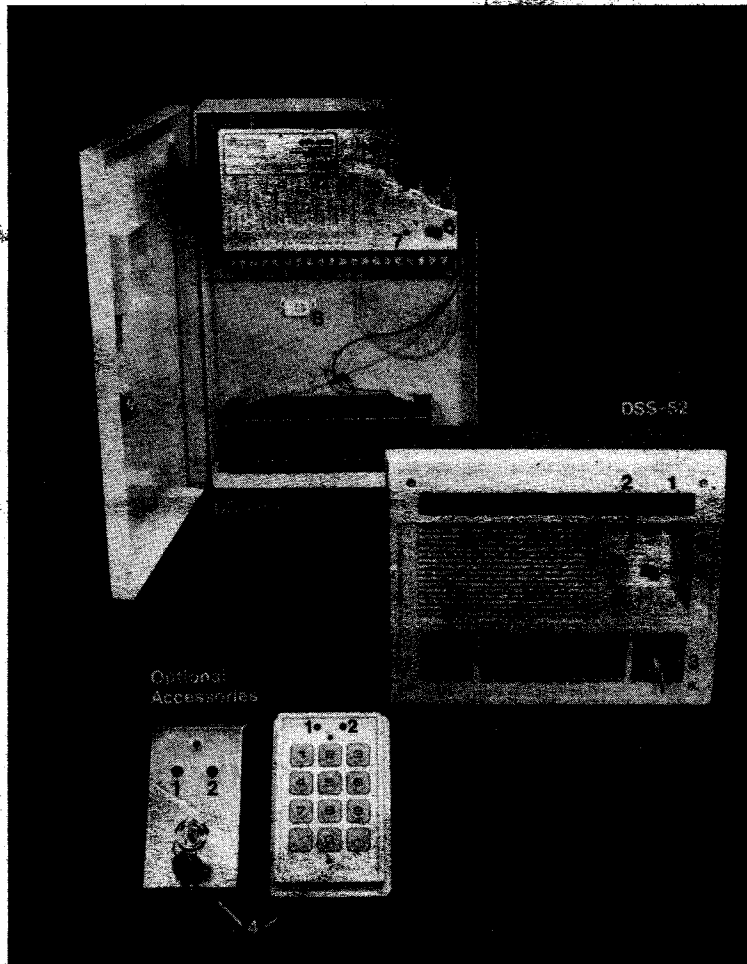




OPERATION & INSTALLATION MANUAL

Manual No. 70-0125A Revised 3/1/79

FRONT PANEL INDICATORS & CONTROLS



NOTE: THE REMOTE KEY SWITCH & DIGITAL CONTROL ARE OPTIONAL ACCESSORIES - SHOWN FOR REFERENCE ONLY.

1 ON INDICATOR

Green light visible when sensor loops are turned ON

2 SENSOR WARNING INDICATOR

Red light visible when any of the sensor loops are in an unsafe condition.

3 ON/OFF/RESET KEYSWITCH

A momentary turn to the right of 90° will alternately turn the sensor loops ON and OFF. If the alarm device is sounding for a burglary alarm, this keyswitch is used to RESET the alarm. When entering the premises through a delayed loop sensor, the keyswitch is used to simultaneously RESET the prealarm and turn the sensor loops OFF (Optional accessory).

4 REMOTE KEYSWITCH/DIGITAL CONTROL

Provides the same functions as control panel ON/OFF/RESET keyswitch described above, but from a remote location (Optional accessory).

5 ZONE SWITCH

Used to add or delete zoned interior protection sensors from the protective circuits. The red indicator light to the left of the switch will be "lit" when these sensors are ADDED. As an extra security precaution, these zoned sensors can be DELETED only when the sensor loops are turned OFF.

6 ALARM/BATTERY TEST SWITCH

Used to test the charged condition of the battery. When pressed left momentarily, removes AC power and sounds alarm device with battery power.

7 AC POWER INDICATOR

Visible when AC power is present

8 PREALARM AND LOOP REMINDER BUZZER

Buzzer will sound during entry time delay period to remind the user to shut the panel OFF before the delay period has expired. Buzzer will also sound for two seconds if an attempt is made to turn the sensor loops ON with any sensor in an unsafe condition (Buzzer optional).

9 FIRE RESET SWITCH (DFM-50)

Used to reset the smoke detectors in the fire detection system. Momentarily press upward to RESET after clearing smoke from detectors (Optional accessory).

GENERAL INFORMATION

The DSS-51/52 series of the control panels, in a single instrument provides for the connection, test, ON/OFF control, supervision, annunciation, secondary loop protection automatic alarm cutoff and reset, selectable zone shunting, and rechargeable standby power for Burglary, Fire, and Panic protection.

The DSS-51 Burglar and Fire Alarm control panel is a versatile control instrument housed in a rugged steel cabinet designed for use in most commercial and residential applications.

The DSS-52 is a decorative flushmount version of the same control instrument, and is designed for in-the-wall mounting in residential installations or other applications requiring a pleasing aesthetic appearance. The basic printed circuit board control is identical for both models.

With the addition of the DFM-50 Fire Module, both instruments are converted to a combination local Burglar & Fire Alarm Control Panel. All other accessory modules and options as shown on the hookup/wiring diagram Figure 1 are usable with both models.

OPERATING INSTRUCTIONS

HOW TO TURN THE CONTROL PANEL SENSOR LOOPS "ON"

Check to see that the red SENSOR WARNING indicator is NOT LIT. This shows that all sensors are in a safe condition and the system is ready to be turned ON.

If the SENSOR WARNING indicator IS LIT, a protected portion of the premises is in an unsafe condition which must first be corrected since the DSS-51/52 Control Panel incorporates a false alarm prevention feature which will not allow the system to be turned ON while in an unsafe condition. If an attempt is made, the Loop Reminder/Pre-alarm buzzer will sound for two seconds alerting the user that the system did not turn ON because of this unsafe condition.

Momentarily turn the key switch to the right and verify that the green ON indicator HAS LIT. This shows that the system is now ON.

HOW TO TURN THE CONTROL PANEL LOOPS "OFF" AND RESET AN ALARM

To turn the control panel sensor loops OFF or RESET an alarm, momentarily turn the key switch to the right and verify that the ON indicator is NOT LIT. This shows that all sensor loops are OFF. In order to easily distinguish between a burglary or fire alarm condition a burglary or panic alarm will be a steady continuous sound from the alarm device, while a fire alarm is indicated by an interrupted sound.

HOW TO USE THE EXIT-ENTRY TIME DELAY FEATURE

To enable the user to turn the sensor loops ON or OFF from within the premises without causing an alarm, preset time delay periods are provided on the Delayed Sensor Loop which delay the detection circuitry by a sufficient amount to allow the user time to exit or enter through specified Delayed Loop doors, without causing an alarm.

After turning the sensor loops ON exit from the premises through a specified Delayed Loop door within the pre-set time period to avoid setting off the alarm.

When re-entering the premises, the user as well as an intruder will be detected immediately, however the user can prevent the alarm from sounding by turning the system OFF, before the Entry time delay period has expired.

As an optional feature the dealer can install a Prealarm Warning Buzzer, that will sound during the entry delay period to remind the user to shut the system OFF before the delay period has expired.

NOTE: The duration of the "Exit" and "Entry" delays are independently preset to a convenient time period during installation of the system.

HOW TO USE THE PANIC-SWITCH (OPTIONAL)

As an optional feature the security system may be installed with one or more remote panic switches which can be used to manually initiate an alarm at any time regardless of whether the other sensor loops are turned ON or OFF.

To sound the alarm in any emergency situation, depress the PANIC SWITCH installed with the system.

If the alarm has been sounded, it can be RESET only by momentarily turning the key switch to the right. All alarms except a Fire Alarm will automatically shut off (Reset) after 7 to 10 minutes.

HOW TO USE THE SWITCHABLE ZONE FEATURE

To enable the user to add or delete a specific portion of the detection circuit as required, a supervised ZONE SWITCH is provided on the control panel. To add this zone to the protection circuit, move the slide switch to the left. The red zone indicator will be lit showing that the zone is now included in the system. To delete the zone, move the slide switch to the right. The detectors on this loop will always be delayed by the same amount of time as on the delayed sensor loop described above. As an added security feature, the slide switch is supervised so that any attempt to remove the zone while the system is ON will initiate an immediate alarm.

HOW TO USE THE FIRE ALARM FEATURE

If a fire alarm has been installed as part of the DSS-51 & 52 Security System, its detection circuitry will be continually active and cannot be turned off. To reset a fire alarm signal, first clear the smoke detector by blowing briskly into the detector chamber, and then momentarily push the FIRE RESET switch upward. Supervision of the fire detection circuitry is maintained at all times, and a trouble buzzer will sound should there be a fault in the fire system wiring. If this should occur, immediately contact your service representative to correct the problem.

SYSTEM TESTING PROCEDURES

INSTANT DETECTION CIRCUITS

Turn the system ON from the key station. Open and then close a protected door or window connected to the instant detection circuit. The alarm should immediately sound. Reset the alarm by turning the system OFF at the key station.

DELAYED DETECTION CIRCUITS

Turn the system ON from the key station. Immediately open and then close an exit door. Wait approximately two minutes to make certain the alarm does not sound. Open the door again (when the "Prealarm" Warning Buzzer is used, it will sound as soon as this door is opened the second time) and wait until the preset entry time delay period has passed. The alarm should now sound. Reset the alarm by turning the system OFF at the key station.

PANIC ALARM (OPTIONAL)

If installed with the system, depress a panic (emergency) switch. The alarm should sound. Reset the alarm by turning the system "OFF" at the key station.

BURGLARY/FIRE ALARM AND STANDBY BATTERY

To test the alarm device, optional fire detection circuitry, and the standby battery, move the TEST switch located on the control panel to the left for several seconds. The alarm device should sound for a burglar or fire alarm (if installed) for as long as the switch is held left. The AC power indicator will also go out during this test indicating that the system is being powered by the battery. If the alarm does not sound, or if the AC power light is off, even though house voltage is available, contact your local DTI SECURITY dealer immediately. This alarm test should be conducted once a week to make sure the system is operating properly.

SECONDARY LOOP PROTECTION (INSTALLER TEST)

As an additional protection feature, the DSS-51/52 allows limited secondary protection of the premises even if part of the system is compromised. For example, if a window on the instant loop has been opened, causing an alarm, and left open, this instant loop is out of the system until the window is again closed. However the delayed loop and the switched zone loop are still active. To test this secondary protection, turn the system ON, open an instant loop sensor and leave it open. The alarm will sound immediately. (We suggest pulling the alarm fuse and monitoring the alarm output with a meter to avoid disturbing the neighbors.) After 7-10 minutes, the alarm will reset. Now open a delayed loop sensor. The prealarm entry warning buzzer should sound immediately for the duration of the entry time period and then go into alarm.

MECHANICAL INSTALLATION

MOUNTING DSS-51

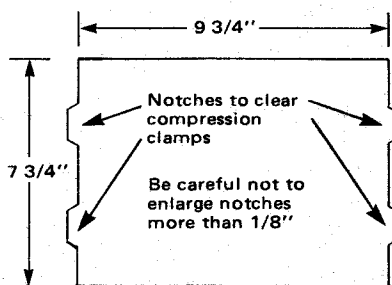
The DSS-51 is typically surface mounted to a wall using screws or toggle bolts through the 4 holes in the rear of the cabinet. Wiring from the external accessories is brought into the cabinet through one or more of the 7/8" knockouts provided. The panel should be mounted in a location easily accessible to the user to simplify and encourage testing and use of the zoning features provided in the system.

MOUNTING DSS-52

The DSS-52 is typically flushmounted in a wall at a location within the premises which allows the user maximum convenience in using the many features of the security system. The aesthetically pleasing appearance of the plastic faceplate allows it to be mounted in a variety of locations and yet blend with most residential decors. To install the DSS-52, perform the following steps:

1. Select the wall location for mounting the DSS-52 rear housing. Since the rear housing extends approximately 3-1/2" into the wall, be sure that studs or wall thickness will not obstruct the rear housing before cutting a hole in the wall board. To determine proper hole size to be cut into the wall, use rear housing as a template and carefully draw an outline of the housing. Be careful not to cut the mounting hole more than 1/16 inch over size. Notches for compression clips should be cut after the main hole is complete. See Figure A.

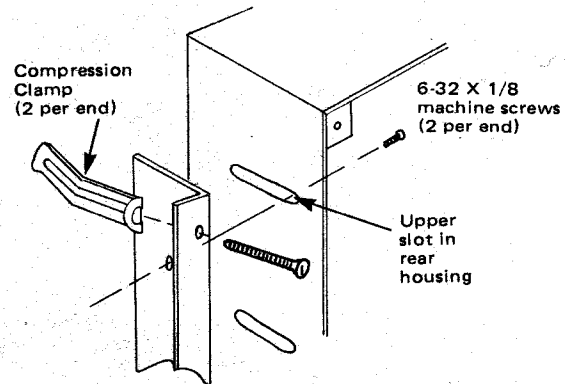
FIGURE A



2. Select which knockouts will be used for wiring entry and if a tamper switch is to be used, install it before mounting rear housing. Assemble mounting flanges to rear housing using the four 6-32 x 1/8 Phillip Head machine screws and attach the compression clips to the mounting flanges as shown.

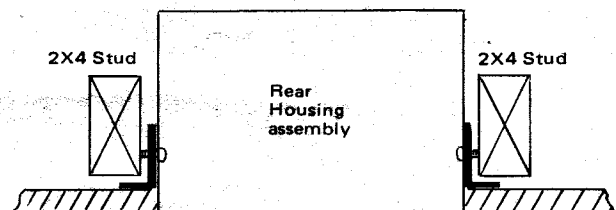
Adjust mounting flanges so that they are even with the front of the rear housing and tighten the four 6-32 x 1/8 screws. Slide completed rear housing assembly into wall and tighten compression clips until unit becomes securely attached to the wall.

FIGURE B



3. For "Pre-wire" type installation, where the rear housing is mounted before the wall board is put up, attach the mounting flanges as in Figure B above, but do not use the compression clips. Position the flanges so that when the wall board is put in place, the front of the housing is even with the front surface of the wall board. Nails or screws are used to secure the assembly to the stud frame of the building as in Figure C.

FIGURE C



4. Before remounting the DSS-52 Control Unit PCB in the rear housing, route all wiring. To avoid possible confusion, we suggest that the different wires be labeled and their polarity be indicated. This is not only helpful during installation, but also at a later date if any trouble shooting is required.
5. If a momentary key switch is to be mounted on the plastic faceplate cover, punch out the "D" hole knockout from the lower right FRONT SIDE of the cover. Any remaining plastic fragments can be removed with a sharp hobby knife.

Apply the three pressure sensitive woodgrain inserts to the flushmount cover. If a keyswitch or other zone or panic switch accessories are used, the holes in the woodgrain inserts can be cut out with a sharp hobby knife.

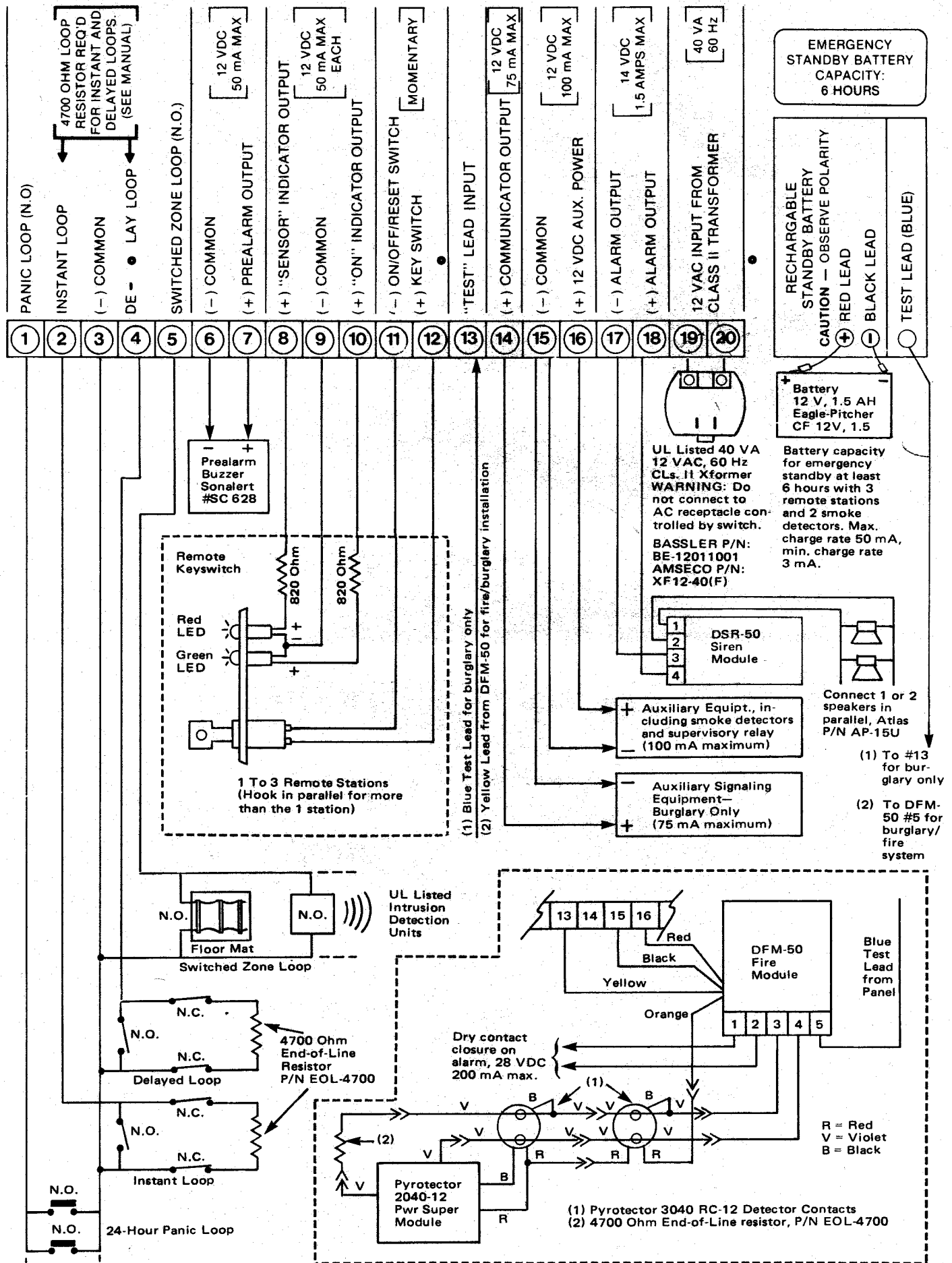
6. Connect the pigtail leads of the LED indicators, keyswitch, prealarm and any other accessories associated with the flushmount cover to the control unit terminal strip. If a Sonalert* (*trademark of the Mallory Corp.) is used as a pre-alarm, it can be mounted to the flushmount cover by inserting it into the collar on the rear of the plastic cover.
7. After completing the electrical hookup and testing of the system, attach the faceplate cover using the four #6 self tap screws provided, being careful not to overtighten these screws. If a tamper switch is used, make sure that the plunger is depressed by the tab on the flushmount cover.

ELECTRICAL CONNECTIONS

TERMINAL NO.	FUNCTION	DESCRIPTION
1 & 3	Panic & Tamper Loop	Connect any number of momentary Normally Open (N.O.) switches in parallel for the 24-hour panic circuit. NO LOOP RESISTOR IS REQUIRED IN THIS CIRCUIT. A momentary closure of any switch will cause the alarm to sound whether or not the sensor loops are "ON" or "OFF". This circuit is also used to connect the (N.O.) tamper switches protecting the Control Panel metal housing, faceplate, or other auxiliary equipment.
2 & 3	Instant Loop	<p>The two primary Burglary Sensor Loops on the DSS-51/52 are the Instant Loop (Terminals 2 & 3) and the Delayed Loop (Terminals 4 & 3). Each of these loops are connected as shown in the Hookup Diagram Figure 1.</p> <p>Figure 1A at the top of Page 7 illustrates the following three alternative methods of connecting the Burglary Sensor Loops:</p> <p>Method A, illustrates how Normally Closed (N.C.) contact sensors are connected in series with the 4700 ohm Loop Resistor. An opening of any of the contacts will cause an alarm.</p> <p>AND</p> <p>Method B illustrates how Normally Open (N.O.) contacts are connected in parallel with the Loop Resistor. A closing of any of these contacts will short the Loop Resistor, causing an alarm.</p>
4 & 3	Delayed Loop	<p>Method C illustrates a Supervised Loop where a combination of N.C. contacts are connected in series, and N.O. contacts are connected in parallel with the Loop Resistor. Either an open in the loop or a short across this loop will cause an alarm.</p> <p>NOTE: The duration of the Exit/Entry time delay periods can be separately adjusted from 2 to approximately 60 seconds to meet with the requirements of the particular installation. This adjustment should be made with AC power applied.</p> <p>IF EITHER OF THESE SENSOR LOOPS ARE NOT USED, REMEMBER TO INSERT THE LOOP RESISTOR DIRECTLY IN THE DSS-51/52 CONNECTOR TO ALLOW PROPER OPERATION OF THE REMAINDER OF THE PANEL.</p>
5 & 3	Switched Zone Loop	<p>Connect any number of N.O. contacts in parallel to Terminals 5 & 3 as shown in the hookup diagram. NO LOOP RESISTOR IS REQUIRED IN THIS CIRCUIT. This sensor loop is typically used for interior protection devices which are added or deleted from the protective circuits by the Zone Switch located on the R-H side of the panel.</p> <p>This switch is supervised so that if an attempt is made to delete these sensors while the control panel is ON an immediate alarm will sound. This sensor loop has the same Exit/Entry time delays as the Delayed Loop. The red LED light located to the left of the slide switch will be lit when this zoned sensor loop is added to the protective circuits.</p>
3	Common	Terminal No. 3 is the "Common" or "Return" point for all of the Sensor loops. Any of the terminals marked with a (-) on the Control Panel hook-up diagram can be used interchangeably as a COMMON Ground.
6 & 7 (-) (+)	Pre-Alarm Output	Connect a DTI SECURITY Pre-Alarm (Part # RPA-12), Sonalert, or similar 12VDC electronic (non-mechanical) buzzer(s) drawing a total of less than 50mA current. This buzzer will sound during the entry time delay period to alert the user to turn OFF the Control Panel with the key switch before the main alarm sounds. This output also provides the Loop Reminder feature, which will sound the buzzer for 2 seconds if an attempt is made to turn the control panel sensor loops ON with a loop violated.
8 & 9 (+) (-)	"Sensor Warning" Indicator Output	Connect a 12VDC light or up to 3 red Light Emitting Diodes (LED's) with the proper series dropping resistor installed, for remote indication of the status of the Sensor loops. THE LIGHT WILL BE LIT IF ANY ONE OF THE SENSOR LOOPS ARE VIOLATED (OPENED OR SHORTED). Maximum current draw on this output must be less than 50mA.

TERMINAL NO.	FUNCTION	DESCRIPTION
9 & 10 (-) (+)	"ON" Indicator Output	Connect a 12VDC light or up to 3 green LED's with the proper dropping resistor installed, to provide a remote indication of when the Control Panel Sensor Loops are turned ON (armed). THE LIGHT WILL BE LIT WHEN THE SENSOR LOOPS ARE ON. Maximum current draw on this output must be less than 50mA.
11 & 12 (-) (+)	ON/OFF/RESET Key Switch	Connect 1 to 3 "Momentary", Spring Return, Keyswitches mounted in the faceplate cover or at any other remote location. A momentary closure of this switch will turn the Sensor Loops ON or OFF or RESET the alarm output. If more than one switch is used, connect them in parallel.
13 & Blue Test Lead	Alarm/Battery Test	<p>Connect the Blue Test Lead to the Test lead input terminal to provide the combination alarm/battery test feature. When the spring return TEST slide switch is moved to the left, the AC power is momentarily disconnected and the battery voltage applied to sound the alarm device.</p> <p>NOTE: When a DFM-50 Supervised Fire Module is used with the Control Panel this input terminal and the test lead are used as part of the supervised fire test feature. Consult the hook-up diagram for details.</p>
14 & 15 (+) (-)	Auxiliary Alarm Output	The Auxiliary Alarm Output is a 12VDC voltage output with a low current capacity (75 mA max.). This alarm output is typically used to trip tape dialers, digital communicators, reversing relays, etc. Should the local alarm device ever be compromised, this alarm output will continue to provide uninterrupted service.
15 & 16 (-) (+)	12VDC Auxiliary Power Output	<p>These terminals provide up to 100mA maximum current of 12 VDC Regulated Power to use for powering motion detectors, entrance devices, police telephone line connects, etc. Do not connect this Auxiliary Power Output to relays or other inductive loads without using transient suppression diodes. This output is fused with a 3/4 Amp fuse located on the upper R-H side of the panel.</p> <p>DO NOT, UNDER ANY CIRCUMSTANCES, EXCEED THE MAXIMUM CAPACITY OF 100mA.</p>
17 & 18 (-) (+)	Alarm Output	Connect a DSR-50 Siren Driver or UL listed bell requiring no more than 1.5 Amps total current. Observe correct polarity if necessary. Use 18 gauge wire (or larger for very long runs) to minimize voltage loss to sounding device. The Burglar alarm will automatically reset after 7-10 minutes, unless reset sooner by the Key Switch. The alarm output is fused with a 3 Amp fuse located on the upper R-H side of the panel.
19 & 20	12VAC Power Input	<p>Connect the 12 VAC input terminals to the output of a UL listed 12 VAC 60Hz Class II Transformer, rated at 40 VA. Use No. 18 gauge wire (or larger for very long runs). The control panel 12 VAC "Power" indicator will light ONLY when AC power is present.</p> <p>DO NOT CONNECT THE AC VOLTAGE OR STANDBY BATTERY TO THE CONTROL PANEL UNTIL ALL OTHER CONNECTIONS ARE COMPLETED AND CHECKED FOR ACCURACY.</p>
Red & Black Wires	Standby Battery	<p>RECHARGEABLE TYPE—A 12 volt, 1.5 Amp hour capacity gell-cell rechargeable battery is recommended. Connect the Red Lead to the Positive (+) terminal, and the Black Lead to the Negative (-) terminal of the battery.</p> <p>CAUTION:</p> <p>Observe correct voltage polarity when connecting battery to avoid severe damage to the Control Panel. Red lead to positive (+) battery terminal, black lead to negative (-) terminal.</p> <p>The standby battery should be the last connection made, and only after all other terminal connections are completed and checked for accuracy and proper operation on AC power. If a short should be present in the system wiring causing a severe battery overload to occur, damage to both the battery and the control may result.</p>

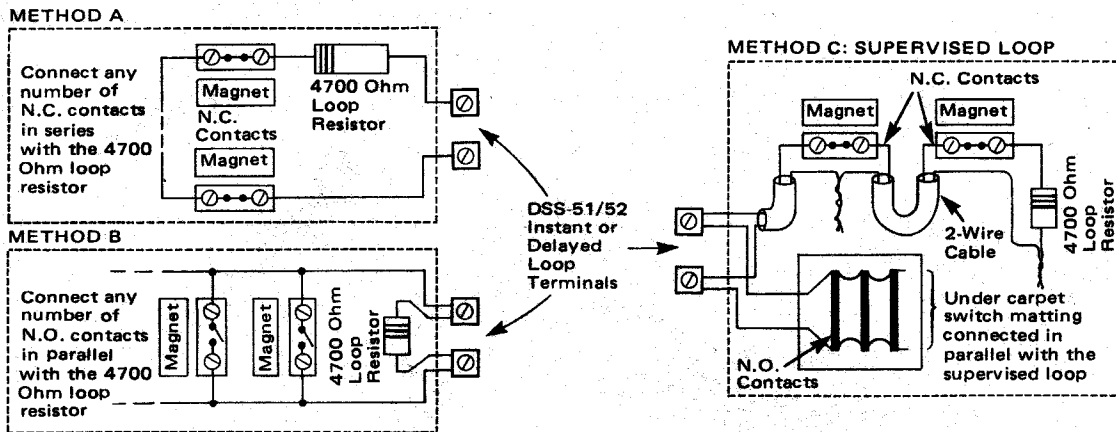
FIGURE 1: HOOK-UP DIAGRAM



NOTE: All interconnections must be made using U.L. listed limited energy cable. Maximum line impedance is 100 Ohms for fire loop, 1000 Ohms for burglary loop. For proper installation, consult NFPA Standard No. 74, National Fire Protection Assoc., 420 Atlantic Ave., Boston, MA.

FIGURE 1A: TYPICAL SENSOR LOOP HOOK-UP METHODS

(For both instant & delayed loops)



EMERGENCY EVACUATION PLAN

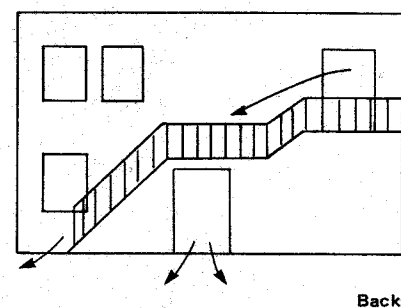
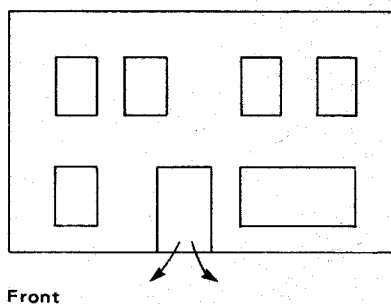
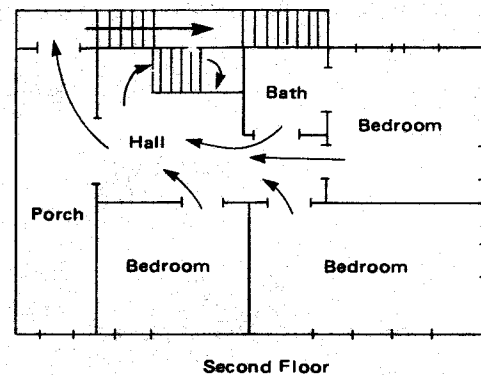
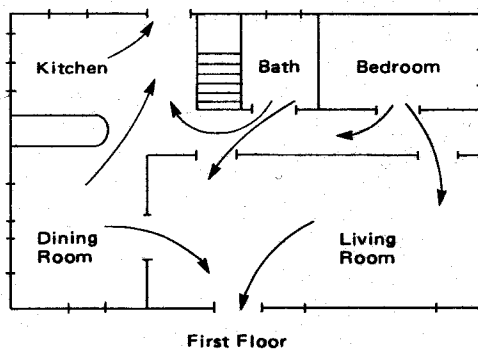
An emergency evacuation plan should be established for an actual fire alarm condition. For example, the following steps are recommended by the National Fire Protection Association and can be used as a guide in establishing this plan for homes. Similar plans may be made for commercial establishments.

1. Draw up a floor plan of your home. Show windows, doors, stairs, and rooftops that can be used for escape. Indicate each family member's escape routes. Always keep these routes free from obstruction.
2. Determine two means of escape from each bedroom. One will be the door leading to the normal exit from the house. The other may be a window that opens easily. An escape ladder may have to be located near the window if there is a long drop to the ground below.

3. Set a meeting place outdoors for a head count of family members.
4. Practice escape procedures. Sleep with the bedroom door closed. It will increase your escape time. If you suspect fire, test the door. If it is hot, don't open it—the hall is already too hot to enter. If you think it's safe, brace your shoulder against the door and open it cautiously. Be ready to slam the door if smoke or heat rush in. Practice escaping to the outdoors and meeting at an assigned spot. Call the fire department from a neighbor's phone.

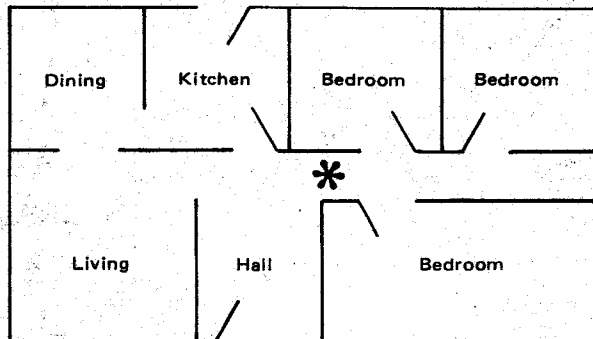
NOTE:

After the installation of your alarm system has been completed, notify your local Fire and Police Departments to give them your name and address for their records.



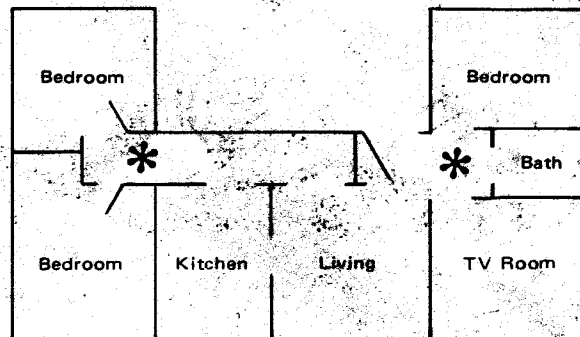
DETECTOR INSTALLATION & PLACEMENT

Since most fires in a home occur at night when everyone is asleep, the ideal location for a minimum of one smoke detector is between the bedroom area and the rest of the house. If the bedrooms are spread out or if they are located in different sections of the house, one smoke detector should be placed near each of these sleeping areas.



Best Residential Detector Location Placement
Between Bedrooms and Rest of House

In multi-level houses one smoke detector may be sufficient to protect an entire floor. Since smoke rises, a stairwell in a home tends to become a natural "chimney" for smoke rising from one level to the next. Therefore, by locating a smoke detector near the top of the stairs leading to a main sleeping area, all bedrooms can be successfully protected using a minimum of units.



NOTE: Place Detector Near All Sleeping Areas

DTI SECURITY WARRANTY

DTI Security, Inc. instruments are warranted to be free from defects in material and workmanship for a period of 12 months from date of shipment to the original purchaser. Defective units returned by the buyer at his own expense during this period will, at the seller's option, be repaired or replaced without charge provided that, after inspection, it is the seller's opinion that the unit has not been subject to electrical or physical misuse.

In no event shall the seller be liable for any loss or damage, consequential or otherwise, arising out of the use by buyer or failure of the product to operate. This warranty is exclusive and given in lieu of all other warranties, expressed or implied, and is void if the equipment has been visibly damaged by accident, misuse, or if the unit has been modified by anyone other than DTI Security, Inc.

For installation or service information, your DTI Security equipment dealer is:

DTI Security

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