

Circuit Description

3x1.5v batteries supply power to MCU and Motor. The RF power are controlled by Q1 for TX part and regulated to 3.3v for RX part.

MCU drive the Bi-direction Motor M1 through the bridge network Q3,Q4,Q5&Q6.

RF module combined TX & RX in a PCB, work in half duplex. The TX & RX are selected at a time by the MCU and Encode/Decode IC.

TX is a Super-regeneration Transmitter with power amplifier in the IC. Y1 27.145MHz crystal oscillator oscillate the modulation frequency to TXIC, the output of TXIC has a matching network consisting of L1, L2, L5,C7,C8,C9 and C10 that limit the harmonic content and effect the proper coupling of the 2x33mm Nickel Iron coil antenna .

RX is a Super-regeneration Receiver with LNA on chip. C14,C15&L6 provide a local oscillation. A 69mm Nickel Iron Bar antenna pickup the signal and pass to the RXIC by a coupling capacitor C1.