

MODEL
XL1216

**INSTALLATION
INSTRUCTIONS**



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“WE DO WHAT THEY DON’T”

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BELL CUT-OFF/RECYCLE ADJUSTMENT PROCEDURE

Panel is shipped with 30 second bell cut-off/recycle for test purposes only. Cut R10 for 15 minutes. If the loop is closed (instants, or delay) the bell will stop and the system will recycle. If the loop remains open, the bell will stop, but that zone will not recycle until the loop is restored. All zones have independent bell cut off.

EXIT/ENTRANCE ADJUSTMENT PROCEDURE

Test the delay loop by connecting a voltmeter or sonalert between terminals 9 & 21. Set exit pot at mid-range. Arm the control panel, open the delay loop. Measure the exit delay time from arming the panel until the voltmeter registers 10-15 volts or the sonalert sounds. If the measured time is too short, adjust the pot, then repeat. Continue until a satisfactory time is observed. The entrance delay time is measured from the instant the sonalert sounds, or voltmeter indicates 10-15v (after opening the delay loop) until the bell rings. Adjust the pot to get the desired time (between 5 and 120 seconds.)

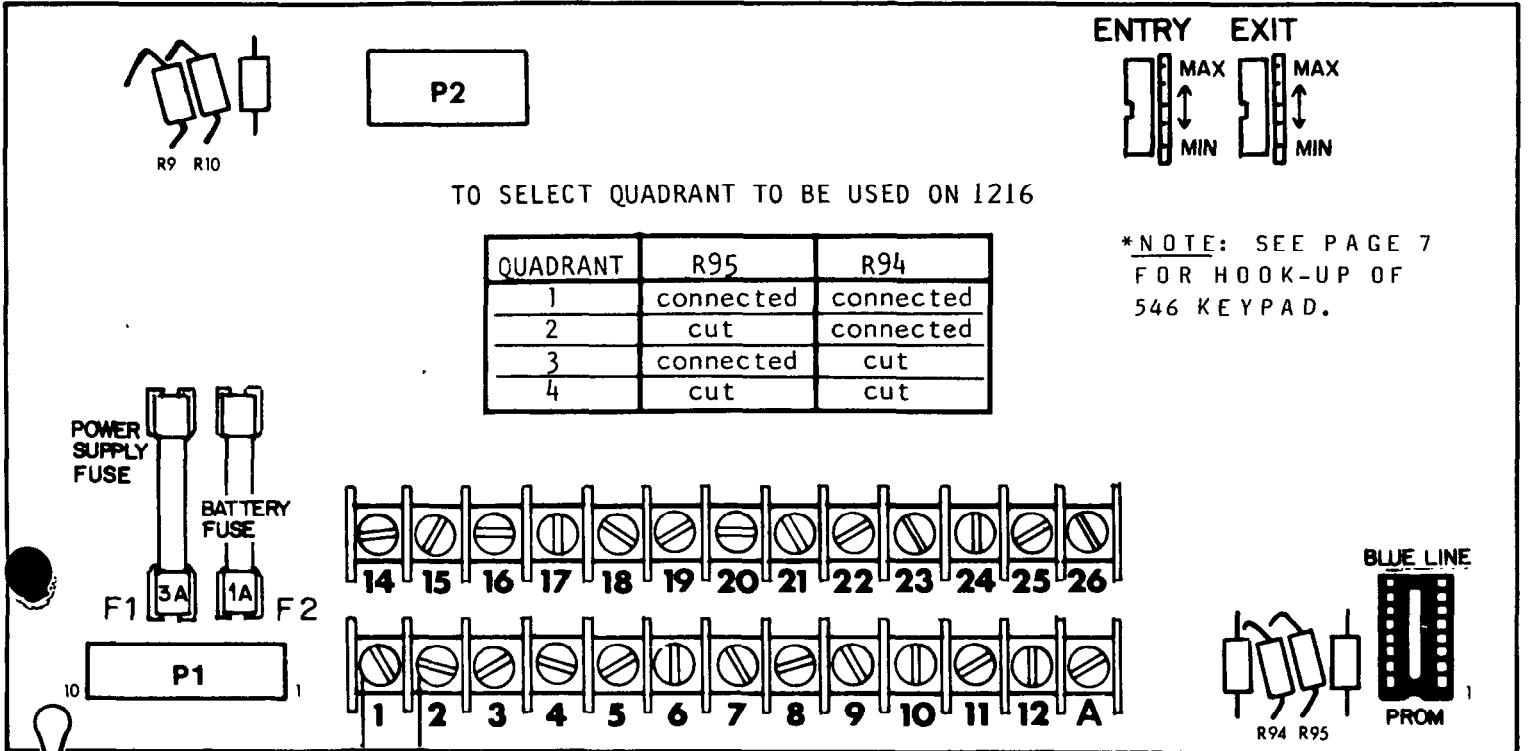
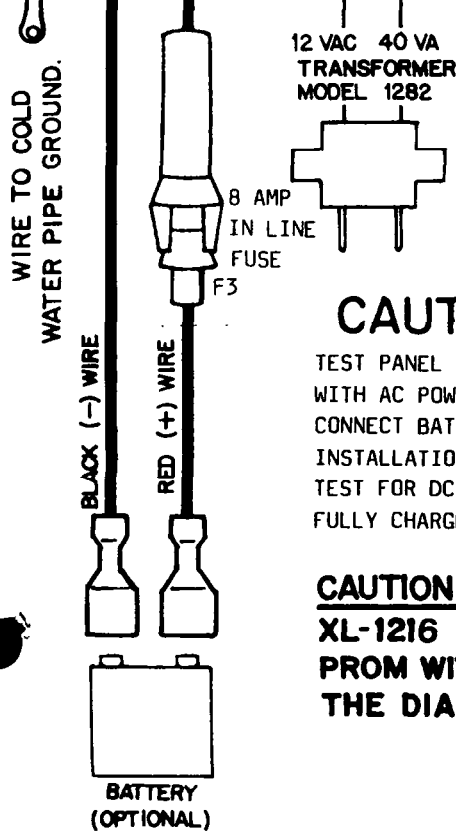


FIG. 1



INSTALLATION

Wire the control panel as shown on page 9. Any N.C. protective loop that is not used must be jumpered with an E.O.L. Resistor. Cut the resistors that require cutting. Connect transformer to terminals 1 and 2. Plug 12 VAC 40 VA class II transformer into 120 VAC 60 Hz power outlet that is powered 24 hours per day. Connect red and black leads to standby battery. Use 18 gauge or larger wire. Do not apply 110 VAC directly to control panel. Set exit and entry delay timers.

CAUTION:
TEST PANEL UPON INSTALLATION WITH AC POWER ONLY. DO NOT CONNECT BATTERY UNTIL THE INSTALLATION IS COMPLETE. TEST FOR DC OPERATION WITH A FULLY CHARGED BATTERY ONLY.

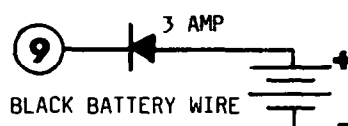
CAUTION: THERE SHOULD BE NO POWER ON THE XL-1216 WHEN PROM IS INSERTED. PLUGGING IN PROM WITH POWER ON THE PANEL, WILL CAUSE THE DIALER TO TRANSMIT OUT OF PROGRAM.

TERMINALS	DESCRIPTION
1 & 2	12VAC 40VA Input: Connect Model 1282 transformer (supplied) to 24 hour electrical outlet. Use 18GA wire at 15 ft. maximum. Yellow AC LED will be lit when AC is present.
3(+) & 6(-)	Burglary Bell Output: 12 volts available on burglary, audible panic Bell cutoff time is 30 secs (for test purposes) or 15 minutes.
Term.4. not used	-----
5(+) & 6(-)	Fire Bell Output: 12 volts available when fire circuit is activated.
7(+) + 20(-)	12 Volt Regulated Output: For powering motion detectors, digital key pads and other voltage sensitive equipment. Current capability is 300ma at less than 100mv P-P ripple.
9(+) + 11(-)	12 Volt Non-Regulated Output: Total current draw from panel is 1.5amps, including regulated output, therefore, whatever current is not being drawn by devices connected to the other terminals will be available here.
8 & 9(+)	Keyswitch Terminals: Normally open circuit is used to arm/disarm control panel and activate opening and closing channels of digital dialer. Activated by a momentary closure across these terminals. Due to loop lock-out feature panel will not arm and closing signal will not be transmitted if a loop is violated.
9(+) & 10	Silent Panic Circuit: 24 hour normally open circuit to be used with either momentary or maintained panic devices. A closure on this circuit will cause an activation of the panic channel of the digital dialer. (R9 must be cut to disable open/close signals)
9(+) & 21	Sonalert Output: Provides early warning indication for delay circuit and rings on alarm.
9(+) & 22(-)	Green loop status LEDs: There is one Green loop status LED for each of the three burglary zones. These LEDs will be lit when the control panel is unarmed and their loops are unviolated, extinguished when violated. These terminals are for wiring a common loop status LED. The panel cannot be armed if any of these LEDs are off (loop lockout feature). In armed condition all these LEDs will be off.
9(+) & 23(-)	<p>Red L.E.D. Output: Arm/memory LED will come on steady in the armed condition. During and after an alarm this LED will flash until the panel is disarmed.</p> <p>NOTE: There are three other Red LEDs which will serve as "Blinking" memory for the three burglary zones after a violation. To extinguish these LEDs, disarm the control and operate the reset switch on the front of the box. There are also three supervised Bypass switches which can be used to shunt each of the burglary zones while the control is unarmed. OPERATING THE BYPASS SWITCHES WHILE THE CONTROL IS ARMED WILL CAUSE AN ALARM. Bypassing all zones while disarmed will prevent arming.</p>

TERMINALS	DESCRIPTION
25 & 26 Zone 2 Instant E.O.L. 1000Ω	Zone 2 - Wire N.C. devices in series with loop and wire N.O. devices across loop. When armed an open or short on this circuit will cause activation of the burglary bell and Zone 2 channel of the digital dialer.
11 & 12 Zone 3 Delay E.O.L. 1000Ω	Zone 3 - Wire N.C. devices in series with loop and wire N.O. devices across loop. When armed, an open or short on this circuit after exit time has expired, will sound the sonalert and cause the entrance time to begin timing out. After the entrance time expires, the burglary bell and Zone 3 channel of the digital dialer will activate.
24 & 25 Zone 1 Instant E.O.L. 1000Ω	Zone 1 - Wire N.C. devices in series with loop and wire N.O. devices across loop. When armed, an open or short on this circuit will cause activation of the burglary bell and Zone 1 channel of the digital dialer.
Term. A & Term. 11	Term. A - Control Zone Input. A jumper must be on Term. A to Term. 11. (Terminal not to be used at this time) Panel will not arm without jumper.
14 & 15 & 16	Phone Line Connection: Connect tip to 14 and ring to 15. Home phone is connected to 15 and 16. FCC# AE398E-70112-AL-R, ringer equivalence (0.0B) Use Model 368 to connect to telephone company supplied RJ31X.
17 & 19	Remote Fire Reset: Wire a normally closed push button (Model 666) to these terminals, to be used to reset the fire output and smoke detectors. Reset switch must be added to operate fire circuit.
18 & 19	Fire Loop: A closure on this loop will activate the fire bell output and the fire channel of the digital dialer.
19(+) & 20(-)	Smoke Detector Output: 12 volts output for powering smoke detectors. Can be reset by activating fire reset button.

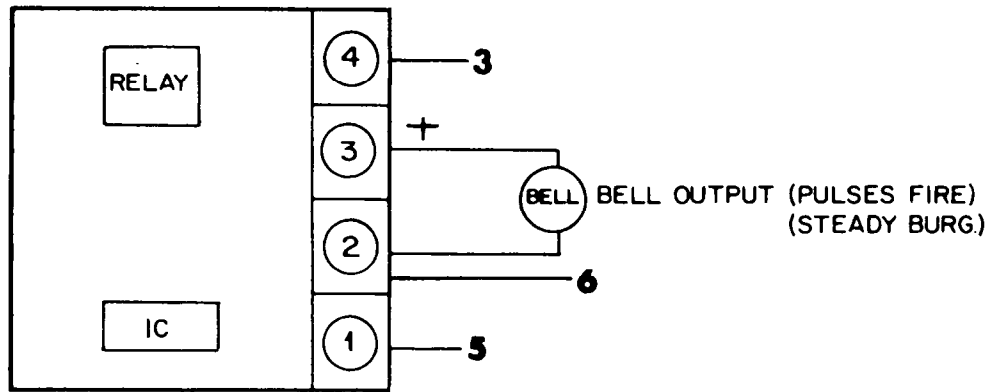
GROUNDING LUG	Located in lower left hand corner of the P.C. board. This lug must be connected to electrical or cold water ground for lightning protection.
WIRES	<p>Red/Black: These are the battery wires. Red(+) and Black (-). Should the battery be connected backwards, the charging circuit is protected by the F2 fuse. If F2 fuse blows, the regulated output becomes battery dependent.</p> <p>An 8 amp fuse is in series with the red (+) battery lead on this control panel. This fuse will blow, IF the regulated <u>OR</u> unregulated outputs are accidentally shorted.</p> <p>NOTE: If the unregulated output (Terminals 9 or 17) are shorted, the standard 3 amp fuse <u>will also blow out</u>.</p> <p>If using a dry cell or power pack rather than a rechargeable battery the wiring connections below should be used instead of the red and black wires.</p>

FIG. 2



FIRE BELL PULSING MODULE

FIG. 3

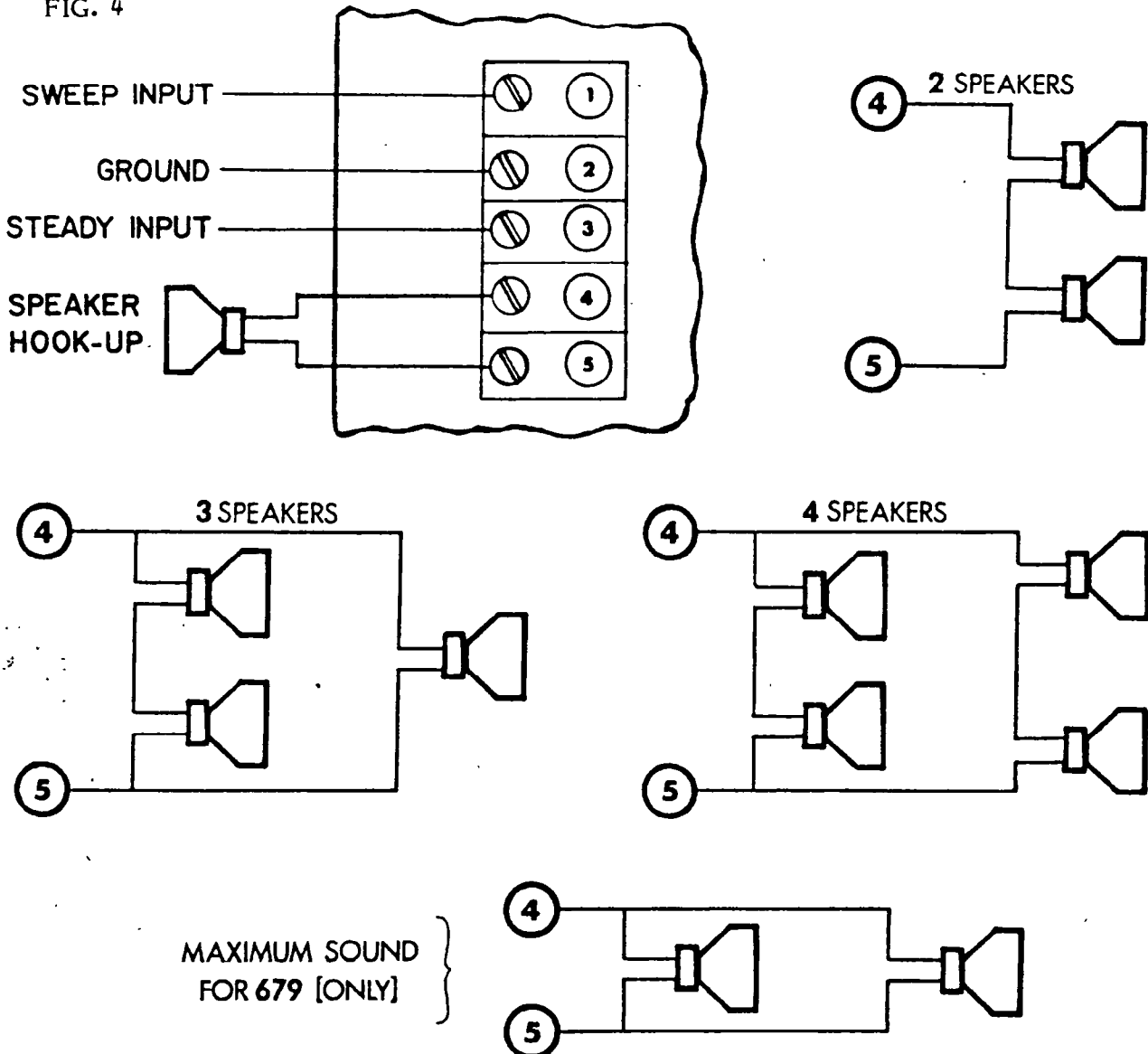


OPTIONAL MODELS 672 & 679

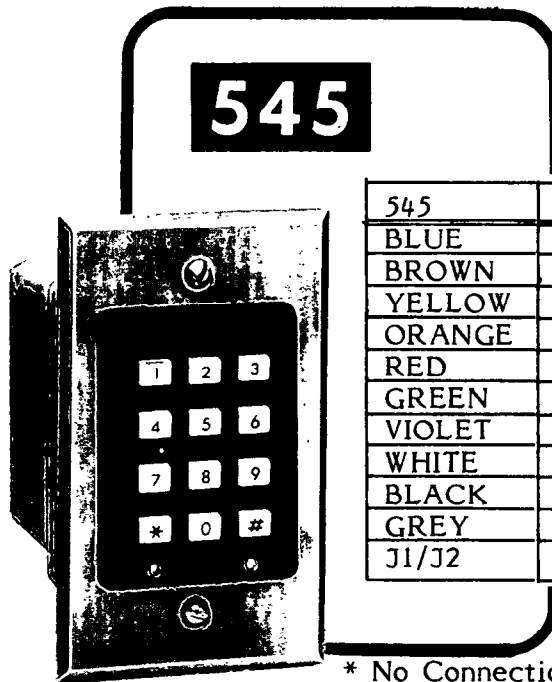
2-CHANNEL SIREN DRIVER

(8 Ω SPEAKER HOOK-UPS)

FIG. 4



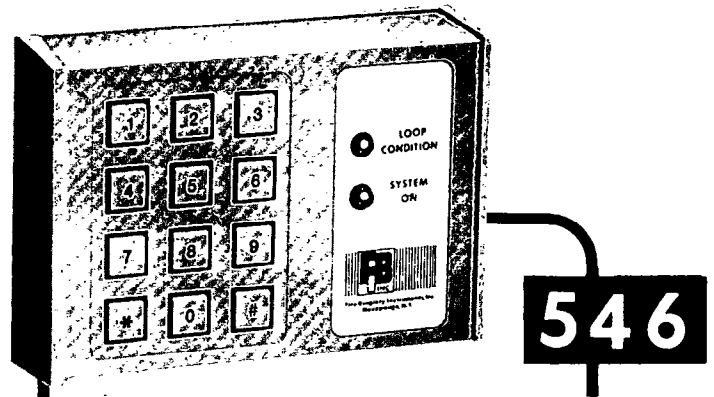
OPTIONAL REMOTES



545

545	XL1216
BLUE	9
BROWN	6
YELLOW	8
ORANGE	9
RED	22
GREEN	9
VIOLET	23
WHITE	NC*
BLACK	Silent 10
GREY	NC*
J1/J2	Cut

* No Connection



546

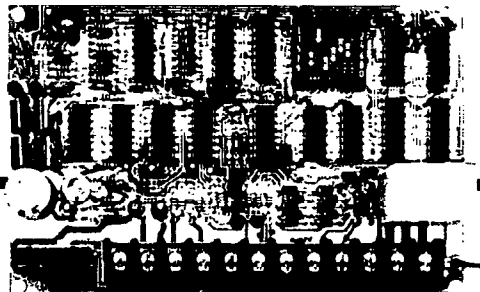
546	XL1216
BROWN	21
RED	8
ORANGE	9
YELLOW	No Connection
BLACK	9
WHITE	23
WHITE/RED	9
WHITE/BROWN	22
WHITE/YELLOW	9
WHITE/ORANGE	6
WHITE/GREEN	9
WHITE/BLUE	Term. 10 Silent Panic See Note A
See Note A, PG.8	
J1	A
J2	A
J3	Cut

*Keypad on door

IF ANY ADDITIONAL INFORMATION IS REQUIRED, REFER TO THE INSTALLATION INSTRUCTION INTENDED FOR THAT PARTICULAR REMOTE.

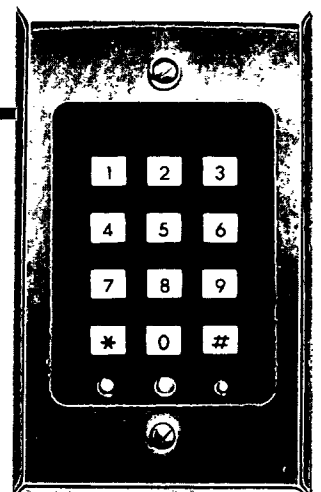
551	XL1216
1	9
2	6
3	23
4	22
5	NC*
6	8

551



7	10-Silent Panic SEE NOTE A
8	RED WIRE FROM 550
9	BLACK WIRE FROM 550
10	N.C. Contact To be used to shunt certain areas of protection. Contacts will lock-in. Yellow LED will follow.
11	Common
12	N.O. Contact
J1 GREEN	Connected
J2 RED	Connected
J3 WHITE	For AMBUSH, leave as shipped, cut for PANIC. Do the same on 550

550



WHEN USING 550/551 NO OTHER REMOTES CAN BE USED.

* No Connection

When using 551 the 553 cable can be used to interconnect the units. See FIG. 7 on page 9.

note A

Silent/Audible Panic / Open/Close

IN REFERENCE TO: PAGE 7 (OPTIONAL REMOTES...MODELS 546 & 550/551)

PAGE 14 (PROGRAMMING...STEP #14)

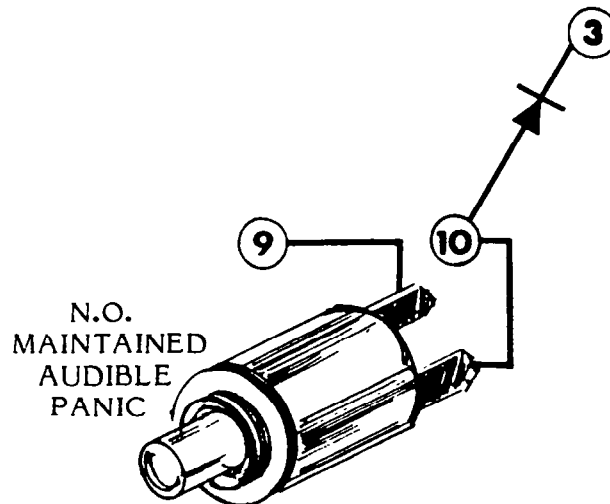
Note A:

The 5th channel of the XL1216 can be used for either open/close or silent panic transmission not both. When this channel is used for open/close transmission, leave the R9 resistor jumper intact and program the desired codes in row 5 & 6 respectively of the AL Field.

When the channel is being used for silent panic transmission, cut the R9 resistor jumper and use normally open devices across terminals 9 & 10. If a momentary device is being utilized for silent panic, the same silent panic alarm code must be programmed in row 5 & 6 of the AL Field. If a N.O. maintained device is being used to trip panic across terminals 9 & 10, program the desired panic alarm code in row 5 of the AL Field and if a restore is desired, it can be programmed in row 6 of the AL Field. When using maintained devices, if restore is not used, program an F in row 6 of the AL Field.

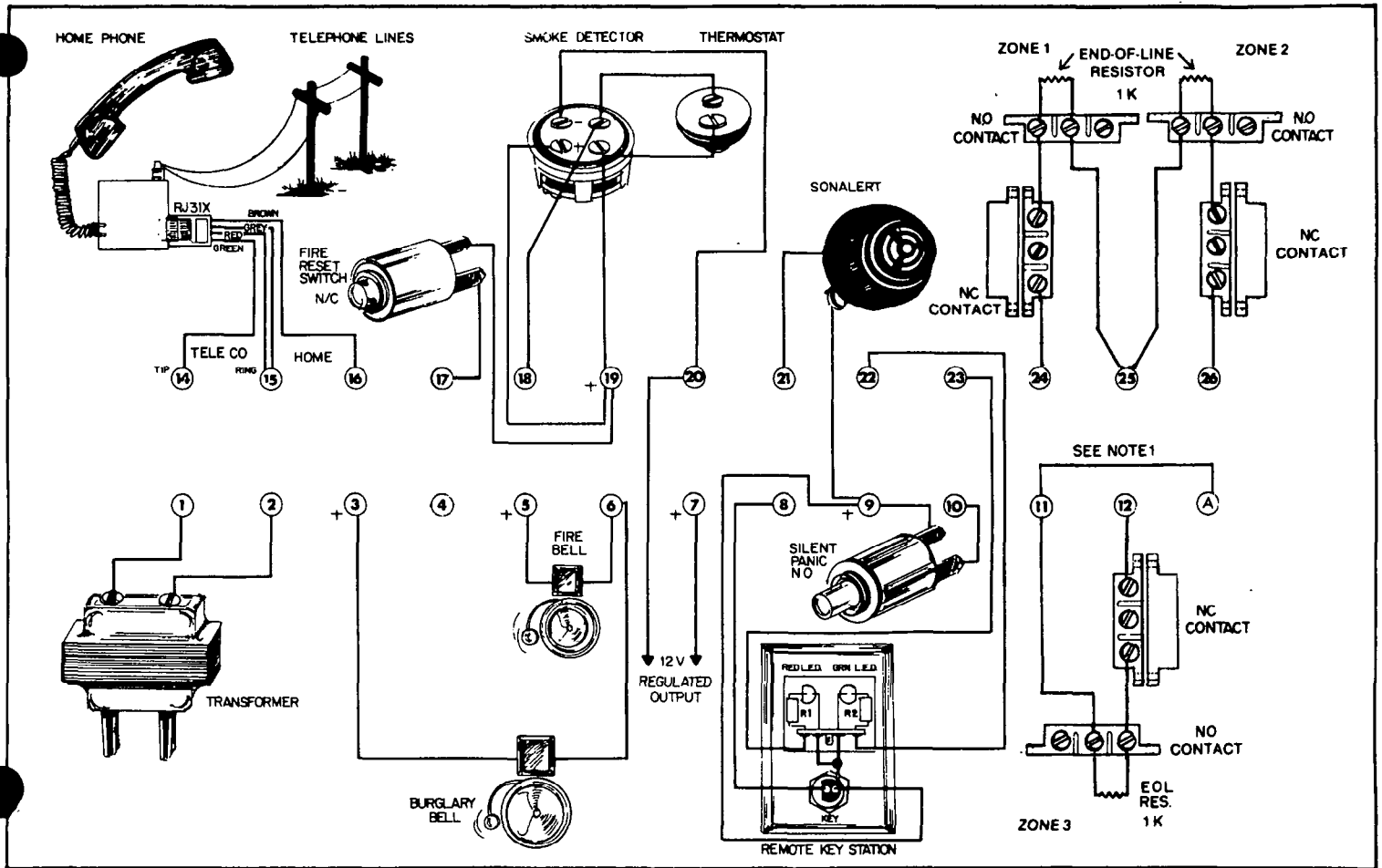
If audible panic is desired, program rows 5 & 6 of the AL field for maintained silent panic as specified above. Wire a N.O. maintained push button across terminals 9 & 10, and install a 3 amp diode as shown below. The burglary bell will ring as long as the button is depressed, and a silent panic transmission will occur.

FIG. 5



Wiring

FIG. 6

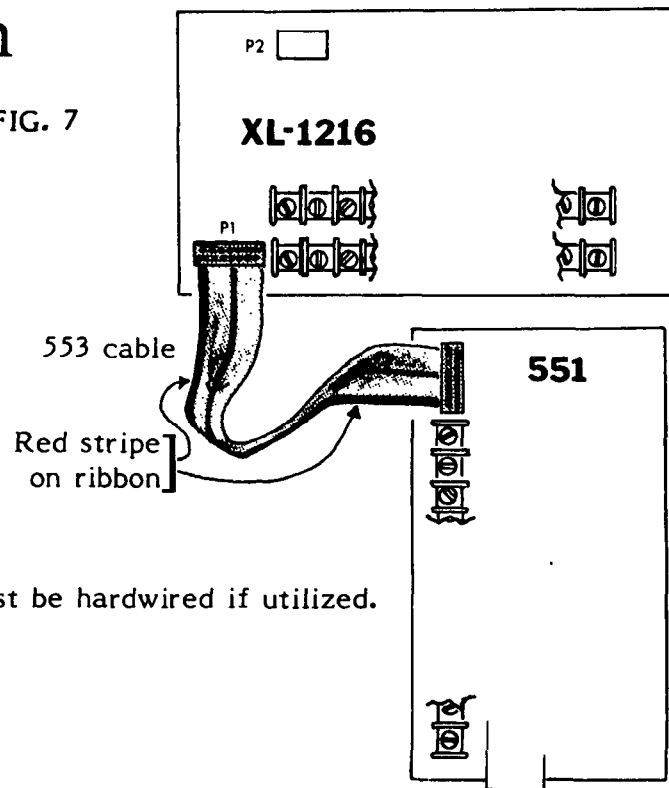


NOTE 1: Jump terminal 11 to A when XL1214 is NOT used. When XL1214 IS used, connect to terminal A of XL1216.

Ribbon connection XL1216 to 551

FIG. 7

REFER TO PAGE 7



Term. 7 of 551 must be hardwired if utilized.

programming

The XL1216 contains a digital dialer which uses a program chip (prom).

Understanding the programming instructions, which follow, is essential because many outputs are possible with each activation. The dialer will transmit codes for either momentary or maintained inputs and restores. If a maintained input is aborted during transmission a choice of either an abort code, restore code or complete aborting of the transmission is programmable. The prom can also be programmed to test the dialer at 18 hour intervals, beginning from the last transmission. The dialer is also capable of accessing three different receivers, with each activation, and will shut down after being kissed-off by one or all receivers, depending on programming.

RJ31X

Before using the digital dialer, the telephone company shall be requested to install a USOCRJ31X jack on the telephone line. Give the telephone company the FCC registration (AE398E-70112-AL-R) & the ringer equivalence (0.0B) numbers for the XL1216. Connect the XL1216 to an approved modular plug (#368) to mate with the RJ31X as shown on page 9.

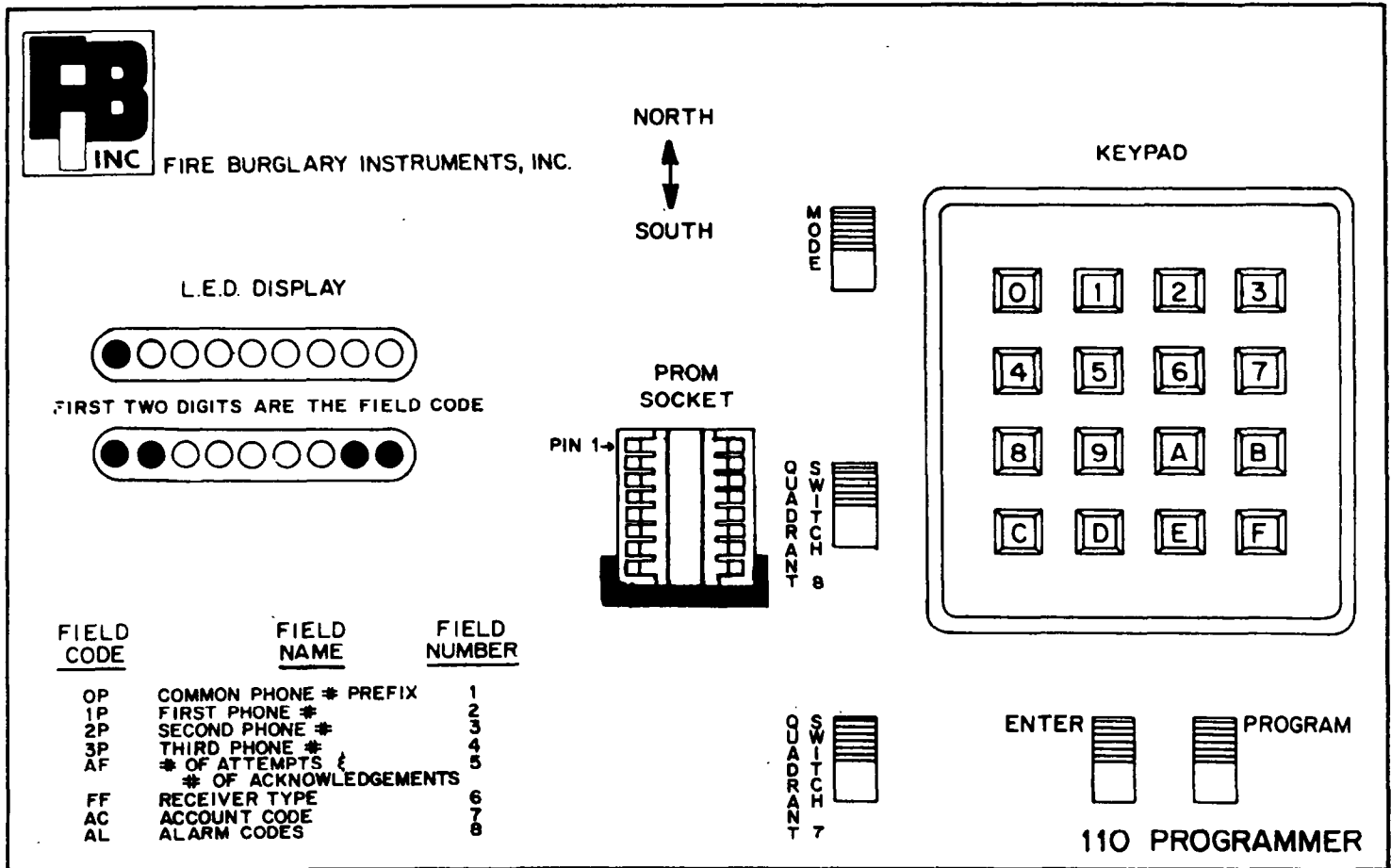
Should the XL1216 cause harm to the telephone network, the telephone company may temporarily discontinue service until the problem is corrected. Notice of such action will be given by the telephone company.

Should the telephone company make any changes to its facility or other requirements that could render the XL1216 incompatible, the customer shall be given adequate notice by the telephone company, in writing. Upon receipt of this information from the customer, the manufacturer shall advise the customer as to what actions must be taken to maintain uninterrupted service.

The Model XL1216 may not be connected to party lines or coin lines. If trouble is experienced, the XL1216 shall be disconnected from the phone line, by means of the plug shown to determine if the XL1216 is malfunctioning. If the XL1216 is malfunctioning, do not reconnect until the problem has been corrected.

Model 110

FIG. 8



MODE SWITCH:

Allows the programmer to make chips for 100B dialers, as well as the newer computer-based dialers.

QUADRANT SWITCHES 7 & 8:

Divide the prom into 4 separate segments, allowing four different programs to be stored on the prom. The switches are set to the prom segment in use.

ENTER SWITCH:

Prepares the programmer to receive a command. Switch must be pressed before moving into another field in the memory bank.

PROM SOCKET:

A blank prom placed in this socket can be burned with any information in the memory bank or a master prom can be placed in the socket and all of its information can be inserted into the memory bank. The 110 uses a National Semiconductor DM74S387N or MM1635140 J or P chip.

KEYPAD:

Used to enter information into memory and to move from field to field in memory.

PROGRAM SWITCH:

Takes the information in the memory bank and burns it onto a prom in the prom socket.

L.E.D. DISPLAY:

The first two digits display the field currently accessed. Field may be programmed for 11 digits or less. See programming instructions.

The filled holes in the display above are blank.

Programming Information

The prom used is a Model F102 (745387) and is programmed on our Model 110 programmer as follows:

- 1) Plug in the 110 programmer. 0P should appear on the LED display.
- 2) Set Mode Switch, Quadrant Switch 7 and Quadrant Switch 8 to the desired positions.

<u>MODE SWITCH</u>	<u>QUADRANT SW. 8</u>	<u>QUADRANT SW. 7</u>	<u>QUADRANT SELECTED</u>
North	South	South	1
North	South	North	2
North	North	South	3
North	North	North	4

- 3) The first digit of the 0P field will determine the dialer transmission for the fire channel. When the fire loop is activated the fire relay will latch in providing a fire bell output and cause a fire channel transmission. Depending on the programming of the prom, if the fire circuit is reset before the transmission is complete the dialer can either abort, send a restore code or an abort code. Select one of the following digits in the first location of the field.

<u>Digit</u>	<u>Dialer Function</u>
0	Fire Code/No Abort
1	Fire Code w/Abort
2	Fire Code w/Restore Code on Abort
3	Fire Code w/Abort Code

If fire is not used program digit 1.

All options may have restore programmed later in the procedure.

- 4) The second digit will determine the operation of the Zone 2 instant burglary channel. This code will also determine if and when the dialer will transmit a test code. If a test code is desired it will be sent at 18 hour intervals after the last transmission.

<u>Zone 2 Instant</u>	<u>Digit</u>	<u>Dialer Function</u>	<u>Test Code</u>
	0	Burglary Code/No Abort	
	1	Burglary Code w/Abort Zone 2	
	2	Burglary Code w/Restore Code on Abort Zone 2	
	3	Burglary Code w/Abort Code Zone 2	
	4	Burglary Code/No Abort	18 Hr.
	5	Burglary Code w/Abort Zone 2	18 Hr.
	6	Burglary Code w/Restore Code on Abort Zone 2	18 Hr.
	7	Burglary Code w/Abort Code	18 Hr.

If both Burglary and Self Test ARE NOT USED, program DIGIT 1.

If Burglary is NOT USED, but Self Test IS USED, program DIGIT 5.

All options may have restore programmed later in the procedure.

5) The third digit will determine the operation of the Zone 3 Delay burglary channel.

Zone 3 Delay	Digit	Dialer Function
	0	Burglary Code/No Abort
	1	Burglary Code w/Abort Zone 3
	2	Burglary Code w/Restore Code on Abort Zone 3
	3	Burglary Code w/Abort Code

All options may have a restore programmed later in the procedure.

6) The fourth digit will determine the operation of the Zone 1 instant burglary channel.

Zone 1 Instant	Digit	Dialer Function
	0	Burglary Code/No Abort
	1	Burglary Code w/Abort Zone 1
	2	Burglary Code w/Restore Code on Abort Zone 1
	3	Burglary Code w/Abort Code Zone 1

All options may have restore programmed later in the procedure

7) Beginning with the fifth digit of the 0P field, if a common prefix is needed for all receivers, (9, area code, etc.) it may be keyed in here. If a time delay is needed before or between digits, key in "C" where the delay (3 secs.) is needed.

8) Press ENTER switch, then 9. 1P should appear on the LED display. Key in the first telephone number. Up to 11 digits may be used.

- Information must be entered in this field -

9) Press ENTER switch, then 9. 2P should appear on the LED display. Key in the second telephone number. Up to 11 digits may be used. If no number is needed, leave blank.

10) Press ENTER switch, then 9. 3P should appear on the LED display. Key in the third telephone number. Up to 11 digits may be used. If no number is needed, leave blank.

11) Press ENTER, then 9. AF should appear on the LED display. The first digit in this field will determine the number of attempts the dialer will make to reach the receiver.

See chart below:

No. of Attempts	Use Digit	No. of Attempts	Use Digit	No. of Attempts	Use Digit
1	1	7	7	12	C
2	2	8	8	13	D
3	3	9	9	14	E
4	4	10	0	15	A
5	5	11	B	unlimited	F
6	6				

IMPORTANT: When F is pressed, the number does not display, but the space is left blank. The second digit in the field will determine the number of receivers the dialer must access before it shuts down. Select as follows:

Any one receiver - 8

All receivers - C

- 12) Press ENTER, then 9. FF should appear on the LED display. This field will determine receiver format. One digit must be keyed in for each phone number programmed. See chart for selecting the proper receiver code:

<u>Receiver Type</u>	<u>Use Digit</u>
Franklin	1
DCI	1
Sescoa	1
Radionics (2300)	1
Radionics (1400)	3
Adcor CDR 50	3
Ademco without Kiss-off	4
Ademco with Kiss-off	5
Silent Knight without Kiss-off	6
Silent Knight with Kiss-off	7

Information must be entered in this field.

- 13) Press ENTER, then 9. AC should appear on the LED display. Key in a 3 or 4 digit account code. A 4 digit account code can only be used with a receiver that is capable of handling it. - Information must be entered in this field -
- 14) Press ENTER, then 9. AL should appear on the LED display. Key in digits for the following alarms.

(Program an "F", which leaves a blank, for any row NOT BEING USED)

<u>Row</u>	<u>Description</u>	<u>Code</u>	
1	Fire	0-9 or F	
2	Zone 2 Instant	0-9 or F	
3	Zone 3 Delay	0-9 or F	
4	Zone 1 Instant	0-9, A or F	
5	IMPORTANT SEE NOTE A PG. 8	Closing/Silent Panic	0-9, C or F
6		Opening/Silent Panic	0-9, B or F
7	Restore - Fire	0-9, E or F	
8	Restore - Zone 2 Instant	0-9, E or F	
9	Restore - Zone 3 Delay	0-9, E or F	
10	Restore - Zone 1 Instant	0-9, E or F	
11	Abort / Test Code	0-9, D or F	

IMPORTANT: BEFORE GOING ON TO NOTE B - REREAD NOTE A (PAGE 8)

NOTE B For English Language Printout of Codes use:

A	-	Trouble
B	-	Opening
C	-	Closing
D	-	Abort
E	-	Restore

Use "A" if Auxiliary channel is being used to monitor trouble . . . such as high or low temperature.

- 15) CHECK THE DATA. All information has now been entered into the fields. By pressing ENTER, then 9, the information, (Which is now in memory), can be checked and corrected if necessary. If a field must be changed or corrected, to go to that field, press ENTER, then the corresponding field number. The correct information may now be keyed in.
- 16) If all data is correct, a blank prom can now be inserted and "Burned" by pressing the Program switch momentarily. If the prom burns correctly, the word "FINISH" will appear on the LED display. If a different program is already on that quadrant, or if the prom is "Burned" incorrect, the words "NO CAN DO" will appear on the LED display. If "FINISH" does not display, that particular quadrant of the prom is not accepting the program and cannot be used again.

ADDITIONAL NOTES



FIRE BURGLARY INSTRUMENTS INC.

PROGRAMMING SHEET ON BACK

