

## **CIRCUIT DESCRIPTION**

**Device:** LINKS 2450

**Model:** LINKS 2450

**ESI Identifier:**

**Schematic Diagram:**

**Description:**

The Links 2450 Rev03 is a FM Narrowband transmitter operating through the frequency band of 450 to 470 MHz and has an output of 2W. The operation of the transmitter is microprocessor controlled and it interfaces with a number of the company's control panels. It is meant operate as a remote one-way radio link to a central security monitoring station.

The Links 2450 consists of two main circuit sections. A control section with a microprocessor based digital logic and the RF transmitter.

The control section receives information from the control panel and in turn operates the transmitter to transmit the appropriate message(s). It uses a Varitech format for encoding the message and produces two tones 1070 and 1270 Hz to modulate the transmitter carrier at the selected carrier frequency.

The transmitter consists of, a Voltage Controlled Oscillator ((VCO) as the carrier source), a Phase lock Loop (PLL) system, a buffer stage, a pre - driver stage and a final power amplifier stage. The reference frequency for the PLL is derived from a temperature controlled crystal oscillator (TCXO)

The VCO is turned on by the microprocessor and is locked on to the desired transmit frequency via the PLL. The PLL sends a "lock detect" signal to the microprocessor which then turns on the Pre-driver and the Power Amplifier stages. A settling time of approximately 15 ms is allowed to elapse before the microprocessor begins to shift out the data that is used to modulate the carrier. The power amplifier, which has an output power of 2 W, is connected to an antenna through a matching compensation network. The signal from the power amplifier is transmitted via the antenna to the receiver where it is decoded and acted upon.