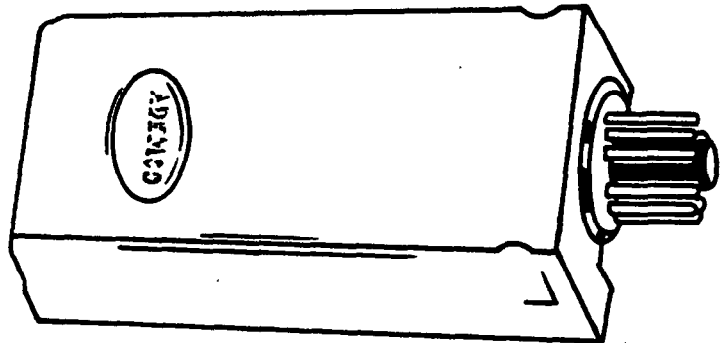


No. 546 INTERNAL SECURITY PLUG-IN MODULE

The No. 546 Mini-Modularm plug-in unit is designed for internal monitoring applications only such as freezers, boilers, elevator doors or apartment house security systems. The device being protected needs only an electrical switch or magnetic contact attached to it. The switch contacts should close when the device functions normally, and open when the device malfunctions. Any number of switches may be connected in series to the same "internal security" subscriber module. The Module is connected directly to the switch by a single pair of low voltage wires. A control instrument is not needed. When the switch on the device being protected opens, or even if the wire connecting it to the Mini-Modularm cabinet is cut, the horn unit in the display panel



sitates alerting the person in charge. At the same time, a pilot lamp flashes brightly and identifies the location of the trouble area. The horn and light signals continue, even if the device or door is restored to normal. To stop the horn, a reset button is depressed on the Mini-Modularm display panel and the lamp becomes dimmer but remains on until the cause of the alarm has been rectified. The Mini-Modularm unit will then automatically reset itself and is ready for another alarm. New alarms can be readily identified since the lamp will flash brightly until the alarm is acknowledged. In all other respects, the No. 546 module gives standard Mini-Modularm operation and uses standard Mini-Modularm equipment except that it does not distinguish between line trouble and alarm signals. For applications where signals are brought over telephone lines to remote monitoring stations and differentiation of alarm signals from line trouble is required, the No. 537 subscriber module should be used.

The No. 546 internal security monitoring subscriber modules may be intermixed in the same cabinet and within the same system as the regular No. 537 Mini-Modularm subscriber module.

INSTALLATION INSTRUCTIONS

REFER TO MINI-MODULARM INSTRUCTIONS FOR NEW INSTALLATIONS. ON EXISTING INSTALLATION JUST PLUG THE NO. 546 INTO THE NO. 535 CONTROL CABINET. WIRING FROM PROTECTED AREAS TO THE TERMINAL STRIP IS SHOWN ON THE REVERSE SIDE OF THIS SHEET.

FIRST DO THE FOLLOWING:

Use any size Ademco wire not lighter than 22 gauge. Starting at the next open terminal pair in the mini-modularm control cabinet, connect the tinned wire lead to the positive (upper) terminal. Connect the untinned lead to the negative (lower) terminal. Review the wiring circuits on the reverse side of this sheet and then proceed to the proper circuit instructions.

CIRCUIT INSTRUCTIONS

Circuit No. 1. - TO PROTECT A REMOTE INTERNAL AREA (see circuit No. 2 also): Connect closed circuit contacts in series into the positive (tinned) wire. Terminate the 2 wires at a 3 volt power supply making sure that the tinned wire is attached to the positive terminal. Complete the installation by plugging the No. 546 module into the numbered socket corresponding to the terminal strip number.

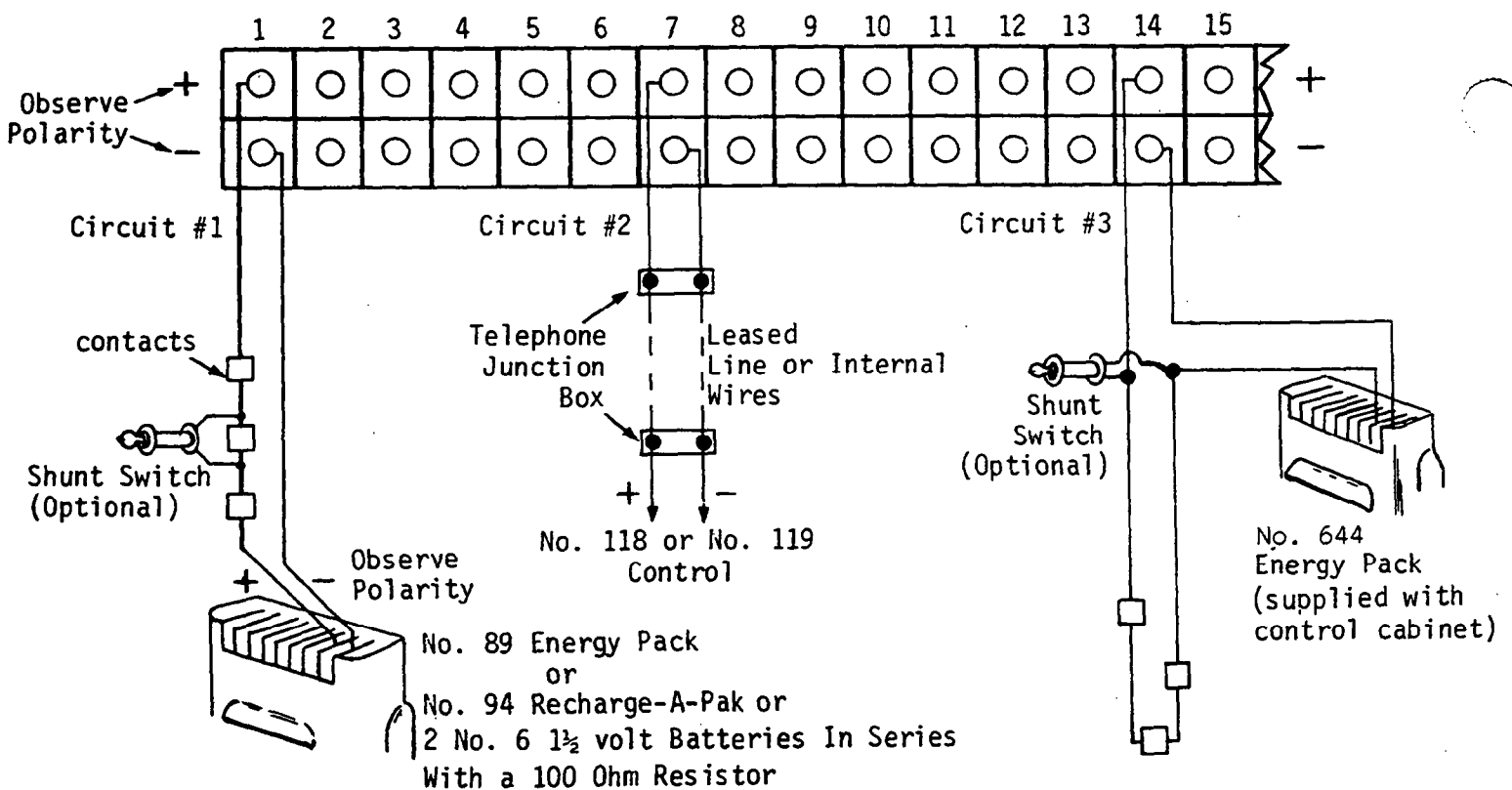
Circuit No. 2 - TO PROTECT A REMOTE AREA USING LEASED PHONE LINES; OR TO PROTECT A REMOTE INTERNAL AREA WITH A CONTROL INSTRUMENT: When certain openings are used for access during the day a No. 118 or No. 119 control instrument should be used at the supervised area.

For telephone line hookup, bring the 2 wires from the mini-modularm terminals to the leased line junction box. At the premises connect 2 wires from the junction box to the appropriate terminals on the No. 118 or No. 119 control instrument. Observe polarity.

To finish the installation follow the instruction sheet furnished with the control instrument. After you complete the wiring, plug the No. 546 Module into its proper socket and test the system.

Circuit No. 3 - TO SUPERVISE WATER FLOW VALVES, TEMPERATURE AND PRESSURE CONTROLS ETC.: The switch on the device being protected must open to cause an alarm. (If you wish to protect a device with a reverse switch action use Circuit No. 1, except wire the switch across the pair of wires; in parallel not in series). Starting at the terminal strip, bring the negative wire to the negative 3 volt terminal on the same No. 644 Energy Pack used to operate the mini-modularm system. Bring the positive wire from the terminal strip to the device being protected. Additional devices may be added in series. Return the positive wire to the control cabinet and connect it to the positive 3 volt terminal of the No. 644 Energy Pack. When wiring is completed plug the No. 546 module into its proper socket and test the system.

MINI-MODULARM - TERMINAL STRIP IN CONTROL CABINET

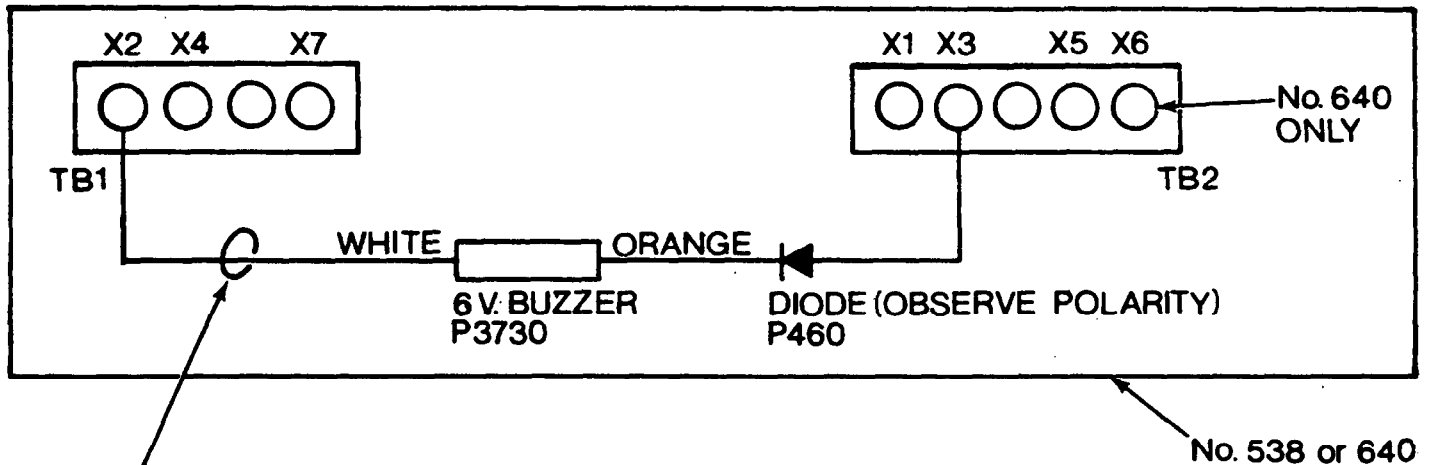


NOTE: As a precaution, before attaching any power supplies, it is suggested that you check for short circuits. Do this by connecting the 2 wires normally hooked up to the power supply to an ohmmeter. When the connections at the control cabinet terminal strip are temporarily removed, there should be no continuity shown on the meter.

PRODUCT INFORMATION ABOUT MINI-MODULARM

NOTE: The following feature has been added to the No. 538 Mini-Modularm Display Panel manufactured after Oct. 15, 1979. A buzzer and diode have been added to supervise the horn reset feature in the mini-modularm plug-in receiving modules. Whenever an alarm is received, a buzzer will sound as long as the reset button on the display panel is held in. Should a failure occur in any module which would prevent the horn from sounding on a subsequent alarm from any other subscriber, the new buzzer will stay on when the reset button is released. The buzzer will continue to sound until the faulted module is replaced or the source of the alarm is removed.

This supervisory feature can be added to any existing mini-modularm installation. Simply order P3730 (buzzer) and P460 (diode) and install them as shown below:



To silence buzzer, if fault cannot be corrected immediately, insert an SPST switch (e.g. Ademco No. 258) in series here (remote it to a convenient location). THIS IS NOT A RECOMMENDED PROCEDURE, since you will lose supervision if the switch is left in the open position.

TROUBLESHOOTING MINI-MODULARM

Before beginning to troubleshoot the Mini-Modularm System:

1. Make sure the No. 644 Power Supply is wired properly. The white lead from the control cabinet should be wired to the "Protective Circuit +" terminal of the No. 644; the black lead to the "Common" terminal, and the red lead to the "6 VOLT 4 AMPS +" terminal. Terminals 1, 2, and 3 on the No. 644 must be wired to terminals 1, 2, and 3 of the No. 97LT or 96M Power Pack.
2. Make sure that the No. 644 Power Supply is connected to a 24-hour outlet not controlled by a switch.
3. Make sure that there are no wires "pinched" between the steel plate of the wired panel and the mounting brackets inside the control cabinet. Since there are hundreds of connections behind the wired panel, it is possible that either during mounting or wiring, one of these wires has shorted to the cabinet.
4. Inspect all solder connections made to each of the sockets on the back of the wired panel. Make certain that none of the wiring tabs touch each other.
5. Remove the housing of the display panel and inspect all solder connections made to this unit. Also determine that no two solder lugs or components are shorting out.
6. Check the wiring to the No. 540 Isolating Relay Module if it has been included with the unit. This module is located in the lower left hand corner of the control cabinet. The red, black, green, and white wires coming out from the bottom left hand corner of the wired panel in the control cabinet must be connected to terminals 2, 3, 4 and 6 respectively of the No. 540 Module. Detailed information on the wiring of the No. 540 can be found on page 115 of this section.

NOTE: EARLY PRODUCTION RUNS OF THE MINI-MODULARM DID NOT INCLUDE THE 540. IF IT IS NECESSARY TO ADD THIS TO YOUR SYSTEM, INSTRUCTIONS ARE SUPPLIED FOR HOOK-UP TO FIRE & BURGLARY MINI-MODULARM SYSTEMS. THEY CAN BE FOUND UNDER NO. 540 ISOLATING RELAY MODULE.

TROUBLESHOOTING MINI-MODULARM SYSTEM

TROUBLE: 1. AC PILOT LAMP NOT LIT.

<u>PROBABLE CAUSE</u>	<u>REMEDY</u>
A. <u>AC connection to the No. 644 has been disconnected.</u>	A. <u>Make certain that the No. 644 is connected to a 24 hour outlet.</u>
B. <u>Fuse in the No. 644 has burned out.</u>	B. <u>Replace the fuse in the No. 644 with an Ademco No. 90-7 (.5 amp Slo-Blo).</u>
C. <u>Fuse on chassis of No. 535 has burned out.</u>	C. <u>Replace fuse with Ademco No. 90-5 (7 ampere).</u>
D. <u>Lamp in AC pilot light assembly has burned out.</u>	D. <u>Replace lamp with an Ademco No. 765.</u>
E. <u>Control module is not plugged in properly.</u>	E. <u>Since the AC lamp being lit depends upon the control module, make certain that the module is plugged in.</u>

TROUBLE: 2. HORN WILL NOT RESET WHEN RESET BUTTON IS PUSHED BUT DOES STOP AS LONG AS RESET BUTTON IS HELD IN.

<u>PROBABLE CAUSE</u>	<u>REMEDY</u>
<u>Dirty cancel relay contacts inside the plug-in subscriber module (in older units).</u>	<u>Relay in subscriber module must be cleaned. Request return authorization number and return for repair.</u>

TROUBLE: 3. HORN WILL NOT STOP EVEN THOUGH RESET SWITCH IS HELD DEPRESSED.

<u>PROBABLE CAUSE</u>	<u>REMEDY</u>
A. <u>Wire connecting X2 in the control cabinet to X2 on the display is open.</u>	A. <u>Momentarily short X2 to X4 inside the control cabinet. If the horn resets, look for an open in the wire from X2 in the control cabinet to X2 on the display.</u>
B. <u>Defective reset button.</u>	B. <u>Open the display cabinet and short across the back of the reset button to stop horn. If horn stops, this indicates defective switch which must be replaced.</u>
C. <u>Open coil in cancel relay inside subscriber module (in older units).</u>	C. <u>Obtain a return authorization number and return the plug-in subscribers module for repair.</u>

TROUBLE: 4. ALARM CONDITION EXISTS AT CUSTOMER'S PREMISES BUT SIGNAL IS NOT RECEIVED.

<u>PROBABLE CAUSE</u>	<u>REMEDY</u>
A. <u>Signal is not being transmitted properly at control instrument</u>	A. <u>Thoroughly check the customer's alarm system to make certain that</u>

PROBABLE CAUSE

REMEDY

located in the protected premises.

a proper signal is being transmitted on the telephone lines (reversal of current) during an alarm condition. If a No. 145 or No. 147 is being used, make certain that the polarity is correct on terminals 1 and 2.

B. The contacts of the sensitive relay inside the plug-in subscriber module are dirty.

B. Relay inside subscriber module must be cleaned. Request return authorization number and return plug-in subscriber unit for repair.

C. No. 536 control module is defective.

C. Replace module.

TROUBLE: 5. A PARTICULAR DISPLAY LAMP COMES ON FOR EVERY ALARM SIGNAL RECEIVED AND GOES OUT COMPLETELY WHEN THE RESET BUTTON IS DEPRESSED.

PROBABLE CAUSE

REMEDY

Shorted diode in individual subscriber module.

Obtain a return authorization number and return the subscriber module for repair.

TROUBLE: 6. HORN SOUNDS FOR INCOMING ALARM BUT NONE OF THE DISPLAY LAMPS LIGHT.

PROBABLE CAUSE

REMEDY

A. Individual lamp for the subscriber module in alarm condition has burned out.

A. Using the test switch, determine which lamp is inoperative and replace it with an Ademco No. 542 Replacement lamp.

B. Wire connecting the control cabinet to the subscriber lamp is open.

B. Push the test button and determine which lamp circuit is inoperative. Check the wiring for that lamp circuit between the display panel and the control cabinet. Make certain that all connections are proper.

C. No. 536 control module is defective.

C. Replace control module.

TROUBLE: 7. INDIVIDUAL SUBSCRIBER LIGHT COMES ON FOR INCOMING ALARM SIGNAL BUT HORN DOES NOT SOUND.

PROBABLE CAUSE

REMEDY

A. Wire connecting X5 in the control cabinet to X5 in the display is open.

A. Short terminal X5 to terminal X3 in the control cabinet. If horn does not sound, look for open in wire connecting X5 in control cabinet to X5 in display panel.

B. Horns inoperative.

B. If pushing the test button does not sound horn, the horn unit must be replaced with Ademco No. 375.

PROBABLE CAUSE

REMEDY

C. Short to ground on wire to X2 (reset).

C. Momentarily remove wire from X2 terminal, then cause an alarm condition. If the indication is proper, check for ground on wire to X2 of the subscriber module. Try causing another alarm condition. If horn blows, one of the other subscriber modules is defective. Also try removing all of the other subscriber modules. Then try causing an alarm condition again. If horn blows one of the other subscriber modules is defective. See page 119.

TROUBLE: 8. PUSHING TEST BUTTON DOES NOT LIGHT LAMPS OR SOUND HORNS.

PROBABLE CAUSE

REMEDY

A. Control module is not plugged in properly.

A. Make certain that control module is plugged in correctly.

B. Open in wire from X1 in control cabinet to X1 in display panel.

B. Momentarily short terminal X1 to X3 in control cabinet. If test function does not operate, look for open in wire going from X1 in control cabinet to X1 in display panel.

C. Test button not operative.

C. If shorting across the back of the test button operates the test function, replace the test switch with an Ademco No. 8064.

TROUBLE: 9. ONLY HORN SOUNDS FOR TEST. THE DISPLAY LIGHTS DO NOT LIGHT.

PROBABLE CAUSE

REMEDY

Contacts of test relay in control module are dirty.

Relay inside control module must be cleaned. Request return authorization number and send the control module back for repair.