



RCAF-1020

INSTALLATION AND OPERATING INSTRUCTIONS

SINGLE-FUNCTION WIRELESS REMOTE CONTROL SYSTEM FOR OPERATING HI/LOW SERVO MOTOR

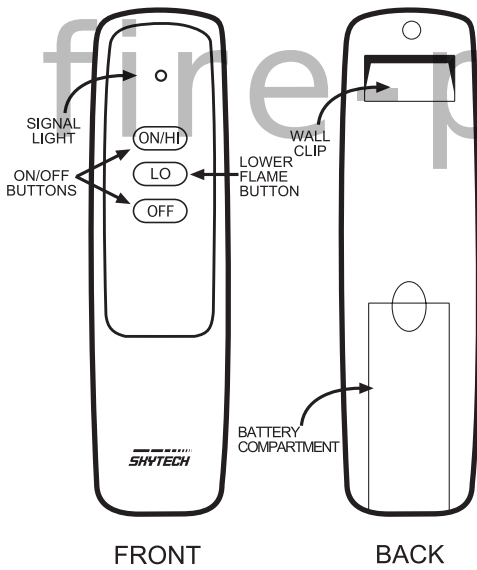
IF YOU CANNOT READ OR UNDERSTAND THESE INSTALLATION INSTRUCTIONS DO NOT ATTEMPT TO INSTALL OR OPERATE

INTRODUCTION

This remote control system was developed to provide a safe, reliable, and user-friendly remote control system for gas heating appliances. The system is operated manually from the transmitter. The system operates on radio frequencies (RF) within a 20' range using non-directional signals. The system operates on one of 65,536 security codes that are programmed into the transmitter at the factory; the remote receiver must learn the transmitter code prior to initial use.

Review THERMO SAFETY SECTION under RECEIVER section. This high temperature safety feature shuts down the appliance when a potentially unsafe condition exists.

TRANSMITTER



This remote control SYSTEM offers the user a battery-operated remote control to power a DC servo motor such as those used with gas valves used in some decorative gas logs, gas fireplaces and other gas heating appliances.

The servo motor circuit uses the battery power from the receiver to operate a servomotor. The circuit has reversing polarity software, which reverses the positive (+) and negative (-) output of the receiver's battery power to drive the servo motor forward/backward (HI/LO FLAME). The remote transmitter controls the SYSTEM.

The transmitter operates on a 12V battery (A-23). Before using the transmitter install the 12-volt battery in the battery compartment.

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

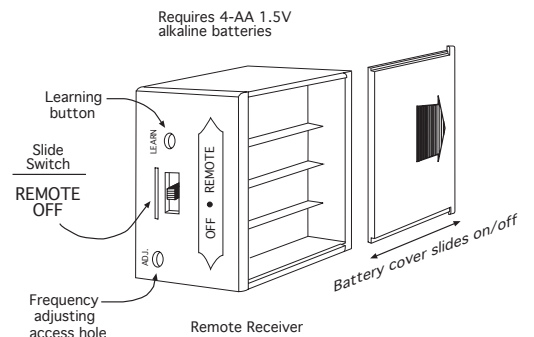
The transmitter has ON/HI, LO, and OFF functions that are activated by pressing the buttons on the face of the transmitter. When a button on the transmitter is pressed, a signal light on the transmitter illuminates to verify that a signal is being sent. Upon initial use, there may be a delay of three seconds before the remote receiver will respond to the transmitter. This is part of the system's design. If the signal light does not illuminate, check the position of the transmitter's battery.

REMOTE RECEIVER

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

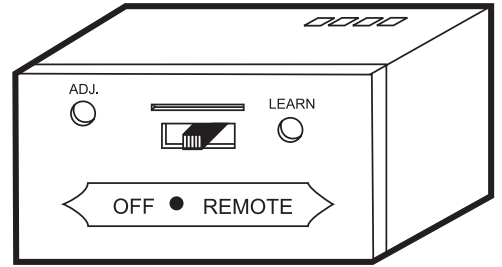
The remote receiver (right) operates on four 1.5V AA-size batteries. It is recommended that ALKALINE batteries be used for longer battery life and maximum microprocessor performance. **IMPORTANT:** New or fully charged batteries are essential to proper operation of the remote receiver as a servo motor's power consumption is substantially higher than standard remote control systems.

NOTE: The remote receiver will only respond to the transmitter when the 2-position slide button on the remote receiver is in the REMOTE position. The remote receiver houses the microprocessor that responds to commands from the transmitter to control system operation.



FUNCTIONS:

- With the slide switch in the REMOTE position, the system will only operate if the remote receiver receives commands from the transmitter. Upon initial use, or after an extended period of no use, the ON/HI button may have to be pressed for up to three seconds before activating servomotor. If the system does not respond to the transmitter on initial use, see MATCHING SECURITY CODES in the GENERAL INFORMATION section.
- With the slide in the OFF position, 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. Placing the slide switch in the OFF position also functions as a safety "lock out" by both turning the system OFF and rendering the transmitter inoperative.



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.
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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.

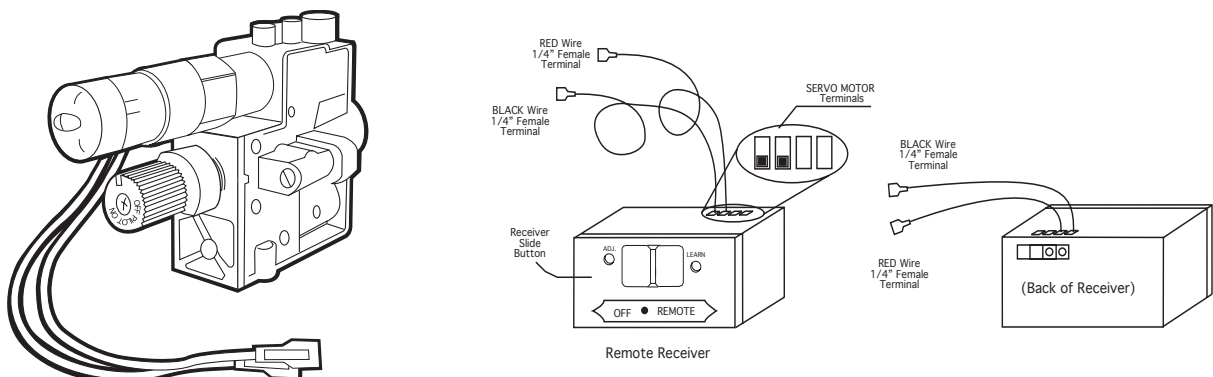
WIRING INSTRUCTION

CONNECTING THE RECEIVER TO THE GAS VALVE WITH THE ON/OFF SERVOMOTOR

1. Connect the Black 18 gage stranded wire with the 1/4" female terminal from the receiver to the 1/4" male terminal on the valve servomotor.
2. Connect the Red 18 gage stranded wire with the 1/4" female terminal from the receiver to the 1/4" male terminal on the valve servomotor.
3. After receiver wires are connected to the valve servo motor terminals make sure the receiver shield is located over the receiver and locate the receiver in an area that will not exceed 130° F.
4. Depending on the location of the remote receiver it may necessary to cut the Red and Black wires from the receiver to a shorter length. This can be done by removing the (2) wires from the receiver cutting them to the desired length then reinstalling them into the same connections on the receiver.

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 VDC of power is provided at the receiver terminal.



THERMO-SAFETY FEATURE - RECEIVER (T/S - RX)

When the ambient temperature at the THERMISTOR, inside the receiver case reaches 130°F, the THERMISTOR will automatically send 10 seconds of power to the down terminal on the valve to shut the fireplace system off and the RECEIVER will begin emitting a series of 2 "beeps" every 4 seconds. When the ambient temperature at the RECEIVER drops between 120° F and 130° F, the user can reactivate the fireplace by pushing either button on the transmitter. When any transmitter button is pressed, the THERMISTOR "resets" itself and the fireplace will begin operating again. However, the "beeping" will continue, if the ambient temperature remains between 120° F and 130° F. This "beeping" alerts the user that the RECEIVER should be repositioned so the ambient temperature drops below 120° F.

When the temperature drops below 120° F, the "beeping" will cease, providing the user has "reset" the THERMISTOR by pushing either transmitter button to operate the fireplace. Allow sufficient time for receiver to cool below 120° F, and then press transmitter button to stop beeping.

GENERAL INFORMATION

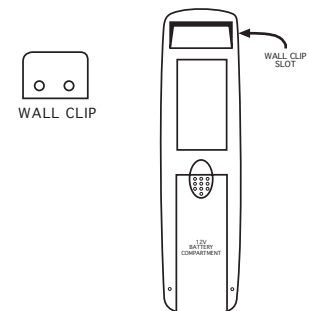
MATCHING SECURITY CODES

Each transmitter can use one of 65,536 unique security codes. It may be necessary to press the LEARN button on the remote receiver 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 OFF position. Press the LEARN button on the remote receiver to accept the transmitter security code by pressing in the LEARN button on the front 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 accepted into the receiver. When an existing receiver has accepted the 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.



OPERATION

1. This remote control will operate the gas valves servomotor to turn the gas valve from full OFF to full ON.
2. When the ON button is depressed the transmitter is sending a continuous RF signal to the receiver. The receiver then sends a continuous 6 volts of power to the servomotor. The servomotor turns to open the gas flow to the burner then to full ON.
3. When the OFF button is depressed the transmitter sends a RF signal to the receiver. The receiver then sends a continuous 6 volts of power to the servomotor for a 5 second period of time. The servomotor turns to close the gas flow to the burner for full OFF condition.
4. The remote control will only work with the hand held transmitter. The receiver slide switch is only for positive OFF or REMOTE operation.

NOTE: Extensive operation ON-LOW-OFF of the SERVOMOTOR will reduce the receiver's battery life significantly.

BATTERY LIFE

Life expectancy of the alkaline batteries in the RCAF-1020 can be up to 12 months depending on use of the servomotor function. Check 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 5.0 volts. The transmitter should operate with as little as 9.0 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 RCAF-1020 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:

1. Make sure the batteries are correctly installed in the RECEIVER. One reversed battery will keep receiver from operating properly.
2. Check battery in TRANSMITTER to make sure contacts are touching (+) and (-) ends of battery. Bend metal contacts in for tighter fit.
3. Be sure RECEIVER and TRANSMITTER are within 20'-25' operating range.
4. Keep RECEIVER from temperatures exceeding 120° F. Battery life shortened when ambient temperatures are above 115° F.
5. If RECEIVER is installed in tightly enclosed metal surround, the operating distance will be shortened.

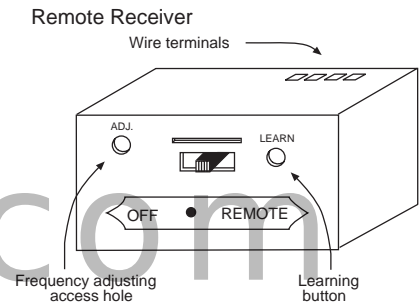
NOTE: A receiver located in an area where the ambient temperature inside the case exceeds 130° F will cause the THERMO-SAFETY feature to cut in, requiring you to reposition the receiver to stop the warning beeps and to "reset" the receiver's operation. Due to handling and shipping of the unit, handling 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 12V - (A23)
Remote Receiver 6V - 4 ea. AA 1.5 Alkaline
Operating Frequency: 303.8 MHZ

FCC ID No.'s: transmitter - K9L1001; receiver - K9L330IRX
Canadian ISC ID No.'s: transmitter - 2439A-1001; 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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