INSTRUCTION
MANUAL

SUR-GARD

SECURITY SYSTEMS LTD.

SG-DV7F-2

DVACS COMPATIBLE
FIRE TRANSMITTER

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SG-DV7F-2

DESCRIPTION:

The Sur-Gard model SG-DV7F-2 is a SCHED-3A (DVACS Compatible) communicator for Sprinkler and Fire Alarm Supervision. This fire transmitter provides 6 zones: 2 class-A alarms, 1 End of Line Resistor supervisory input, and 3 closed loop supervisory inputs. There is also one programmable output, plus a buzzer output, an AC fail detection circuit, and a low battery detector. The SG-DV7F-2 can transmit up to 10 codes for operation over SCHED-3A data lines to a Sur-Gard SCHED-3A receiver at the central station. It includes the 24V power supply/battery charger for the F1/F2 modem. The standby supply is obtained from two 12 volt batteries connected in series.

The two class A fire circuits, A1 and A2, are provided for normally open contacts on alarm switches. These loops are capable of detecting a fire alarm and/or a trouble in the loop. Circuit A1 has an activation delay ("RETARD"), adjustable in the field with potentiometer control from 0 to 90 seconds.

There are two types of supervisory circuits provided, which may be used to monitor other parameters such as main valve and/or pressure. The first supervisory loop, "SUP 1", is an End of Line Resistor loop. This feature allows the system to work with either N.O. or N.C. contacts, detecting either an open-circuit or a short circuit in the loop and report either one as a trouble. The secondary supervisory loops, "SUP 2", "SUP 3", and "SUP 4", are used for normally closed switch contacts.

A programmable delay on reporting of Restore for A1, AC fail and LOW BATT. circuits helps prevent nuisance repeat alarm transmission to the central station. Once the restore has been reported, a new alarm can be transmitted on the A1 zone, even if the alarm light is still latched on (flashing) from the previous alarm. A2 reports all alarms instantly to the central station

Except for "SUP 1", while the circuits are in an activated (alarm, trouble) state, the LEDs are on steady. The LED's will flash for the memory indication when the circuits have restored to normal. For the supervisory zone "SUP 1", the led indicator flashes while in alarm/trouble condition, as well as in memory guard with the circuit restored to normal. Additional trouble LED indicators are provided on the circuit board, visible with the panel door open. The main panel indicator LEDs latch on "Flashing", until manually reset by the reset button, or from the central station, or after an automatic reset time.

The SG-DV7F-2 is continuously polled by the SCHED-3A receiver. Any change in status will be reported to the receiver during the next polling scan. An exclusive Sur-Gard feature makes possible a more rapid transmission of alarms, usually within a few seconds. The SCHED-3A line is supervised for a lack of activity, by the SG-DV7F-2 software.

INTRODUCTION

The SG-DV7F-2 can be shutdown and reactivated remotely from the receiver. It's programmable output can also be turned ON or OFF remotely. The RESET button can cancel the programmable output, if activated.

The SG-DV7F-2 program adds more functions and flexibility to the features given by the circuit itself, such as: programmable event reporting activation delays and programmable "function character" to provide specific "English Language" description of zones at the central station. More details are provided in the programming sheets.

The heart of the SG-DV7F-2 is a reusable EPROM and a powerful microprocessor. The EPROM contains the program and data such as: the activation and restore delay, transmission options, and customer account number.

The EPROM programming is done easily and quickly by using the Sur-Gard SG-TRPO, SG-TRP1, or SG-DVTP2 programmer. The SG-DVTP2 incorporates a SCHED-3A transmitter testing function, and is the ideal programmer to use. Any EPROM with the SG-DV7F-2 program can be used as a reference ("MASTER") for another installation. It is only necessary to enter the customer number and options needed. Other data such as the function bytes, delays, etc. can be modified to meet different operating conditions.

The SG-DV7F-2 has a "WATCH DOG" supervisory circuit which continuously monitors the operation of the microprocessor. If a malfunction occurs (due to lightning or other unusual event) this circuit will restart the microprocessor in less than 10 seconds.

FEATURES

TRANSMITTER FEATURES:

EASE OF PROGRAMMING

The SG-DV7F-2 program converts from ordinary decimal numbers to computer "Hexadecimal" numbers so you don't have to. This avoids time lost and reduces the chance of errors in making calculations.

PROGRAMMABLE OUTPUT

The SG-DV7F-2 has one programmable output (transistor switch) which can be used to activate an LED, electronic buzzer or relay. Typical uses are: control relay, or "Ring Back" (call received confirmation) (Refer to *Notice #MIN9314,* Programming Information "Long Form" at address 7AB).

LOW BATTERY DETECTION:

When the battery voltage falls below about 22V, this internal circuit will be activated. With standard programming, the "Buzzer 10 sec" function will cause a "Beep" on the buzzer (if connected) every 10 seconds to bring this problem to the user's attention. The programmed low battery code (address 7A3) will also be transmitted to the central station, and Trouble Output will be activated.

If the batteries', voltage falls below about 21V, the system will electrically disconnect the batteries to prevent them from being deep discharged. The system remains disconnected from the batteries until the AC power comes back ON or until the dead batteries are replaced with sufficiently charged batteries.

SPECIAL FEATURES:

SELECTION OF TRANSMISSION:

It's possible to select, for each zone, no transmission, alarm transmission only or alarm and restore transmission. (Refer to Programming Information "Long Form" addresses 7A4 to 7AA)

ACTIVATION AND RESTORE DELAYS:

The A1 loop, Low Battery detect and the AC fail detect have programmable activation and restore delays to reduce false alarms and nuisance troubles (Refer to Programming Information "Long Form" addresses 7A4 to 7AA).

PROGRAMMABLE ZONE POSITION (ZONE BIT):

Allows each zone to have assigned to it the zone number and description desired, taking full advantage of the receiver line card decoding.

EXAMPLE: ZONE POSITION (Addresses 790 to 797)

FUNC. BYTE	PRINTER'S MESSAGE	ZONE POSITION							
		01	02	03	04	05	06	07	08
0C	Fire Alm/Rst Zn#	10	11	12	13	14	15	16	17
0D	Fire! Alm/Rst Zn#	18	19	1A	1B	1C	1D	1E	1F
38	FrTrb Alm/Rst Zn#	01	02	03	04	05	06	07	08
39	FrTrb Alm/Rst Zn#	09	10	11	12	13	14	15	16

If you program the FUNCTION BYTE (address 79A to 7A1) as 0C and the ZONE POSITION (address 790 to 797) as 01 for a zone, the message at the central station will be: Fire! Alm Zn# 10

"BELL OUTPUT" FUNCTION ON PROG. OUTPUT #1:

The PROG. OUTPUT #1 can be activated by alarm on A1 only, A2 only or both. It can be silenced by the manual reset button, central station command or optional 17 minute auto-reset (Refer to Programming Information "Long Form" address 7AD to program the activation time and address 7AB to program the indication select).

LINE TROUBLE WARNING:

If the transmission line were cut; the unit would give a pulse (standard default) or steady (program at address 7AA) sound to the buzzer output after a programmable time of 64 sec. or 120 sec (program at address 7AC).

LATCHING INDICATORS:

The Latching of the Indicators prevents the alarm zone information from being erased after the zone returns to normal. The status LED of the zone will flash until the control panel receives a momentary activation of the push button located on the front of the control panel, or a reset command from the central station, or after a 1 hour automatic reset time (Address 7BB).

SELECTABLE JUMPER FUNCTIONS:

(See the wiring diagram on page 7)

J2: (RED): cut for Gates batteries, high charging voltage (27.8V)

J3: (BROWN): if cut, removes watch-dog pulses from appearing on the trouble LED.

J4: (ORANGE): cut if this unit is the second one connected to one F1/F2 Modem.

J8: (PIN SHUNT): select lower position to bypass the Rx (receive data) LED indicator (YELLOW), after testing has been completed.

TESTING YOUR SYSTEM

IT IS RECOMMENDED THAT YOU TEST YOUR SYSTEM REGULARLY.

1. Inform the Central Station that you are testing your system.

2. Check that all Loop Status LED Indicators are **OFF**, and that the Green "A.C. Power" LED is **ON**.

3. Check for the Watch Dog pulses (every 4 seconds) on the "Trouble" LED Indicator, if the option is selected.

4. Contact your fire alarm/sprinkler installer for information on safe methods to test their respective devices. Then activate each sensor in turn. Observe the zone light come on when the zone is activated. The zone light will flash when the device returns to normal.

    CAUTION: Do not use open flame or burning materials to test a smoke detector. Contact your installer for information on safe methods to activate a smoke detector.

5. Press the "Reset" push button to clear (Turn OFF) the loop status LEDs.

    Note: A1 Fire loop, has an Alarm delay (0 to 90 seconds), and Restore delay (0 to 9.9 minutes). You cannot clear (Reset) the A1 led until the Restore delay has terminated.

6. Should the system fail to operate properly, call your fire alarm Installer for service.

7. When testing is complete, call and advise the Central Station.

MAINTENANCE

With normal use the system requires minimum maintenance. The following points should be observed.

1. It is recommended that the standby battery be replaced every three years.

2. For other system devices such as smoke detectors, consult the respective manufacturer's literature for testing and maintenance.

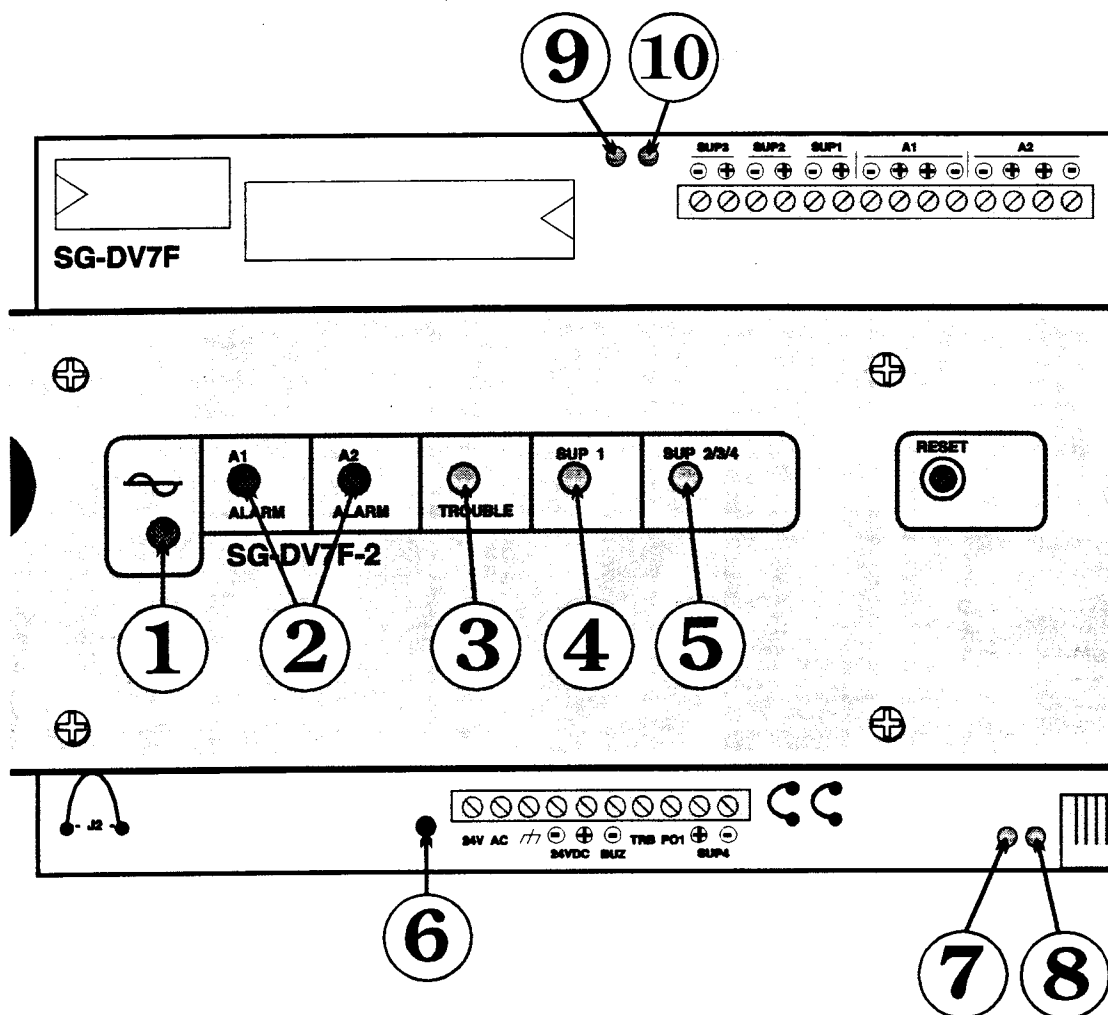## ZONE INFORMATION

Red LED **A1:** _____

Red LED **A2:** _____

Yellow LED **SUP 1:** _____

Yellow LED **SUP 2/3/4**

    SUP 2: _____

    SUP 3: _____

    SUP 4: _____
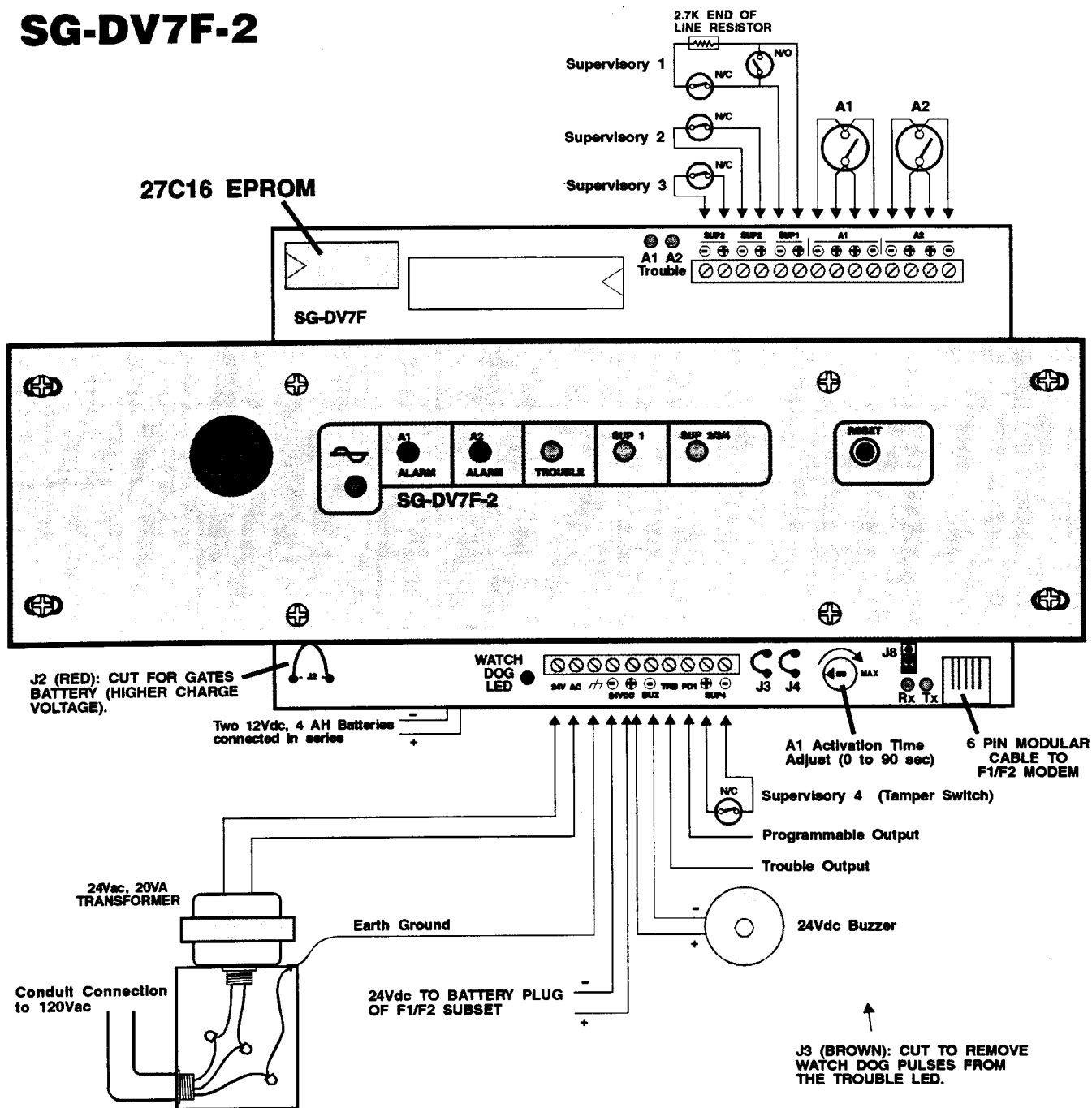
INDICATOR LEDs

SG-DV7F-2

1. "AC Power" LED

2. "A1 & A2" LEDs: ON when zone is in alarm and flashes for an alarm in memory indication.

3. "TROUBLE" LED: Flashes when a Trouble Condition exists (A1 Trouble, A2 Trouble, Low Battery, AC Failure). Also follows "Watch Dog" LED, if jumper "J3" is not cut.

4. "SUP 1" LED: Flashes when supervisory zone is in alarm and for an alarm in memory indication.

5. "SUP 2/3/4" LED: ON when supervisory zone is in alarm and flashes for an alarm in memory indication.

6. "Watch Dog" LED: Flashes once every 4 seconds to show unit is functioning normally.

7. "Rx indicator" LED: Used to indicate when the transmitter receives a polling signal from the receiver.

8. "Tx indicator" LED: Used to indicate when the transmitter answers the receiver polling signal.

9. "A1 Trouble" LED: ON when a Trouble or Alarm Condition exists on A1.

10. "A2 Trouble" LED: ON when a Trouble or Alarm Condition exists on A2.

NOTE: *Indicators 6 through 10 are provided for installation and maintenance contractor use, and are visible only when the panel door is open.*

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SG-DV7F-2

27C16 EPROM

SG-DV7F

2.7K END OF LINE RESISTOR

Supervisory 1
Supervisory 2
Supervisory 3

A1 A2

A1 A2 Trouble

SUP3 SUP2 SUP1 A1 A2

SG-DV7F-2

A1 ALARM   A2 ALARM   TROUBLE   SUP 1   SUP 2/3/4

RESET

J2 (RED): CUT FOR GATES BATTERY (HIGHER CHARGE VOLTAGE).

WATCH DOG LED

24V AC   24VDC   BUZ   TRB PO1   SUP4

J3 J4   A1 Activation Time Adjust (0 to 90 sec)   MAX   J8   Rx Tx   6 PIN MODULAR CABLE TO F1/F2 MODEM

Two 12Vdc, 4 AH Batteries connected in series

Supervisory 4 (Tamper Switch)

Programmable Output

Trouble Output

24Vdc Buzzer

24Vac, 20VA TRANSFORMER

Earth Ground

Conduit Connection to 120Vac

24Vdc TO BATTERY PLUG OF F1/F2 SUBSET

J3 (BROWN): CUT TO REMOVE WATCH DOG PULSES FROM THE TROUBLE LED.

J4 (ORANGE): CUT FOR SECOND AND ADDITIONAL SG-DV7B CONNECTED ON THE SAME F1/F2 SUBSET.

J8 (PIN SHUNT): MOVE TO LOWER POSITION TO BYPASS Rx LED AFTER TESTING.

ELECTRICAL RATING

POWER SUPPLY:
24Vac, 60HZ, 800mA MAX.

REGULATED POWER OUTPUT:
24Vdc, 50 mA With two 12V, 4 AMP HR Batteries.

OUTPUTS SWITCHED "-": (Programmable Output, Trouble, & Buzzer)
Maximum Short Circuit Current 70mA @24Vdc,
Limited by 390 ohm 1 Watt Resistor.

INSTALLATION INSTRUCTIONS

INSTALLATION PROCEDURE
SG-DV7F-2 FIRE TRANSMITTER UNIT:

1) The F1/F2 subset should be located close to the Fire Transmitter, so as to make use of the 6 foot cable supplied with the SG-DV7F-2.

2) Program an EPROM with the correct ID code and any options or data which must be changed from the defaults.

3) With the power off, insert the programmed EPROM in the EPROM socket, with the notch on the left side of the board, as shown on the installation diagram. Make sure that every pin is in the proper socket hole and that none have been bent to fall outside the socket.

4) With power off, wire the SG-DV7F-2 as shown on the wiring diagram on page 7. All normally closed (N/C) loops require a jumper if not used.

5) Make sure that the PC board is clear of wires running close to it, to avoid electrical noise causing disturbance to the operation.

   NOTE: For maximum resistance to static and electrical noise, the metal box should be connected to a good earth ground (cold water pipe).

6) You can use two SG-DV7F-2 controls or a SG-DV1660LC and SG-DV7F-2 control on 1 F1/F2 subset, by using the Sur-Gard SG-DS1 module (Y connector). You have to connect together the **24V negative** terminals of both units and cut orange jumper #4 of the second SG-DV7F-2.

7) The programmable output #1 can be used to activate a buzzer, an LED, or a relay (with a coil resistance of 700 ohms or more). Connect the output to the negative side of your chosen device and the positive is connected to +24Vdc. It can also be controlled remotely from the receiver.

F1/F2 SUBSET:

1) Remove power to the F1/F2 subset by unplugging the A.C. adaptor from the 120 Vac outlet (if installed). Do not remove the plug from the "Adapt" input of the F1/F2 subset while the adaptor is powered as it may cause an arc at the input and damage the F1/F2 subset.

2) If the telephone company installed a cable on the "Terminal" input of the F1/F2 subset, disconnect it and connect the 6 pin modular cable MCBL6 (6 ft.) included with the SG-DV7F-2. Then connect the cable to the SG-DV7F-2 Fire Transmitter. A custom length 6 pin modular cable (MCBL-C) is also available on special order from Sur-Gard. The custom cable is available in any length up to the maximum run length of 50 feet. See the "F1/F2 Subset Connections" diagram on page 10.

3) The F1/F2 subset should be installed close to the control panel. However, if it is impossible, follow these precautions:

   ■ Avoid cable runs close to noise generators like power transformer, motor, fluorescent tube, etc...

   ■ If you can't avoid this, or the F1/F2 subset is too far from the control panel, it is necessary to use low capacitance shielded cable to connect the F1/F2 subset to the control panel.

RECOMMENDED MAXIMUM WIRE RUN:
The RS-232 communication (Rx & Tx) has a recommended maximum wire run of 50 feet, using Sur-Gard's 6 pin modular cable.

The power supply (24Vdc) has a recommended maximum wire run of 100 feet using:

   ■ #18 awg unshielded 4 conductor cable

   ■ #22 or #24 awg unshielded 4 conductor cable with 2 wires connected in parallel for each of the 24Vdc connections.

FOR LONGER DISTANCES:
For RS-232 communication distances greater that 50 feet, shielded cable with Sur-Gard's SG-DS1 connectors at each end must be used. One SG-DS1 has to be installed inside the Fire Transmitter cabinet and another one inside the F1/F2 subset box, (see Appendix B for the SG-DS1 wiring diagrams). The maximum distance may be extended by using a shielded cable such as those described below.

A) For 50 feet to 100 feet:
   ■ Use #18 awg shielded 4 conductor cable such as Provo (Cat. Num. 1782-21) or Belden (Cat. Num. 9814).

   ■ #22 or #24 awg shielded 4 conductor cable.

B) For 100 feet to 500 feet:
Use Low Capacitance #24 awg shielded 4 conductor cable such as ALCATEL (Cat. Num. 371-02-24), Provo (Cat. Num. 6652-21), or Belden (Cat. Num. 9927) for the RS-232 communication (Rx, Tx, and SG).

You must also use a 24Vdc power supply (such as Sur-Gard's SG-2415 24Vdc power supply) close to the F1/F2 Subset to power it. Make sure to run a wire (#18 or two #24 awg wires in parallel) between the negative 24Vdc terminal of the Fire Transmitter and the power supply, so that they are connected together.

INSTALLATION INSTRUCTIONS

APPLYING POWER AND TESTING:

1) Before applying power to the Sur-Gard control panel/transmitter or the F1/F2 subset, connect the 24V output to the "Batt" input of the F1/F2 subset, using the supplied cable and plug.

2) Apply power to the Sur-Gard control/transmitter. Install the telephone company A.C. adaptor, if used, on a non-switched 120V/A.C. outlet, located close to the F1/F2 subset.

3) Check for the WATCH-DOG led pulses. This led indicator flashes once every 4 seconds to show the unit is functioning normally.

4) Check that all loop status led lights are off and the green "A.C. POWER" led is on. If the "A.C. POWER LED" is off, find the cause (such as breaker turned off) and correct it.

5) Press the "Reset" push button to clear (Reset) the loop status LEDs and programmable output. If the LED(s) do not turn off, try to find the cause and correct it.

   NOTE: *A1 Fire loop, has an Alarm delay (0 to 90 seconds), and Restore delay (0 to 9.9 minutes). You cannot clear (Reset) the A1 led until the Restore delay has terminated.*

6) Test the SG-DV7F-2 control panel/Transmitter with the SUR-GARD SCHED/3A TESTER SG-DVT1. Check the operation of the system and the codes sent for all zones and functions. Refer to the SG-DVT1 instructions for more details concerning the use of this tester.

7) Check the Rx and Tx LED INDICATORS. These LEDs are used to indicate when the transmitter receives polling signals from the receiver or answers the receiver polling signal. Refer to the wiring diagram on page 7.

   Led Indicators:
   Rx LED: Flashes every time the SG-DV7F-2 receives polling signals from the receiver.

   Tx LED: Flashes every time the SG-DV7F-2 answers the receiver polling signal.

8) Advise the central station operator before connecting the 6 pin modular cable to the modem, and then verify the transmitter operation with the central station. You can use the Rx and Tx LED indicators to see if the SG-DV7F-2 is receiving polling and is transmitting data.

   NOTE: *To avoid loading the serial interface of the F1/F2 modem, it is recommended that jumper J8 be placed in the lower position after testing is completed.*

9) The system should be tested on battery only and AC only, to be sure that both supplies are present and adequate.

10) If the SG-DV7F-2 is not receiving polling (no signal on Rx led of transmitter) from the central station at this point, call the telephone company and ask them to make sure that the "leg" is on. The telephone company will ask you for the circuit # and the leg # which can be found along with the service telephone # on a card located on the F1/F2 subset.

REQUIREMENTS FOR ULC CERTIFICATED INSTALLATIONS:

1) All components used in the system (contacts, detectors, etc...) must be ULC listed.

2) The F1/F2 subset should be placed in a metal box, (for example, the SUR-GARD SG-UMBX1) close to the control panel. The metal box of the F1/F2 subset and the control panel must be protected by normally closed (N/C) tamper switches.

3) **BATTERY CAPACITY:** In case of extended power failure, the control panel must function normally for 24 hours. The battery must have a minimum ampere hour capacity of 4 AH (with 50mA auxiliary load).

   NOTE: *Refer to ULC booklet "FIRE ALARM CERIFICATE SERVICE OF UNDERWRITER'S LABORATORIES OF CANADA". You can contact ULC at Toronto for more information or to obtain the booklet.*

SG-DV7F-2
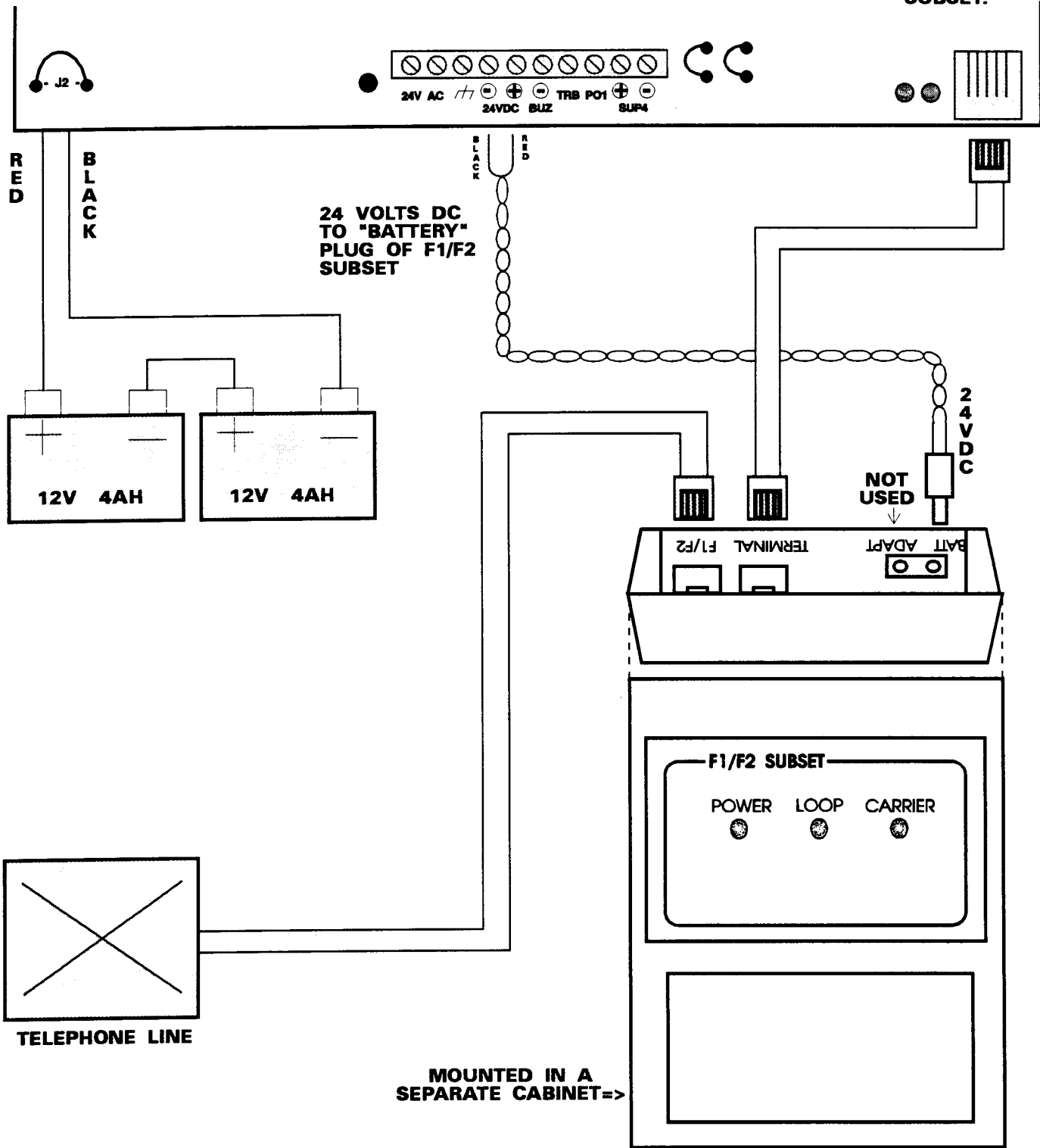
REMOTE COMMANDS

The SG-DV7F-2 can be controlled remotely from the receiver. This is done by sending a command containing the subscriber unit ID, which identifies to which unit the command message is addressed and the command.

The programmable output can be activated internally (locally) by the unit, for an "on time" of 2 seconds, when the SG-DV7F-2 receives the "Kiss Off" character from the receiver. The "Kiss Off" character is sent by the receiver as a confirmation signal that the last change of status message from the SG-DV7F-2 was correctly received. This output command takes priority over any command that programmable output was already executing.

COMMANDS:

F3 = Shut down the unit.
F4 = Re-activate the unit.
F1 = Remote Status Report (loop status).
A1 = Activate programmable output.
B1 = De-activate programmable output.

Example: The "A1" command will activate the "P.O." output.

For more information concerning remote activated commands see the SG-MLR1 or SG-MLR2 Instruction Manuals.

AUTOMATION DEFAULTS:
ZONE ASSIGNMENT INFORMATION

FIRE A1	ZONE #1
FIRE A2	ZONE #2
TROUBLE A1	ZONE #3
TROUBLE A2	ZONE #4
SUPERVISORY #1	ZONE #5
SUPERVISORY #2	ZONE #6
SUPERVISORY #3	ZONE #7
SUPERVISORY #4	ZONE #8
A.C. FAIL	ZONE #9
LOW BATTERY	ZONE #10

These zones (Automation Program) can be programmed at addresses 79A to 7A3 to have different function bytes.

SPECIFICATIONS:

MAXIMUM LOOP RESISTANCE PER CONDUCTOR:

Class-A loops A1, A2 :   100 ohms

Supervisory loops:

SUP 1   :   2700 ohms ELR plus up to 250 ohms line resistance.

SUP 2 / 3 / 4 :   500 ohms.

EPROM PART NUMBER:

Type 27C16 (recommended) or 2716

NOTE: *2716 will increase current consumption, reducing standby power operating time.*

D.C. CURRENT CONSUMPTION:

SG-DV7F-2	=	36mA (with 27C16 type Eprom)
F1/F2 Modem	=	50mA (with Carrier LED "OFF")
Total		**= 86mA**

CHART OF PROGRAMMABLE ZONE BITS AND FUNCTION BYTES

PROGRAM VERSION 3.1A (AUTOMATION) AND 3.1L (LIBRARY 4/2 STYLE)

Input Name	3.1A (Automation)					3.1L (Library 4/2 style)				
	Zone bit Addr	Std. Zn bit	F. byte Addr	Funct. byte	Zone Description	Zone bit Addr	Std. Zn bit	F. byte Addr	Funct. byte	Zone Description
Fire A1	790	01	79A	50	----- Alm Zn# 01	790	01	79A	30	Water Alm Zn# 01
Fire A2	791	02	79B	50	----- Alm Zn# 02	791	01	79B	0C	Fire Alm Zn# 10
Trouble A1	792	03	79C	50	----- Alm Zn# 03	792	01	79C	37	Other Trb Zn# D8
Trouble A2	793	04	79D	50	----- Alm Zn# 04	793	02	79D	37	Other Trb Zn# D9
Sup. 1	794	05	79E	50	----- Alm Zn# 05	794	01	79E	35	Lpres Trb Zn# C8
Sup. 2	795	06	79F	50	----- Alm Zn# 06	795	02	79F	35	Lpers Trb Zn# C9
Sup. 3	796	07	7A0	50	----- Alm Zn# 07	796	01	7A0	36	Valve Trb Zn# D0
Sup. 4	797	08	7A1	50	----- Alm Zn# 08	797	02	7A1	36	Valve Trb Zn# D1
A.C. fail	798	01	7A2	51	----- Alm Zn# 09	798		7A2	37	Other Trb Zn# DA
Low Batt.	799	02	7A3	51	----- Alm Zn# 10	799	08	7A3	6D	LowBt Alm Zn# 08

"**AUTOMATION**" means suggested function bytes to program if the receiver is used with a central station computer software such as SIMS or TAMCO and/or to have the alarms received as zones 1-10 without descriptive words such as "Fire" or "Valve".

"**LIBRARY 4/2 STYLE**" means suggested function bytes to program to display a "4/2 style" zone description. When output to the printer or RS-232 computer port, the first digit of the zone tells you what type of zone it is, and the second digit tells you what zone number it is, (just like the 2 digit alarm code in 4/2 digital dialer format). In the example, the zone will be received as "Water alarm zone #01" for the zone #1, "Fire alarm zone #10" for the #2, etc...

TROUBLE SHOOTING

PROBLEM, SYMPTOMS	SOLUTION, ACTION
QUESTIONS TO ASK YOURSELF WHEN DOING TROUBLESHOOTING: ■ NEW INSTALLATION? ■ EXISTING INSTALLATION THAT WAS WORKING? ■ COMMUNICATION FAILED UNDER WHAT CIRCUMSTANCES? (DURING POWER FAILURE, AFTER WORK DONE ON BUILDING OR SYSTEM) ■ INTERMITTENT PROBLEM?	1) VERIFY THE TX AND RX LED INDICATORS ON THE PANEL: RX: SHOULD FLASH WITH POLLING AT FAIRLY STEADY RATE. IF INACTIVE, CHECK THAT THE PANEL IS OTHERWISE FUNCTIONING, CHECK THE WATCH DOG LED, AND ITEMS 2 THROUGH 4 BELOW, THEN CONTACT THE TELEPHONE COMPANY TO BE SURE THAT LEG IS "ON". TX: FLASHES EACH TIME PANEL ANSWERS POLLING, LONGER BURST FOR ALARMS, RESTORES, OPENINGS, CLOSINGS, ETC... THE INTERVAL BETWEEN FLASHES DEPENDS ON THE NUMBER OF SUBSCRIBERS POLLED. WHEN AN ALARM TRIGGERED, CHECK IF THERE IS ONLY ONE TRANSMISSION (BURST). OFTEN NEEDING TWO OR MORE ATTEMPTS TO COMMUNICATE IS A SIGN OF NETWORK PROBLEMS. 2) VERIFY 24VDC SUPPLY TO THE F1/F2 MODEM SUBSET. IT SHOULD BE BETWEEN 24 AND 26VDC. IF MORE THAN ONE PANEL IS CONNECTED TO THE SAME MODEM, NEGATIVES OF THE PANEL 24 VOLTS MODEM POWER SUPPLIES MUST BE CONNECTED TOGETHER. ONLY ONE PANEL SHOULD HAVE THE ORANGE (PULL DOWN) JUMPER INTACT. 3) VERIFY THE CONNECTIONS BETWEEN THE PANEL AND THE F1/F2 SUBSET. CHECK THE CABLE, THE JACKS, 24VDC POWER AND SERIAL CONNECTIONS IF MORE THAN 1 CONTROL IS CONNECTED TO THE SAME F1/F2 SUBSET. TRY YOUR SPARE MODULAR CABLE. NOTE: IF THE CABLE LENGTH TO THE SUBSET IS LONGER THAN 50 FEET, YOU MUST USE LOW CAPACITANCE SHIELDED CABLE FOR THE SERIAL CONNECTIONS AND EXTRA, HEAVY GAUGE WIRES FOR THE 24VDC. 4) VERIFY THE OPTIONS SETTINGS ON THE F1/F2 SUBSET. (DON'T CHANGE THEM - JUST LOOK AND ADVISE THE TELEPHONE COMPANY OF ANY DISCREPANCIES!) THERE ARE 3 DIP SWITCH UNITS OF 6 SWITCHES EACH INSIDE, BEHIND THE MAGNETICALLY ATTACHED FACEPLATE. #1 IS ADJUSTED BY THE TELEPHONE COMPANY FOR LEVELS. ON #2, SWITCHES 2, 3, 5, 7, AND 8 MUST BE IN THE "ON" POSITION. FOR #3, ALL SWITCHES MUST BE "OFF". 5) TEST THE OPERATION OF THE PANEL WITH A SG-DVT1 TESTER. IF WORKING CORRECTLY, SWITCH MODES ON THE SG-DVT1 AND TEST COMMUNICATION THROUGH THE F1/F2 SUBSET AND PANEL'S MODULAR CABLE.

TROUBLE SHOOTING

PROBLEM, SYMPTOMS	SOLUTION, ACTION
PANEL SENDS ID OK, DOES NOT ALWAYS RESPOND TO STATUS REPORT REQUESTS, OR DOES NOT SEND ALARMS OR OTHER LONGER TRANSMISSIONS, OR, RECEIVER HAS PERIODS OF INCORRECT RESPONSE FOR THIS SUBSCRIBER.	6) IF ALL THE ABOVE CHECKS INDICATE THAT THE PANEL AND WIRING ARE CORRECT, AND THE SG-DVT1 CANNOT COMMUNICATE WITH THE CENTRAL STATION, CONTACT YOUR TELEPHONE COMPANY. ADVISE THE COMPANY TECHNICIAN OF ANY ACTION TAKEN SO FAR. REQUEST THAT THE TELEPHONE COMPANY VERIFY THE FOLLOWING: ■ THE LEG ON STATUS ■ HUB OPTIONS ■ LOOP BACK TEST ■ RECEIVER POLLING SEEN ON LEG ■ CONTROL PANEL ANSWERING POLLING YOUR TESTS ABOVE WILL GIVE YOU AN INDICATION OF WHAT TO EXPECT. FOR EXAMPLE, IF THE PANEL TX LED SHOWS NO ACTIVITY, YOU WON'T EXPECT THE TELEPHONE COMPANY TO SEE THE PANEL ANSWERING THE POLLING! 7) IF THERE IS SOME, BUT UNSATISFACTORY COMMUNICATION, HAVE THE TELEPHONE COMPANY MEASURE THE DISTORTION ON THE LEG. EACH BIT TRANSMITTED SHOULD BE NEAR 6.6MS LONG. DISTORTION CAN CAUSE BITS, EG: SPACES OR ZEROS, TO BE SHORTER AND BE INCORRECTLY SAMPLED, CAUSING REJECTION OF THE DATA. IF YOU HAVE THE EQUIPMENT AND KNOW-HOW, CHECK THIS YOURSELF BEFORE CALLING THE TELEPHONE COMPANY. 8) CHECK THE SOFTWARE VERSION OF THE PANEL, NEWER PROGRAMS MAY HAVE SOME IMPROVEMENTS TO WORK ON HIGHER DISTORTION LINES.
TROUBLE LED ON.	VERIFY THE AC POWER INPUT TO THE CIRCUIT BOARD (MINIMUM 24VAC), BATTERY CONDITION, AND CLASS A LOOPS A1 AND A2 WIRING: +OUT TO + IN, -OUT TO - IN.
TROUBLE LED FLASHES EVERY 4 SECONDS OR FASTER.	WATCH DOG PULSES ARE NORMALLY DISPLAYED BY THE TROUBLE LED. TO ELIMINATE THIS INDICATION, CUT THE BROWN JUMPER

PROGRAMMING INFORMATION (SHORT FORM)

NOTE: *The following program information is only for the SG-DV7F-2 version 3.1A (Automation) or 3.1L (Library) Master, used with the SG-DV7F-2 rev. B circuit. Use "edit mode" on SG-TRP1 programmer.*

ADDRESS   DESCRIPTION

780   Identification of system code (Account ID Code). Program a code from 01 to EF (in hexadecimal).

Standard = 00   User data = _____
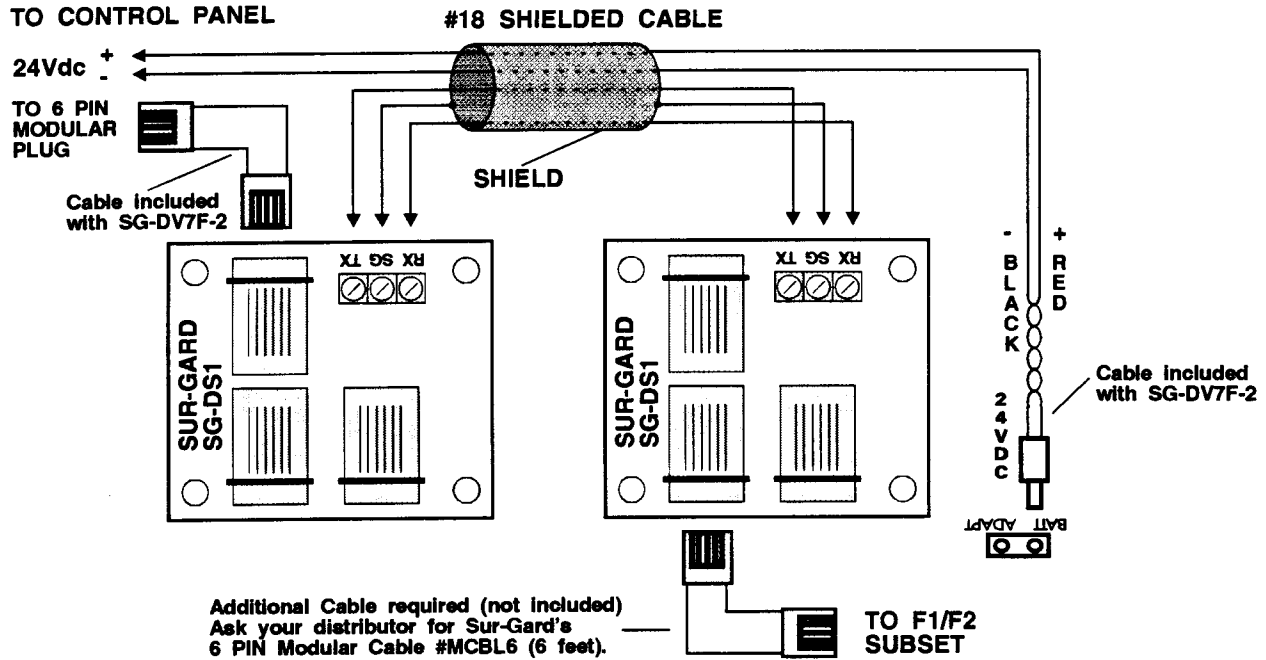
781-783   Not Used

784   All Call Select. Program a code from 00 to 03:

00 = No response on All Call.
01 = Response on All Call #1 only.
02 = Response on All Call #2 only.
03 = Response on both All Calls.
04 = Response on All Call #1 if ID code is ODD and on All Call #2 if ID code is EVEN.

Master chip set at 04, When 2 units are used on the same F1F2 subset, each must have a different All Call. Otherwise, alternate using a single All Call.
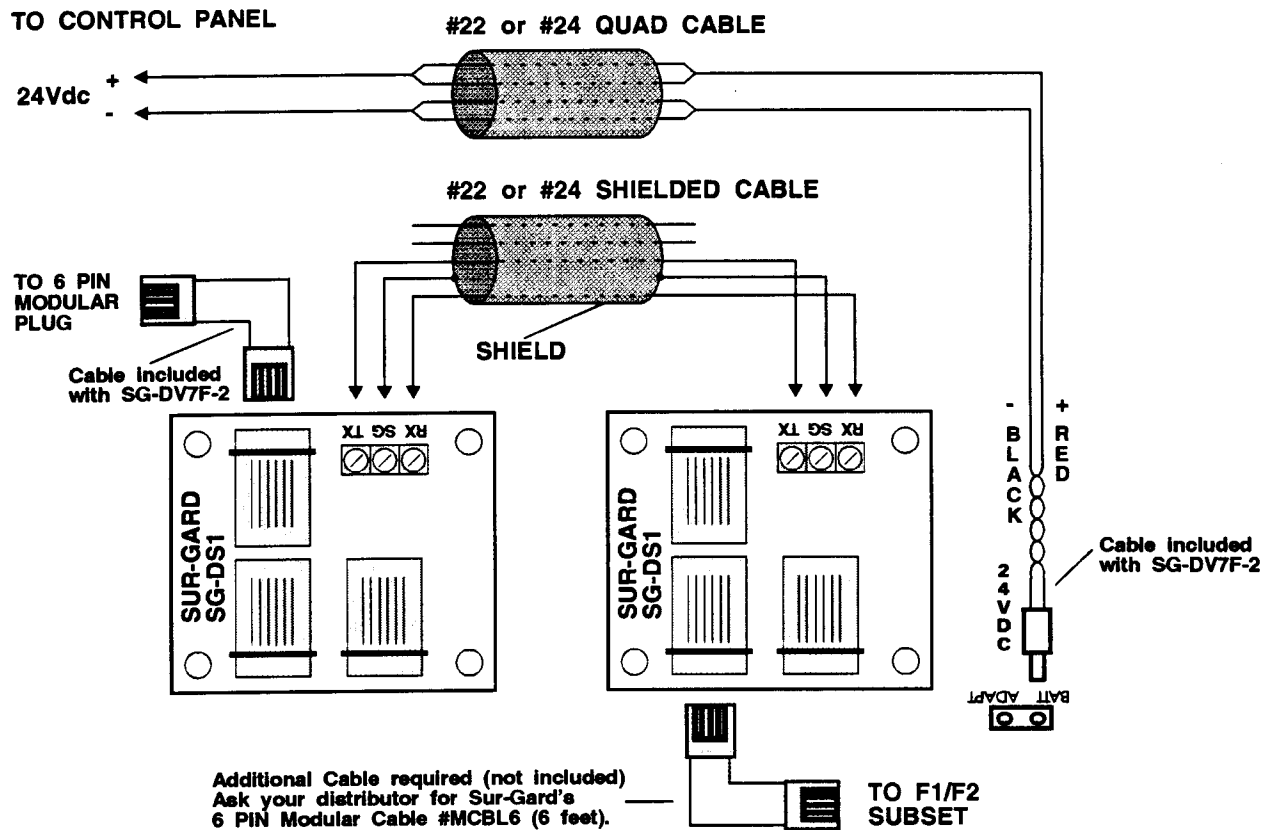
Standard = 04   User data = _____

785   All Call answer select.

00 = All call answer on alarm and restore.
01 = All call answer on alarm only.

Standard = 01   User data = _____

SG-DS1 WIRING DIAGRAMS

For 50 to 100 feet

OR