



Model: TS-R-AF1

INSTALLATION AND OPERATING INSTRUCTIONS

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

INTRODUCTION

This SKYTECH remote control system was developed to provide a safe, reliable, user-friendly remote control system for gas heating appliances. The system can be operated thermostatically or manually from the transmitter. The system operates on radio frequencies (RF) within a 20-foot range using non-directional signals. The system operates one of 1,048,576 security codes that are programmed into the transmitter at the factory.

CALIFORNIA PROPOSITION 65

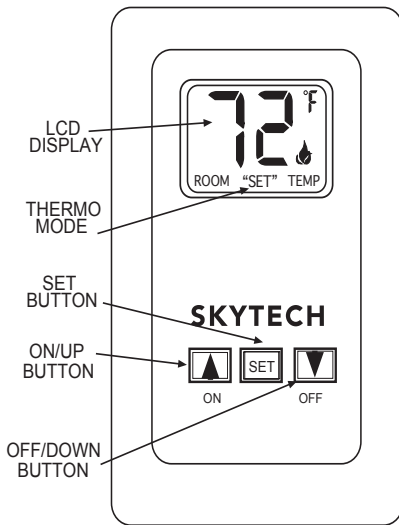


WARNING

This product can expose you to Tetrabromobisphenol-A, which is known to the state of California to cause cancer. (For more information, go to www.p65warnings.ca.gov)

Review COMMUNICATION SAFETY SECTION under TRANSMITTER and under REMOTE RECEIVER section. The signal safety feature shuts down the fireplace system when a potentially unsafe condition exists.

WALL MOUNT THERMOSTAT



The wall/transmitter operates on (2) 3V Button Cell (Included) which powers the LCD screen and powers the RF signal. These batteries are made specifically for remote controls and electronic lighters. Before using the transmitter the 3V batteries must be installed into the battery compartments

It is recommended that CR2032 lithium batteries always be used for longer battery life and maximum operational performance.

Upon initial use, there may be a delay of five seconds before the remote receiver will respond to the transmitter. This is part of the system's design. If the LCD screen will not come ON, check the 3V Button Cell battery.

TO INSTALL BATTERIES IN THE WIRELESS THERMOSTAT

1. Remove face from backing plate this is done by sliding the face up about 1/2" then pull the face off the base plate. As shown in Figure 1
2. Locate the (2) holders for the 3V button cell batteries.
3. Slide the button cell batteries into the battery holders. (Make sure that the batteries are installed with the (+) plus side facing you or up.

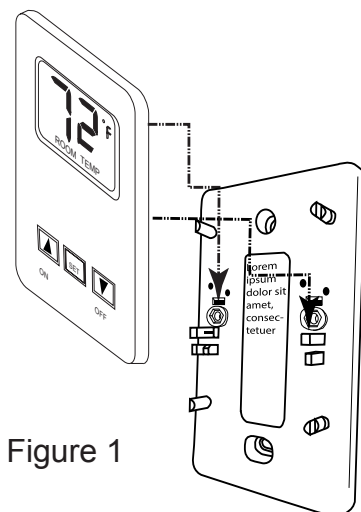


Figure 1

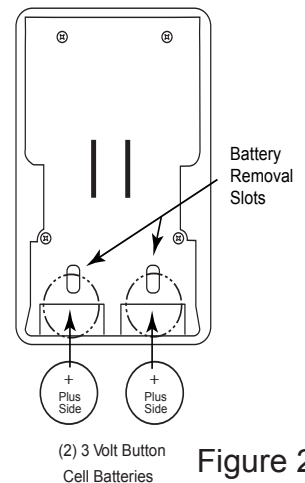


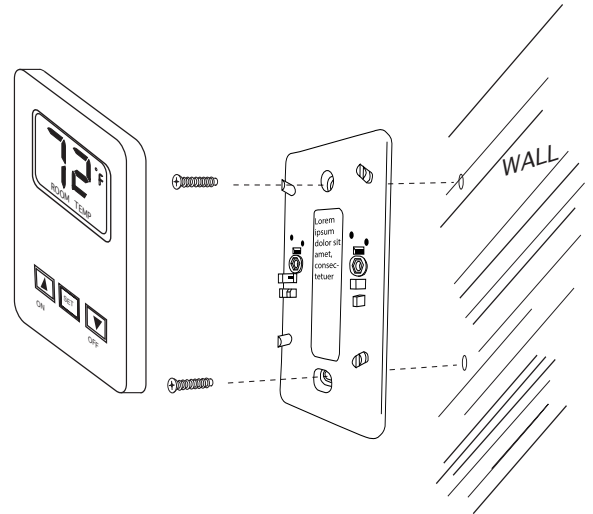
Figure 2

TO REMOVE THE BATTERIES IN THE WIRELESS THERMOSTAT

1. Remove face from backing plate this is done by sliding the face up about 1/2" then pull the face off the base plate. As shown in Figure.
2. Locate the (2) holders for the 3V button cell batteries.
3. Insert a small screwdriver into the slot above the button cell battery and push the battery out. As shown in Figure 2.

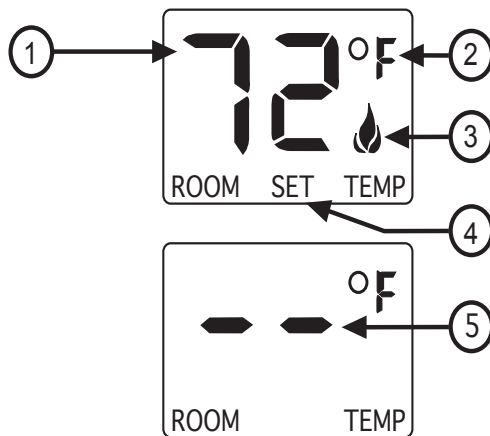
WALL MOUNTING THE TS-R-AF1 THERMOSTAT

1. Remove face from backing plate as shown in Figure 1 then locate the TS-R-AF1 to where the (2) thermostat wires from the appliance can be pulled through the hole on the backing plate and connect them to the (2) terminal screws.
2. After locating the (2) two mounting holes and mark the holes on the wall.
3. Use the (2) two dry wall anchors and screws (that are supplied) to mount the base plate to the wall as shown.
4. Thermostat can also be mounted onto an existing (Plastic) electrical box.
5. Base plate should be mounted level on the wall for best operation.
6. Reinstall the face to the backing plate this is done by sliding the face in and down about 1/2" then check that the (2) male terminal connectors on the face are engaged in the female terminal connectors on the backing plate. As shown in Figure 1.



GENERAL INFORMATION

TS-R-AF1 THERMOSTAT OPERATION

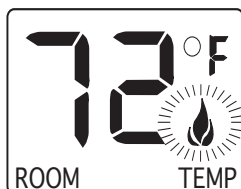


1. ROOM TEMP – Current room temperature.
2. F° = Degrees Fahrenheit (C° = Degrees Celsius)
3. FLAME ICON – Indicates APPLIANCE IS ON.
4. SET- Indicates TS-R-AF1 is in thermostat mode.
5. DASHES – Indicate thermostat mode is being disabled.

Note: The word (SET) will appear when the thermostat mode is enabled.

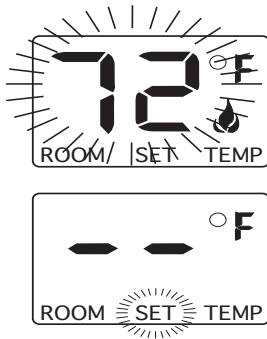
1. This TS-R-AF1 Wall/transmitter has ON, OFF, and SET functions that are activated by pressing the buttons on the face of the transmitter.
2. Upon initial use, there may be a delay of five seconds before the remote receiver will respond to the transmitter. This is part of the system's design. If the LCD will not come on, check the 3V-button cell battery.

SETTING MANUAL OPERATION



1. When the ON button on the TS-R-AF1 is pressed a flame icon on the LCD screen will appear when the appliance is ON.
2. When the appliance is OFF the flame icon will not appear.

SETTING THERMOSTAT OPERATION



1. If the TS-R-AF1 is in the thermostat mode the word (SET) will appear on the LCD screen.
2. When the SET button is pressed the temperature digits will begin to flash.
3. While the temperature digits are flashing use the ON button to increase the set temperature or use the OFF button to decrease the set temperature to your desired temperature.
4. When the desired temperature setting is reached press the SET button, again and the word SET will appear on the LCD screen and now the thermostat will automatically send an ON or OFF signal to the appliance.
5. To disengage the thermostat mode push the OFF button or push and hold the SET button until (2) dashes appear on the LCD screen. When you release the SET button this will disengage the thermostat mode and the word SET will disappear from the LCD screen.

SETTING °F / °C SCALE

The factory setting for temperature is degrees Fahrenheit (°F) . To change this setting to Centigrade (°C), you must press and hold both the ON and OFF buttons on the transmitter at the same time until the LCD displays the change. If you want to convert back, repeat the above procedure.

THERMO UPDATING FEATURE

This SKYTECH wired wall thermostat has a THERMO UPDATING Feature built into its software. The THERMO UPDATING Feature operates in the following manner, but only in the THERMOSTAT MODE:

The TS-R-AF1 normally reads the ROOM temperature every 2 minutes checking the ROOM temperature against the SET temperature and then sends a signal to the appliance.

NOTE: When locating the TS-R-AF1 on a wall remember it should be kept away from direct sources of heat such as heating appliance, incandescent lighting, and direct sunlight. Leaving the TS-R-AF1 in direct sunlight, for example, will cause its heat-sensing diode to read the room temperature higher than it actually is; if in THERMOSTAT mode, it may not turn ON the appliance even if the ambient ROOM temperature is below the SET temperature.

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 – Manual ON and THERMO.

At all times and in all OPERATING MODES, the wall transmitter sends an RF signal every fifteen (15) minutes, to the receiver, 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 wall 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 the ON button on the wall transmitter 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.

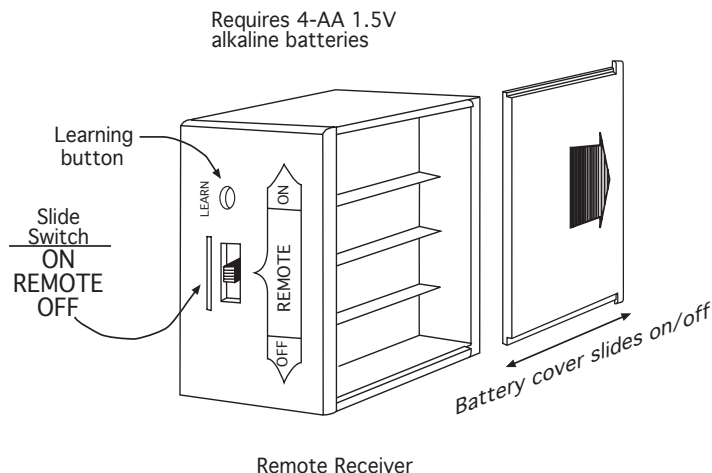
To “reset” the RECEIVER and operate the appliance, you must press ON button on the wall transmitter. The flame icon must be display on the LCD screen. By turning the system to ON, the COMMUNICATION -SAFETY operation is overridden and the system will return to normal operation depending on the MODE selected at the wall transmitter. The COMMUNICATION – SAFETY feature will reactivate if the transmitter’s batteries fail or be removed.

REMOTE RECEIVER

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.



Note: This product is designed for use with an attended hearth appliance or fire feature. Adults must be present when the Control System is operating. **DO NOT** program or thermostatically set this Control to operate a hearth appliance or fire feature when Adults are not physically present. Furthermore, **DO NOT** leave the hearth appliance or fire feature burning unattended; it may cause damage or serious injury. If an Adult is going to be away from the hearth appliance or fire feature for any length of time, then the handheld/wall mount, receiver/control module and application should be in the "OFF" position.

INSTALLATION INSTRUCTIONS

WARNING

DO NOT CONNECT REMOTE RECEIVER DIRECTLY TO 110-120VAC POWER. THIS WILL BURN OUT THE RECEIVER. FOLLOW INSTRUCTIONS FROM MANUFACTURER OF GAS VALVE FOR CORRECT WIRING PROCEDURES. IMPROPER INSTALLATION OF ELECTRIC COMPONENTS CAN CAUSE DAMAGE TO GAS VALVE AND REMOTE RECEIVER.

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 stranded or solid 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 or solid wire, with no splices and measuring no longer than 20-feet.

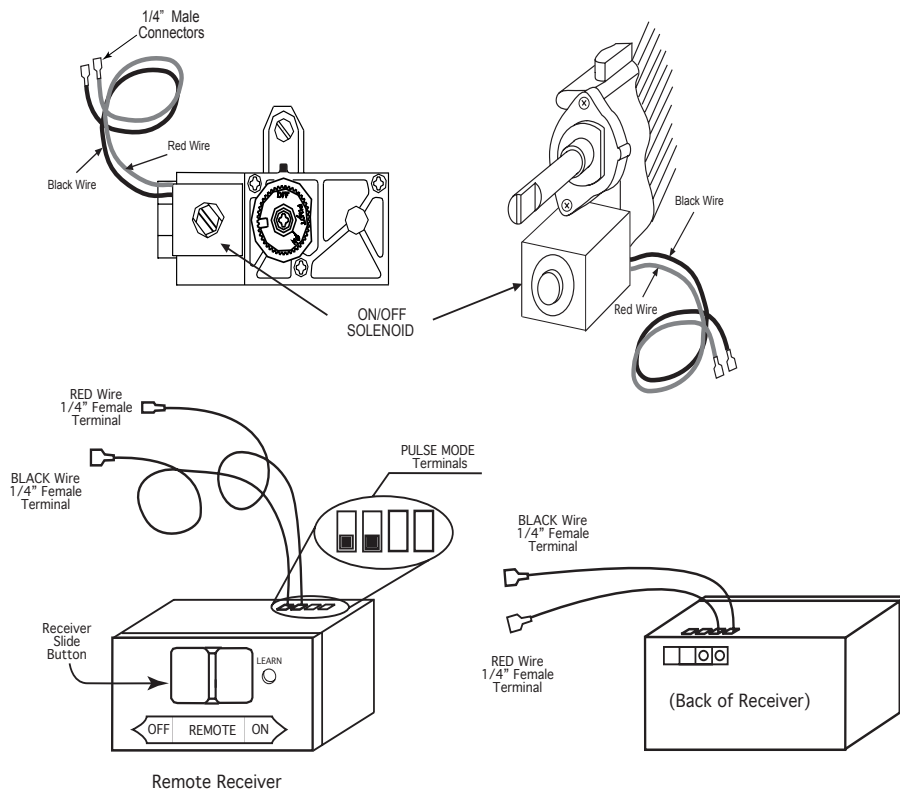
WIRING INSTRUCTIONS

CONNECTING THE RECEIVER TO A VALVE WITH LATCHING SOLENOID

- Connect the BLACK 18 gage stranded wire with the 1/4" female terminal from the receiver to the BLACK wire with the 1/4" male terminals from the valve solenoid.
- Connect the RED 18 gage stranded wire with the 1/4" female terminal from the receiver to the RED wire with the 1/4" male terminals from the valve solenoid.
- After receiver wires are connected to the valve solenoid wire make sure the receiver shield is located over the receiver and then locate the receiver in an area that will not exceed the 130° F.

IMPORTANT NOTE: Operation of these controls is dependent on which wire is attached to which terminal. If operation of control does not correspond to operating buttons on transmitter, reverse wire installation at the receiver or at the control.

NOTE: Up to 6.3 VDC of power is provided at the receiver terminal.



GENERAL INFORMATION

LEARNING TRANSMITTER TO RECEIVER

Each transmitter uses a unique security code. It will be necessary to press the LEARN button on the receiver to accept the transmitter security code upon initial use, if batteries are replaced, or if a replacement transmitter is purchased from your dealer or the factory. In order for the receiver to accept the transmitter security code, be sure the slide button on the receiver is in the REMOTE position; the receiver will not LEARN if the slide switch is in the ON or OFF position. The LEARN button is located on the front face of the receiver; inside the small hole labeled LEARN. Using a small screwdriver or end of a paper clip gently press and release the black LEARN button inside the hole. When you release the LEARN button the receiver will emit an audible "beep". After the receiver emits the beep press the transmitter ON button and release. The receiver will emit several beeps indicating that the transmitter's code has been accepted into the receiver.

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.

THERMO FUNCTION

When the transmitter is in the THERMO mode, it should be kept away from direct sources of heat such as fireplaces, incandescent lighting, and direct sunlight. Leaving the transmitter in direct sunlight, for example, will cause its heat-sensing diode to read the room temperature higher than it actually is; if in THERMO mode, it may not turn on the appliance even if the ambient ROOM temperature is below the SET temperature.

BATTERY LIFE

Life expectancy of alkaline batteries in the SKYTECH TS-R-AF1 should be at least 12 months. Check and replace all batteries annually. When the Wall Transmitter no longer operates 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 a combined output voltage of at least 5.3 volts. The length of the wire between the remote receiver and the gas valve directly affects the operating performance of the remote system. The longer the wire, the more battery power is required to deliver signals between the remote receiver and the gas valve. The Wall Transmitter should operate with as little as 2.4 volts of battery power, measuring at each of the 3-volt button cell batteries.

TROUBLE SHOOTING

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

1. Make sure receiver batteries are installed properly. If one battery is installed backward, receiver will not operate in remote mode. Be sure battery output is 5.3 volts or more. (Slide switch is independent of battery condition.)
2. Be sure the wall transmitter's batteries are properly installed and that the battery output is 2.4 volts each or more.
3. The wall transmitter has (2) 3 volt button cell batteries (1) button cell operates the LCD screen and the other button cell operates sending the RF signal. If the button cell battery that controls sending the RF signal is low or defective the LCD screen may work but the RF signal may not be sending (Check each button cell battery)
4. Check to make sure the transmitter is communicating with the receiver.
 - If the receiver beeps when the ON button is depressed on the wall transmitter they are communicating.
 - If the receiver does not beep when the ON button is depressed on the wall transmitter, you will need to teach the receiver the code of the transmitter. This is done by holding the LEARN button down on the receiver.

NOTE: The black slide Button covers the LEARN access hole when installed), and at the same time depress the ON button on the wall transmitter. A change in the beeping pattern, at the receiver indicates the transmitter's code has been programmed into the receiver.

5. Make sure the wall transmitter is within the 15 to 20-foot range of the receiver.
6. Clear Codes: Memory in the receiver might be full if the learn button is pressed too many times. If this happens it will not allow any more codes to be learned and no audible beep will be heard. To clear memory, place the receiver slide switch into the REMOTE position. Press the learn button and release after 10 seconds. You should hear three (3) long audible beeps indicating all codes have cleared. You can now "learn" the transmitter to the receiver as described in the General Information Section.
7. Positioning of the receiver is important. If the receiver is "enclosed" in a metal surround, the operation of the receiver may be affected as noted below. Reposition the receiver to improve operating range. It is suggested that a heat shield be installed to protect the receiver from extreme heat. If the receiver is "enclosed" in a metal surround, this can:
 - Cause the RF signal to get lost and not communicate with the receiver.
 - Cause the working distance to be shorter than normal.

FCC Notification

Note: This equipment has been tested and found to comply with limits for a Class B digital device, 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 instructions, 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 or more of the following measures:

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

SPECIFICATIONS

BATTERIES: Wall Transmitter 6V – 2ea. (CR2032) 3.0 volt lithium button cell batteries
Remote Receiver 6V – 4ea. AA 1.5 Alkaline

FCC ID No.'s: transmitter –(K9L TS-R-AF1); receiver – (K9L 3301RX)

Operating Frequency: 303.8MHZ

Canadian IC ID No.'s: transmitter – (2439A-TSR2A) receiver – 2439A-3301RX

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.

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