



**Carbon Monoxide Detector,  
Model 9L-i  
OWNER'S MANUAL**

**PLEASE READ  
AND SAVE!**

**Residential &  
Recreational  
Vehicle Use**



COSTAR is a trademark of Quantum Group, Inc.

*Dear New COSTAR 9L-i Owner,*

*Congratulations as you have taken steps to help insure the health and life safety of you and your family. We are proud to offer you our unique, patented CO Sensor technology that detects CO in a manner similar to the human body's response. The COSTAR 9L-i provides low cost protection from both the acute and chronic effects of CO poisoning.*

*Please read this owner's manual carefully so you will have a better understanding of the effects of CO poisoning and the COSTAR 9L-i Detector, as we work together pursuing a safer, healthier indoor air quality for us all.*

*To your good health and safety,*

**Mark Goldstein**  
President  
Quantum Group, Inc.  
The Environmental Health Company



## **FAULT CONDITION**

Periodically the detector's measurement circuit is tested. If an error is detected, the detector will sound twice and the YELLOW L.E.D. will flash twice every 30 seconds. This is an indication of circuit malfunction and that the detector requires immediate servicing.

## **MAINTENANCE**

### **BATTERY REPLACEMENT:**

**IF TAMPER RESISTANT PIN HAS BEEN USED, REFER TO "TAMPER RESISTANT LOCKING PIN" FOR REMOVAL INSTRUCTIONS.**  
(see Figure 5)

To replace the battery remove the detector from the mounting plate by rotating the detector in the direction of the "OFF" arrow on the cover. (see Figure 4, Step D).

The **Model 9L-i CO Detector** uses one (1) 9 volt battery. The **CO DETECTOR** is powered by a 9V **alkaline** battery. A fresh battery should last for one year under normal operating conditions. This detector has a low battery monitor circuit which will cause the detector to "chirp" and the red LED to flash approximately every 30-40 seconds for a minimum of seven (7) days when the battery gets low. Replace the battery when this condition occurs. **USE ONLY THE FOLLOWING 9 VOLT BATTERIES FOR CO DETECTOR REPLACEMENT.**

Alkaline type: EVEREADY 522; DURACELL MN1604;  
GOLD PEAK 1604A  
Lithium type: ULTRALIFE U9VL

**NOTE: REGULAR TESTING IS RECOMMENDED.**

**WARNING!! USE ONLY THE BATTERIES SPECIFIED. USE OF DIFFERENT BATTERIES MAY HAVE A DETRIMENTAL EFFECT ON THE CO DETECTOR.**

### **CLEANING YOUR DETECTOR:**

To clean your detector remove it from the mounting bracket as outlined in the beginning of this section.

You can clean the interior of your detector by using your vacuum cleaner hose and vacuuming through the openings around the perimeter of the detector.

The outside can be wiped with a damp cloth.

**AFTER CLEANING, REINSTALL YOUR DETECTOR. TEST YOUR DETECTOR BY USING THE TEST BUTTON.**

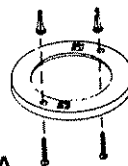
Test detector weekly for proper operation by pushing the test button until the YELLOW L.E.D. lights and a short beep is heard (approximately three seconds). Release the button. The detector will then test itself for proper operation. At completion of the self test, the alarm will sound and both L.E.D.s will light for 3/4 of a second. The detector then resumes normal operation.

## **SERVICE AND WARRANTY**

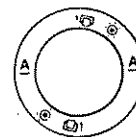
If after reviewing this manual you feel that your CO Detector is defective in any way, do not tamper with the unit. Return it for servicing to: **Quantum Group, Inc., 11211 Sorrento Valley Road, Suite V, San Diego, CA 92121.**

Or call us toll free (800) 432-5599.  
E-mail address: [mktsls@qginc.com](mailto:mktsls@qginc.com)

When ceiling mounting in a hallway the "A" line should be parallel with the walls.

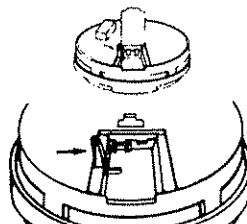


Step A



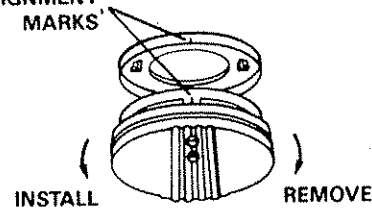
Step B

When wall mounting the "A" line should be horizontal and the UP FOR WALL MOUNTING arrow must be pointing up



Step C

ALIGNMENT MARKS



Step D

Figure 4

**USING TAMPER RESISTANT LOCKING PIN:** To make your carbon monoxide detector somewhat tamper resistant, a locking pin has been provided in the bag with the screws and anchors. Using this pin will deter children and others from removing the alarm from the mounting plate. To use the pin insert it into the hole in the side of the detector after the detector has been installed on the mounting plate (see fig. 5). Note the tamper resist pin will have to be removed in order to change the battery, this can be done easily with a long nose pliers. Using the long nose pliers pull the pin out of the hole, it is now possible to remove the detector from the mounting plate.



TAMPER RESISTANT LOCKING PIN

Figure 5

**Test detector immediately following installation** and weekly for proper operation by pushing the test button until the YELLOW L.E.D. lights and a short beep is heard (approximately three seconds). Release the button. The detector will then test itself for proper operation. At completion of the self test, the alarm will sound and both L.E.D.s will light for 3/4 of a second. The detector then resumes normal operation.

#### NORMAL OPERATION

In normal operation the detector will flash the RED L.E.D. once every 30 seconds.

#### WARNING CONDITION

If the COSTAR senses a low level of CO the YELLOW L.E.D. will light and the detector will beep every three seconds warning that CO is present. The area should immediately be ventilated. A concentration of 60 PPM within 67 minutes will cause the warning condition. Pushing the test button will silence the warning signal but the YELLOW L.E.D. will stay on. After two hours the warning signal will sound again if the CO source has not been eliminated. If the condition persists there is a possibility that it may cause the unit to enter alarm condition (below). If this occurs pushing the reset button will silence the alarm for 30 minutes.

#### ALARM CONDITION

If the COSTAR senses unsafe levels of CO, the RED L.E.D. will light up and the alarm will sound. The alarm condition will be signified by a repetitive alarm sounding pattern of approximately 4.5 seconds on 1.5 seconds off. Immediate evacuation is required. Pushing the test button will silence the alarm once for approximately 4 minutes. After approximately 4 minutes the alarm will once again sound until the unsafe CO concentration is removed.

## **IMPORTANT: WHAT YOUR CO DETECTOR CAN AND CANNOT DO**

If bedroom doors are usually closed at night, detectors should be placed in each bedroom as well as in the common hallway between them.

CO detectors also may not sense CO on a different level of a residence or building. For example, a second floor detector may not sense a CO leak on the first floor or in the basement. Therefore, detectors should be placed on every level of a residence or building.

If the detector is located outside of a bedroom, it may not wake up a sound sleeper, especially if the bedroom door is closed or only partly open. If the detector is located on a different level of the residence than the bedrooms, it is even less likely to wake up people sleeping in the bedroom.

Installing CO detectors may qualify you for lower homeowner's insurance rates, but CO detectors are not a substitute for insurance. Homeowners and renters should continue to insure their lives and property.

**WARNING:** The Model 9L-i CO Detector is **not** designed for marine use.

## **INSTALLATION AND OPERATION OF COSTAR 9L-i**

### **INSTALLATION INSTRUCTIONS: CAUTION!! READ CAREFULLY**

- **CAUTION: THIS UNIT IS SEALED. THE COVER IS NOT REMOVABLE!**
- A mounting plate is provided on the back of the detector.
- Remove the mounting plate from the back of the detector by holding the mounting plate and twisting the detector in the direction indicated by the "OFF" arrow on the detector cover.
- To insure aesthetic alignment of the detector with the hallway or wall the "A" line on the mounting plate must be parallel with the hallway walls when ceiling mounting or horizontal when wall mounting. (see steps A & B)
- After selecting the proper carbon monoxide detector location as described in Figures 1-3, attach the mounting plate on the wall. Be sure the "UP FOR WALL MOUNTING" text and arrow are facing up. Use the screws and anchors provided to secure the mounting plate.
- The battery is installed reversed for shipping. Remove and reinstall the battery in the correct orientation as noted on the inside of the battery door. When installing the battery, press the battery reminder red flag down into the battery compartment (see step C). The detector will beep once indicating proper battery installation. Remove warning label on face of detector prior to installation.

**CAUTION! IF THE BATTERY REMINDER RED FLAG IS NOT HELD DOWN IN THE BATTERY COMPARTMENT BY THE BATTERY, THE BATTERY DOOR WILL NOT CLOSE AND THE UNIT WILL NOT ATTACH TO THE MOUNTING BRACKET.**

Alignment marks are provided on the edge of the trim plate and the detector. After installing the mounting plate, place the detector on the mounting plate with the alignment marks lined up. Twist the detector in the direction indicated by the "ON" arrow on the detector cover (see step D) until it locks in place.

### **LOCATIONS TO AVOID**

Nuisance alarms are caused by placing detectors where they will not operate correctly. To avoid nuisance alarms, do not place detectors:

- Within 5 feet (1.5m) of any cooking appliance.
- In direct sunlight.
- In bathrooms

**WARNING:** Test detector operation after vehicle has been in storage, before each trip, and at least once per week during use.

### **DEVELOPING YOUR OWN CO SAFETY PLAN**

This CO detector can quickly alert you to the presence of CO — it cannot prevent toxic CO emissions. Please note that there are hazards against which CO detection may not be effective, such as gas leaks or explosions. The ultimate responsibility for protection against toxic CO fumes rests solely on you.

Installing CO detectors is just the first step in protecting your family from toxic CO poisoning. We also suggest that you create an effective, comprehensive safety program as outlined below.

1. Install CO detectors properly following the instructions in this manual. Keep your CO detectors clean—do not wash. Wipe with a clean towel. Test your detectors weekly and repair or replace them when they no longer function. As with any electronic product, detectors have a limited life and detectors that do not work cannot protect you.
2. Develop a family escape plan and practice it with your entire family, especially small children.
  - Draw a floor plan of your home and find two ways to exit from each room. There should be one way to get out of each bedroom without opening the door.
  - Teach children what the CO detector alarm signal means and how they must be prepared to leave the residence or RV by themselves if necessary.
  - Decide on a meeting place a safe distance from your house or RV and make sure all children understand where they should go and wait if there is a dangerous CO condition.
  - Conduct CO safety drills at least every 6 months to make sure that everyone, even small children, know what to do in order to escape safely.
  - Know where to go to call the Fire Department from outside your residence.

This unit is designed to detect carbon monoxide (CO) entering its sensing chamber. It does not sense combustible gas (such as natural gas, propane or butane), heat, smoke or flames.

**NOTE:** This CO detector is designed for use within a RV or a single residential living unit only. In a multi-family building, the detector may not provide early warning for residents if it is placed outside of the residential units, such as on outside porches, in corridors, lobbies, basements, or in other apartments. In multi-family buildings, each residential unit should have detectors installed as previously indicated.

When properly located, installed, and maintained, this CO detector is designed to provide early warning of developing poisonous CO conditions at a reasonable cost. This detector monitors the air, and when it senses CO, it activates its built-in alarm. It can provide precious time for you and your family to escape from your residence or RV before CO can seriously injure or kill. **However, such an early warning is possible only if the detector is located, installed, and maintained as specified in the Owner's Manual.**

### RECOMMENDATIONS

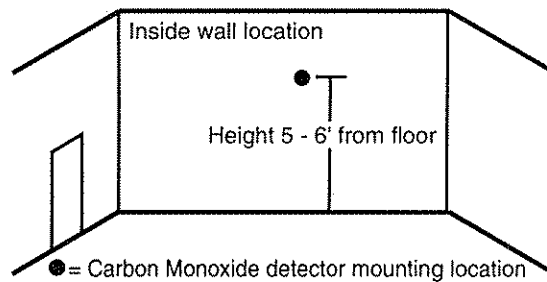
- Put a CO detector inside each bedroom where the occupant closes the door while sleeping. Particulate smoke can be blocked by a closed door, but CO fumes are likely to get through.

### MOUNTING LOCATION

This CO detector can be mounted on the wall or ceiling.

**WALL LOCATION:** Locate the top of the detector not more than 6 feet from the floor.

**CEILING LOCATION:** Detector should be mounted as close as possible to the center of a hallway or room. If this is not possible, the edge of the detector should be at least 4 inches from any wall.



**Figure 3:** Recommended CO detector mounting location is 5 to 6 feet from floor.

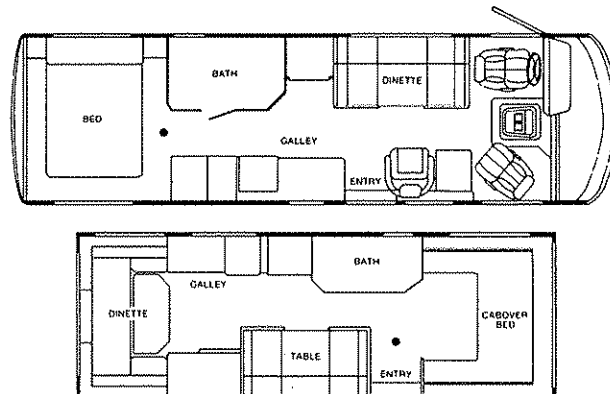
### LOCATIONS TO AVOID

Nuisance alarms are caused by placing detectors where they will not operate properly. To avoid nuisance alarms, do not place detectors:

- Within 5 feet (1.5m) of any cooking appliance.
- Near an open window or door, because the fresh air entering the opening may delay CO from reaching the detector.
- In damp or very humid areas or next to bathrooms with showers. Install detectors at least 10 feet (3 meters) away from bathrooms.
- In very cold or very hot environments or in unheated buildings or outdoor rooms where the temperature can go below or above the operating range of the detector. Temperature limits for proper operation are 32 to 100 degrees Fahrenheit (0 to 38 degrees Celsius).

## INSTALLING THE COSTAR 9L-i DETECTOR IN YOUR RV

### SUGGESTED MOUNTING LOCATION FOR RVs



This CO detector can be mounted on the wall or ceiling.

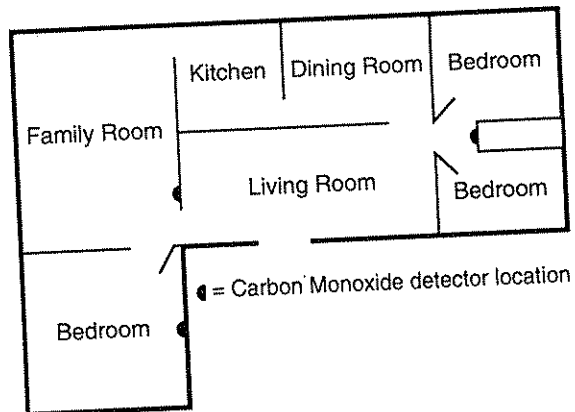
- If no one exhibits symptoms of discomfort associated with carbon monoxide poisoning simply:
  1. Push reset button.
  2. Turn off appliances, vehicle, or other sources of combustion at once, [furnace, water heater, wood, (coal or kerosene) burning stove or heater, RV, automobile, or the like].
  3. Immediately get fresh air into premises or RV.
  4. Call a qualified technician and have the problem identified and corrected before restarting appliances or RV.
- If warning signal is activated:
  1. Immediately get fresh air into the premises or RV.
  2. Call a qualified technician to inspect the logical sources for carbon monoxide and adjust, repair, replace as needed.

### **INSTALLING THE COSTAR 9L-i DETECTOR FOR RESIDENTIAL USE**

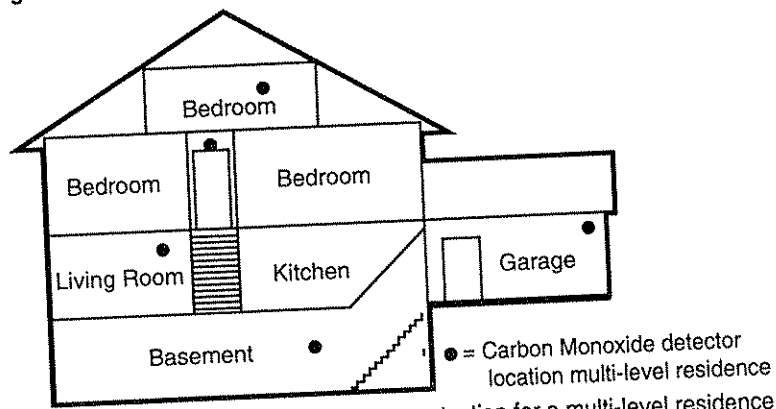
#### **LOCATION**

One of the most important considerations in any CO alarm system is the location of the detectors. Statistics of the National Fire Protection Association (NFPA) show that most of the fatal CO occurrences happen at night while people are sleeping.

Early warning of CO is best achieved by the installation of CO detectors on all floors and areas of the household including attached garages. Placement of a detector in a garage may cause an alarm due to CO from automotive exhaust.



**Figure 1:** Recommended CO detector protection for single floor residence.



**Figure 2:** Recommended CO detector protection for a multi-level residence.



## **WHAT YOU SHOULD KNOW ABOUT CO**

Carbon monoxide (CO) is an insidious poison. It is a colorless, odorless, tasteless gas. It is a cumulative poison. Even low levels of CO have been shown to cause brain and other vital organ damage in unborn infants with no effect on the mother.

The following symptoms are related to *CARBON MONOXIDE POISONING*:

### **MILD EXPOSURE**

Slight headache, nausea, vomiting, fatigue (often described as "flu-like" symptoms).

### **MEDIUM EXPOSURE**

Severe throbbing headache, drowsiness, confusion, fast heart rate.

### **EXTREME EXPOSURE**

Unconsciousness, convulsions, cardiorespiratory failure, death.

Many cases of reported *CARBON MONOXIDE POISONING* indicate that victims are aware they are not well, but they become so disoriented that they are unable to save themselves by either exiting the building or RV or calling for assistance. Young children and household pets may be the first affected.

Your CO detector is designed to detect the toxic CO fumes that result from incomplete combustion, such as those emitted from appliances, furnaces, fireplaces and auto exhaust.

A CO Detector is NOT A SUBSTITUTE for other combustible gas, fire or smoke alarms. This carbon monoxide detector is designed to detect carbon monoxide gas from ANY source of combustion.

**CAUTION:** This detector will only indicate the presence of carbon monoxide gas surrounding its sensor. Carbon monoxide gas may be present in other areas.

**WARNING:** This device may not alarm at low carbon monoxide levels. The Occupational Safety and Health Association (OSHA) has established that continuous exposure to levels of 50 PPM should not be exceeded in an eight hour period. This detector has not been investigated for carbon monoxide detection below 100 PPM. Individuals with medical problems may consider using detection devices with lower carbon monoxide detecting capabilities.

## **WHAT YOU SHOULD DO IF THE ALARM SOUNDS**

Never disconnect a CO detector to silence an alarm. The detector will automatically sense when the level of CO in the air falls below the danger level and will enter into the warning mode. You should stay outside the residence or RV in fresh air until the alarm is silenced. When the alarm sounds, do not stand too close to the detector. The sound produced by the detector is loud because it is designed to awaken a person in an emergency. Prolonged exposure to the alarm at a close distance may be harmful to your hearing.

### **IMPORTANT CONSIDERATIONS**

The 9L-i has been designed and is warranted to operate for six years.

**NOTE:** Manufacturer recommends replacement of detector six years after date of purchase.

**WARNING:** The activation of this device indicates the presence of carbon monoxide which can be FATAL. If alarm sounds:

- If anyone has a headache or an upset stomach, or exhibits other symptoms of CO poisoning, call the Fire Department and immediately move to a location which has fresh air. DO A HEAD COUNT TO CHECK THAT ALL PERSONS ARE ACCOUNTED FOR. DO NOT REENTER PREMISES UNTIL IT HAS BEEN AIRED OUT AND THE PROBLEM CORRECTED!

## LIMITED WARRANTY COSTAR Model 9L-i

Quantum Group, Inc. offers you this Limited Warranty on your new Carbon Monoxide Detector, including all of its component parts. This Limited Warranty extends solely to the original end-user purchaser of this Product, provided your purchase was made from an authorized vendor. Transfer or resale of this Product will automatically terminate warranty coverage.

Quantum Group, Inc. warrants the enclosed Carbon Monoxide Detector to be free from defects in materials and workmanship under authorized use and service, as specified in the owner's manual, for a period of six (6) years from the date of purchase. During the initial one (1) year period commencing with the date of purchase, any repair or replacement shall be made without charge. During the latter five (5) years of the Warranty period, any repair or replacement shall be made at a charge to the purchaser not to exceed the manufacturer's cost of repair or replacement. All replaced items become the property of Quantum Group, Inc.

QUANTUM GROUP, INC. MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, EXCEPT AS REQUIRED BY LAW, AND IN NO CASE FOR A DURATION LONGER THAN THAT OF THIS WRITTEN WARRANTY, EXCEPT AS REQUIRED BY LAW, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR AGAINST INFRINGEMENT, OR ANY EXPRESS OR IMPLIED WARRANTY ARISING OUT OF TRADE USAGE OR OUT OF A COURSE OF DEALING OR COURSE OF PERFORMANCE. Quantum Group, Inc. has not authorized any other party to extend any other warranties in connection with the sale of the Product, and it will not accept any responsibility for any statements, representations, or warranties made by any other person.

This limited Warranty does not cover: (1) Products which have been improperly installed, repaired, maintained, modified, or which have been subjected to misuse, abuse, accident, neglect, exposure to fire, water, or excessive changes in climate or temperature, or combined with non-Quantum Group, Inc.-approved accessories; (2) physical damage caused from use other than normal and proper operation or handling, as specified in the owner's manual; (3) cosmetic damage; (4) Products on which warranty stickers or Product serial numbers have been removed, altered, or rendered illegible; (5) the cost of installation, removal, or reinstallation.

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