

INSTALLATION ADDENDUM FOR 1400/10

Lightning and transient protection to the communicator may be enhanced by installing a model 7140 protector/seizure module. In those areas where lightning damage to telephone equipment such as digital communicators is likely to occur, it is advisable to install a model 7140. The model 7140 may be used with the 1400/10 as shown in figure 1 below.

If the telephone company does not or will not install gas tube station protectors, it is most important that both the model 7140 and 7872 suppression devices be used.

Refer to figure 1 for the typical installation of a 1400/1410 communicator using both the model 7140 and 7872.

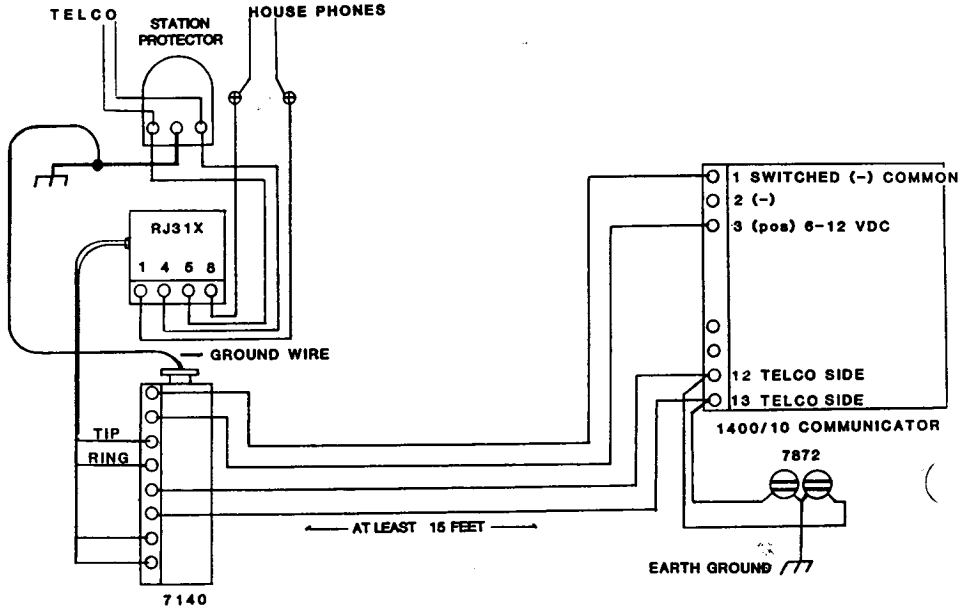
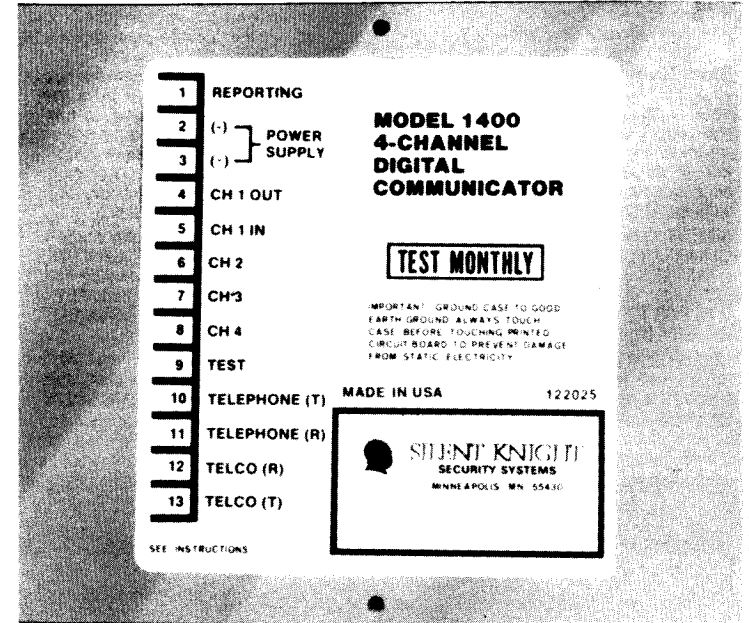


FIGURE 1

MODEL 1400/1410 4-CHANNEL DIGITAL DIALER

(For Silent Knight, Ademco, DCI, Franklin, & SESCOA Receivers)



INSTALLATION MANUAL

SILENT KNIGHT

A DIVISION OF WAYCROSSE, INC.

SECURITY SYSTEMS

1700 Freeway Boulevard North, Minneapolis, MN 55430

612/566-0510



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.

SILENT KNIGHT SECURITY SYSTEMS SHALL NOT UNDER ANY CIRCUMSTANCES BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING FROM LOSS OF PROPERTY OR OTHER DAMAGE OR LOSSES OWING TO THE FAILURE OF SILENT KNIGHT SECURITY SYSTEMS PRODUCTS BEYOND THE COST OF REPAIR OR REPLACEMENT OF ANY DEFECTIVE PRODUCTS.

SILENT KNIGHT SECURITY SYSTEMS MAKES NO WARRANTY OF FITNESS OR MERCHANTABILITY AND NO OTHER WARRANTY, ORAL OR WRITTEN, EXPRESS OR IMPLIED, BEYOND THE ONE YEAR WARRANTY EXPRESSLY SPECIFIED HEREIN.

DESCRIPTION

The Model 1400 is a four channel digital communicator designed to be powered and controlled as a "slave" or add-on to an alarm system.

OPERATION

1. Before connecting this device the telephone company must be notified and provided with the following information:
 - a. Manufacturer (Silent Knight)
 - b. Model number - 1400
 - c. F.C.C. registration number - AC 698R-67314-AL-R
 - d. Ringer equivalence - 0.0B
 - e. Type of jack (to be installed by the telephone company) RJ31X

NOTE: The telephone company must also be notified if this device is permanently disconnected!

2. This device may not be directly connected to coin telephone or party line services.
3. The telephone company under certain circumstances may temporarily discontinue services and/or make changes in its facilities and services which may affect the operation of this device; however, the telephone company is required to give adequate notice in writing of such changes or interruptions.
4. This device cannot be adjusted or repaired in the field; in case of trouble with the device notify the installing company or return to:

Silent Knight Security Systems
1700 Freeway Blvd. No.
Minneapolis, Minnesota 55430

OPERATION

When activated, the Model 1400 will dial the telephone number of the alarm receiver. When the Receiver has answered the call, the Model 1400 will transmit a three (3) digit location code (account number) and a one (1) digit alarm code. The combination of the three (3) digit account number and one (1) digit alarm code is called a "code group".

The dialing and data transmission occur in the following sequence:

1. Channel input activation.
2. The Model 1400 seizes the telephone line and listens (checks) for dial tone.
3. Upon detection of dial tone, the Model 1400 will dial. If dial tone is not present the Model 1400 will begin dialing after 24 seconds. During this time it will have attempted to clear the telephone line connection (anti-jam) by performing an on-line/off-line operation.
4. Acknowledgement is received indicating that the alarm Receiver has answered the call.
5. Data is transmitted.
6. "Kiss-off" signal is received, indicating that the alarm Receiver has decoded, compared and displayed two (2) identical "code groups".
7. If more than one alarm input is active, the next alarm "code group" will be transmitted. This will continue until all the alarms have been reported and "Kissed-off".
8. Final "Kiss-off" after all alarms are reported causes the Model 1400 to hang up (shut-down).

OPTION DESCRIPTION

There are five wire jumpers labeled 1 thru 5 on the 1400 P.C. board which 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 1400 will report only the alarm condition and will not report "Restore to Normal".

With this jumper (OUT) the Model 1400 reports a "Restore" condition if 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.

CONTINUOUS OR MOMENTARY INPUTS (Jumper 2)

When this jumper is left (IN) the 1400 will report the activation of an alarm input only if the activation is present for the entire reporting sequence. (Continuous)
NOTE: If the activating input is removed while the 1400 is still dialing or waiting for the acknowledgement from the Receiver, it will immediately hang-up.

When this jumper is taken (OUT) the 1400 will respond to and report a (MOMENTARY) activation on any of its inputs.
NOTE: Individual channel options cannot be selected independently. If the "Momentary" option is selected then all channels will be momentary. If the "Continuous" option is selected then all inputs must be continuous with the exception of the "Test" input which is always momentary.

SILENT KNIGHT or SESCOA FORMAT (Jumper 3)

With this jumper left (IN) the 1400 will report alarm conditions to Silent Knight and Ademco receivers.

When this jumper is taken (OUT) the 1400 will report alarm conditions to Sescoa, Franklin and DCI receivers

STANDARD OR FSK DATA TRANSMISSION (Jumper 4)

With this jumper left (IN) the 1400 will report the alarm data in the standard formats to receivers as stated for Jumper 3.

When this jumper is taken (OUT) the 1400 will report the alarm data in FSK (frequency shift keying) and report only to a Silent Knight Model 3520 and then "only" if the 8520 is equipped with the FSK receiver board #5.

OPENING/CLOSING REPORTING (Jumper 5)

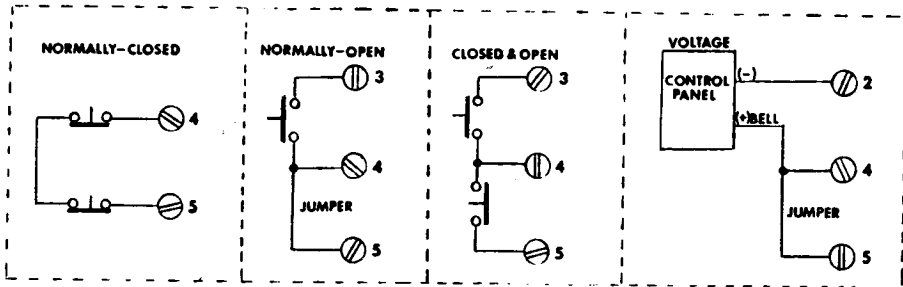
With this jumper left (IN) Channel 4 will function the same as any other channel of the 1400.

When this jumper is taken (OUT) Channel 4 can be used for Opening/Closing by applying a continuous activation of the Channel 4 input for closing and removing the activation for opening.

INPUT CONNECTIONS

Channel 1 (See Figure 1)

Channel 1 will accept either normally-open and/or normally closed contacts. Channel 1 may also be activated by applying a voltage of 6 to 14 VDC to the input.



WHEN ACTIVATING CHANNEL ONE WITH VOLTAGE OR DRY CLOSURE, BE SURE TO JUMPER TERMINALS 4 AND 5 TOGETHER. IF CHANNEL ONE IS NOT USED, JUMPER TERMINALS 4 AND 5 TOGETHER.

Figure 1

Channels 2-3 & 4 (See Figures 2-3 & 4)

Channels 2-3 & 4 will accept either normally-closed or normally-open contacts but not both. These channels may also be activated by applying a voltage of 6 to 14 VDC to the input.

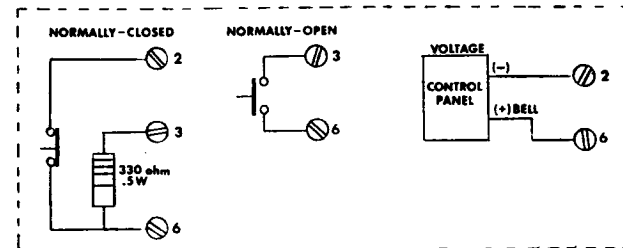


Figure 2

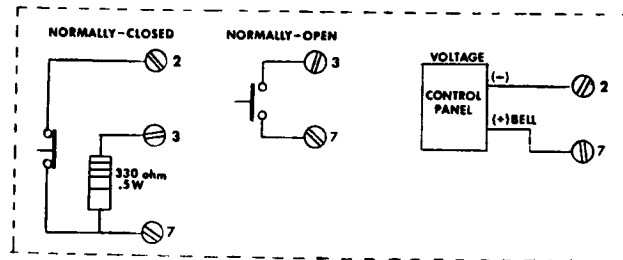


Figure 3

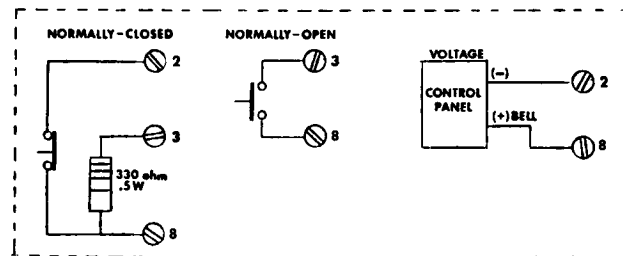


Figure 4

TEST

If desired a push button "Test" switch normally-open momentary may be connected between terminal 3 and terminal 9.

POWER SUPPLY (See Figure 6)

The Model 1400 will operate from 6 to 14 volts D.C. with a maximum of .5 volts of ripple. The Model 1400 requires 55 ma of current in standby and 165 ma during reporting.

CAUTION: Observe polarity when connecting power. Plus (+) to terminal 3 and minus (-) to Terminal 2. Reversing these inputs will result in severe damage to the 1400.

ALARM CODES

The alarm Codes transmitted by the Model 1400 are as follows:

| | Silent Knight/Ademco Format | Sescoa/Franklin DCI Format |
|-----------------------|--------------------------------|-------------------------------|
| Channel 1 | 1 | 3 |
| Channel 2 | 2 | 1 |
| Channel 3 | 3 | 2 |
| Channel 4 & (Closing) | 4 | 6 |
| "Restore to Normal" | 7 | 7 |
| "Test" & (Opening) | 9 | 9 |

OUTPUT CONNECTIONS

Telephone Line Connections

The Model 1400 incorporates a build-in line seizure relay which, when activated, will seize the telephone line and disconnect the subscribers phones to prevent "jamming" of the phone line.

To meet FCC regulations the Silent Knight Model 7860 connecting cord and Telco phone jack (RJ31X) must be used when connecting to the phone lines, as shown in Figure 5.

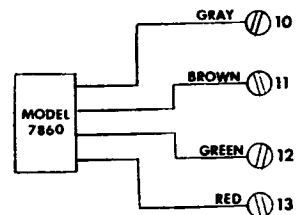


Figure 5

IMPORTANT: A LINE SEIZURE RELAY PROVIDES ONLY MARGINAL PROTECTION AGAINST LIGHTNING. IT IS STRONGLY RECOMMENDED THAT AN ADDITIONAL TRANSIENT SUPPRESSOR (MODEL 7870) BE CONNECTED TO THE TELCO TERMINAL BLOCK.

"REPORTING" OUTPUT (See Figure 6)

The "Reporting" output (Terminal 1) switches from approximately 5 volts DC to ground whenever the Model 1400 is in a reporting sequence. This output may be used to turn on a 6 volt light or activate a 6 volt relay.

NOTE: When a supply voltage greater than 8 volts is used to power the Model 1400 a Zener diode must be connected in series with terminal 1 as shown in figure 6. Use the following table to determine the Zener diode voltage.

| Supply Voltage* | Zener Voltage | Zener Part Number |
|-----------------|---------------|-------------------|
| 9 VDC | 4.3 VDC | 1N4731 |
| 10 VDC | 5.1 VDC | 1N4733 |
| 11 VDC | 6.2 VDC | 1N4735 |
| 12 VDC | 7.5 VDC | 1N4737 |
| 13 VDC | 8.2 VDC | 1N4738 |
| 14 VDC | 9.1 VDC | 1N4739 |

TERMINAL STRIP DESCRIPTION

- 1 - REPORTING
- 2 - (-) POWER SUPPLY
- 3 - (+) POWER SUPPLY
- 4 - CH 1 OUT
- 5 - CH 1 IN
- 6 - CH 2
- 7 - CH 3
- 8 - CH 4
- 9 - TEST
- 10 - TELEPHONE (T)
- 11 - TELEPHONE (R)
- 12 - TELCO (R)
- 13 - TELCO (T)

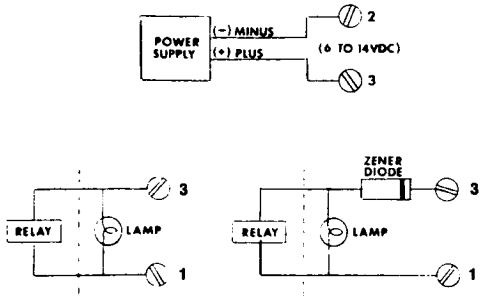
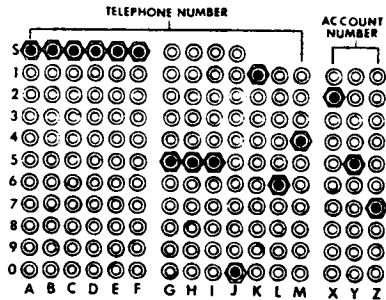


Figure 6

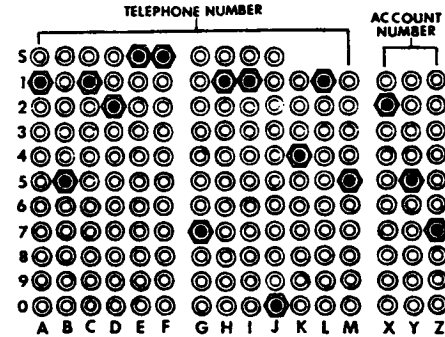
DIALER PROGRAMMING

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



EXAMPLE: 555-0164 ACT 257

If more than 7 digits are to be used, the digits must start with "A" row of the matrix. The appropriate number of unused digits left in the "s" position and the remaining 7 digits programmed normally.



EXAMPLE: 1-512-711-0415, Act 257

NOTE: ALWAYS INSERT A PROGRAM SCREW IN THE S "SKIP" COLUMN WHENEVER A NUMBER IN THAT COLUMN IS NOT USED.