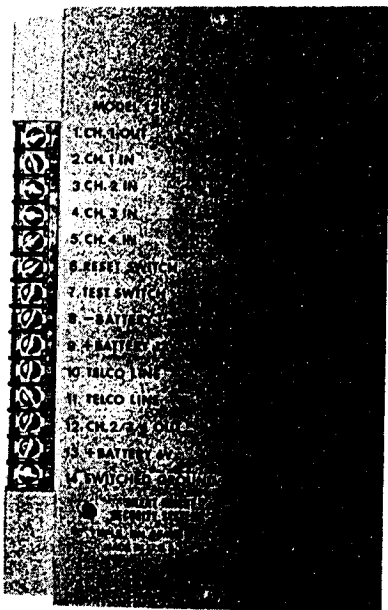


MODEL 120 (SERIES)

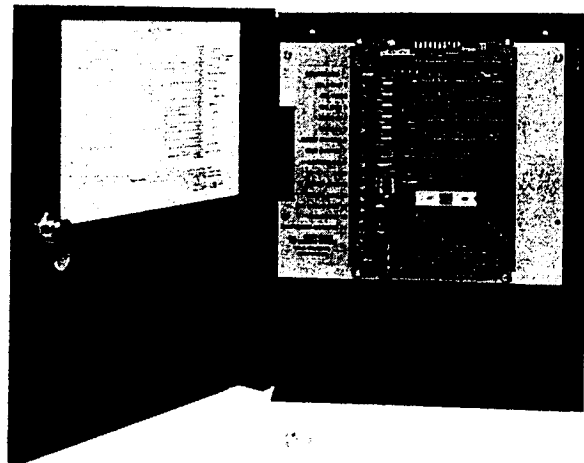
4-CHANNEL DIGITAL DIALERS

Models 120, 120-S, 121, 121-S, 125, 125-S

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



Model 120/120-S



Model 125/125S

INSTALLATION MANUAL

SILENT KNIGHT

A DIVISION OF WAYCROSSE, INC.



SECURITY SYSTEMS

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DESCRIPTION

The Series 120 Dialers are three (3) channel Digital Dialers with low battery reporting, or an optional fourth channel. The 120 Series Dialers will operate from a six (6) or twelve (12) volt power supply. The alarm channels may be activated by normally-open, normally-closed, or voltage inputs.

The transmission format for these Dialers requires a "kiss-off" shutdown tone from the Digital Receiver. (Should the Dialer not receive the "kiss-off" signal, a total of six (6) calls will be received at the Digital Receiver.)

DIALING AND DATA TRANSMISSION

1. Alarm channel activation.
2. Line seizure and monitor for dial tone.
3. Dialing (upon detection of dial tone).
4. Acknowledgment (handshake) signal from Receiver. (If acknowledgment is not received within 32 seconds, hang-up occurs and steps 2 and 3 repeat.)
5. Data is transmitted up to four times.
6. Kiss-off signal from Receiver after two identical code groups are received.
7. Hang-up (and reset, depending on input connection).

INPUTS AND CONNECTIONS

Channel One

Terminal 1 - Alarm channel one (out) - CH 1 Out

Terminal 2 - Alarm channel one (in) - CH 1 In

Alarm channel one will accept either normally-closed (N.C.) contacts (Figure 1), normally-open (N.O.) (Figure 2), or a combination of both (Figure 3).

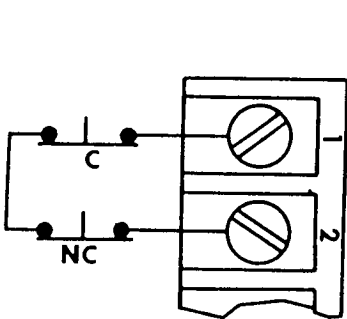


Figure 1

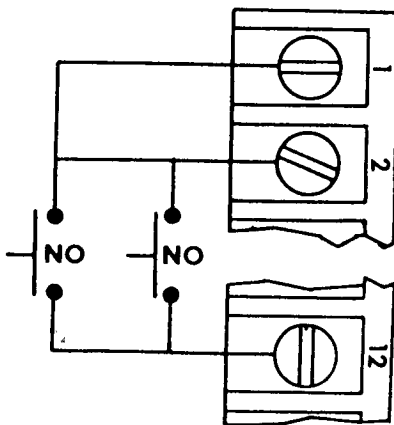


Figure 2

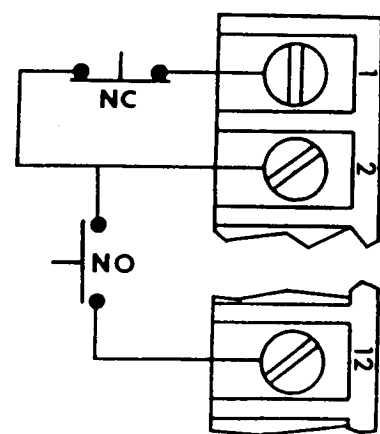


Figure 3

Channel one may also be activated by applying a voltage to the input (Figure 4).

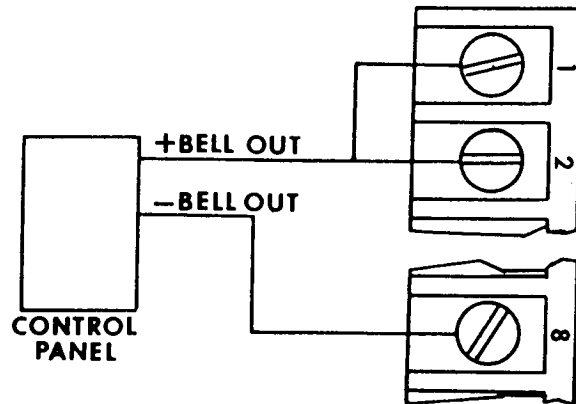


Figure 4

NOTE: If a bell is used, a .22 mfd/400V capacitor must be connected directly across the bell contacts (at the bell). IMPORTANT: DO NOT ATTEMPT TO POWER THE BELL FROM THE DIALER POWER SUPPLY (MODEL 125, 125-S).

Alarm channel one will accept either continuous or momentary inputs. If continuous inputs are to be used, remove the screw from screw option SO1. If momentary inputs are to be used, leave the screw in screw option SO1.

The alarm code which will be transmitted to the Digital Receiver for alarm channel one is programmable from 1 to 8. Where the screw is placed in the program column marked CH 1 will determine which code number will be transmitted.

Channel Two

Terminal 3 - Alarm channel two - CH 2

Alarm channel two will accept normally-open (N.O.) inputs (Figure 5), or may be activated by a voltage (Figure 6).

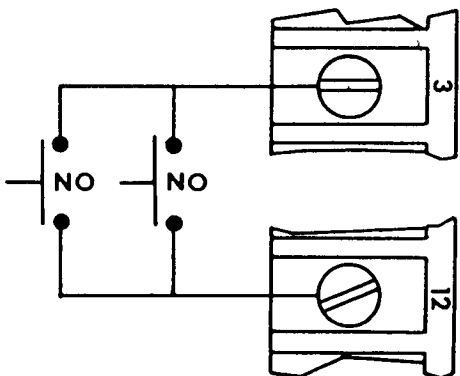


Figure 5

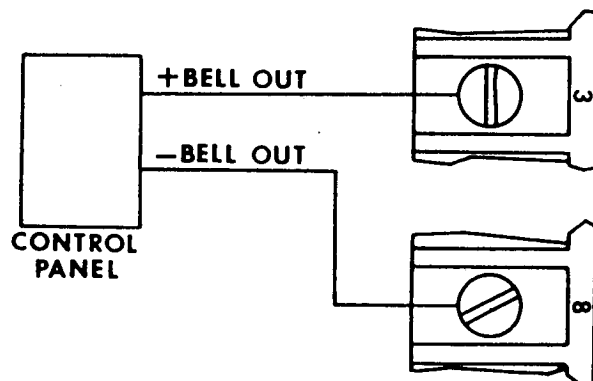


Figure 6

Alarm channel two will accept either continuous or momentary inputs. If continuous inputs are to be used, remove the screw from screw option SO2. If momentary inputs are to be used, leave the screw in screw option SO2.

The alarm code which will be transmitted to the Digital Receiver for alarm channel two is programmable from 1 to 8. Where the screw is placed in the program column marked CH2 will determine which code number will be transmitted.

Channel Three

Terminal 4 - Alarm channel three - CH 3

Alarm channel three will accept normally-open (N.O.) contacts (Figure 7), or may be activated by a voltage (Figure 8).

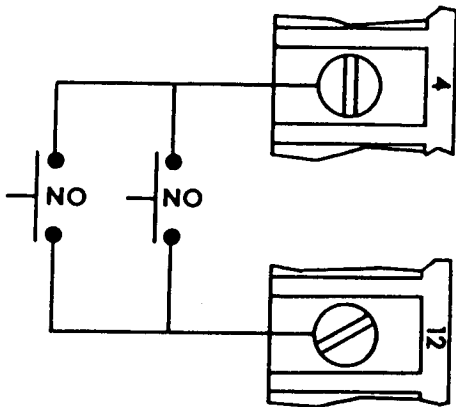


Figure 7

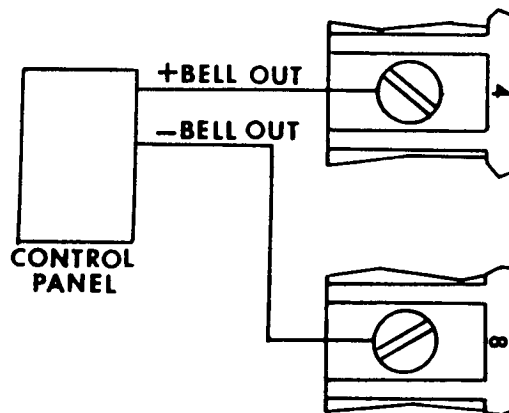


Figure 8

Alarm channel three will accept either continuous or momentary inputs. If continuous inputs are to be used, remove the screw from screw option SO3. If momentary inputs are to be used, leave the screw in screw option SO3.

The alarm code which will be transmitted to the Digital Receiver for alarm channel three is programmable from 1 to 8. Where the screw is placed in the program column marked CH 3 will determine which code number will be transmitted.

Channel Four - Low Battery

Terminal 5 - Alarm channel four - CH 4

Alarm channel four may be used in place of, or if so desired, in addition to low battery reporting. Incorporated in the Model 120 Series is a voltage sensing circuit which will cause the Dialer to report a low battery condition (normally reported as a code 8). However, terminal 5, when activated, will also cause the Dialer to report an alarm of the same code as selected for low battery. Note a more complete description of channel four and low battery is presented on page 8 of this manual.

Alarm channel four will accept normally-open contacts (Figure 9) or may be activated by a voltage (Figure 10).

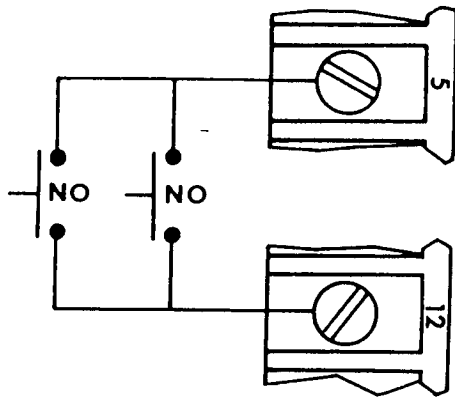


Figure 9

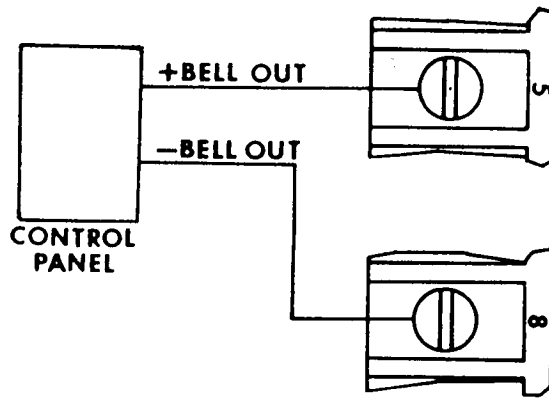


Figure 10

Alarm channel four will accept continuous inputs only.

The alarm code which will be transmitted to the Digital Receiver for alarm channel four is programmable from 1 to 8. Where the screw is placed in the program column marked CH 4 will determine which code number will be transmitted.

Reset Input

Terminal 6 - Reset Input

Alarm channels one, two, and three will automatically reset at the end of the reporting cycle provided that the input has been removed. However, an external manual reset switch (normally-open, momentary) can be connected as shown in Figure 11.

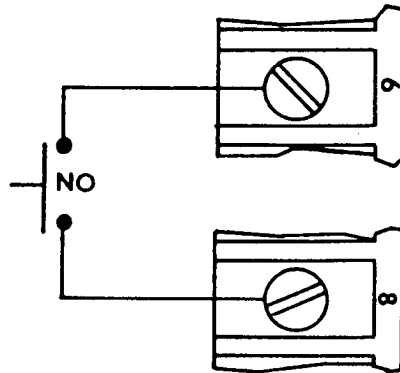


Figure 11

Test Input

Terminal 7 - Test Input

If desired, a remote test switch (normally-open, continuous) such as a toggle switch may be connected as shown in Figure 12.

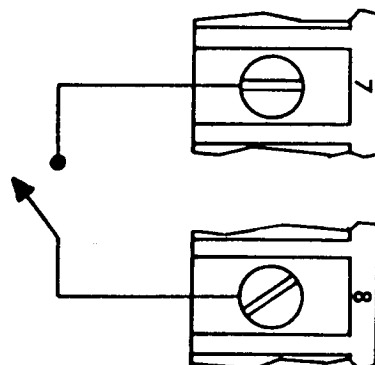


Figure 12

RESET (CANCEL/ABORT) REPORTING

The 120 Series Digital Dialers provide a cancel or abort feature by two methods. The first method is to terminate the dialing function, the second is to convert an alarm code into either a code 5 or code 9. The cancel code is selected by screw option SO5:

SO5 IN - Cancel Code 5
SO5 OUT - Cancel Code 9

If a manual reset is installed as described in Figure 11, and this switch is activated during the dialing sequence (and all inputs have been removed), the Dialer will discontinue dialing and hang-up.

If the switch is depressed during data transmission, the alarm code will change to the cancel or abort code if the alarm inputs have been removed.

The 120 Series will also reset when the alarm condition is removed. If the initiating alarm is removed while the unit is dialing, and that channel is programmed for a continuous input, the Dialer will hang up immediately. If the initiating alarm is removed after the last digit is dialed, and that channel is programmed for a continuous input, the Dialer will report the cancel or abort code only (code 5 or 9).

RESTORE-TO-NORMAL REPORTING

Unlike the cancel or abort function, Restore-to-Normal reporting (code 7), occurs only after an alarm condition has been reported and the Digital Dialer has disconnected itself from the phone line. When the activating alarm has been reset, the Series 120 Dialer will call the Digital Receiver and report that the alarm has been restored to normal.

The Restore-to-Normal function is selected by screw option SO4:

SO4 IN - Restore-to-Normal Reporting
SO4 OUT - No Restore-to-Normal Reporting

TEST DIAL FEATURE

As a convenience to the subscriber and installer, the 120 Series are equipped with a test function. By maintaining a closure across terminal 7 and 8 (refer to Figure 12), the Dialer will call the Digital Receiver and report a test code 9. If restore-to-normal reporting is employed when the test switch is returned to its normal position (after the Dialer has completed its message), the Dialer will again call the Digital Receiver and report a code 7.

It is suggested that an indicator lamp be used as shown in Figure 13 to let the subscriber or installer know that: (1) the unit is reporting, and (2) that the Receiver has been reached and the message verified.

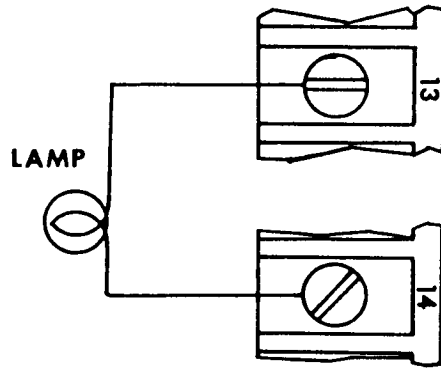


Figure 13

The indicator lamp will be illuminated whenever the Digital Dialer is reporting. The lamp will go out after receipt of a "kiss-off" tone from the Receiver.

POWER SUPPLY - TERMINALS 8, 9, 13

Model 120

The Model 120 Dialer operates on 6 or 12 volts D.C. only. For 6 V.D.C. input, connect the positive (+) to terminal 13 and the negative (-) to terminal 8. For 12 V.D.C. input, connect the positive (+) to terminal 9 and the negative (-) to terminal 8. (Refer to Figures 14a and 14b.) CAUTION: Polarity must be observed.

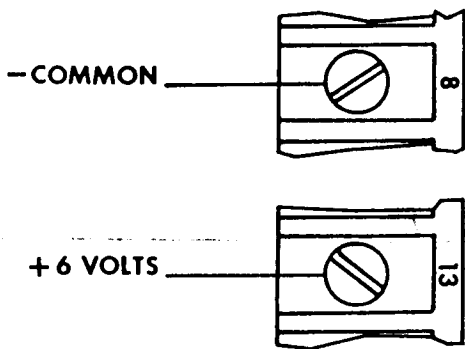


Figure 14a

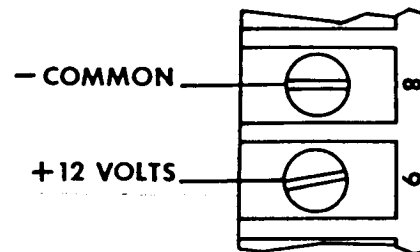


Figure 14b

Model 125 - A.C. Power, Terminals 8 & 9

The Model 125 incorporates an A.C. power supply capable of charging a Model 680-6 (1.0 amp. hr. 6 volt battery). The Model 125 is shipped with a 12 volt class II transformer (Model 920). The A.C. connection is made as follows in Figure 15:

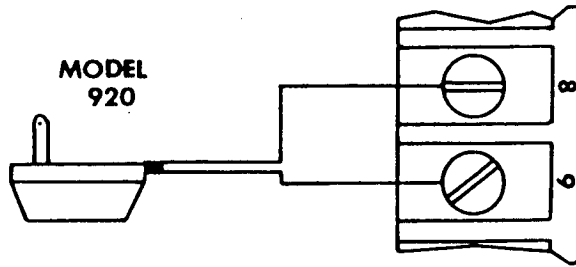


Figure 15

Model 125 - Standby Power, Terminals 8 & 13

The Model 125 requires the use of a Model 680-6 6-volt battery only. Connection to the 125 is as follows in Figure 16:

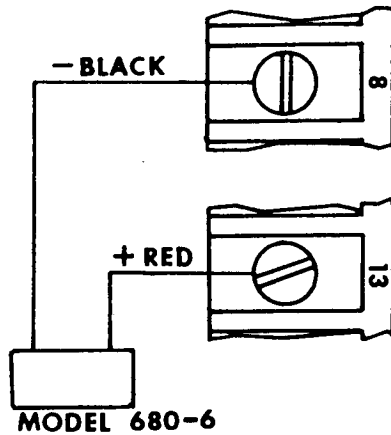


Figure 16

Switched Ground - Terminal 14

Terminal 14 is a low current (100 ma.) switched output on the 120 Series Dialer. This output is normally used to activate a Model 714 Line Seizure Module or may be used to light an indicator lamp as shown in Figure 13. Connection to the Model 714 is made as follows in Figure 17:

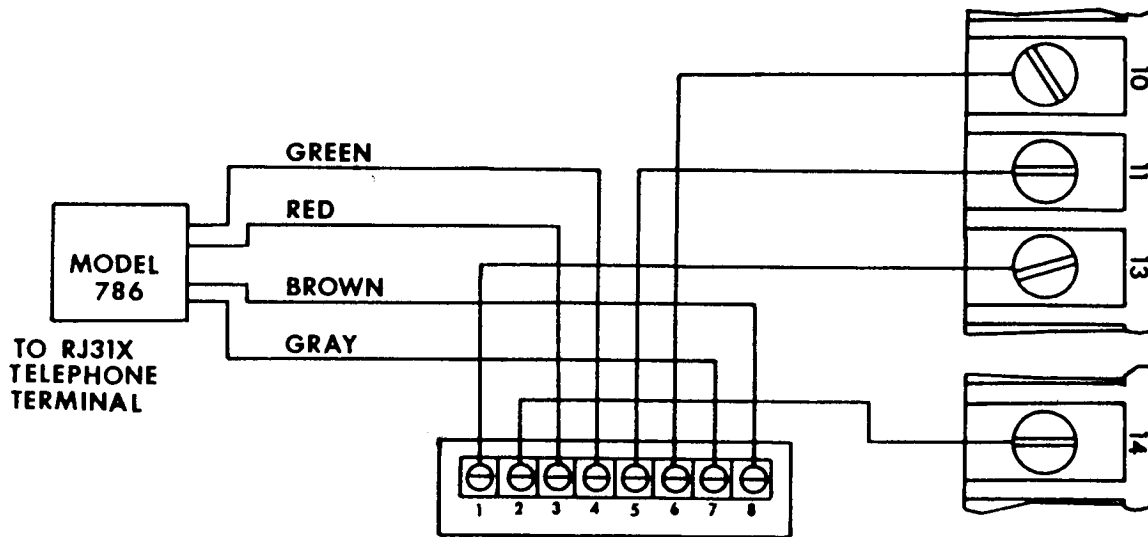


Figure 17

LOW BATTERY REPORTING

The 120 Series Digital Dialers are equipped with a battery monitor which detects when the voltage between terminals 8 and 13, or 9 and 13, is insufficient for adequate standby power. Due to the varying characteristics between different types of batteries, and because the Models 125 and 125-S have built-in power supplies while the Models 120, 120-S, 121, and 121-S do not, the operation of the battery monitor will be different.

Models 125, 125-S

When utilizing the 680-6 battery, its reserve power is measured during the test sequence in a standby-power condition (no A.C.). If during the test cycle the battery monitor detects a low battery condition, the normal test code will not be transmitted, instead the Dialer will report a low battery (normally code 8).

The battery monitor in the 125, 125-S is capable of initiating a call to report low battery in a standby-power condition (no A.C.). If this feature is used, a 470 ohm 1/2 watt resistor must be installed between terminals 8 and 13 as shown in Figure 18. The resistor provides a constant current drain of .013 amps. on the battery. The 125 and 125-S will initiate a call when the battery voltage drops to 5.6 volts. The standby capacity of the Model 680-6 battery, when used in this configuration, will be 48 hours.

A six (6) volt dry cell battery is not recommended for use with the Models 125 and 125-S as it requires a blocking diode in series with the battery.

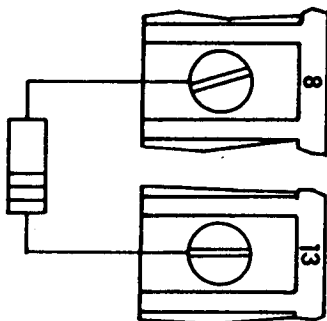


Figure 18

Models 120, 121, 120-S, and 121-S

When used with a 6 or 12 volt dry cell battery, these Dialers will monitor the battery and initiate a call when the standby-power reaches 5.6 volts for a six (6) volt battery, or 11.2 volts for a twelve (12) volt battery. A dry cell battery will provide these Dialers with power for twelve months.

If a rechargeable power supply is used with these Dialers, a 470 ohm 1/2 watt resistor must be used across the battery if the Dialer is to initiate a call.

ALARM CODE PROGRAMMING

Channel one (CH 1) is programmed to report alarm code one (1).

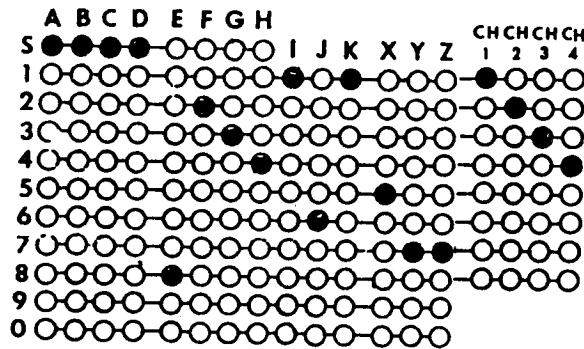
Channel two (CH 2) is programmed to report alarm code two (2).

Channel three (CH 3) is programmed to report alarm code three (3).

Channel four (CH 4) is programmed to report alarm code four (4).

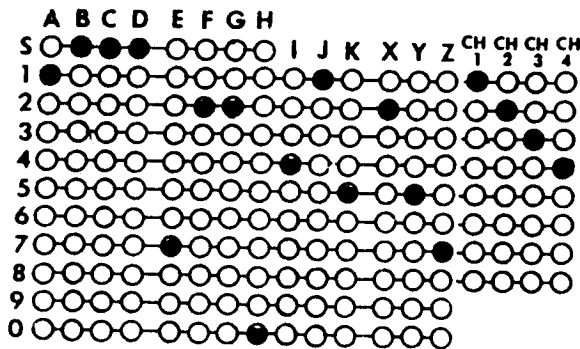
Dialer Programming

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 E thru K. The account number is always placed in columns X, Y, and Z.



EXAMPLE: 823-4161, Act. 577

If an 8 digit telephone is used, the first digit must go in column A, columns B, C, and D must still be in the S row (skip position). The next 7 digits go in columns E thru K.



EXAMPLE: 1-722-0415, Act 257