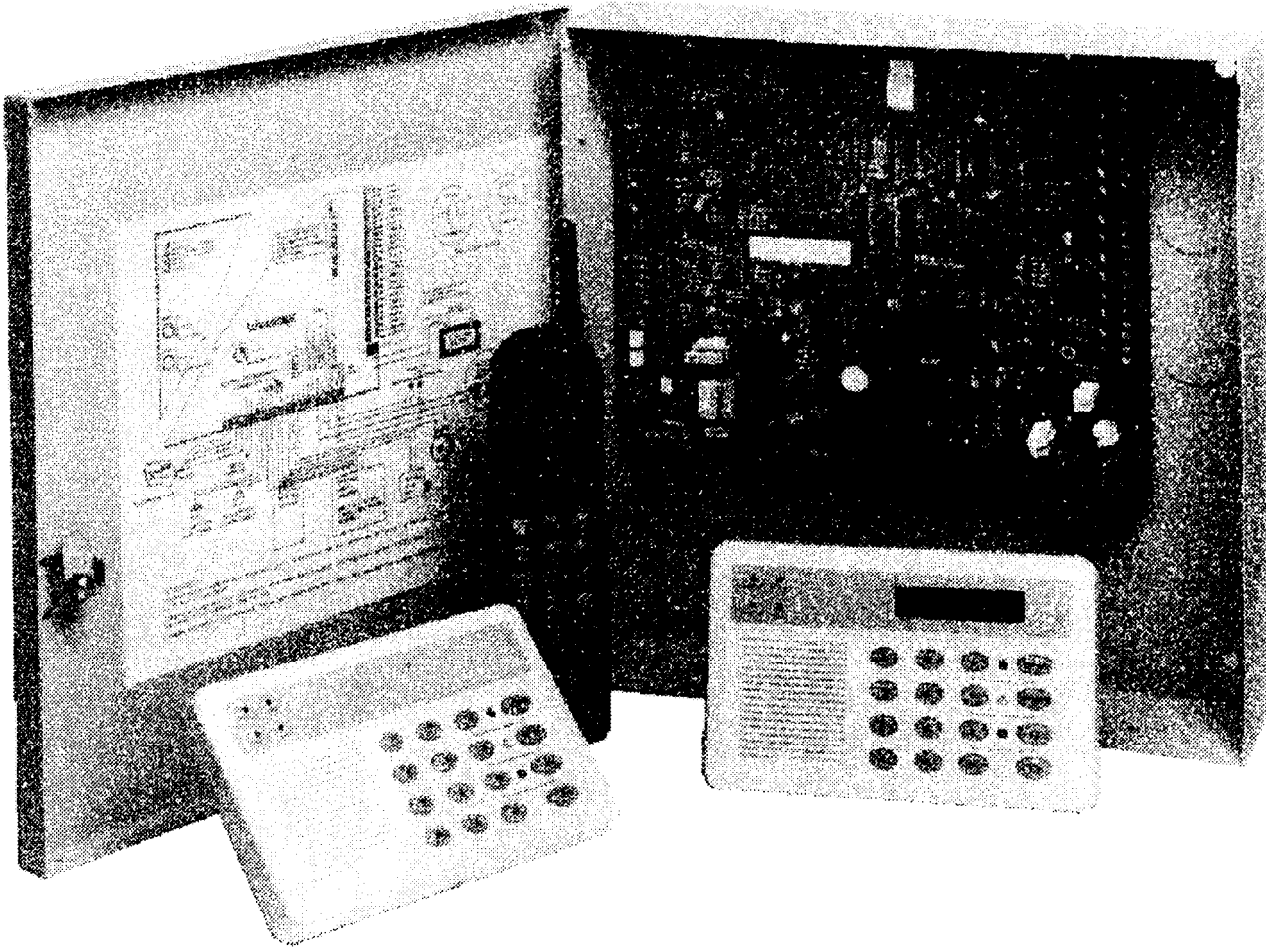


Advantage



Installation Manual

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INTRODUCTION

Purpose

This document is a step-by-step guide to understanding and programming the Apex ADVANTAGE control panel. Carefully following the instructions found in this manual will ensure that your ADVANTAGE panel is both operating properly and programmed correctly.

For a more detailed explanation of all ADVANTAGE options and features, request the Technical Notes Manual from your distributor.

Layout of Document

Pages 1 through 6 explain the use of this guide and proper inspection and bench testing procedures to be performed.

Pages 7 through 35 will guide you through the programming steps required to meet the needs of each particular installation.

Page 36 provides communicator diagnostic tips.

Pages 37 and 38 give tables of switch settings.

**WHAT TO DO
WHEN YOU
RECEIVE THE UNIT**

**WHAT TO DO WHEN
YOU RECEIVE THE UNIT**

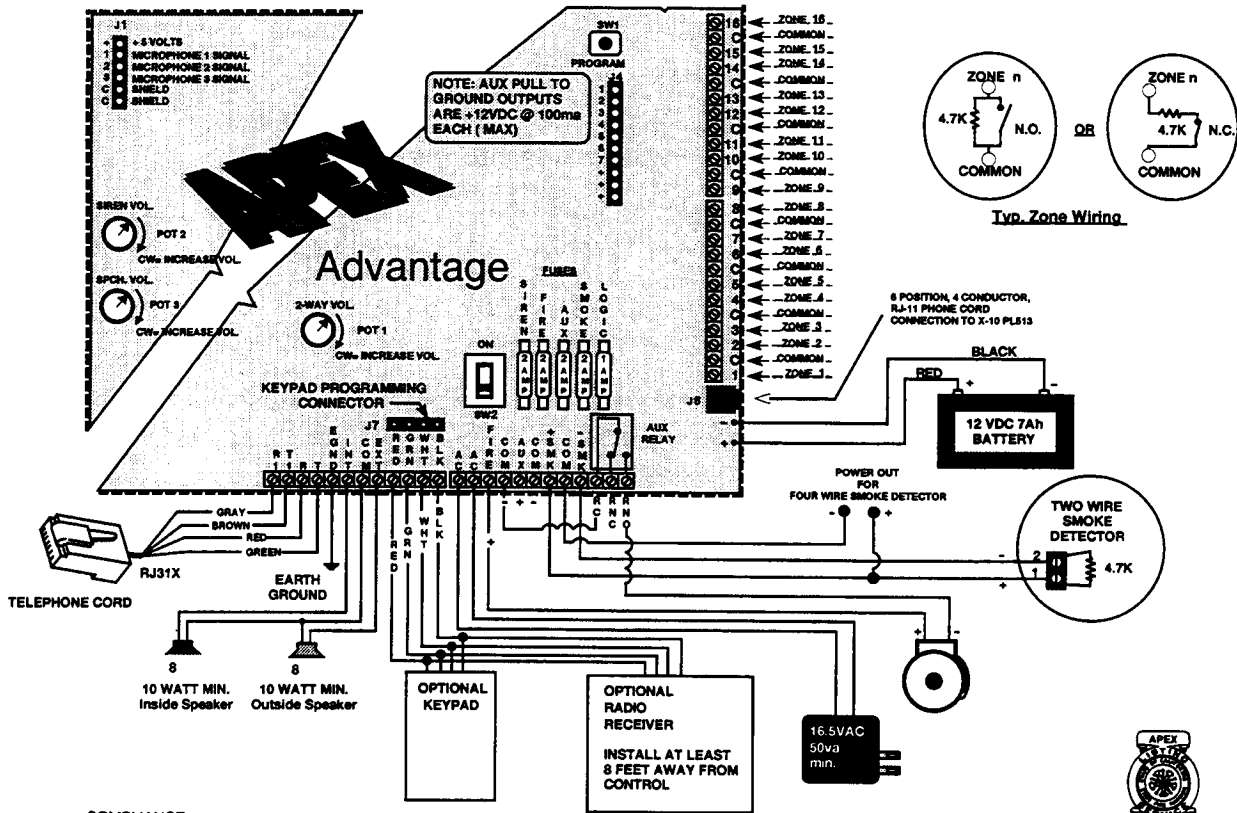
WHAT TO DO WHEN YOU RECEIVE THE UNIT

1. Inspect the shipping container for any signs of damage and/or tampering. Report any such signs to your distributor immediately.
2. Open the control enclosure and verify that the items listed below are included before proceeding to the next page.

Control Panel	Trans-former	4700 Ω 1/4W E.O.L. Resistors	Auxiliary Harness	Microphone Harness	SR-201 Receiver	Ground Plane Antenna	RG-59 Coax Cable	Literature Package
Advantage	1	17	1	1	N/A	N/A	N/A	1
RF Advantage	1	17	1	1	1	1	1	1

WIRING DIAGRAM

WIRING DIAGRAM

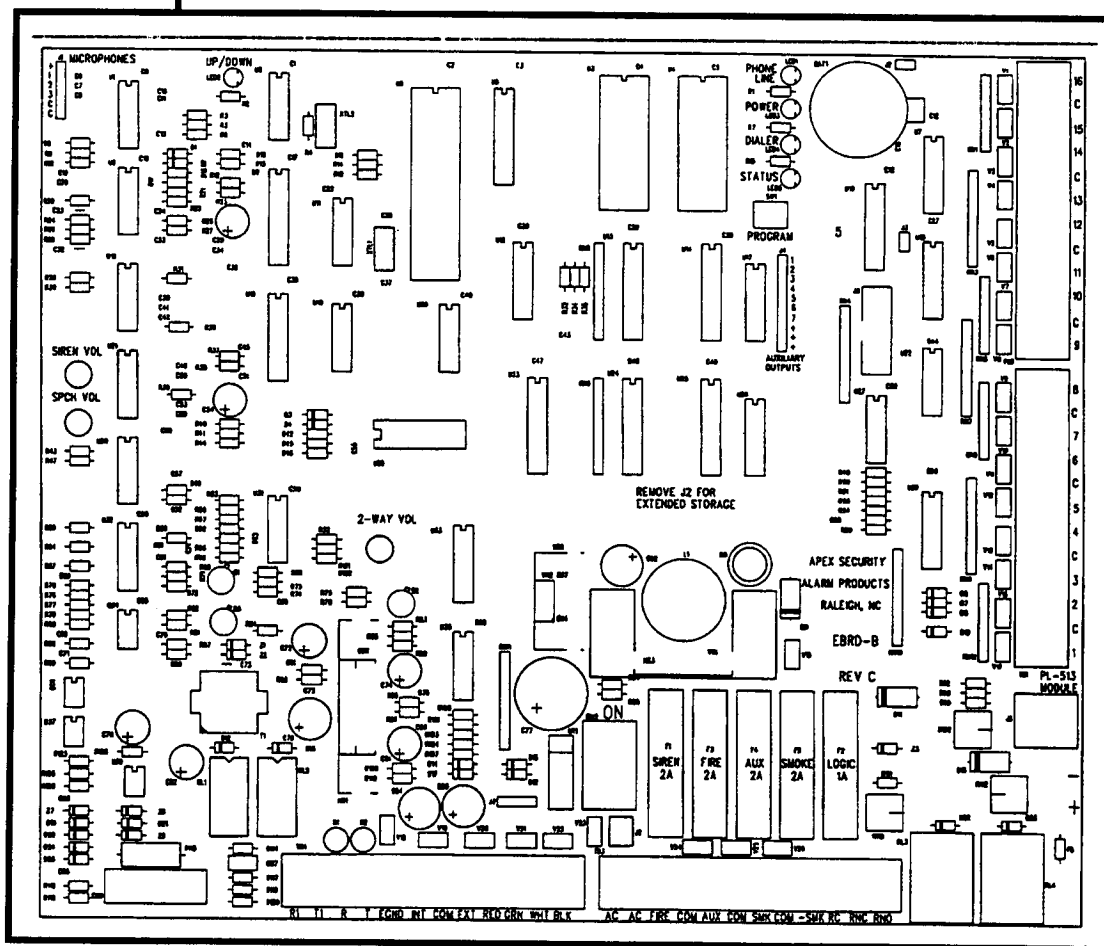


BENCH TESTING and PRELIMINARY HOOK-UP STEPS

BENCH TESTING and PRELIMINARY HOOK-UP STEPS

BENCH TESTING and PRELIMINARY HOOK-UP STEPS

1. Connect an APEX hardwire keypad to keypad terminals on ADVANTAGE control board, making sure to properly match the colors as follows: Black to **BLK**, Red to **RED**, Green to **GRN**, White to **WHT**.
2. Connect an 8 ohm speaker to the **INT** and **COM** terminals on the ADVANTAGE control board.
3. Connect the power transformer to AC terminals on ADVANTAGE control board and plug the transformer into an unswitched 110 outlet. Connect a 12 volt battery to the red and black battery leads on the ADVANTAGE board (observing polarity; red + and black -).
4. Turn power switch to "ON" position (up). You will hear one beep followed by two beeps, then proceed to step 5.
5. Simply press the **A** key on the keypad and the green AWAY LED will light. "ARMED TO AWAY" will be heard through the speaker. To disarm, push **1,2,3,4** (default Primary User Code) on the keypad. The AWAY LED will go out and "CONTROL IS DISARMED" will be heard.
6. If steps 1 through 4 go as described, the panel is ready to be programmed to suit the installation. Refer to the Programming Instructions and examples.



PROGRAMMING PROCEDURE

Step-by-step Programming Instructions

1) Enter Program Mode by entering **9,1,7,3**. (Default Service Code)

2) Enter a valid 3 digit Program Location code. The speaker will sound one beep for a valid location code.

If an invalid location code is entered, the speaker will sound 3 beeps and the system will wait for a valid location code.

3) Enter a Program Option code.

After entering a 3 digit option code, the system will verify entry by repeating it in speech.

4) To exit Program Mode enter **8,9,9**. The system will acknowledge by speaking "EXIT PROGRAM MODE".

If you do not exit program mode, the system will do so automatically if no keys are pressed for the time period in location 534.

CLEARING

HEARING WHAT IS PROGRAMMED

PROGRAMMING PROCEDURE

All system options are contained in RAM. Within the RAM are a number of distinct locations. Specific options are contained in each of these locations. Since the system is supplied with a factory default program, you will never be required to program all locations.

To program options into the system, it must be placed in program mode. The system may be placed in the program mode at any time from a keypad or remote phone by entering the current service code. The service code is set to the factory default of **9,1,7,3**.

NOTE: Program mode is not available from local phones.

PROGRAMMING

To get into program mode you enter your service code. You will hear "ENTER PROGRAM MODE" and the keypad will blank. The following will describe programming functions, features, and shortcuts.

Normal programming requires first the entry of a valid 3 digit program location code (P) followed by the entry of a 3 digit program option code (C). When a valid location code is entered the inside speaker will emit one beep to let you know you can now enter a program option code. If an invalid location code is entered, you will hear three beeps through the inside speaker, and the system will be waiting for a valid location code entry. Assuming you have entered a valid location code and you have heard the one beep, you may now enter a program option code. After entering the 3 digit option code, the system will verify your entry by repeating it in speech. Exit program mode by entering **8,9,9** and you will hear "EXIT PROGRAM MODE". The system will automatically exit program mode if no keys are pressed for the time period programmed in location 534. You may continue programming as many locations as you wish. No special order is required. You may hear what is programmed in any program location by pressing the **#** or **H** key after entering that location.

CONTINUED PROGRAMMING

If you choose to continue programming you can enter new valid program locations and option codes or program over locations you may have already entered in this session.

CLEARING

While in program mode the ***** or **A** key is used for clearing. If you are in the process of entering a new program location and make a mistake, you can press the ***** or **A** button and start over. If you have successfully entered a program location and make a mistake after entering 1 or 2 digits of the program option code, you can press the ***** or **A** key to clear your entire entry. You can then make a new entry starting with a program location.

HEARING WHAT IS PROGRAMMED

At times it will be beneficial to actually hear what is programmed in various locations. To hear what is in a particular location you must enter the location number followed by the depression of the **#** or **H** key. After pressing the **#** or **H**, the system will echo the program location followed by the programmed option code. For example: If you have programmed option code **081** to zone 1, press **0,0,1** then **#** or **H**. You will hear "ZERO ZERO ONE IS ZERO EIGHT ONE".

ZONE PROGRAMMING WORKSHEET

ZONE & KEYPAD PROGRAMMING WORKSHEET

DESCRIPTION	PROGRAM LOCATION (P)	DEFAULT CODE (C)	NEW PROGRAM CODE (C)
Number of wireless zones for this installation (wireless must precede hardwire)	166	000	_____
Number of hardwire zones for this installation	167	000	_____
Receiver residence code	168	010	_____

ZONE #	DEFAULT DESCRIPTION	INSTALLER'S ASSIGNMENT	PROGRAM LOCATION (P)	DEFAULT CODE (C)	NEW PROGRAM CODE (C) (See next page)
1	Exterior Delay 1	_____	001	081	_____
2	Exterior Delay 2	_____	002	082	_____
3	Exterior Instant	_____	003	080	_____
4	Exterior Instant	_____	004	080	_____
5	Exterior Instant	_____	005	080	_____
6	Exterior Instant	_____	006	080	_____
7	Interior Follower	_____	007	026	_____
8	Interior Follower	_____	008	026	_____
9	Disabled	_____	009	015	_____
10	Disabled	_____	010	015	_____
11	Disabled	_____	011	015	_____
12	Disabled	_____	012	015	_____
13	Disabled	_____	013	015	_____
14	Disabled	_____	014	015	_____
15	Disabled	_____	015	015	_____
16	Disabled	_____	016	015	_____

NOTE: HARDWIRE FIRE ZONES WILL ONLY WORK ON THE 16 ZONES ON THE CONTROL BOARD AND THE EXPANSION ZONES AVAILABLE ON LCD KEYPADS AND HWB-416. FIRE ZONES WILL NOT WORK ON THE HWB-216 EXPANSION BOARD. THIS DOES NOT APPLY TO THE 2-WIRE SMOKE LOOP.

17	Disabled	_____	017	015	_____
18	Disabled	_____	018	015	_____
19	Disabled	_____	019	015	_____
20	Disabled	_____	020	015	_____
21	Disabled	_____	021	015	_____
22	Disabled	_____	022	015	_____
23	Disabled	_____	023	015	_____
24	Disabled	_____	024	015	_____
25	Disabled	_____	025	015	_____
26	Disabled	_____	026	015	_____
27	Disabled	_____	027	015	_____

NOTE: There are additional program locations **028 - 080** for the remaining available zones. While you can program all 80 zones, for space consideration the remaining individual locations are not listed in this worksheet.

NOTE: Any zones not being used should be disabled by programming **015** in the appropriate location. If an **015** is programmed into a hardwire zone location, you do not have to install the end of line resistor.

NOTE: All wireless zones **must** precede **all** hardwire zones.

USING THE ZONE ?'s TABLE

USING THE ZONE ?'s TABLE

1. Ask yourself the three questions explained below about your type of zone (wireless or hardwired).
2. When you have answered the third question you can only be in one column.
3. After identifying the proper column move down to the Zone Type section of the table.
4. The block at the intersection of the proper column and the desired zone type contains the correct 3 digit code for that zone.

ZONE QUESTIONS

Do you want this zone to display when it is open?

Do you want low battery and zone trouble sent to central station?

Do you want a zone activation sent to central station?

Same as Open/Status above.

Do you want slow or fast loop response?

Same as Act to CS above.

WIRELESS	A	B	C	D	E	F	G	H
ZONE ?'S								
Open/Status	NO	NO	NO	NO	YES	YES	YES	YES
Low B to CS	NO	NO	YES	YES	NO	NO	YES	YES
Act to CS	NO	YES	NO	YES	NO	YES	NO	YES

HARDWIRED	A	B	C	D	E	F	G	H
ZONE ?'S								
Open/Status	NO	NO	NO	NO	YES	YES	YES	YES
Slow/Fast	SLOW	SLOW	FAST	FAST	SLOW	SLOW	FAST	FAST
Act to CS	NO	YES	NO	YES	NO	YES	NO	YES

ZONE TYPE	A	B	C	D	E	F	G	H
Ext Instant	000	016	032	048	064	080	096	112
Ext Delay 1	001	017	033	049	065	081	097	113
Ext Delay 2	002	018	034	050	066	082	098	114
Int Instant	003	019	035	051	067	083	099	115
Int Delay 1	004	020	036	052	068	084	100	116
Int Delay 2	005	021	037	053	069	085	101	117
24 hr Fire	006	022	038	054	070	086	102	118
24 hr Panic	007	023	039	055	071	087	103	119
24 hr Silent	008	024	040	056	072	088	104	120
24 hr Med	009	025	041	057	073	089	105	121
Follower	010	026	042	058	074	090	106	122
Aux 1	011	027	043	059	075	091	107	123
Aux 2	012	028	044	060	076	092	108	124
Day	013	029	045	061	077	093	109	125
Arm/Disarm	014		046					
Disable	015							

NOTE:

To make a wireless zone fully supervised, add 128 to the number in the block.

To make a hardwire zone fully supervised add 128 to the # in the block and use two EOL resistors in your wiring loop. Refer to Technical Notes pg. 20 for wiring instructions.

Fire zones need only 1 resistor for full Class A supervision.

ZONE PROGRAMMING WORKSHEET

ZONE & KEYPAD PROGRAMMING WORKSHEET

ZONE #	DEFAULT DESCRIPTION	INSTALLER'S ASSIGNMENT	PROGRAM LOCATION (P)	DEFAULT CODE (C)	NEW PROGRAM CODE (C)
--------	---------------------	------------------------	----------------------	------------------	----------------------

Two-Wire Smoke Loop

_____ Fire (This will always be the next zone number after the last hardwire zone.)

Keypads

_____ Fire	Hardwire keypad 1 - 3, 3-STATUS	085	022	_____
_____ Emergency	Hardwire keypad 4 - 6, 6-MONITOR	086	025	_____
_____ Panic	Hardwire keypad 7 - 9, 9-F1	087	023	_____
_____ Remote Control	Hardwire keypad 1 - 7	088	012	_____
_____ Monitor	Hardwire keypad 3 - 9	089	001	_____
_____ Function 1 _____	Hardwire keypad F1	150	012	_____
_____ Function 2 _____	Hardwire keypad F2	151	010	_____
_____ Panic	WKP-21 wireless keypad P - P	090	023	_____

LCD - HW Keypads and HWB-416 With Built-in Hardwire Zones

Number of hardwire zones on keypad or section 1	214	000	_____
Number of hardwire zones on keypad or section 2	215	000	_____
Number of hardwire zones on keypad or section 3	216	000	_____
Number of hardwire zones on keypad or section 4	217	000	_____
Number of hardwire zones on keypad or section 5	218	000	_____
Number of hardwire zones on keypad or section 6	219	000	_____
Number of hardwire zones on keypad or section 7	220	000	_____
Number of hardwire zones on keypad or section 8	221	000	_____

NOTE: Any zones not being used should be disabled by programming **015** in the appropriate location. If an **015** is programmed into a hardwire zone location, you do not have to install the end-of-line resistor.

VERY IMPORTANT: The ADVANTAGE is capable of complete wireless and hardwire supervision. The transmitters automatically send a signal every 110 minutes. The control, as shipped to you, does not look for this supervisory signal. To program a wireless zone as fully supervised, you simply add **128** to the program code found in **THE ZONE ?'s TABLE**. For example, to make defaulted zone 1 completely supervised, you would program **209 (081 + 128)**. When a wireless zone is programmed to be completely supervised, the control will expect to see an automatic signal every 110 minutes. If the control does not receive at least one good signal in a 12 hour period, that zone will produce TROUBLE status, indicating a failure to report condition. The TROUBLE will clear when a good signal is sent.

The following **DOES NOT** refer to fire zones. As far as hardwire is concerned the control does not initially look for full two resistor (Class A) supervision on each loop. To program a hardwire zone as fully supervised, just as above you add **128** to the program code you select in **THE ZONE ?'s TABLE**. When a hardwire zone is programmed to be completely supervised, the control will recognize a break or short in the loop as a trouble condition in addition to recognizing the intended open and close changes. (This happens with one resistor for fire zones.) You can program an option in location **095** to have any trouble condition reported as an alarm. If there is a trouble condition, the zone will produce TROUBLE status. The number and TROUBLE will clear when the trouble in the loop has been corrected. See Technical Notes page 20 for a detailed description of wiring along with two resistors.

NOTE: Never use more than one resistor on a fire zone.

KEYPAD ZONE TABLE

ZONE TYPE	NO REPORT TO CENTRAL STATION	REPORT TO CENTRAL STATION
SPEAK TIME	000	
MONITOR ON/OFF	001	
ENTER BYPASS MODE	002	
SPEAK ALARM MEMORY	003	
SILENCE DAY ZONE	004	
SPEAK SYSTEM STATUS	005	
24 HOUR FIRE	006	022
24 HOUR PANIC	007	023
24 HOUR SILENT	008	024
24 HOUR EMERGENCY	009	025
SINGLE CHANNEL ON/OFF	010	
DISABLED	011	
ENTER REMOTE CONTROL	012	
EXTENDED MONITOR A	013	
EXTENDED MONITIR B	014	
DISABLED	015	

ZONE PROGRAMMING STEPS

The above chart gives the program codes for locations **085-089** and **150-152**, which are for the RK-36 hardwire keypad and the WKP-21 wireless keypad. Your first decision is whether or not you want the selected zone type to report to the central station when activated. If you **DO NOT** want the central station to receive a report, you will select a value in column 1. If you **DO** want a central station report, you will select from column 2. You will note that some zone types will never report to the central station. As in previous examples, simply intersect the proper column and row to arrive at the desired value.

VOCABULARY

VOCABULARY FOR WORD DEFINITION

PROGRAM CODE	WORD	PROGRAM CODE	WORD	PROGRAM CODE	WORD
024	ACCESS	077	FRONT	127	POOL
025	ACCOUNT	078	FUSE	128	PORCH
026	ALERT	079	GARAGE	129	POUND
197	AND	180	GAS	130	POWER
027	APPLIANCE	199	GATE	131	PRO
028	ARE	080	GIRLS	132	PROBLEM
029	AREA	081	GLASS	133	PROGRAM
030	ARMED	082	GREAT	134	P.M.
031	ATTIC	083	GUEST	190	REAR
032	AWAY	181	GUN	135	REC
033	A.M.	084	HALL	136	REMAIN CALM
034	B	085	HEAD	137	REMOTE
035	BACK	086	HEAT	138	REPORT
176	BAR	087	HOME	139	RESTORED
036	BASEMENT	182	HOT TUB	140	RIGHT
037	BATHROOM	183	HOUSE	141	ROOM
038	BATTERY	088	IN	191	SAFE
039	BAY	089	INTRUDER	142	SCREEN
040	BEDROOM	090	INTRUSION DETECTED	143	SECOND
041	BOTTOM	091	IS	144	SENSOR
042	BOY'S	184	JEWELRY	007	SEVEN
043	BREAK	092	KEYPAD	021	SEVENTY
044	BYPASSED	093	KITCHEN	145	SHOCK
045	C	094	LAMP	146	SHOP
177	CABINET	095	LAUNDRY	147	SHOWING
046	CLOSED	096	LEAVE IMMEDIATELY	148	SIDE
047	CLOSET	097	LEFT	006	SIX
048	CODE	185	LEVEL	020	SIXTY
175	COMMUNICATOR	098	LIBRARY	149	SKY
049	CONTROL	099	LIGHT	192	SLIDER
050	CORNER	100	LIGHTS	150	SLIDING
051	CRAWL SPACE	101	LIVING	151	SMOKE
052	D	200	LOCATION	152	SOUTH
053	DECK	102	LOCK	193	SPA
054	DEGREES	103	LOW	153	SPARE
055	DEN	104	MAIN	154	STAIRS
056	DETECTED	105	MASTER	155	STAR
057	DETECTOR	186	MEDICINE	204	STAY
058	DINING	106	MIDDLE	156	STORAGE
059	DISARMED	107	MODE	194	STRESS
060	DOOR	108	MODULE	157	STUDY
061	DOWN	187	MONITOR	158	SUN
198	DRIVEWAY	109	MOTION	159	SYSTEM
062	E	110	MUD	195	TAMPER
063	EAST	111	NIGHT	015	TEEN
008	EIGHT	009	NINE	160	TEMPERATURE
022	EIGHTY	023	NINETY	010	TEN
011	ELEVEN	112	NOOK	013	THIR
064	ENTER	113	NORTH	161	THIRD
065	ENTRY	114	NUMBER	017	THIRTY
066	EXIT	115	NURSERY	003	THREE
067	F	116	O	162	TONE
068	FAIL	117	OFF	163	TOP
069	FAMILY	118	OFFICE	164	TROUBLE
178	FAN	119	ON	012	TWELVE
014	FIF	001	ONE	016	TWENTY
019	FIFTY	120	OPEN	002	TWO
070	FIRE	201	OPTION	165	UNDER
071	FIRST	202	OR	166	UNIT
005	FIVE	121	OUT	167	UP
072	FLOOD	122	OUTLET	168	USER
179	FLOOR	123	OVER	169	UTILITY
073	FLORIDA	188	PARLOR	170	WALK
074	FORCE	203	PATIO	196	WATER
018	FORTY	124	PAUSE	171	WEST
004	FOUR	189	PET	172	WINDOW
075	FOYER	125	PHONE	000	ZERO
076	FRENCH	126	PLAY	173	ZONE
				174	ZONES

ZONE WORD DEFINITION PROGRAMMING WORKSHEET

ZONE WORD DEFINITION PROGRAMMING WORKSHEET

Zone #	Word 1	Code	Word 2	Code	Word 3	Code	Word 4	Code
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								
46								
47								
48								

NOTE: For space consideration, this worksheet does not show the remaining zones available for word assignment.

ZONE WORD DEFINITION PROGRAMMING WORKSHEET

ZONE WORD DEFINITION PROGRAMMING WORKSHEET

The ADVANTAGE allows you to assign up to four words of description (taken from the list that follows) to each zone. The system will speak the selected words or simply say "ZONE" followed by the number if you do not program any words.

NOTE: You must have the proper number of wireless and hardwire zones programmed in locations 166 and 167 prior to assigning words to zone.

To program words to a zone:

1. Enter program mode.
2. Enter Program Location **920**
You will hear the system speak "ENTER ZONE".
3. Enter a two-digit zone number (i.e., **01, 02, ... 10, 11**, etc.)
The system will confirm your entry by speaking the zone number followed by "ENTER CODE".
4. Begin entering the three-digit codes for each word you select from the word list. After each entry is accepted the system will echo your selected word.

You will hear the words "ENTER ZONE" after a fourth word is programmed. If you are programming fewer than four words, press the **H** key (# on the phone) after your last word entry and you will be prompted to enter a new zone number.

5. If you wish to return to zone number entry without saving the current programming sequence press **A** (* on the phone). This will not clear what may have already been programmed for that zone before you began the current sequence.
6. If you enter a word code that does not exist, you will hear three beeps and the system will tell you to begin a new entry by entering a zone number.
7. To clear the words programmed for a zone, you will enter the zone number and then **255**. Remember, when there are no words programmed for a zone, the system will speak "ZONE" and the number. When you have completed your zone word programming, press **H** (# on the phone) after just hearing "ENTER ZONE". You will hear "exit" and the system will return to normal program mode.
8. To play back or listen to your selections, enter **930** while in program mode. You will hear "ENTER ZONE". To hear the words programmed for a specific zone, enter the two-digit zone number. When you are through listening, press the **H** key (# on the phone) to return to normal program mode.

OTHER WORD DEFINITION AND TIMES PROGRAMMING WORKSHEET

X-10 AND/OR AUXILIARY OUTPUT WORD DEFINITION AND TIMES PROGRAMMING WORKSHEET

The ADVANTAGE allows you to assign up to four words of description to the 33 output channels (X-10 or auxiliary) that are controlled by the system or phone or keypads. Selecting a unit requires a two digit entry. The system will speak the selected words or simply say "UNIT" followed by the number of the two keys pressed if you do not program any words. Programming selected words to an output is done essentially the same way as programming words to a zone. (See page 11 for complete instructions.) Instead of hearing "ENTER ZONE", you will hear "ENTER UNIT". The selection location is 921 and the playback location is 931.

Phone & Keypad

Digit #	Word 1	Code	Word 2	Code	Word 3	Code	Word 4	Code
01								
02								
03								
04								
05								
06								
07								
08								
09								
10								
11								
12								
13								

NOTE: For space consideration this worksheet does not show the remaining channels available for word assignment.

DESCRIPTION	UNIT OF MEASURE	PROGRAM LOCATION (P)	DEFAULT CODE (C)	NEW PROGRAM CODE (C)
Times:				
Entry delay 1	seconds	100	020	
Entry delay 2	seconds	101	020	
Exit time	seconds	102	030	
Alarm cut off and reset	minutes	103	005	
Fire chirp (time between each chirp)	seconds	106	000	
000 disables fire chirp				
Hardwire "FAST" response	32 ms units	107	002	
Hardwire "SLOW" response	32 ms units	108	005	
Time before control recognizes	minutes	109	001	
loss of AC power				
Time between control battery testing	days	110	000	
000 disables periodic battery test				
number of activations				

SYSTEM OPTIONS PROGRAMMING WORKSHEET

SYSTEM OPTIONS PROGRAMMING WORKSHEET

DESCRIPTION	PROGRAM LOCATION (P)	DEFAULT CODE (C)	NEW PROGRAM CODE (C)
Option:	094		
Using the built-in speaker in any RK-36 version keypad	001		_____
Automatic time of day control of X-10 in AWAY mode only	002		_____
Disarm before re-arm	004	004	_____
Arm A to H and H to A without disarming	000		_____
All tones to inside speaker (demo only, disables outside speaker)	008		_____
Access code before arm	016		_____
Speak prealarm instead of tone	032	032	_____
3 digit disarm code	064		_____
Echo system status (inside speaker)	128	128	_____
Total programmed in 094	094	164	_____
Option:	095		
Do not require second press of arming button for "force arm"	004		_____
No exterior instant exit delay	008		_____
No entry delay in HOME	016		_____
Auto 96 hr clear of long term memory and event memory log	032		_____
Report supervision trouble as alarm (hardwire zones only)	064		_____
Total programmed in 095	095	000	_____
Option:	096		
Signal end of exit delay (inside speaker)	001	001	_____
Display all Alerts during each activation	002	002	_____
Voice driver	004	004	_____
Partitioning	008		_____
Echo local phone speech through inside speaker	016		_____
Night mode	032	032	_____
Two-way voice call back from central station	064		_____
Total programmed in 096	096	039	_____
Option:	098		
Speak auxiliary zone type	001	001	_____
Speak status immediately after local phone access	002		_____
Silence inside speaker status output in HOME	004		_____
Speak zone description in Extended Monitor	008	008	_____
Flash the "Alert" X-10 output	016		_____
Flash the "Any activation" X-10 output	032		_____
Do not allow force arming	064		_____
Total programmed in 098	098	009	_____
Two-Wire Smoke Loop Option:	247		
Send alarm activation report to central station	001		_____
Show open/close loop status at keypad	004		_____
Enable use of the two-wire smoke loop	008		_____
Total programmed in 247	247	000	_____

NOTES:

USER CODE PROGRAMMING WORKSHEET

USER CODE PROGRAMMING WORKSHEET

USER CODE ENTRY CHANGE

Initializing and changing of the 32 available user codes will be done from the keypad or phone during normal operation. To disable all codes except the first code, you can enter a location value of **000** while in program mode. Holding the control program switch down and releasing it after hearing one beep will return user code **1** back to default of **1,2,3,4**.

User codes have function operations and the choice of what keypads and/or phones will accept each code. Using the options below, you will add two or more together to arrive at an option code to program. The minimum number for a code to work is **016**.

NOTE: 8,8,8,8 is locked in as the access code to remote control for X-10 and auxiliary outputs. **9,9,9,9** is locked in as the user access to two-way mode.

Code Options

Duress	001
Disappearing	004
Do all functions (doesn't incl opts above or below)	008
Works on remote telephone	016
Works on optional wired/wireless keypads	032
Works on local telephones	064
Send Open report to cs for this user	002
Send Close report to cs for this user	128

DESCRIPTION	PROGRAM LOCATION (P)	DEFAULT CODE (C)	NEW PROGRAM CODE (C)
Code 1 Options	115	250	_____
Code 2 Options	116	000	_____
Code 3 Options	117	000	_____
Code 4 Options	118	000	_____
Code 5 Options	119	000	_____
Code 6 Options	120	000	_____
Code 7 Options	121	000	_____
Code 8 Options	122	000	_____
Code 9 Options	123	000	_____
Code 10 Options	124	000	_____
Code 11 Options	125	000	_____
Code 12 Options	126	000	_____
Code 13 Options	127	000	_____
Code 14 Options	128	000	_____
Code 15 Options	129	000	_____
Code 16 Options	130	000	_____
Code 17 Options	131	000	_____
Code 18 Options	132	000	_____
Code 19 Options	133	000	_____
Code 20 Options	134	000	_____
Code 32 Options	146	000	_____

NOTE: For space consideration the worksheet does not show program locations **135 -145** for user codes **21 -31**.

Number of times disappearing codes are active **165** **001**

AUXILIARY OUTPUTS WORKSHEET

AUXILIARY OUTPUTS WORKSHEET

There are a total of 7 auxiliary pull to ground outputs available on the ADVANTAGE at J4 and an eighth output is provided with dry relay contacts at terminals "RC RNC RNO". Below is a list of the options you may assign to each output. The number you program (**001-008**) in each location assigns which wire on the harness (counting from the top) will receive that defined output or in the case of **000** that the auxiliary relay will receive the output. A value of **000** or anything greater than **008** will disable the output.

DESCRIPTION	PROGRAM LOCATION (P)	DEFAULT CODE (C)	NEW PROGRAM CODE (C)
Any alarm activation	181	000	_____
Burglary	182	000	_____
Fire	183	000	_____
Panic	184	000	_____
Silent Panic	185	000	_____
Auxiliary zone type 1 & 2 (see location 105)	186	000	_____
Prealarm (see location 235)	187	000	_____
Extended Monitor	188	000	_____
Remote Phone Access	189	000	_____
Emergency	190	000	_____
Arm to HOME	191	000	_____
Arm to AWAY	192	000	_____
Arm to HOME or AWAY	193	000	_____
Disarm	194	000	_____
Access code entered	195	000	_____
Alert	196	000	_____
Loss of phone line	197	000	_____
Duress Disarm	198	000	_____
Duress when not armed	199	000	_____
AC fail	200	000	_____
2-way Voice	201	000	_____
Smoke reset	202	000	_____

NOTE: Outputs 1 - 7 are intended to drive loads of 12 VDC at 100 ma maximum. These outputs are not intended to power anything outside the control.

Time Aux. zone type 1 and 2 output	seconds . 105	005	_____
will remain active			
Time prealarm output will remain active.	minutes . 235	005	_____
000 will cause output to turn off at end of prealarm			

EXTENDED MONITOR & OTHER SYSTEM OPTIONS PROGRAMMING WORKSHEET

EXTENDED MONITOR & OTHER SYSTEM OPTIONS PROGRAMMING WORKSHEET

DESCRIPTION	PROGRAM LOCATION (P)	DEFAULT CODE (C)	NEW PROGRAM CODE (C)
-------------	-------------------------	---------------------	-------------------------

EXTENDED MONITOR

Time extended monitor zones will display at keypad 000 will cause display to remain until manual clear	<i>seconds</i> 237	030	_____
Time between speech or beeps when extended monitor is displayed (000 will disable this function)	<i>seconds</i> 238	000	_____

Zone Types to Include in A (full function code followed by 3):

Exterior instant	001	001	_____
Exterior delay 1	002	_____	_____
Exterior delay 2	004	_____	_____
Interior instant	008	_____	_____
Interior delay 1	016	_____	_____
Interior delay 2	032	_____	_____
Follower	064	_____	_____

Total programmed in 239	239	001	_____
-------------------------	-----	------------	-------

Zone Types to Include in B (full function code followed by 4):

Exterior instant	001	001	_____
Exterior delay 1	002	002	_____
Exterior delay 2	004	004	_____
Interior instant	008	_____	_____
Interior delay 1	016	_____	_____
Interior delay 2	032	_____	_____
Follower	064	_____	_____

Total programmed in 240	240	007	_____
-------------------------	-----	------------	-------

TROUBLE CONDITIONS DISPLAYED AS STATUS

000 will not display			
001 will display			
Blown fuse	241	000	_____
Control low battery	242	000	_____
Communicator	243	000	_____

BYPASS OPTIONS

Option:	246	_____	_____
Select no options	000	000	_____
Open zones automatically bypassed at "force arm"	001	_____	_____
Zones bypassed by "force arm" auto unbypass at disarm	002	_____	_____
Unbypass all bypassed zones automatically at disarm	004	_____	_____

Total programmed in 246	246	000	_____
-------------------------	-----	------------	-------

Number of activations before a zone is automatically bypassed (000 disables this feature)	169	000	_____
--	-----	------------	-------

Time period for above option	<i>hours</i> 170	000	_____
------------------------------	------------------	------------	-------

Auto event memory log upload (001 enables this feature)	249	000	_____
--	-----	------------	-------

Days between each upload	250	007	_____
--------------------------	-----	------------	-------

Maximum number of dialing attempts	251	008	_____
------------------------------------	-----	------------	-------

SPECIAL LOCATION PROGRAMMING WORKSHEET

Location	Description
000	Clear all auxiliary user codes
897	Clear all bypass, RF open and trouble, low battery, and alerts
898	Clear event memory log and long term memory
899	Exit program mode
900	Enter Phone #1
901	Enter Phone #2
904	Enter Phone # for automatic download
905	Enter Account #1
906	Enter Account #2
909	Enter Account # for automatic download
910	Speak Phone #1
911	Speak Phone #2
914	Speak automatic download Phone #
915	Speak Account #1
916	Speak Account #2
919	Speak automatic download account #
920	Enter zone word definition
921	Enter X-10 and/or auxiliary output word definition
930	Speak zone words
931	Speak X-10 and/or auxiliary output words
940	Speak long term memory during phone programming
941	Speak system status during phone programming
950	Exit RF field strength mode
951	Place system in RF field strength mode
952	Initiate the system for a direct connect upload/download
953	Initiate the system for an automatic download
960	Echo communicator activity through inside speaker
965	Download Words to Keypad
970	Begin automatic communicator test report start countdown
980	Demo kit phone simulation active
981	Demo kit "live" 2-way active
982	Default entire system to factory defaults
990	Speak software revision number
991	Set clock time and date
992	Set on/off times for 33 X-10/auxiliary output channels
993	Set automatic arm and disarm times
994	Set times to check for arm and/or disarm for Fail to Open/Close
995	Set time for automatic communicator test
996	Speak system time, day, and date settings
997	Set time for automatic Event Memory Log upload

NOTE: After you enter the above "special" locations while in program mode, you will not be required to enter a three digit program option code. After entering **900**, **901** or **904** you will be able to enter the phone number just as you would if you were dialing a phone. The same holds true for locations **905**, **906** or **909** except you will be entering account numbers. Press the **H** key (# on the phone) twice to save a phone number or account number after you enter it. After entering **910**, **911** or **914** the programmed phone number will be spoken. After entering **915**, **916** or **919** the programmed account number will be spoken.

SPECIAL NOTE: You can change the rate of speech by programming **001** or **000** in location **639**. The system comes defaulted with **001** in **639** which gives faster speech. **000** in **639** gives slower speech.

COMMUNICATOR REPORT CODE & OPTION PROGRAMMING WORKSHEET

COMMUNICATOR REPORT CODE & OPTION PROGRAMMING WORKSHEET

The following explanation applies to the dialer option locations: For each reportable event, there are two programming locations. The first location will be the report code which is received at the central station. The second location will define the phone number(s) to be dialed or whether that activation type is disabled (meaning it will never go the central station). **Example:** Since the system is shipped with a **001** programmed in location **387**, anytime there is an Exterior Instant activation, the system will dial Phone #1. If you want the system to dial Phone #2 due to a failure on Phone #1, you will need to program **009** into location **387**. If you want Exterior Instant reporting to be completely disabled, you will need to program **000** into location **387**. In the DIALER OPTIONS below, the options can be added together if more than one is required.

Dialer Options

Disable this report type	000
Dial Phone #1	001
Dial Phone #2	002
Enable two-way voice/listen in	004
Dial alternate number if first choice fails	008
Record this report type in Event Memory Log	128

Description	PROGRAM LOCATION (P)	DEFAULT CODE (C)	NEW PROGRAM CODE (C)
Exterior Instant Central Station Report Code	337	003	_____
Exterior Instant Dialer Option	387	129	_____
Exterior Delay 1 Central Station Report Code	338	003	_____
Exterior Delay 1 Dialer Option	388	129	_____
Exterior Delay 2 Central Station Report Code	339	003	_____
Exterior Delay 2 Dialer Option	389	129	_____
Interior Instant Central Station Report Code	340	004	_____
Interior Instant Dialer Option	390	129	_____
Interior Delay 1 Central Station Report Code	341	004	_____
Interior Delay 1 Dialer Option	391	129	_____
Interior Delay 2 Central Station Report Code	342	004	_____
Interior Delay 2 Dialer Option	392	129	_____
Fire Central Station Report Code	343	001	_____
Fire Dialer Option	393	129	_____
Panic Central Station Report Code	344	002	_____
Panic Dialer Option	394	129	_____
Silent Central Station Report Code	345	002	_____
Silent Dialer Option	395	129	_____
Emergency Central Station Report Code	346	005	_____
Emergency Dialer Option	396	129	_____
Follower Central Station Report Code	347	004	_____
Follower Dialer Option	397	129	_____
Auxiliary Zone Type 1 & 2 Central Station Report Code	348	005	_____
Auxiliary Zone Type 1 & 2 Dialer Option	398	129	_____

COMMUNICATOR REPORT CODE & OPTION PROGRAMMING WORKSHEET, cont.

Description	PROGRAM LOCATION (P)	DEFAULT CODE (C)	NEW PROGRAM CODE (C)
Duress Disarm Silent Central Station Report Code	349	002	_____
Duress Disarm Silent Dialer Option	399	129	_____
Duress When Not Armed Central Station Report Code	350	002	_____
Duress When Not Armed Dialer Option	400	129	_____
Zone Restore After Activation Central Station Report Code	351	009	_____
Zone Restore After Activation Dialer Option	401	128	_____
Transmitter Low Battery Report Code	352	008	_____
Transmitter Low Battery Dialer Option	402	129	_____
Transmitter Battery Restore Report Code	353	009	_____
Transmitter Battery Restore Dialer Option	403	129	_____
Zone Trouble Central Station Report Code	354	008	_____
Zone Trouble Dialer Option	404	129	_____
Zone Trouble Restore Central Station Report Code	355	009	_____
Zone Trouble Restore Dialer Option	405	129	_____
Blown Fuse Central Station Report Code	356	008	_____
Blown Fuse Dialer Option	406	128	_____
Blown Fuse Restore Central Station Report Code	357	009	_____
Blown Fuse Restore Dialer Option	407	128	_____
Phone Line Restore Central Station Report Code	358	009	_____
Phone Line Restore Dialer Option	408	128	_____
Open (Disarm) Central Station Report Code	359	011	_____
Open (Disarm) Dialer Option	409	128	_____
Open (Disarm) After Activation Central Station Report Code	360	011	_____
Open (Disarm) After Activation Dialer Option	410	128	_____
Close (Arm) Central Station Report Code	361	012	_____
Close (Arm) Dialer Option	411	128	_____
Close (Arm) with Open Zones (Force Arm) Central Station Report Code	362	012	_____
Close (Arm) with Open Zones (Force Arm) Dialer Option	412	128	_____
Control Low Battery Central Station Report Code	363	008	_____
Control Low Battery Dialer Option	413	128	_____
Control Battery Restore Central Station Report Code	364	009	_____
Control Battery Restore Dialer Option	414	128	_____
AC Fail Central Station Report Code	365	008	_____
AC Fail Dialer Option	415	128	_____
AC Restore Central Station Report Code	366	009	_____
AC Restore Dialer Option	416	128	_____
User Communicator Test Central Station Report Code	367	007	_____
User Communicator Test Dialer Option	417	129	_____

COMMUNICATOR REPORT CODE & OPTION PROGRAMMING WORKSHEET, cont.

Description	PROGRAM LOCATION (P)	DEFAULT CODE (C)	NEW PROGRAM CODE (C)
Automatic Communicator Test Central Station Report Code	368	007	_____
Automatic Communicator Test Dialer Option	418	129	_____
Cancel Central Station Report Code	369	000	_____
Cancel Dialer Option	419	128	_____
Zone Bypass Central Station Report Code	370	013	_____
Zone Bypass Dialer Option	420	128	_____
Zone Unbypass Central Station Report Code	371	014	_____
Zone Unbypass Dialer Option	421	128	_____
Day Zone Trouble Central Station Report Code	372	008	_____
Day Zone Trouble Dialer Option	422	128	_____
Day Zone Trouble Restore Central Station Report Code	373	009	_____
Day Zone Trouble Restore Dialer Option	423	128	_____
Upload/Download Attempt Central Station Report Code	374	015	_____
Upload/Download Attempt Dialer Option	424	128	_____
Program Mode Entry Central Station Report Code	375	015	_____
Program Mode Entry Dialer Option	425	128	_____
Fail to Open Central Station Report Code	376	011	_____
Fail to Open Dialer Option	426	128	_____
Fail to Close Central Station Report Code	377	012	_____
Fail to Close Dialer Option	427	128	_____
LCD-HW Keypad Trouble Central Station Report Code	378	008	_____
LCD-HW Keypad Trouble Dialer Option	428	128	_____
LCD-HW Keypad Trouble Restore Central Station Report Code	379	009	_____
LCD-HW Keypad Trouble Restore Dialer Option	429	128	_____

ADEMCO CONTACT-ID WORKSHEET

ADEMCO CONTACT-ID

The system supports Ademco Contact-ID format. To use the format you must program **008** in location **440** for Phone #1 and/or **442** for Phone #2. No programming is necessary to assign report codes (locations **337-375**) because all report codes are automatically assigned with this format. You will still need to make sure the dialer option locations (**387-425**) are programmed the way you want.

NOTE: Ademco contact - ID requires a 4 digit account number.

The reports the system sends and how they will be interpreted by your central station are as follows:

Advantage Description	Code sent to central Leading E = event or open Leading R = restoral or close Z = zone number U = User number	Ademco description
Exterior instant	E 131 Z	Perimeter burglary
Exterior delay 1	E 134 Z	Entry/exit burglary
Exterior delay 2	E 134 Z	Entry/exit burglary
Interior instant	E 132 Z	Interior burglary
Interior delay 1	E 132 Z	Interior burglary
Interior delay 2	E 132 Z	Interior burglary
Fire	E 110 Z	Fire alarm
Panic	E 120 Z	Panic alarm
Silent panic	E 122 Z	Silent
Emergency	E 100 Z	Medical
Follower	E 132 Z	Interior burglary
Auxiliary	E 150 Z	24 hour nonburglary
Duress disarm	E 121 0	Duress
Duress when not armed	E 121 0	Duress
Zone restore after activation	R 140 Z	General alarm
Transmitter low battery	E 384 Z	RF low battery
Transmitter battery restore	R 384 Z	RF low battery
Zone trouble	E 370 Z	Protection loop
Zone trouble restore	R 370 Z	Protection loop
Blown fuse	E 300 91	System trouble
Blown fuse restore	R 300 91	System trouble
Phone line restore	R 350 90	Communication
Open (disarm)	E 401 U	Open by user
Open after activation	E 450 U	Exception open
Close (arm)	R 401 U	Close by user
Close with open zones	R 450 U	Exception close
Control low battery	E 302 92	Low system battery
Control battery restore	R 302 92	Low system battery
AC fail	E 301 99	AC loss
AC restore	R 301 99	AC loss
User communicator test	E 601 Z	Manual trigger test
Automatic communicator test	E 602 99	Periodic test report
Cancel	E 406 Z	Cancel
Zone bypass	E 570 Z	Zone bypass
Zone unbypass	R 570 Z	Zone bypass
Day zone trouble	E 135 Z	Day alarm
Day zone trouble restore	R 135 Z	Day alarm
Upload/download attempt	E 412 99	Success - download/access
Program mode entry	E 627 99	Program mode entry
Fail to open	E 453 99	Failed to open
Fail to close	E 454 99	Failed to close
LCD-HW keypad trouble	E 333 94	Expansion module failure
LCD-HW keypad trouble restore	R 333 94	Expansion module failure

COMMUNICATOR FORMAT PROGRAMMING WORKSHEET

COMMUNICATOR FORMAT PROGRAMMING WORKSHEET

Description	PROGRAM LOCATION (P)	DEFAULT CODE (C)	NEW PROGRAM CODE (C)
Delay before dialing after activation Phone #1 seconds	437	002	_____
Delay before dialing after activation Phone #2 seconds	438	002	_____
000 disables communicator			

Phone #1 Reporting Options:

	439		
Silent Knight Slow	000		_____
Silent Knight Fast	001		_____
Sescoa Fast (Radionics)	002	002	_____
Multiple Reports / Connection	008	008	_____
Voice Only	032		_____
Total programmed in 439	439	010	_____

Phone #2 Reporting Options:

	441		
Silent Knight Slow	000		_____
Silent Knight Fast	001		_____
Sescoa Fast (Radionics)	002	002	_____
Multiple Reports / Connection	008	008	_____
Voice Only	032		_____
Total programmed in 441	441	010	_____

Reporting Formats

3/1	000		
4/2	001		
4/2 extended w/ zone ID	002		
4/1/1	004		
Ademco Contact-ID	008		
Phone #1 Format	440	000	_____
Phone #2 Format	442	000	_____
Maximum number of dialing attempts Phone #1	443	008	_____
Maximum number of dialing attempts Phone #2	444	008	_____
Off-hook time during listen-in before automatic seconds	445	060	_____
hang up 000 is 256 seconds			
Touch tone (000) or pulse (001) dialing	446	000	_____
Maximum time communicator will wait for seconds	447	025	_____
handshake from central station after each dialing attempt			
Hours until 1st automatic communicator test	448	000	_____
Enable (001) time assignment for auto communicator test (loc 995 for time)	156	000	_____
Days between each automatic communicator test	453	007	_____
000 is 256 days			
Time system will wait for a two-way voice call minutes	454	002	_____
back from the central station after dialer has completed digital communication			

PHONE LINE MONITOR & PHONE ACCESS PROGRAMMING WORKSHEET

PHONE LINE MONITOR & PHONE ACCESS PROGRAMMING WORKSHEET

Description	PROGRAM LOCATION (P)	DEFAULT CODE (C)	NEW PROGRAM CODE (C)
PHONE LINE MONITOR OPTIONS			
Number of 4 second samples to determine if phone line is gone	449	006	_____
Options:	450		
Low volume beep when no phone line	001		_____
Show trouble at the keypad	002		_____
Panic activation when no phone line (overrides 001)	004		_____
Total programmed in	450	000	_____
Number of beeps if option 001 selected in location 450 above	455	030	_____
000 is continuous			

PHONE ACCESS OPTIONS

Number of rings for pickup (requires minimum of 2 rings)	451	010	_____
000 disables phone access			
Service (Installer's) Code			
First Digit	513	009	_____
Second Digit	514	001	_____
Third Digit	515	007	_____
Fourth Digit	516	003	_____
Service code options	517	048	_____
NOTE: You cannot enter program mode from local phones.			
Answering machine override digit	521	011(#)	_____
Allow use of local phones (000 disables and 001 enables)	545	001	_____
Local phone access code (can be 1 to 4 digits, only 1-11 are valid program values)			
First Digit	546	010(*)	_____
Second Digit	547	011(#)	_____
Third Digit	548	255	_____
Fourth Digit	549	255	_____
Upload/Download access code (1-11 are valid program values)			
First Digit	642	010(*)	_____
Second Digit	643	010(*)	_____
Third Digit	644	001	_____
Fourth Digit	645	002	_____
Inactivity time before automatic hang up			
while in user phone access	seconds 533	015	_____
Inactivity time before automatic hang up or exit			
while in phone programming mode	seconds 534	060	_____

PARTITIONING PROGRAMMING WORKSHEET

PARTITIONING PROGRAMMING WORKSHEET

NOTE: This page is ignored if you are not partitioning.

ASSIGNING AREAS (PARTITIONS) TO USER CODES

You must first decide which area or areas will be controlled by each user code. (See page 18 for additional user code explanation and programming.) Each user code provides a program location which allows the assignment of areas. The program value will determine what areas can be controlled by that code. To have user code 3 control area 5, you will program **016** in location **609**. If any user code will control more than one area, you will add the program codes together. To have user code 1 control areas 1, 2 and 3, you will program **007 (001 + 002 + 004)** in location **607**.

AREA #	OPTION CODE
1	001
2	002
3	004
4	008
5	016
6	032
7	064
8	128

DESCRIPTION	PROGRAM LOCATION (P)	DEFAULT CODE (C)	NEW PROGRAM CODE (C)
User Code 1	607	000	_____
User Code 2	608	000	_____
User Code 3	609	000	_____
User Code 4	610	000	_____
User Code 5	611	000	_____
User Code 6	612	000	_____
User Code 7	613	000	_____
User Code 8	614	000	_____
User Code 9	615	000	_____
User Code 10	616	000	_____
User Code 11	617	000	_____
User Code 12	618	000	_____
User Code 13	619	000	_____
User Code 14	620	000	_____
User Code 15	621	000	_____
User Code 16	622	000	_____
User Code 17	623	000	_____
User Code 18	624	000	_____
User Code 19	625	000	_____
User Code 20	626	000	_____
User Code 32	638	000	_____

NOTE: For space consideration the worksheet does not show program locations **627 - 637** for user codes 21 -31.

NOTE: With the clock feature enabled and automatic arming and/or disarming and partitioning programmed, the system will look to code 32 to determine which areas are to be armed or disarmed.

ASSIGNING ZONES TO AREAS AND ADDITIONAL ZONE OPTIONS

ASSIGNING ZONES TO AREAS

You must also select an area for each zone in the system. You cannot assign more than one area to a zone. The program value for areas 1 - 8 are **001 - 008**. To assign zone 1 to area 3, you will program **003** in location **769**. The listing below is arranged Zone # followed by the program location for its area assignment and a blank space to fill in your selection.

ADDITIONAL ZONE OPTIONS

There are also some additional options that can be assigned on a zone by zone basis in this area. The option values are added to the partition number, however, the options can be selected even if you are not partitioning.

Zone Partitioning Assignment and Additional Zone Options

Zone in Area 1	001
Zone in Area 2	002
Zone in Area 3	003
Zone in Area 4	004
Zone in Area 5	005
Zone in Area 6	006
Zone in Area 7	007
Zone in Area 8	008
Suppress monitor speech/beep	016
Suppress "OPEN" at end of monitor speech	032
Suppress speaker output at activation	064

Zone # 1 769 _____	Zone # 21 789 _____	Zone # 41 809 _____	Zone # 61 829 _____
Zone # 2 770 _____	Zone # 22 790 _____	Zone # 42 810 _____	Zone # 62 830 _____
Zone # 3 771 _____	Zone # 23 791 _____	Zone # 43 811 _____	Zone # 63 831 _____
Zone # 4 772 _____	Zone # 24 792 _____	Zone # 44 812 _____	Zone # 64 832 _____
Zone # 5 773 _____	Zone # 25 793 _____	Zone # 45 813 _____	Zone # 65 833 _____
Zone # 6 774 _____	Zone # 26 794 _____	Zone # 46 814 _____	Zone # 66 834 _____
Zone # 7 775 _____	Zone # 27 795 _____	Zone # 47 815 _____	Zone # 67 835 _____
Zone # 8 776 _____	Zone # 28 796 _____	Zone # 48 816 _____	Zone # 68 836 _____
Zone # 9 777 _____	Zone # 29 797 _____	Zone # 49 817 _____	Zone # 69 837 _____
Zone # 10 778 _____	Zone # 30 798 _____	Zone # 50 818 _____	Zone # 70 838 _____
Zone # 11 779 _____	Zone # 31 799 _____	Zone # 51 819 _____	Zone # 71 839 _____
Zone # 12 780 _____	Zone # 32 800 _____	Zone # 52 820 _____	Zone # 72 840 _____
Zone # 13 781 _____	Zone # 33 801 _____	Zone # 53 821 _____	Zone # 73 841 _____
Zone # 14 782 _____	Zone # 34 802 _____	Zone # 54 822 _____	Zone # 74 842 _____
Zone # 15 783 _____	Zone # 35 803 _____	Zone # 55 823 _____	Zone # 75 843 _____
Zone # 16 784 _____	Zone # 36 804 _____	Zone # 56 824 _____	Zone # 76 844 _____
Zone # 17 785 _____	Zone # 37 805 _____	Zone # 57 825 _____	Zone # 77 845 _____
Zone # 18 786 _____	Zone # 38 806 _____	Zone # 58 826 _____	Zone # 78 846 _____
Zone # 19 787 _____	Zone # 39 807 _____	Zone # 59 827 _____	Zone # 79 847 _____
Zone # 20 788 _____	Zone # 40 808 _____	Zone # 60 828 _____	Zone # 80 848 _____

X-10 PROGRAMMING WORKSHEET

X-10 PROGRAMMING WORKSHEET

You must program "remote control channels." There are 33 available channels. Within each channel you will need to program an X-10 house code/unit number assignment, option assignment, and countdown time to turn off after turning on. The first eight channels can be programmed as auxiliary outputs to the pins or relay and will override any X-10 assignment. Once you enter remote control by entering **8,8,8,8** from any keypad or phone, by pressing **1 & 7** simultaneously from the RK-16 and RK-36, by pressing a programmed function key on the RK-36, or by pressing the **L** button on the WKP-20 the system will ask for the entry of a unit number. You must enter two digits from **01** to **33**. The system will echo the word description. The **A** key turns the unit on and the **H** key turns the unit off. If the dimming option is not programmed, pressing the **A** key will toggle on and off. If the dimming option is selected, the first press of **A** will turn the unit on and subsequent presses of **A** will take the unit (only if it's X-10 not auxiliary output) through six stages of dimming. Each stage is echoed in speech by number. After "6" the next press of **A** turns the unit off. If no key is pressed for 20 seconds, the control will automatically exit remote control. To manually exit remote control, enter **00** as the unit number or use any of the entry methods except **8,8,8,8**. It is strongly encouraged that programming for remote control be done through the upload/download software. It is much faster and easier. For keypad or phone programming the locations are:

Channel	X-10 House/Unit	Aux Out	Option	On Time
01	665 _____	536 _____	698 _____	731 _____
02	666 _____	537 _____	699 _____	732 _____
03	667 _____	538 _____	700 _____	733 _____
04	668 _____	539 _____	701 _____	734 _____
05	669 _____	540 _____	702 _____	735 _____
06	670 _____	541 _____	703 _____	736 _____
07	671 _____	542 _____	704 _____	737 _____
08	672 _____	543 _____	705 _____	738 _____
09	673 _____	N/A	706 _____	739 _____
10	674 _____	N/A	707 _____	740 _____
11	675 _____	N/A	708 _____	741 _____
12	676 _____	N/A	709 _____	742 _____
13	677 _____	N/A	710 _____	743 _____
14	678 _____	N/A	711 _____	744 _____
15	679 _____	N/A	712 _____	745 _____
16	680 _____	N/A	713 _____	746 _____
17	681 _____	N/A	714 _____	747 _____
18	682 _____	N/A	715 _____	748 _____
19	683 _____	N/A	716 _____	749 _____
20	684 _____	N/A	717 _____	750 _____
21	685 _____	N/A	718 _____	751 _____
22	686 _____	N/A	719 _____	752 _____
23	687 _____	N/A	720 _____	753 _____
24	688 _____	N/A	721 _____	754 _____
25	689 _____	N/A	722 _____	755 _____
26	690 _____	N/A	723 _____	756 _____
27	691 _____	N/A	724 _____	757 _____
28	692 _____	N/A	725 _____	758 _____
29	693 _____	N/A	726 _____	759 _____
30	694 _____	N/A	727 _____	760 _____
31	695 _____	N/A	728 _____	761 _____
32	696 _____	N/A	729 _____	762 _____
33	697 _____	N/A	730 _____	763 _____

See the explanations on the following pages regarding the above.

CHANNEL ASSIGNMENT

The first eight channels allow the assignment of auxiliary outputs in locations **536 - 543**. Acceptable values are **001 - 007** for auxiliary output pins and **008** for the auxiliary output relay. If an acceptable value is programmed in locations **536 - 543**, the X-10 output will be ignored.

Each channel has an option location within **698 - 730** which will determine how the X-10 or auxiliary output will function. The available options are:

001	Enable output
002	Treat countdown time after turn on in seconds (otherwise minutes)
004	Restart countdown if already on (otherwise toggle). This option might be selected for a light controlled by a PIR. If the light is on a new activation by the PIR will restart the countdown until the unit turns off. If this option is not selected, each activation of the PIR will alternate between turning the light on and off.
008	Enable timed countdown after turn on (otherwise on until manually turned off)
016	Enable dimming
032	Enable automatic daily turn on (clock must be installed)
064	Enable automatic daily turn off (clock must be installed)
128	If 032 and/or 064 are selected do a five day cycle (otherwise seven day). Five day will only do weekdays while seven day will happen every day of the week.

The sum of the selected options is programmed in locations **698 - 730**. A minimum of **001** is required to make a channel active. Option **016**, enable dimming, is not available for channel 33. If **016** is added into the total option code for channel 33, it will be ignored by the system.

If **008** is selected above, locations **731 - 763** hold the time a channel will stay on before automatically turning off.

If **032** and/or **064** is/are selected, in keypad or phone programming special location **992** allows the entry of on and off times. The time entry needs to be four digit based upon a 24 hour clock.

SPECIAL ASSIGNMENT

Location **147**, Lights at alarm channel, allows the programming of a channel which will be activated at alarm. This will most likely be programmed with **033**, the All lights on channel. When there is an alarm, all the lights with the channel 33 house code will turn on. The turn off will be determined by what is programmed for the selected channel.

Two new zone types, Aux type 1 and Aux type 2, can produce X-10 or auxiliary outputs as well as digital communication. Locations **148** and **149** assign remote control channels to each auxiliary zone type. You may choose to use a PIR with one of these zone types to automatically turn on lights. **001 - 033** are valid program values.

Location **153** determines which channel is controlled when the SINGLE CHANNEL ON/OFF option is programmed for a keypad key. When the programmed key is pressed the system will speak the channel description followed by "ON", "OFF", or "1-6" if dimming is enabled. **001-033** are valid program values.

NOTE: If **033** (All lights on/off channel) is programmed, the key can only turn on.

Location **099**, "Speaking Remote Control Menu" can be enabled with a **001**. With this option selected, entering Remote Control will now speak a menu based on the remote control words programmed. The system will scroll through all active channels until a valid channel is selected by entering its two digit number.

X-10 HOUSE AND UNIT NUMBER ASSIGNMENT

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The X-10 House and Unit number assignment codes are found in the following chart:

C = Program Code

H = House Code

U = Unit Number

C H U	C H U	C H U	C H U	C H U	C H U	C H U	C H U
000 M 1	032 O 1	064 C 1	096 A 1	128 E 1	160 G 1	192 K 1	224 I 1
001 M 2	033 O 2	065 C 2	097 A 2	129 E 2	161 G 2	193 K 2	225 I 2
002 M 3	034 O 3	066 C 3	098 A 3	130 E 3	162 G 3	194 K 3	226 I 3
003 M 4	035 O 4	067 C 4	099 A 4	131 E 4	163 G 4	195 K 4	227 I 4
004 M 5	036 O 5	068 C 5	100 A 5	132 E 5	164 G 5	196 K 5	228 I 5
005 M 6	037 O 6	069 C 6	101 A 6	133 E 6	165 G 6	197 K 6	229 I 6
006 M 7	038 O 7	070 C 7	102 A 7	134 E 7	166 G 7	198 K 7	230 I 7
007 M 8	039 O 8	071 C 8	103 A 8	135 E 8	167 G 8	199 K 8	231 I 8
008 M 9	040 O 9	072 C 9	104 A 9	136 E 9	168 G 9	200 K 9	232 I 9
009 M 10	041 O 10	073 C 10	105 A 10	137 E 10	169 G 10	201 K 10	233 I 10
010 M 11	042 O 11	074 C 11	106 A 11	138 E 11	170 G 11	202 K 11	234 I 11
011 M 12	043 O 12	075 C 12	107 A 12	139 E 12	171 G 12	203 K 12	235 I 12
012 M 13	044 O 13	076 C 13	108 A 13	140 E 13	172 G 13	204 K 13	236 I 13
013 M 14	045 O 14	077 C 14	109 A 14	141 E 14	173 G 14	205 K 14	237 I 14
014 M 15	046 O 15	078 C 15	110 A 15	142 E 15	174 G 15	206 K 15	238 I 15
015 M 16	047 O 16	079 C 16	110 A 16	143 E 16	175 G 16	207 K 16	239 I 16
016 N 1	048 P 1	080 D 1	112 B 1	144 F 1	176 H 1	208 L 1	240 J 1
017 N 2	049 P 2	081 D 2	113 B 2	145 F 2	177 H 2	209 L 2	241 J 2
018 N 3	050 P 3	082 D 3	114 B 3	146 F 3	178 H 3	210 L 3	242 J 3
019 N 4	051 P 4	083 D 4	115 B 4	147 F 4	179 H 4	211 L 4	243 J 4
020 N 5	052 P 5	084 D 5	116 B 5	148 F 5	180 H 5	212 L 5	244 J 5
021 N 6	053 P 6	085 D 6	117 B 6	149 F 6	181 H 6	213 L 6	245 J 6
022 N 7	054 P 7	086 D 7	118 B 7	150 F 7	182 H 7	214 L 7	246 J 7
023 N 8	055 P 8	087 D 8	119 B 8	151 F 8	183 H 8	215 L 8	247 J 8
024 N 9	056 P 9	088 D 9	120 B 9	152 F 9	184 H 9	216 L 9	248 J 9
025 N 10	057 P 10	089 D 10	121 B 10	153 F 10	185 H 10	217 L 10	249 J 10
026 N 11	058 P 11	090 D 11	122 B 11	154 F 11	186 H 11	218 L 11	250 J 11
027 N 12	059 P 12	091 D 12	123 B 12	155 F 12	187 H 12	219 L 12	251 J 12
028 N 13	060 P 13	092 D 13	124 B 13	156 F 13	188 H 13	220 L 13	252 J 13
029 N 14	061 P 14	093 D 14	125 B 14	157 F 14	189 H 14	221 L 14	253 J 14
030 N 15	062 P 15	094 D 15	126 B 15	158 F 15	190 H 15	222 L 15	254 J 15
031 N 16	063 P 16	095 D 16	127 B 16	159 F 16	191 H 16	223 L 16	255 J 16

The selected code from above programmed into locations **665 - 696** will determine the rotary DIP switch setting for house code and unit number on the X-10 module(s) being used for a particular remote control channel. **EXAMPLE:** If you want channel 08 to control an X-10 unit with house code J and unit number 12, you would program **251** into location **672**.

Channel 33 controls all the lights for any one house code. It does not matter which code within a house code you program. **EXAMPLE:** If you want channel 33 to control all X-10 units with house code E, you can program any number within **128 - 143** into location **697**.

ASSIGNING X-10 TO AUXILIARY OUTPUTS

ASSIGNING X-10 TO AUXILIARY OUTPUTS

20 of the auxiliary outputs (21 exist but AC fail is not available) can be assigned to an X-10 house/unit number. You program **001 - 255** to determine which X-10 unit will receive the output. Refer to the X-10 house code and unit number chart. **000** is house code M and unit 1 in the chart, however, for auxiliary outputs M1 is not available because **000** disables the output. The outputs, times, and locations are:

Auxiliary Output	Time	Location
Any activation	Until disarm or as long alarm cut off and reset	555 _____
Burglary	Same as above	556 _____
Fire	Same as above	557 _____
Panic	Same as above	558 _____
24 hour silent	Same as above	559 _____
Auxiliary zone type 1 & 2	Programmed by channel	560 _____
Prealarm	Location 235	561 _____
Extended monitor	Location 237	562 _____
Emergency	Same as Any activation	564 _____
Armed to home	Duration armed to Home	565 _____
Armed to Away	Duration armed to Away	566 _____
Armed to Home or Away	Duration armed to Away or Home	567 _____
Disarm	5 seconds	568 _____
Access code entered	5 seconds	569 _____
Alert	As long as Alert LED is on	570 _____
Loss of phone line	As long as phone line is gone	571 _____
Duress disarm	5 seconds	572 _____
Duress when not armed	5 seconds	573 _____
2-way voice active	As long as in 2-way mode	575 _____
Smoke reset	5 seconds	576 _____

SETTING THE TIME AND DATE

SETTING THE TIME AND DATE

991 is the special location for keypad and phone programming to set the clock. After you enter **991** while in program mode the system will say "ENTER 11." The **11** represents the number of digits you need to enter. They are as follows:

Four for the time in 24 hour format _ _ _ _

One for the day of the week (Sunday = 1) _

Two for the month _ _

Two for the day _ _

Two for the year _ _

After entry the system will confirm in speech.

You can enter **996** any time in program mode to have the system speak its time, day, and date settings.

AUTOMATIC ARMING AND DISARMING

Location **159** contains the options for auto arming and disarming. The options are:

001 Arm to Away

002 Arm to Home

008 Disarm

016 Force arm with open zones

032 5 day cycle (7 day if not programmed)

Like some other option locations, **159** requires the sum of the above selected options. If **001** and **002** are programmed together, arming to Away will take precedence. If arm and disarm options are both selected, setting the same time for both will never produce an automatic disarm. If **016** is not selected and there are zones open when an auto arm is to take place, the system will not arm. If the system is partitioned, the control will look to user code 32 to see what areas are to armed and/or disarmed.

993 is the special location for the entry of arm and disarm times. After entering **993** while in program mode you will hear "ENTER ARMED" at which point you will enter four digits based upon the 24 hour (military) clock. The system will echo your entry and then say "ENTER DISARMED." You will then enter another four digits and the system will echo your entry and say "EXIT."

NOTE: You must enter both an arm and disarm time even if you are not doing both auto arming and disarming. The system will ignore the one you are not using.

FAIL TO OPEN (DISARM) AND/OR CLOSE (ARM)

A fail to open will check for the system to be disarmed at a programmed time. If the system is still armed at the time the system checks, a Fail to Open report to the central station can be generated. A good use of this feature is to monitor the return home of latchkey kids.

A fail to close will check for the system to be armed at a programmed time. If the system is not armed at the time the system checks, a Fail to Close report can be sent to the central station.

Location **208** holds the options associated with checking for arm or disarm status:

001 Check to see if system disarmed

002 Check to see if system armed to Away (overrides option **004**)

004 Check to see if system armed to Home or Night

008 Check to see if system armed to Away or Home or Night

016 5 day cycle (7 day if not programmed)

Based upon the programming in **208**, location **209** allows you to check on an area by area basis if partitioning is active:

001 Check Area 1

002 Check Area 2

004 Check Area 3

008 Check Area 4

016 Check Area 5

032 Check Area 6

064 Check Area 7

128 Check Area 8

994 is the special location for the entry of the times the system will check for arm or disarm.

2-WAY CALL BACKOPTIONS

There are a number of ways 2-way voice/listen-in can be initiated:

- * From the local phones during normal access by entering **9,9,9,9**. Always directly in listen-in after code entry.
- * From remote phones during normal access by entering **9,9,9,9**. Always directly in listen-in after code entry.
- * Direct connection by central station following digital communication. Always directly in listen-in.
- * Connection after a voice only digital communication. Can enter listen-in by option directly, 1 digit, or secured.
- * Connection after a 2-way call back from central station. Can enter listen-in by option directly, 1 digit, or secured.

Entering by "1 digit" means that the system will beep over the phone line until any single digit is entered by the person doing listen-in. "Secured" entry means that the system will beep over the phone until the person doing listen-in enters any of the user codes programmed to be valid from a remote phone.

Location **457** contains 2-way voice/listen-in options for the above as follows:

- 001** 1 digit access
- 002** Secured - access code required
- 008** 0 exits to normal keypad mode instead of hanging up The above 3 options apply to a connection after a voice only digital communication. If neither **001** nor **002** is programmed the person receiving the call will be directly in listen-in when they answer the phone.
- 016** 1 digit access
- 032** Secured - access code required
- 128** 0 exits to normal keypad mode instead of hanging up The above 3 options apply to a 2-way call back from the central station. If neither **016** or **032** is programmed, the central station operator will be directly in listen-in when the system "answers" the phone.

Location **458** holds the time in seconds (**1 - 255**) that the system programmed for 1 digit or secured access will wait for a digit or valid access code before automatically hanging up.

2-WAY PHONE KEY OPTIONS

Each key on a phone used for 2-way can be programmed to a number of different options. The options are as follows:

Option #	Description
000	Exit 2-way by going to keypad mode or hanging up
001	Microphone #1 on
002	Microphone #2 on
003	Microphone #3 on
004	Microphone #1 off
005	Microphone #2 off
006	Microphone #3 off
007	High microphone sensitivity
008	Normal microphone sensitivity
009	All microphones on
010	Listen
011	Talk

Each key has its own program location.

NOTE: The system will look to these locations only if **001** is programmed in location **222**. With **000** in location **222**, the system will always use the factory default arrangement. The locations and factory default values are as follows:

Key	Loc	Def	Key	Loc	Def	Key	Loc	Def	Key	Loc	Def
0	223	000	3	226	003	6	229	006	9	232	009
1	224	001	4	227	004	7	230	007	*	233	010
2	225	002	5	228	005	8	231	008	#	234	011

DIAGNOSTICS

DIAGNOSTICS

The communicator has a built in diagnostic feature which can be very valuable in trouble shooting. You will notice a red LED ("LED3 DIALER") which will tell you by flashing whether you have successful communication with your central station or if not, why. The chart below will explain further.

NOTE: If you are unable to successfully troubleshoot a problem, technical assistance is available by calling (919) 876-0010.

What you see watching the LED	What it tells you	What to do
Extended on followed by one short on and off	Successful communication	Nothing
Two short on and offs	No phone number	Check to see if you have programmed a number
Extended on followed by three on and offs (see note below)	No dial tone detected	Make sure the jack supplying dial tone
Extended on followed by four short on and offs	No handshake or central station phone line busy	Check format and make sure correct phone number is programmed
Extended on followed by five short on and offs	No kiss off	Check format

NOTE: Any time the communicator does not make a successful communication (except in the case of not having a good phone number programmed) it will make attempts for a total of the number programmed in location **443** and **444**. Thus, in the diagnostics mode you may see the above "What you see" repeated unless you power down the system. The message for no phone number will be shown only once.

NOTE ON THREE FLASH MESSAGE - If a digital communication is initiated when the dialer LED is off (no dial tone present), the control will not even attempt to dial out. Diagnostics will not be given. The only time "three flash" diagnostics will appear is when dial tone is present at the beginning of a communication attempt and is for some reason lost.

RF RESIDENCE CODE SWITCH SETTINGS

Residence codes are programmed into the control by entering the location code **168** followed by one of the 3 digit codes in the left hand column of the chart below. Switches 1 through 5 on each transmitter are for residence code setting and should be matched with the chart listing beside your selected code. Example: The control comes with a factory default code of 010 in location **168**. This means that all transmitters need to have their first five switches set at OFF, ON, OFF, OFF, ON. If you decide to change to residence code **009**, then the five switches need to be set at ON, OFF, OFF, OFF, ON.

CODE	SW1	SW2	SW3	SW4	SW5
001	ON	OFF	OFF	OFF	OFF
002	OFF	ON	OFF	OFF	OFF
003	ON	ON	OFF	OFF	OFF
004	OFF	OFF	ON	OFF	OFF
005	ON	OFF	ON	OFF	OFF
006	OFF	ON	ON	OFF	OFF
007	ON	ON	ON	OFF	OFF
008	OFF	OFF	OFF	OFF	ON
009	ON	OFF	OFF	OFF	ON
010	OFF	ON	OFF	OFF	ON
011	ON	ON	OFF	OFF	ON
012	OFF	OFF	ON	OFF	ON
013	ON	OFF	ON	OFF	ON
014	OFF	ON	ON	OFF	ON
015	ON	ON	ON	ON	ON
016	OFF	OFF	OFF	ON	OFF
017	ON	OFF	OFF	ON	OFF
018	OFF	ON	OFF	ON	OFF
019	ON	ON	OFF	ON	OFF
020	OFF	OFF	ON	ON	OFF
021	ON	OFF	ON	ON	OFF
022	OFF	ON	ON	ON	OFF
023	ON	ON	ON	ON	ON
024	OFF	OFF	OFF	ON	ON
025	ON	OFF	OFF	ON	ON
026	OFF	ON	OFF	ON	ON
027	ON	ON	OFF	ON	ON
028	OFF	OFF	ON	ON	ON
029	ON	OFF	ON	ON	ON
030	OFF	ON	ON	ON	ON

TRANSMITTER ID DIP SWITCH SETTINGS

Switches 6 through 10 determine the zone identification number for each transmitter. Follow the chart below to keep zones in numerical sequence.

NOTE: DO NOT program more than one transmitter to each zone. VERY IMPORTANT! When you cut the L/U jumper on SW-20 transmitters, zones 17-32 will become zones 33-48.

CODE	SW6	SW7	SW8	SW9	SW10
001	OFF	OFF	OFF	OFF	OFF
002	OFF	OFF	OFF	OFF	ON
003	OFF	OFF	OFF	ON	OFF
004	OFF	OFF	OFF	ON	ON
005	OFF	OFF	ON	OFF	OFF
006	OFF	OFF	ON	OFF	ON
007	OFF	OFF	ON	ON	OFF
008	OFF	OFF	ON	ON	ON
009	OFF	ON	OFF	OFF	OFF
010	OFF	ON	OFF	OFF	ON
011	OFF	ON	OFF	ON	OFF
012	OFF	ON	OFF	ON	ON
013	OFF	ON	ON	OFF	OFF
014	OFF	ON	ON	OFF	ON
015	OFF	ON	ON	ON	OFF
016	OFF	ON	ON	ON	ON
017	ON	OFF	OFF	OFF	OFF
018	ON	OFF	OFF	OFF	ON
019	ON	OFF	OFF	ON	OFF
020	ON	OFF	OFF	ON	ON
021	ON	OFF	ON	OFF	OFF
022	ON	OFF	ON	OFF	ON
023	ON	OFF	ON	ON	OFF
024	ON	OFF	ON	ON	ON
025	ON	ON	OFF	OFF	OFF
026	ON	ON	OFF	OFF	ON
027	ON	ON	OFF	ON	OFF
028	ON	ON	OFF	ON	ON
029	ON	ON	ON	OFF	OFF
030	ON	ON	ON	OFF	ON
031	ON	ON	ON	ON	OFF
032	ON	ON	ON	ON	ON