

**SMOKE ALARM MANUAL**

Model 770LBX: Hardwired Photoelectric and Ionization Smoke Alarm with battery back-up.

**IMPORTANT INFORMATION ABOUT YOUR SMOKE ALARM**

- Install alarms outside of every bedroom area and on every floor of your home. Please refer to Section 3 “Where to Locate Smoke Alarms” for details.
- Test the alarm weekly by pressing and holding the test button for up to 20 seconds until the alarm sounds.
- The model described in this manual is designed for single family residences, including homes and apartments rather than commercial or industrial use.

**Smoke Alarm Features**

- Detachable Base Plate with Locking Pin: Locking pin prevents unauthorized tampering.
- Sensitivity Test Button: With interconnected units, pressing the test button on one causes all others to activate.
- Operating Lights (LED): A continuous green light indicates the alarm is receiving 120 V AC power. Red LED flashes every 45 seconds to confirm that the circuitry is operational.
- Push-in Power Connector: For fast and simple installation and maintenance.
- Interconnection: Allows interconnection of up to 18 alarms (maximum 12 smoke alarms and 6 carbon monoxide alarms). When one alarm sounds, all properly interconnected alarms follow.
- Alarm Source Indicator: Red operating light will flash approximately every second in unit originating alarm. Red LEDs on other units flash approximately every 45 seconds.
- 9 V Battery Back-up: 9 V battery back-up unit cannot be installed onto baseplate without battery. Battery door can be locked shut with screw provided.

**CONTENTS OF THIS MANUAL**

1. CAPABILITIES AND LIMITATIONS OF SMOKE ALARMS
2. SAFETY TIPS
3. WHERE TO LOCATE SMOKE ALARMS
4. NFPA RECOMMENDATIONS
5. LOCATIONS TO AVOID
6. INSTALLATION AND TESTING
7. MAINTENANCE AND TROUBLESHOOTING
8. LIMITED WARRANTY

**1. CAPABILITIES AND LIMITATIONS OF SMOKE ALARMS**

Early warning can mean the difference between a safe escape and no escape at all. While smoke alarms can provide invaluable protection for you and your family, they do have limitations.

• **Smoke alarms cannot work without power.** Battery operated alarms will not work without proper batteries, with dead batteries or if batteries are not properly installed. AC powered alarms will not work if their AC power supply is cut off by an electrical fire, an open fuse, a circuit breaker or any other reason.

If you are concerned about the reliability of either batteries or your AC power supply for any of the above reasons, you should install in your home both AC and battery powered smoke alarms for added security.

• **Smoke alarms are incapable of sounding the alarm until smoke reaches the sensing chamber.** Anything preventing smoke from reaching the alarm may delay or prevent an alarm. A smoke alarm cannot detect fire in the walls, chimney or roof unless and until a significant amount of smoke reaches the alarm. A closed door may prevent smoke from reaching an alarm on the other side of the door. A smoke alarm may not sense a fire on another floor of a home. For example, a basement smoke alarm may not detect a fire, which started on the first or second floor.

• **Smoke alarms may not be heard.** The loudness of the horn in your alarm meets current standards. However, distance, closed doors, or ambient noise such as traffic or a stereo may block the sound. Persons who are hard of hearing may not hear smoke alarms.

Research has shown that some heavy sleepers and especially children (including those who otherwise have normal hearing) are not awakened by smoke alarms. For such people, an auxiliary signaling appliance is recommended.

Current studies have shown smoke alarms may not awaken all sleeping individuals. It is the responsibility of individuals in the household that are capable of assisting others to provide assistance to those who may not be awakened by the alarm sound, or to those who may be incapable of safely evacuating the area unassisted.

For these reasons, a **smoke alarm should be installed in every room or at least on every level of your home.** American Sensors recommends that hardwire AC powered smoke alarms be interconnected, so that one alarm will trigger all other alarms to sound their alarms.

• **Smoke alarms are not foolproof.** Smoke alarms may not always sense every kind of fire. They cannot be expected to sense fires caused by carelessness or by safety hazards. They may not give early warning of fast growing fires caused by smoking in bed, violent explosions, escaping gas, improper storage of flammable materials, overloaded electrical circuits, natural causes such as lightning, children playing with matches, or arson.

• **Smoke alarms are not substitutes for property, disability, life or other insurance of any kind.** Homeowners and renters should continue to insure their lives and property. Consult your insurance agent.

• **Smoke alarms have limited lives.** One or more of the many components could fail at any time. Therefore, test your smoke alarm weekly. Clean and take care of it as described in this manual. Repair or replace the smoke alarm when it fails to test properly. **Your smoke alarm should be replaced if it is ten years old.**



There are two different types of smoke alarm technology currently in general use: ionization and photoelectric. While both types of technology are suitable for general residential use, an ionization alarm will normally respond faster to fast flaming fires, while a photoelectric alarm may be more sensitive to detecting slow smoldering fires. Because home fires develop in different ways and are often unpredictable in their growth, it is impossible to predict which type of alarm will provide the earliest warning. For best home protection install at least one photoelectric and one ionization smoke alarm on each level of your home.

Your model 770LBX is a 2 in 1 smoke alarm utilizing both photoelectric and ionization smoke sensing technologies.

**2. SAFETY TIPS**

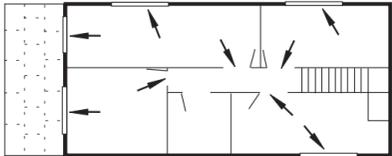
Properly installed and maintained smoke alarms are an essential part of a good home fire safety program. Your fire safety program should also include a review of fire hazards and the elimination of dangerous conditions whenever possible. Consider the following tips:

- Use smoking materials properly. Never smoke in bed.
- Keep matches and cigarette lighters away from children.
- Store flammable materials in proper containers. Never use them near an open flame or sparks.
- Keep electrical appliances in good condition. Do not overload electrical circuits.

- Keep stoves, fireplaces, chimneys, and barbecue grills grease-free. Make sure they are properly installed and away from any combustible materials.
- Keep portable heaters and open flames such as candles away from combustible material.
- Do not allow rubbish to accumulate.
- Keep a supply of extra batteries on hand for your battery powered smoke alarms.
- Do not stand too close to the alarm when the unit is in alarm as the loud horn could damage your hearing.

**WARNING:** Never disconnect the battery or the AC power on any type of smoke alarm to silence a nuisance alarm. Clear the area of smoke by opening doors and windows or fanning the smoke away.

**Most important, when fire strikes, a prepared and practiced escape plan can make the difference between life and death. Develop an escape plan and practice it with the entire family, including small children.**



- Ensure all family members are familiarized with the alarm signal.
- Prepare an escape plan. Draw a floor plan of your home and determine two exits from each room. There should be a way to get out of each bedroom without opening the door.
- Have fire drills often. Practice your Escape and BE PREPARED.
- Decide on a meeting place at a safe distance from your home.

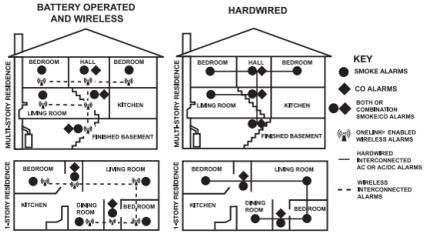
**IN CASE OF FIRE**

- Don't waste time collecting possessions after a fire starts.
- Alert all occupants and leave the building. Your most valuable possession is your life.
- Doors can mean escape or death. Never open doors without first checking for heat. Test them with your hands, if they feel warm, fire may be walled up behind them; leave closed and find another escape route.
- Call the fire department from OUTSIDE the building.
- If trapped inside, stay close to the floor, cover mouth with cloth, conserve breaths as you crawl to safety.
- Keep all doors and windows closed except for escape purposes.
- NEVER re-enter a burning building.
- Keep your family in a pre-arranged meeting place after your escape. Your local fire department may be able to offer you additional ideas for safety and escape plans in the home.

**3a. WHERE TO LOCATE SMOKE ALARMS**

**Installing Smoke Alarms in Single-Family Residences**  
The National Fire Protection Association (NFPA), recommends one Smoke Alarm on every floor, in every sleeping area, and in every bedroom. In new construction, the Smoke Alarms must be AC powered and interconnected. See “Agency Placement Recommendations” for details. For additional coverage, it is recommended that you install a Smoke Alarm in all rooms, halls, storage areas, finished attics, and basements, where temperatures normally remain between 40° F (4° C) and 100° F (38° C). Make sure no door or other obstruction could keep smoke from reaching the Smoke Alarms.

- More specifically, install Smoke Alarms:
- On every level of your home, including finished attics and basements.
  - Inside every bedroom, especially if people sleep with the door partly or completely closed.
  - In the hall near every sleeping area. If your home has multiple sleeping areas, install a unit in each. If a hall is more than 40 feet (12 meters) long, install a unit at each end.
  - At the top of the first-to-second floor stairway, and at the bottom of the basement stairway.



Specific requirements for Smoke Alarm installation vary from state to state and from region to region. Check with your local Fire Department for current requirements in your area. It is recommended AC or AC/DC units be interconnected for added protection.

READ “CAPABILITIES AND LIMITATIONS OF SMOKE ALARMS” in Section 1 of this manual.

Your local fire department or insurance company may be able to give you further advice on the best smoke alarm locations in your home. Call them and ask.

**3b. INSTALLING SMOKE ALARMS IN MOBILE HOMES & RVs**

For minimum security install one Smoke Alarm as close to each sleeping area as possible. For more security, put one unit in each room. Many older mobile homes (especially those built before 1978) have little or no insulation. If your mobile home is not well insulated, or if you are unsure of the amount of insulation, it is important to install units on inside walls only. Smoke Alarms should be installed where temperatures normally remain between 40° F (4° C) and 100° F (38° C). **WARNING:** Test units used in RVs after the vehicle has been in storage, before every trip, and once a week while in use. Failure to test units used in RVs as described may remove your protection.

**4. NFPA RECOMMENDATIONS**

For your information, the National Fire Protection Association’s Standard 72 reads as follows:

- 11.5.1 One- and Two-Family Dwelling Units.
  - 11.5.1.1 Smoke Detection. Where required by applicable laws, codes, or standards for the specified occupancy, approved single- and multiple-station smoke alarms shall be installed as follows: (1) In all sleeping rooms Exception: Smoke alarms shall not be required in sleeping rooms in existing one- and two-family dwelling units. (2) Outside of each separate sleeping areas, in immediate vicinity of the sleeping rooms. (3) On each level of the dwelling unit, including basements Exception: In existing one- and two-family dwelling units, approved smoke alarms powered by batteries are permitted.

A-11.8.3 Are More Smoke Alarms Desirable? The required number of smoke alarms might not provide reliable early warning protection for those areas separated by a door from the areas protected by the required smoke detectors. For this reason, It is recommended that the house-

holder consider the use of additional smoke detectors for those areas for increased protection. The additional areas include the basement, bedrooms, dining room, furnace room, utility room, and hallways not protected by the required smoke detectors. The installation of smoke detectors in kitchens, attics (finished or unfinished), or garages is not normally recommended, as these locations occasionally experience conditions that can result in improper operation.

**5. LOCATIONS TO AVOID**

Avoid locations where smoke may not reach the alarm in time to provide early warning, or where the alarm may not be effective.

**DO NOT PLACE SMOKE ALARMS:**

- In turbulent air from fans, doors, windows, etc. The rapid air movement may prevent combustion particles from entering the alarm.
- In dead air spaces such as at the peak of an “A” frame ceiling. “Dead air” at the top may prevent smoke from reaching the alarm in time to provide early warning. In rooms with simple sloped, peaked or gabled ceilings, install smoke alarms on the ceiling 3’ (90 cm) from the highest point of the ceiling. Note: For complex ceiling structures, consult a safety expert for the number of alarms required and the best locations.
- In very hot or cold areas where the temperature exceeds 100°F (37.8°C) or falls below 40°F (4.4°C).
- Less than 6” (15 cm) from the wall when mounted on the ceiling. Nuisance alarms could result when smoke alarms are located where interference may occur with the sensing chamber. To avoid nuisance alarms, DO NOT place smoke alarms:
- In high humidity areas such as bathrooms and attics. Place smoke alarms at least 10’ (3 m) away from bathrooms.
- In insect-infested areas.
- In poorly ventilated kitchens or garages.
- In very dusty and dirty areas.
- Near fluorescent lights. Place smoke alarms at least 5’ (1.5 m) from fluorescent lights.

**IMPORTANT:** This alarm cannot be used with detector guards.

**WARNING:** This smoke alarm is suitable for residential use. It is not to be connected to a commercial or industrial fire alarm panel.

**6. INSTALLATION AND TESTING**

If securing the alarm is a concern, remove and save the “Locking Key” from the back plate with needle nosed pliers before installing the alarm. See point 13 in this section for more details on this feature.

THIS EQUIPMENT SHOULD BE INSTALLED IN ACCORDANCE WITH THE NATIONAL FIRE PROTECTION ASSOCIATION’S STANDARD 72 (National Fire Protection Association, Batterymarch Park, Quincy, MA 02269).

**Installation (AC powered units)**

Mount to any standard or rectangular junction box with a minimum depth of 1” (2.5 cm).

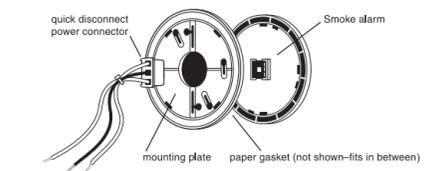
Without Relay - 120 VAC, 60Hz, 50mA operation

With Relay - 120 VAC, 60Hz, 105mA operation

**WARNING:** Wiring should only be installed by a licensed electrician in accordance with the National Electrical Code and local code.

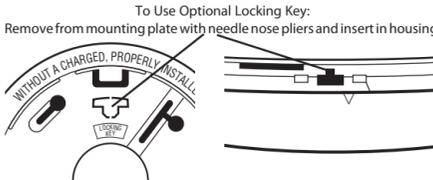
**WARNING:** The circuit used to power the smoke alarm must be a 24-hour voltage circuit that cannot be turned off by a switch or a ground-fault interrupter. It is highly recommended that smoke alarms be wired on a separate circuit (one with no other lights or appliances) to ensure maximum reliability of AC power supply. For installation of smoke alarms in Dwelling Units, it is important to follow the National Electrical Code and local code.

1. Electricity must be turned off at service entrance before beginning installation to prevent electrical shock or equipment damage.
2. Location must comply with applicable building codes.
3. Install a junction box where you plan to install the alarm. Use standard 14-gauge wire.
4. Connect black wire to black wire and white wire to white wire from power connector to AC power leads.
5. For multiple station application, use the orange wire to interconnect. If unit is not to be interconnected, cap unused wire. **NOTE:** This alarm is interconnectable up to 11 other identical smoke alarms and 6 carbon monoxide alarms.
6. Loosen or remove screws from junction box.

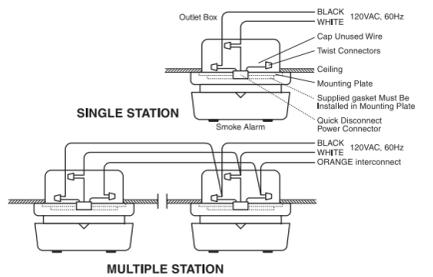


7. Attach flat side of mounting plate and tighten screws to fit snugly against the junction box and ceiling or wall.
8. Bring power connector through center opening.
9. Slip the paper gasket supplied with the alarm over the power connector and then onto the mounting plate so that the four plastic tabs on the mounting plate will hold the gasket in place. The gasket will prevent downward air currents from entering the smoke alarm. Air currents could prevent smoke from entering the alarm.
10. On battery back-up (LBX) models, open battery compartment door, connect and insert battery and close compartment door. To prevent tampering install the screw, which is provided, to secure the compartment door. Test unit using test button.
11. Plug wire connector into the back of the alarm.
12. Align the plug area on the smoke alarm with the cut-out in the gasket and place the smoke alarm on the mounting plate, turn clockwise to fasten it out the mounting plate.
13. If auxiliary lock is desired, insert the locking key into the slot in the base of the alarm - locking key should “click” into position and be flush with the alarm housing.

**CAUTION:** Do not attempt to remove alarm without first removing the locking key. If the key is not removed first, damage may result. To remove use a screwdriver and gently pry the locking key loose.



14. Test alarm operation after installation in accordance with “Operation: How to Test” instructions.



**NOTE:** Maximum interconnect wiring length is 150’.

Interconnect units within a single family residence only. Otherwise all households will experience unwanted alarms when you test any unit in the series. Interconnected units will only work if they are wired to compatible units and all requirements are met. The wiring shall be in accordance with the provision of Articles 210 and 3003 (B) of the National Electrical Code, ANSI/NFPA 70. The resistance of the interconnecting wiring shall be a maximum of 10 ohms. This unit is designed to be compatible with Model 770LBX in US applications. See www.brkelectronics.com for most current interconnect list.

**Operation: How To Test Testing After Installation**

1. Check to see that the green “POWER ON” light is on. The “POWER ON” light is visible behind the slotted case and confirms that the smoke alarm is receiving AC power.
2. Press and hold the test button until the alarm sounds. **NOTE:** It may be necessary to press the test button for up to 20 seconds for an alarm to sound. An alarm is indicated by a loud pulsating sound, 3 beeps/4sec. Alarm may continue to sound for up to 10 seconds after button is released.
3. At least once a week, press the test button and hold until the alarm sounds, then release. **NOTE: Multiple Station Only:**
4. Test each alarm separately in the system.
5. Determine that the initiating alarm triggers other alarms in the system. **NOTE: Red LED will flash once per second on initiating alarm and once per 45 seconds on interconnected alarms.**

**7. MAINTENANCE & TROUBLESHOOTING**

**BATTERY REPLACEMENT**

Batteries should be replaced annually! The Gold Peak 1604A/S/P, Eveready X22, 522, 1222, Duracell MN1604/MX1604 and Ultralife U9VL-J are the only acceptable batteries for use in these smoke alarms. When the battery reaches the end of its normal life, a low battery warning (a single beep every 45 seconds) will sound for up to 30 days to indicate the need for battery replacement. When replacing the battery ensure that the positive and negative terminals on the battery snap positively into the matching terminals in the smoke alarm.

**TEST THE ALARM WEEKLY. VACUUM EVERY SIX MONTHS**

Your Smoke Alarm should be cleaned every six months to help keep it working efficiently. REMOVE POWER TO THE ALARM. Gently vacuum through the vents of the alarm with a soft brush attachment. Keep vacuum nozzle from touching the unit.

**RE-ESTABLISH POWER TO THE ALARM.**

**PROBLEMS MAY BE INDICATED BY THE FOLLOWING:**

- The alarm does not sound upon pressing the test button.
  - The alarm does not sound with the smoke test.
  - The green operating light does not re-mail steadily when unit is AC powered.
  - The red operating light remains steadily on or off. (i.e. does not flash once every 45 seconds, when the unit is not in alarm.)
- TRY THE FOLLOWING:**
- Inspect breaker or fuse in power circuit to alarm.
  - Gently vacuum as recommended above.
  - Call an electrician to inspect house wiring and connection to alarms.

If these procedures do not correct the problem, do NOT attempt repairs. If the smoke alarm is within warranty period and terms, indicate the nature of the problem and return the unit with proof of purchase. See below for instructions. Units beyond warranty cannot be economically repaired.

**FALSE ALARMS:**

Abnormal air conditions may cause the highly sensitive smoke alarm to give a “false” alarm. If no fire is apparent, activate the alarm silencer feature and ventilate the room and/or blow fresh air into the unit until the alarm stops. Once cleared, the smoke alarm will automatically reset.

**DO NOT DISCONNECT THE AC POWER SUPPLY.**

Dust can lead to excess sensitivity. Vacuum as recommended above.

**8. LIMITED WARRANTY**

Your American Sensors smoke alarm is warranted for ten years from date of purchase against defects in material and workmanship. BRK Brands, Inc., (“BRK”) the distributor of American Sensors in the United States, at its option, will repair or replace this product or any component of the product found to be defective during the warranty period. Replacement will be made with a new or remanufactured product or component. If the product is no longer available, replacement may be made with a similar product of equal or greater value. This is your exclusive warranty.

This warranty is valid for the original retail purchaser from the date of initial retail purchase and is not transferable. Keep the original sales receipt. Proof of purchase is required to obtain warranty performance. BRK dealers, service centers, or retail stores selling BRK products do not have the right to alter, modify or any way change the terms and conditions of this warranty.

This warranty does not cover normal wear of parts or damage resulting from any of the following: negligent use or misuse of the product, use on improper voltage or current, use contrary to the operating instructions, disassembly, repair or alteration by anyone other than BRK or an authorized service center. Further, the warranty does not cover Acts of God, such as fire, flood, hurricanes and tornadoes or any batteries that are included with this unit.

BRK shall not be liable for any incidental or consequential damages caused by the breach of any express or implied warranty. Except to the extent prohibited by applicable law, any implied warranty of merchantability or fitness for a particular purpose is limited in duration to the duration of the above warranty. Some states, provinces or jurisdictions do not allow the exclusion or limitation of incidental or consequential damages or limitations on how long an implied warranty lasts, so the above limitations or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights that vary from state to state or province to province.

**How to Obtain Warranty Service**

Service: If service is required, do not return the product to your retailer. In order to obtain warranty service, contact the Consumer Affairs Division at 1-800-323-9005, 7:30 AM - 5:00 PM Central Standard Time, Monday through Friday. To assist us in serving you, please have the model number and date of purchase available when calling.

**Battery:** BRK Brands, Inc. make no warranty, express or implied, written or oral, including that of merchantability or fitness for any particular purpose with respect to battery.

BRK Brands, Inc., 25 Spur Drive, El Paso, TX 79906

**SMOKE ALARMS**

**MODELS**  
Ionization and Photoelectric Smoke Alarms  
770LBX

**OWNER’S MANUAL**  
PLEASE READ CAREFULLY AND SAVE. This manual contains important information. A copy of this manual must be left with the end user.