



# 5310

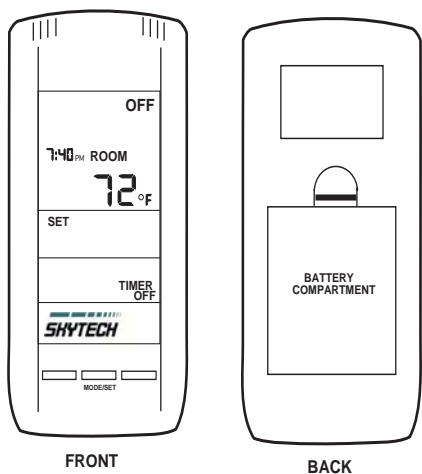
## INSTALLATION AND OPERATING INSTRUCTIONS

**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, and 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' range using non-directional signals. The system operates 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.

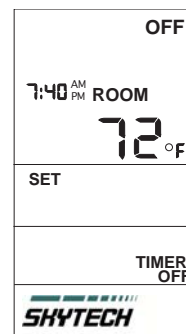
Review **COMMUNICATION SAFETY SECTION** under **TRANSMITTER** section and **THERMO SAFETY SECTION** under **REMOTE RECEIVER** section. These signal/temperature safety features shut down the fireplace system when a potentially unsafe condition exists.



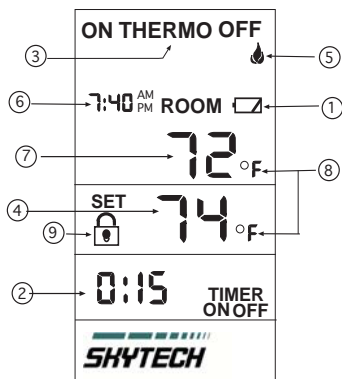
The transmitter operates on 4 AAA-size 1.5V batteries. It is recommended that ALKALINE batteries always be used for longer battery life and maximum operational performance. **IMPORTANT:** New or fully charged batteries are essential for proper operation of the multi-function transmitter. Insert 4 AAA-size 1.5 V batteries into the battery compartment on the back of the transmitter, positioning the (+) and (-) ends of the batteries as indicated on the casing. When the batteries are inserted, the screen at right (with similar numbers) will display.

**Note** On initial start up if a LOW battery icon appears on the screen, check the position of the batteries.

**Note:** Due to the sensitive temperature-monitoring components in the transmitter, it may be necessary to allow the transmitter to stabilize to room temperature before accurate room temperatures are displayed on the screen. If the transmitter is activated from a severe cold condition, it can take up to fifteen minutes for accurate temperature readings to appear.



LCD DISPLAY SCREEN



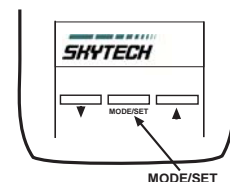
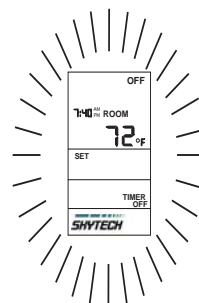
1. **BATTERY ICON** - Battery power is low. Replace batteries within two weeks.
2. **TIMER**- Indicates time remaining before system shuts off, when timer-programmed; 9-hour maximum setting.
3. **MODE**- Indicates operation MODE of system. ON indicates the system is on, either manually or thermostatically. OFF indicates the entire system is turned off THERMO indicates the system will automatically cycle on/off, depending on programmed
4. **SET**- Indicates desire SET room temperature for THERMO operation
5. **FLAME** – Indicates burner/valve in operation.
6. **CLOCK** – Indicates the current time in AM/PM
7. **ROOM** – Indicates CURRENT room temperature.
8. °F indicates degrees Fahrenheit (°C indicates degrees Celsius).
9. **LOCK** – Child lock out.

### OPERATION FUNCTIONS

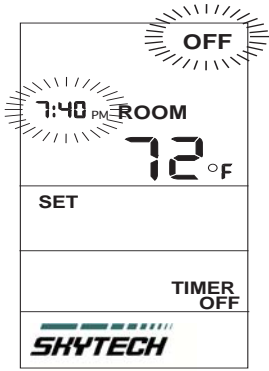
**Note:** Touch anyplace on the screen and the screens blue back light will light up and stay on (5) seconds.

To operate the system, press the **MODE/SET** button or press the **MODE SECTION** on the LCD screen on the front of the transmitter to select the operational MODE desired.

- ON indicates the system is on, either manually, timed or thermostatically.
- THERMO indicates the system will automatically cycle ON/OFF, depending on programmed set temperature.
- OFF indicates the entire system is turned off.



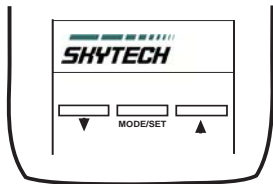
**SETTING THE CLOCK**



**NOTE: When setting the clock the transmitter must be in the OFF position**

1. Touch the word TIMER on the LCD screen of the transmitter for more than two seconds. The hour digit(s) will begin flashing.
2. Press the UP or DOWN button until the desired hour is displayed in AM or PM.
3. After setting the desired hour, again touch and the word TIMER on the LCD screen for more than two seconds the minutes digits will begin flashing.
4. Press the UP or DOWN button until the desired minutes are displayed.
5. Touch and release the word TIMER on the LCD screen again for more than two seconds. The minute digits will cease flashing, indicating the clock has been successfully set

**BUTTON SETTINGS**

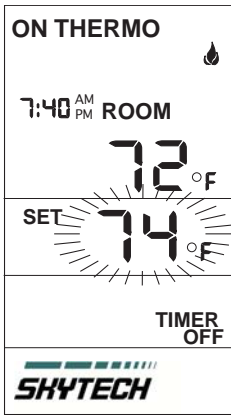


**NOTE:** Flashing numbers on the display indicate the system is awaiting user input, such as using the UP and DOWN buttons to program a new setting. If no change is made to flashing digits within 15 seconds, the system will complete the procedure last programmed and reset the display to its normal state.

**SETTING ° F / ° C SCALE**

The factory setting for temperature is ° F. To change this setting to ° C, first press and hold the UP button and the DOWN button on the transmitter at the same time. Follow this same procedure to change from ° C back to ° F. When changing between the ° F and ° C scales, the temperature in the SET frame defaults to the lowest temperature (45° F, or 6° C). The highest SET temperature is 99° Fahrenheit (32° Celsius).

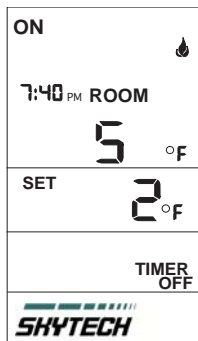
**SETTING DESIRED ROOM TEMPERATURE**



This remote control system can be thermostatically controlled when the transmitter is in the THERMO mode (**THERMO must be displayed on the screen**). To set the DESIRED room temperature, press the MODE/SET button or press the MODE SECTION on the LCD screen of the transmitter to place the transmitter into THERMO mode, then press the UP or DOWN button to select the desired room temperature. The highest SET temperature is 99° Fahrenheit (32° Celsius).

**OPERATIONAL NOTE: TO CONSERVE BATTERY POWER, CHANGES IN ROOM TEMPERATURE ARE AUTOMATICALLY UPDATED EVERY TWO MINUTES TO THE TRANSMITTER.**

**SETTING THE TEMPERATURE SWING (TEMPERATURE DIFFERENTIAL)**



The Thermo Mode 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.

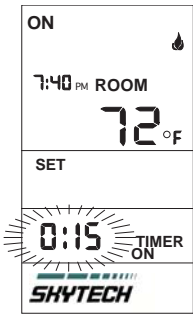
1. To change the temperature "SWING" setting (1°-3°), press the TIMER and DOWN buttons simultaneously to display the current "SWING" setting in the SET TEMP frame. The letter "S" will display in the ROOM TEMP frame on the LCD screen.
2. Press the UP or DOWN button to change the temperature differential or "SWING" (1°-3°).
3. To store the "swing number" press the MODE/SET button or allow 15 seconds to lapse, and the new "swing number" will be automatically programmed.

## MANUAL CHECK OF “ SWING” OR TEMPERATURE DIFFERENTIAL

The operation of the factory set “THERMO SWING” can be checked by adjusting the SET TEMP 2° F above or below the room temperature. This will cause the system to turn ON or OFF. Normally the system will only respond to temperature changes every two minutes. Manually changing the SET temperature will activate the system in less than 10 seconds. IF the “SWING” is changed, then a new room temperature differential will respond. Factory setting of “SWING” temperature is 2° F.

## SETTING THE COUNTDOWN TIMER

This remote control system can operate with a built-in countdown timer when the transmitter is in the ON or THERMO modes (**THERMO or ON must be displayed on the screen**).

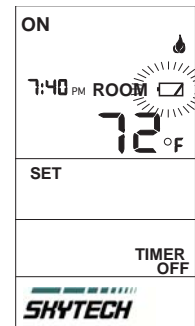


1. Touch the word TIMER on the LCD screen of the transmitter for more than two seconds on the transmitter. The minimum 0:15 minute setting on the will begin to flash.
2. Press the UP or DOWN button on the transmitter to begin advancing through each of the countdown time options. Available countdown times are 15 minutes, 30 minutes, 45 minutes, 1 hour, 1 hour 30 minutes, 2 hours, 2 hours 30 minutes, and each additional half-hour up to nine hours.
3. To set the TIMER press the MODE/SET button on the transmitter if the system is ON. It will remain on until the time has expired. If the system is in the THERMO mode, it will cycle on and off, as the room temperature requires until the “time” has expired.

**OPERATIONAL NOTE:** When the timer is used in the THERMO mode, the THERMO operation will discontinue when the “time” has expired. System will return to the THERMO OFF position.

## LOW/BATTERY INDICATOR

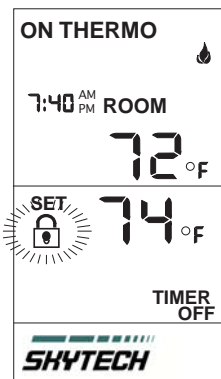
The battery **ICON** on the right side of the LCD screen will appear when battery power has dropped significantly. At this time, approximately two weeks of battery power remains until the transmitter may experience partial or complete loss of functions.



## CHILDPROOF “LOCK-OUT” – (CP)

This 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)



1. To activate the “LOCK-OUT” feature, press and hold the UP button and touch the word TIMER on the LCD screen of the transmitter together, for 5 seconds. The lock icon will appear on the LCD screen.
2. To disengage the “LOCK-OUT”, press and hold the UP button and touch the word TIMER on the LCD screen of the transmitter together for 5 seconds or more, and the lock icon will disappear from the LCD screen and the transmitter will return to its normal operating condition.

**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.

## TRANSMITTER

The remote control operates, on RF (radio frequency) signals that are sent by the TRANSMITTER (remote) to the RECEIVER that operates the appliance. It is recommended that the TRANSMITTER always be located within the 20 foot operating range, preferably in the same room in which the appliance is located.

## 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 normally reads the ROOM temperature every 2 minutes checking the ROOM temperature against the SET temperature and then sends a signal to the receiver.

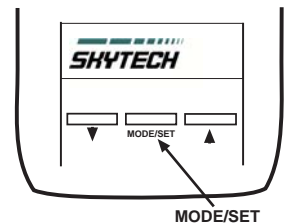
## COMMUNICATION – SAFETY – TRANSMITTER – (C/S – TX)

This 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.

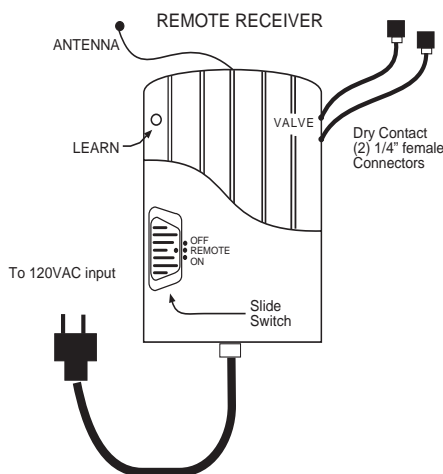
The COMMUNICATION – SAFETY feature operates in the following manner, in all OPERATING MODES – ON/ ON THERMO/ ON TIMER.

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 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, on the 5310 there two (2) methods (1) press the MODE/SET button or (2) press the top of the LCD screen on the transmitter. The word ON must 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 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.



## RECEIVER



When plugged into a standard 110-120 VAC receptacle, the remote receiver operates on commands from the transmitter or from the slide switch on the face of the receiver (This switch is to be used during a power outage to operate the appliance manually). The remote receiver is manufactured with a “dry contact” relay in its circuitry that operates like an on/off switch, however, no power or current passes from the 110-120 VAC input side to the wires leading from the output side of the remote receiver.

This 5310 remote control system can be used in simplified installations to control a millivolt gas valve without any additional relays or components.

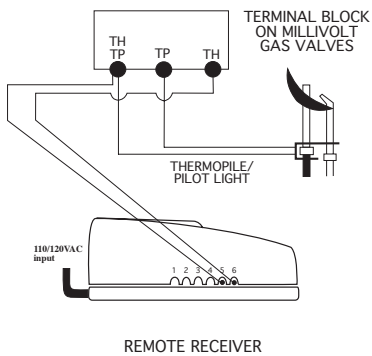
## LOCATING THE RECEIVER

PROTECTION FROM EXTREME HEAT IS VERY IMPORTANT. Like any piece of electronic equipment, the remote receiver should be kept away from temperatures exceeding 130<sup>0</sup> F. Exposure to extreme temperatures can damage the electronic components or cause the plastic case to become deformed and is not covered under warranty.

## 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

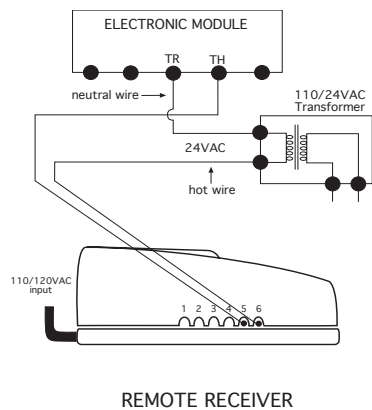


The remote receiver is to be connected to the millivolt valve.

Connect one of the (2) 18 gauge wires from the 5310 receiver to the TH terminal and the other to the THTP terminal on the terminal block on the millivolt 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.

### WIRING ELECTRONIC SPARK IGNITIONS



Most electronic systems operate on a 110 VAC/24VAC power transformer used to power the system electronic ignition module and electronic gas valve, which can be controlled by the 5310 remote receiver as, illustrated.

**NOTE:** THE 110-120 VAC/ 24VAC, transformer may be purchased from your appliance dealer, or an electronic parts distributor.

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 wires on the remote receiver. Connect the other wire from the receiver to 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) then press the MODE/SET button on the transmitter to change the system to ON. The main gas flame should ignite.

## **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 MODE/SET button on the transmitter to change 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.

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. Exposure to extreme temperatures can damage the electronic components or cause the plastic case to become deformed and is not covered under warranty.

### **WARNING**

THIS REMOTE CONTROL SYSTEM MUST BE INSTALLED EXACTLY AS OUTLINED IN THESE INSTRUCTIONS. READ ALL INSTRUCTIONS COMPLETELY BEFORE ATTEMPTING INSTALLATION. FOLLOW INSTRUCTIONS CAREFULLY DURING INSTALLATION. ANY MODIFICATION OF THIS REMOTE CONTROL OR ANY OF ITS COMPONENTS WILL VOID THE WARRANTY AND MAY POSE A FIRE HAZARD.

## **GENERAL INFORMATION**

### **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 ON or OFF position. Program the remote receiver to LEARN a new security code **Push and Release** the LEARN button on the top of the remote receiver and then **Press** the MODE/SET 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 override 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.

### **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 5310 should be at least 12 months. Check and replace all batteries annually. When the Transmitter no longer operates the 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 transmitter batteries should be checked. The Transmitter should operate with as little as 5.0 volts of battery power, measuring at the (4) 1.5-volt 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. Be sure the transmitter's batteries are properly installed and that the battery output is 5.0 V or more.
2. Check to see if the receiver is connected to a 110-120 VAC power source.
3. Check to make sure the transmitter is communicating with the receiver.

- If the receiver beeps when the MODE button is depressed on the transmitter they are communicating.
  - If the receiver does not beep when the MODE/SET button is depressed on the transmitter, you will need to teach the receiver the code of the transmitter. This is done by PRESS AND RELEASE the LEARN button on the receiver and depress the MODE/SET button on the transmitter. A change in the beeping pattern, at the receiver indicates the transmitter's code has been programmed into the receiver.
4. Make sure the transmitter is within the 15'-20' range of the receiver.
  5. 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.

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

## **SPECIFICATIONS**

BATTERIES: Transmitter 6V- 4 ea. AAA 1.5V, Alkaline  
Remote Receiver 110-120 VAC

Operating Frequency: 303.8MHZ

FCC ID No.'s: transmitter – K9L5001; receiver – K9L1410RX

Canadian IC ID No.'s: transmitter –2439A-5001; receiver – 2439A-1410RX

### **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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