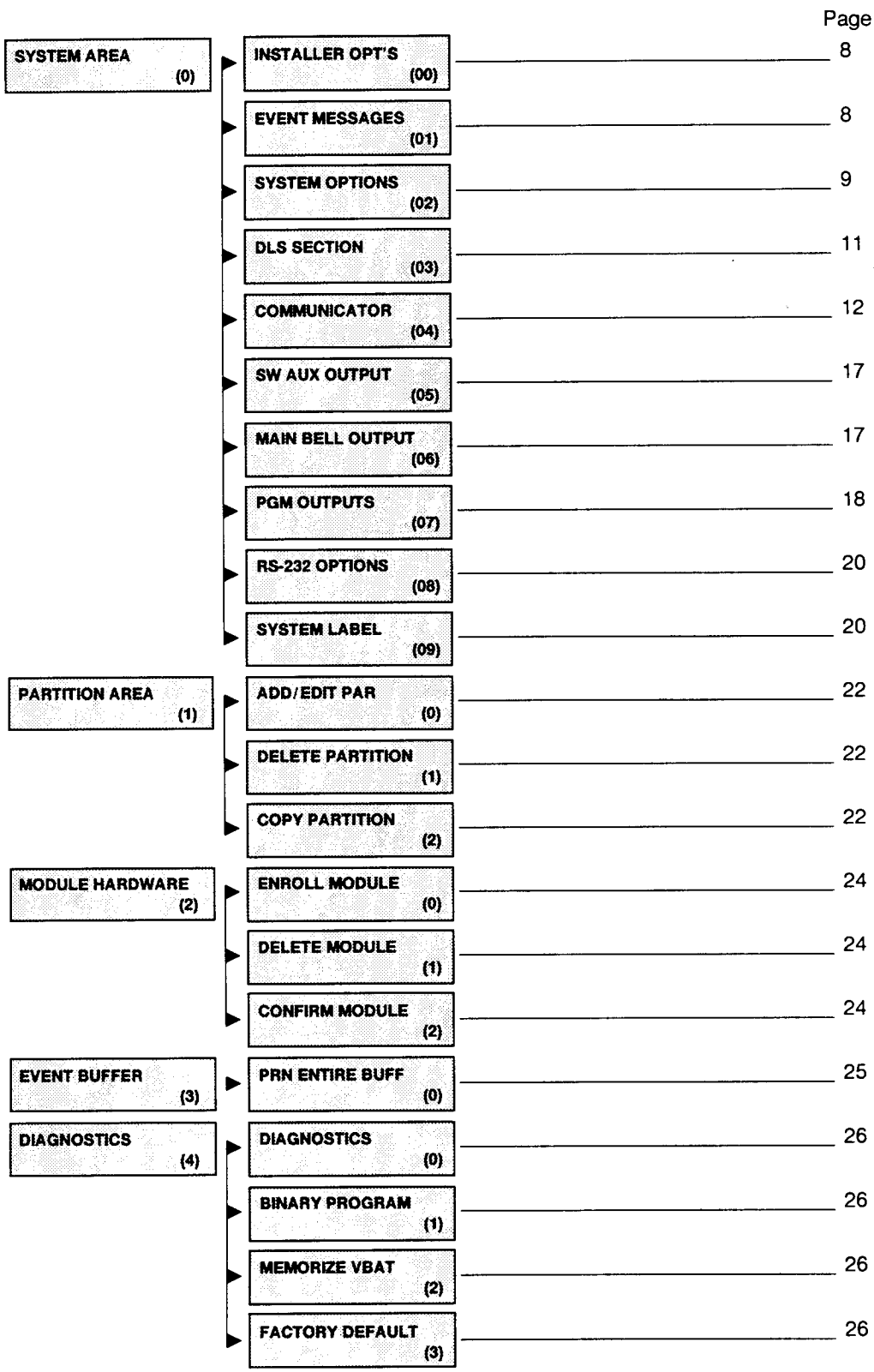
* These partitions will only be displayed if the partition is enabled and the access code is assigned to that partition. The partition status indication on the lower right corner of the display will change according to the status of the partition. R = Ready; N = Not Ready.

** If the partition is armed the bottom line of the LCD will display "Disarm Partition".

While the partition is disarmed, press the [✱] key to call up this menu.

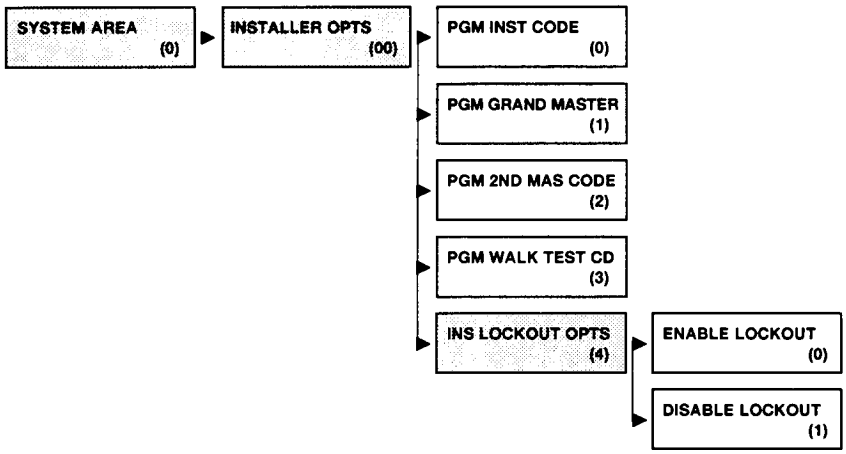


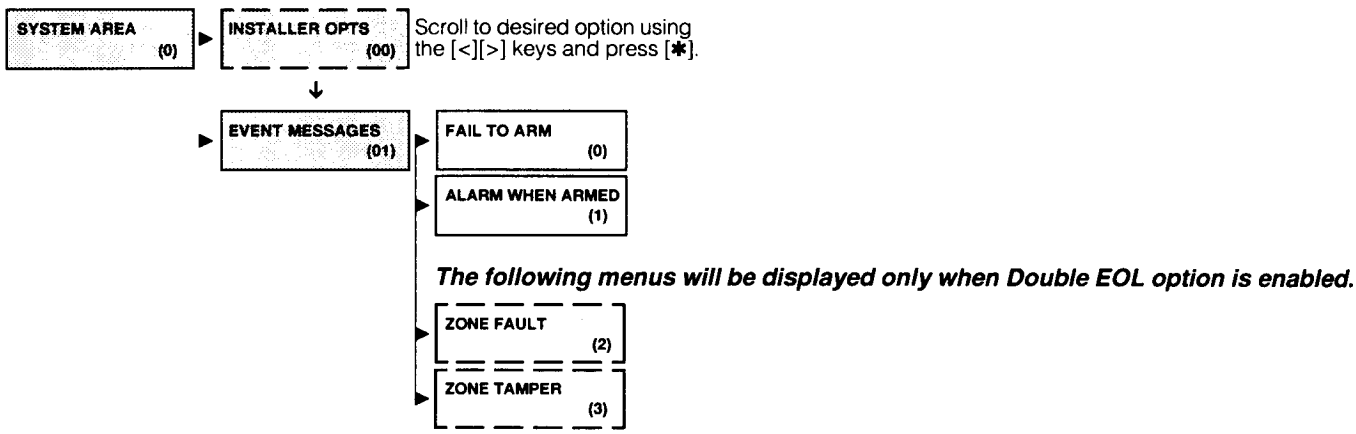
INSTALLER'S MODE OVERVIEW

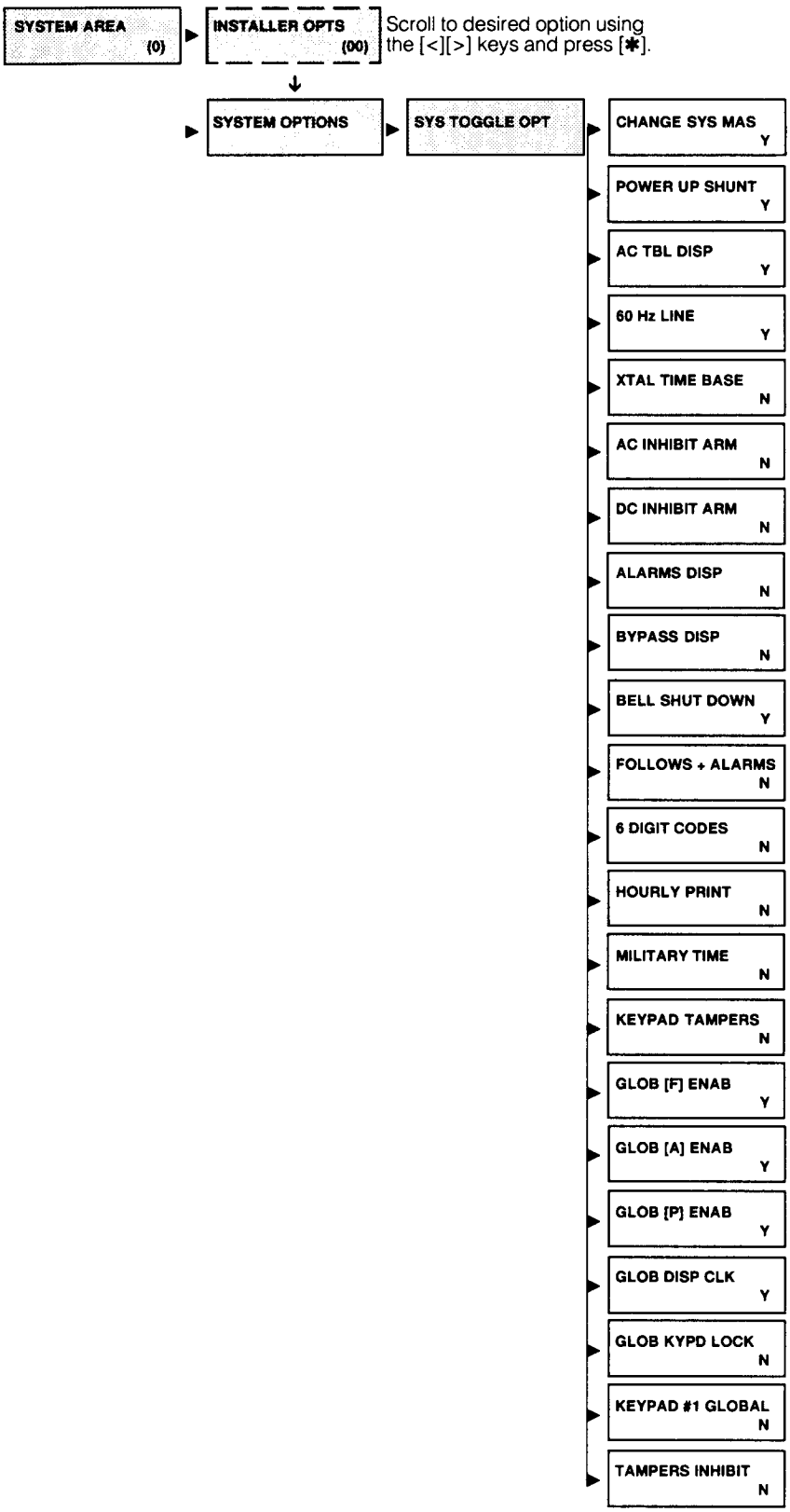


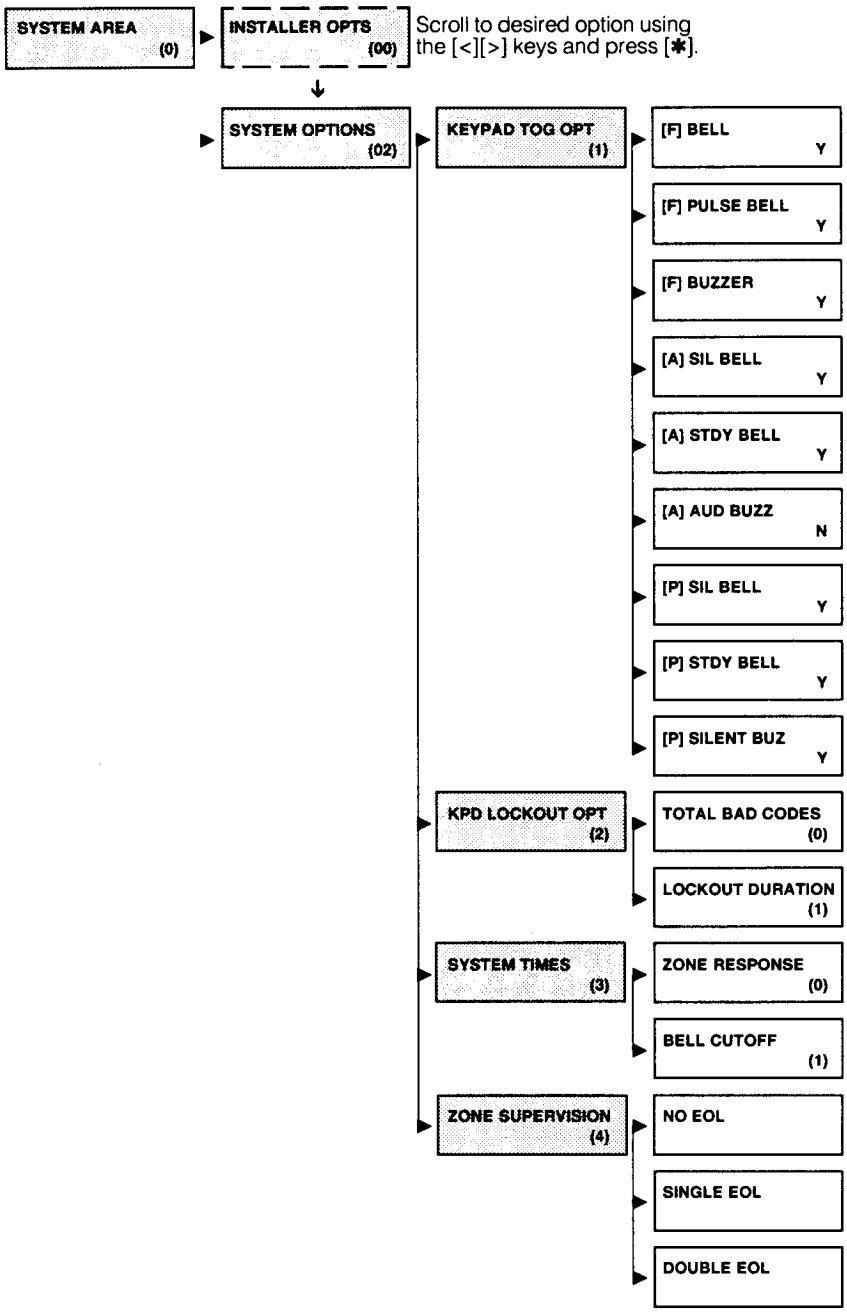
System Area Index

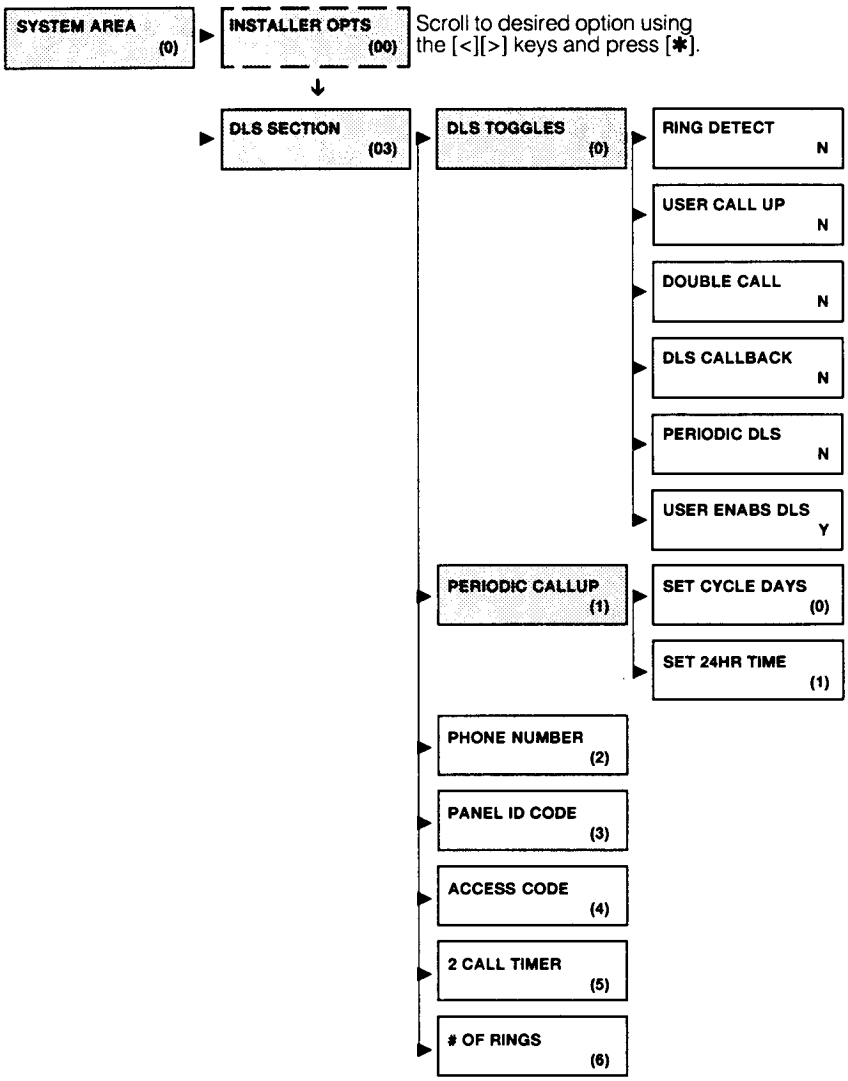
Page

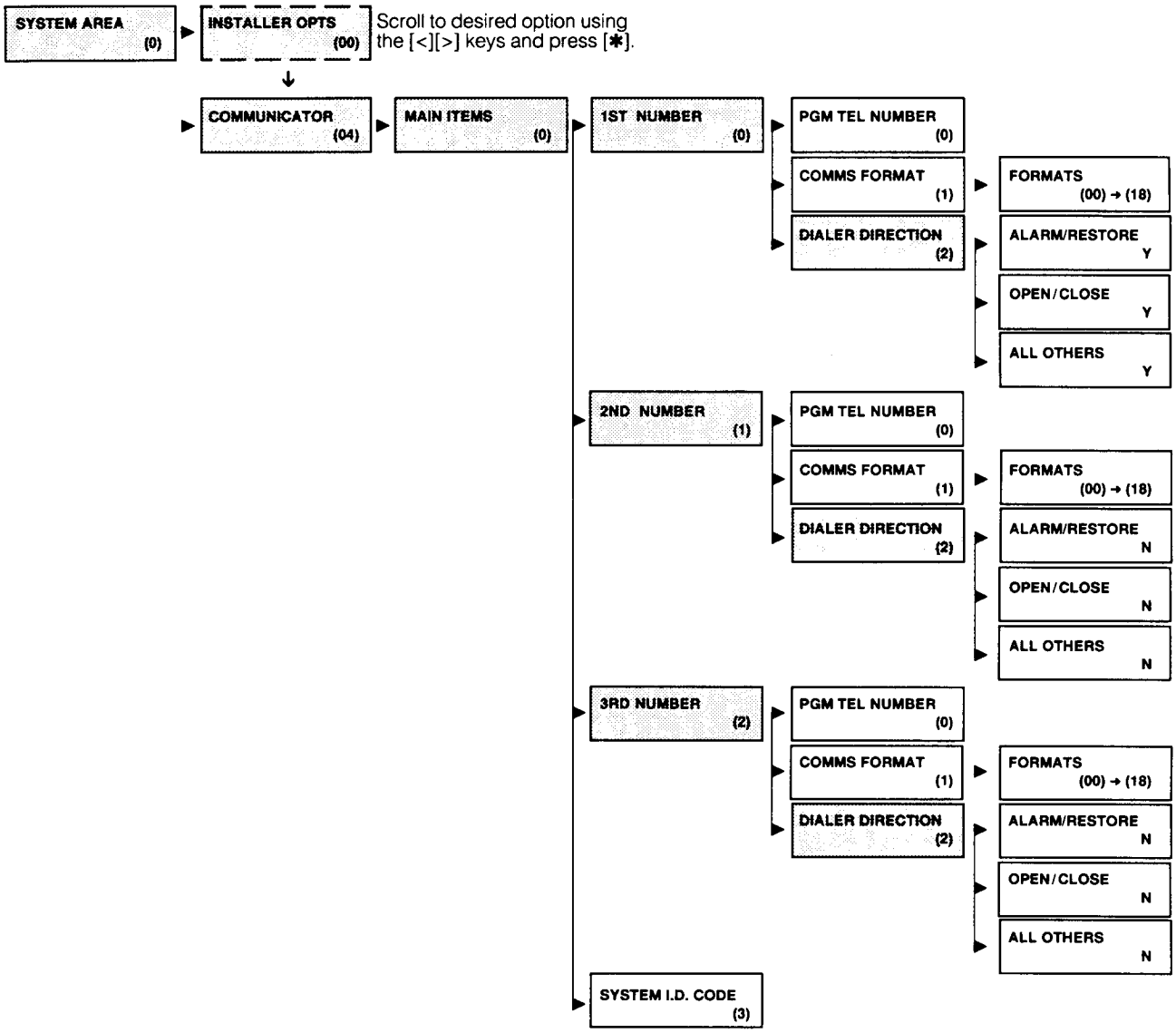

SYSTEM AREA
(0)
INSTALLER OPTS
(00)
PGM INST CODE
(0)
PGM GRAND MASTER
(1)
PGM 2ND MAS CODE
(2)
PGM WALK TEST CD
(3)
INS LOCKOUT OPTS
(4)
ENABLE LOCKOUT
(0)
DISABLE LOCKOUT
(1)

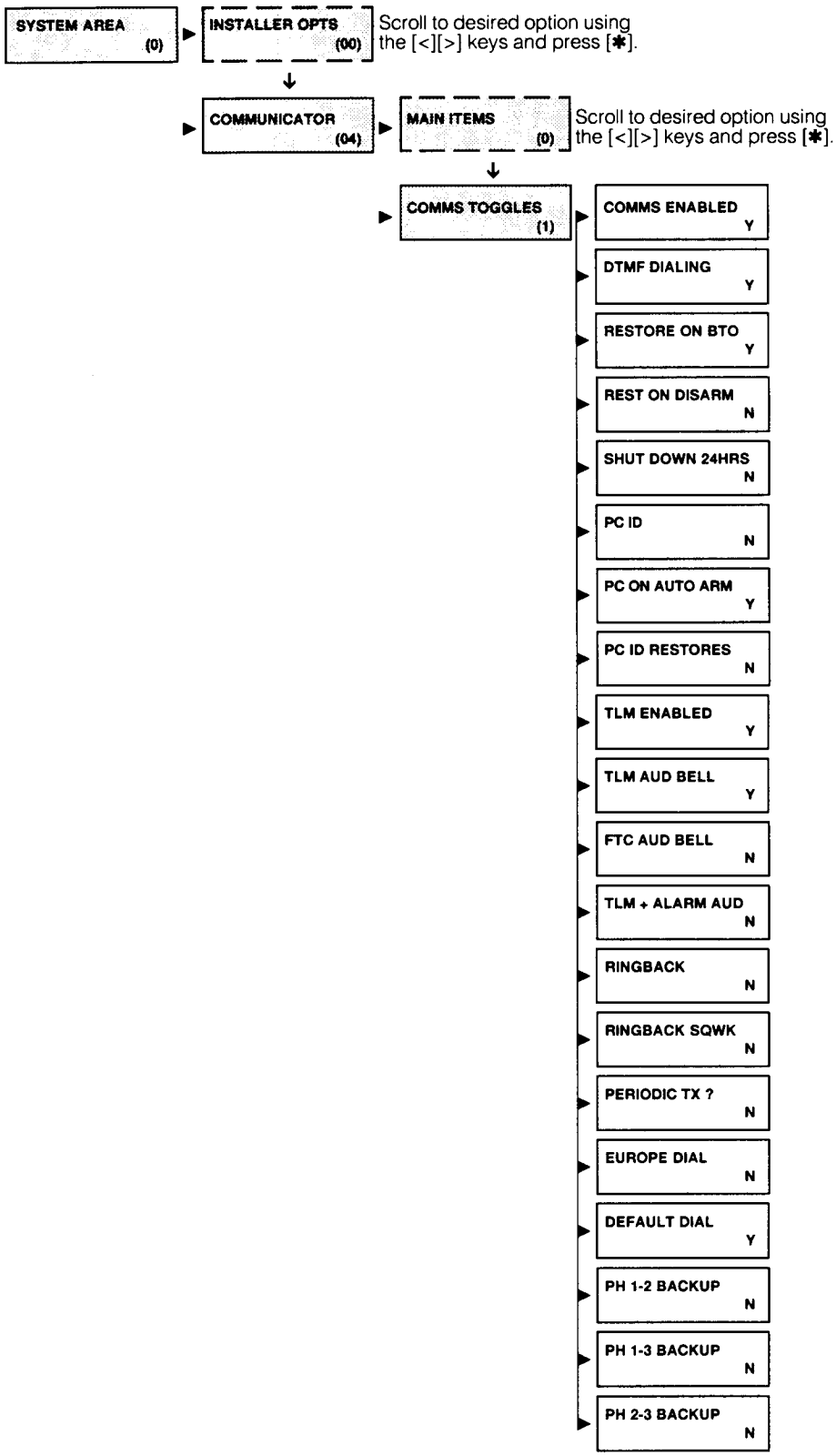

SYSTEM AREA
(0)
INSTALLER OPTS
(00)
Scroll to desired option using the [<][>] keys and press [✱].
EVENT MESSAGES
(01)
FAIL TO ARM
(0)
ALARM WHEN ARMED
(1)
The following menus will be displayed only when Double EOL option is enabled.
ZONE FAULT
(2)
ZONE TAMPER
(3)

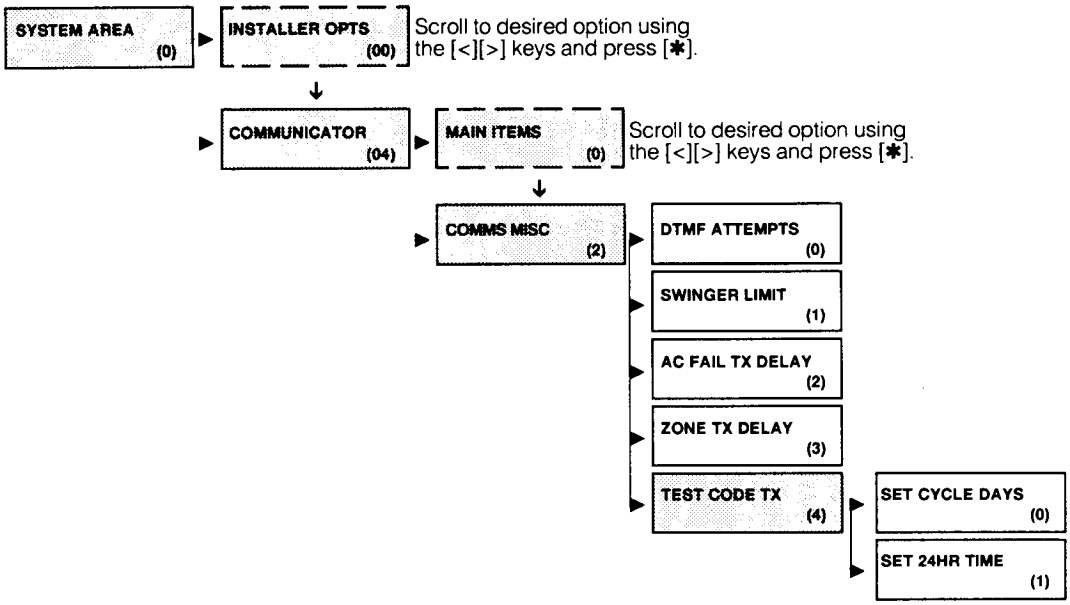

SYSTEM AREA (0)
INSTALLER OPTS (00)
Scroll to desired option using the [<][>] keys and press [*].
SYSTEM OPTIONS
SYS TOGGLE OPT
CHANGE SYS MAS Y
POWER UP SHUNT Y
AC TBL DISP Y
60 Hz LINE Y
XTAL TIME BASE N
AC INHIBIT ARM N
DC INHIBIT ARM N
ALARMS DISP N
BYPASS DISP N
BELL SHUT DOWN Y
FOLLOWS + ALARMS N
6 DIGIT CODES N
HOURLY PRINT N
MILITARY TIME N
KEYPAD TAMPERS N
GLOB [F] ENAB Y
GLOB [A] ENAB Y
GLOB [P] ENAB Y
GLOB DISP CLK Y
GLOB KYPD LOCK N
KEYPAD #1 GLOBAL N
TAMPERS INHIBIT N

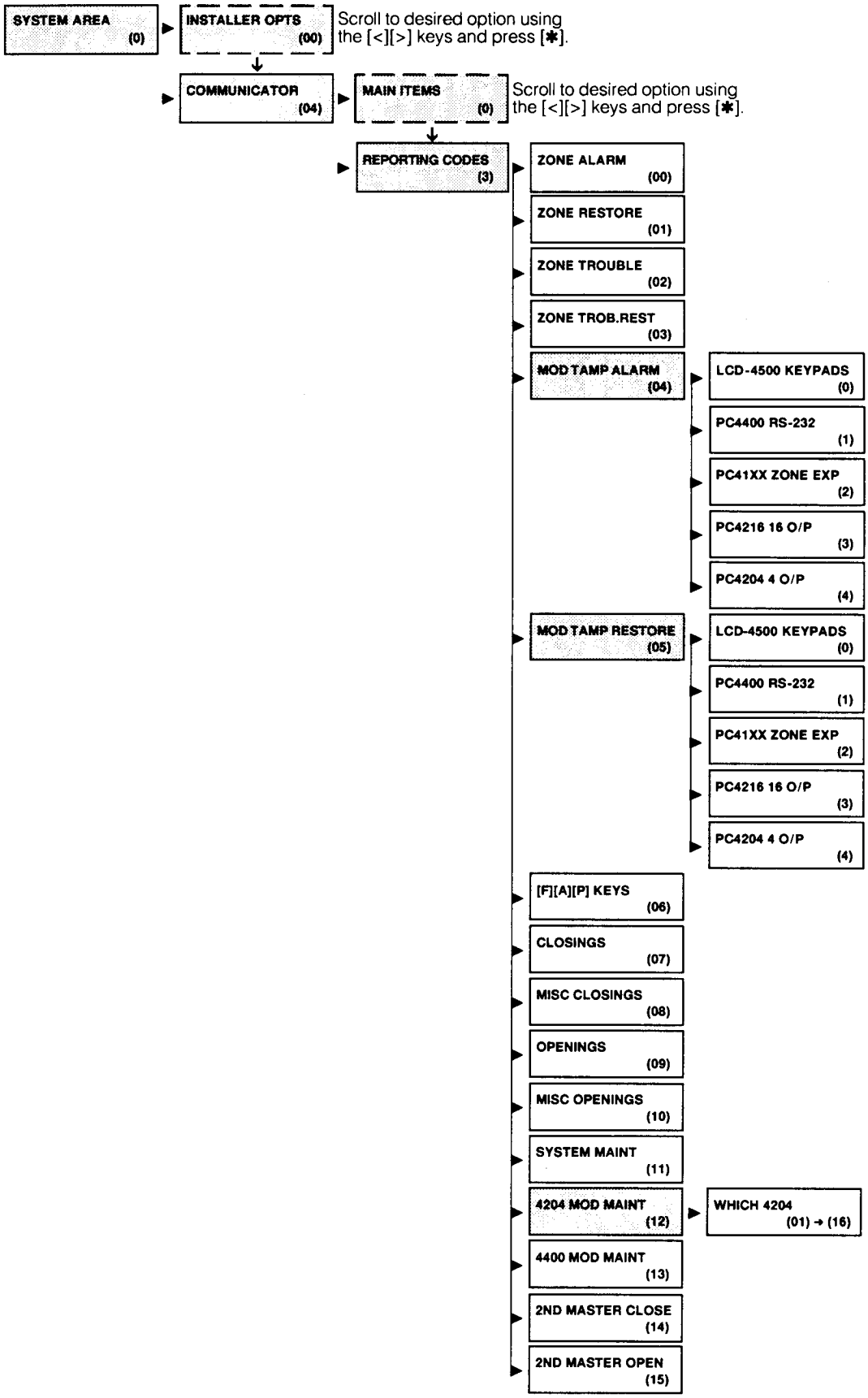

SYSTEM AREA (0)
INSTALLER OPTS (00)
Scroll to desired option using the [<][>] keys and press [*].
SYSTEM OPTIONS (02)
KEYPAD TOG OPT (1)
[F] BELL Y
[F] PULSE BELL Y
[F] BUZZER Y
[A] SIL BELL Y
[A] STDY BELL Y
[A] AUD BUZZ N
[P] SIL BELL Y
[P] STDY BELL Y
[P] SILENT BUZ Y
KPD LOCKOUT OPT (2)
TOTAL BAD CODES (0)
LOCKOUT DURATION (1)
SYSTEM TIMES (3)
ZONE RESPONSE (0)
BELL CUTOFF (1)
ZONE SUPERVISION (4)
NO EOL
SINGLE EOL
DOUBLE EOL

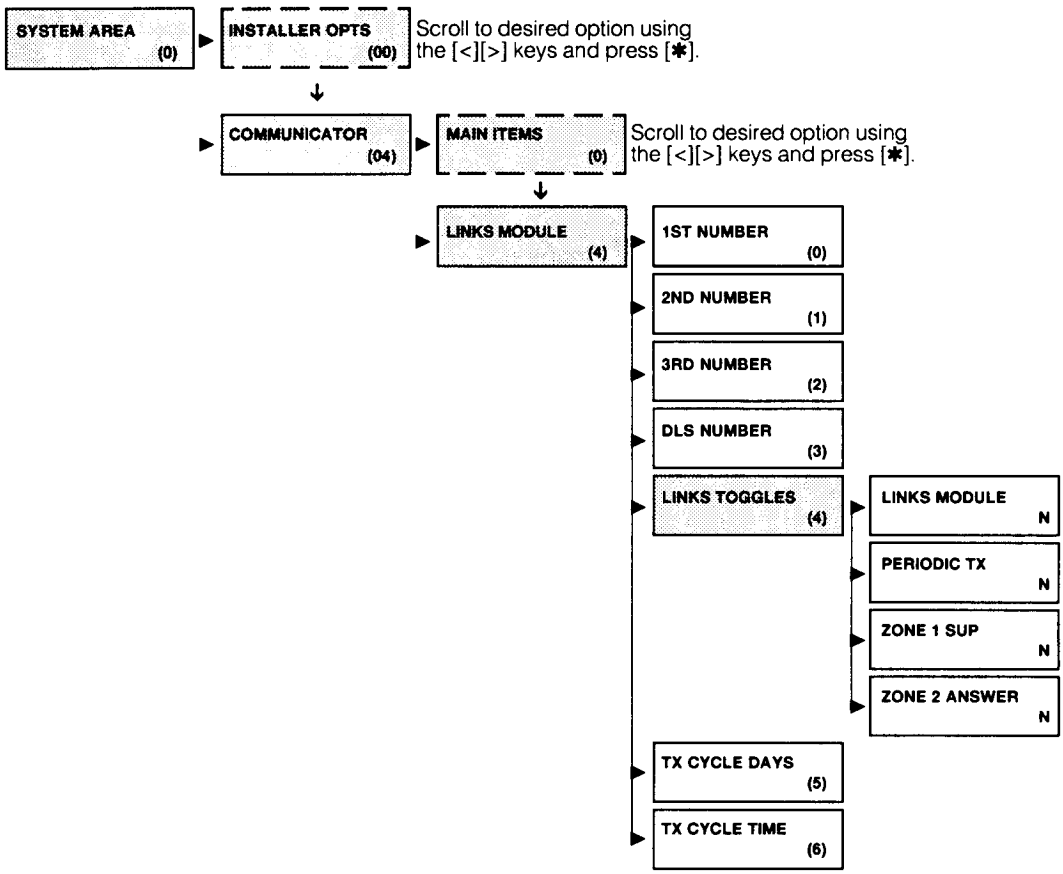

SYSTEM AREA
(0)
INSTALLER OPTS
(00)
Scroll to desired option using the [<][>] keys and press [*].
DLS SECTION
(03)
DLS TOGGLES
(0)
RING DETECT
N
USER CALL UP
N
DOUBLE CALL
N
DLS CALLBACK
N
PERIODIC DLS
N
USER ENABS DLS
Y
PERIODIC CALLUP
(1)
SET CYCLE DAYS
(0)
SET 24HR TIME
(1)
PHONE NUMBER
(2)
PANEL ID CODE
(3)
ACCESS CODE
(4)
2 CALL TIMER
(5)
OF RINGS
(6)


SYSTEM AREA (0)
INSTALLER OPTS (00)
Scroll to desired option using the [<][>] keys and press [✱].
COMMUNICATOR (04)
MAIN ITEMS (0)
1ST NUMBER (0)
PGM TEL NUMBER (0)
COMMS FORMAT (1)
FORMATS (00) → (18)
DIALER DIRECTION (2)
ALARM/RESTORE Y
OPEN/CLOSE Y
ALL OTHERS Y
2ND NUMBER (1)
PGM TEL NUMBER (0)
COMMS FORMAT (1)
FORMATS (00) → (18)
DIALER DIRECTION (2)
ALARM/RESTORE N
OPEN/CLOSE N
ALL OTHERS N
3RD NUMBER (2)
PGM TEL NUMBER (0)
COMMS FORMAT (1)
FORMATS (00) → (18)
DIALER DIRECTION (2)
ALARM/RESTORE N
OPEN/CLOSE N
ALL OTHERS N
SYSTEM I.D. CODE (3)

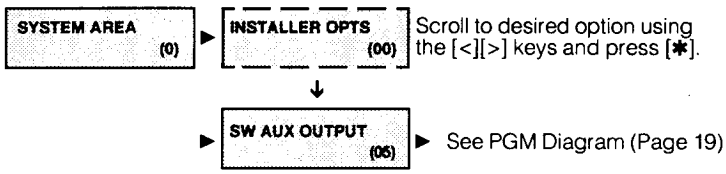

SYSTEM AREA (0)
INSTALLER OPTS (00)
Scroll to desired option using the [<][>] keys and press [✱].
COMMUNICATOR (04)
MAIN ITEMS (0)
Scroll to desired option using the [<][>] keys and press [✱].
COMMS TOGGLES (1)
COMMS ENABLED Y
DTMF DIALING Y
RESTORE ON BTO Y
REST ON DISARM N
SHUT DOWN 24HRS N
PC ID N
PC ON AUTO ARM Y
PC ID RESTORES N
TLM ENABLED Y
TLM AUD BELL Y
FTC AUD BELL N
TLM + ALARM AUD N
RINGBACK N
RINGBACK SQWK N
PERIODIC TX ? N
EUROPE DIAL N
DEFAULT DIAL Y
PH 1-2 BACKUP N
PH 1-3 BACKUP N
PH 2-3 BACKUP N


SYSTEM AREA (0)
INSTALLER OPTS (00)
Scroll to desired option using the [<][>] keys and press [✱].
COMMUNICATOR (04)
MAIN ITEMS (0)
Scroll to desired option using the [<][>] keys and press [✱].
COMMS MISC (2)
DTMF ATTEMPTS (0)
SWINGER LIMIT (1)
AC FAIL TX DELAY (2)
ZONE TX DELAY (3)
TEST CODE TX (4)
SET CYCLE DAYS (0)
SET 24HR TIME (1)

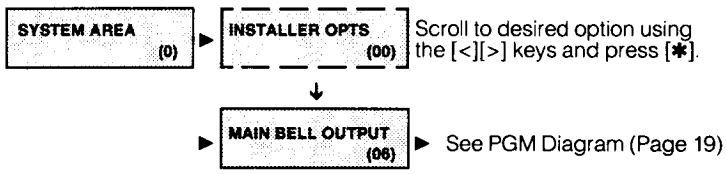

SYSTEM AREA (0)
INSTALLER OPTS (00)
Scroll to desired option using the [<][>] keys and press [✱].
COMMUNICATOR (04)
MAIN ITEMS (0)
Scroll to desired option using the [<][>] keys and press [✱].
REPORTING CODES (3)
ZONE ALARM (00)
ZONE RESTORE (01)
ZONE TROUBLE (02)
ZONE TROB.REST (03)
MOD TAMP ALARM (04)
LCD-4500 KEYPADS (0)
PC4400 RS-232 (1)
PC41XX ZONE EXP (2)
PC4216 16 O/P (3)
PC4204 4 O/P (4)
MOD TAMP RESTORE (05)
LCD-4500 KEYPADS (0)
PC4400 RS-232 (1)
PC41XX ZONE EXP (2)
PC4216 16 O/P (3)
PC4204 4 O/P (4)
[F][A][P] KEYS (06)
CLOSINGS (07)
MISC CLOSINGS (08)
OPENINGS (09)
MISC OPENINGS (10)
SYSTEM MAINT (11)
4204 MOD MAINT (12)
WHICH 4204 (01) → (16)
4400 MOD MAINT (13)
2ND MASTER CLOSE (14)
2ND MASTER OPEN (15)

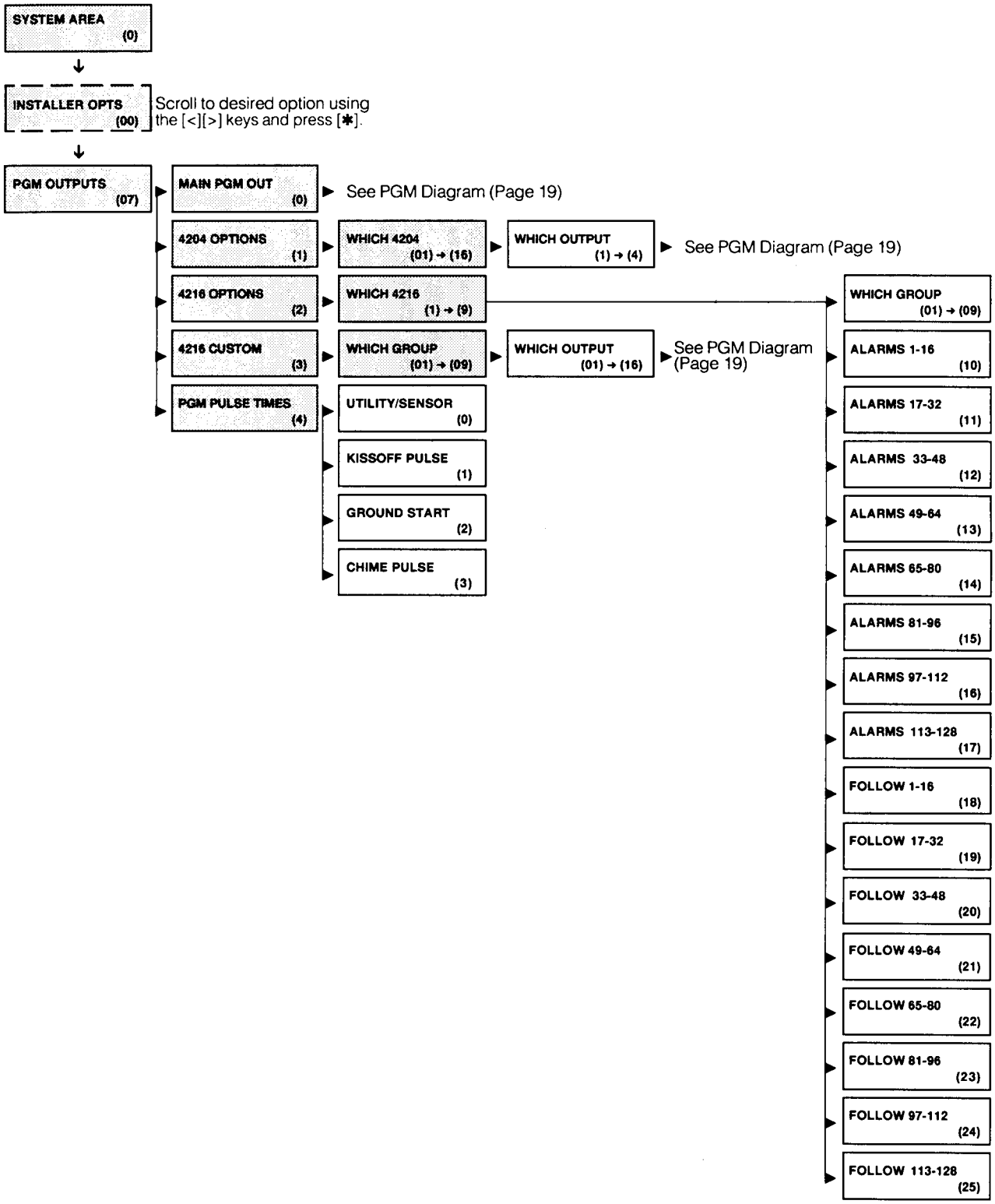

SYSTEM AREA (0)
INSTALLER OPTS (00)
Scroll to desired option using the [<][>] keys and press [✱].
COMMUNICATOR (04)
MAIN ITEMS (0)
Scroll to desired option using the [<][>] keys and press [✱].
LINKS MODULE (4)
1ST NUMBER (0)
2ND NUMBER (1)
3RD NUMBER (2)
DLS NUMBER (3)
LINKS TOGGLES (4)
LINKS MODULE N
PERIODIC TX N
ZONE 1 SUP N
ZONE 2 ANSWER N
TX CYCLE DAYS (5)
TX CYCLE TIME (6)

SYSTEM AREA ▶ SW AUX OUTPUT

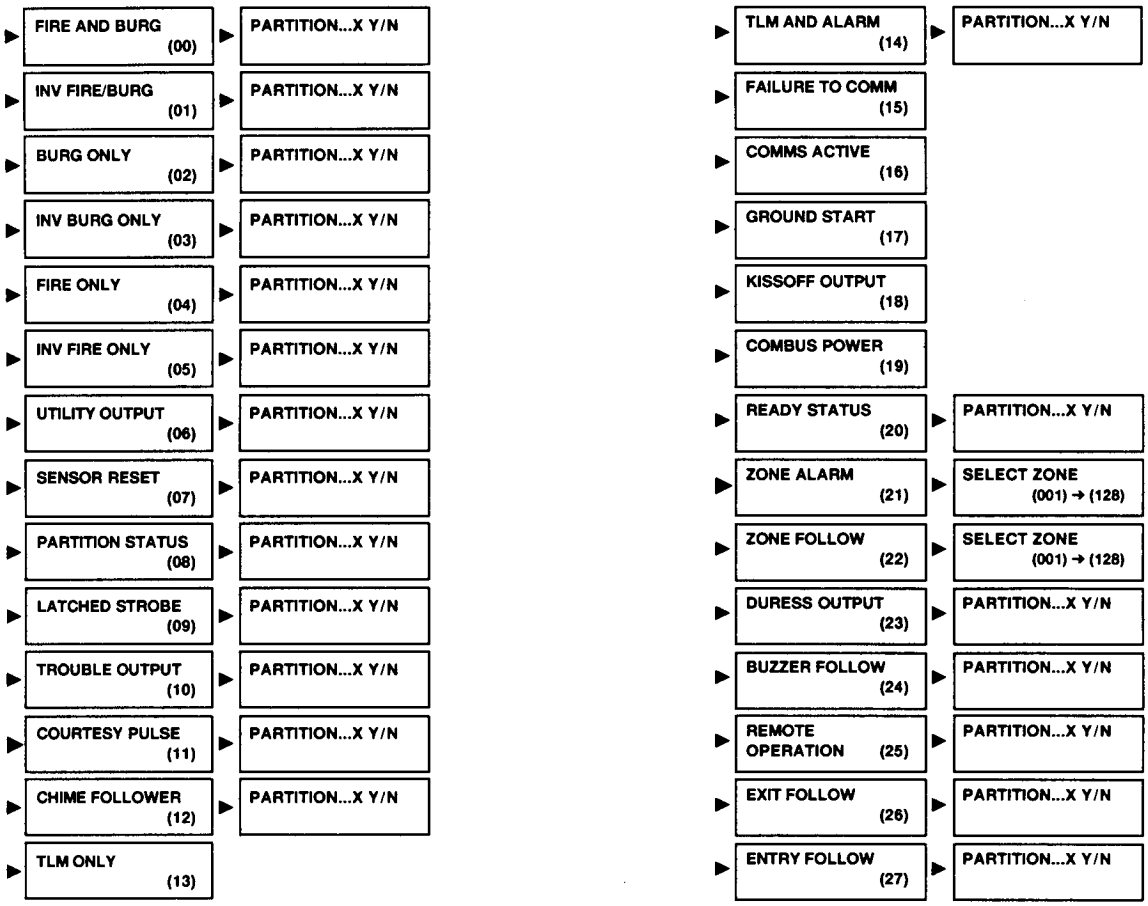


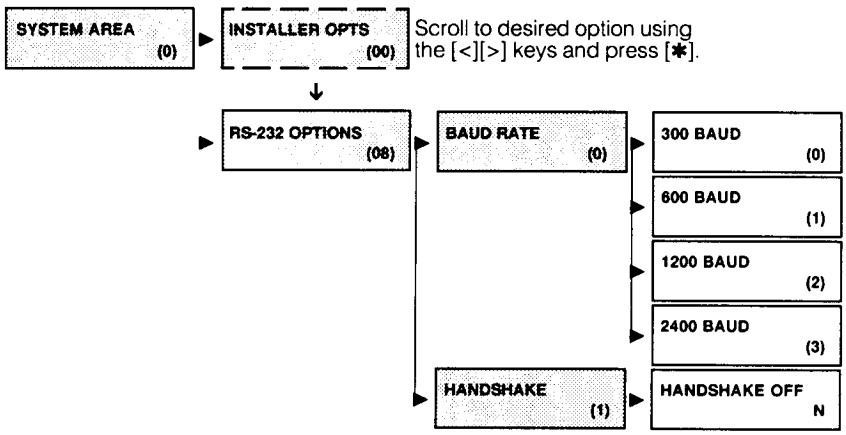
SYSTEM AREA ▶ MAIN BELL OUTPUT

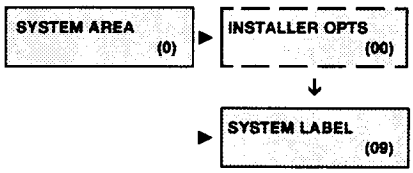



SYSTEM AREA (0)
INSTALLER OPTS (00)
Scroll to desired option using the [<][>] keys and press [*].
PGM OUTPUTS (07)
MAIN PGM OUT (0)
See PGM Diagram (Page 19)
4204 OPTIONS (1)
WHICH 4204 (01) → (16)
WHICH OUTPUT (1) → (4)
See PGM Diagram (Page 19)
4216 OPTIONS (2)
WHICH 4216 (1) → (9)
4216 CUSTOM (3)
WHICH GROUP (01) → (09)
WHICH OUTPUT (01) → (16)
See PGM Diagram (Page 19)
PGM PULSE TIMES (4)
UTILITY/SENSOR (0)
KISSOFF PULSE (1)
GROUND START (2)
CHIME PULSE (3)
WHICH GROUP (01) → (09)
ALARMS 1-16 (10)
ALARMS 17-32 (11)
ALARMS 33-48 (12)
ALARMS 49-64 (13)
ALARMS 65-80 (14)
ALARMS 81-96 (15)
ALARMS 97-112 (16)
ALARMS 113-128 (17)
FOLLOW 1-16 (18)
FOLLOW 17-32 (19)
FOLLOW 33-48 (20)
FOLLOW 49-64 (21)
FOLLOW 65-80 (22)
FOLLOW 81-96 (23)
FOLLOW 97-112 (24)
FOLLOW 113-128 (25)

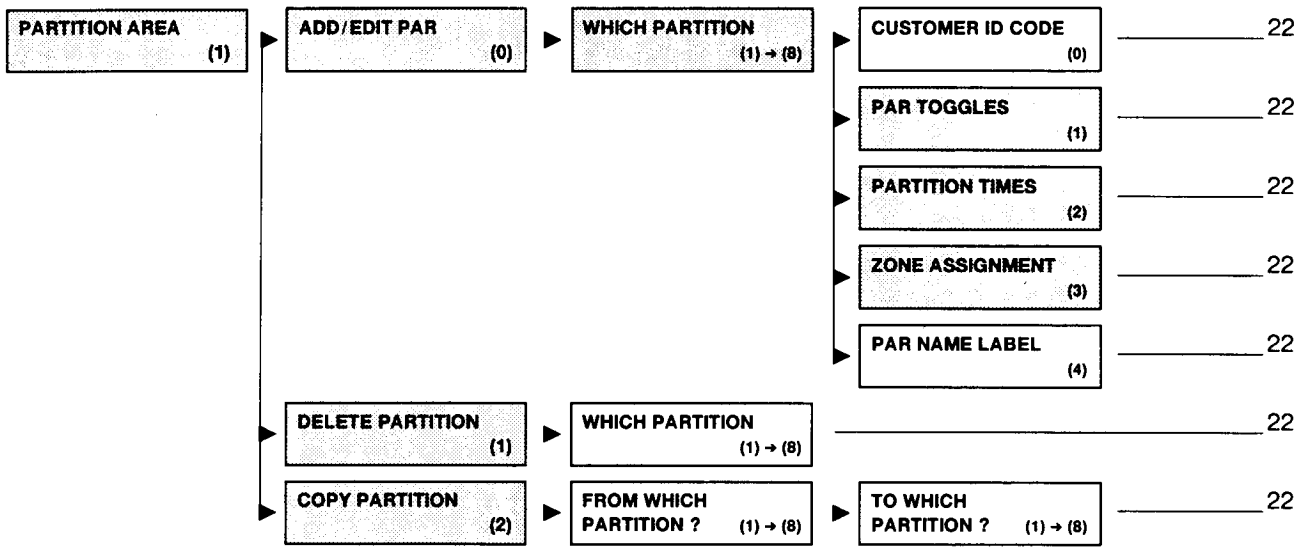
PGM Diagram

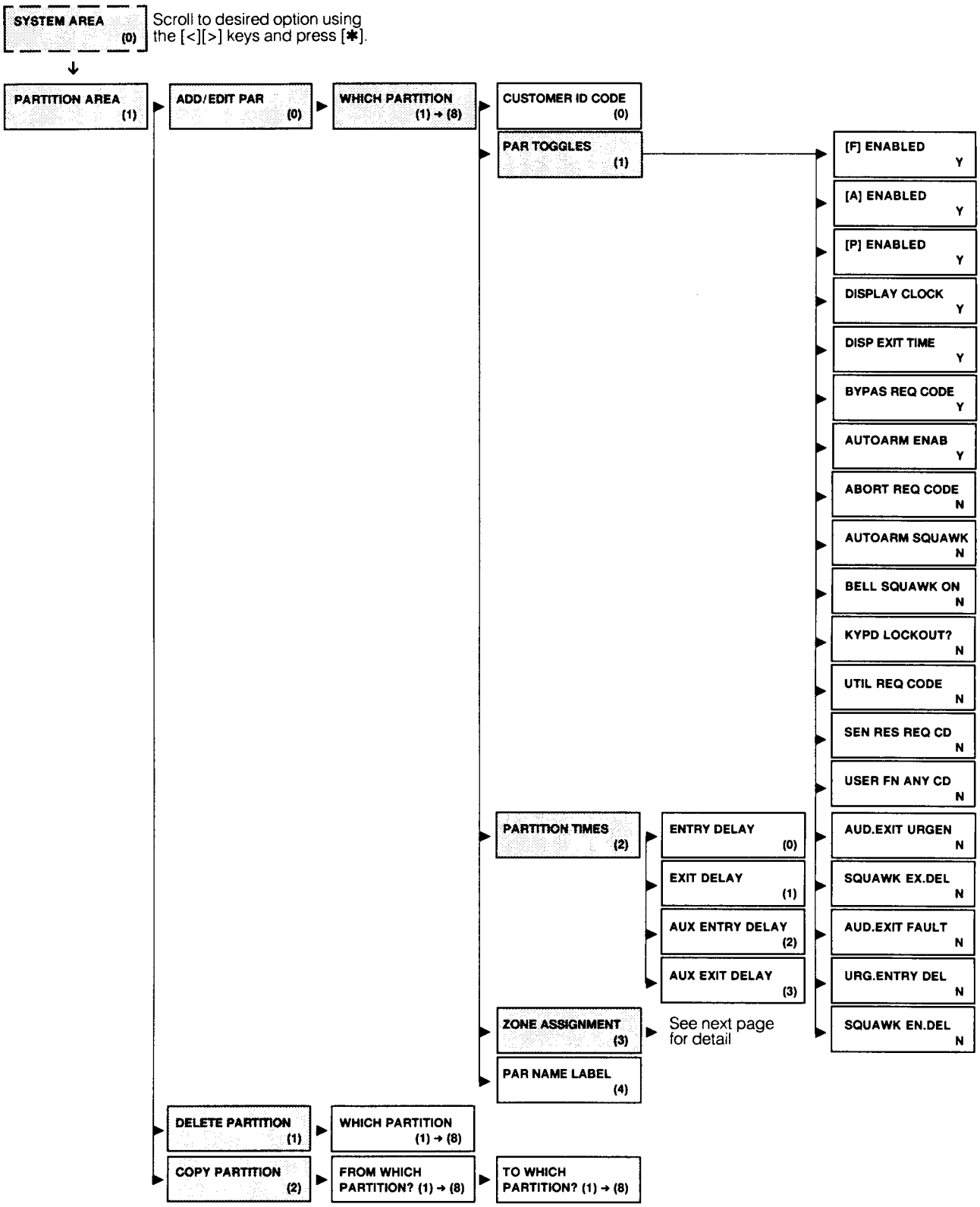

FIRE AND BURG (00)
PARTITION...X Y/N
INV FIRE/BURG (01)
PARTITION...X Y/N
BURG ONLY (02)
PARTITION...X Y/N
INV BURG ONLY (03)
PARTITION...X Y/N
FIRE ONLY (04)
PARTITION...X Y/N
INV FIRE ONLY (05)
PARTITION...X Y/N
UTILITY OUTPUT (06)
PARTITION...X Y/N
SENSOR RESET (07)
PARTITION...X Y/N
PARTITION STATUS (08)
PARTITION...X Y/N
LATCHED STROBE (09)
PARTITION...X Y/N
TROUBLE OUTPUT (10)
PARTITION...X Y/N
COURTESY PULSE (11)
PARTITION...X Y/N
CHIME FOLLOWER (12)
PARTITION...X Y/N
TLM ONLY (13)
TLM AND ALARM (14)
PARTITION...X Y/N
FAILURE TO COMM (15)
COMMS ACTIVE (16)
GROUND START (17)
KISSOFF OUTPUT (18)
COMBUS POWER (19)
READY STATUS (20)
PARTITION...X Y/N
ZONE ALARM (21)
SELECT ZONE (001) → (128)
ZONE FOLLOW (22)
SELECT ZONE (001) → (128)
DURESS OUTPUT (23)
PARTITION...X Y/N
BUZZER FOLLOW (24)
PARTITION...X Y/N
REMOTE OPERATION (25)
PARTITION...X Y/N
EXIT FOLLOW (26)
PARTITION...X Y/N
ENTRY FOLLOW (27)
PARTITION...X Y/N

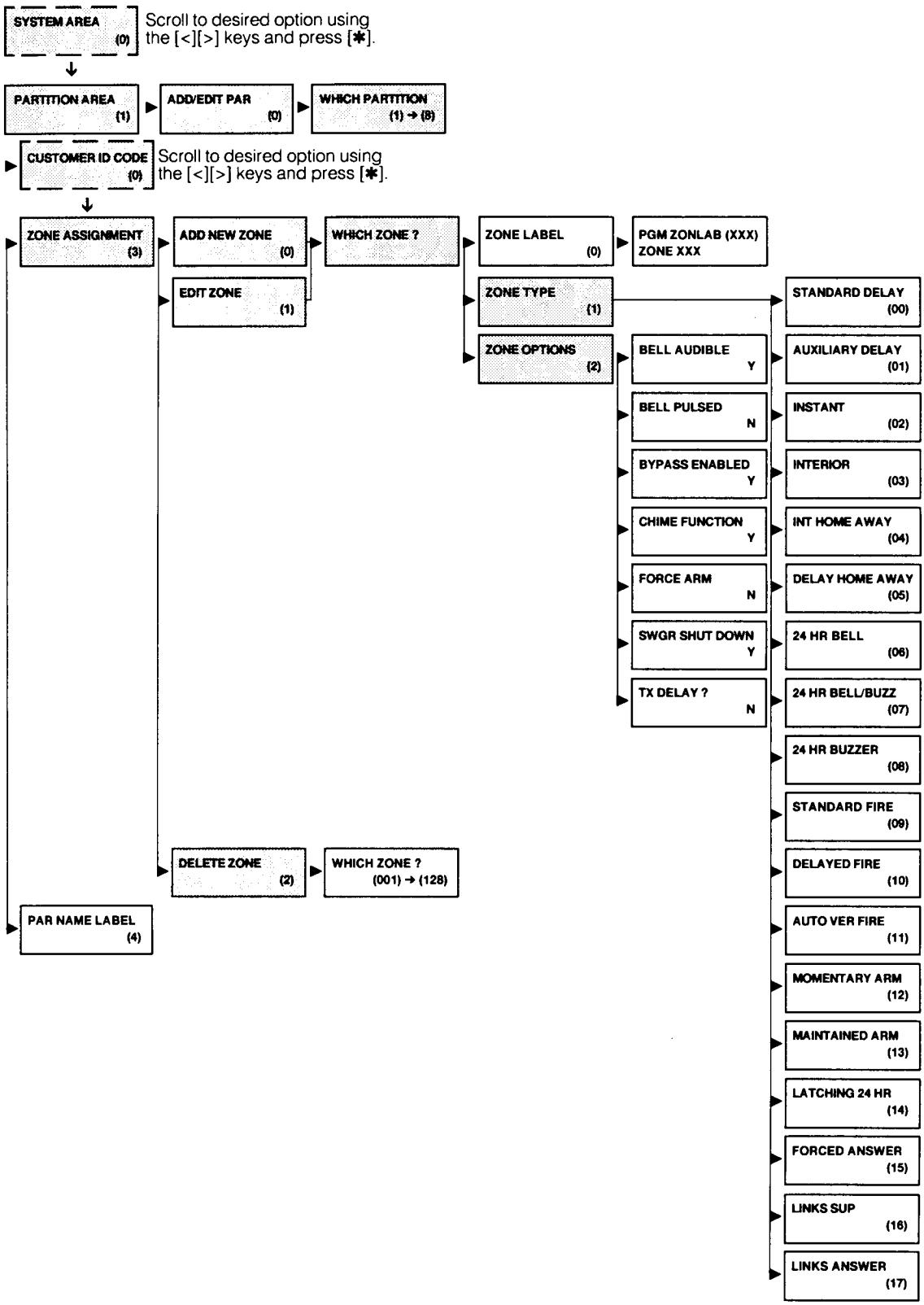

SYSTEM AREA (0)
INSTALLER OPTS (00)
Scroll to desired option using the [<][>] keys and press [✱].
RS-232 OPTIONS (08)
BAUD RATE (0)
300 BAUD (0)
600 BAUD (1)
1200 BAUD (2)
2400 BAUD (3)
HANDSHAKE (1)
HANDSHAKE OFF N

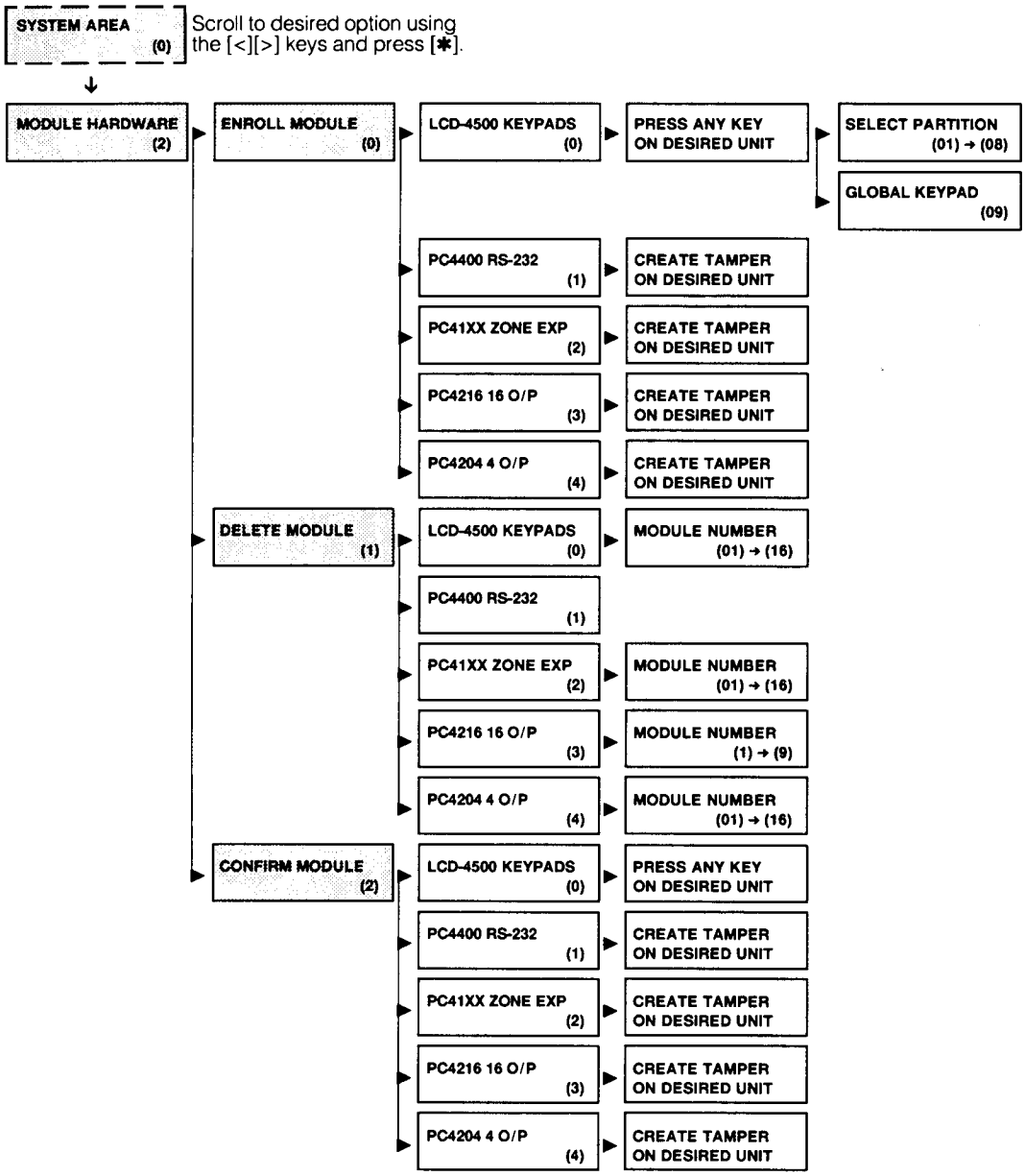

SYSTEM AREA (0)
INSTALLER OPTS (00)
SYSTEM LABEL (09)

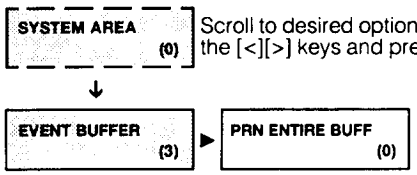
Partition Area Index

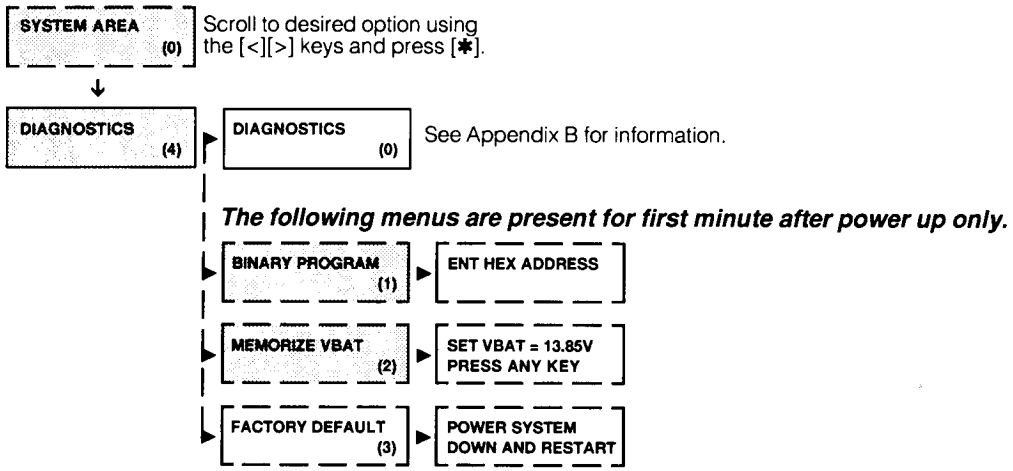



SYSTEM AREA (0)
Scroll to desired option using the [<][>] keys and press [✱].
PARTITION AREA (1)
ADD/EDIT PAR (0)
WHICH PARTITION (1) → (8)
CUSTOMER ID CODE (0)
PAR TOGGLES (1)
[F] ENABLED Y
[A] ENABLED Y
[P] ENABLED Y
DISPLAY CLOCK Y
DISP EXIT TIME Y
BYPAS REQ CODE Y
AUTOARM ENAB Y
ABORT REQ CODE N
AUTOARM SQUAWK N
BELL SQUAWK ON N
KYPD LOCKOUT? N
UTIL REQ CODE N
SEN RES REQ CD N
USER FN ANY CD N
PARTITION TIMES (2)
ENTRY DELAY (0)
EXIT DELAY (1)
AUX ENTRY DELAY (2)
AUX EXIT DELAY (3)
AUD.EXIT URGEN N
SQUAWK EX.DEL N
AUD.EXIT FAULT N
URG.ENTRY DEL N
SQUAWK EN.DEL N
ZONE ASSIGNMENT (3)
See next page for detail
PAR NAME LABEL (4)
DELETE PARTITION (1)
WHICH PARTITION (1) → (8)
COPY PARTITION (2)
FROM WHICH PARTITION? (1) → (8)
TO WHICH PARTITION? (1) → (8)


SYSTEM AREA (0)
Scroll to desired option using the [<][>] keys and press [*].
PARTITION AREA (1)
ADD/EDIT PAR (0)
WHICH PARTITION (1) → (8)
CUSTOMER ID CODE (0)
Scroll to desired option using the [<][>] keys and press [*].
ZONE ASSIGNMENT (3)
ADD NEW ZONE (0)
EDIT ZONE (1)
WHICH ZONE ?
ZONE LABEL (0)
PGM ZONLAB (XXX) ZONE XXX
ZONE TYPE (1)
ZONE OPTIONS (2)
BELL AUDIBLE Y
BELL PULSED N
BYPASS ENABLED Y
CHIME FUNCTION Y
FORCE ARM N
SWGR SHUT DOWN Y
TX DELAY ? N
STANDARD DELAY (00)
AUXILIARY DELAY (01)
INSTANT (02)
INTERIOR (03)
INT HOME AWAY (04)
DELAY HOME AWAY (05)
24 HR BELL (06)
24 HR BELL/BUZZ (07)
24 HR BUZZER (08)
STANDARD FIRE (09)
DELAYED FIRE (10)
AUTO VER FIRE (11)
MOMENTARY ARM (12)
MAINTAINED ARM (13)
LATCHING 24 HR (14)
FORCED ANSWER (15)
LINKS SUP (16)
LINKS ANSWER (17)
DELETE ZONE (2)
WHICH ZONE ? (001) → (128)
PAR NAME LABEL (4)

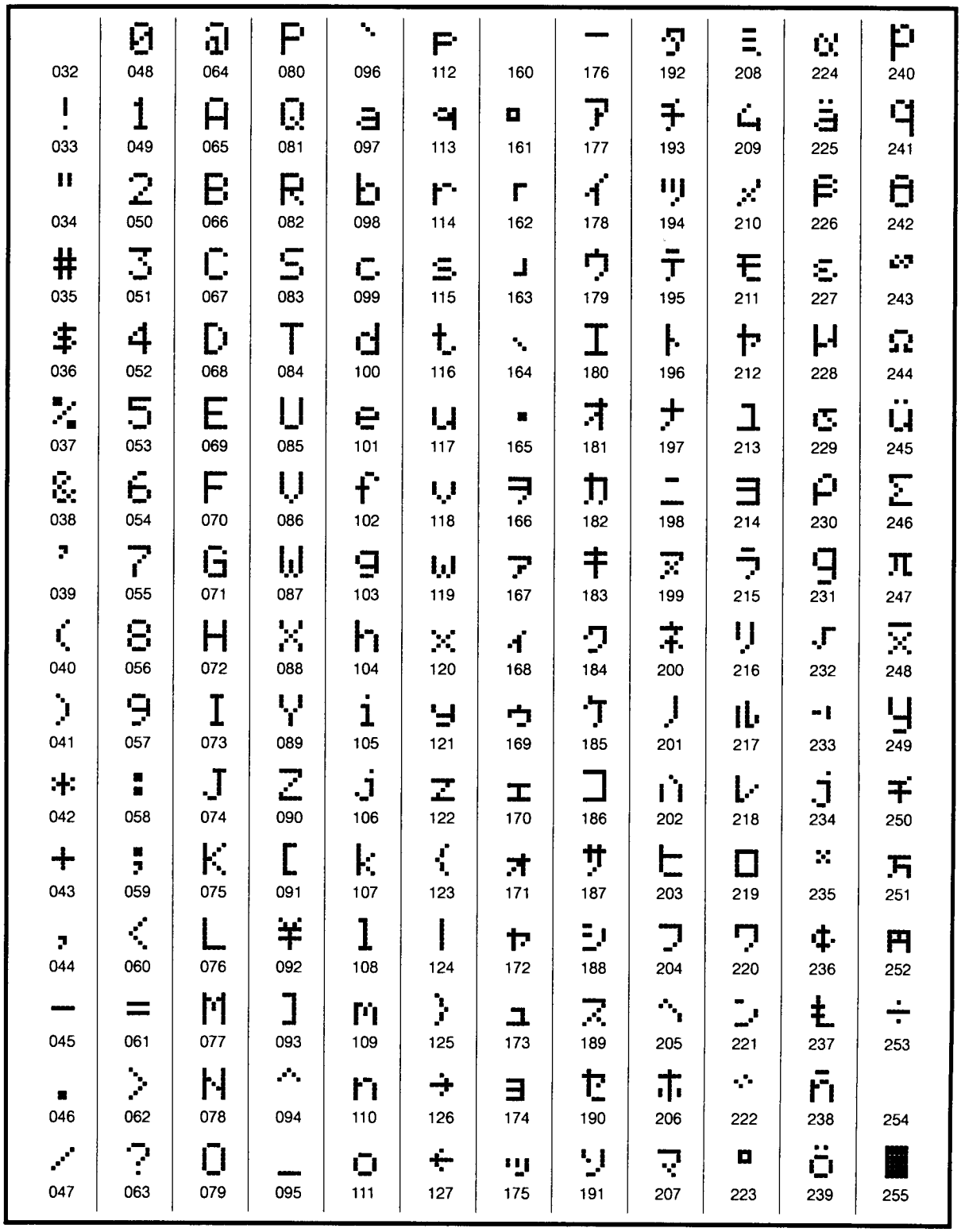

SYSTEM AREA (0)
Scroll to desired option using the [<][>] keys and press [*].
MODULE HARDWARE (2)
ENROLL MODULE (0)
LCD-4500 KEYPADS (0)
PRESS ANY KEY ON DESIRED UNIT
SELECT PARTITION (01) → (08)
GLOBAL KEYPAD (09)
PC4400 RS-232 (1)
CREATE TAMPER ON DESIRED UNIT
PC41XX ZONE EXP (2)
CREATE TAMPER ON DESIRED UNIT
PC4216 16 O/P (3)
CREATE TAMPER ON DESIRED UNIT
PC4204 4 O/P (4)
CREATE TAMPER ON DESIRED UNIT
DELETE MODULE (1)
LCD-4500 KEYPADS (0)
MODULE NUMBER (01) → (16)
PC4400 RS-232 (1)
PC41XX ZONE EXP (2)
MODULE NUMBER (01) → (16)
PC4216 16 O/P (3)
MODULE NUMBER (1) → (9)
PC4204 4 O/P (4)
MODULE NUMBER (01) → (16)
CONFIRM MODULE (2)
LCD-4500 KEYPADS (0)
PRESS ANY KEY ON DESIRED UNIT
PC4400 RS-232 (1)
CREATE TAMPER ON DESIRED UNIT
PC41XX ZONE EXP (2)
CREATE TAMPER ON DESIRED UNIT
PC4216 16 O/P (3)
CREATE TAMPER ON DESIRED UNIT
PC4204 4 O/P (4)
CREATE TAMPER ON DESIRED UNIT


SYSTEM AREA
(0)
Scroll to desired option using the [<][>] keys and press [✱].
EVENT BUFFER
(3)
PRN ENTIRE BUFF
(0)


SYSTEM AREA
(0)
Scroll to desired option using the [<][>] keys and press [✱].
DIAGNOSTICS
(4)
DIAGNOSTICS
(0)
See Appendix B for information.
The following menus are present for first minute after power up only.
BINARY PROGRAM
(1)
ENT HEX ADDRESS
MEMORIZE VBAT
(2)
SET VBAT = 13.85V
PRESS ANY KEY
FACTORY DEFAULT
(3)
POWER SYSTEM
DOWN AND RESTART

APPENDIX A

List of Available ASCII Characters



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 RS-232 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