

2. Description of Operation

The design of the PT5 Voice and Data Transmitter has been achieved on one PCB that incorporates all circuitry consisting of the following sections.

The Processor U1 controls all RF circuitry features and provides a means to configure the transmitter and controls the functions of the external interface, PLL, Power Amplifier gain and DAC U5. The Transmitter unit maybe connected a PC, laptop or any RS-232 terminal, to display the menus and control operation, the Processor U1 contains a UART which provides this capability. Dip switches connected to U1 enable selection of channel without reprogramming.

RF signal generation is provided by a VCO controlled by PLL U8 in conjunction with a VCTCXO that is trimmed by Processor control and modulated by analog means via DAC U5 and amplifier U2A. The modulated signal is amplified by gain blocks under control of the Processor via the DAC and is passed thru harmonic filters to the Antenna connection.

Additional function of the Processor U1 provides monitoring of internal functions including PLL lock and the externally provided power supply voltage, ensuring correct device operation within the limits of the intended operating conditions. An externally visible led provides indication to end users of the functional status of the transmitter.