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.

The transmitter operates on 2 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 2 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: 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.

1. LOW - 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 set temperature.
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).

FUNCTIONS
To operate the system, press the MODE button 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

Flip down the plastic cover on the front of the transmitter to expose the “SET” buttons. The flip cover protects the SET buttons from being changed accidentally. Close the cover after completing the following settings/programming.

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.

1. Press and hold the TIMER/TIME button on 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, press and release the TIMER/TIME button again to set the minutes; the minute digits will begin flashing.
4. Press the UP or DOWN button until the desired minutes are displayed.
5. Press and hold the TIMER/TIME button again for more than two seconds. The time digits will cease flashing, indicating the clock has been successfully set. You may also press the SET button on the transmitter to stop the time digits from flashing and set the time.

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 button 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.

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. 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. A smaller “swing number” increases the number of cycles so the room temperature is more constant. A larger “swing number” decreases the number of cycles, which saves energy, in most cases. 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. The “SWING” number values are: 1 = ± 1° F (0.5° C), 2 = ± 2° F (1° C) and 3 = ± 3° F (1.6° C).

SETTING THE TEMPERATURE SWING (TEMPERATURE DIFFERENTIAL)

1. To change the temperature “SWING” setting (1-3), press the TIMER/TIME 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). See above for 1-3 “SWING” temperature valves.
3. To store the “swing number press the 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. Press and release the TIMER/TIME button on the transmitter. The word TIMER and 0:15 flash on the screen.
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 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.

LOW/BATTERY INDICATOR

The word LOW outlined by a battery on the left 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 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)

1. To activate the “LOCK-OUT” feature, press and hold the UP and TIMER/TIME buttons, together, for 5 seconds. The letters CP will appear in the TEMP frame on the LCD screen.
2. To disengage the “LOCK-OUT”, press and hold the UP and TIMER buttons, together for 5 seconds or more, and the letters CP 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 SKYTECH 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 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/ 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 there is power to the receiver from the thermopile.

To “reset” the RECEIVER and operate the appliance, you must press the MODE button 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.

REMOTE RECEIVER

The remote receiver operates on power from the thermopile. It is recommended that the thermopile voltage with the main burner OFF be no less than 450 millivolts for proper microprocessor performance. IMPORTANT: It is essential that proper voltage from the thermopile be maintained 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.

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 160° 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.

When the ambient temperature at the THERMISTOR, inside the receiver case, reaches 160° 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 150° F and 160° F, the user can reactivate the appliance by pushing the MODE button
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 150°F and 160°F. This “beeping” alerts the user that the RECEIVER should be repositioned so the ambient temperature drops below 150°F.

When the temperature drops below 150°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 150°F, and then press MODE button to stop beeping.

**INSTALLATION INSTRUCTIONS**

**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 modifications of the SKYTECH remote control or any of its components will void the warranty and may be pose a fire hazard.

Do not connect any gas valve to 110-120VAC power. Consult gas appliance manufacturer’s instructions and wiring schematics for proper placement of all wires.

The following wiring diagrams are for illustration purpose only. Follow instructions from manufacturer of gas valve and/or electronic module for correct wiring procedures. Improper installation of electric components can cause damage to electronic gas valve and remote receiver.

**HEARTH MOUNT INSTALLATION**

The remote receiver is be placed on the fireplace hearth or under the fireplace, behind the control access panel due to the connections to the TH, TP, & TH/TP terminals on the gas valve. PROTECTION FROM EXTREME HEAT IS VERY IMPORTANT. Position where the ambient temperature inside the receiver case does not exceed 160°F.

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.

**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 and may also damage the remote receiver.

**WIRING MILLIVOLT VALVES ONLY** (WILL NOT OPERATE ON ELECTRONIC SPARK IGNITION SYSTEMS)

The remote receiver is connected to the TH, TP, & TH/TP terminals on the millivolt gas valve. Connect the (3) 18” gauge stranded wires from the remote receiver to the gas valve. These (3) wires are marked TH, (Black Wire) TP, (Red Wire) and TH/TP (White Wire)

Note: The RED wire from the thermopile must match up with the RED wire from the 3301BE on the (TP) terminal of the gas valve. The WHITE/YELLOW wire from the thermopile must match up with the WHITE wire from the 3301BE on the (TH/TP) terminal of the gas valve. The reason for this is the 3301BE is polarity based. These changes will make the gas valve and the thermopile match the 3301BE.

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 three (3) wires leading from the receiver to the TH, TP, and TH/TP terminals on the millivolt gas. These (3) wires are marked TH, (Black Wire) TP, (Red Wire) and TH/TP (White Wire)
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.

Note: Always check for any gas leaks and follow all the instructions from the manufacturer of the appliance on the start up procedures of the appliance.

1. Allow the thermopile to completely heat up, for at least 5 minutes. (Note: If you have a Ventfree product, you may want to allow a longer heat up time, up to 10 minutes.

2. Once the thermopile has heated up, turn the main valve knob from the PILOT position to the ON position.

3. To activate the power going to the remote control receiver from the thermopile you will need to PUSH and HOLD the System Energize button on the receiver for a minimum of 60 seconds before releasing the button. This will start the process of converting millivolts from the thermopile into DC volts required to operate the receiver. This will continue for as long as the thermopile is in operation.

4. Use the transmitter of the remote control to activate the main burner of the appliance.

Note: The 3301 BEsystem will need to be re-energizer if the remote receiver has been turned to the manual ON or OFF position. This is done by depressing and holding the SYSTEM ENERGIZER BUTTON for minimum of 60 seconds.

Note: The 3301 BEsystem will need to be re-energized every time the pilot light is turned to the OFF position or the pilot light goes out for any reason. This is done by depressing and holding the SYSTEM ENERGIZER BUTTON for minimum of 60 seconds.

Note: The Energizer Button must be held in for minimum of 60 seconds

- 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 button on the transmitter to change the system to ON. The main gas flame should ignite.
- Press the MODE button on the transmitter to change 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 20°F (10°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 20°F (10°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 20°F (10°C). The 20°F differential is the factory setting.

TIMER

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The countdown timer will operate in either the manual ON or THERMO mode. Once the appliance is in an operating mode, set the countdown timer to turn off in 15 minutes. The timer function will allow operation to continue until the countdown “time” on the LCD screen expires. After 15 minutes elapses, the system should turn OFF.

If you have any problems with operation, recheck you connections and ensure transmitter batteries are fully charged. If no problem is found, contact the dealer where you purchased your appliance/remote control.

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 by pushing in the LEARN button on the top of the remote receiver and then pressing the MODE 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.

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. Check connections from the receiver to the control valve for good positive connections. (Move the slide switch on the receiver to the ON position if the appliance operates this will confirm that the wiring connections should be good).
2. Check for power from the thermopile to the receiver the voltage with the main burner OFF be no less than 450 millivolts. (Press the learn button on the receiver if there is a beep sound from the receiver this will confirm there is power to the receiver from the thermopile).
3. Be sure the transmitter’s batteries are properly installed and that the battery output is 2.5 V or more.
4. 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 button is depressed on the 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 and at the same time depress the MODE button on the 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 transmitter is within the 15’-20’ range of the receiver.
6. 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. 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 160 °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.
7. Due to handling and shipping of the unit, handling or dropping of the transmitter by the customer, and heat conditions to the receiver, some units may need an occasional frequency adjustment. This adjustment is made to improve the communication and operating distance between the transmitter and the receiver. See RECEIVER ADJUSTMENT.

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RECEIVER ADJUSTMENT & RECOMMENDED ADJUSTMENT

A. To adjust at the receiver, use a small slotted screwdriver. Turn the adjustment screw counter-clockwise about 5 degrees or a maximum of 1/8 turn. This should correct the distance problem.

B. 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).

BATTERY LIFE

Life expectancy of alkaline batteries in the SKYTECH 3301 BE should be at least 12 months. 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 batteries should be checked in the transmitter. The Transmitter should operate with as little as 2.5 volts of battery power, measuring at the (2) 1.5 volt batteries.

SPECIFICATIONS

BATTERIES: Transmitter 3V- 2 ea. AAA 1.5V, Alkaline
Remote Receiver (NO BATTERIES)                  FCC ID No.’s: transmitter –(K9L3301TX); receiver – (K9L3301TX)
Operating Frequency: 303.8MHZ                  Canadian IC ID No.’s: transmitter – 2439-3301TX; receiver – 2439-102-760A

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  CANADIAN INQUIRIES
888/672-8929 or 877-472-3923
260/459-1703
Website: skytechsystem.com

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