Operation Description

The basic function of the unit is to generate a coded RF transmission.

The RF transmitter circuitry is crystal based, using an IC that features a phase locked loop, and is therefore very stable. The transmitter carrier frequency is 350MHz, and modulation ASK is used. The RF signal is radiated by an integral antenna.

The micro-controller(U1) on the RF transmitter reads the resistance of the temperature sensor(TH1) every 16seconds. It then converts the resistance reading into temperature reading and display the temperature on the LCD of transmitter.

The RF transmitter had two working mode:

(1) Manual Mode:

When the user press the manual on the RF transmitter, the micro-controller on the RF transmitter will send a series of ”on” code(if the RF transmitter of at off state) or “off” code(if the RF transmitter is at on state) to the RF oscillator(Q1). The RF oscillator will in turn transmit an ASK RF signal to the Receiver.

Each transmission lasts 1.5seconds.

(2) Auto Mode:

When the user press the auto button on the RF transmitter, the micro-controller will compare the preset temperature with the room temperature. If the room temperature is above/below the preset temperature, it will send a series of “on/off” code to turn on/off the RF oscillator(Q1) Which in turn will transmit an ASK RF signal to the Receiver.

(3) Press auto on/off button or manual on/off button to turn off the fireplace(if it is already on) and exit auto mode.