1. Functional Description

The second generation RF remote control system contains a small transmitter located in a handheld unit, and a small shielded receiver located in the DBS box. The RF transmitter contains a Bipolar oscillator with a one-port SAW resonator for frequency stabilization, which drives a linearly polarized loop antenna located in the hand unit. The modulating signal is generated within the microprocessor of the handheld remote and is used to turn the oscillator on and off for amplitude shift keying of the carrier The CRK 76 also includes a current data control buffer on the input to accommodate a 2 battery system. The transmitter design must include a minimum of parts because of the limited board space located in the remote.

The receiver, located in the DBS box uses an external antenna for reception. The RF signal enters through an F connector at the rear of the DBS box, and it then enters a single chip which contains all amplifiers, mixers and baseband processing. The output is buffered and inverted with a simple transistor.

The specifications for this third generation design meet or exceed nearly all existing first generation specifications.

2. Block Diagrams

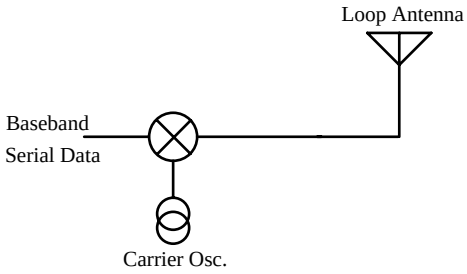
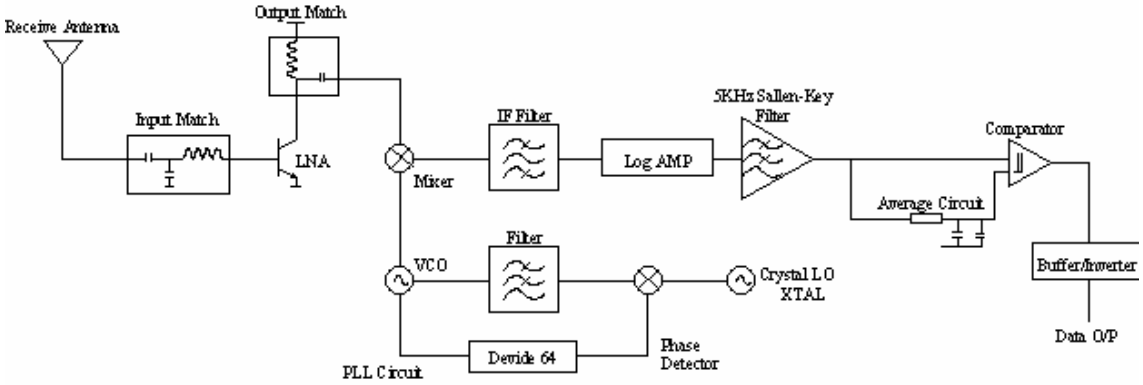


Figure 1 RF Remote Transmitter Block Diagram



Crystal freq = 9.975 MHz

LO Freq = 319.20 MHz

Figure 2 RF Remote Receiver Block Diagram