



## ***TheaterTouch* RF Functional Circuit Description**

### **Purpose of the *TheaterTouch***

The intended use of the *TheaterTouch* unit is to transmit IR, (infrared) control signals to home electronic devices. These devices include VCRs, DVD players, TV cable boxes, audio surround decoders, satellite receivers, televisions, etc. The *TheaterTouch* is a custom programmable device that contains a touchscreen display and keypad buttons. The Touchscreen display and keypad are programmed with the users set of electronic equipment and the parameters that can be controlled. The user interface on the touchscreen display is also custom programmable. The *TheaterTouch* is then programmed with the IR controls for each electronic device that the user desires to use.

### ***TheaterTouch* Transmitter**

When the user interface for the electronic devices to be controlled and the IR control signals have been programmed into the *TheaterTouch* it is ready to use. When a user presses on the touchscreen or keypad to transmit, for example to start the play control on a VCR, the microprocessor, 80C320, senses the push via a PPI, 82C55. The IR control signal corresponding to that location on the touchscreen or keypad is then pulled from the FLASH memory. When the IR control signal is identified, the control signal is routed to the RF transmitter board. The control signal is modulated on the RF transmitter board and output. All timing is derived from 24MHz and 418MHz oscillators.

### ***TheaterTouch* Antenna**

The antenna on the *TheaterTouch* is a grounded line SMD Planar (Splatch), soldered to the RF module, internal to the chassis and is not easily accessible.

### **Receiver**

The receiver module demodulates the RF signal and combines the IR control signals carrier frequency to acquire the IR control signal. The IR control signal is then routed out to a connector on the receiver and is now available to the home electronic devices.