



# 1001 TH

## INSTALLATION AND OPERATING INSTRUCTIONS

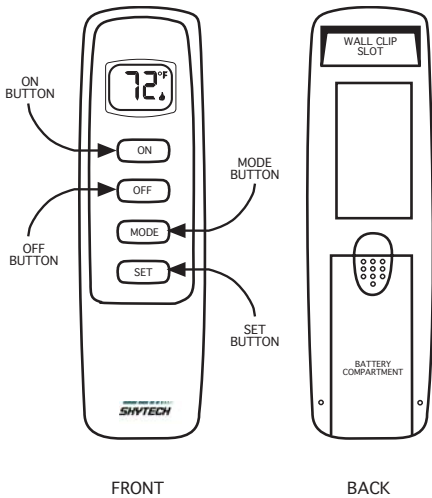
**IF YOU CANNOT READ OR UNDERSTAND THESE INSTALLATION INSTRUCTIONS DO NOT ATTEMPT TO INSTALL OR OPERATE**

### INTRODUCTION

SKYTECH'S remote control system was developed to provide a safe, reliable and user-friendly remote control system for gas heating appliances. This all battery system operates independently of household current. The system operates on radio frequencies with a non-directional signals. The SYSTEM's operating range is approximately 20 feet range. The system operates on one of 1,048,576 security codes that are programmed into the transmitter at the factory; the remote receiver's code must be matched to that of the transmitter prior to initial use.

Review **COMMUNICATION SAFETY SECTION** under TRANSMITTER section and **THERMO SAFETY SECTION** under REMOTE RECEIVER section. These signal/temperature safety features shut down the fireplace system when a potentially unsafe condition exists.

### TRANSMITTER

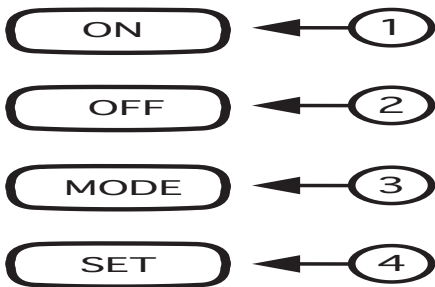


This remote control SYSTEM offers the user a battery-operated remote control that operates most millivolt gas valves used in some heater rated gas logs, gas fireplaces and other gas heating appliances.

The transmitter operates on (2) 1.5V AAA batteries.

It is recommended that ALKALINE batteries always be used for longer battery life and maximum operational performance.

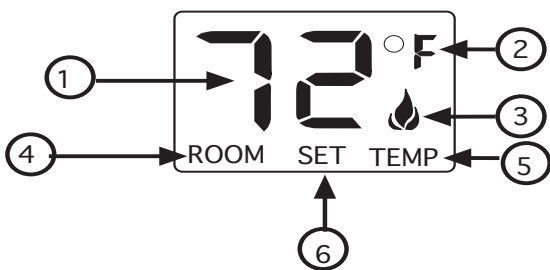
Before using the transmitter, install the (2) AAA transmitter batteries into the battery compartment. (Use caution that batteries are installed in the proper direction)



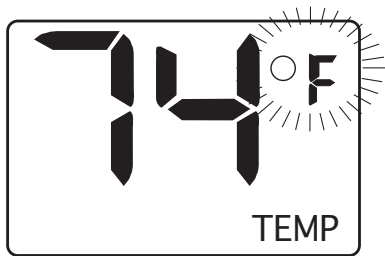
### KEY SETINGS

- ON - Operates unit to on position, Manually ON.
- OFF - Operates unit to off position, Manually OFF.
- MODE - Changes unit from manual mode to thermo mode.
- SET - Sets temperature in thermo mode.

### LCD - Liquid Crystal Display



1. **DISPLAY** - Indicates CURRENT room temperature .
2. **° F OR ° C** - Indicates degrees Fahrenheit or Celsius.
3. **FLAME** - Indicates burner/valve in operation.
4. **ROOM** - Indicates remote is in THERMO operation.
5. **TEMP** - Appears during manual operation.
6. **SET** - Appears during time the of setting the desired temperature in the thermo operation.



### SETTING ° F / ° C SCALE

The factory setting for temperature is ° F. To change this setting to ° C, first

- Press the ON key and the OFF key on the transmitter at the same time this will change from ° F to ° C. Follow this same procedure to change from ° C back to ° F.

### MANUAL FUNCTION

To operate the system in the manual "MODE" does the following.

#### ON OPERATION

Press the ON key the appliance flame will come on. During this time the LCD screen will show ON, after 3 seconds the LCD screen will default to display room temperature and the word TEMP will show. **(Flame icon will appear on LCD screen in on mode)**

#### OFF OPERATION

Press the OFF key the appliance flame will shut off. During this time the LCD screen will show OF, after 3 seconds the LCD screen will default to display room temperature and the word "TEMP" will also show on the screen.

### THERMOSTAT FUNCTION

#### SETTING DESIRED ROOM TEMPERATURE

This remote control system can be thermostatically controlled when the transmitter is in the THERMO mode (The word **ROOM** must be displayed on the screen). To set the THERMO MODE and DESIRED room temperature,

Press the MODE key until the LCD screen shows the word ROOM, then the remote is in the thermostatic mode.

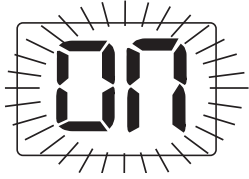
Press and hold the SET key until the desired set temperature is reached. (By pressing and holding the set key the LCD screen set numbers will increase from 45° to 99° then restart over at 45°) Next release the SET key. The LCD screen will display the set temperature for 3 seconds and the LCD screen will flash the set temperature for 3 seconds, then the LCD screen will default to display the room temperature.

#### TO CHANGE THE SET TEMPERATURE

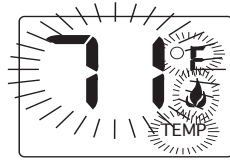
Press and hold the SET key until the desired set temperature is reached. (By pressing and holding the set key the LCD screen set numbers will increase from 45° to 99° then restart over at 45°) Next release the SET key. The LCD screen will display the set temperature for 3 seconds, then will flash the set temperature for 3 seconds, then the LCD screen will default to display the room temperature.

Press the MODE key to disengage the thermo mode. The word ROOM on the LCD screen will not show when the thermo is not in operation.

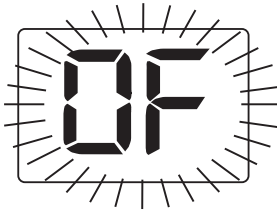
NOTE: The highest SET temperature is 99° Fahrenheit (32° Celsius) and the lowest temperature is 45° Fahrenheit (6° Celsius)



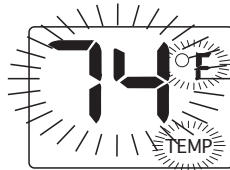
SCREEN WHILE DEPRESSING ON KEY



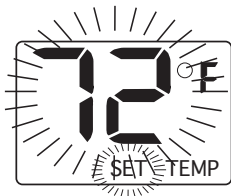
SCREEN AFTER 3 SECOND DEFAULT



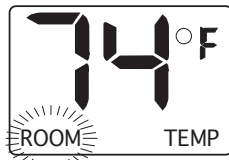
SCREEN WHILE DEPRESSING OFF KEY



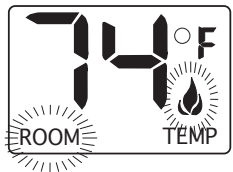
SCREEN AFTER 3 SECOND DEFAULT



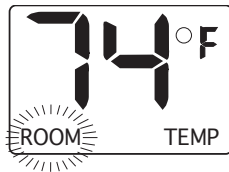
THERMO SET



THERMO MODE



THERMO ON



THERMO OFF

## OPERATIONAL NOTES:

The Thermo Feature on the transmitter operates the appliance whenever the ROOM TEMPERATURE varies a certain number of degrees from the SET TEMPERATURE. This variation is called the "SWING" or TEMPERATURE DIFFERENTIAL. The normal operating cycle of an appliance may be 2-4 times per hour depending on how well the room or home is insulated from the cold or drafts. The factory setting for the "swing number" is 2. This represents a temperature variation of +/- 2° F (1° C) between SET temperature and ROOM temperature, which determines when the fireplace will be activated. This function is pre-set at the factory.

The transmitter has ON and OFF manual functions that are activated by pressing either button on the face of the transmitter. When a button on the transmitter is pressed the word ON or OF will appear on the LCD screen to show while the signal is being sent. Upon initial use, there may be a delay of three seconds before the remote receiver will respond to the transmitter. This is part of the system's design.

## REMOTE RECEIVER

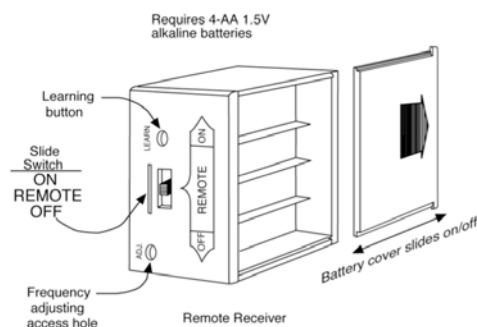
### IMPORTANT

**THE REMOTE RECEIVER SHOULD BE POSITIONED WHERE AMBIENT TEMPERATURES DO NOT EXCEED 130° F.**

The remote receiver operates on 4 AA-size 1.5V batteries. It is recommended that ALKALINE batteries be used for longer battery life and maximum microprocessor performance. **IMPORTANT:** New or fully charged batteries are essential for proper operation of the remote receiver.

The remote receiver houses the microprocessor that responds to commands from the transmitter to control system operation. It emits one beep when it receives an ON or OFF command manually, but no beep when cycling on and off automatically in THERMO mode. The remote receiver has a 3-position slide switch for selecting the MODE of operation: ON/REMOTE/OFF

- With the slide switch in the ON position (toward the LEARN button), the system will remain on until the slide switch is placed in the OFF or REMOTE position.
- With the slide switch in the REMOTE position (centered), the system will only operate if the remote receiver receives commands **from the transmitter.**
- With the slide switch in the OFF position (away from the LEARN button), the system is off.
- **It is suggested that the slide switch be placed in the off position if you will be away from your home for an extended period of time. If the remote receiver is mounted out of children's reach, placing the slide switch in the OFF position also functions as a safety "lock-out" by both turning the system off and rendering the remote receiver inoperative.**



## INSTALLATION INSTRUCTIONS

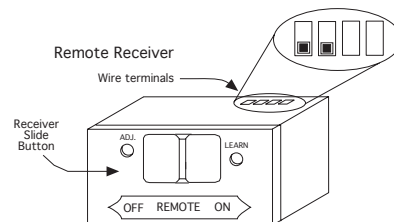
### INSTALLATION

The remote receiver can be mounted on or near the fireplace hearth. **PROTECTION FROM EXTREME HEAT IS VERY IMPORTANT.** Like any piece of electronic equipment, the remote receiver should be kept away from temperatures exceeding 130° F inside the receiver case. Battery life is also significantly shortened if batteries are exposed to high temperatures.

### HEARTH MOUNT

The remote receiver can be placed on the fireplace hearth or under the fireplace, behind the control access panel. Position where the ambient temperature inside the receiver case does not exceed 130° F.

NOTE: Black Button is used on Hearth Mount Applications.



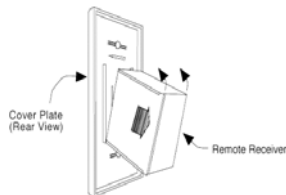
### INSTALLATION

The remote receiver can be either wall-mounted in a standard plastic switch box or placed on or near the fireplace hearth. Preferably, the remote receiver should be wall-mounted in a plastic switch box, as this will protect its electronic components from both the heat produced by the gas appliance and potential damage or abuse that can occur if it is left exposed on the hearth. **PROTECTION FROM EXTREME HEAT IS VERY IMPORTANT.** Like any piece of electronic equipment, the remote receiver should be kept away from temperatures exceeding 130° F inside the receiver case. Battery life is also significantly shortened if batteries are exposed to high temperatures.

Make sure the remote receiver switch is in the OFF position. It is recommended that 18 gauge solid or stranded wires (included) be used to make connections between the terminal wiring block on the millivolt gas valve or electronic module and the wire terminals on the remote receiver. For the best results, use 18 gauge stranded wire, with no splices and measuring no longer than 20 ft.

## WALL MOUNTING

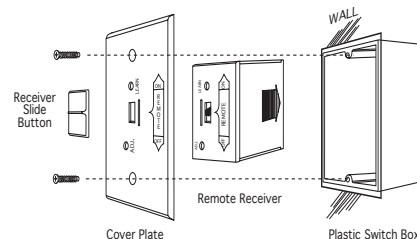
Install 4 AA-size 1.5 ALKALINE batteries in the remote receiver. For best performance, remote receiver batteries should be factory fresh when installed. Very little battery power is required to operate the remote receiver, but the electronics are tuned to operate best when battery output is greater than 5.3 volts. Four new AA batteries should provide an output voltage of 6.0 to 6.2 volts. **Be sure batteries are installed with the (+) and (-) ends facing the correct direction.**



To attach Cover Plate to Receiver box:

Position the receiver as shown in diagram to the left with lower tab on cover plate inserted into groove of receiver (Make sure ADJ hole and LEARN hole on cover plate properly aligns with remote receiver) Pull Receiver up and snap into top tab of cover plate.

Position the cover plate so the word ON is facing up; then, install the remote receiver into the plastic switch box using the two long screws provided. Push the White Button over the receiver slide switch only after making sure the remote receiver has LEARNED the transmitter's security code (see MATCHING SECURITY CODES).



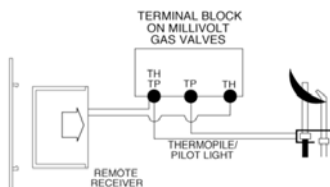
**NOTE:** The remote receiver will only respond to the transmitter when the 3-position slide button on the remote receiver is in the REMOTE position. If the system does not respond to the battery transmitter on initial use, see MATCHING SECURITY CODES, and recheck battery positions in the remote receiver.

## WIRING INSTRUCTIONS

A qualified electrician or a gas technician who is familiar with the gas appliance and gas valves that will be operated by this remote should install the remote control system. Incorrect wiring connections **WILL** cause damage to the gas valve or electronic module operating the gas appliance and may also damage the remote receiver.

### **WIRING MILLIVOLT VALVES**

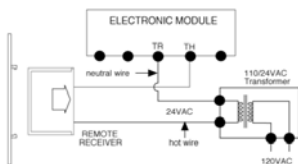
The remote receiver is connected to the millivolt valve using the TH (thermostat) terminals on the terminal block on the millivolt gas valve. Connect 18 gauge solid or stranded wires from the remote receiver to the gas valve.



Operation of the remote receiver is similar to that of a thermostat in that both turn the gas valve on and off based on input signals. A thermostat's input signals are different temperatures. The remote receiver's input signals come from the transmitter.

Connect each of the two wires leading from the TH terminals on the millivolt gas valve to either of the two wire terminals on the remote receiver. Normally it does not matter which wires go to which terminal.

### **WIRING ELECTRONIC SPARK IGNITIONS**



The remote control receiver can be connected, in series, to a 24VAC transformer to the TR (transformer) terminal on the ELECTRONIC MODULE. Connect the hot wire from the 24VAC transformer to either of the wire terminals on the remote receiver. Connect another wire (not included) between the other receiver wire terminal and the TH (thermostat) terminal on the ELECTRONIC MODULE.

## **SYSTEM CHECK MILLIVOLT VALVES**

Light your gas appliance following the lighting instructions that came with the appliance. Confirm that the pilot flame is on; it must be in operation for the main gas valve to operate.

- Slide the 3-position button on the remote receiver to the ON position. The main gas flame (i.e., the fire) should ignite.
- Slide the button to OFF. The flame should extinguish (the pilot flame will remain on).
- Slide the button to REMOTE (the center position), and then press the ON button on the transmitter to turn the system to ON. The main gas flame should ignite.
- Press the OFF button on the transmitter to turn the system to OFF. The flame should extinguish (the pilot flame will remain on).
- Press the MODE button on the transmitter to change the system to THERMO. Advance the SET temperature on the transmitter to a temperature of at least 2<sup>0</sup> F (1<sup>0</sup> C) above the ROOM temperature displayed on the LCD screen. With this manual setting, the normal thermostatic cycle is overridden and the system flame will ignite. Set the SET temperature to at least 2<sup>0</sup> F (1<sup>0</sup> C) below the room

temperature and the system flame will extinguish in a few seconds. Thereafter, it should continue to cycle to on and off thermostatically approximately every two minutes as the ROOM temperature changes, but only when the temperature differential between ROOM and SET temperatures differ at least 2° F (1° C). The 2° F differential is the factory setting.

## **ELECTRONIC IGNITION SYSTEMS**

- Slide the 3-position button on the remote receiver to the ON position. The spark electrode should begin sparking to ignite the pilot (the pilot may ignite after only one spark). After the pilot flame is lit, the main gas valve should open and the main gas flame should ignite.
- Slide the button to OFF. The main gas flame and pilot flame should BOTH extinguish.
- Slide the button to REMOTE (the center position), and then press the ON button on the transmitter to turn the system to ON. The spark electrode should begin sparking to ignite the pilot. After the pilot is lit, the main gas valve should open and the main gas flame should ignite.
- Press the OFF button on the transmitter to OFF. The main gas flame and pilot flame should BOTH extinguish.
- Press the MODE button on the transmitter to change the system to THERMO. Advance the SET temperature on the transmitter to a temperature of at least 2° F (1° C) above the ROOM temperature displayed on the LCD screen. With this manual setting the normal thermostatic cycle is overridden and the system flame will ignite. Set the SET temperature to at least 2° F (1° C) below the room temperature and the system flame will extinguish in a few seconds. Thereafter, it should continue to cycle to on and off thermostatically approximately every two minutes as the ROOM temperature changes, but only when the temperature differential between ROOM and SET temperatures differ at least 2° F (1° C). (The 2° F differential is the factory setting).

## **CP (CHILDPROOF) FEATURE**

This SKYTECH remote control includes a CHILDPROOF “LOCK-OUT” feature that allows the user to “LOCK-OUT” operation of the appliance, from the TRANSMITTER.

### **SETTING “LOCK-OUT” –(CP)**

- To activate the “LOCK-OUT” feature, press and hold the ON button and the MODE button at the same time for 5 seconds. The letters CP will appear in the TEMP frame on the LCD screen.
- To disengage the “LOCK-OUT”, press and hold the ON button and the MODE button at the same time for 5 seconds and the letters CP will disappear from the LCD screen and the transmitter will return to its normal operating condition.
- To verify that transmitter is in the CP lock-out mode press any key and the LCD screen will show “CP”

**NOTE:** If the appliance is already operating in the ON or THERMO MODES, engaging the “LOCK-OUT” will not cancel the operating MODE. Engaging the “LOCK-OUT” prevents only the manual operation of the TRANSMITTER. If in the auto modes, the THERMO operation will continue to operate normally. To totally “LOCK-OUT” the operation of the TRANSMITTER’S operating signals; the transmitter’s MODE must be set to OFF.

### **THERMO UPDATING FEATURE –TRANSMITTER – (T/S –TX)**

This SKYTECH remote control has a THERMO UPDATING Feature built into its software. The THERMO UPDATING Feature operates in the following manner, but only in the THERMO MODES:

**The transmitter reads the ROOM temperature every 2 minutes checking the ROOM temperature against the SET temperature and then sends a signal to the receiver.**

### **COMMUNICATION – SAFETY – TRANSMITTER – (C/S – TX)**

This SKYTECH remote control has a COMMUNICATION –SAFETY function built into its software. It provides an extra margin of safety when the TRANSMITTER is out of the normal 20 foot operating range of the receiver.

The COMMUNICATION – SAFETY feature operates in the following manner, in all OPERATING MODES – ON/ ON THERMO.

At all times and in all OPERATING MODES, the transmitter sends an RF signal every fifteen (15) minutes, to the receiver, indicating that the transmitter is within the normal operating range of 20 feet. Should the receiver NOT receive a transmitter signal every 15 minutes, the IC software, in the RECEIVER, will begin a 2-HOUR (120-minute) countdown timing function. If during this 2-hour period, the receiver does not receive a signal from the transmitter, the receiver will shut down the appliance being controlled by the receiver. The RECEIVER will then emit a series of rapid “beeps” for a period of 10 seconds. Then after 10 seconds of rapid beeping, the RECEIVER will continue to emit a single “beep” every 4 seconds until a transmitter ON or MODE Button is pressed to reset the receiver. The intermittent 4-second beeping will go on for as long as the receiver’s batteries last which could be in excess of one year.

To “reset” the RECEIVER and operate the appliance, you must press the ON or MODE button on the transmitter. By turning the system to ON, the COMMUNICATION -SAFETY operation is overridden and the system will return to normal operation depending on the MODE selected at the transmitter. The COMMUNICATION – SAFETY feature will reactivate should the transmitter be taken out of the normal operating range or should the transmitter’s batteries fail or be removed.

## **THERMO- SAFETY FEATURE – RECEIVER (T/S –RX)**

This SKYTECH remote control has a THERMO- SAFETY feature that is built into the system's RECEIVER. This feature is temperature-activated and provides an extra margin of safety when the RECEIVER is operating where ambient temperatures exceed 130<sup>0</sup> F degrees inside the receiver case.

The THERMO-SAFETY feature, in the RECEIVER, operates in the following manner, when the appliance is in operation.

The receiver is thermally protected from extreme heat conditions. Heat can have negative effect on the operation of the receiver's microprocessors.

For REMOTE RECEIVERS that operate on BATTERY POWER, these heat conditions can cause batteries to discharge when temperatures exceed 115<sup>0</sup> F. Studies show that alkaline batteries, when exposed to a constant temperature of 115<sup>0</sup> F, can lose up to 50% of their operating power. When the battery cools down, it will partially recharge itself, but constant heating and cooling will reduce the battery's normal life expectancy.

When the ambient temperature at the THERMISTOR, *inside the receiver case*, reaches 130<sup>0</sup> F, the THERMISTOR will automatically shut the appliance down and the RECEIVER will begin emitting a series of 2 "beeps", every 4 seconds. When the ambient temperature, at the RECEIVER, drops between 120<sup>0</sup> F and 130<sup>0</sup> F, the user can reactivate the appliance by pushing the MODE button on the transmitter. The word ON must display on the LCD screen. When the MODE button is pressed to ON, the THERMISTOR "resets" itself and the fireplace will begin operating again. However, the "beeping" will continue, if the ambient temperature remains between 120<sup>0</sup> F and 130<sup>0</sup> F. This "beeping" alerts the user that the RECEIVER should be repositioned so the ambient temperature drops below 120<sup>0</sup> F.

When the temperature drops below 120<sup>0</sup> F, the "beeping" will cease, providing the user has "reset" the THERMISTOR by pushing the MODE button to ON to operate the appliance, either manually or thermally. Allow sufficient time for the receiver to cool below 120<sup>0</sup> F, and then press MODE button to stop beeping.

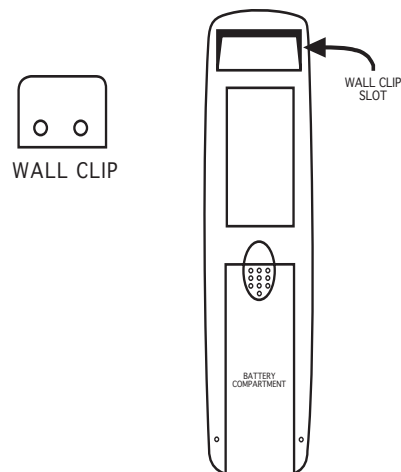
## **MATCHING SECURITY CODES**

Each transmitter can use one of 1,048,576 unique security codes. It may be necessary to program the remote receiver to LEARN the security code of the transmitter upon initial use, if batteries are replaced, or if a replacement transmitter is purchased from your dealer or the factory. When matching security codes, be sure slide button on the receiver is in the REMOTE position; the code will NOT "LEARN" if the slide switch is in the OFF position. Program the remote receiver to LEARN a new security code by pushing in the LEARN button on the top of the remote receiver and then pressing any button on the transmitter. A change in the beeping pattern, at the receiver, indicates the transmitter's code has been programmed into the receiver. When an existing receiver is matched to a new transmitter, the new security code will overwrite the old one.

The microprocessor that controls the security code matching procedure is controlled by a timing function. If you are unsuccessful in matching the security code on the first attempt, wait 1 - 2 minutes before trying again--this delay allows the microprocessor to reset its timer circuitry--and try up to two or three more times.

## **TRANSMITTER WALL CLIP**

The transmitter can be hung on a wall using the clip provided. If the clip is installed on a solid wood wall, drill 1/8" pilot holes and install with the screws provided. If it is installed on a plaster/wallboard wall, first drill two 1/4" holes into the wall. Then use a hammer to tap in the two plastic wall anchors flush with the wall; then install the screws provided.



## **BATTERY LIFE**

Life expectancy of alkaline batteries in the SKYTECH 1001TH should be at least 12 months. Check and replace all batteries annually. When the transmitter no longer operates the remote receiver from a distance it did previously (i.e., the transmitter's range has decreased) or the remote receiver does not function at all, the batteries should be checked. It is important that the remote receiver batteries are fully charged, providing combined output voltage of at least 5.3 volts. The transmitter should operate with as little as 2.5 volts battery power.

## **TROUBLE SHOOTING**

If you encounter problems with your fireplace system, the problem may be with the fireplace itself or it could be with the 1001 TH remote system. Review the fireplace manufacturer's operation manual to make sure all connections are properly made. Then check the operation of the remote in the following manner:

- Make sure the batteries are correctly installed in the RECEIVER. One reversed battery will keep receiver from operating properly.
- Check battery in TRANSMITTER to make sure contacts are touching (+) and (-) ends of battery. Bend metal contacts in for tighter fit.
- Be sure RECEIVER and TRANSMITTER are within 20'-25' operating range.
- Keep RECEIVER from temperatures exceeding 130° F. Battery life shortened when ambient temperatures are above 115° F.
- If RECEIVER is installed in tightly enclosed metal surround, the operating distance will be shortened.

**NOTE:** A receiver located in an area, where the ambient temperature inside the case exceeds 130° F, will cause the THERMO-SAFETY feature to cut in, requiring you to reposition the receiver to stop the warning beeps, and to "reset" the receiver's operation.

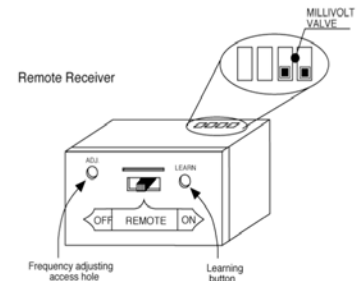
- Due to handling and shipping of the unit, handling or dropping of the transmitter by the customer, and/or heat conditions at the receiver, some receivers may need an occasional frequency adjustment. This adjustment is made to improve the communication and operating distance between the transmitter and the receiver. Follow the steps below for making the adjustment.

## **FREQUENCY (DISTANCE) ADJUSTMENT PROCEDURE**

### **RECEIVER ADJUSTMENT**

1. To adjust at the receiver, use a small slotted screwdriver. Turn the adjustment (ADJ) screw counter-clockwise about 5° or maximum of 1/8 turn. This should correct the distance problem.
2. If that does not correct the problem, return adjustment screw to original position and then turn adjustment screw clockwise.

This adjustment is like tuning your radio. If you keep turning the adjustment screw, in either direction, you will go past the proper setting (tuning).



## **SPECIFICATIONS**

BATTERIES: Transmitter (2) 1.5 volt AAA t batteries

Remote Receiver 6V - 4 ea. AA 1.5 Alkaline

FCC ID No.'s: transmitter - K9L1003TX; receiver - K9L300IRX

Operating Frequency: 303.8 MHZ

Canadian IC ID No.'s: transmitter – 2439-1003TX; receiver - 2439 102 728A

### **FCC REQUIREMENTS**

**NOTE: THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.**

### **WARRANTY**

All warranty information is listed on the warranty sheet packed with this product. If you did not receive this warranty sheet, please contact Skytech Systems, Inc. at the following:  
9230 Conservation Way, Fort Wayne, IN 46809  
(888) 672-8929 or (260) 459-1703

**FOR TECHNICAL SERVICE, CALL:**

**U. S. INQUIRIES**

888/672-8929 or 260/459-1703

WEBSITE: skytechsystem.com

**CANADIAN INQUIRIES**

877/472-3923

**MANUFACTURED EXCLUSIVELY FOR SKYTECH II, INC.**