ADEMCO GROUP

165 Eileen Way, Syosset, New York 11791



N6481V2 5/98

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®ADEMCO

# 5807

**SMOKE DETECTOR with BUILT-IN WIRELESS TRANSMITTER**

# INSTALLATION INSTRUCTIONS

**For use with QED control panels ONLY!**

## GENERAL INFORMATION

The Ademco No. 5807 Photoelectric Smoke Detector/Transmitter is intended for use with wireless alarm systems that support QED 5800 series devices, and contains a built-in transmitter which can send alarm, supervisory and battery condition messages to the system's QED receiver/control unit. Refer to the wireless system's instructions for the maximum number of transmitters that can be supported.

**Alarms:** The smoke detector is powered by two 9-volt batteries and will sound its built-in horn when smoke reaches the detector (and the LED indicator will light steadily). A message will also be sent to the wireless QED control and the smoke detector's ID number will be displayed at the console. The alarm message will be transmitted every 4 seconds, until the smoke condition has cleared and the detector has reset. After the horn has stopped, a Restore message will be transmitted to the QED control and it will then be possible to clear the ID number from the display. During normal or low battery conditions, the LED indicator will flash about once every 7 seconds.

**Low Battery:** The detector indicates a low battery condition by emitting a "beep" about once every 15 seconds. A low battery message will be sent to the QED control unit upon any transmission following the first battery beep (with the detector's ID number displayed at the console). The battery should be replaced within 7 days following the low battery signals.

**Programming:** Note that the QED control system must “enroll” the smoke detector’s ID during installation of the system. The QED control should be programmed to “enroll” the 5807 as an “RF” type unit (i.e., supervised RF). See the *PROGRAMMING* section in this instruction book and the QED control unit’s Installation Instructions for further details.

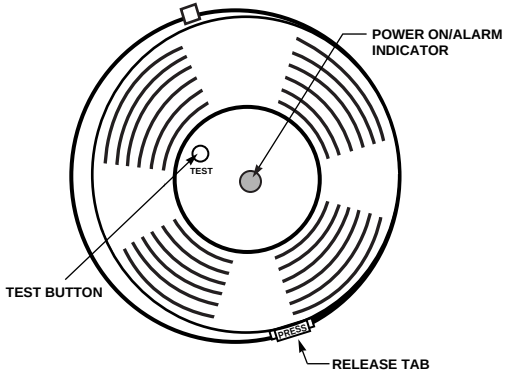



**Figure 1. 5807 Smoke Detector**

**INSTALLATION PROCEDURE**

Release the detector's mounting bracket by pressing the tab marked PRESS in the detector's base (see Fig.1 for location of the tab). Note the manner in which the bracket was attached to the detector base, then put the mounting bracket aside temporarily. The mounting bracket also serves as the battery compartment cover.

**Battery Installation**

1. The detector's battery compartment cover/mounting bracket should have been removed, as previously indicated. See Figure 2.
2. Install two fresh Duracell MN 1604, 9-volt alkaline batteries in their correct positions in the detector's battery compartment. Be sure to observe correct polarity, and do not force the batteries into the compartment. The detector's LED indicator should flash once every 7 seconds, indicating normal operation.

   If the batteries are not installed correctly, the smoke detector will not function. If the unit appears not to be sending a signal during any of the tests that follow, check for correct battery installation.

**IF BATTERIES ARE REMOVED AND RE-INSERTED FOR ANY REASON. Before re-inserting the batteries, momentarily bridge the smoke detector's battery contacts with a metal tool, or wait 90 seconds.**

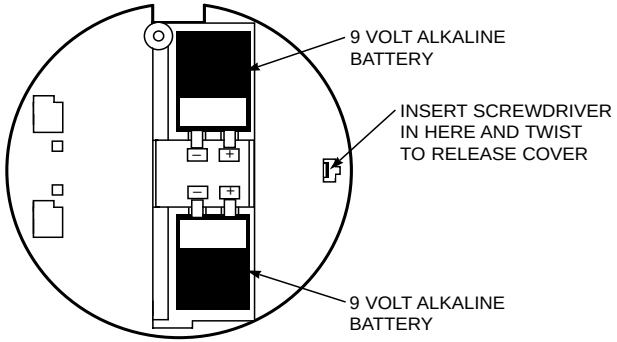



**Figure 2. Bottom View of Smoke Detector (mounting bracket removed)**

**Note:** If the detector's ID has not been programmed into the system (i.e., this is an initial detector installation), refer to the *PROGRAMMING* section below and perform the ID "enrolling" procedure before mounting or testing the detector.

**Programming**

The QED control system must "enroll" the smoke detector's ID during installation of the system. Program the 5807 as an "RF" type unit (i.e., supervised RF), and its loop number as "1."

When prompted for the serial number, either enter it manually, or transmit from the unit (press the test switch, short the contacts, etc.) To gain access to the special shorting contacts provided for programming purposes, insert the blade of a small screwdriver into the opening in the detector base (see Fig. 2 for location) and twist. This will release the main cover which will then swing away, providing access to the interior of the detector, as shown in Figure 3. With the QED control in the programming mode, short the two contacts in the detector (shown in Figure 3) with a small screwdriver to transmit a signal. See the QED control unit's installation Instructions for further details. When this procedure has been completed, swing cover down firmly to secure.



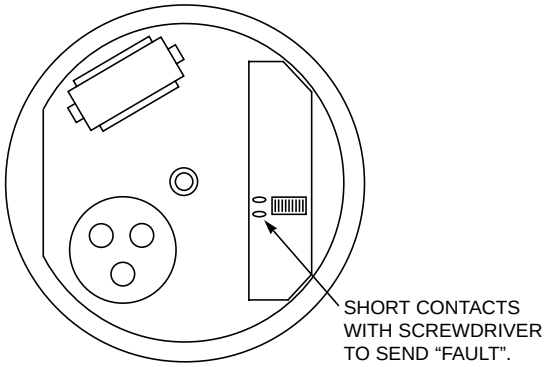



**Figure 3. Interior view of Detector**

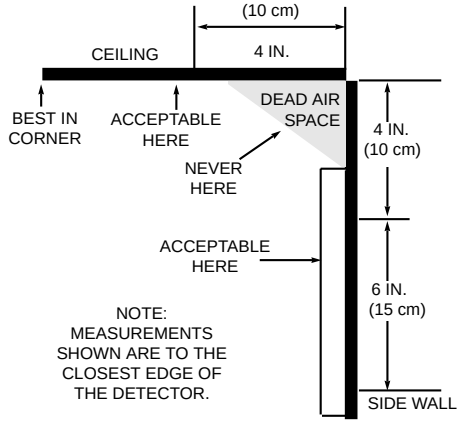
**Mounting The Smoke Detector**

First, determine the best location for the smoke detector (one that provides strong wireless transmission paths AND proper smoke detector protection). See *NFPA RECOMMENDATIONS REGARDING SMOKE DETECTOR INSTALLATION* and *RECOMMENDED LOCATIONS FOR SMOKE DETECTORS* (on a following page). A good RF transmission path must be established from the proposed mounting location before permanently installing the detector. To check, perform the test in *Wireless Transmission Path Test.*

**Selecting Mounting Locations**

Detectors should be located as close to the center of the ceiling as possible. If this is not practical, detectors may be located on the ceiling up to 4 inches (10cm) from the ceiling-wall junction. Do not install near forced air heating or air conditioning ducts (outlets or returns). For sloped, gabled or high-peaked ceilings, detectors must be mounted between 4 and 6 inches (10 and 15cm) from the highest point in the ceiling.

Detectors may also be wall-mounted if permitted by local and state codes. Check with your local Fire Department about code requirements. Wall-mounted detectors should be located 4–6 inches (10–15 cm) from the ceiling. In mobile homes, battery-operated detectors are not generally installed by the manufacturer. Mount detectors ONLY on an interior wall.



**Wireless Transmission Path Test**

A good RF transmission path must be established from the proposed mounting location before permanently installing the smoke detector. To determine that there is good signal reception from the proposed location, do the following:

1. Activate the wireless system's test mode.
2. Depress and hold the smoke detector's TEST button for at least 45 seconds. Within 15 seconds, the detector's horn will start to sound and the unit will begin to transmit alarm signals about once every 4 seconds.
3. The wireless system's console will emit at least 3 tones each time an alarm transmission is received, and will display the transmitting detector's ID number.
4. When the above has occurred, release the button. Within 10 seconds the detector's horn will stop. About 1 second later the ID number will clear from the console display.
5. If the console does not respond as noted, move the detector to another location and repeat the transmission path test until a satisfactory location can be found.

**Detector Mounting Procedure**

1. If the bracket is installed on the detector, remove the bracket by depressing the release tab marked PRESS, then pivot the bracket away and free of the detector.
2. Use the bracket as a template to locate and mark two mounting holes. Drill two 3/16 inch diameter holes, and insert the plastic expansion anchors. Hold the bracket in place and thread the two screws (supplied) into the anchors. Be careful to correctly orient the UP arrow on the bracket for correct positioning of the detector if mounting on a wall. Tighten the screws.
3. Install the detector (with batteries installed) onto the bracket as follows, referring to Figure 4: Hook the detector over the loop at one end of the bracket, then swing the detector gently upward toward the release tab at the other side of the bracket until the detector snaps into the locked position. Test the detector immediately after completing the installation.

**Important:** Caution should be observed during installation to prevent dust, hair and other foreign matters from contaminating the optical sensing mechanism.

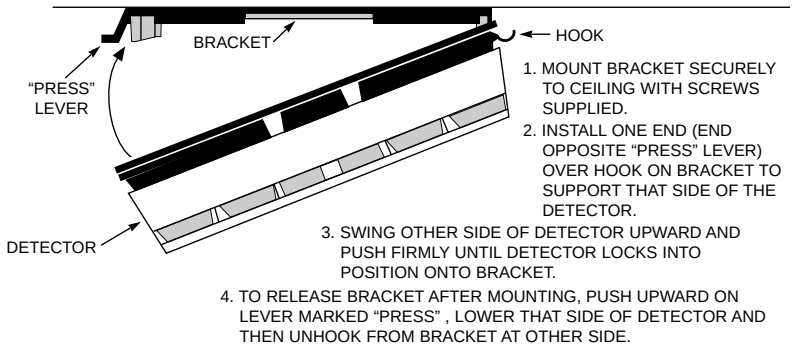



**Figure 4. Mounting the Smoke Detector**



**TESTING THE SMOKE DETECTOR**

The following procedure should be performed after installation is completed. THIS TEST SHOULD ALSO BE PERFORMED ON A REGULAR BASIS (AT LEAST WEEKLY) BY THE USER.

1. Activate the wireless system's test mode.
2. Press *and hold down* the smoke detector's TEST button and observe the following:
   a) Within 15 seconds, the detector's horn should sound.
   b) The smoke detector should begin transmitting an alarm signal (every 12 seconds) to the receiver, and the console should emit 3 tones each time a signal is received. The detector's ID number should also be displayed on the system's console.
3. Release the TEST button. The audible alarm from the detector will continue for up to 10 seconds. Approximately 1 second after the horn stops, the ID number should disappear from the console display .

**TO THE INSTALLER**

Regular maintenance and inspection (at least annually) by the installer and frequent testing by the user are vital to continuous satisfactory operation of any alarm system.

The installer should assume the responsibility of developing and offering a regular maintenance program to the user as well as acquainting the user with the proper operation and limitations of the alarm system and its component parts. Recommendations must be included for a specific program of frequent testing (at least weekly) to insure the system's proper operation at all times.

***SUMMARY OF DETECTOR FUNCTIONS***

| LED | HORN | STATUS |
|---|---|---|
| Flashes every 7 seconds | Silent | Normal, functioning properly |
| Flashes every 7 seconds | Beeps once every 15 seconds | Low battery or detector malfunction |
| On steadily | On continuously | Alarm, detecting smoke |

**BATTERY REPLACEMENT**

The smoke detector's batteries should be changed within 7 days following a "LOW BATTERY" message at the system's console. The smoke detector itself will also provide a low battery indication by producing a beep once every 15 seconds. Duracell MN 1604 alkaline batteries are the only acceptable batteries for use in this product. When replacing weak batteries, be sure to replace BOTH batteries with fresh ones.

1. Remove the smoke detector from its mounting bracket by pressing the release tab (marked PRESS) and pivoting the detector away from and off the bracket.
2. Remove the old batteries. **Momentarily short the detector's battery contacts (or wait 90 seconds**) before installing two fresh Duracell MN 1604, 9-volt alkaline batteries in their correct positions in the detector's battery compartment (see *BATTERY INSTALLATION* in a previous section). Be sure

to observe correct polarity, and do not force the batteries into the compartment. The LED indicator should flash once every 7 seconds, indicating normal operation.

**Note: I**f the batteries are not installed correctly, the smoke detector will not function.

3. Install the smoke detector back onto the mounting bracket, as indicated in step 3 of *Detector Mounting Procedure* on a previous page, and test its operation as described in *TESTING THE SMOKE DETECTOR.*

**SPECIFICATIONS**

| | |
|---|---|
| **Power Source:** | Two Duracell MN 1604 9-volt alkaline batteries |
| **Sensitivity to smoke:** | 3.1%/ft ± 0.5%/ft (30.4cm), nominal |
| **Operating Temp:** | Tested 32°F–120°F (0°C to 50°C). Not for use where normal ambient temperatures are outside the range of 40°F–100°F (5°C–38°C) |
| **Humidity:** | 0 to 85% RH |
| **Horn Loudness:** | 85 dB @ 10 feet (3m) |
| **Reset:** | Automatic |
| **Test:** | Push-to-test button simulates gray smoke density of not greater than 6%/ft (30.4cm). |
| **Power/Alarm LED:** | Standby = Flashing; Alarm = Steady |
| **Radioactivity:** | Contains NO radioactivity |
| **Low Battery Signal:** | One horn beep every 15 seconds. Nominal for not less than 7 days |
| **Size**: | 6.1 inch dia, 1.84 inch high (15.5 cm dia., 4.6cm high) |
| **Weight:** | 10.1 oz. (289 grams) with two batteries |

**NFPA RECOMMENDATIONS REGARDING SMOKE DETECTOR INSTALLATION**

For your information, the National Fire Protection Association's Standard 74, Section 204 reads as follows: "2-4.1.1; Smoke detectors shall be installed outside of each separate sleeping area and in the immediate vicinity of the bedrooms and on each additional story of the family living unit including basements and excluding crawl spaces and unfinished attics. The provisions of 2-4.1.1 represent the minimum number of detectors required by this standard. It is recommended that the householder consider the use of additional smoke or heat detectors for increased protection for those areas separated by a door from the areas protected by the required smoke detectors under 2-4.1.1 above. The recommended additional areas are: living room, dining room, bedrooms(s), kitchen, attic (finished or unfinished), furnace room, utility room, basement, integral or attached garage, and hallways not covered under 2-4.1.1 above. However, the use of additional detectors remains the option of the householder." This equipment should be installed in accordance with this standard (National Fire Protection Association, Batterymarch Park, Quincy, MA 02269). State and local codes and ordinances may conflict with the above standard. We suggest you contact your local fire authority for local requirements regarding smoke detectors.



**RECOMMENDED LOCATIONS FOR SMOKE DETECTORS**

To minimize the risk of fire causing injury, loss of life or loss of property, detectors should be located on every level of a residence – basements, first floor, second floor and attic if it is furnished – and in every separate sleeping area. More specifically, detectors should be located:

1. Between sleeping areas and potential sources of fire such as kitchen, garage, basement or utility room. In homes with only one sleeping area on one floor, a detector should be put in the hallway outside the bedrooms as shown below. In single floor homes with two separate sleeping areas, **two** detectors are required, one outside each bedroom area as shown below. In multi-level homes, detectors should be located **in bedroom areas and at every finished level of the home** as shown below. Basement level detector should be located in the **bottom** of basement stairwells. Second floor detectors should be located at the **top** of the first-to-second floor stairwell so long as no door or other obstruction blocks the path of smoke.
2. Inside every bedroom where a smoker sleeps or an electrical appliance is operated. This detector should be **in addition to** the hallway detectors as described above.
3. Inside all bedrooms where people sleep with the door closed. Smoke and poisonous combustion gases are significantly blocked by a closed door. This detector should be **in addition to** the hallway detectors described above.
4. At each end of a hallway serving the bedrooms if the hallway is in excess of 40 feet (12m) in length.

***WHERE NOT TO LOCATE DETECTORS***

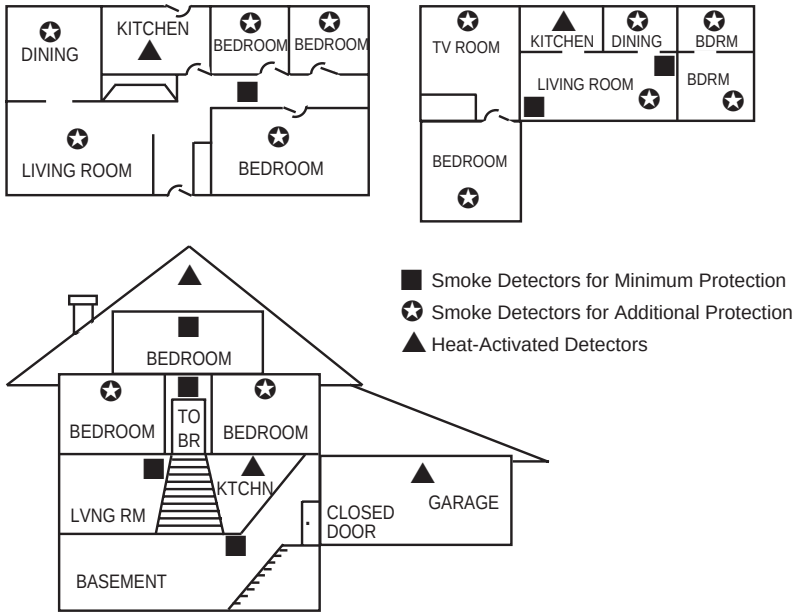
To avoid false alarms and/or improper operation, avoid installation of smoke detectors in the following areas:

- KITCHENS - smoke from cooking may cause a nuisance alarm. LOCATE DETECTORS AT LEAST 20 FEET (6m) FROM KITCHENS IF POSSIBLE.
- IN AIRSTREAMS PASSING BY KITCHENS - smoke from cooking may enter normal air movement paths between outlets and returns if these paths run by kitchens, causing a nuisance alarm. LOCATE DETECTORS AWAY FROM SUCH AIRSTREAMS IF POSSIBLE.
- BATHROOMS - excessive steam from a shower may cause a nuisance alarm. LOCATE DETECTORS AT LEAST 10 FEET (3m) FROM BATHROOMS IF POSSIBLE.
- NEAR FORCED AIR DUCTS used for heating or air conditioning - air movement may prevent smoke from reaching the detector.
- NEAR FLUORESCENT LIGHT FIXTURES - "noise" generated by these fixtures may cause a nuisance alarm.
- NEAR FURNACES OF ANY TYPE - air and dust movement and normal combustion products may cause a nuisance alarm.
- THE PEAK OF AN "A" FRAME TYPE OF CEILING - "Dead Air" at the top may prevent smoke from reaching the detector.
- GARAGES - products of combustion are present from running automobile engines and may cause a nuisance alarm.

*(Continued over)*

- UNHEATED BUILDINGS - temperature limits are 40° - 100°F (5–38°C). The detector will not function properly in locations where the normal ambient temperature exceeds these limits.
- INSECT INFESTED AREAS - insects entering the sensing chamber may cause a nuisance alarm.

IF NUISANCE ALARMS ARE EXPERIENCED, CAREFULLY CHECK THE DETECTOR'S LOCATION FOR POSSIBLE CAUSES AS LISTED PREVIOUSLY. RELOCATE AND CLEAN THE DETECTOR IF NECESSARY. REMEMBER THAT THE MAJOR CAUSES OF NUISANCE ALARMS ARE DIRTY OR IMPROPERLY LOCATED DETECTORS.






## THE LIMITATIONS OF THIS SMOKE DETECTOR/TRANSMITTER

While this smoke detector/transmitter is a highly reliable device that is part of ar advanced wireless security system, it does not offer guaranteed protection agains fire. While smoke detectors have played a key role in reducing residential fire deaths in the United States, they may not activate or provide early warning for a variety of reasons in as many as 35% of all fires, according to data published by the Federal Emergency Management Agency. Some of the reasons smoke detectors used in alarm systems may not work are as follows:

- Smoke detectors will not work without power. Battery operated devices will no work without batteries, or if the batteries are not put in properly.
- Smoke detectors may have been improperly installed and positioned. Smoke detectors may not sense fires that start where smoke cannot reach the detectors such as in chimneys, in walls, or roof, or on the other side of closed doors. Smoke detectors also may not sense a fire on another level of a residence or building. A second floor detector, for example may not sense a first floor fire or basement fire In addition, smoke detectors have sensing limitations. No smoke detector car sense every kind of fire every time. In general, detectors may not always provide adequate warning about rapidly spreading fires caused by carelessness and safety hazards like smoking in bed, violent explosions, escaping gas, improper storage of flammable materials, children playing with matches, or arson Depending on the nature of the fire and/or location of the smoke detectors, the detector, even if it operates as anticipated, may not provide sufficient warning to allow all occupants to escape in time to prevent injury or death.
- Alarm signal sent by the wireless transmitter in this device may be blocked o reflected by metal before they reach the alarm receiver. Even if the signal path has been recently checked during a weekly test, blockage can occur if a meta object is moved into the path.
- Alarm warning devices such as sirens, bells or horns may not alert people or wake up sleepers if they are located on the other side of closed or partly open doors. I warning devices are located on a different level of the residence from the bedrooms, then they are less likely to waken or alert people inside the bedrooms Even persons who are awake may not hear the warning if the alarm is muffled by noise from a stereo, radio, air conditioner or other appliances, or by passing traffic Finally, alarm warning devices, however loud, may not warn hearing impaired people or waken deep sleepers.
- This smoke detector/transmitter, like other electrical devices, is subject to component failure. Even though this device is designed to last as long as 20 years, the electronic components in it could fail at any time. We recommend tha smoke detectors be replaced every 10 years as a precautionary measure agains component failure.

The most common cause of an alarm system not functioning when a fire occurs is inadequate maintenance. The alarm system should be tested weekly to make sure all smoke detectors and their transmitters are working properly. Detectors must be repaired or replaced when they do not function properly.

Installing an alarm system may make the owner eligible for lower insurance rates but an alarm system is not a substitute for insurance. Homeowners, property owners and renters should continue to act prudently in protecting themselves and continue to insure their lives and property.

We continue to develop new and improved protection devices. Users of alarm systems owe it to themselves and their loved ones to learn about these developments.

## NOTES



## ADEMCO LIMITED WARRANTY

Alarm Device Manufacturing Company, a Division of Pittway Corporation, and its divisions, subsidiaries and affiliates ("Seller"), 165 Eileen Way, Syosset, New York 11791, warrants its products to be in conformance with its own plans and specifications and to be free from defects in materials and workmanship under normal use and service for 18 months from the date stamp QED control on the product or, for products not having an Ademco date stamp, for 12 months from date of original purchase unless the installation instructions or catalog sets forth a shorter period, in which case the shorter period shall apply. Seller's obligation shall be limited to repairing or replacing, at its option, free of charge for materials or labor, any product which is proved not in compliance with Seller's specifications or proves defective in materials or workmanship under normal use and service. Seller shall have no obligation under this Limited Warranty or otherwise if the product is altered or improperly repaired or serviced by anyone other than Ademco factory service. For warranty service, return product transportation prepaid, to Ademco Factory Service, 165 Eileen Way, Syosset, New York 11791.

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. IN NO CASE SHALL SELLER BE LIABLE TO ANYONE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR BREACH OF THIS OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, OR UPON ANY OTHER BASIS OF LIABILITY WHATSOEVER, EVEN IF THE LOSS OR DAMAGE IS CAUSED BY THE SELLER'S OWN NEGLIGENCE OR FAULT.

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