

Part 15 Alarm Transceiver Circuit Description

RECEIVER:

Incoming signals are picked up by diversity antennas: ANT3 and ANT4. ANT3 is matched by network: L11, C45, L9, C39, L8, C59, C46, L3, AND C57. ANT4 is matched by network: L12, C47, L13, C50, C55, C54, L1, AND C51. The ANT3 and ANT4 are switched by SW400 and SW403, Saw Filter FL403 provides image rejection. SW401 is the transmit / receive switch. A single chip receiver U11 provides all the required receiver functions of: LNA, Phase locked LO, IF Stages, and Detector. Crystal YL4 is the LO's FDE. (20.89375 MHz X 16 = 334.3 MHz low side injection) And Ceramic filter FL1 provides the IF Band pass. Base-band is conditioned by Op Amps; U22 and U13 before being processed by the microprocessor U15.

TRANSMITTER:

The Transmitter is under the control of microprocessor U15. A Single chip transmitter U12, provides all the required transmitter functions of: PLL, DRIVER, MODULATOR, and PA. TRANSMITTER U12's FDE is Y402, The PA output is matched to 50 ohms by: L2, C171, C407, L408, and C410. R400, R426, R61, R401 and Q1 provide the required power reduction for longer duty cycle messages the transmit / receive switch SW401, feeds antenna switches SW400 and SW403, and matching network: L11, C45, L9, C39, L8, C59, C46, L3, AND C57 feeds ANT3 while matching network: L12, C47, L13, C50, C55, C54, L1, AND C51 feeds ANT4.

