Ademco's No. 508 Control Instrument has been specially designed to supervise fire systems in nursing homes, hospitals, motels, and other public buildings. The No. 508 constantly monitors fire sensing devices such as smoke detectors, thermostats, and pull stations and will immediately sound an alarm if one of these devices is triggered by a fire.

The No. 508 is simple to operate. All a user has to know is how to operate the four-position selector switch inside the locked cabinet.

**NORMAL (Position 1):**

In the NORMAL position, the No. 508 constantly monitors all fire detectors. Unless otherwise required, the selector switch should always be in the NORMAL position.

**TROUBLE (Position 2):**

In the event that the monitoring circuits in the No. 508 detect a trouble, the built-in trouble buzzer will sound. Go immediately to the No. 508, open the cabinet with the key supplied and turn the selector switch to the TROUBLE position. This will silence the buzzer, but will not affect the system's other trouble indications as described below:

<table>
<thead>
<tr>
<th>PANEL INDICATION</th>
<th>TROUBLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meter in WHITE region.</td>
<td>AC Power failure. System operating on standby battery.</td>
</tr>
<tr>
<td>Meter in RED region.</td>
<td>Fire sensing device circuit broken or smoke detector bulb burned out.</td>
</tr>
<tr>
<td>Meter in RED region. and BELL LINE TROUBLE (Red) light (inside No. 508) lit.</td>
<td>Supervised bell circuit broken.</td>
</tr>
</tbody>
</table>

If the trouble is caused by anything other than a short duration power outage, contact your alarm serviceman immediately.

When the trouble causing problem has been corrected, the buzzer inside the control will sound again. To silence the buzzer, return the selector switch to the NORMAL position.
ALARM OFF (Position 3): If an alarm causing condition occurs, the fire bells will ring. Make sure everyone inside the premises goes outside immediately. Notify the Fire Department. When the alarm causing problem has been corrected, go to the No. 508 Cabinet and turn the selector switch to the ALARM OFF position. The Alarm bells will stop ringing and the ALARM OFF light on the face of the panel will go on. Call your alarm serviceman to have the system reset. Once the system has been reset, make sure the selector switch is returned to the NORMAL position.

BELL AND STANDBY BATTERY TEST (Position 4): At least once a month, the bells and standby battery should be checked to make sure they are operating properly. To test the No. 508, turn the selector switch to the BELL TEST position. The alarm bells should sound clearly. If the bells do not ring, contact your alarm serviceman immediately. The BELL TEST position is also ideal for fire alarm drills.

The No. 508 has full protection against power failures. If power fails, the No. 508 automatically transfers to a standby battery. Full fire protection will continue. When power is restored, the system automatically switches back to operation from AC.

Daily Monitoring: The No. 508 should be checked at least once a day to make sure it is working properly. Look at the meter on the front of the cabinet to determine (a) if the system is operating normally (b) if the system is operating from standby batteries (c) if a serviceman should be called. If the light on the front of the cabinet is on, the system has been turned OFF. If the system cannot be put back to NORMAL without the bells or buzzer sounding, call your alarm serviceman immediately.

Replacement Fuse: 3/8 amp, Slo Blo (Ademco No. 90).

Battery Standby: 72 hours on U.L. installation.
NOTE: NOT SUITABLE FOR CONNECTION TO WATERFLOW ALARM DEVICES

White and Black Leads: STANDBY BATTERY CIRCUIT, 6 V.DC. For U.L. installations, a U.L. Listed 6 V. storage battery and battery charger capable of powering the entire system for 72 hours are required. Capacity of the battery depends on the load put on the No. 508. Without smoke detectors, battery capacity of 15 ampere hours is sufficient. For each smoke detector used, 18 additional ampere hours of battery capacity are required.

1,2,3,4. INITIATING DEVICE CIRCUIT, SUPERVISED. 6 V.DC, 1 ampere. Maximum resistance 38 ohms. Thermostat wires start at terminals 1 and 2 and return to terminals 3 and 4. Any number of thermostats may be used. Maximum length of wire: 15,000 ft. of #14 AWG; 9,400 ft. of #16 wire; and 6,000 ft. of #18 AWG.

1,2,3,4,5,7. CONTROL UNIT ACCESSORY CIRCUIT. May be connected to Ademco No. 512 Four Zone Locators. Note: All No. 512 Zone Circuits are supervised.

5 & 6. 6 V.DC, 3 amperes maximum for Smoke Detectors (but see "TOTAL CURRENT" NOTE on the following page).

7 & 8. INDICATING DEVICE CIRCUIT, SUPERVISED. Bells located outside the range of hearing of the Control unit should be wired in parallel (no branch circuits) and connected to terminals 7 & 8. A No. 508T non-polarized terminating capacitor must be connected across the terminals of the last bell.

11 & 12 INDICATING DEVICE CIRCUIT, SUPPLEMENTARY. Bells located in the immediate area of the Control Unit for which a clear Bell Test signal is obtained, should be wired in parallel (in rigid conduit) and connected to terminals 11 & 12. A terminating capacitor should not be connected to this circuit.

NOTE: Indoors use ADEMCO UF8-4 bells (280 ma each)
Outdoors use ADEMCO WF8-4 bells (280 ma each)
Total drain on both indicating device circuits combined should not exceed 3.5 amperes (but see "TOTAL CURRENT" NOTE on the following page).
9 & 10. TROUBLE SUPPLY CIRCUIT, NON-SUPERVISED, 6 V.DC, 3 amperes (but see "TOTAL CURRENT" NOTE below). An external trouble buzzer (Ademco No. 518) may be added if desired. However, there is a built-in buzzer inside the No. 508 cabinet.

"TOTAL CURRENT" NOTE: TOTAL DRAIN FROM TERMINALS 5 THROUGH 12 MUST NOT EXCEED 3.75 AMPS AT 6 V.

13 & 14 MAIN SUPPLY CIRCUIT, 115 V.AC, 50-60 cycles. Current Consumption .3 Amp Max. SUPERVISED.

NOTE: For proper installation consult NFPA Standard No. 72A, National Fire Protection Association, 470 Atlantic Avenue, Boston, MA 02110.

Replacement Lamps: Ademco No. 47 for No. 508.
Ademco No. 525 for No. 527.

Fuse: Ademco No. 90 (3/8 Amp, Slo-Blo).

NOTE: ON NO. 508S MANUFACTURED AFTER 10/76, THE LENGTH OF BELL LINE SHOULD NOT EXCEED 200 FEET WHEN USING 16 GA. OR 14 GA. WIRE.

USE ONLY OPEN CONTACT THERMOSTATS SUCH AS ADEMCO NOS. 502 OR 504.

No.512 FOUR ZONE LOCATOR

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**No. 512 Four Zone Locator**

There are two terminal strips in the No. 512 Locator. The small strip on top is wired to the No. 508 System. The long strip on bottom is connected to the thermostat wires.

ZONE 1
ZONE 2
ZONE 3
ZONE 4

Thermostats and Pull Stations

NOTE: The sum of the wire used for all four zones combined may not exceed:

- 15,000 Feet of No. 14 Wire
- 9,400 Feet of No. 16 Wire
- 6,000 Feet of No. 18 Wire

USE ONLY OPEN CONTACT THERMOSTATS SUCH AS ADEMCO NOS. 502 OR 504.

NOTE: IF SOME ZONES ARE NOT USED, THE UNUSED LOOPS MUST BE "BRIDGED OUT" WITH JUMPER WIRES.
TROUBLESHOOTING No. 508

TROUBLE: 1. TROUBLE BUZZER SOUNDS ACCOMPANIED BY FRONT PANEL METER INDICATION THAT MAIN AC POWER IS OFF AND SYSTEM IS OPERATING FROM STANDBY BATTERY (WHITE REGION).

PROBABLE CAUSE
An interruption in AC power has occurred (open cabinet and turn selector switch to the TROUBLE position to silence buzzer).

REMEDIY
Restore AC power and/or check AC wiring to panel (when condition is corrected buzzer will once again sound - return the selector switch to the NORMAL position to silence the buzzer).

TROUBLE: 2. TROUBLE BUZZER SOUNDS ACCOMPANIED BY FRONT PANEL METER INDICATING IN THE RED REGION.

PROBABLE CAUSE
A. A break exists in the sensing circuit wiring (open cabinet and turn selector switch to the TROUBLE position to silence buzzer. Check by removing wires from terminals 1, 2, 3, and 4 of panel. Look for continuity between wires connected to terminals 1 and 4 and wires connected to terminals 2 and 3).

B. A wiring break or short exists in the supervised bell circuit attached to terminals 7 and 8 (trouble buzzer will sound for this difficulty only on units made after Oct. 1976) along with a lit bell line Trouble LED inside the control. Silence buzzer as explained in TROUBLE 1. Remove wiring from terminals 7 and 8. Attach a No. 508T supervising module or a .68 microfarad capacitor across terminals 7 and 8. If trouble LED goes out, there is an open or short in the bell line.

C. Panel circuitry trouble (perform test as explained above. If LED stays lit try another No. 508T or .68 mfd. capacitor).

REMEDIY
A. Repair wiring or connections found to be at fault (see Part 1 Section H for a general troubleshooting guide. When condition is fixed, buzzer will sound again. Return selector to NORMAL position).

B. Attach 6 volts DC across the previously removed wires from terminals 7 and 8. Any wiring break that exists will be between the last bell heard and the first one which is silent. Repair wiring as required. To check for shorts remove wires from each bell. Use an ohmmeter. Any LOW resistance reading indicates a short exists. Repair as required.

C. Return panel to Ademco if the red LED will not extinguish.

NOTE: Be sure that the total current drawn for all devices attached to No. 508, does not exceed 3.75 amperes.

D. Power to individual combustion or smoke detectors has been interrupted (trouble buzzer in No. 508 will sound on absence of 6V. DC only with No. 632 and 527 detector or with systems incorporating No. 633 end-of-line super-

D. Check for presence of 6 volts DC at output terminals 5 and 6 of panel. Check for disconnected or broken wiring to power input terminals of each smoke or combustion detector. Repair as needed.
vising relay assembly).

3. THERE IS NO BELL ANNUNCIATION WHEN SELECTOR SWITCH IS IN THE BELL TEST FUNCTION.

**PROBABLE CAUSE**

A. Weak standby battery.  
D. Standby battery missing or disconnected (the bell test function tests the bells powered by the standby battery only).

**REMEDY**

A. Replace battery if 6V. DC is not measured across battery during BELL TEST.  
D. Install 6 volt standby battery if required. Check connections and polarity.

**TROUBLE:** 4. FIRE ALARM SOUNDS WITHOUT PRESENCE OF SMOKE OR COMBUSTION.

**PROBABLE CAUSE**

Short circuited wiring going to thermostats or the detectors (remove all wires from panel going to smoke detectors or thermostats. Use an ohmmeter and check for shorts.

**REMEDY**

Repair or replace wiring as required.

**TROUBLE:** 5. PANEL REMAINS IN TROUBLE CONDITION ALTHOUGH PROTECTIVE CIRCUIT IS COMPLETE.

**PROBABLE CAUSE**

A. Protective circuit (loop) wires reversed.
B. Open or short in bell circuit wiring (on units supplied with bells supervision after 10/76).

**REMEDY**

A. Reverse leads on terminals 3 and 4.
B. Inspect wire and replace where necessary.

**TROUBLE:** 6. UNIT BLOWS FUSES.

**PROBABLE CAUSE**

Too great a load on bell circuit or short circuit on bell lines.

**REMEDY**

Maximum drain allowed on bell circuit - 3.75A. When more than 5 bells are used the UF-4 or WF-4 series is suggested.

**TROUBLE:** 7. SYSTEM DOES NOT SET UP IN NORMAL POSITION OF SELECTOR SWITCH WITH PROTECTIVE CIRCUIT CLOSED.

**PROBABLE CAUSE**

Thermostat line too long or wrong size wire is used.

**REMEDY**

Be sure no more than 38 ohms are in detector circuit. Follow wiring guidelines mentioned in instructions.

**TROUBLE:** 8. NO TROUBLE BUZZER ON AC POWER FAILURE.

**PROBABLE CAUSE**

Standby battery installed incorrectly.

**REMEDY**

Follow polarity as noted in wiring instructions.