



Products for Your Ultimate Safety

S-Tech

OWNERS MANUAL

STCH-MASTER/SLAVE

Natural (Methane) Gas Detector (combination set of Master Unit and Slave Unit)

(ELECTRICAL RATING: 120 VAC, 60HZ, 5 watts.)

IMPORTANT! READ ALL INSTRUCTIONS BEFORE INSTALLATION AND SAVE THIS MANUAL FOR FUTURE REFERENCE.

WARNING:

Changes or modifications not expressly approved by S-Tech could avoid the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital devices, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

WARNING! THIS DETECTOR WILL ONLY INDICATE THE PRESENCE OF NATURAL (METHANE) GAS AT THE SENSOR. NATURAL (METHANE) GAS MAY BE PRESENT IN OTHER AREAS . THIS DEVICE IS NOT A SUBSTITUTE FOR SMOKE OR FIRE DETECTORS (See limitations of detectors in section 9 for details).

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WARNING! DISCONNECTING OR LOSS OF AC POWER WILL RENDER THIS UNIT INOPERATIVE.

1. GENERAL DESCRIPTION

The STCH-MASTER/SLAVE gas detector provides an early residential warning of the presence of explosive natural (methane) gas and is factory calibrated to sound an alarm that meets UL1484 standard. The L.E.L. (Lowest Explosive Level) of natural (methane) is 3.8% (5%) in volume and the alarm level of this detector is set at 10 - 25% of the L.E.L. (Lowest Explosive Level).

When the alarm is triggered the red light and buzzer will stay on for a minimum of 5 minutes. If natural (methane) gas levels persist beyond the calibrated level, the detector will continue to alarm until the natural (methane) gas is cleared. See OPERATION section for further information.

There have been many cases of serious injuries and damages reported that were caused by natural (methane) gas leak explosions.

**IMPORTANT! READ ALL OPERATION INSTRUCTIONS CAREFULLY.
FAMILIARIZE YOUR FAMILY WITH THE ALARM SIGNAL AND WHAT TO DO IN THE EVENT OF AN ALARM.**

2. SPECIFICATIONS

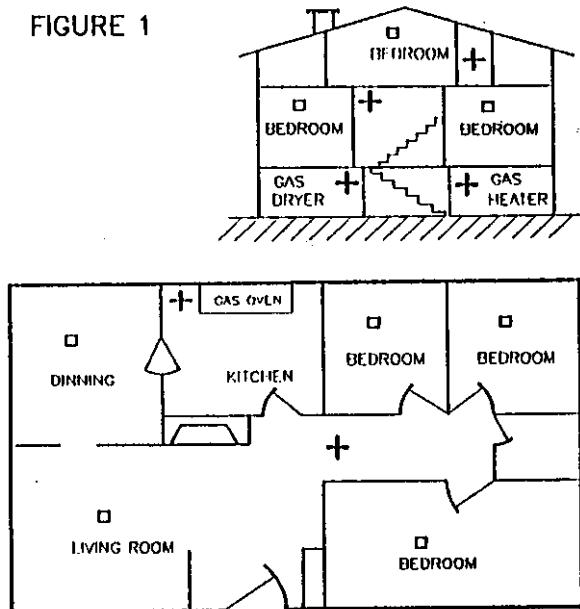
METHANE ALARM LEVEL	10 - 25% L.E.L.
POWER SOURCE	120 VAC, 60 Hz, 5 WATTS
OPERATING TEMPERATURE	32°F (0°C) TO 104°F (40°C)
ALARM SOUND LEVEL	85 dB AT 10 FEET
MINIMUM ALARM TIME	5 MINUTES
DETECTION FREQUENCY	SAMPLING EVERY SECOND
RF TRANSMIT DISTANCE	80 FT LINE-IN SIGHT, RF CARRIER AT 315 MHz

3. RECOMMENDED LOCATIONS OF DETECTORS:

- Install the STCH-MASTER unit close to every place that gas operated appliances are installed (see figure 1).
- Install the STCH-SLAVE unit to bedroom or hallway close to bedrooms.
- Since natural (methane) gas is lighter than air (1:0.56), the greatest concentration of gas will be immediately under the ceiling. Mount detectors on the wall with the top edge of the detector at a minimum of 6" (15 cm) and a maximum of 12" (30.5 cm) below the ceiling, and at least 2 feet (60.1 cm) from any corner (see figure 2).
- If the ceiling is sloped or higher than 8.5 feet (2.6 m), please ask your local Gas Company for advice about proper installation.

Figure 1,2

FIGURE 1



- ⊕ Detector placement for minimum protection
- Additional detector locations for added protection.

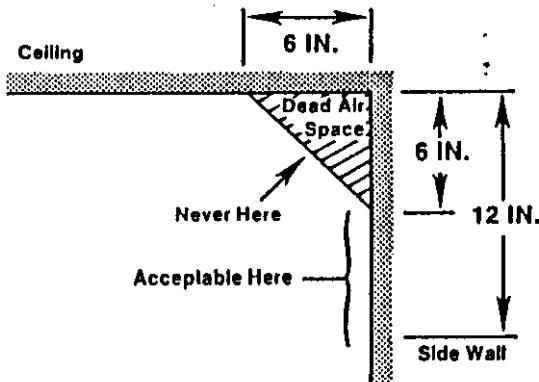


FIGURE 2

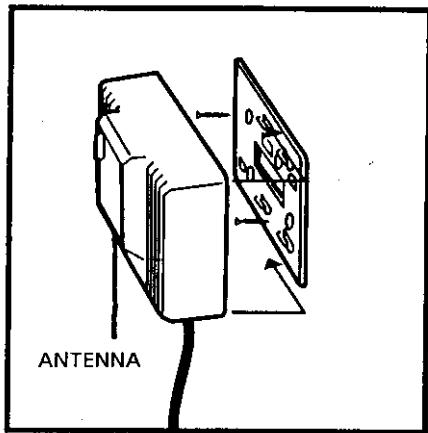
4. WARNING! LOCATIONS TO AVOID:

- IN AN AREA WHERE THE TEMPERATURE MAY FALL BELOW 32° F (0° C) OR RISE ABOVE 104° F (40° C).
- IN FRONT OF FORCED AIR DUCTS USED FOR HEATING AND AIR CONDITIONING, NEAR CEILING FANS, OR OTHER HIGH AIR FLOW AREAS.
- DIRECTLY ON ANY GAS APPLIANCE.
- IN CLEANING SUPPLY ROOMS: CHEMICALS USED IN HOUSEHOLD CLEANING AND PAINTING SUPPLIES CAN CAUSE NUISANCE ALARMS.
- IN HAZARDOUS LOCATIONS: THIS DETECTOR IS NOT SUITABLE FOR INSTALLATION IN A HAZARDOUS LOCATION, AS DEFINED IN THE NATIONAL ELECTRICAL CODE.

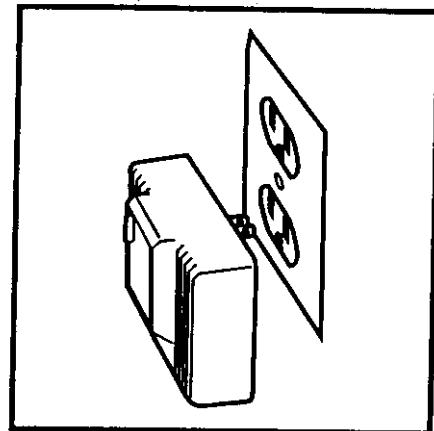
5. INSTALLATION INSTRUCTIONS:

NOTE! REVIEW SECTION 3, RECOMMENDED LOCATIONS OF DETECTORS AND SECTION 4, LOCATIONS TO AVOID, PRIOR TO INSTALLING YOUR DETECTOR.

The proper power for the STCH-MASTER/SLAVE natural (methane) gas detectors is 120 volt single phase, supplied from a non-switchable circuit which is not protected by a ground fault interrupter.



STCH-MASTER UNIT



STCH-SLAVE UNIT

WIRING REQUIREMENTS

- Installation of STCH-MASTER:

The unit STCH-MASTER is designed to be wall mounted. It has an attached 6-foot line cord. Be sure that the outlet into which you plug the unit is not controlled by a switch & that the detector is not obstructed by drapes etc. Remove the mounting plate from the back of the detector (slide to remove).

Using the enclosed screws and anchors install the mounting plate on the wall 5 to 6 feet above the floor within cord reach of the outlet .

Install the natural (methane) gas detector on the mounting plate and slide to the left to lock the detector in place.

- Installation of STCH-SLAVE:

The unit STCH-SLAVE is a direct plug in unit. Be sure that the outlet on which you install the detector is not controlled by a switch and that the detector is not obstructed by drapes etc.

INITIALISATION: This process is required to initialise the Slave unit so that it is warranted to be able to receive the RF signal and meantime to warrant it is initialised with the serial #. Failure to initialise, the Slave unit may activate the trouble signal every 15 minutes until it has received the serial # codes from the Master unit the time which will take as long as 6 hours.

- a. Install the Master unit at the desired location.
- b. Mount the Slave unit at the level of the home where you may be able to hear the alarm sound even if you are asleep in the bedroom, ideally at the hallway of the bedroom.
- c. Press the Test button of the Master to activate the Slave unit. You may require a second person to help you to ensure the Slave unit is activated.
- d. If the Slave unit is acknowledging by sounding the alarm buzzer, the process is complete. You may have to find another location to get the Slave unit acknowledging due to the barrier of the RF path. This means, the RF signal may not be able to get through from the Master unit to the Slave unit.

STCH-MASTER/SLAVE OPERATING INSTRUCTIONS

a. RF-SECTION:

- STCH MASTER:

Normal Operation: It will transmit serial # codes to the slave unit in every hour so that the Slave unit can be supervised.

Alarm Condition: It will transmit alarm codes to the Slave unit continuously.

Trouble Alarm Condition: It will transmit trouble codes to the Slave unit every 30 seconds while the gas alarm sensor is activated.

- STCH SLAVE:

Normal Operation: It will continuously receive RF signals at 315 Mhz. Green LED will be on continuously.

Alarm Condition: The piezo buzzer will sound continuously. Red LED will be on until the received RF alarm signal discontinuous.

Trouble Condition: It will beep once every 15 minutes and the green LED will flash continuously until the trouble condition is clear. Trouble circuit is activated if the RF signal is missing or a trouble code is received.

Reset: To reset the alarm, simple push momentarily the Test/Reset button, the alarm will be silenced for 5 minutes.

Signal Description:

Master Unit:

Type	Condition	Visible Signal	Audible Signal
1	<u>Normal Operation:</u> A successful transmission in every hour.	N/A	N/A

Slave Unit:

Type	Condition	Visible Signal	Audible Signal
1	<u>Stand-by Mode without initialisation:</u> The maximum first 6 hours after power up.	a. Green LED flashes b. Red LED is OFF	Buzzer beeps every 15 minutes until initialised
2	<u>Normal Mode (after initialised):</u> Receive a successful transmission every hour.	a. Green LED glows b. Red LED is OFF	Buzzer is silent
3	<u>Alarm Mode:</u> Receive an alarm code in normal mode	a. Green LED grows b. Red LED turns ON	Buzzer alarms until no alarm code is received or Test/Reset button is pressed
4	<u>Trouble Mode:</u> No transmission received in more than 6 hours	a. Green LED flashes b. Red LED flashes once in every 15 minutes	Buzzer beeps once as red LED flashes

b. POWER ON: When A.C. power is applied, the natural (methane) gas detector requires a warm-up period to stabilize the sensor element of approximately 3 minutes. The green LED will flash during this period. When the green LED lights on solidly, the detector begins to detect natural (methane) gas concentrations once a second.

c. TROUBLE CONDITION: The internal micro-controller continuously monitors the sensor and other critical components. If an internal failure of any of these components occurs, the detector will flash the red LED and buzzes four times every 30 seconds.

d. ALARM MODE: When natural (methane) gas concentration exceeds calibrated level (10-25% L.E.L.), the detector will sound "beep-beep" and turn on the red LED. If this dangerous condition lasts for 4 seconds, the natural (methane) detector will latch on alarm mode for 5 minutes with the red LED turning on and the buzzer sounding continuously. During this 5 minute period, the detector will cease sensing gas concentrations and the green LED will flash to indicate same. If the natural (methane) gas level still persists beyond the calibrated level after 5 minutes, the detector will continue to alarm until the natural (methane) gas clears.

e. TESTING: IMPORTANT! TEST WEEKLY TO ENSURE PROPER OPERATION.

Test the detector by pushing the TEST/RESET button on the cover and hold it down. This will simulate a concentration of natural (methane) gas exceeding the safety level. If all the electronic circuit and buzzer module are working, the detector will turn on the red LED and sound the buzzer continuously. **Do not try to test this detector in any other way.**

If the detector does not respond properly, check the fuse or circuit breaker supplying power to the detector circuit. If the alarm still does not sound the unit may be defective or have other failure and should be returned for service (see section 10).

An erratic or low sound coming from your alarm may indicate a defective detector, and it should be returned for service (SEE SECTION 10).

f. RESET: The detector will automatically reset itself when the natural (methane) gas which caused the alarm has cleared. The detector will however alarm for at least 5 minutes if it is not manually reset. You can also silence the detector by pushing the TEST/RESET button. The detector will need 30 seconds to reset its system and sensor; as in the warm-up period, the green LED will flash until it is ready to detect the presence of natural (methane) gas. If natural (methane) gas is still present, the detector will alarm again.

6. FALSE ALARMS

This detector responds to the presence of natural (methane) gas. It does not detect smoke. **If the detector does alarm, get out of the house and call the Gas Company.** If no problem is found by the Gas Company, check to see if one of the reasons listed in section 4 may have caused the alarm.

Some solvents used in chemical cleaning agents, paints, varnishes and the furniture refinishing process, and some propellants used in aerosol hair spray and air-fresheners can cause the detector to alarm if they are used in close proximity to the detector for extended periods of time. Gasoline or other flammable liquids stored in open containers near the detector may also cause the detector to alarm. Never store flammable liquids in open containers.

IF YOU HAVE BEEN AWAY FROM HOME and you return to find your alarm sounding, DO NOT ENTER YOUR HOME. Call the Gas Company from a neighbor's home. DO NOT RE-ENTER YOUR HOME FOR ANY REASON UNTIL YOU HAVE BEEN ASSURED THAT IT IS SAFE TO DO SO.

NOTE: A newly installed detector may have picked up various fumes or gases that include natural (methane) gas during transit and storage. This accumulation contamination can cause the detector to go into the alarm mode during the initial power up. You can choose to do nothing and the detector will stop sounding in a few minutes, or you can press the test / reset button which will stop the alarm immediately. It may be necessary to reset the unit several times to fully clear the sensor of the accumulated contamination.

7. MAINTENANCE: CLEANING YOUR DETECTOR

You can clean your detector by using a vacuum cleaner hose and vacuuming around the openings on the detector. The outside of the detector can be wiped with a damp cloth. NO chemical detergent should be used to clean this detector. **After cleaning, test your detector by using the TEST/RESET button and check that the green LED is on.**

8. LIMITATIONS OF METHANE GAS DETECTORS

Natural (Methane) gas detectors are devices that can provide an early warning of the presence of natural (methane) gas at a reasonable cost. However, detectors have sensing limitations and may not always sound a warning of the presence of natural (methane) gas. A.C. powered detectors will not operate if the A.C. power has been cut off, such as by an electrical fire, a tripped circuit breaker or an open fuse. These detectors must be tested regularly to make sure that they are receiving power and operating properly. Detectors cannot sense natural (methane) gas that do not reach the detector and therefore, detectors may not detect natural (methane) gas which is in a different area of a home. If the detector is located on a different level of the home or on the other side of a closed door, it may not waken a sound sleeper. The use of drugs and alcohol may impair one's ability to hear the alarm. If you have a multi-level home, install detectors on each level of the home. If the detector is installed in a hallway and the bedroom doors are kept closed at night, install a detector in each bedroom.

9. GOOD SAFETY HABITS:

a. DEVELOP AND PRACTICE A PLAN OF ESCAPE:

- Make a floor plan indicating all doors and windows and at least two (2) escape routes from each room. Second story windows may need a rope or chain ladder.
- Have a family meeting and discuss your escape plan, showing everyone what to do in case the alarm sounds.
- Determine a place outside your home where you can all meet if an alarm occurs.
- Familiarize everyone with the sound of the alarm and train them to leave your home when they hear it.
- Practice an escape drill at least once every six months. Practice allows you to test your plan before an emergency. You may not be able to reach your children in an emergency, so it is important that they know what to do.

b. WHAT TO DO WHEN THE ALARM SOUNDS:

- Leave immediately by your escape plan. Every second counts, so don't waste time getting dressed or picking up valuables.
- Once outside go to your selected meeting place and make sure everyone is there.
- Call the Gas Company from your neighbor's home - not from yours!
- Don't return to your home until the problem has been corrected or the officials say that it is all right to do so.

10. SERVICE AND WARRANTY:

If after reviewing this manual you feel that your natural (methane) gas detector is defective in any way, do not tamper with the unit. Return it for servicing.

NOTE!: DO NOT TRY TO REPAIR THIS DETECTOR YOURSELF.

TWO YEAR LIMITED WARRANTY

Patrick Plastics Inc. provides a 2 (two) year limited warranty on the natural (methane) gas detector. If the purchaser discovers that the unit is defective, she/he must send the natural (methane) gas detector prepaid with proof of date of purchase and a check in the amount of \$5.00 payable to Patrick Plastics Inc. (to cover the cost of shipping and handling) to **Warranty Service Dept. Patrick Plastics Inc., 18 Basaltic Road, Vaughan, Ontario L4K 1G6, Canada.** Upon receipt of same, the obligation of Patrick Plastics Inc. under this warranty is limited to repairing or replacing any parts which it finds under normal use, to be defective in material, workmanship or design and returning same to the customer. This warranty shall not apply to any natural (methane) gas detectors that have been opened, damaged, modified, abused or altered in anyway after the date of purchase, or if it fails to operate due to improper maintenance or inadequate A.C. electrical power.

THE LIABILITY OF PATRICK PLASTICS INC. OR OF ANY OF ITS PARENT OR SUBSIDIARY CORPORATIONS ARISING FROM THE SALE OF THIS NATURAL (METHANE) GAS DETECTOR OR UNDER THE TERMS OF THIS LIMITED WARRANTY SHALL NOT IN ANY CASE EXCEED THE COST OF THE REPLACEMENT OF THE NATURAL (METHANE) GAS DETECTOR. IN NO CASE SHALL PATRICK PLASTICS INC. OR ANY OF ITS PARENT OR SUBSIDIARY CORPORATIONS BE LIABLE FOR CONSEQUENTIAL LOSS OR DAMAGES RESULTING FROM THE FAILURE OF THE NATURAL (METHANE) GAS DETECTOR OR FOR THE BREACH OF THIS OR ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, EVEN IF THE LOSS OR DAMAGE IS CAUSED BY THE COMPANY'S NEGLIGENCE OR FAULT.

Since some states do not allow limitations on the duration of an implied warranty or do not allow the exclusions or limitations of incidental or consequential damages, the above limitations or exclusions may not apply to you. While this warranty gives you specific legal rights, you may also have other rights which vary from state to state.

The above warranty may not be altered by any agent, representative, dealer or employee.

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