

The PCB contains a RF transmitter and receiver circuitry, under the control of a microprocessor. The transmitter is a SAW resonator Colpitts oscillator, Q14, Y6, etc. The transmitter is on-off keyed (AM) modulated by a control signal from the microcontroller U9 which turns PA Q10 on or off via Q11/Q12, thus modulating the output signal. The RF output signal is multiplexed by C85/L15/L5 to the diversity diodes CR7/CR8, and then to the two PCB mounted antennas. The receiver is a superhet with a single intermediate frequency at 10.7MHz. the signal is fed from the PCB mounted antennas via Diodes CR7/CR8 under the control of a microcontroller, U9, and are periodically switched to provide system antenna diversity. Q3 etc. is the low noise amplifier, and FL1 / L15, provide out of band signal rejection. and I.C. U1 contains all of the receiver components, except for the LO. which consists of Q5/Y3, the mixer converts the incoming signal down from 345MHz to 10.7MHz. This IC also includes the required IF gain and detected output. YL1 /YL2 are IF filters. IC's U2/U4/U12 perform video filtering and processing and provide a data signal, to the microprocessor U9. Note that transistor Q13, controls the output power level of the transmitter and is under the control of the microprocessor. If the 5800RP is repeating a low power 15.231e) data message, then Q13 is switched off, and if the 5800RP is repeating a high power 15.231a) control message, then Q13 is switched on.