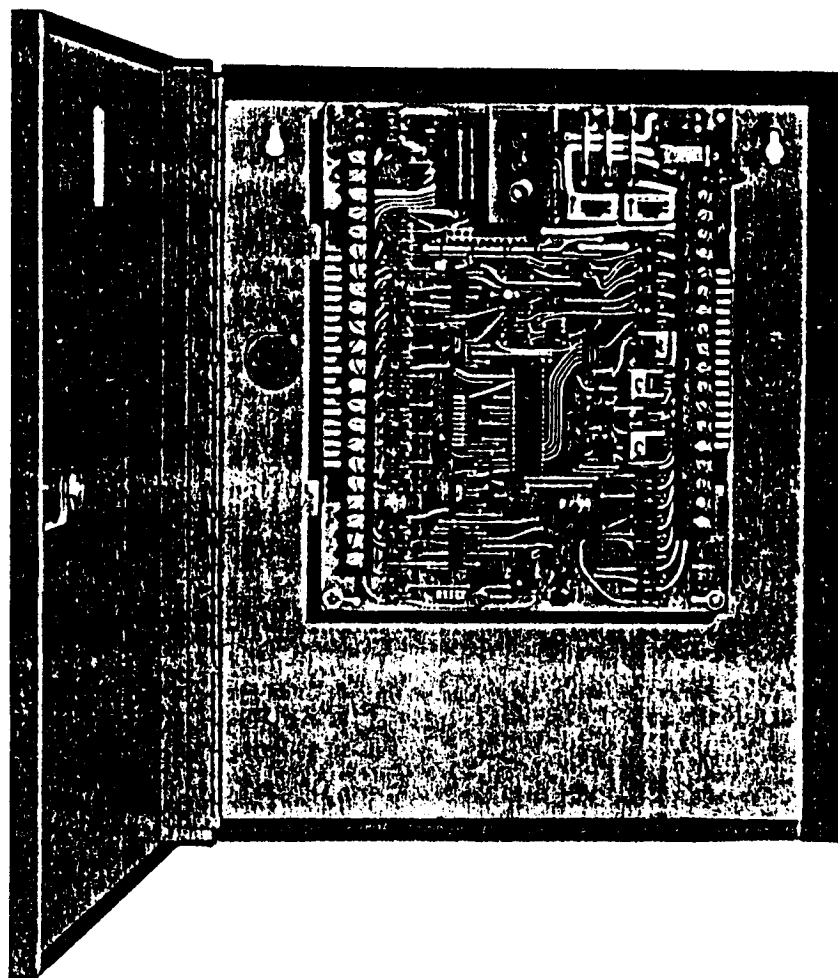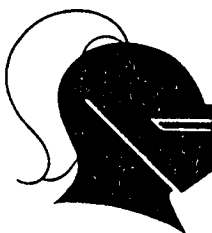# MODEL 2120

2120 INSTALLATION MANUAL

IMPORTANT: Read complete introduction before beginning installation sequence.

SILENT KNIGHT
SECURITY SYSTEMS
DIVISION OF WAYCROSSE, INC.

1700 FREEWAY BLVD. NORTH
MINNEAPOLIS, MN 55430
TELEPHONE: 612/566/0510

INDEX

INTRODUCTION

The Silent Knight Model 2120 is a complete security control system designed to provide a desired level of protection against the following conditions:

1. Fire
2. Intrusion
3. Emergency
4. Auxiliary

These alarm conditions are visually and audibly reported by the Squire system.

REMOTE MODULE

Model 2010 Master Display

With the addition of the Model 2360 Digital Dialer the system will automatically dial up a central message receiving station and report the alarm conditions and the client's account number.

In addition to the alarm conditions listed above, the Model 2360 dialer will also report a "low battery" condition (self-initiating) or "trouble" in the fire circuit.

Central to every Squire system is the Model 2120 combination control panel. Every module or accessory in the system either plugs into, or is wired to, the 2120. The remote modules and accessories available from Silent Knight which can be connected to the 2120 are listed below:

ACCESSORIES

Model 2360 Digital Dialer
Model 6812 Batteries
Model 7140 Line Seizure Module
Model 7150 Line Monitor
Model 7360 Audio Listen-In Module
Model 7380 Audio Pick-Up Module
Model 7620 Smoke Detector
Model 7810 Furnace Failure Detector
Model 7860 Dialer Connector Cord

The following paragraphs describe the major components of a Squire system.

MODEL 2120 COMBINATION CONTROL PANEL

The Model 2120 is a 4-channel control unit designed for residential security systems. The 2120 accepts input signals from sensors and converts those signals into output signals for speaker alarms, optional bell alarms, display lamps and/or to an automatic digital dialer communicator.

The Model 2120 is powered from a U.L. listed Class II, 16.5 volt, 35 VA transformer that plugs directly into a conventional 120 volt AC, 60 Hz wall outlet. This transformer provides up to 2.0 amps of current at 12 volts DC. That power is sufficient for the 2120, it's modules and the charging current for up to four Model 6812 rechargeable batteries. Batteries and battery discharge rates are discussed on page 5.

Figure 1 shows a representation of the printed circuit board of the 2120. This printed circuit board contains the switches, fuses and indicators needed to set-up, monitor, reset and protect the system. These components are described in the following paragraphs.

MONITOR LIGHT
The monitor light is normally **ON** and will remain lit unless one or more of the following occur:

AC power failure (light **OFF**)
Fuse 3 and/or 4 failure (light **OFF**)
Fire loop "Trouble" (light off)
Digital Dialer active (light blinking)

ALERT SILENCED LIGHT
This light is used to indicate the status of the Trouble/Alert switch. If the Trouble/Alert switch is in **NORMAL** the Alert Silenced light will be **OFF**. If the Trouble/Alert switch is in **SILENCE** the alert Silenced light will be **ON**.

FIRE RESET/TEST SWITCH
This switch is used to perform the following functions:

Reset Smoke Detectors.
Reset the Fire Circuit.
Test the Fire Circuit.
Test the Batteries.
Test the Digital Dialer (will report a Code 9).

FUSE F1
½ amp slo-blow. Used to protect all L.E.D. driver outputs.

FUSE F2
2½ amp slo-blow. Provides +12VDC to terminal 40 and protects the 2 internal speaker outputs.

FUSE F3
2½ amp fast-blow. Used to provide power to external speakers.

FUSE F4
1½ amp slo-blow. Used to provide +12VDC to terminal 3 and to protect lamp driver outputs.

TROUBLE/ALERT SPEAKER SWITCH
This switch is used to silence the "Trouble" alert tone which will sound if the fire loop is, or becomes defective. Moving the switch to the **SILENCE** position silences the "Trouble" Alert tone and turns **ON** the Alert Silenced light.

NOTE: When the switch is in the **SILENCE** position, the entrance alert and touch pad annunciator will also be silenced.

1

Figure 1

MONITOR LIGHT
ALERT SILENCED LIGHT
FIRE RESET/TEST
DIALER CARD CONNECTOR
OPTION SWITCHS
RESET
FAST CLOCK TABS
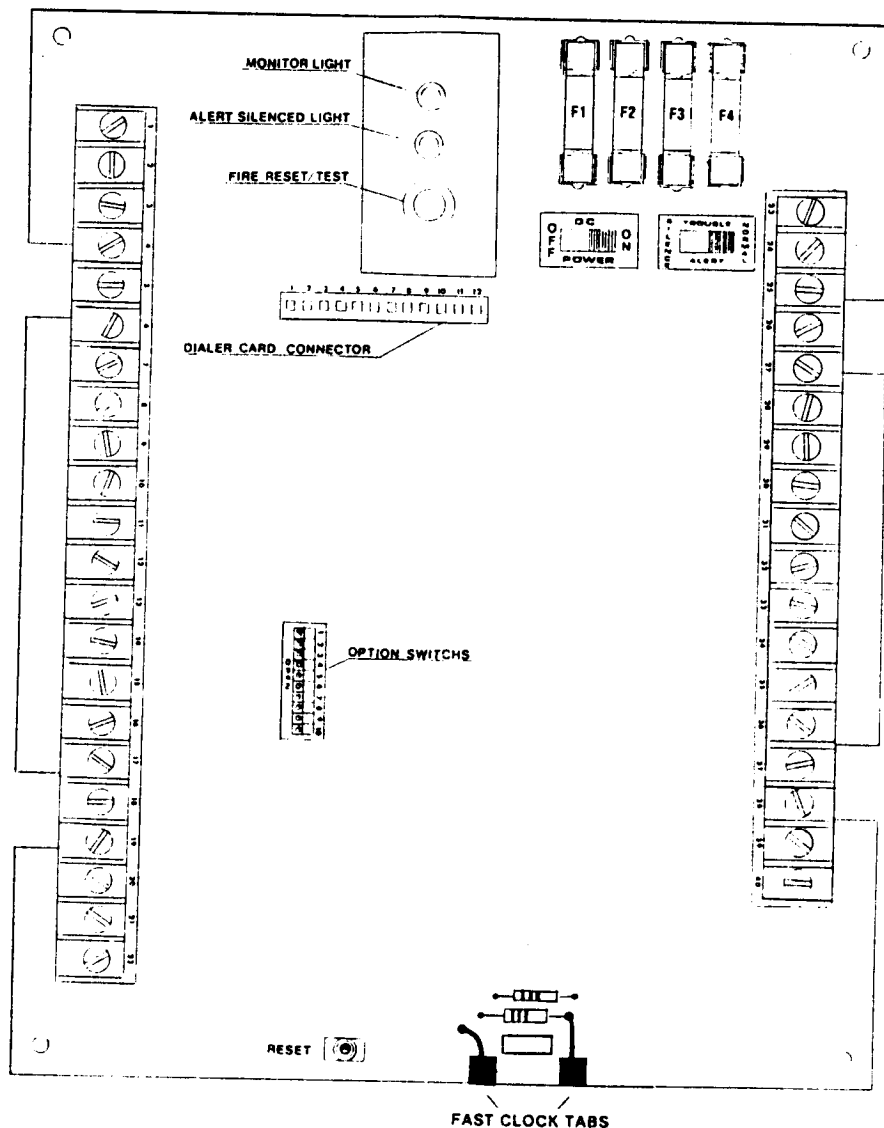
OPTION SWITCHES 1 THROUGH 10

The modes of operation in which the Model 2120 can be configured to operate are many and varied. Each switch and the mode of operation it provides are described in the following paragraphs. NOTE: When the rocker of each individual switch is depressed in the direction of the word **OPEN** the switch will be open. In the opposite direction it will be closed.

SWITCH (1) MUST BE IN THE OPEN POSITION.
SWITCH (4) MUST BE IN THE OPEN POSITION.

SWITCH (2) EXIT/ENTRANCE DELAY
There are two times available for the Exit/Entrance Delay which are selected using combinations of Switches (2) and Position these switches for the different times as ...ted in the following:

15 seconds — Switch (2) **OPEN**, Switch (3) **OPEN**
30 seconds — Switch (2) **CLOSED**, Switch (3) **OPEN**

SWITCH (3) MUST BE IN OPEN POSITION.

SWITCH (5) OPENING/CLOSING REPORTING
If the Model 2360 Digital Dialer is used in the system and you wish to report to the Central Station whenever the system is "Armed" or "Disarmed" (opening/closing) place Switch (5) in the **OPEN** position. If you do not want these reports, place Switch (5) in the **CLOSED** position.

NOTE; Also cut J2 of the 2360.

SWITCH (6)
Switch (6) must be in the **CLOSED** position (Digital key.)

SWITCH (7) SILENT EMERGENCY ALARM
If it is desired to have the Emergency channel silent (no audible alarm), move (Switch (7) to the **CLOSED** position.

SWITCH (8) RESET/SHUTDOWN TIME
Switch (8) is used to determine the amount of time the Model 2120 will be in alarm before it will attempt to reset or, if it cannot be reset, shutdown. With Switch (8) in the **OPEN** position the reset/shutdown time will be five minutes. With Switch (8) in the **CLOSED** position the reset/shutdown time will be 15 minutes.

2

SWITCH (9) INTERIOR SWITCH DISABLE

When Switch (9) is in the **OPEN** position the "Interior" switch, which is located on the Model 2010, will be disabled (locked out) when the system is "Armed". When Switch (9) is in the **CLOSED** position the "Interior" switch will always be active.

SWITCH 10 EXTERNAL SPEAKER OR BELL

If external speakers are to be used place Switch (10) in the **OPEN** position. If an external bell is to be used, place Switch (10) in the **CLOSED** position.

CAUTION: BE SURE SWITCH (10) IS NOT IN CLOSED POSITION IF SPEAKERS ARE CONNECTED.

NOTE: When using a BELL with this equipment the attached transient suppressor (Model 7800) must be soldered directly across the contacts as shown below:
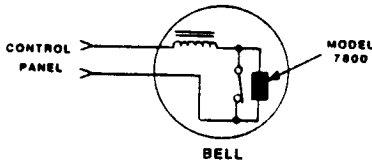
RESET SWITCH

The primary functions of the Reset Switch is to erase a previously entered "Arm" and "Disarm" code so that a new set of codes may be entered. To program a new "Arm" and "Disarm" code, proceed as follows:

1. Momentarily depress the Reset switch.
2. Go to the nearest Model 7331 or 2010 (the "Ready" light should be blinking).
3. Depress the digit desired for "Arming" (press once only).
4. Depress, **in order**, the four digits to be used for "Disarming".
5. The "Arm" "Disarm" codes are now entered and the "Ready" light should be steady.

RESETTING "ARM/DISARM" CODES FROM KEY PAD MODULES

All model 2120's which have a serial number greater than 13267 have the feature added which allows the user to **RESET** the "Arm/Disarm" codes from the Model 2010.

To accomplish this the 2120 must be "Disarmed" and not in alarm. Momentarily press the digit 7 & 9 **simultaneously**. The 2120 is now ready to be reprogrammed with new codes.

NOTE: If you do not wish to have this feature, cut the jumper as indicated in the figure below. With this jumper cut the 2120 can only be **RESET** by the **RESET** switch inside the panel. (See page 5 of the installation manual).
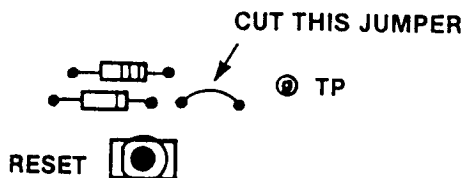
SQUIRE SYSTEM MODULES

The following paragraphs describe the characteristics of the Squire system remote modules.

MODEL 2010 MASTER MODULE

The 2010 is normally installed in a master bedroom, main hallway, living room or by the main entrance. Typically two or three 2010's are used in an installation. The following is a description of each of the 2010's features.

SPEAKER

The 2010 has a built-in speaker that sounds alarm warnings, plus an alert tone (at a reduced volume) during the Entrance time delay, if "Trouble" is detected in the Fire loop, and each time a touch switch is used.

VISUAL DISPLAY

The visual display will light up one or more of the following words describing the type of alarm which is active (**INTRUSION - FIRE - EMERGENCY - AUXILIARY**).

MONITOR LIGHT

The monitor light is normally lit and will remain lit unless one or more of the following occur:

1. AC Power failure (light **OFF**)
2. Fuse 3 and/or 4 failure (light **OFF**)
3. Fire loop "Trouble" (light **OFF**)

READY LIGHT

The ready light will be lit unless one or more of the following occur:

1. Sensor (Sensors) in the Exit/Entrance loop is active.
2. Sensor (Sensors) in the Intrusion loop is active.
3. Sensor (Sensors) in the Interior loop is active but only if the Interior Enabled light is lit.
4. The System armed light is lit.
5. The 2120 has not been programmed for the "Arming/Disarming" codes. **NOTE:** if this is the case the ready light will be blinking.

INTERIOR ENABLED LIGHT

The Interior Enabled light will change state each time the Interior touch switch is pushed. When the Interior Enabled light is lit it indicates that the Interior loop sensors **will be** active when the System Armed light is lit. **NOTE:** If the System Armed light is lit and Option Switch (9) is in the **OPEN** position the Interior touch switch will be disabled and cannot be used to change the status of the Interior Enabled light until the system is "Disarmed". However, if Option Switch (9) is in the **CLOSED** position, the Interior touch switch is active regardless of the status of the System Armed light.

SYSTEM ARMED LIGHT

The System Armed light will light when the "Arm" code is entered (provided the Ready light is lit) and will turn off when the "Disarm" code is entered. When the System Armed light is lit it indicates that the Exit/Entrance loop, the Intrusion loop and the Interior loop (provided the Interior Enabled light is lit) are active and that a violation of any of these loops will cause an "Intrusion" alarm. **NOTE:** If the System Armed light is lit and an Intrusion alarm occurs the System Armed light will begin blinking and remain so until a "Disarm" code is entered even if a reset of shutdown has occurred.

CONTROL LIGHT

The Control light will change state each time the Control touch switch is pressed. When the Control light is (ON) it indicates that the "Door Annunciator" circuit is active. This means that, if the system is not "Armed" and if the

"Ready" light is (ON), violating a sensor in either the Exit/Entrance loop of the Exterior loop will cause a short annunciator tone to be emitted by the 2010 speakers.

TOUCH SWITCHES 1 THROUGH 9
The Touch Switches 1 through 9 are used to program the "Arm" and "Disarm" codes into the 2120 and to perform the "Arming" and "Disarming" of the system.

INTRUSION TOUCH SWITCH
Pushing and holding the Intrusion Touch Switch for a minimum of one second will cause an Intrusion Alarm.

EMERGENCY TOUCH SWITCH
Pushing and holding the Emergency Touch Switch for a minimum of one second will cause an Emergency Alarm.

SQUIRE SYSTEM ACCESSORIES

Besides the remote modules just described, each Squire system can include the following accessories:

Channel 1 (Intrusion)

Channel 2 (Fire)

Channel 3 (Emergency)

Channel 4 (Auxiliary)

Low Battery

"Trouble" in the Fire loop

Restore-to-Normal

Test

MODEL 2360 DIALER CARD
(See Dialer Card Installation Page 16)

MODEL 2360 DIGITAL DIALER
The Model 2360 Digital Dialer is a four channel dialer designed to plug into the 2120 control panel. The Model 2360 employs full memory reporting, meaning that if more than one channel is activated the Model 2360 will report all active channels in an ascending order.

The Model 2360 will report either the Silent Knight/Ademco format or the Sescoa/Franklin/DCI format or the new high speed FSK format.

The Alarm Codes transmitted by the Model 2360 are as follows:

Silent Knight/ Ademco Format	Sescoa/Franklin/ DCI Format
Code 1	Code 3
Code 2	Code 1
Code 3	Code 2
Code 4	Code 6
Code 8	Code 8
Code 8	Code 8
Code 7	Code 7*
Code 9	Code 9

OPTIONS DESCRIPTION
There are 4 jumper options on the 2360. These option wires are either cut or left intact to select the following options:

"Restore to Normal" (Jumper 1)
When this jumper is left (IN), not cut, the Model 2360 will report only the alarm condition and will not report "Restore to Normal".

With this jumper (OUT) the Model 2360 reports a "Restore" condition of the alarm channel inputs if:

    a. The initiating alarm input(s) was present continuously during the reporting sequence.
    b. The initiating input(s) is restored after the reporting sequence is completed (Kiss-off" received).
    c. All other inputs are also in their normal (non-alarm) states.

*When using the Sescoa/Franklin/DCI Format, a code (7-9) will be transmitted when channel (2) is restored to normal.

OPENING/CLOSING REPORTING (Jumper 2)
With this jumper (OUT) the 2360 will report a Code 4 when the 2120 is Armed and a Code 9 when the 2120 is Disarmed.

SILENT KNIGHT or SESCOA FORMAT Jumper 3)
With this jumper left (IN) the 2360 will report alarm conditions to Silent Knight and Ademco receivers.

When this jumper is taken (OUT) the 2360 will report alarm conditions to Sescoa, Franklin and DCI receivers.

STANDARD OR FSK DATA TRANSMISSION (Jumper 4)
With this Jumper left (IN) the 2360 will report the alarm data in the standard formats to receivers as stated for Jumper 3.

When this jumper is taken (OUT) the 2360 will report the alarm data in FSK (frequency shift keying) and report only to a Silent Knight Model 8520 and then "only" if the 8520 is equipped with the FSK receiver board #5.

PROGRAMMING THE DIGITAL DIALER

The Model 2360 can be programmed to dial as many as thirteen (13) digits or as few as three (3) digits. Programming is as follows:

The central station telephone number and the client's account number are selected in the columns A through M and X through Z. If the usual 7 digit telephone number is used, it must be programmed in columns G through M. The account number is always placed in columns X, Y and Z.
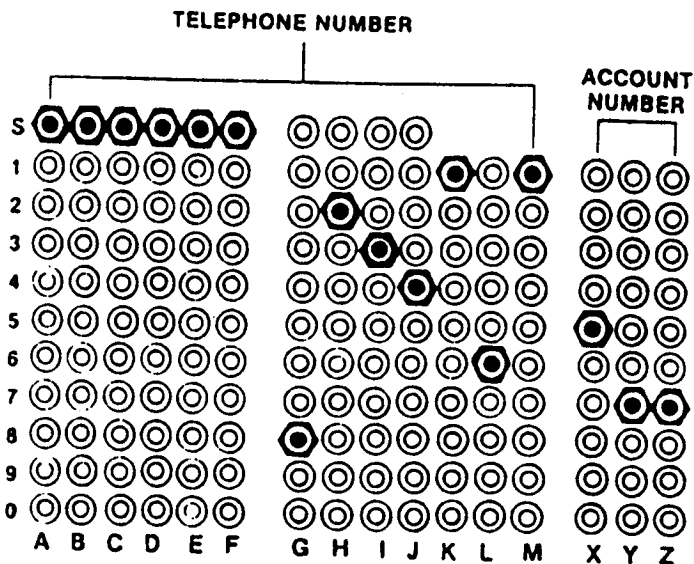
TELEPHONE NUMBER

EXAMPLE: 823-4161, Act. 577

f a telephone number containing more than 7 digits is used, the first digit must always go in column A. the last 7 digits go in columns G through M.

TELEPHONE NUMBER
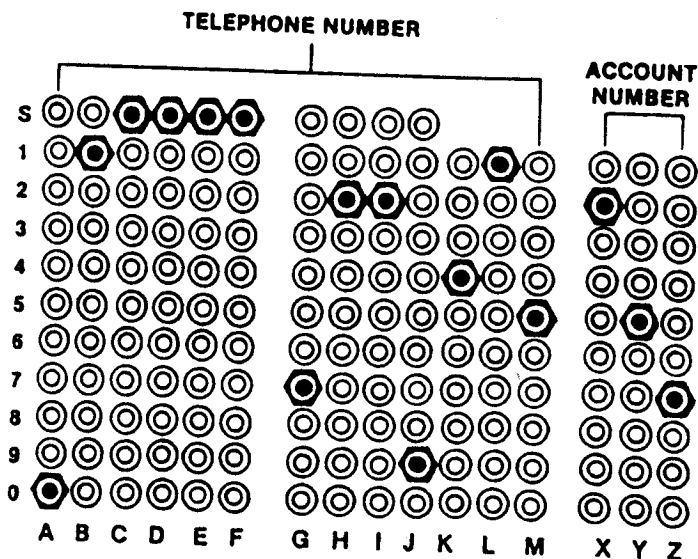
EXAMPLE: 01-722-9415, Act. 257

MODEL 7140 LINE SEIZURE ASSEMBLY

e 7140 automatically disconnects the local telephones ring alarm reporting to prevent any interference with the communications function. The line seizure assembly also provides isolation from the telephone line during lightning storms.

MODEL 7620 SMOKE DETECTOR

The 7620 Smoke Detector detects 1 to 2% smoke accumulation per foot of air, or temperature in the protected area above 135° F. Each 7620 requires 0.001ma. of current.

MODEL 7630 END-OF-LINE RESISTOR

The 7630 is a 15,000 ohm, 1 watt, resistor that, when connected across the last sensor of the fire loop, allows a small amount of current to pass through the fire loop to insure the integrity of that loop. If the fire loop includes a combination of smoke and heat detectors, a heat detector should be the last sensor in the line, and the 7630 should be tied directly across its contacts.

MODEL 6812 STANDBY BATTERY

The Model 6812 rechargeable battery is a selected electrolyte battery. Maximum charging rate of a fully discharged battery is .70 amps. Nominal trickle charge current is 5 ma. Two sets of battery cables are attached to each 2120 P.C. Board for connection of two 6812 batteries.

> **CAUTION: Careful observation of polarity is important.** The red wires go to positive (+); black wires to negative (-). Connecting these wires in the reverse will result in damage to the 2120.

The current drain for each of the remote modules and accessories which required standby power from the 6812 batteries is shown in Table 1.

TABLE 1

Model	Current (MA.)
2120	50
2360	40*
2010	168
7620	.001

*140 Active

To determine the current load of 2120 system, add all the current drains of all the remote modules as shown in Table 1. The standby time can then be calculated from Figure 2 which shows the expected hours of standby for various current loads using (2) 4 amp. hour 12 volt batteries (Model 6812).
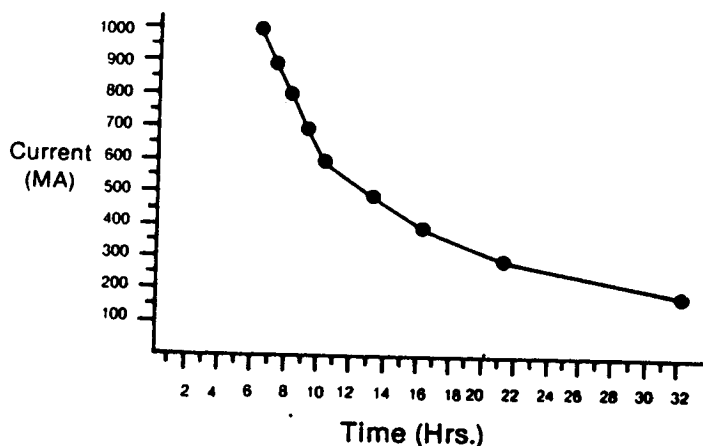

Figure 2.

GENERAL SYSTEM DESCRIPTION (INPUTS)

The internal logic of the 2120 control panel "thinks" of the system inputs and outputs in logical groups called channels. An alarm input from a sensor in a channel loop causes the control panel to output alarm signals to all the system devices for displaying, sounding and reporting that alarm. The logical channels for the Squire system are as follows:

> Intrusion (Channel 1)
> Fire (Channel 2)
> Emergency (Channel 3)
> Auxiliary (Channel 4)

The following paragraphs describe the inputs to these channels.

INTRUSION (CHANNEL 1) INPUTS
The intrustion channel receives inputs from four circuits: the instrusion loop, the interior loop, the panic/tamper loop, and the exit/entrance loop. The following paragraphs describe these inputs.

EXTERIOR LOOP INPUT (See Figure 6)
The exterior loop accepts either normally-open and/or normally-closed sensors as input devices. The exterior loop is not a continuously active 24-hour circuit. The client arms or disarms this circuit at will.

Activation of an exterior loop input sensor will not cause an alarm condition unless the exterior loop is armed. Conversely, one cannot arm the system unless the exterior sensors are in their armed positions.

EXIT/ENTRANCE LOOP INPUT (See Figure 8)
The exit/entrance loop, accepts either normally-open and/or normally-closed sensors as input devices. This loop is not active 24-hours a day, but is armed or disarmed whenever the intrusion loop is armed or disarmed. Conversely, one cannot arm the system unless the exit/entrance sensors are in their armed positions.

The exit/entrance loop contains the built-in alarm delay that allows clients a brief time to enter or exit the building without setting-off an alarm. For example, to exit the building the client arms the system and then has either 15 or 30 seconds to close the exit door behind him as he leaves (refer to Option Switch 2 on page 4 for time delay selection). If the delay time expires before the exit door is closed, the intrusion alarm sounds.

INTERIOR LOOP INPUT (See Figure 7)
The interior loop input accepts either normally-open and/or normally-closed sensors as input devices. This loop is not active 24-hours a day but is enabled or disabled via the Model 2010 touch switch labeled Interior. When the Interior Enabled light is lit the interior loop will be active, but only when the intrusion loop is armed. When Interior Enabled light is not lit the interior loop is disabled regardless of the armed status. If the interior loop is in an alarm position when enabled this condition will disable the arming of the intrusion loop.

The interior loop input operates independently from the perimeter loop input. This feature enables the interior loop to activate the intrusion alarm again even though the perimeter loop has been violated and the 2120 has shut down the alarm sirens. This feature prohibits an intruder from re-entering the protected premises without creating another alarm.

PANIC/TAMPER LOOP INPUT (See Figure 9)
The 2010 touch switch marked **INTRUSION** is an input device for manually activating the intrusion alarms.

The tamper input sensors, however, can be either normally-open sensors, normally-closed sensors, or a combination of both. The tamper input sensors are active 24-hours a day. These sensors are included in Squire systems where the client requires that the system equipment be protected from tampering.

NOTE: Any number of sensors can be tied to any input loop of the 2120 provided the loop resistance does not exceed 500 ohms.

FIRE (CHANNEL 2) INPUT (See Figure 13)
The fire channel accepts inputs on a 24-hour basis to give early fire warning. This channel is fully supervised and an alarm will automatically sound a warning if a wire in the loop is cut or breaks. The fire channel accepts normally-open heat and/or smoke detectors as input devices. This channel is a latching circuit and stays active once activated by a momentary closure of an input device.

EMERGENCY (CHANNEL 3) INPUT (See Figure 10)
The emergency channel input is also active on a 24-hour basis, and is a latching circuit. The input devices on this channel are normally-open sensors only, and are activated by a momentary closure. The button marked **EMERGENCY** on the Model 2010 is a device of this type. Typical use of the emrgency channel is to summon immediate medical attention, or to call help in some other emergency.

AUXILIARY (CHANNEL 4) INPUT (See Figure 11)
The auxiliary channel input is active on a 24-hour basis, and is a latching circuit. This channel accepts normally-open sensors only, and is activated by a momentary closure.

GENERAL SYSTEM OPERATION (OUTPUTS)

The following paragraphs describe the alarm outputs and the power supplied to each device in the circuit. The output circuitry is current-limited and fused to prevent disabling of the system by shorting of the external wiring.

The 2120 generates three distinct alarm tones. One for Intrusion, one for Fire and one for Both Emergency and Auxiliary.

INTRUSION (CHANNEL 1)
When an armed sensor is activated in the intrusion loop, all remote alarm speakers and bell (if included) in the system emit an alarm tone. Also, the System Armed light flashes and the display panel of the 2010 module displays the word **INTRUSION**.

If the system includes a Model 2360 digital dialer, it will call a central message receiving point and send an intrusion alarm message along with the client's account number.

FIRE (CHANNEL 2)
The fire channel can initiate two types of outputs: an alarm output or a trouble signal. These are described below:

ALARM OUTPUT
When a heat detector or smoke detector in the fire loop detects alarm conditions, all alarm speakers and bell in the system emit an alarm tone. The display panel of the 2010 displays the word **FIRE**.

If the system includes a Model 2360 digital dialer, it will call a central message receiving point and send a fire alarm message along with the client's account number.

TROUBLE SIGNAL
If trouble occurs in the fire channel, the trouble alert signal in the 2010 sounds with a steady tone, but with less volume than an alarm tone. Also, the Monitor light turns off and the Model 2360 will send a "Trouble" message.

EMERGENCY (CHANNEL 3)
When the emergency loop activates, all remote alarm speakers and bell will emit an alarm tone. The display panel of the 2010 displays the word **EMERGENCY**.

If the system includes a Model 2360 digital dialer, it will call a central message receiving point and send an emergency alarm message along with the client's account number.

AUXILIARY (CHANNEL 4)
When the auxiliary alarm activates, all remote alarm speakers and bell emit an alarm tone. The display panel of the 2010 displays the word **AUXILIARY**. If the system includes a Model 2360 it will call a central message receiving point and send an auxiliary alarm message along with the client's account number.

POWER SUPPLIED TO OUTPUTS AND OTHER DEVICES
The power supplied to output devices, modules and accessories for alarm and status conditions is described in the following paragraphs:

2010 Speaker Output (Terminal 33)
This output generates a tone whenever the Fire loop is defective, a touch switch is used, during Entrance delay time, or during any alarm condition.

External Speaker or Bell (Terminal 31)
The external speaker output generates the alarm tones (24 VDC Switched at audio frequencies) when using speakers or, if a bell is used, a steady or pulsed 12 VDC (depending on which channel is in alarm). At least one speaker or one bell is mandatory in a 2120 installation for audible alarm indication. Terminal 23 is used to power speakers (up to 2.9 Amps.), or to power a bell (bell must be rated at less than .35 Amps.) Refer to the Owners Manual for alarm sound description.

DISPLAY LAMP OUTPUTS (Model 2010)
Terminals 27, 28, 29 and 30 provide a +12 volt DC output to the display lamps of the 2010 Master Module as follows:

TERMINAL	LAMP POWERED
27	Intrusion Alarm light
28	Fire Alarm light
29	Emergency Alarm light
30	Auxiliary Alarm light

The maximum current available at these terminals (combined) is .7 amp.

L.E.D. LIGHT OUTPUTS
Terminals 34, 35, 36 and 38 provide a +12 volt DC output to the Light Emitting Diodes (L.E.D.) used on the remote modules as follows:

TERMINAL	L.E.D. POWERED
34	READY
45	SYSTEM ARMED
36	INTERIOR ENABLED
38	CONTROL

The maximum current available at these terminals (combined) is .5 amp.

SQUIRE SYSTEM INSTALLATION PROCEDURES

Installation of the Squire system usually proceeds in two steps: (1) pre-installation set-up of the 2120 Control Panel, and (2) field wiring of the modules and accessories to the 2120 at the installation site.

PRE-INSTALLATION SET-UP
Pre-installation set-up is usually done in the shop before going to the site. Pre-installation set-up includes the following steps:

1. Unpacking of the Squire system components and the careful checking of them for damage. NOTE: Damage must be reported within 10 days to the carrier that delivered the system. Silent Knight is not resonsible for damage that occurs in shipment.

2. Selection of the Option switches 1 through 10 (see the description of option switches beginning on page 2 of this manual).

3. Optional shop-test of the 2120 Control Panel.

> **CAUTION:** The printed circuit board of the 2120 contains **MOS** micro-circuit components that are subject to damage by electrostatic charges. The enclosure of the 2120 and the protective wiring circuits protect these circuits in normal operation. But, when the circuit board is being programmed for option selection, care must be taken not to touch the circuit board without touching a hand, or a metal tool, to the ground wire of the 2120. This removes any charge that may have accumulated from walking across a carpet, etc.

FIELD WIRING AND TEST

The installation of a typical Squire system involves fairly complex field wiring. New installations, therefore, can produce a variety of symptoms of incorrect wiring. These symptoms can be difficult and time consuming to diagnose and correct. The following installation/test procedure has been developed to assist the installer in diagnosing equipment or wiring problems by dividing the installation and test procedures into parts.

First the 2120 Control Panel, and the 2010 Master Module are connected and tested as shown in Table 2. Table 3 then goes on to show the connection and testing of additional sub-systems such as intrusion circuits and fire circuits. Figures 4 through 14 pictorially show this step-by-step installation of the system. They should be referred to frequently while following the procedure in Table 2.

NOTE: All cable used to field wire the remote modules, unless otherwise noted, is to be at least 22 gauge jacketed, energy limited cable that is listed by U. L.

Table 2. Squire System Wiring/Testing Procedure

2120 CONTROL PANEL INSTALLATION

1. Select a good location.	Consider the following factors: - Lack of temperature extremes and freedom from moisture. - Accesibility to "main drop" wiring runs. - Mounting surface (use of plywood interface when mounting on concrete). - Location well within secured area. - Customer accessibility for testing and resetting.
2. Mount the 2120.	a. Mounting on interior walls. When mounting on interior walls, use appropriate screw anchors in plaster. b. Mounting on concrete. When mounting on concrete, especially when moisture is expected, attach a piece of ¾ inch plywood to the concrete surface and then attach the 2120. c. Mount any other desired components (such as optional power sources, terminal strips, 7140, 7150, etc.) tp the plywood interface. d. Mount the 2120 in a location not subjected to high temperatures. Temperatures above 100°F adversely affect the 6812 batteries.
3. Turn off the DC power switch.	
4. Mount the transformer (Model 9220, 16.5 VAC 60 Hz, 35 VA). For lightning protection, connect the 7890 Lightning Kit following the specific instructions provided with the kit. See Page 22.	a. Wire the transformer to terminals 1 and 2 on the 2120 control panel (all references to "terminals" in these procedures refer to terminal screw posts on the 2120 control panel). Use 18 ga. or less shielded wire, ground the shield as shown in figure 4. (SK #9021 is recommended.) b. Screw out the screw on the faceplate of a wall outlet, plug in the transformer, and fasten the transformer to the outlet using the screw provided.
5. Attach jumper wires if not already installed.	The control panel was shipped without jumper wires installed, the following terminals must be jumped together, with a piece of insulated wire, in order to test the system: Terminal 9 to 10, 11 to 12, 18 to 19 and terminal 20 to 21 (see Figure 4).
6. Connect a resistor between terminal 3 and 7.	If not already connected, attach a Model 7630, 15,000 ohm resistor (brown, green, orange) between terminals 3 and 7 (see Figure 4).
7. Connect two 6812 batteries. CAUTION: Observe polarity of the battery.	a. Connect 6812 batteries to battery cables. STOP: Observe battery polarity. Red to plus (+): Black to minus (-). b. If the transformer is connected, the batteries will charge automatically with the DC power switch on or off.

Table 2. Squire System Wiring/Testing Procedure (Cont.)

MASTER MODULE INSTALLATION (Figure 4)

1. Install the 2010 Master Modules.

   a. Installation requirements: One 8-conductor and one 10-conductor cables are required to wire the 2010 to the 2120. Each 2010 requires .168 amp. of current.

   b. Using the template provided with the system, mark the location of the 2010, and the mounting screws, on the wall where the 2010 is to be mounted.

   c. Mount the 2010.

   d. Connect the 2010 as follows:

   CABLE A (10 CONDUCTOR)
   -Orange wire to terminal 40
   -Brown wire to terminal 13
   -Green wire to terminal 14
   -Blue wire to terminal 15
   -White wire to terminal 16
   -Gray wire to terminal 38
   -Yellow wire to terminal 34
   -Red wire to terminal 35
   -Black wire to terminal 24
   -Purple wire to terminal 33

   CABLE B (8 CONDUCTOR)
   -Black wire to terminal 17
   -Orange wire to terminal 36
   -White wire to terminal 19
   -Green wire to terminal 27
   -Brown wire to terminal 28
   -Yellow wire to terminal 29
   -Red wire to terminal 30
   -Blue wire to terminal 26

FIELD TEST (2120 and 2010)

2120 CONTROL PANEL TEST

PROGRAMMING

1. Check that the loop jumpers and 15K resistor are in place.	
2. Switch the DC power switch "ON".	Ready light on 2010 begins blinking.
3. You now have approximately one minute to program the Arming/Disarming codes. If you do not enter these codes the 2120 will automatically program itself to a default code of a digit (5) for arming and digits 1-2-3-4 for disarming. The 2120 will also attempt to Arm itself at this time. If it cannot Arm because an input is active it will immediately fo into an Intrusion alarm. To program the Arm and Disarm codes proceed as follows: a. Go to the 2010 and press the digit desired for Arming (press once only). b. Press, in order, the four digits to be used for Disarming.	Each time a digit is pressed the speaker will emit a momentary tone. **NOTE:** The Arming digit may be used in the Disarm code, but not twice in sequence. Ready light stops blinking, **CODES** are entered.
4. Go back to the 2120 and switch the Trouble Alert switch to **SILENCE** and back to **NORMAL**.	The Alert Silenced light turns on and off.

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Table 2. Squire System Wiring/Testing Procedure (Cont.)

MASTER MODULE INSTALLATION (Figure 4)

1. Install the 2010 Master Modules.

   a. Installation requirements: One 8-conductor and one 10-conductor cables are required to wire the 2010 to the 2120. Each 2010 requires .168 amp. of current.

   b. Using the template provided with the system, mark the location of the 2010, and the mounting screws, on the wall where the 2010 is to be mounted.

   c. Mount the 2010.

   d. Connect the 2010 as follows:

   CABLE A (10 CONDUCTOR)
   -Orange wire to terminal 40
   -Brown wire to terminal 13
   -Green wire to terminal 14
   -Blue wire to terminal 15
   -White wire to terminal 16
   -Gray wire to terminal 38
   -Yellow wire to terminal 34
   -Red wire to terminal 35
   -Black wire to terminal 24
   -Purple wire to terminal 33

   CABLE B (8 CONDUCTOR)
   -Black wire to terminal 17
   -Orange wire to terminal 36
   -White wire to terminal 19
   -Green wire to terminal 27
   -Brown wire to terminal 28
   -Yellow wire to terminal 29
   -Red wire to terminal 30
   -Blue wire to terminal 26

FIELD TEST (2120 and 2010)

2120 CONTROL PANEL TEST

PROGRAMMING

1. Check that the loop jumpers and 15K resistor are in place.

2. Switch the DC power switch "ON".

   Ready light on 2010 begins blinking.

3. You now have approximately one minute to program the Arming/Disarming codes. If you do not enter these codes the 2120 will automatically program itself to a default code of a digit (5) for arming and digits 1-2-3-4 for disarming. The 2120 will also attempt to Arm itself at this time. If it cannot Arm because an input is active it will immediately fo into an Intrusion alarm. To program the Arm and Disarm codes proceed as follows:

   Each time a digit is pressed the speaker will emit a momentary tone.

   NOTE: The Arming digit may be used in the Disarm code, but not twice in sequence.

   a. Go to the 2010 and press the digit desired for Arming (press once only).

   Ready light stops blinking, **CODES** are entered.

   b. Press, in order, the four digits to be used for Disarming.

4. Go back to the 2120 and switch the Trouble Alert switch to **SILENCE** and back to **NORMAL**.

   The Alert Silenced light turns on and off.

9

Table 2. Squire System Wiring/Testing Procedure (Cont.)

2120 CONTROL PANEL INSTALLATION (Continued)

5. Press the red fire test switch and hold.	a. The system should go into a fire alarm as follows: -The speaker in the 2010 sounds an alarm. The word **FIRE** lights on the 2010 display. b. **Weak batteries:** If the fire alarm sounds for only a few seconds and then fades out, the 6812 batteries are weak. Either replace the batteries, or allow them to charge longer.

2120 CONTROL PANEL TEST (Cont.)

6. Turn off the alarm by releasing the fire test switch.	The alarm turns off, and the channel resets.

2010 MASTER MODULE TEST

1. Press touch switch labled "Interior" at 2010.	The interior enabled light on 2010 should light.
2. Enter the **ARM** code at the 2010.	System Armed light on the 2010 should light.
3. Open the jumper between terminals 9 and 10 on the 2120.	The system shoud go into an immediate intrusion alarm as follows: - The speaker in the 2010 sounds an alarm tone. - The system armed light of the 2010 flashes on and off. - The word **INTRUSION** lights up on the display of the 2010.
4. Re-attach the jumper between terminals 9 and 10.	
5. Enter the **DISARM** Code at the 2010.	The alarm resets and the system armed light turns off.
6. Press the button marked **EMERGENCY** at the 2010.	Although the system is not armed, it will go into an immediate emergency alarm as follows: - The speaker in the 2010 sounds an alarm tone. - The word **EMERGENCY** lights up on the display of the 2010.
7. Enter the **DISARM** Code at the 2010.	The alarm resets.
8. Press the button marked **INTRUSION** on the 2010.	Although the system is not armed, it will go into an immediate intrusion alarm as follows: - The speaker in the 2010 sounds an alarm tone. - The word **INTRUSION** lights up on the display of the 2010.
9. Enter the **DISARM** Code at the 2010.	The alarm resets.
10. Remove the resistor from between terminal 3 and terminal 7 of the 2120.	a. A trouble alert signal activates at the 2010. This signal is steady, but with a lower volume tone than an alarm tone. b. The monitor lights on the 2010 and the 2120 should go off.

TAble 2. Squire System Wiring/Testing Procedure (Cont.)

FIELD TEST (2120 and 2010) Continued

11. Move the Trouble Alert switch on the 2120 to the **SILENCE** position.	a. The silence light on the 2120 turns on. The monitor lights remain off.
	b. The audible signal shuts off.
12. Replace the resistor between terminals 3 and 7, and move the Trouble Alert switch to the **NORMAL** position.	a. The monitor lights turn on.
	b. The silence light turns off.
13. Using aligator clips and a short piece of wire, attach a jumper between terminals 22 and 3.	a. Audible Alarm.
	b. Auxiliary light on.
14. Remove jumper between terminals 22 and 3.	
15. Enter **DISARM** Code at 2010.	Alarm resets.

INTRUSION CIRCUIT INSTALLATION

1. Install all normally-open and normally-closed exterior circuit sensors (exterior circuit). (See Figure 6).	a. Disarm the system.
	b. If using normally-closed sensors in the exterior circuit, remove the jumper from between terminals 9 and 10.
	c. Connect the normally-closed sensor loop to terminals 9 and 10.
	d. Connect the normally-open exterior circuit sensors to terminals 10 and 25.
2. Install all normally-closed and normally-open interior circuit sensors. These are switched in and out of the intrusion loop by the interior switch located on the Master Module (and will be active whenever intrusion circuit is armed and the interior light is lit). (See Figure 7).	Connect the normally-closed interior circuit sensor loop to terminals 20 and 21. Remove the jumper from terminals 20 and 21.

Connect the normally-open interior circuit sensors to terminals 20 and 25. |
3. Install all exit/entrance circuit sensors. (See Figure 8).	a. If using normally-closed exit/entrance circuit sensors, remove the jumper from between terminals 11 and 12 and connect the sensors to terminals 11 and 12.
	b. Connect all normally-open exit/entrance sensors to terminals 12 and 25.
4. Install the fire bell (optional). Bell or external speakers may be used but **NOT BOTH**.	a. Place option switch 10 in the **CLOSED** position.
	b. Connect the bell (12 volt bell only). Red wire to terminal 23 and Black wire to terminal 31.
	c. When using a BELL with this equipment the attached suppressor (Model 7800) must be soldered directly across the contacts.
5. Install all external speakers.	a. Place option switch 10 in the **OPEN** position.
	b. Connect all speakers to terminals 23 and 31.

Table 2. Squire System Wiring/Testing Procedure (Cont.)

FIELD TEST (INTRUSION CIRCUIT)

If the system includes a 2010 Master Module, and the Interior Enabled light is lit, turn it off by pressing the Interior touch switch.	The Ready light should be on.
2. ARM the system. **NOTE:** If the Ready light is not on, the interior light is not on, the exterior intrusion circuit or the exit/entrance circuit is faulty. Recheck all sensors for proper closing. To isolate a problem, disconnect the suspected circuit from the 2120 control panel and replace it with a jumper. Continue this procedure until the problem circuit is isolated. Then recheck the wiring, sensors, and attachments until the problem circuit is corrected. **DO NOT PROCEED WITH THE REST OF THIS TEST UNTIL A PROPERLY CLOSED EXTERIOR CIRCUIT IS OBTAINED.**	a. The System Armed light on the 2010 should light. b. The Ready light should go off.
3. DISARM the system.	The system disarms.
4. To test individual sensors, open a door or window in the intrusion circuit and leave it open.	
5. Enter the ARM Code.	The system **SHOULD NOT ARM.**
6. Close the door or window.	
7. Repeat this test using different doors and windows untill all intrusion loop sensors are checked.	
8. Reset all sensors to the armed position.	
9. ARM the system.	All system-armed lights should light.
10. Open one of the sensored doors. The system should go into an intrusion alarm.	a. All built-in speakers on the 2010 emit an alarm tone. b. All external speakers or bell emit a continuous alarm tone. c. The system-armed light flashes. d. The 2010 Master Module displays the word INTRUSION.
11. Enter the DISARM Code.	The alarm shuts off.

INTERIOR CIRCUIT TEST

1. Press Interior touch switch on 2010. This adds the interior protection circuit devices (such as pressure mats) to the exterior protection circuits.	Interior Enabled light on 2010 turns on. If the Ready light turns off at this time it indicates that a sensor in the Interior circuit is in an alarm state. System will not arm until corrected.
2. ARM the system.	The system armed lights turn on.
3. DISARM the system.	The system armed and interior lights turn off.
4. Press Interior touch switch.	Interior light turns on.
5. Place an object, such as a chair on a pressure mat.	Ready light turns off.

Table 2. Squire System Wiring/Testing Procedure (Cont.)

FIELD TEST (INTRUSION CIRCUIT) Continued

6. Attempt to **ARM** the system.	The system should not arm.
7. Repeat this test for all pressure mats on the system.	

EXIT/ENTRANCE DELAY TEST

1. **ARM** the system.	
2. Open and close a door in the exit/entrance loop.	The system should not go into intrusion alarm.
3. **DISARM** the system.	
4. Repeat the test for each door in the exit/entrance loop.	
5. **ARM** the system.	
6. Open a door in the loop and leave it open.	
7. After the delay time expires (time selected for Option Switch 2) the intrusion alarm should sound.	An intrusion alarm occurs, all system speakers and bell emit an alarm, the system-armed light flashes, and the 2010 displays the word **INTRUSION**.
8. **DISARM** the system.	The alarm should shut off.
9. Arm the system and wait until the exit delay time elapses.	
10. Open a door in the loop.	The exit/entrance tone should sound.
11. Let the exit/entrance tone sound until the exit/entrance tone delay again elapses.	An intrusion alarm should sound.
12. Repeat step 11, but **DISARM** the system while the exit/entrance tone is still sounding.	The exit/entrance tone should shut-off and no intrusion alarm should sound.

# FIRE CIRCUIT INSTALLATION (See Figure 3)

GENERAL FIRE CIRCUIT INFORMATION: Fire circuit wiring consists of a pair of wires connecting terminals 3 and 7 of the 2120 with all fire circuit devices, and ending with an end-of-line resistor (see figure 3). The end-of-line resistor allows a small current to continuously flow through this wiring (shown by arrows in Figure 3). Any interruption of this current produces a trouble signal. Problems that can cause current interruption are: faulty fire circuit wiring, faulty detector connections, and faulty smoke detector operation. It is important, therefore, that the fire loop pair be brought to and from each device, and that the loop characteristic be maintained in order to provide maximum supervision. This means that a fire detector located a distance from a main wiring run requires four conductors (out and 2 back). A smoke detector requires the same wiring (supervisory contacts in series with the fire loop, alarm contacts in parallel) plus the addition of two conductors to supply power that may be "dead-ended".

A short across the wires of the fire circuit (as in the case of a heat detector activating) produces a fire alarm.

CAUTION: Early warning fire detection is best achieved by the installation of fire detection equipment in all rooms and areas of the household as follows:

For Minimum Protection smoke detectors must be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms and on each additional story of the family living unit including basements and excluding crawl spaces and unfinished attics. For increased protection, additional smoke and heat detectors can be installed in the living room, dining room, bedroom(s), kitchen, attic (Finished or unfinished), furnace room, utility room, basement, integral or attached garage, and hallways.

Table 2. Squire System Wiring/Testing Procedure (Cont.)

FIRE CIRCUIT INSTALLATION (See Figure 3) Continued
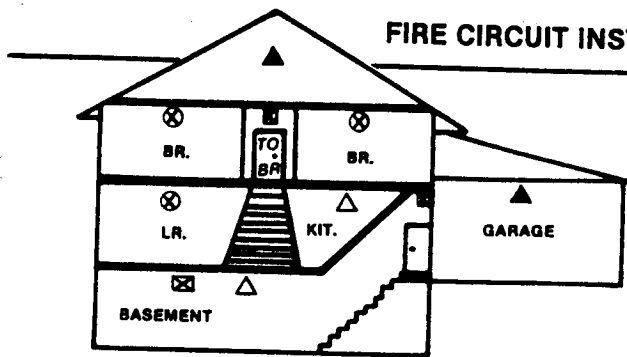
☒ Smoke detectors for minimum protection

⊕ Smoke detectors for additional protection

△ 135 °F heat activated detectors

▲ 190 °F heat activated detectors

Figure 3. Typical installation layout of a residential Fire Security System. This installation should conform to the NFPA Standard 74. To obtain a copy, write to:
National Fire Prevention Association
470 Atlantic Ave.
Boston, Mass 02110

1. Install all normally-open fire sensors (See Figure 13).

   Use only U.L. listed fire and heat sensors. The SK Model 7620 is U.L. listed.

   a. Connect all sensors, including the 7620 smoke sensors, in a single parallel circuit with a 15,000 ohm resistor connected across the last sensor (Model 7630). (Use the resistor shipped with the system which was connected to terminals 3 and 7 during the initial system tests.) Refer to Figure 13 throughout this procedure.

   b. Wire any fire-stats and smoke detectors so that the supervisory leads are connected in the series with the fire loop and the alarm leads are connected in parallel.

   c. **7620 SMOKE DETECTOR INSTALLATION REQUIREMENTS:** At least a 3 condutor cable is needed to wire each 7620 to the fire loop and power supply. Each 7620 requires .001 ma. of current.

   Connect each 7620 as follows:

   - Red and one white/purple wire to terminal 3.
   - Black wire to terminal 25
   - Connect a purple wire to the next smoke or Heat detector, or if it is the last sensor in the fire loop, connect it to terminal 7.

   d. Connect this entire circuit to terminals 3 and 7. **NOTE:** If the system does not Include a fire circuit, leave the 15,000 ohm resistor between terminals 3 and 7.

FIELD TEST (TROUBLE SIGNAL, 7620)

TROUBLE SIGNAL (Fire Loop) Test

1. Remove one of the wires from the 7630 end-of-line resistor.

   a. A trouble alert signal (steady, but less loud that an alarm tone) should sound at all modules with built-in speakers, connected to terminal 33.

   b. The monitor light on the 2010 and on the 2120 should go off.

2. Move the Trouble Alert switch on the 2120 to **SILENCE.**

   a. The alert tone should stop.

   b. The Alert silence light should come on.

3. Reconnect the wire to the sensor and restore the Trouble Alert switch to **NORMAL.**

   a. The monitor light should came back on.

   b. The Alert silence light should then go off. ·ff.

Table 2. Squire System Wiring/Testing Procedure (Cont.)

FIELD TEST (TROUBLE SIGNAL, 7620) Continued

7620 SMOKE DETECTOR TEST

1. Hold the smoldering end of a piece of cotton rope, or a cigarette, three inches from the 7620 and allow the smoke to flow into the detector.

After 20 to 25 seconds, a fire alarm should sound as follows:

- All built-in speakers, all external speakers, or the bell in the system should sound an alarm tone.
- The 2120 Master Module displays the word **FIRE**.

2. Clear the smoke detector by fanning fresh air into it for 20 to 25 seconds.

3. Since the 7620 is a nonlatching alarm device, you can reset it manually by pressing the Fire reset/test switch on the 2120 control, or by entering the disarm code.

Both the 7620 and the 2120 control panel will be reset. All alarm conditions shut-down.

4. Repeat this test for all 7620's

PANIC/TAMPER/AUXILIARY CIRCUIT INSTALLATION

1. Install all normally-closed panic/tamper alarms. **NOTE:** Panic/tamper alarms activate intrusion alarms whether or not the intrusion circuit is armed.

Connect normally-closed panic/tamper circuit sensors to terminals 18 and 19. If not used, leave jumper between terminals 18 and 19 previously installed.

2. Install all normally-open panic/tamper circuit sensors.

Connect normally-open panic/tamper circuit sensors to terminals 18 and 25.

3. Install all normally-open auxiliary circuit sensors.

Connect normally-open auxiliary circuit sensors to terminals 22 and 3.

FIELD TEST (PANIC/TAMPER/AUXILIARY CIRCUIT)

PANIC INPUT TEST

1. Test each panic sensor in the system.

Panic and tamper switches and sensors should be momentary contact type. These switches and sensors should be protected from accidental tripping.

TAMPER INPUT TEST

1. **DISARM** the system.

2. Attempt to violate the system by removing a tamper-monitored device from the wall where it is mounted.

An intrusion alarm should sound.

3. Return the sensor to its original armed postion.

4. **DISARM** the system.

5. Repeat this test for each sensor in the tamper loop.

AUXILIARY INPUT TEST

1. Jumper the contacts of the auxiliary sensor.

Except for the 2010 displaying the word **AUXILIARY**, the same alarm as for an emergency will sound.

2. DISARM the system.

Table 2. Squire System Wiring/Testing Procedure (Cont.)

2360 DIALER CARD INSTALLATION

1. Install the 2260 Dialer Card in the white socket located on the front of the 2120 printing circuit board. See Figure (1).

   CAUTION: When inserting Dialer Card make sure the two connectors are mating correctly.

NOTE: THE 7140 LINE SEIZURE IS STRONGLY RECOMMENDED TO PREVENT LIGHTNING DAMAGE.

When connecting the 2360 through a 7860 connector Cord, proceed as follows:

- Green wire to terminal 6
- Gray wire to terminal 6
- Red wire to terminal 5
- Brown wire to terminal 5

When connecting the 2360 through a 7140 Line Seizure Module, connect as shown in Figure 12.

2360 DIALER CARD INSTALLATION USING OPENING/CLOSING FEATURE

1. Install the 2360 Dialer Card. Opening/closing is accomplished via the auxiliary channel.

The following steps must be taken:

a. Place option switch 5 in the OPEN position on the 2120 P.C. board.

b. Cut Jumper (2) on the 2360 P.C. board.

c. Disable the Auxiliary light on the 2010 Master Module by removing the auxiliary light wires from the 2120 terminal number 30.

FIELD TEST (2360 DIALER CARD)

2360 TEST

1. Notify the central message receiving point that you are making a test.

NOTE: Whenever the 2360 Dialer is reporting the Monitor light will be blinking on the 2120. When Dialer has received kiss-off, the Monitor light will be on steady.

2. Perform a test on each system component as described earlier. Allow the alarm to sound for at least 45 seconds to assure adequate transmission time.

An appropriate alarm should sound for the type of test performed (specifically, fire, intrusion, emergency, or auxiliary).

3. Shut off the alarm.

4. Call the central message receiving point for results of the test.

OPENING/CLOSING TEST

1. Arm the intrusion circuit and wait 45 seconds before step 2 to allow the signal to report the closing.

The 2360 transmits a closing message to the central message receiving station. (Code 4).

2. Cause an intrusion alarm and wait 45 seconds before further testing to ensure transmission of the alarm message.

The 2360 transmits an instrusion alarm (Code 1).

3. Disarm system and wait another 45 seconds before further testing to ensure transmission of the disarm message.

The 2360 transmits an opening message to the central message receiving station (Code 9).

Table 2. Squire System Wiring/Testing Procedure (Cont.)

FIELD TEST (FIRE RESET/TEST SWITCH)

1. Press and **HOLD** for a minimum of 10 seconds, the fire Reset/Test Switch.	Fire alarm should sound at all built-in and external speakers (or bell).

NOTE: The Fire Reset/Test switch disconnects the AC portion of the 2120's power supply, in order to test the batteries. If the Fire alarm does not come on when the switch is pressed this indicates that the batteries are either not connected, not charged or are defective. |
| 2. Release the Fire Reset/Test Switch. | Fire alarm will turn off. Digital Dialer will begin dialing to report a test (Code 9). This will be indicated by the Monitor light which will be flashing on and off. When the receipt of message (kiss-off) is received from the central station the Monitor light stops flashing and will be on steady. |

FIELD TEST
(AUTOMATIC ATTEMPT-TO-RESET/AUTOMATIC SHUT DOWN)

AUTOMATIC ATTEMPT-TO-RESET

1. Disable the bell and speakers except on the 2010, by temporarily removing connections from terminal 31.	
2. **ARM** the system.	
3. Open and them close a door in the intrusion loop.	An intrusion alarm should sound.
Wait 5 or 15 minutes (depending on position of Option Switch 8).	The alarm should shut-off. The system armed light should remain on but will be blinking.
NOTE: For test purposes, this time can be shortened to 30 and 90 seconds (depending on the position of Option Switch 8 by connecting a clip lead across the Fast clock tabs shown in Figure 1. (But only after the 2120 is in alarm.)	
5. **DISARM** the system.	The System Armed light turns off.

AUTOMATIC SHUT-DOWN

1. **ARM** the system.	
2. Open a door in the intrusion loop and leave it open.	An intrusion alarm should sound.
3. Let the intrusion alarm sound for 5 or 15 minutes (depending on Option Switch 8). At that time the system should automatically shut-down the audible alarm only.	Audible alarm shuts off after 5 or 15 minutes of alarm. The System Armed light will be blinking and the word INTRUSION remains lit on the 2010.
4. **DISARM** the system.	

TEST FREQUENCY

The installed Squire System should be tested periodically according to the following schedule.

Fire (From Fire Rest/Test Switch)	Weekly	Auxiliary Heat and Smoke Detectors	Monthly
Intrusion	Weekly		Every 6 Months
Emergency	Monthly	Attept-To-Reset and Attempt-To-Shut-Down	Annually
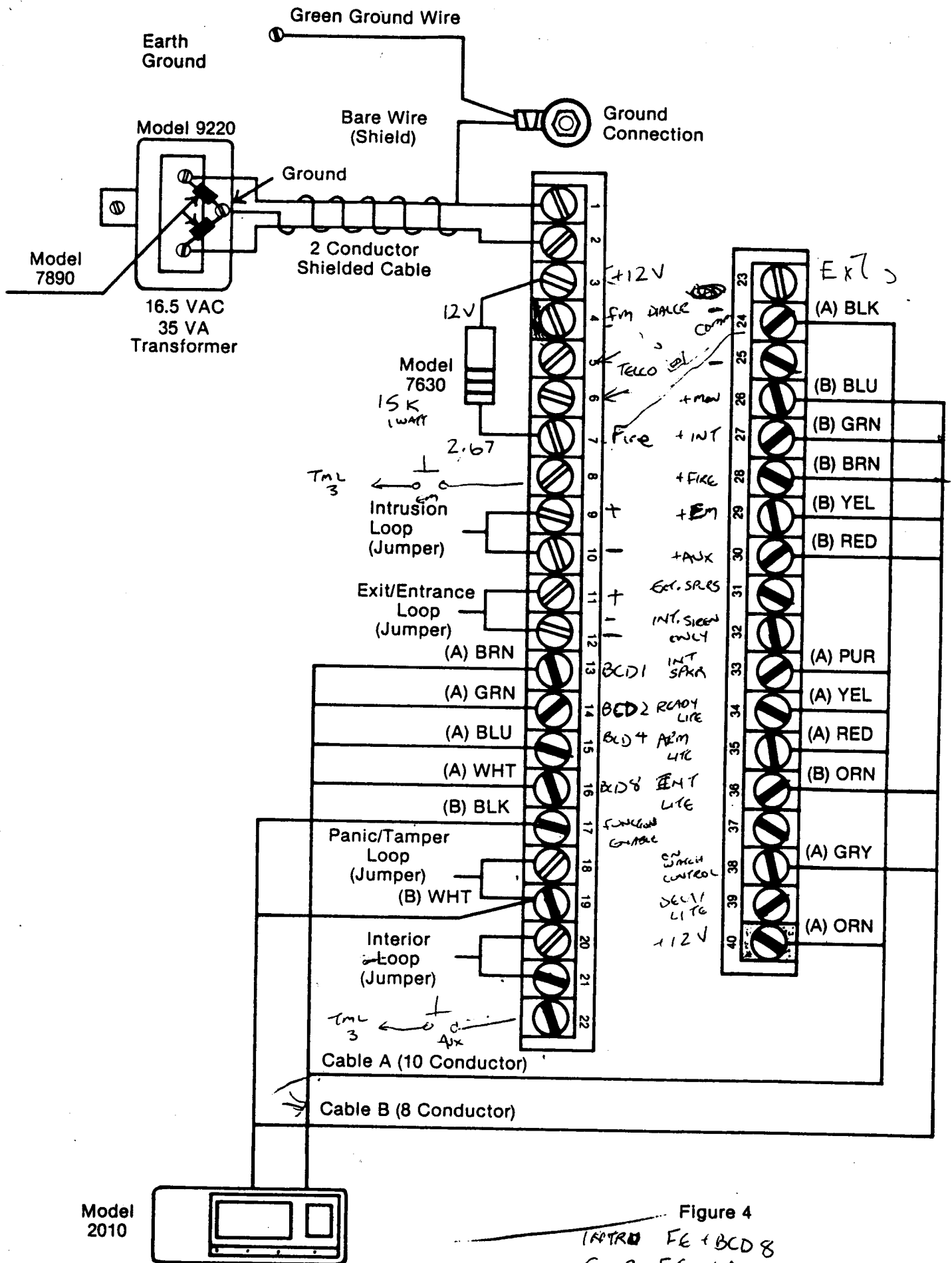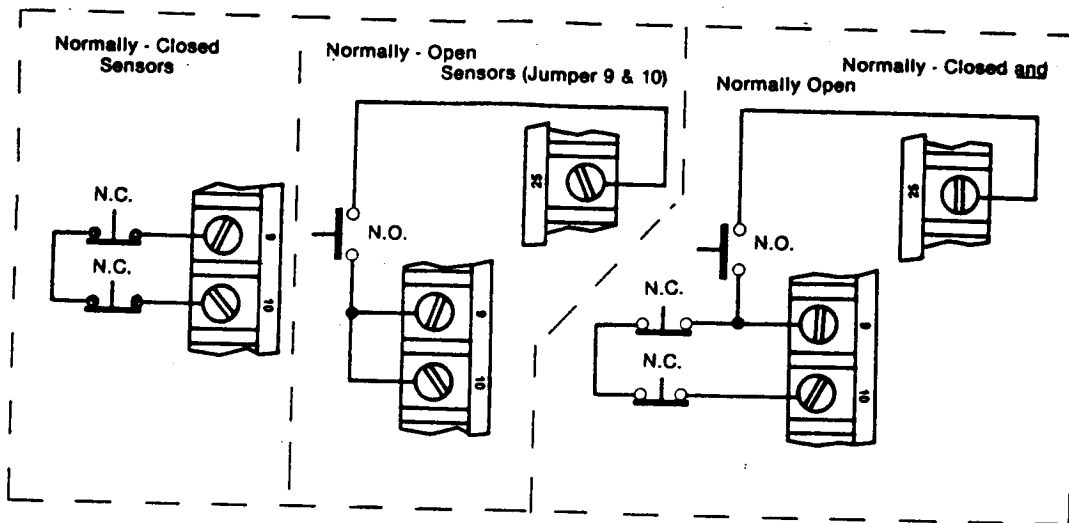
Figure 4

Figure 6 (Exterior Circuits)

Normally - Closed Sensors

Normally - Open Sensors (Jumper 9 & 10)

Normally - Closed and Normally Open

N.C.
N.C.
N.O.
N.O.
N.C.
N.C.
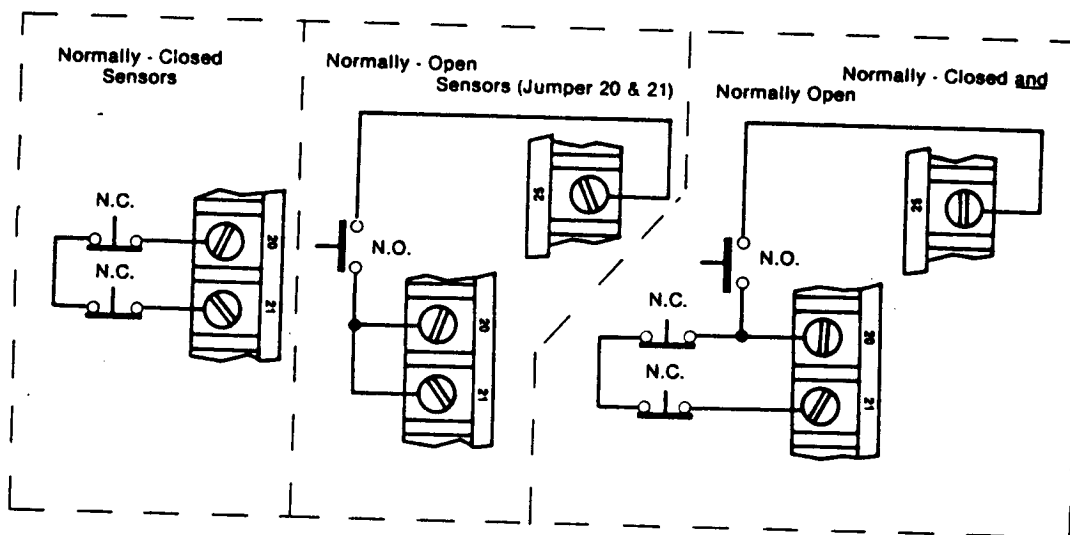
Figure 7 (Interior Circuits)

Normally - Closed Sensors

Normally - Open Sensors (Jumper 20 & 21)

Normally - Closed and Normally Open

N.C.
N.C.
N.O.
N.O.
N.C.
N.C.
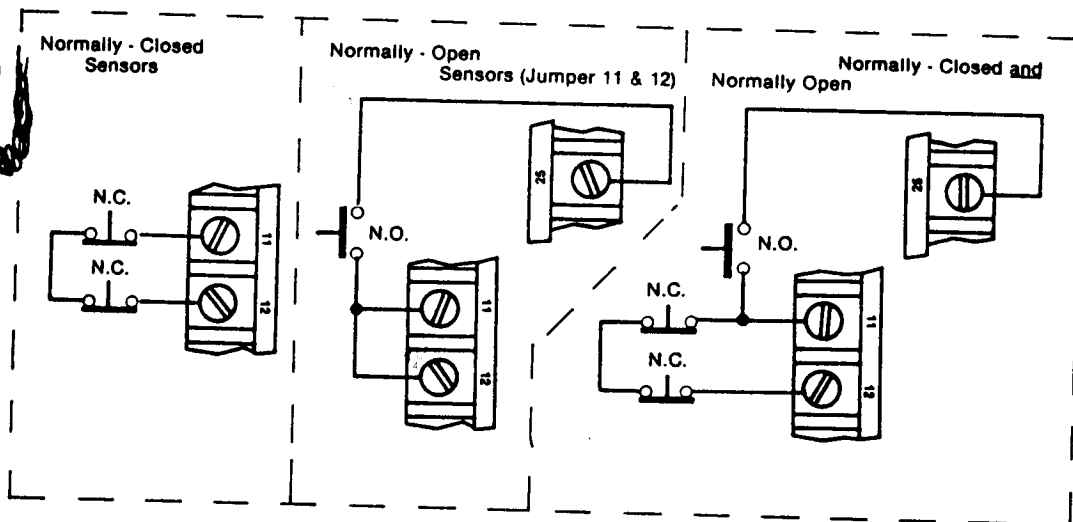
Figure 8 (Exit - Entrance Circuits)

Normally - Closed Sensors

Normally - Open Sensors (Jumper 11 & 12)

Normally - Closed and Normally Open
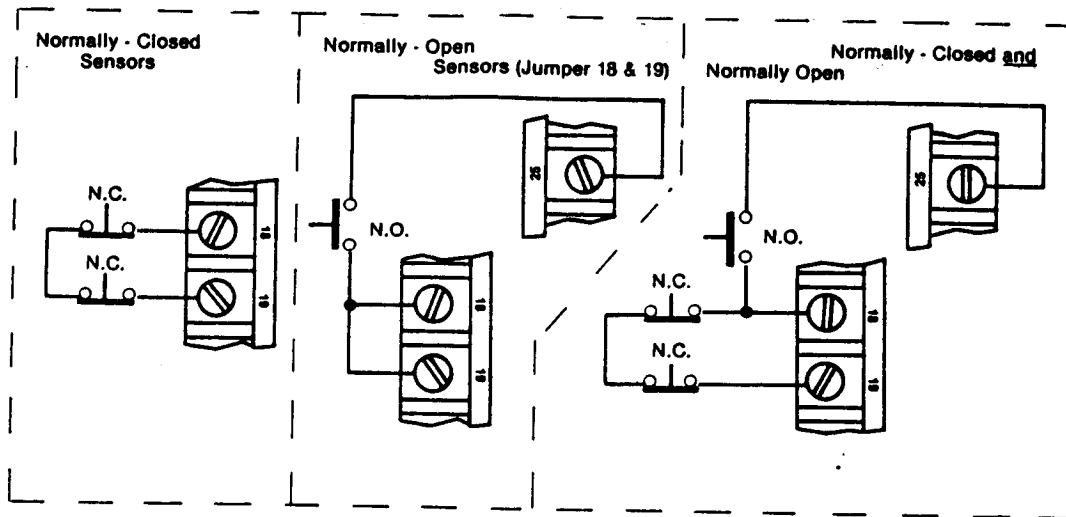
N.C.
N.C.
N.O.
N.O.
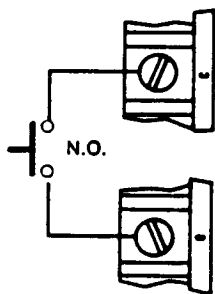N.C.
N.C.

Figure 9 (Panic/Tamper Circuits)
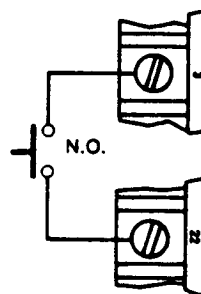

Figure 10
(Emergency Circuits)

Figure 11
(Auxiliary Circuits)

NOTE: The blue and orange leads of the 7860 connecting cable terminate within the RJ31X jack on two (2) "flying" leads. These leads, if connected together, could provide a supervisory circuit between the Dialer and the telephone jack by including them in the normally-closed loop.
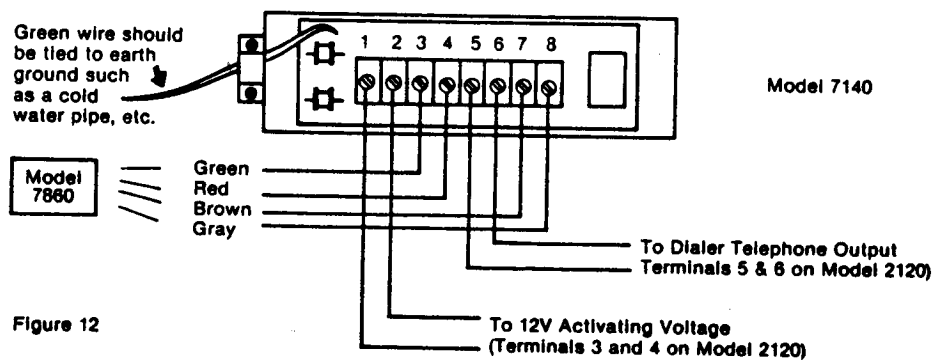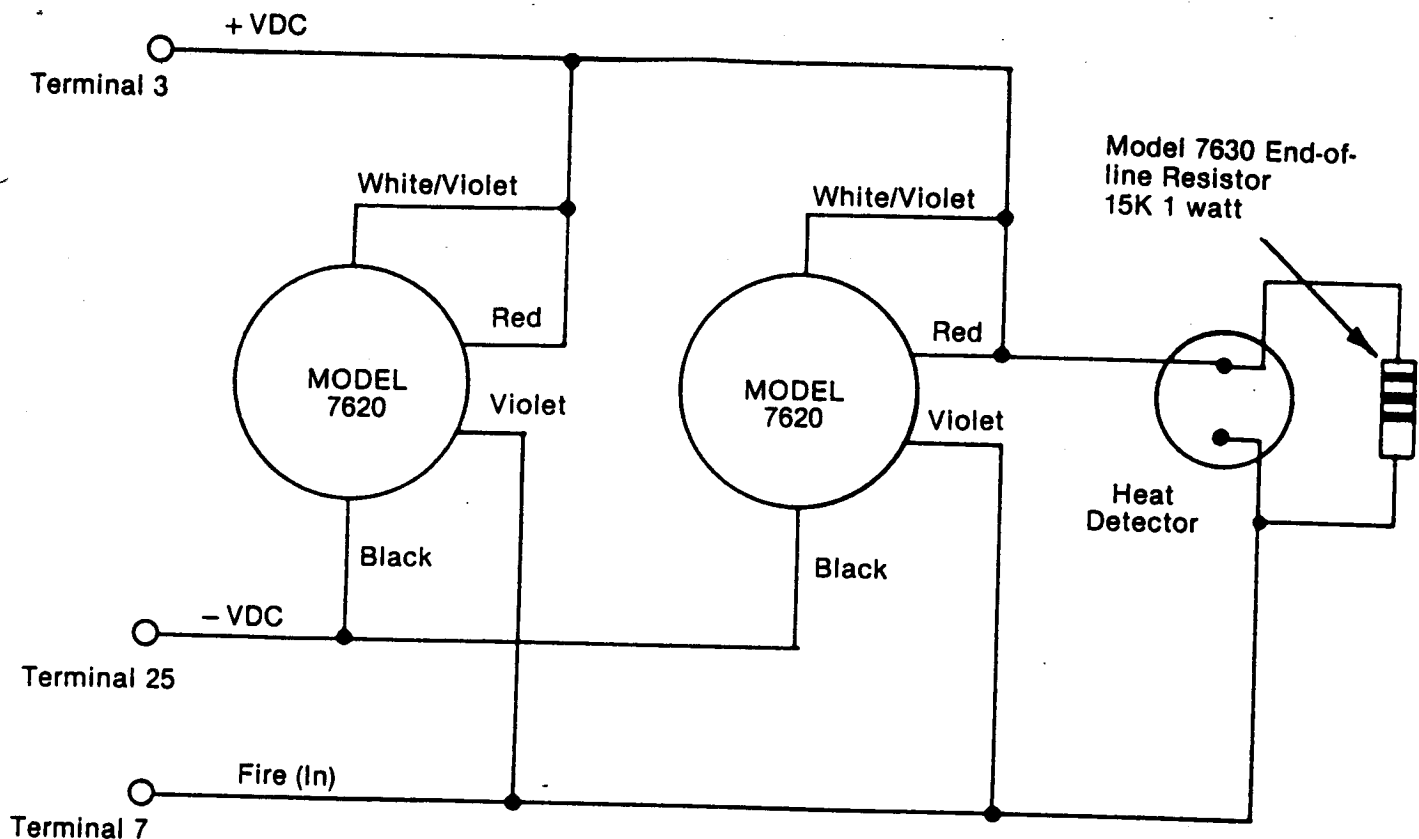

Green wire should be tied to earth ground such as a cold water pipe, etc.

Model 7140

Model 7860

Green
Red
Brown
Gray

To Dialer Telephone Output
Terminals 5 & 6 on Model 2120)

To 12V Activating Voltage
(Terminals 3 and 4 on Model 2120)

Figure 12

+ VDC

Terminal 3

White/Violet

Red

MODEL
7620

Violet

Black

− VDC

Terminal 25

Fire (In)

Terminal 7

Model 7630 End-of-
line Resistor
15K 1 watt

White/Violet

Red

MODEL
7620

Violet

Black

Heat
Detector

Use only U.L listed Fire
and heat sensors. The SK
Model 7620 is U.L. listed.
It is an ESL508B

W/V

V

Alarm Relay
(N.O.)

R

Bk

+

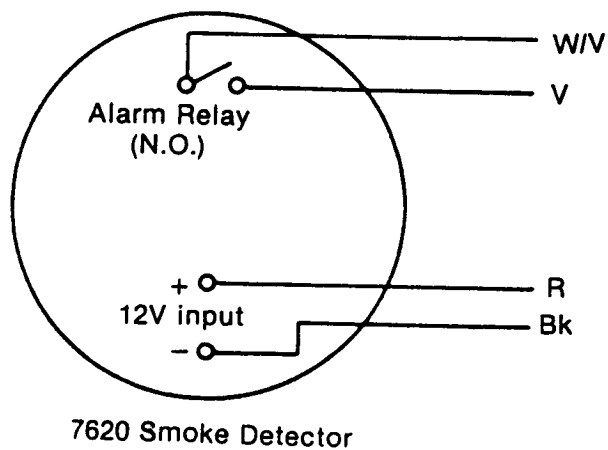12V input

−

7620 Smoke Detector

Figure 13. Fire Circuit Wiring

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INSTRUCTION SHEET
# MODEL 7890 TRANSIENT-SURGE PROTECTOR

The Model 7890 Protector, when properly installed with shielded two-conductor cable, will clamp the AC output of the Class II transformer (Model 9220) of the Silent Knight control panels. It reduces transient voltages frequently present on the power lines - caused by lightning and other sources - to manageable levels.

The AC power lines are the most commn source of transient/lightning damage in alarm systems.

The Model 7890 consists of two bi-polar transient suppressors with lugs at it's connecting points.

CAUTION: Before connecting, verify that the center counting screw in the AC wall plate, to which the transformer is to be connected, is grounded to earth ground. This can be checked by measuring the AC voltage between the mounting screw and **each** side of the outlet. There must be an identical voltage between one side of the outlet to the screw and from one side of the outlet to the other — approximately 117 VAC.

If these voltages are not identical the outlet does not have an earth ground and must be grounded by running a #18 conductor from the outlet to a good ground; for example, a cold water pipe.
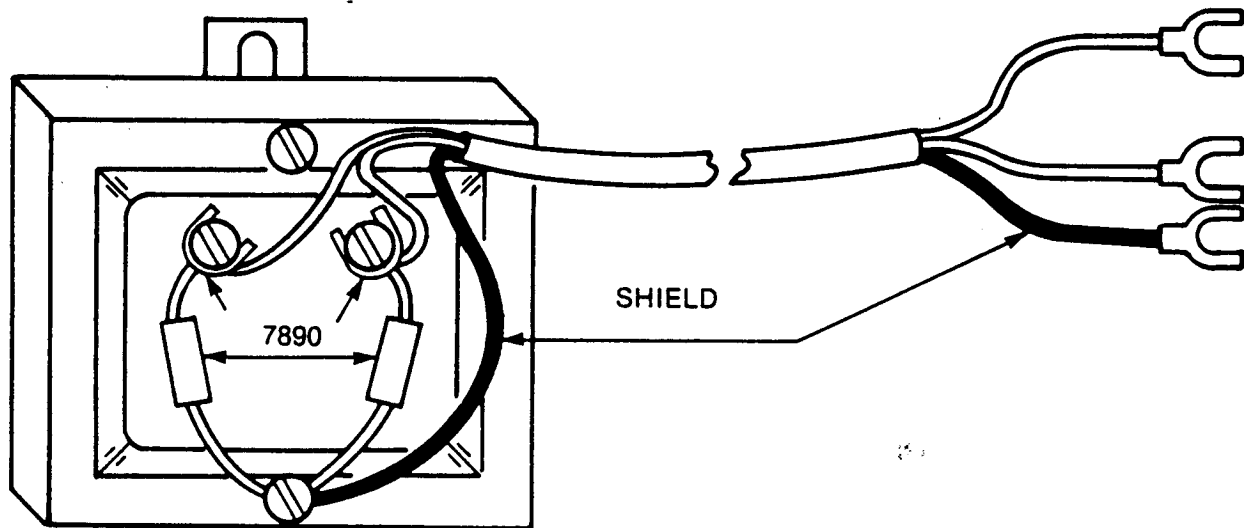
SHIELD

7890

WIRING

1) With the transformer un-plugged, connect the open ends (A) of the 7890 to the two AC screws of the transformer. Connect the common end (B) of the 7890 to the screw containing the case assembly of the transformer.

2) Connect the shielded cable as shown; the black and white wires to the AC output screws and the shield to the screw holding the case assembly.

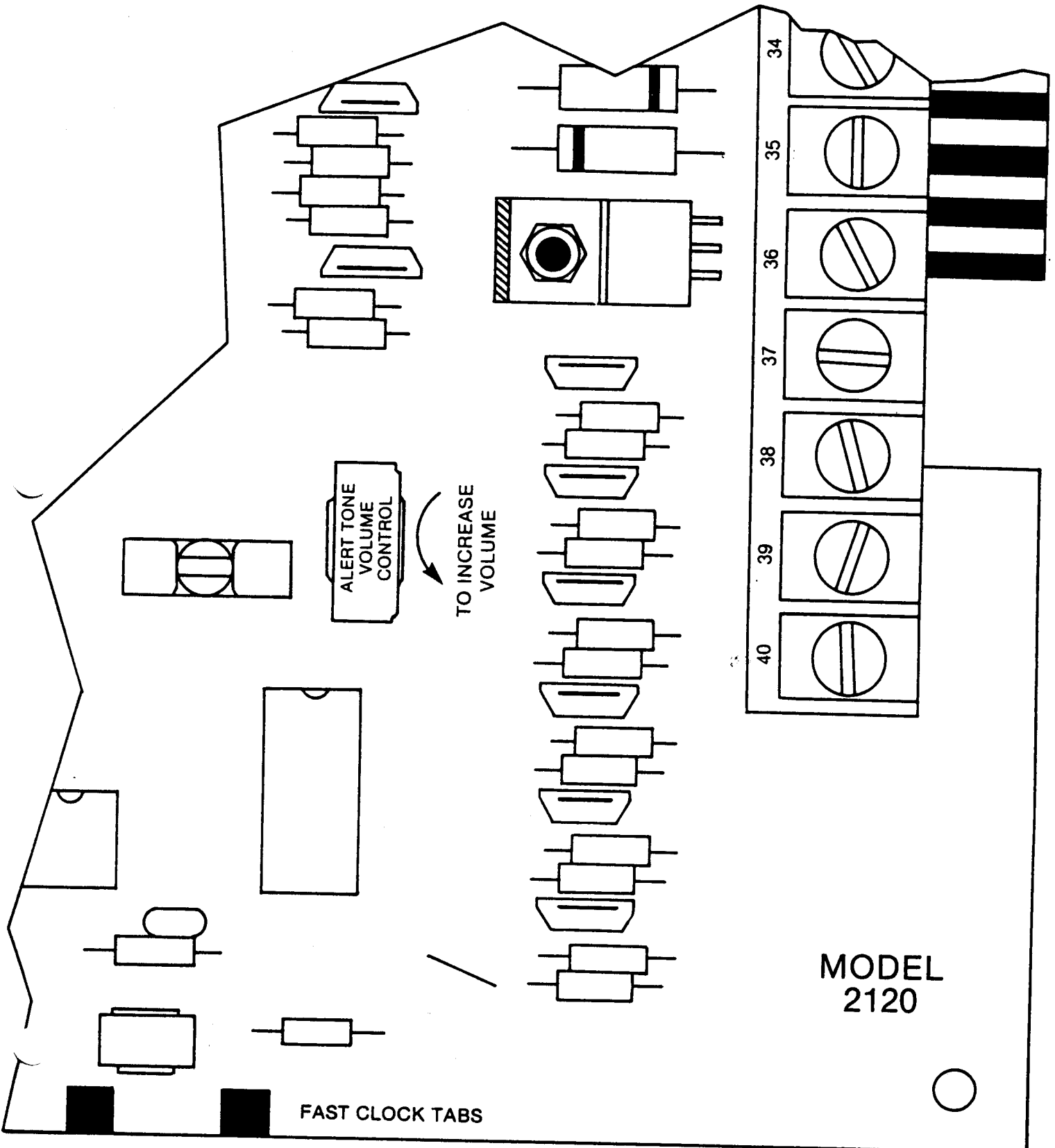**CAUTION! BE SURE THE SHIELD CONDUCTOR CAN NOT COME IN CONTACT WITH THE AC OUTPUT SCREWS.**

3) Connect the other end of the shielded cable to the control panel; the black and white wires to the AC input, and the shield to the **earth ground.** (the same point as the green ground wire in the panel).

4.) Plug in the transformer and securely fasten the mounting tab to the center mounting screw on the AC cover.

IMPORTANT. DO NOT USE THE 7890 TELEPHONE LINE CIRCUITS IN PLACE OF THE 7870. (OR VISA VERSA) A SHORT CIRCUIT WILL RESULT.

Below are directions for adjusting a potentiometer to control the volume of the alert tone.

ALERT TONE VOLUME CONTROL

TO INCREASE VOLUME

34
35
36
37
38
39
40

MODEL 2120

FAST CLOCK TABS

IMPORTANT: Silent Knight products should be tested every month (under no circumstances less than every three months) to insure complete and proper operation and proper input and output connections.

LIMITED WARRANTY

Silent Knight Security Systems warrants that the products of its manufacture shall be free from defects in materials or workmanship for one year from the date of invoice if such goods have been properly installed, are subject to normal proper use, and have not been modified in any manner whatsoever. Upon return of the defective product to the nearest Silent Knight dealer, Silent Knight will, at its sole discretion, either repair or replace, at no cost to the customer, such goods as may be of defective material or workmanship. Customers outside the United States are to return products to their distributor for repair.

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