

GENERAL INFORMATION:

The Nos. 764, 764-6 and 764-12 Ultrasonic Motion Detectors emit invisible and inaudible sound waves which detect the presence of a moving object (such as an intruder). Each unit contains two receiver transducers and two transmitter transducers which may be independently aimed to achieve coverage straight ahead of the unit or up to 90° to either side. The units may be mounted flat against a wall (or ceiling or in a corner without any need for brackets).

The No. 764 must be powered from its own plug-in transformer (included) and contains a rechargeable standby power supply. The Nos. 764-6 and 764-12 require power from a 6V. DC and 12V. DC source respectively that can provide at least 4 hrs. of standby power. Except as noted herein, these instructions apply equally to the No. 764, No. 764-6 and No. 764-12.

Each of the two pairs of transmitter and receiver transducers in the detector can provide indoor protection for an area up to approximately 30 feet long and 14 feet wide. A "pair" consists of one of the transmitter transducers at one end of the detector and the corresponding receiver transducer at the other end, on the same side of the unit (See Figures 4a and 4b). Additional detectors can be used in larger areas without interfering with each other (note cautions in TYPICAL LAYOUTS and Diagram 2).

A pattern of sound waves emitted by these units is set up by reflecting off of walls, ceiling, floor, furniture and other stationary objects in the area. Any movement of objects or persons in the area causes some waves to be reflected at a changed frequency (known as the Doppler effect). When the frequency of the received waves changes, the shift is detected by the electronic circuitry in the unit and an alarm signal is initiated via a relay wired into the protective circuit of the alarm system.

Normally, the detector's transmitters and receivers will operate at all times regardless of whether the control to which it is connected is ARMED or DISARMED. Whenever (and while) motion is detected, the unit's LED will light and its relay contacts will transfer. **Alternatively**, when the detector is connected to a control that can provide a suitable switched voltage signal to indicate the control's ARMED or DISARMED state, the detector can be programmed to provide optional modes of LED, relay and transmitter operation. See OPTIONAL OPERATING MODES herein.

The Nos. 764-6 and 764-12 have additional provision for use of an external LED which can duplicate remotely the indication of the detector's built-in LED.

An optional ultrasonic test meter is available (such as the No. 453) for connection to up to two detectors. It indicates disturbance levels in the protected area(s) and can be used with a chart recorder for a permanent record of disturbance levels and alarm conditions. Complete instructions accompany the ultrasonic test meter. (Only late production versions of the No. 453 with two YELLOW jumpers on their PC board are suitable for use with No. 764 series detectors.)

PRELIMINARY PRECAUTIONS:

Inspect the area to be protected carefully before installing any units. Even though the detector contains circuitry to minimize such effects, there are conditions, as described below, which may appear as motion to the detector and result in unwanted alarms. When determining a location for the unit, take care to avoid the following:

AIR CURRENTS such as created by space heaters, air conditioning vents, rising heat from radiators or baseboard heaters and strong drafts.

VIBRATIONS such as those resulting from loose fitting doors, and show windows or walls that shake when traffic passes. Locate the unit on a sturdy **inside** wall wherever possible.

HIGH-PITCHED SOUNDS from telephone bells or radiator valves located directly in the area to be protected.

MOVING OBJECTS such as house pets or other animals on the premises as well as hanging objects that tend to sway or open doors that can be moved by air currents.

The best location for the unit is 4 to 7 feet from the floor, safely away from drafts.

COVERAGE CONSIDERATIONS:

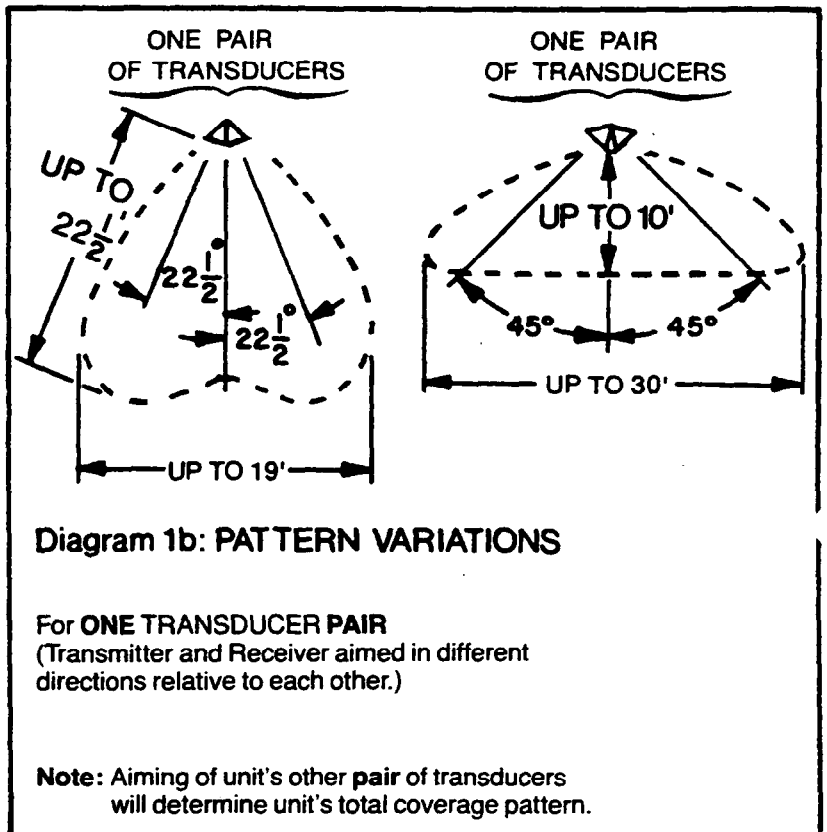
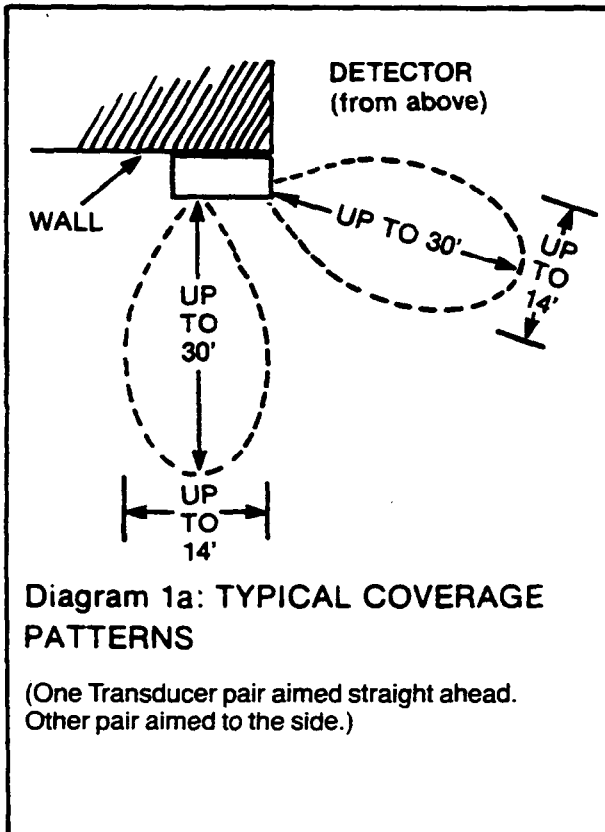
The pattern of ultrasonic waves set up by each pair of transducers in the detector is oblong and at maximum sensitivity has a nominal range of up to 30 feet and a width of approximately 14 feet as shown in Diagram 1a. Actual coverage, however, is affected by these factors:

ORIENTATION AND AIMING: Each receiver can be aimed in the same direction as its paired transmitter or in a different direction. Various coverage patterns can be obtained. See Diagrams 1a and 1b. Coverage up to 90° to either side may be obtained.

SURFACE REFLECTION: In areas that have highly reflective surfaces, coverage is greater because the surfaces are hard and easily reflect ultrasonic waves. Glass, tile floors, mirrors, walls and most solid surface areas are considered reflective surfaces.

Surfaces containing soft, sound-absorbing material tend to reduce the range of the unit. Examples of this kind of surface are carpeted floors, draperies, heavy plush furniture, etc.

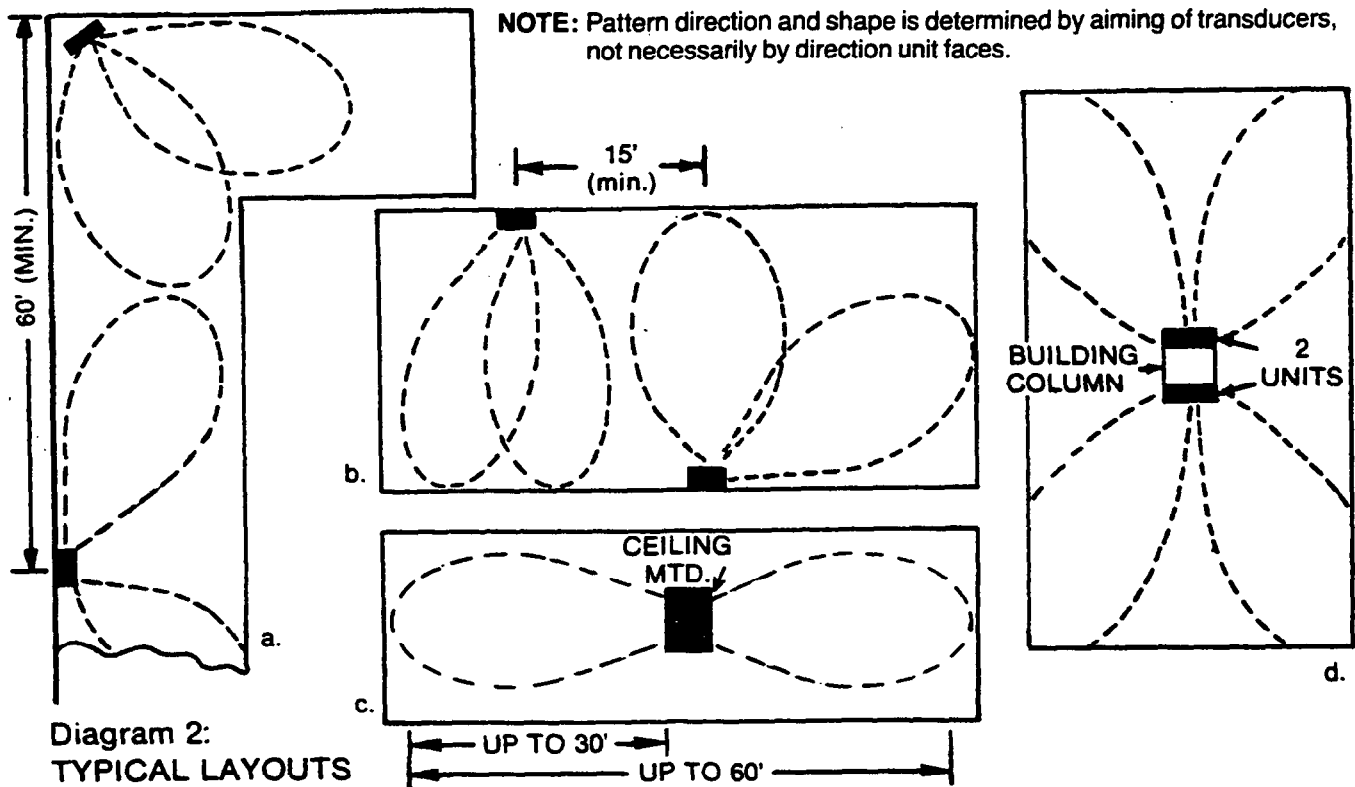
HUMIDITY AND TEMPERATURE: Ultrasonic waves are affected by atmospheric humidity and temperature. Between the best and worst combinations of conditions, range can change noticeably. In general, low humidity and high temperature give the best (longest) range and high humidity and low temperature give the worst (shortest) range. The actual range is a complex function of both these conditions.



TYPICAL LAYOUTS:

By keeping in mind the aforementioned considerations and other factors (mentioned below), the installation may be laid out. Any number of detectors may be placed in the same area without interfering with each other as long as the following basic positioning rules are observed:

1. Do not direct units at each other unless the distance between them exceeds 60 feet. Diagram 2a illustrates this.
2. Units may be placed on opposite walls or the same wall provided their centers are offset at least 15 feet from each other if aimed straight ahead. Diagram 2b illustrates this.
3. Ceiling mounting is useful in some applications. See Diagram 2c.
4. Back to back installation may be considered. See Diagram 2d.
5. Don't place units too close together as some range shortening can occur. (Note minimum spacings indicated in Diagrams 2a and 2b.)



INSTALLATION AND WIRING:

Mounting:

The detector is designed for mounting flat against the wall or in a corner. Mounting brackets are not necessary. Diagrams 4a and 4b show the locations of the mounting holes.

The unit should normally be mounted with its long dimension vertical to permit the transducer heads to be aimed to the side or straight ahead as required. If desired, however, almost any mounting position may be used, including ceiling mounting.

Wiring Connections:

A wiring well (with break-away wall for surface wiring) is provided adjacent to the unit's terminals. See Diagrams 3a, 3b, 4a, and 4b. Connections should be made in this order:

1. **Terminals NO, C and NC:** To connect a closed circuit protective system, use terminals NO and C. Note: A tamper switch may be installed in the unit by using a TP-6 Tamper Pack (instructions accompany it).
2. **Remote Terminals GND and SIG** are provided for optional connection to an ultrasonic test meter (such as No. 453). If used, see instructions with the meter. The No. 453 is **powered** from the AC line via its individual transformer and **cannot** be powered from the detector's power source.

Note: For the No. 764-6 or No. 764-12, the GND connection must be taken from the negative (-) DC power input terminal (see Diagram 3b).

3. **(Nos. 764-6 or 764-12 Only) External LED.** Connect as shown in Diagram 3b. Also cut the YELLOW jumper on the PC board (see Diagram 4b). **Note:** The LED's positive (+) lead may be run directly from the DC source if the run is shorter than from the detector.
4. **Control Post and Options:** See OPTIONAL OPERATING MODES. If one of the options is to be selected, run the necessary lead(s) between the detector(s) and the main control and cut the necessary jumpers. **CAUTION:** If either of the "Transmitter Day Shut Off" options is selected, do not cut jumpers until completing steps 5 and 6 and the ADJUSTMENT AND TESTING and TURBULENCE WARNING SYSTEM sections.
- 5.a. **(No. 764 Only) 12V. AC Terminals:** Connect the No. 1320 Transformer (supplied) to these terminals and plug it into a 120V. AC outlet that is ON for 24 hours a day. Make certain that the outlet cannot accidentally be turned OFF, so that the No. 764's built-in standby battery remains charged. The tab provided on the transformer should be used to secure it in place with the outlet cover mounting screw.

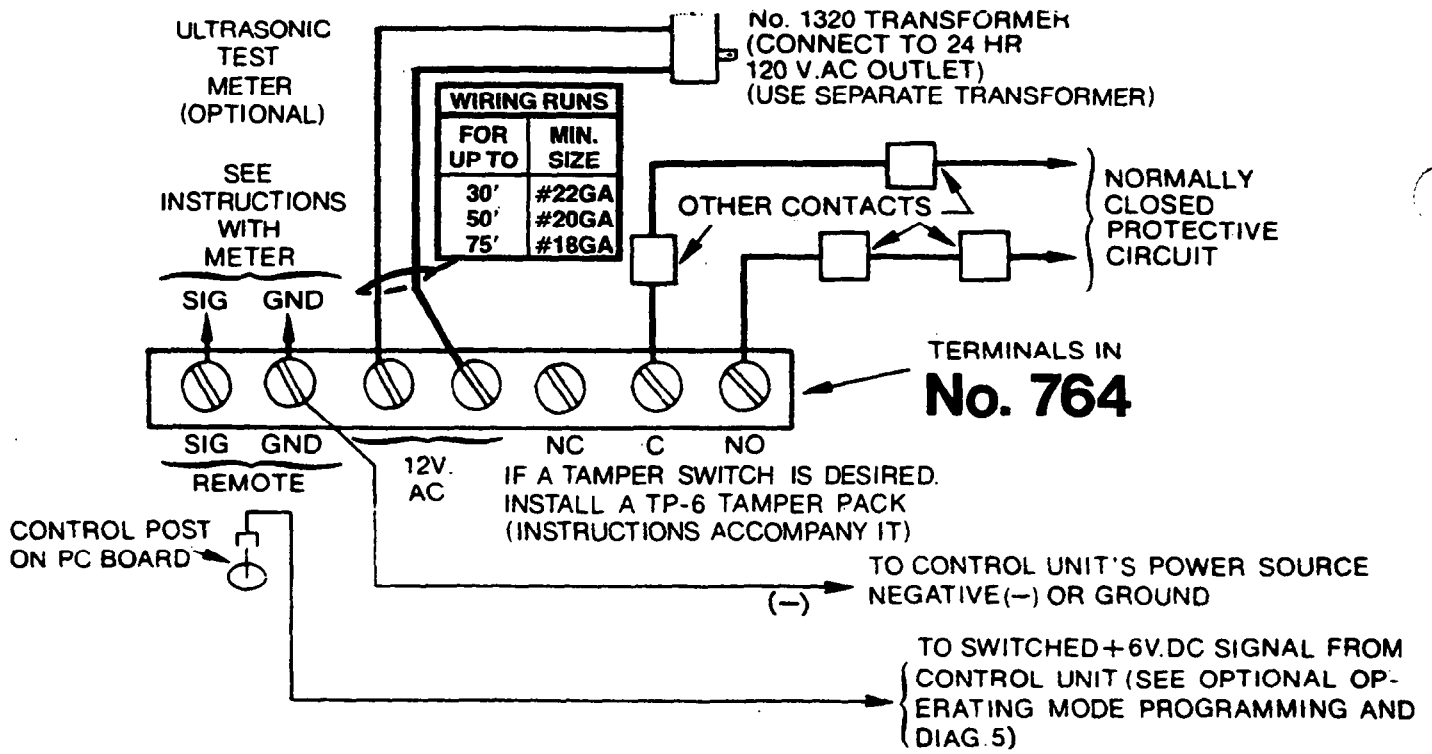


Diagram 3a: TERMINAL CONNECTIONS, No. 764 Only

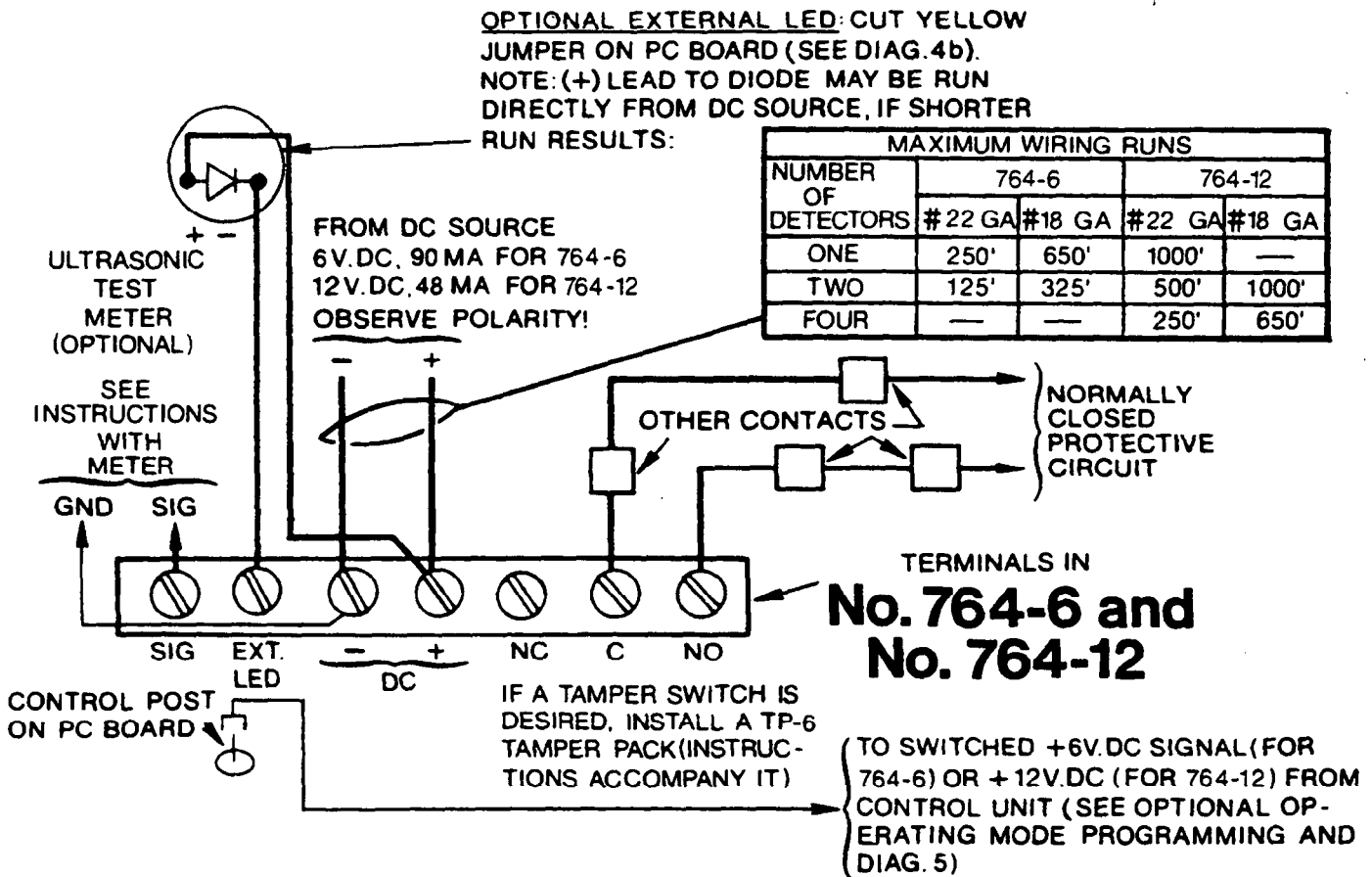


Diagram 3b: TERMINAL CONNECTIONS, Nos. 764-6, 764-12 Only

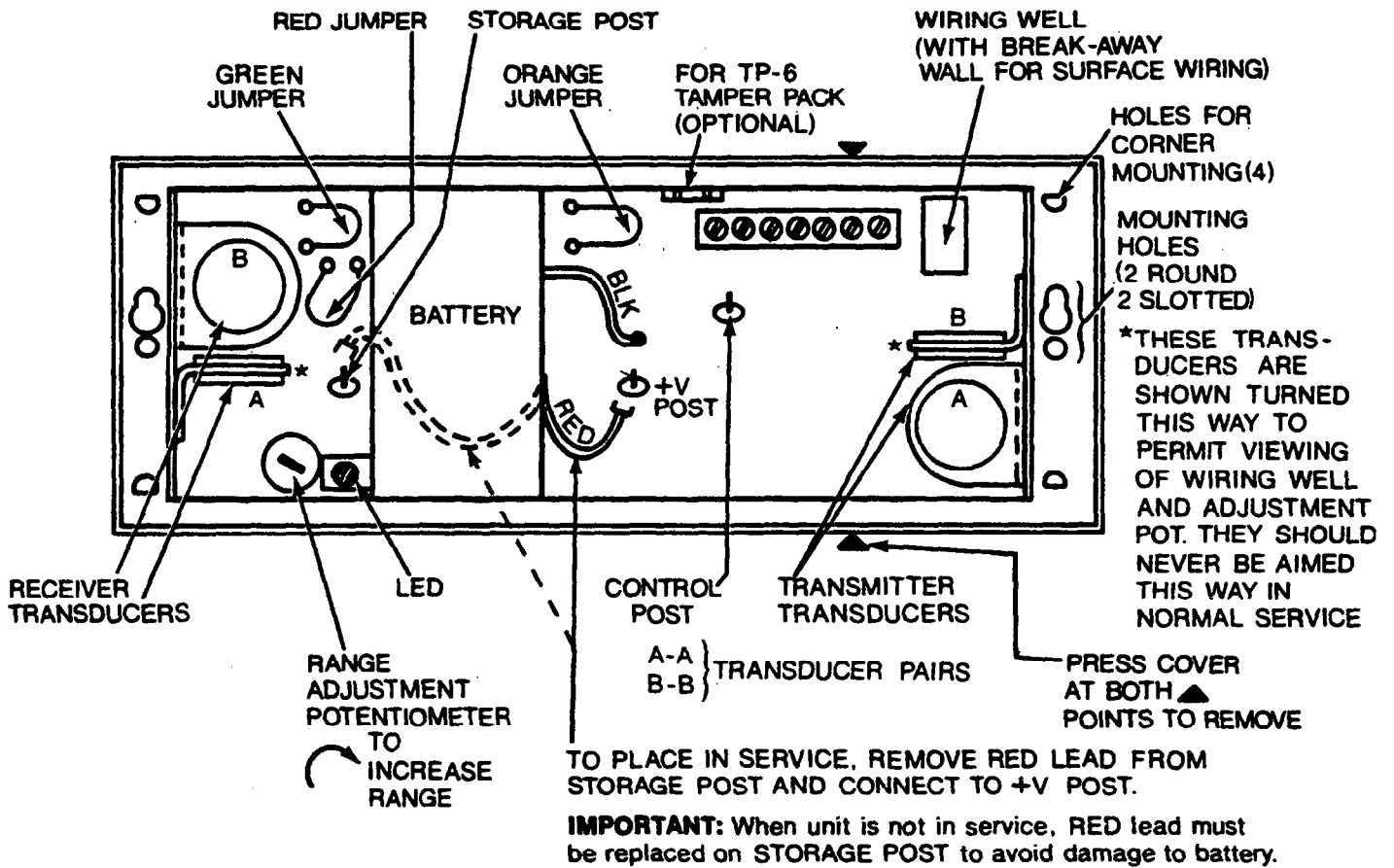


Diagram 4a: No. 764; POST, JUMPER AND ADJUSTMENT LOCATIONS

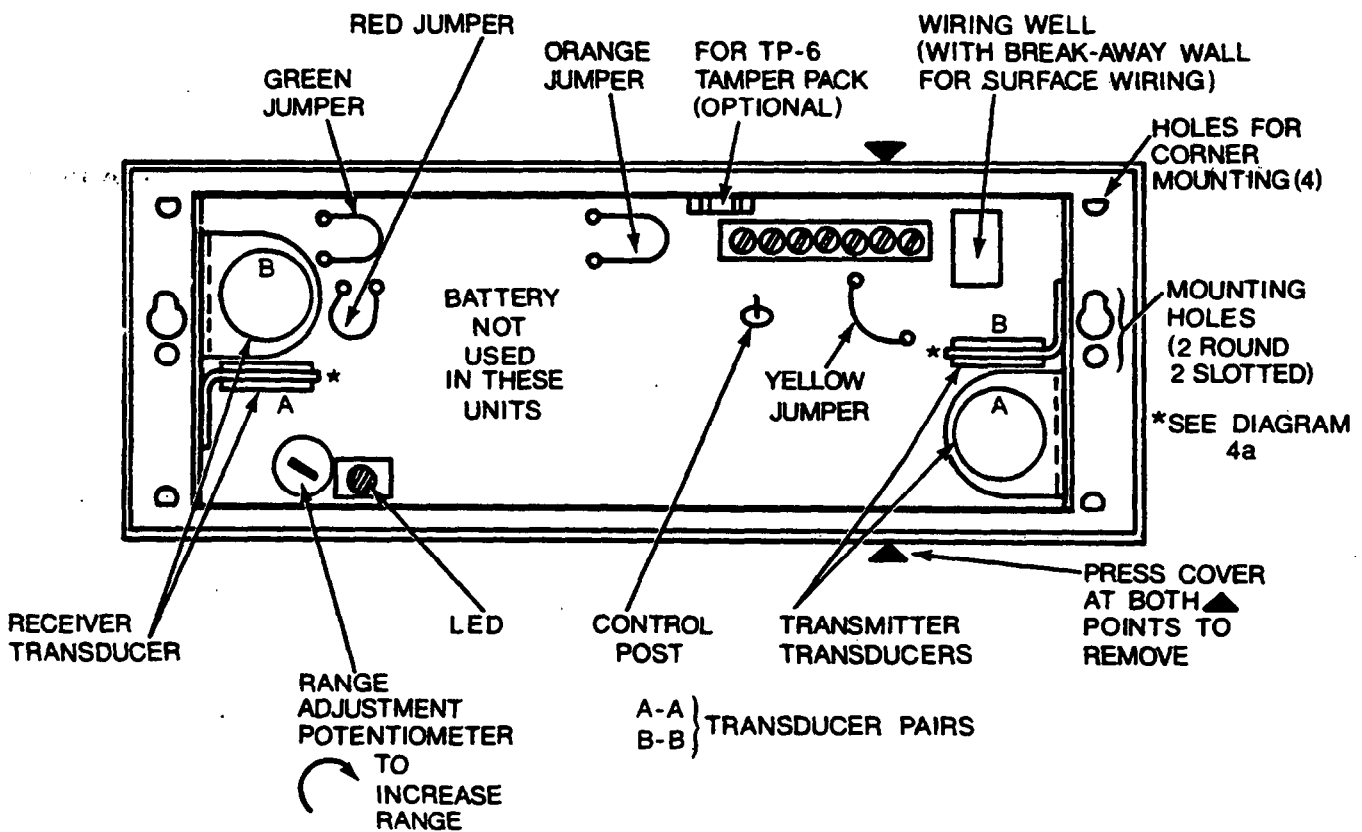


Diagram 4b: Nos. 764-6, 764-12; POST, JUMPER AND ADJUSTMENT LOCATIONS

b. (No. 764-6 Only) 6V. DC Terminals: Connect these terminals to a 6V. DC source that can provide 90 ma continuously. Follow the **MAXIMUM WIRING RUN (wire size/distance) tabulation shown in Diagram 3b. Observe polarity!** Continuous auxiliary capacities for some typical controls are:

- | | |
|------------------|------------------------------|
| No. 1022: 150 ma | No. 330R-25, 340R-25: 200 ma |
| No. 1023: 350 ma | No. 332R-50, 342R-50: 700 ma |
| No. 1024: 200 ma | |
| No. 1025: 220 ma | |

c. (No. 764-12 Only) 12V. DC Terminals: Connect these terminals to a 12V. DC source that can provide 48 ma continuously. Follow the **MAXIMUM WIRING RUN (wire size/distance) tabulation shown in Diagram 3b. Observe polarity!** (The No. 1023-12 Alarm Processing Center can now supply 550 ma. The Nos. 1025-12 and 1025EX12 can supply 220 ma.)

6. (No. 764 Only) Battery Lead: Disconnect the unit's RED battery lead from the STORAGE POST on the PC board and connect it to the +V POST (see Diagram 4a). **If unit is removed from service for any reason, RED Lead must be replaced on STORAGE POST to prevent damage to battery.**

OPTIONAL OPERATING MODES:

As shipped from Ademco, each detector's LED and relay will function together, at all times, regardless of whether the main protective system control is ARMED or DISARMED. While motion is detected, the LED will light and the relay contacts will transfer.

When used with a control that can provide a suitable switched voltage to the detector's CONTROL POST to signal whether the control is ARMED or DISARMED, the detector can be programmed (by cutting various combinations of jumpers of the unit's PC board) to provide optional modes of operation as described in this section.

Switched Voltage Signal for CONTROL POST:

CAUTION: Before cutting jumpers, make sure that the control can provide the proper switched voltage signal to the CONTROL POST, as shown in the following table:

REQUIRED CONTROL POST SIGNAL			
MODEL NO.	SYSTEM DISARMED	SYSTEM ARMED	INPUT IMPEDANCE
764, 764-6	+6V	0V	10K ohms
764-12	0V	+12V	50K ohms

Diagram 5 shows typical sources of switched positive (+) control voltage signal for the detectors. Note that some controls permit direct connection to the detector and others require a No. 688 or 688-12 Opening/Closing Switching Module to be used between the control and the detector.

Control Options and Programming:

In all of the options described below, the detector relay will be silent and inactive (remain locked in) during the DISARMED period. During the ARMED period the relay will transfer to the alarm position whenever motion is being detected.

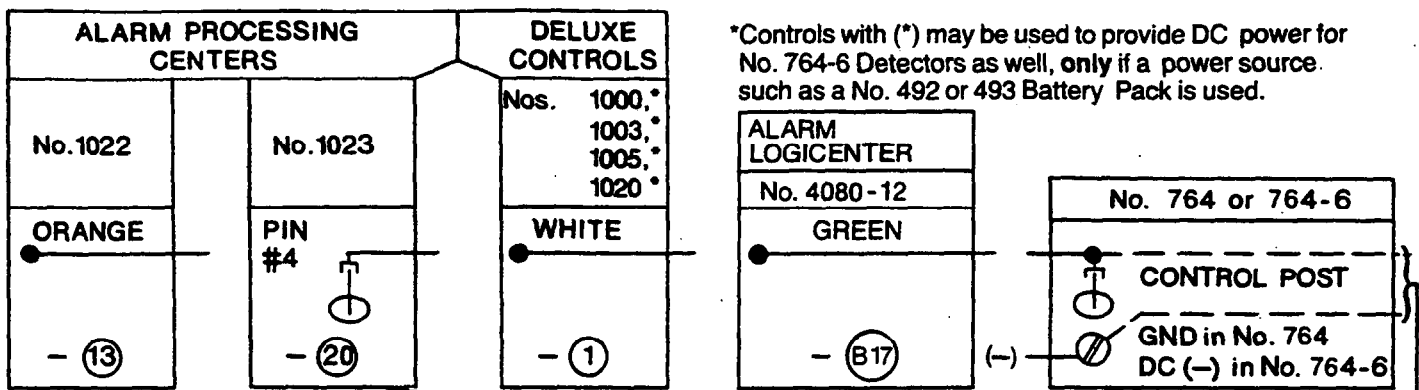
The options are programmed by cutting the colored jumper(s) on the PC board. See Diagrams 4a and 4b for locations.

CAUTION: Any jumper that is cut must have its loose ends taped (or otherwise insulated) to prevent accidental electrical contact with other points.

The options are summarized in the tabulation at the end of this section.

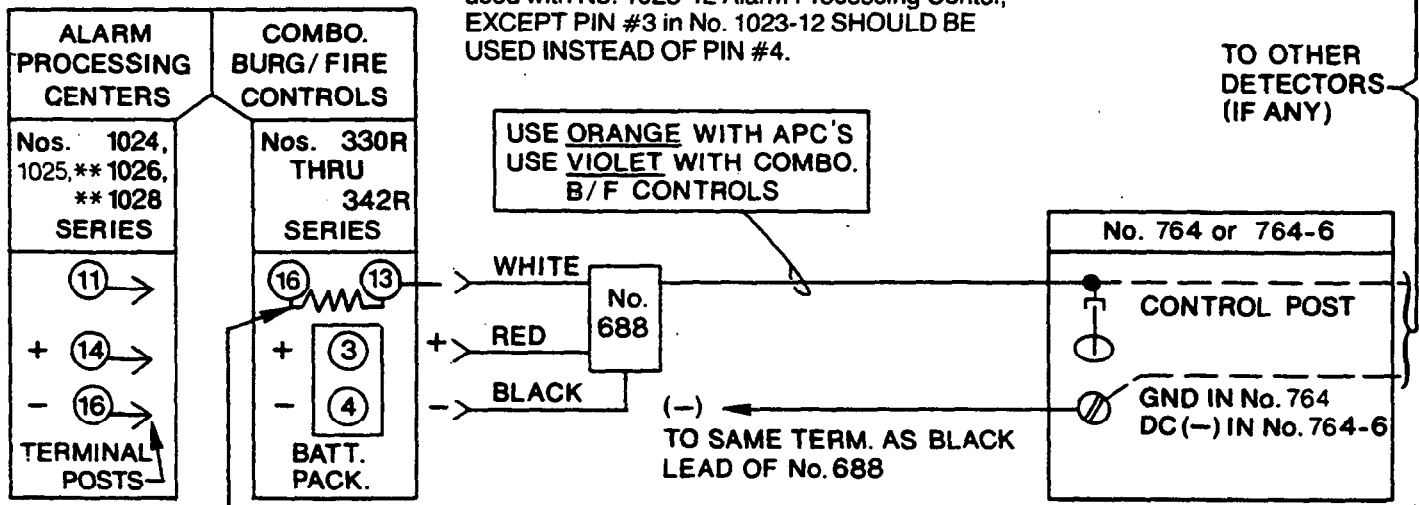
- 1. Night LED Disable Option:** In this mode the LED (and any remote LED) will be inactive (remain OFF) during the ARMED period and active (indicate when motion is being detected) during the DISARMED period. TO SELECT: CUT THE GREEN JUMPER.
- 2. Intrusion Memory Option:** In this mode the LED(s) will be inactive during the ARMED period but should an intrusion occur in the protected area the alarm relay will transfer and this fact will be stored in the detector's memory. The intrusion will remain stored even after the relay restores when motion ceases. Subsequent intrusions can still be reported by the unit's relay even though a previous intrusion is stored in its memory. When the system is DISARMED, the LED on any detector which had signaled and stored an alarm will light and remain lit until cleared. **The LED memory can be cleared by momentarily ARMING and then DISARMING the system.** The LED(s) will then respond ON and OFF normally to motion detected in the protected area during the DISARMED period. TO SELECT: CUT THE GREEN AND THE RED JUMPERS.

Note: With a No. 1000, 1003, 1005 or 1020 Deluxe Control: During disarming, when the panel's keyswitch is turned from ON (Armed) to CIRCUIT TEST, the LED on any detector which had signaled and stored an alarm will light. A pause at CIRCUIT TEST will permit examination of each detector for such an intrusion memory indication. **Turning the keyswitch through BELL TEST to OFF will clear the LED memory and disarm the system.**



Controls with () may be used to provide DC power for No. 764-6 Detectors as well, only if a power source such as a No. 492 or 493 Battery Pack is used.

Similar connections apply to No. 764-12 Detector used with No. 1023-12 Alarm Processing Center, EXCEPT PIN #3 in No. 1023-12 SHOULD BE USED INSTEAD OF PIN #4.



USE ORANGE WITH APC'S
USE VIOLET WITH COMBO.
B/F CONTROLS

ADD RESISTOR, 2K TO 12K OHM, 1/4 W. MIN.

Controls with () may not be used to provide 6V. DC power for No. 764-6 Detectors. A separate power source (such as a No. 492 or 493 Battery Pack) would be required for detector power.

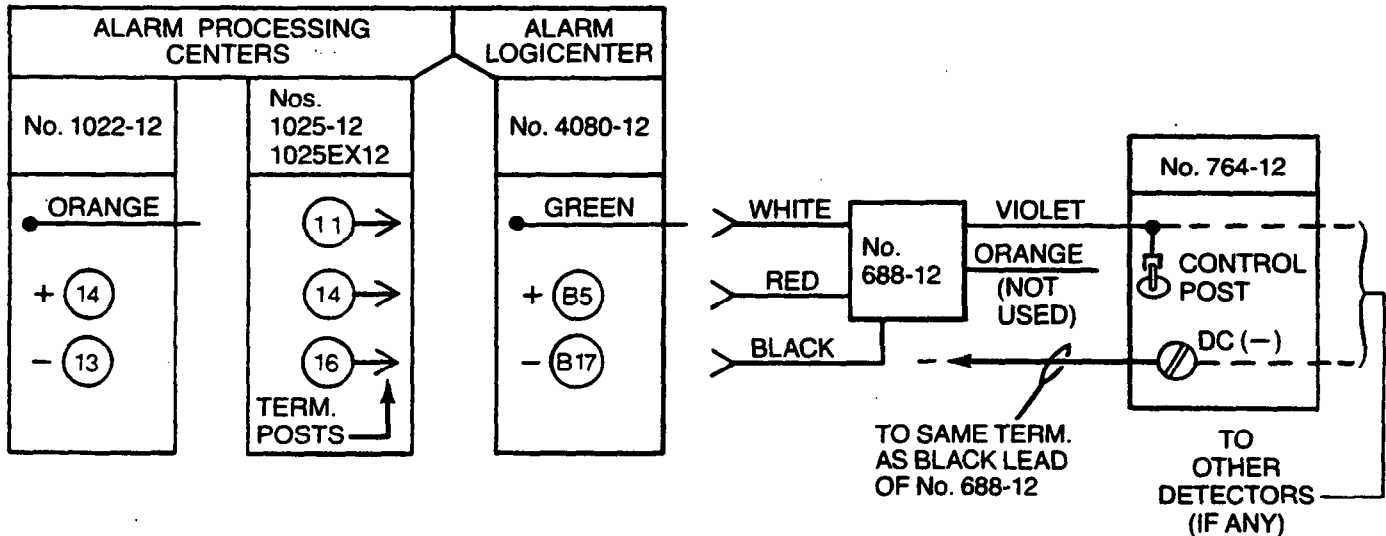


Diagram 5: TYPICAL SOURCES OF SWITCHED (+) CONTROL VOLTAGE SIGNAL FOR OPTIONS

3. Transmitter Day Shut-off Option (with Intrusion Memory):

IMPORTANT: Before exercising this option, see the "ADJUSTMENT and TESTING" and "TURBULENCE WARNING SYSTEM" SECTIONS. Otherwise, the ORANGE jumper will have to be temporarily reconnected to perform walk testing with a visual LED indication.

In this mode, the detector's transmitter will shut off during the DISARMED period. The intrusion memory will function as in option 2 above, but the **only** LED indication will be the intrusion memory status during the DISARMED period. **TO SELECT: CUT THE GREEN AND THE RED AND THE ORANGE JUMPERS.**

Note: With this option selected, a test meter (such as the No. 453) may not be used.

4. Transmitter Day Shut-off Option (No LED Function):

IMPORTANT: Before exercising this option, see the "IMPORTANT" notice under option 3. It applies here as well.

In this mode, the detector's transmitter will shut off as in option 3 above, but there will be no intrusion memory function. The LED will be inactive during the ARMED as well as DISARMED periods. **TO SELECT: CUT THE GREEN PLUS ORANGE JUMPERS.**

DETECTOR OPTION PROGRAMMING SUMMARY					
(PROPER CONTROL POST VOLTAGE SIGNAL REQUIRED. SEE INSTRUCTIONS)					
OPTION	JUMPERS CUT	DETECTOR FUNCTION			
		CONTROL ARMED		CONTROL DISARMED	
		LED	RELAY	LED	RELAY
NO CONTL. SIG.	NONE	ACTIVE			ACTIVE
NIGHT LED/ DAY RELAY DISABLE	GREEN			ACTIVE (WALK TEST)	
INTRUSION (LED) MEMORY	GREEN, RED	INACTIVE (OFF)	ACTIVE (NORMAL)	INTRUSION MEMORY AND (AFTER RESET) ACTIVE (WALK TEST)	INACTIVE (LOCKED IN)
XMTR DAY SHUT-OFF (WITH LED MEMORY)	GREEN, RED, ORANGE			INTRUSION MEMORY ONLY	
XMTR DAY SHUT-OFF(WITHOUT LED MEMORY)	GREEN, ORANGE			INACTIVE* (OFF)	

*FOR LED WALK TEST, ORANGE JUMPER MUST BE INTACT.
YELLOW JUMPER (IF PRESENT) ENABLES OPTIONAL REMOTE LED, WHEN CUT.

ADJUSTMENT AND TESTING:

IMPORTANT: If either Transmitter Day Shut-off Option is to be selected, follow the procedure in this section **before** exercising that option.

The adjustment and testing of the detector should be conducted with the protected area cleared of all people. In some business establishments it will be more convenient to do this after hours. The protective system's control should be OFF during the procedure to prevent unwanted alarms from being sounded.

NOTES: Do not attempt to set individual protection ranges for more than 30 feet.

Generally, it is best to keep individual protection ranges to a minimum, protecting strategic areas and not entire rooms or large sections of open space. **With a No. 764 (AC) unit, wait at least 1/2 hour after plugging in the transformer and connecting the battery before starting adjustment and testing.** This will permit the unit's battery to absorb some charge.

1. Remove the front cover from the detector (see Diagram 4a or 4b).
2. Aim the transmitter and receiver transducers as required for the area to be protected. Refer to Diagram 1. Each transducer may be released for aiming by temporarily loosening its securing screw located at the end of the chassis. Coverage up to 90° to either side of "straight ahead" is possible.
3. Adjust the Sensitivity Control located on the chassis (clockwise to INCREASE, counterclockwise to DECREASE range) to obtain the desired coverage as evidenced by WALK TESTS conducted as follows (start at minimum sensitivity):
 - a. With no motion in the protected area, the light on the detector should be OFF.
 - b. Starting from outside of the protected area, walk into the protected area from several different points. The range of protection can be determined by observing the light on the detector. It will light whenever the unit triggers (motion in the area) and go out when the unit restores (area is still).

- c. The walk test should be conducted by walking toward or away from the unit rather than across its coverage pattern.
 - d. It should be kept in mind that the unit has a built-in delay. Expect to see motion detection only after 2 steps have been taken.
 - e. Any high-pitched noise or vibration in the area should be noted during the tests, since they may be responsible for unwanted triggering of the unit.
4. **Replace the unit's cover** when proper coverage has been obtained. Make sure the hole for the walk test light lines up with the LED on the chassis.
 5. **Test standby operation** (No. 764 only) by unplugging the line transformer. Make sure that the battery in the No. 764 has had a chance to charge for at least an hour before checking. The system should continue to operate with the transformer unplugged; however, **the walk test LED will not function.**

TURBULENCE WARNING SYSTEM:

IMPORTANT: Perform this prior to exercising either Transmitter Day Shut-off Option, if one is to be selected.

The detector's "Turbulence Warning System" can provide a check for the presence of air turbulence if difficulties have been experienced with setting the main protective system control. With turbulence present the unit may remain in the alarm condition and the control cannot be set, or a false alarm may occur later.

1. Move in front of the detector to trigger it. Then stand still. If turbulence is present in the area, the walk test light will remain on or take much longer than normally (one or two seconds) to go out (restore).
2. Refer to the PRELIMINARY PRECAUTIONS section on Page 1. If the cause of turbulence cannot be located and eliminated, the sensitivity setting of the unit may have to be reduced or the transducers in the unit re-aimed to obtain stable operation. An optional ultrasonic test meter (such as the No. 453) can be used to provide additional data on turbulence and other disturbances.

MAINTAINING PROPER OPERATION and COVERAGE:

In order to maintain the detector in proper working condition, it is important that the following be observed by the user.

1. **Power should be provided at all times.**
 - a. (No. 764 Only): The plug-in transformer should be kept in its socket and continuous 120V. AC supplied to it so that the standby battery remains charged. Battery condition should be checked periodically as described in ADJUSTMENT AND TESTING, Step 5.
 - b. (Nos. 764-6 and 764-12 Only): The unit's DC source should have standby power available for emergencies of at least 4 hours duration.
2. **Units should never be relocated** without the advice or assistance of the alarm service company.
3. **The physical surroundings of the protected area should not be changed.** If furniture or stock is moved, or air-conditioning or additional heating is installed, the system may have to be readjusted by the alarm service company.
4. **Walk tests should be conducted at least monthly** to insure continued proper coverage by each detector.

GENERAL SPECIFICATIONS:

	No. 764	No. 764-6	No. 764-12
Physical:	Width: 4½" (11.4 cm) Height: 10⅞" (25.7 cm) Depth: 2" (5.1 cm)	Width: 4½" (11.4 cm) Height: 10⅞" (25.7 cm) Depth: 2" (5.1 cm)	Width: 4½" (11.4 cm) Height: 10⅞" (25.7 cm) Depth: 2" (5.1 cm)
Electrical:	*Voltage: 12V. AC from No. 1320 Plug-On Transformer (supplied) Current: 0.3A Standby: 12 hrs. with built-in rechargeable battery (No. 582, supplied)	6V. DC 90 ma	12V. DC 48 ma
		Max. Ripple 0.5V ← Peak-to-Peak → 1.0V	
		None built-in. Power source used should be able to provide at least 4 hrs. of standby power.	

***CAUTION:** Use separate transformer supplied. Do not operate other equipment simultaneously from the same transformer. Damage to the transformer and/or equipment could result.

TROUBLESHOOTING:

The following assumes a detector operating "as received". If an optional operating mode has been selected, relay and/or LED operation may vary, depending upon the option. It is advisable to reconnect cut option jumpers when troubleshooting.

TROUBLE 1: UNIT GOES INTO ALARM INTERMITTENTLY FOR NO APPARENT REASON AND WALK TEST LIGHT GOES ON WHEN ALARM CONDITION EXISTS.

Cause	Remedy
A. Sensitivity control set too high. Attach ultrasonic test meter (such as No. 453) to unit and check signal level when area is "still". Confirm absence of high background level. Check for two step walk sensitivity in protected area.	Readjust unit's sensitivity control. See ADJUSTMENT AND TESTING.
B. Air turbulence is causing stationary objects to appear to move. Use ultrasonic test meter (e.g.: No. 453) to check signal level when there is no motion in the area. Confirm presence of high background level.	Locate source of turbulence. May be from heaters, vents, air conditioners, fans, blowers or drafts. Eliminate or direct air flow away from unit or aim unit away from turbulence or reposition unit if necessary. See TURBULENCE WARNING SYSTEM section. Walk-test system after adjustment to confirm coverage.
C. Drafts are creating motion in drapes, display material or overhead lighting fixtures. Attach ultrasonic test meter (e.g.: No. 453) and check signal level when area is "still". Confirm presence of high background level.	Locate source of motion. Eliminate motion or aim unit away from source of motion or reposition unit if necessary. Walk-test unit after adjustment to confirm coverage.
D. Ultrasonic noise is introducing frequencies which are similar to those which result from the presence of a moving object. Attach ultrasonic test meter (e.g.: No. 453) and check signal level when area is "still". Confirm presence of high background level. Turn nearby equipment and machinery on and off and note effect on background level. Ring telephone and observe effect.	Check for machinery or escaping air or steam which may be causing ultrasonic noise. Telephones and other bells may also have an ultrasonic component. It may be possible to aim the transducers away from the noise source or reposition the unit to minimize noise pickup if the noise cannot be diminished, changed or eliminated so as to avoid ultrasonic interference.
E. Birds or other small animals are entering area (particularly in warehouses).	Check for and eliminate all possible entry points for birds, cats, dogs, rodents, etc. Contact exterminator if necessary.

TROUBLE 2: UNIT GOES INTO ALARM INTERMITTENTLY OR CONTINUOUSLY FOR NO APPARENT REASON AND WALK-TEST LIGHT DOES NOT COME ON WHEN ALARM CONDITION EXISTS.

Cause	Remedy
A. (No. 764 only) Transformer not plugged into a 24 hour AC outlet. With no AC supplied, the unit's standby battery may be depleted to a point where the alarm relay will drop into the alarm state. When AC is restored the battery recharges and the process repeats when AC is again removed. Note: Walk-test LED is designed to remain off during AC power interruption in order to conserve battery power as well as to indicate that AC has been interrupted.	Check for presence of "24 hrs. per day" AC on outlet. Do not use switched outlets or outlets controlled by timers.
B. (No. 764 only) Transformer or wiring malfunction which deprives detector of AC supply.	Disconnect AC power wires from detector and check for presence of 12V. AC at output terminals of transformer. If absent, replace transformer. If present, check for 12V. AC across power wires at detector. If absent, wiring is defective. Check wires for opens and shorts.
C. (Nos. 764-6, 764-12 only) DC voltage supply to detector from panel or power supply inadequate or absent. PROPER POLARITY ON DC POWERED UNITS MUST BE OBSERVED.	Check for proper DC voltage at terminals of detector. If absent, check for proper voltage at panel or power supply terminals with wiring disconnected. If present, wiring to detector is faulted. Check for open and shorted conditions in wiring. If proper DC voltage is absent, consult instructions for panel or power supply.

TROUBLE 3: RELAY OPERATES NORMALLY BUT WALK-TEST LIGHT DOES NOT OPERATE.

Cause

- A. (No. 764 only) System operating from standby battery (AC absent) and battery charge not yet depleted.**
- B. LED malfunction.** Check for broken or shorted leads.

Remedy

See TROUBLE 2 and CAUSE/REMEDY 2A.

Return unit to Ademco for service (obtain Return Authorization Number from Ademco before returning).

TROUBLE 4: AREA OF COVERAGE CHANGES.

Cause

- A. Customer has repositioned furniture or equipment in premises, or customer has adjusted range control.**
- B. Substantial change in temperature and/or humidity in the protected area.**

Remedy

Caution customer that changes in layout can affect coverage. Readjust or relocate the unit according to installation instructions. Be certain that unit has not been tampered with.

Increase or decrease the sensitivity as necessary to compensate for the changes in conditions. Note: Setting full range under worst case conditions may result in excessive range under best case conditions. In areas where conditions vary widely some compromise may be necessary to achieve reliable coverage under all conditions.

TROUBLE 5: UNIT DOES NOT APPEAR TO BE OPERATING.

Cause

- A. Unit is not receiving power.**
- B. Sensitivity control at MINIMUM.**

Remedy

Check for presence of appropriate input voltage at terminals of unit.

(No. 764 only) Be certain that unit's battery lead has moved from STORAGE (shipping/storage) POST to its active + V POST. Wait at least ½ hour before adjusting range.

Increase sensitivity control to achieve proper walk-test. Use of ultrasonic test meter (eg.: No. 453 would be helpful in avoiding trouble caused by background conditions. See TROUBLE 1 and its CAUSES and REMEDIES.

IMPORTANT NOTE: Before any equipment is returned to Ademco for service, a Return Authorization Number should first be obtained from the nearest Ademco Distribution Center.