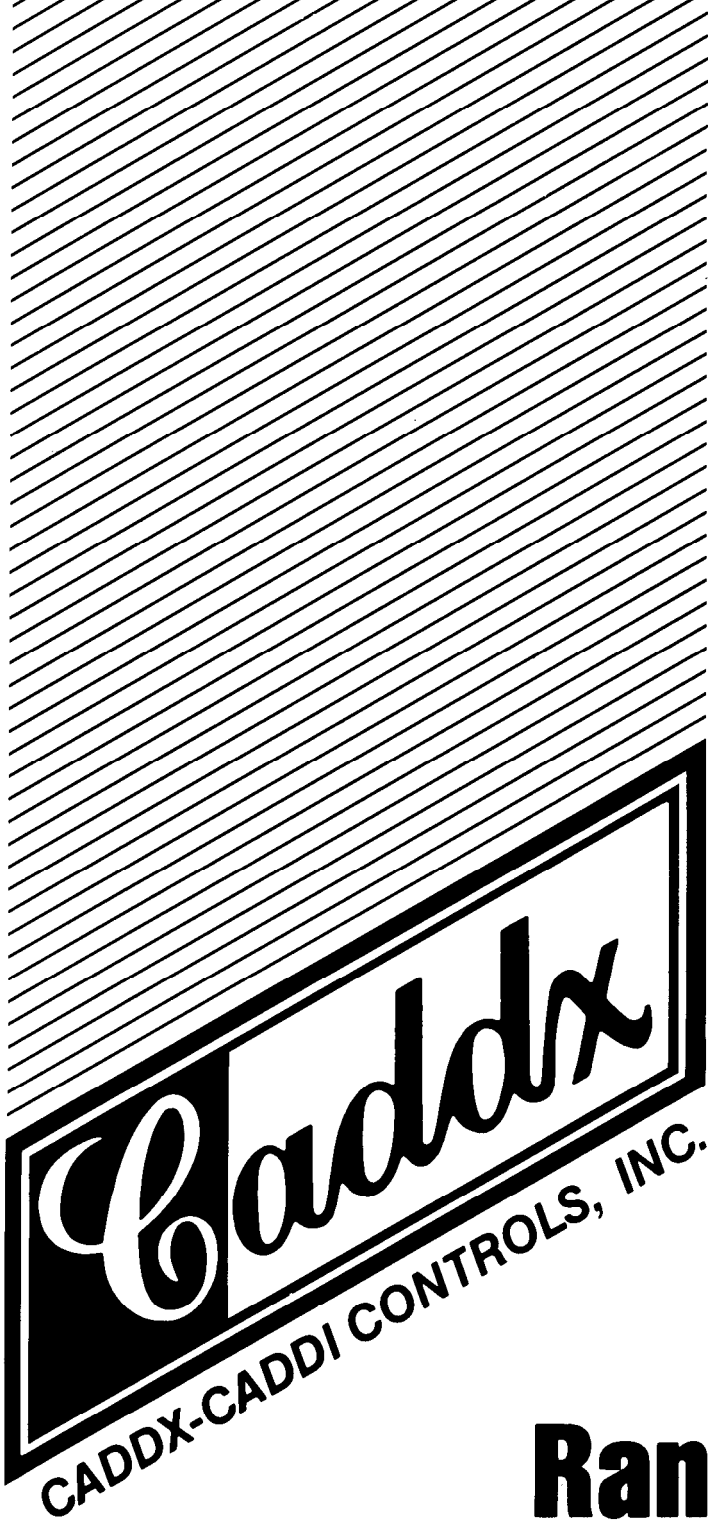

Ranger 8800

Installation Manual

RANGER 8800
CONTROL COMMUNICATOR
INSTALLATION MANUAL

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RANGER 8800

INSTALLATION MANUAL

General Description

The Caddx Ranger 8800 is a versatile 8 zone security control with a built-in 16 channel digital communicator. Its microcomputer design gives some of the most versatile, yet easy to use features in the industry today. Each of the six burglary zones can be programmed to be one of six different types including 24 Hour, Interior Follower, and Day zone. Each zone is individually annunciated and can be bypassed from the keypad.

Read the ***OPERATOR'S MANUAL*** before you begin the installation for the best overall description of how the Ranger functions. After installation of the security system complete the information on page 2 of the operators manual and explain the system operation to all security system owners/operators.

Standard Parts List.

The Ranger 8800 is shipped with the parts listed below included.

QUANTITY	PART DESCRIPTION	PART NO.
1	MASTER CONTROL PANEL	8005
1	REMOTE KEYPAD	8801
1	PROM MEMORY CHIP	8802
8	3.3K, 1/2 WATT E.O.L. RESISTORS	EOL-33
1	INSTALLATION MANUAL	IM-8800
1	OPERATOR'S MANUAL	OM-8800

Optional Parts List.

The following parts are available for use with the Ranger 8800.

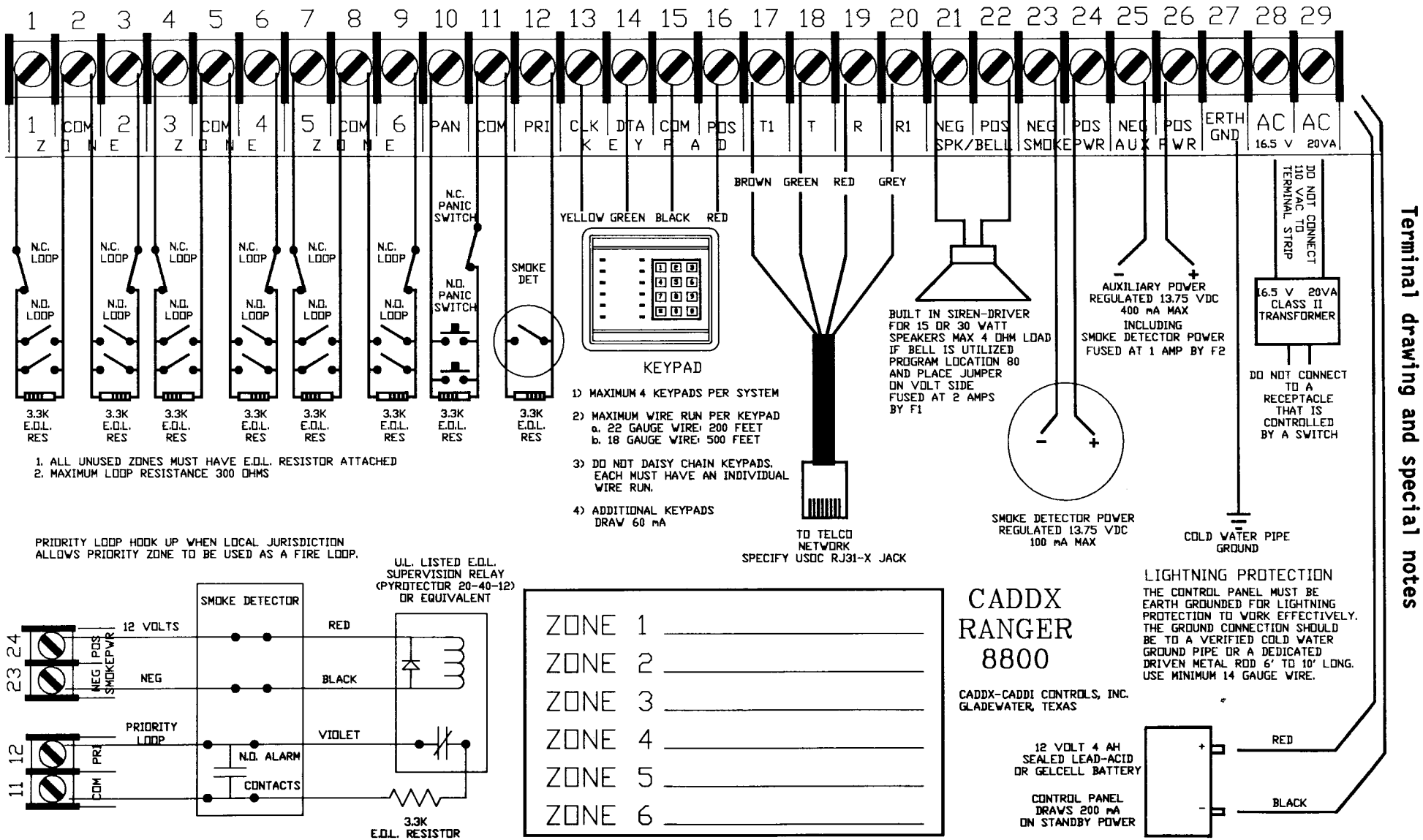
PART DESCRIPTION	PART NO.
KEYSWITCH MODULE (allows arming with a momentary keyswitch)	8815
16.5 VAC, 20VA TRANSFORMER	T-1620
12VDC 4AH BATTERY	B-1240

Description of Major Features

- Up to 8 user codes including an optional "Duress" or "Arm Only" code
- An advanced "Freeze Frame" alarm memory allows you to see the exact condition of the control zones during the last alarm
- Each zone is E.O.L. supervised for maximum protection and flexibility
- Fully supervised Priority loop
- Automatic "Home Arming" option
- Four wire keypad
- A unique keypad "LED Extinguish" feature saves power and allows the keypad to be used in sleeping areas without disturbing the occupants
- Built-in two channel siren driver or optional 1 Amp DC voltage output
- 400 mA of regulated auxiliary power (Total available power, includes 100 mA for smoke detector power)
- Smoke detectors can be reset from the keypad
- Separate fuse for auxiliary power makes the keypad tamper resistant
- Low battery detection
- Advanced transient protection featuring state of the art Transorb technology
- Manual Panic and optional Auxiliary 1, Auxiliary 2, activation from the keypad
- Programmable loop response time

The communicator has all the power necessary for the most demanding applications. Yet it remains easy to program. Standard communicator features include:

- Choose from a list of 14 standard formats including Radionics high speed with parity and 4-2
- Each zone code is programmable
- True dial tone detection
- Opening and closing reports by user
- Two 16 digit or one 31 digit phone number allows you to switch back and forth between tone and pulse dialing
- Extended reporting formats available
- Programmable number of communication attempts
- Line seizure



Terminal drawing and special notes

Terminal Description

TERMINAL NO.	DESCRIPTION (Note: PROM must be inserted)
1	Connect one side of zone 1 loop. The other side of loop to common terminal 2. Open or short causes alarm.
2	Common (-) Terminal
3	Connect one side of zone 2 loop. The other side of loop to common terminal 2. Open or short causes alarm.
4 - 9	See Terminal Drawing and repeat the above sequence for zones 3-6.
10	Connect one side of the 24 hour panic/hold-up loop to this terminal. The other side of loop to common terminal 11. Open or short causes alarm.
11	Common (-) Terminal
12	Connect one side of the Priority loop. The other side of loop to terminal 11. Short causes alarm. Open causes Priority Trouble.
13,14,15,16	Connect keypad wires as follows; yellow to terminal 13, green to terminal 14, black to terminal 15, red to terminal 16. 200 ft. maximum run with 22 gauge wire, 500 ft. maximum run with 18 gauge wire.
17	(T1) House Telephone Tip (brown)
18	(T) Telephone Tip (green)
19	(R) Telephone Ring (red)
20	(R-1) House Telephone Ring (grey)
21(-)& 22(+)	Siren driver output to speaker(s), (minimum watt rating of 15, maximum load of 4 ohms). If siren driver disable is selected in location 080, output becomes voltage output, 12VDC, 1 Amp maximum load.
23(-)& 24(+)	Smoke detector power 12VDC, 100 mA maximum (When the Priority zone can be used as a fire zone.) (Total power used must be subtracted from available 400 mA Auxiliary power)
25(-)& 26(+)	Auxiliary power, regulated 12VDC, 400 mA maximum. (60 mA must be subtracted for each additional keypad)
27	Earth Ground, connect to a cold water pipe or 6 to 10 foot driven rod with a 14 gauge or larger wire.
28 & 29	AC input, connect a 16.5V 20 VA, Class II U.L. approved transformer.
Battery leads	Standby battery leads black(-) and red(+) connect to a 12VDC lead acid or gell cell rechargeable battery. Do not connect to a dry cell battery.

PROGRAMMING

To program the Ranger complete the program work sheet found on pages 7 and 8 based upon the desired control and communicator features described on pages 16 through 21. Follow the directions for the Napco Pro 410 programmer to transfer the data into the PROM. The Pro 410 should be set for PROM page zero (0). THIS PAGE DESCRIBES ALL THE LOCATIONS WHICH MUST BE PROGRAMMED IN ORDER FOR THE RANGER TO FUNCTION AND REPORT TO A CENTRAL STATION. ADDITIONAL OPTIONS MAY BE SELECTED BY FOLLOWING THE PROGRAMMING INSTRUCTIONS ON PAGES 10 THROUGH 15.

LOCATIONS 000-015: PROGRAMMING THE PRIMARY TELEPHONE NUMBER

The primary telephone number is programmed in successive locations beginning with location 000. The first unprogrammed location will signify the end of the telephone number. Four second delays can be programmed at any point in the telephone number by programming a D in the program location. If tone dialing is desired, place an F in the location where tone dialing should begin. If the entire number should be tone dialing, place an F in location 000. If the number to be dialed is greater than 16 digits, the primary and back-up telephone numbers can be connected by placing a C in location 15.

LOCATIONS 016-031: PROGRAMMING THE BACK-UP TELEPHONE NUMBER

The back-up telephone number locations are provided to allow the communicator to dial a second number if the primary number does not respond after the number of attempts programmed into location 082 have been tried unsuccessfully. The same number of attempts are made with the back-up number. These locations may also be utilized if the primary telephone number is greater than 16 digits by placing a C in location 15. If used as a back-up number, and tone dialing is desired, an F should be placed in location 016.

LOCATIONS 032-035: PROGRAMMING THE ACCOUNT CODE

The account code is programmed in locations 032-035. If the account code is three digits long, location 035 must be left unprogrammed.

LOCATION 043: PROGRAMMING COMMUNICATOR FORMAT

Location 043 contains the communicator format. Consult the instructions for your central station receiver to determine which format is compatible. To select Ademco/Silent Knight Fast, place a 2 in location 043. Sescoa/Franklin Fast requires a 4 in location 043, and Radionics 1800HZ/2300HZ Fast with parity and hex capability requires a 9 in location 043. If you need another format, choose from those listed on the format table located on page 9 and place the data in location 043. If location 043 is left unprogrammed, the built-in communicator will be disabled, and the Ranger will function as a local only control.

LOCATIONS 036-086 ARE ADDITIONAL OPTIONAL PROGRAMMING SLOTS TO CHANGE STANDARD DEFAULT COMMUNICATOR AND CONTROL FUNCTIONS FOR SECURITY SYSTEMS WITH NON-STANDARD REQUIREMENTS. THESE ARE EXPLAINED ON PAGES 10 thru 15.

Programming Work Sheet

LOCATION	DATA	DESCRIPTION	SEE PAGE	DEFAULT
000		PRIMARY PHONE NUMBER DIGIT 1	6	DISABLED
001		PRIMARY PHONE NUMBER DIGIT 2	6	DISABLED
002		PRIMARY PHONE NUMBER DIGIT 3	6	DISABLED
003		PRIMARY PHONE NUMBER DIGIT 4	6	DISABLED
004		PRIMARY PHONE NUMBER DIGIT 5	6	DISABLED
005		PRIMARY PHONE NUMBER DIGIT 6	6	DISABLED
006		PRIMARY PHONE NUMBER DIGIT 7	6	DISABLED
007		PRIMARY PHONE NUMBER DIGIT 8	6	DISABLED
008		PRIMARY PHONE NUMBER DIGIT 9	6	DISABLED
009		PRIMARY PHONE NUMBER DIGIT 10	6	DISABLED
010		PRIMARY PHONE NUMBER DIGIT 11	6	DISABLED
011		PRIMARY PHONE NUMBER DIGIT 12	6	DISABLED
012		PRIMARY PHONE NUMBER DIGIT 13	6	DISABLED
013		PRIMARY PHONE NUMBER DIGIT 14	6	DISABLED
014		PRIMARY PHONE NUMBER DIGIT 15	6	DISABLED
015		PRIMARY PHONE NUMBER DIGIT 16	6	DISABLED
016		BACK-UP PHONE NUMBER DIGIT 1	6	DISABLED
017		BACK-UP PHONE NUMBER DIGIT 2	6	DISABLED
018		BACK-UP PHONE NUMBER DIGIT 3	6	DISABLED
019		BACK-UP PHONE NUMBER DIGIT 4	6	DISABLED
020		BACK-UP PHONE NUMBER DIGIT 5	6	DISABLED
021		BACK-UP PHONE NUMBER DIGIT 6	6	DISABLED
022		BACK-UP PHONE NUMBER DIGIT 7	6	DISABLED
023		BACK-UP PHONE NUMBER DIGIT 8	6	DISABLED
024		BACK-UP PHONE NUMBER DIGIT 9	6	DISABLED
025		BACK-UP PHONE NUMBER DIGIT 10	6	DISABLED
026		BACK-UP PHONE NUMBER DIGIT 11	6	DISABLED
027		BACK-UP PHONE NUMBER DIGIT 12	6	DISABLED
028		BACK-UP PHONE NUMBER DIGIT 13	6	DISABLED
029		BACK-UP PHONE NUMBER DIGIT 14	6	DISABLED
030		BACK-UP PHONE NUMBER DIGIT 15	6	DISABLED
031		BACK-UP PHONE NUMBER DIGIT 16	6	DISABLED
032		ACCOUNT CODE DIGIT 1	6	DISABLED
033		ACCOUNT CODE DIGIT 2	6	DISABLED
034		ACCOUNT CODE DIGIT 3	6	DISABLED
035		ACCOUNT CODE DIGIT 4	6	DISABLED
036		INITIAL ARM/DISARM CODE DIGIT 1	10	0
037		INITIAL ARM/DISARM CODE DIGIT 2	10	0
038		INITIAL ARM/DISARM CODE DIGIT 3	10	0
039		INITIAL ARM/DISARM CODE DIGIT 4	10	0
040		ENTRY DELAY TIME (10 SEC. INCREMENT)	10	30 SEC
041		EXIT DELAY TIME (10 SEC. INCREMENT)	10	60 SEC
042		SIREN CUTOFF TIME (2 MIN. INCREMENT)	10	8 MIN.
043		COMMUNICATOR FORMAT	6 & 9	LOCAL

Programming Work Sheet

LOCATION	DATA	DESCRIPTION	SEE PAGE	DEFAULT
044		ZONE 1 TYPE	11	ENTRY/EXIT
045		ZONE 2 TYPE	11	INT/FOLLOWER
046		ZONE 3 TYPE	11	INSTANT
047		ZONE 4 TYPE	11	INSTANT
048		ZONE 5 TYPE	11	INSTANT
049		ZONE 6 TYPE	11	INSTANT
050		DURESS COMMUNICATOR CODE	11	DISABLED
051		AUX 1 COMMUNICATOR CODE	12	DISABLED
052		AUX 2 COMMUNICATOR CODE	12	DISABLED
053		TROUBLE COMMUNICATOR CODE	12	DISABLED
054		CLOSING COMMUNICATOR CODE	12	DISABLED
055		OPENING COMMUNICATOR CODE	12	DISABLED
056		LOW BATTERY COMMUNICATOR CODE	12	DISABLED
057		TAMPER COMMUNICATOR CODE	12	DISABLED
058		PRIORITY COMMUNICATOR CODE	12	1
059		PANIC COMMUNICATOR CODE	13	2
060		ZONE 1 COMMUNICATOR CODE	13	3
061		ZONE 2 COMMUNICATOR CODE	13	4
062		ZONE 3 COMMUNICATOR CODE	13	5
063		ZONE 4 COMMUNICATOR CODE	13	6
064		ZONE 5 COMMUNICATOR CODE	13	7
065		ZONE 6 COMMUNICATOR CODE	13	8
066		RESTORAL COMMUNICATOR CODE	13	DISABLED
067		CANCEL COMMUNICATOR CODE	13	DISABLED
068		ABORT ENABLE	14	DISABLED
069		AUDIBLE PANIC DISABLE	14	AUDIBLE
070		ZONE 6 LOOP RESPONSE	14	500 ms
071		ZONE 5 LOOP RESPONSE	14	500 ms
072		ZONE 4 LOOP RESPONSE	14	500 ms
073		ZONE 3 LOOP RESPONSE	14	500 ms
074		ZONE 2 LOOP RESPONSE	14	500 ms
075		ZONE 1 LOOP RESPONSE	14	500 ms
076		PANIC LOOP RESPONSE	14	500 ms
077		PRIORITY LOOP RESPONSE	14	500 ms
078		NUMBER ALARMS FOR ZONE SHUTDOWN ACTIVATION	14	DISABLED
079		AUTO HOME MODE ENABLE	14	DISABLED
080		SIREN DRIVER DISABLE	14	ENABLED
081		LED EXTINGUISH ENABLE	15	DISABLED
082		DIAL ATTEMPTS	15	8
083		POWER-UP DISARMED ENABLE	15	DISABLED
084		POWER-UP DELAY DISABLE	15	ENABLED
085		IMMEDIATE RESTORE ENABLE	15	DISABLED
086		NO ARMING WITH A ZONE BYPASSED ENABLE	15	DISABLED

COMMUNICATOR FORMAT SELECTIONS

DATA	FORMAT	DESCRIPTION
UNPROGRAMMED	LOCAL ONLY	THE COMMUNICATOR IS DISABLED
1	ADEMCO/SILENT KNIGHT SLOW	1900HZ TRANSMIT 1400HZ HANDSHAKE DOUBLE ROUND PARITY 10 PPS
2	ADEMCO/SILENT KNIGHT FAST	1900HZ TRANSMIT 1400HZ HANDSHAKE DOUBLE ROUND PARITY 20 PPS
3	SESCOA/FRANKLIN SLOW	1800HZ TRANSMIT 2300HZ HANDSHAKE DOUBLE ROUND PARITY 10 PPS
4	SESCOA/FRANKLIN FAST	1800HZ TRANSMIT 2300HZ HANDSHAKE DOUBLE ROUND PARITY 20 PPS
5	*EXTENDED RADIONICS SLOW	1800HZ TRANSMIT 2300HZ HANDSHAKE DOUBLE ROUND PARITY 20 PPS EXTENDED HEX CAPABILITY
6	*EXTENDED RADIONICS SLOW	1800HZ TRANSMIT 1400HZ HANDSHAKE DOUBLE ROUND PARITY 20 PPS EXTENDED HEX CAPABILITY
7	*EXTENDED RADIONICS FAST	1800HZ TRANSMIT 2300HZ HANDSHAKE DOUBLE ROUND PARITY 40 PPS EXTENDED HEX CAPABILITY
8	*EXTENDED RADIONICS FAST	1800HZ TRANSMIT 1400HZ HANDSHAKE DOUBLE ROUND PARITY 40 PPS EXTENDED HEX CAPABILITY
9	*EXTENDED RADIONICS FAST WITH PARITY	1800HZ TRANSMIT 2300HZ HANDSHAKE SINGLE ROUND WITH PARITY 40PPS EXTENDED HEX CAPABILITY
0	*EXTENDED RADIONICS FAST WITH PARITY	1800HZ TRANSMIT 1400HZ HANDSHAKE SINGLE ROUND WITH PARITY 40PPS EXTENDED HEX CAPABILITY
B	SILENT KNIGHT 4-2 SLOW	1900HZ TRANSMIT 1400HZ HANDSHAKE DOUBLE ROUND PARITY FOUR-TWO 10PPS
C	SILENT KNIGHT 4-2 FAST	1900HZ TRANSMIT 1400HZ HANDSHAKE DOUBLE ROUND PARITY FOUR-TWO 20PPS
D	OLD ADEMCO/ADCOR NO MULTIPLE REPORT	1900HZ TRANSMIT 1400HZ HANDSHAKE DOUBLE ROUND PARITY 10PPS
E	OLD ADEMCO/ADCOR NO MULTIPLE REPORT	1900HZ TRANSMIT 1400HZ HANDSHAKE DOUBLE ROUND PARITY 20PPS

NOTE: extends only restore, cancel, opening, and trouble

LOCATIONS 036-039: PROGRAMMING THE INITIAL MASTER ARM/DISARM CODE

Locations 036-039 contain the power up default master arm/disarm code. Location 036 contains the first digit of the code; location 039 contains the fourth digit of the code. THE CODE MUST CONTAIN FOUR (4) DIGITS. This is the only code that will be active when the Ranger is first powered up. The master code can then be used from the Ranger keypad to enter additional arm/disarm codes (see page 22, ENTERING AND CHANGING THE MASTER and AUXILIARY CODES) If these slots are left unprogrammed, the default code will be 0-0-0-0.

LOCATION 040: PROGRAMMING THE ENTRY DELAY TIME

Location 040 contains the number of 10 second increments in the entry delay. If this location is left unprogrammed, the entry delay will be 30 seconds. The entry delay can be programmed in 10 second increments from 10 to 150 seconds. (1 =10 seconds through F =150 seconds) For example, placing a 2 in location 040 will produce an entry delay of 20 seconds. (Note: A zero (0) entry is treated as a 10 and thus creates a 100 second delay.) Placing a 6 in location 040 will produce an entry delay of 60 seconds.

LOCATION 041: PROGRAMMING THE EXIT DELAY TIME

Location 041 contains the number of 10 second increments in the exit delay. If this location is left unprogrammed the exit delay will be 60 seconds. The exit delay can be programmed in 10 second increments from 10 to 150 seconds. (1 =10 seconds through F =150 seconds) For example, placing a 2 in location 041 will produce an exit delay of 20 seconds. (Note: A zero (0) entry is treated as a 10 and thus creates a 100 second delay.) Placing a 6 in location 041 will produce an exit delay of 60 seconds.

LOCATION 042: PROGRAMMING THE SIREN SHUTDOWN/RECYCLE TIMEOUT

Location 042 contains the number of 2 minute increments in the automatic cutoff time. If this location is left unprogrammed, the automatic cutoff time will be 8 minutes. The automatic cutoff time can be programmed in 2 minute increments from 2 to 30 minutes. (1 =2 minutes through F =30 minutes) For example, placing a 2 in location 042 will produce an automatic cutoff time of 4 minutes. (Note: A zero (0) entry is treated as a 10 and thus creates a 20 minute cutoff.) Placing a 6 in location 042 will produce an automatic cutoff time of 12 minutes.

LOCATION 043: PROGRAMMING COMMUNICATOR FORMAT

Location 043 contains the communicator format. Consult the instructions for your central station receiver to determine which format is compatible. To select Ademco/Silent Knight Fast, place a 2 in location 043. Sescoa/Franklin Fast requires a 4 in location 043, and Radionics 1800HZ/2300HZ Fast with parity and hex capability requires a 9 in location 043. If you need another format, choose from those listed on the format table located on page 9 and place the data in location 043. If location 043 is left unprogrammed, the built-in communicator will be disabled, and the Ranger will function as a local only control.

LOCATIONS 044-049: PROGRAMMING THE BURGLARY ZONE TYPES

Locations 044 through 049 contain a number identifying the characteristics of each of the 6 burglary zones. Location 044 corresponds to zone 1 and location 049 corresponds to zone 6. If any of these locations is left unprogrammed, that particular zone will default according to the following list:

ZONE NUMBER	DEFAULT CHARACTERISTIC
ZONE 1	ENTRY/EXIT
ZONE 2	INTERIOR FOLLOWER
ZONE 3	INSTANT
ZONE 4	INSTANT
ZONE 5	INSTANT
ZONE 6	INSTANT

To program zone characteristics other than the default values, program a number from 1 to 6 based on the characteristics found in the following list:

NUMBER	ZONE CHARACTERISTICS DESCRIPTION
1	**DAY ZONE** - A trip on a Day zone will produce an instant alarm when armed and activate the keypad sounder when disarmed.
2	**24 HOUR** - A trip on a 24 Hour zone will produce an instant alarm when the Ranger is armed or disarmed.
3	**ENTRY/EXIT** - A trip on an Entry/Exit zone when armed in the "Home" mode will produce an instant alarm. A trip when armed in the away mode will start entry delay. The lack of a trip during exit delay will enable the "Home" mode if so programmed.
4	**INTERIOR DELAY** - A trip on Interior Delay zone when armed in the home or away mode will initiate an entry delay. It will be ignored during exit delay and when disarmed .
5	**INTERIOR FOLLOWER** - Interior zone that follows the delay zones. It is instant during non-delay times. It can be bypassed before arming, or by allowing it to automatically be bypassed in the automatic "Home" mode.
6	**INSTANT** - Produces an instant alarm when armed in the home or away mode. It is ignored when disarmed.

LOCATION 050: PROGRAMMING THE RANGER FOR DURESS CODE CAPABILITY

The Ranger 8800 has the ability to report a duress code when the system is armed or disarmed with user code number 8 and a duress communicator code is programmed in location 50. If this location is left unprogrammed, the duress capability is disabled and user code number 8 can only be used as an "Arm Only" code.

LOCATION 051: PROGRAMMING FOR AUXILIARY 1

The Ranger 8800 has the ability to report an Auxiliary 1 code and activate the Priority siren each time the [1] and [3] keys are pressed simultaneously on the keypad. The desired reporting code is programmed in location 051. If this location is left unprogrammed, the Auxiliary 1 double keypress is disabled.

LOCATION 052: PROGRAMMING FOR AUXILIARY 2

The Ranger 8800 has the ability to report an Auxiliary 2 code and activate the pulsing buzzer each time the [4] and [6] keys are pressed simultaneously on the keypad. The desired Auxiliary 2 code is programmed in location 052. If this location is left unprogrammed, the Auxiliary 2 double keypress is disabled.

LOCATION 053: PROGRAMMING FOR PRIORITY TROUBLE REPORTING

The Ranger 8800 has the ability to report a trouble code each time the Priority loop opens. The desired trouble code is programmed in location 053. If this location is left unprogrammed, the Priority Trouble will not be reported.

LOCATION 054: PROGRAMMING TO REPORT CLOSINGS

The Ranger 8800 has the ability to report a closing code each time the control is armed. The desired closing code is programmed in location 054. If this location is left unprogrammed, closings will not be reported.

LOCATION 055: PROGRAMMING TO REPORT OPENINGS

The Ranger 8800 has the ability to report an opening code each time the control is disarmed. The desired opening code is programmed in location 055. If this location is left unprogrammed, openings will not be reported.

LOCATION 056: PROGRAMMING TO REPORT LOW BATTERY

The Ranger 8800 has the ability to report a low battery code when AC power has been lost and the battery has discharged down to 10.3 volts. The desired low battery code is programmed in location 056. If this location is left unprogrammed, low battery will not be reported.

LOCATION 057: PROGRAMMING THE TAMPER FEATURE

The Ranger 8800 has an optional tamper feature that, when enabled, will lock out the keypads for 1 minute following 30 unsuccessful keypresses. If the control is not programmed for local only, the tamper will be communicated. The desired tamper code should be programmed in location 057. If this location is left unprogrammed, the tamper feature will not be enabled or reported.

LOCATION 058: PROGRAMMING THE COMMUNICATOR CODE FOR PRIORITY

Location 058 contains the communicator code to be reported each time the Priority loop is shorted. If location 058 is left unprogrammed, the Priority zone will be reported as a 1.

LOCATION 059: PROGRAMMING THE COMMUNICATOR CODE FOR PANIC/HOLD-UP

Location 059 contains the communicator code to be reported each time the panic/hold-up loop is faulted or the [*] and [#] keys on the #8801 keypad are pressed simultaneously. If location 059 is left unprogrammed, the Panic/hold-up zone will be reported as a 2.

LOCATION 060: PROGRAMMING THE COMMUNICATOR CODE FOR ZONE 1

Location 060 contains the communicator code to be reported each time zone 1 creates an alarm. If location 060 is left unprogrammed, zone 1 will report a 3.

LOCATION 061: PROGRAMMING THE COMMUNICATOR CODE FOR ZONE 2

Location 061 contains the communicator code to be reported each time zone 2 creates an alarm. If location 061 is left unprogrammed, zone 2 will report a 4.

LOCATION 062: PROGRAMMING THE COMMUNICATOR CODE FOR ZONE 3

Location 062 contains the communicator code to be reported each time zone 3 creates an alarm. If location 062 is left unprogrammed, zone 3 will report a 5.

LOCATION 063: PROGRAMMING THE COMMUNICATOR CODE FOR ZONE 4

Location 063 contains the communicator code to be reported each time zone 4 creates an alarm. If location 063 is left unprogrammed, zone 4 will report a 6.

LOCATION 064: PROGRAMMING THE COMMUNICATOR CODE FOR ZONE 5

Location 064 contains the communicator code to be reported each time zone 5 creates an alarm. If location 064 is left unprogrammed, zone 5 will report a 7.

LOCATION 065: PROGRAMMING THE COMMUNICATOR CODE FOR ZONE 6

Location 065 contains the communicator code to be reported each time zone 6 creates an alarm. If location 065 is left unprogrammed, zone 6 will report a 8.

LOCATION 066: PROGRAMMING THE COMMUNICATOR CODE FOR RESTORAL

Location 066 contains the communicator code that will be sent for restoral of a zone. If location 066 is left unprogrammed, no restorals will be reported. If a restoral code is programmed and an extended format is selected, the restorals will be reported by zone. If a restoral code is programmed and an extended format is not selected, a restoral code will be sent when all of the zones have restored.

LOCATION 067: PROGRAMMING THE COMMUNICATOR CODE FOR CANCEL (EXCEPTION OPENING)

Location 067 contains the communicator code that will be sent for cancel. A cancel code will be sent if it is programmed in location 067, and a arm/disarm code is entered after a trip on zones 1 through 6 has been reported. After a cancel has been reported, no loop restorals will be transmitted on non-24 Hour zones. If location 067 is left unprogrammed, cancel is disabled.

LOCATION 068: PROGRAMMING THE COMMUNICATOR TO ABORT

Location 068 is used to enable the communicator abort. A one (1) in this location will cause the Ranger to abort the report of a trip on any non-24 hour zone, if an arm/disarm code is entered prior to central station connection. If location 068 is left unprogrammed, the Ranger will not abort any reports.

LOCATION 069: PROGRAMMING FOR SILENT PANIC/HOLD-UP

Location 69 is used to silence the audible output for a panic/hold-up alarm. Placing a one (1) in location 069 will silence the audible output during a panic/hold-up alarm. If this location is left unprogrammed, the Ranger will have an audible panic/hold-up output.

LOCATIONS 070-077: PROGRAMMING THE LOOP RESPONSE TIME LOCATION

Locations 070 (zone 6) to 077 (Priority) are used to program the loop response time for each of the E.O.L. supervised loops. Placing a one (1) in any of the selected zone locations will change the loop response time to 200 milliseconds. If any of these locations is left unprogrammed, the loop response time will be 500 milliseconds.

LOCATION 078: ENABLING THE SWINGER SHUTDOWN

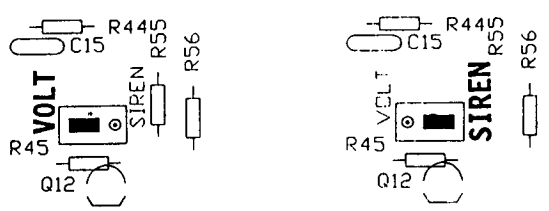
Location 078 is used to enable the burglary zone swinger shutdown. The number placed in this location will determine the number of times the Ranger will trip before before bypassing all burglary zones (1-6) which have tripped during the arming cycle. The bypassed zones will not report trips to a central station and the local siren or bell will not sound for these zones. A zone trip will not be added to the number count until after the zone has tripped more than once. If location 078 is left unprogrammed, this feature is disabled. (1=1, F=15)

LOCATION 079: ENABLING THE AUTOMATIC HOME ARMING FEATURE

Location 079 is used to enable automatic "Home Arming". Placing a one (1) in this location will cause the control to automatically enter the "Home" mode if a fault is not detected on an entry/exit zone during exit delay. If this location is left unprogrammed, or the system contains no Interior/Follower zones, this feature is disabled. (See page 18 for description of "Home Arming" feature.)

LOCATION 080: DISABLING THE BUILT-IN SIREN DRIVER

If the built-in siren driver is **NOT** to be used program a one (1) in location 080. Terminals 21 & 22 will then output 1 Amp at 12VDC. (Steady voltage for the burglary and panic zones and pulsing voltage for the Priority zone) (Note: To disable the siren driver and convert to DC voltage, the jumper shown below must be placed in the correct position.)



LOCATION 081: ENABLING OF THE LED EXTINGUISH FEATURE

Keypad LEDs (with the exception of the A.C. LED) will be extinguished after 60 seconds of keypad inactivity if a one (1) is placed in location 081. The LEDs will become illuminated immediately if an alarm occurs or if any key on the keypad is pressed.

LOCATION 082: ENTERING THE NUMBER OF DIAL ATTEMPTS

Location 082 is used to enter the number of dial attempts to each number (1 =1 attempt through F =15 attempts) the communicator will try before ending the notification process. If this location is left unprogrammed, the communicator will make 8 attempts.

LOCATION 083: POWER UP DISARMED ENABLE

If a one (1) is placed in location 083, the Ranger 8800 will power up in the disarmed condition if there is a total power shutdown and battery failure. If left unprogrammed, the Ranger 8800 will power up armed.

LOCATION 084: POWER UP DELAY DISABLE

If a one (1) is placed in location 084, the Ranger 8800 will not delay 60 seconds before accepting open or short inputs from any zone. If left unprogrammed, the default mode allows sensors on all zones 60 seconds to stabilize at power-up after a total power shutdown and battery failure. After 60 seconds, the Ranger will once again accept loop opens or shorts as an alarm condition.

LOCATION 085: IMMEDIATE RESTORE ENABLE

If a one (1) is placed in location 085, restoral signals will follow the zone condition and report restores immediately after the loop or loops have unfaulted. If left unprogrammed, restorals are sent only after all loops have restored and the siren/audible output has timed out and reset.

LOCATION 086: NO ARMING WITH A ZONE BYPASSED ENABLE

If a one (1) is placed in location 086, the Ranger cannot be armed with any zone bypassed. If left unprogrammed, up to 5 of the 6 burglary zones can be bypassed and the Ranger can still be armed.

Standard Control Features

Six Programmable Burglary Zones

Although zones 1-6 can easily be programmed for any desirable configuration, the Ranger 8800 comes with a standard default configuration that allows most typical alarm systems to be installed without any additional zone programming. If the zone types are left unprogrammed, zone 1 will be an Entry/Exit delay zone, zone 2 will be an Interior/Follower zone, and zones 3-6 will be Instant zones. The zone types available are:

Instant Zone - Perimeter zone that is instant when faulted while the system is armed.

Entry/Exit Zone - The standard Entry/Exit delay for entry doors will default to 30 and 60 seconds, respectively. The delay times can be programmed in 10 second increments. This allows delays of 10 to 150 seconds to be programmed separately for the entry or exit times. If "Home" mode is selected and one of these zones is not faulted during exit delay, the Entry/Exit zones will become instant and the interior zones will be bypassed.

Interior Delay Zone - A trip on this zone will delay for the time period programmed for the Entry/Exit zone. It is not affected by the automatic "Home" mode.

Interior/Follower Zone - Interior zone that follows the delay zones. It is instant during non-delay times. It can be bypassed before arming, or by allowing it to be automatically bypassed in the automatic "Home" mode.

24 Hour Zone - A 24 Hour zone which is not affected by the armed status, but can be bypassed.

Day Zone - Will pulse the keypad sounder if it is faulted when the system is disarmed, or it will be instant if it is faulted while the system is armed. Whenever it is faulted and the system is disarmed, the next valid keypad code turns off the keypad sounder, but will not change the arming status. A faulted Day Zone must be bypassed to allow the system to arm.

Two Dedicated 24-Hour Zones

Priority - A 24-Hour, non-bypassable zone that is designed to act like a fire loop. A trouble code can be sent by the communicator if this loop opens. This loop when shorted will activate the steady tone siren or the pulsing voltage output and has priority over other zones. When this loop opens, it will beep the keypad sounder and light the trouble LED until a code is entered.

Panic/Hold-up - A 24-Hour, non-bypassable zone that is designed for a remote panic/ hold-up switch. This zone can be audible or silent. It is audible by default and can be changed to silent by programming location 069 in the PROM.

Child-Guard/Day Annunciator

This feature is used as an annunciator feature when the Ranger is disarmed. When Child-Guard/Day annunciation is activated, a fault on a delayed, instant, or entry/exit zone will produce a one second beep. To activate Child-Guard/Day annunciation, enter the first digit of the master code and wait 5 seconds. The keypad will produce a one second sound (beep) to notify you of the activation of this feature. Follow the same procedure to deactivate the Child-Guard/Day annunciation feature. This feature cannot be activated when the system is armed.

Smoke-Detector Reset

Pressing the RESET [#] key when the Priority LED is on will produce a 10 second power down of the smoke detector power output. When power is restored to the loop, the Priority LED and/or Priority Trouble LED will extinguish if the Priority loop has returned to a normal state. The condition of the Priority loop is ignored during reset.

Alarm Memory

A flashing ARMED LED indicates that an alarm occurred during the previous armed cycle. Holding down the zero [0] key for 5 seconds will cause the keypad to annunciate "Freeze Frame" alarm memory. The keypad will annunciate the zones which produced the last alarm, regardless of the number of times the Ranger has been armed or disarmed since that alarm. It annunciates by flashing the zones that caused alarms and lighting steady those that were bypassed when that alarm occurred. The annunciation will continue until the [0] key is released.

Keypad Timeout

After 1 minute of keypad inactivity any previous keypresses will be cleared out.

Keypad Two Button Panic

Pressing the [*] and [#] keys simultaneously will initiate a Panic/hold-up output. The Panic/hold-up output has the same reporting characteristics as the 24 hour Panic/hold-up loop.

Programmable Loop Response Time

The loop response time for all eight zones comes standard at 500 ms. To change the time to 200ms, place a 1 in the appropriate PROM location. These settings are called "standard" and "fast".

Zone Recycling

All zones on the Ranger will reset independent of each other. When a zone has reset, it is then able to create another audible alarm. If the siren/audible has not recycled, a trip or a retrip will extend the time for another recycle period.

Built-In Siren Driver

The Ranger 8800 comes with a built-in siren driver that has a steady sound and a yelp sound. The steady sound output is activated by faulting the Priority zone. All other audible alarms, including Panic, will produce a yelp sound output.

Power-up Delay

At initial power-up and after any total power shutdown with battery failure, the Ranger will ignore all loop outputs for 60 seconds. This feature can be disabled in location 084 of the PROM.

Optional Control Features

Automatic Home Arming

If the system is armed and an Entry/Exit zone is not tripped during the exit delay, the Entry/Exit zones become instant and the interior/follower zones are bypassed. This feature must be enabled by programming the PROM. If the system is armed with all the Interior/Follower zones already bypassed, or if no Interior/Follower zones exist, the Entry/Exit zones will not become instant.

Voltage Output For Siren Driver or Bell

The Ranger 8800 can be altered by means of a jumper (see drawing on page 14) and programming a PROM location to have a 1 Amp 12VDC voltage output instead of the siren output. In this configuration, the Ranger 8800 would output a pulsing voltage (1 second on, 1 second off) for a Priority alarm and a steady voltage for any other audible alarm. There is a 8 minute siren/bell cutoff by default. The cutoff can also be programmed in 2 minute increments to allow siren/bell cutoff periods of 2 to 30 minutes.

Swinger Shutdown

This feature is enabled by placing a number in PROM location 078. The number placed in that location will determine the number of times the Ranger will trip before shutting down all burglary zones (1-6) which tripped during that arming cycle. A zone trip will not be added to the number count until after that zone has tripped more than one time.

Power-up Disarmed Option

The Ranger can be programmed in PROM location 084 to power-up in the disarmed condition. Default power-up mode is armed.

No Arming With A Zone Bypassed Option

The Ranger can be programmed in PROM location 086 to not arm if any zone is bypassed. The default mode allows the Ranger to arm with up to 5 of the 6 burglary zones bypassed.

The following optional control features are enabled by programming the communicator code for that feature:

Tamper

When 30 random keypresses are made without producing a valid code, the keypad will lock up for a period of one (1) minute. If any entry is made during that minute, the lock up will be extended for another minute. This feature can be enabled by making a program entry in the PROM for the tamper communicator code.

Duress Code

If the duress communicator code has been programmed (see Programming the Ranger for Duress Code Capability, page 11), arming or disarming with auxiliary code number 8 will initiate a silent duress communication.

Arm Only Code

If the duress communicator code has not been programmed in the PROM, the auxiliary code 8 becomes an "Arm Only" code.

Auxiliary 1 Double Keypress

If the Auxiliary 1 communicator code has been programmed in the PROM (see programming the Auxiliary 1 communicator code page 12), pressing [1] and [3] simultaneously will turn on the Priority siren and communicate the Auxiliary 1 code to the central station. Entering any arm/disarm code will silence the siren.

Auxiliary 2 Double Keypress

If the Auxiliary 2 communicator code has been programmed in the prom (see programming the Auxiliary 2 communicator code page 12), pressing [4] and [6] simultaneously will turn on the pulsing buzzer and communicate the Auxiliary 2 code to the central station. Entering any arm/disarm code will silence the keypad sounder.

Standard Communicator Features

Two 16 Digit Phone Numbers

There can be two programmable phone numbers for the communicator: a primary and a back-up number. Each number can be up to 16 digits long. The back-up number will be dialed only if the primary phone number receiver does not respond after the programmed number of attempts has been completed. A 4 second delay can be selected by programming a D in one of the slots. If one of the programmable numbers is not long enough, the two numbers can be connected by programming a C in location 015 of the primary number. Also the dialing can be switched at any point to touch tone by programming an F into one location. A second F will switch back to pulse dialing.

One Priority, One Panic, and Six Independent Burglary Zones

The following communicator zones are always active. The report codes can be programmed, or the default codes shown can be used. These codes are listed in order of priority of reporting.

ZONE TYPE	DEFAULT CODE
Priority	default code = 1
Panic	default code = 2
Zone 1	default code = 3
Zone 2	default code = 4
Zone 3	default code = 5
Zone 4	default code = 6
Zone 5	default code = 7
Zone 6	default code = 8

Optional Communicator Features

The optional communicator features can be activated by the act of programming a reporting code. To activate the following features, simply place a code in the appropriate program location.

Restore - Sent after a zone trip has been reported and that zone returns to its normal status. If extended reporting is enabled, a restoral code is sent by zone as each zone returns to its normal status (this includes fire, fire trouble, and low battery but does not include panic). Otherwise, it sends a restore after all the zones return to normal. In the default mode, these restorals will be reported after siren/audible timeout. (See program option in location 085)

Opening - Sent at each disarming

Closing - Sent at each arming

Low Battery - Sent when the battery voltage drops below 10.3V (10.3 V report with 12V restore)

Auxiliary 1 - Sent when the 1 and 3 keys are pressed simultaneously

Auxiliary 2 - Sent when the 4 and 6 keys are pressed simultaneously

Cancel - Sent for any of the zones 1-6 if a valid code is entered after an alarm has been reported

Duress - Sent if a valid 4 digit Duress code (#8 code) is entered, the duress communicator code is sent in addition to an opening/closing code. Note: If the #8 code slot (Duress or Arm Only code) is programmed, but the duress communicator code is not, the code will become an "Arm Only" code. This feature gives three levels of keypad codes: a master code, an auxiliary code, and a "Arm Only" code.

Trouble - Sent if the Priority loop opens

Tamper - Sent every time the keypad is locked out. The keypad is locked out following 30 random keypresses. Lockout is for a duration of 1 minute.

Abort - If abort is enabled and a trip occurs on a non-24 hour zone, a valid code input before central station connection will terminate the transmission.

Extended Reporting - (See Format Table on page 9) The Ranger 8800 can report with an extended reporting format if it is specified in the PROM. Extended reports will be sent for restore, cancel, opening, closing, and trouble. If extended reporting is enabled, the man number of the code input will be sent for opening, closing, and cancel.

Immediate Restore Reporting - The communicator can be programmed in PROM location 085 to send zone restoral codes immediately after a faulted loop or loops have reset. In the default mode, restorals are sent after all loops have restored and the siren/audible output has timed out and reset.

General Operating Instructions

Arming and Disarming the Ranger 8800

To turn the security system on, close all protected doors and windows. The green "Status" LED will be on. Input a valid code to change the armed status. If the armed status is changed when the Priority and/or Priority Trouble LED is on, the keypad sounder will start beeping to remind you to reset the Priority. Entering the code again will silence the keypad sounder and not change armed status (pressing the RESET [#] key will reset the Priority LED if the short has cleared). The following conditions will prevent the armed status from changing when a code is entered:

1. The system is armed, Duress is not enabled, and code eight is used as an "Arm Only" code.
2. The Status LED is out and the system is currently disarmed (the keypad sounder will beep 3 times if green status LED is not illuminated)
3. The siren is currently on for something other than a control zone (in this case silence the siren)
4. The keypad sounder is currently beeping for Priority Trouble or a Day zone (in this case silence the keypad sounder)
5. A zone is bypassed and "No Arming With Bypass" mode has been selected in the PROM.

Bypassing Zones

To bypass any of the zones 1-6, disarm the control and press [*],zone numbers to bypass, and [*]. If the control is armed, it will beep 3 times after the second [*] is pressed to remind you to disarm before bypassing. If the control is in the disarmed state, the bypass condition of the zones will toggle.

Entering and Changing the Master Code

When the Ranger is first powered-up, the master code is either the standard default code 0-0-0-0 or the default code programmed into the PROM. To change the pre-programmed code to another 4 digit code, enter [*], [1], [#], 4 digit master code, [*], [1], [#], new 4 digit master code, [*], [1], [#]. (NOTE: IF THE MASTER CODE IS CHANGED, ALL AUXILIARY CODES ARE INVALIDATED !)

Entering and Changing an Auxiliary Code

When the Ranger is first powered-up the auxiliary codes are disabled. To program additional 4 digit codes for other system users, enter [*], one number from 2 to 7, [#], master code,[*], 2-7, [#], 4 digit auxiliary code,[*], the same number 2-7, [#]. The system will accept up to 6 auxiliary arm/disarm codes.

Removing An Auxiliary Code

To remove an auxiliary code, utilize the auxiliary code instructions on page 22 and replace the 4 digit code to be cancelled with the existing 4 digit Master Code.

Entering code #8, a Duress or Arm Only Code

To enter another 4 digit code that will arm or disarm the system and report a duress code enter [*], [8], [#], master code, [*], [8], [#], 4 digit duress/arm only code, [*], [8], [#].

Note: If the duress mode is not enabled by entering a communicator code in location 050, code #8 can be assigned as an "Arm only" code. This will allow certain personnel to arm the security system only. If an attempt were made to disarm the system with this code, the code would be ignored, and, if a protected device had been violated, an alarm would be initiated.

Note: If an attempt is made to change any of the codes from the keypad, and a invalid master code is entered or a [*] or [#] is made part of a code, the keypad sounder will beep 3 times and the keypad will return to the normal state. If the master code is changed, all auxiliary codes will be invalidated.

Arming and Disarming With Automatic Home Arming

If automatic "Home Arming" is enabled, there are three ways to arm the Ranger 8800.

1.) Input a master or auxiliary code and leave the building through an entry/exit door. There will be an exit delay for leaving. When returning through an entry/exit door or Delayed zone, the keypad sounder will beep continuously to remind you to disarm the system promptly.

2.) Input a master or auxiliary code and stay in the building. If no Entry/Exit zones are tripped during the exit delay, the interior zones will automatically become bypassed and the Entry/Exit zones will become instant. The "Home" LED will be illuminated. The interior delay zones would be unaffected.

3.) Bypass all the interior zones, arm the system and stay in or leave the building. In both cases, the Entry/Exit zones will not become instant if all the interior zones were bypassed prior to arming.

Activating Child-Guard/Day Annunciator

To activate Child-Guard/Day annunciation, disarm the control and press the first digit of the master code. If no other keys are pressed within 5 seconds, the keypad sounder will beep and the Child-Guard/Day annunciator will become activated. Use the same procedure to remove this feature.

Keypad Operation

The Ranger will accept up to four #8801 Control Keypads. The keypad is a four wire keypad that has a 12 key telephone type keypad, a sounder, and 12 LEDs.

The LEDs are used to indicate the following:

ARMED - (red) On when system is armed; off otherwise. Blinks on non-24 hour zones as alarm memory until a valid code is entered.

STATUS - (green) On when zones 1 through 6 are good; off otherwise.

HOME - (red) On when the entry/exit zones are instant and interior follower zones are bypassed; off otherwise

AC ON - (red) On when AC power is on; off otherwise. Blinks when the Ranger 8800 needs programming after a complete power failure. This light will not go out in the LED extinguish mode unless A.C. power is lost.

PRIORITY - (red) Latches on when Priority loop shorts. Reset by pressing the RESET [#] key; off otherwise.

TROUBLE - (red) Latches on when Priority loop opens. Reset by pressing the RESET [#] key; off otherwise.

ZONES 1-6 - (yellow) On when bypassed; blinking when faulted; off otherwise. Blinks when "Freeze Frame" alarm memory is being shown, if faulted during the last alarm. Steady if bypassed prior to last alarm.

Keypad Sounder - The keypad sounder is built into the keypad and will sound for the following reasons:

- Beeps for all key presses.
- Sounds continuously during entry delay.
- Pulses when a Day zone trips, when Priority trouble occurs, or when the armed status changes and either of the Priority LEDs is on. When pulsing, it can be silenced by entering a code. Armed status will not change when the sounder is silenced.
- 3 Beeps for trying to arm when a faulted zone is not bypassed.
- Beeps 1 second for Child-Guard/Day Annunciation and activation of Child-Guard/Day Annunciation.
- 3 Beeps when errors are made reprogramming codes.
- Beeps 1 second at the end of the exit delay.
- Beeps 3 times when an attempt to arm is made and all zones are bypassed or any zone is bypassed and the "No Arm With A Zone Bypassed" mode has been selected in the PROM.
- Beeps 3 times when a error is made when bypassing a zone.
- Beeps 3 times to let the user know if the armed status did not change.

Information Concerning Local Telephone Company Interface

TELEPHONE CONNECTION REQUIREMENTS

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

INCIDENCE OF HARM

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

CHANGES IN TELEPHONE COMPANY EQUIPMENT OR FACILITIES

The telephone company may make changes in its communications facilities, equipment, operations, or procedures where such action is reasonably required and proper in its business. Should any such change render the customers terminal equipment incompatible with the telephone company facilities, the customer shall be given adequate notice to make modifications to maintain uninterrupted service.

GENERAL

The FCC prohibits customer provided terminal equipment be connected to party lines.

IMPORTANCE OF THE RINGER EQUIVALENCE NUMBER

The Ringer Equivalence Number of this device is 0.0 dB. This number is a representation of the electrical load that it applies to your telephone line.

MALFUNCTION OF THE EQUIPMENT

In the event that the device should fail to operate properly, the customer shall disconnect the equipment from the telephone line to determine if it is the customers equipment that is not functioning properly. If the problem is with the device the customer shall discontinue use until it is repaired.

EQUIPMENT INFORMATION

MANUFACTURER OF CONNECTING EQUIPMENT: CADDX-CADDI CONTROLS INC., FCC REGISTRATION NUMBER: GCQ4DC-17266-AL-E, RINGER EQUIVALENCE: 0.0 dB