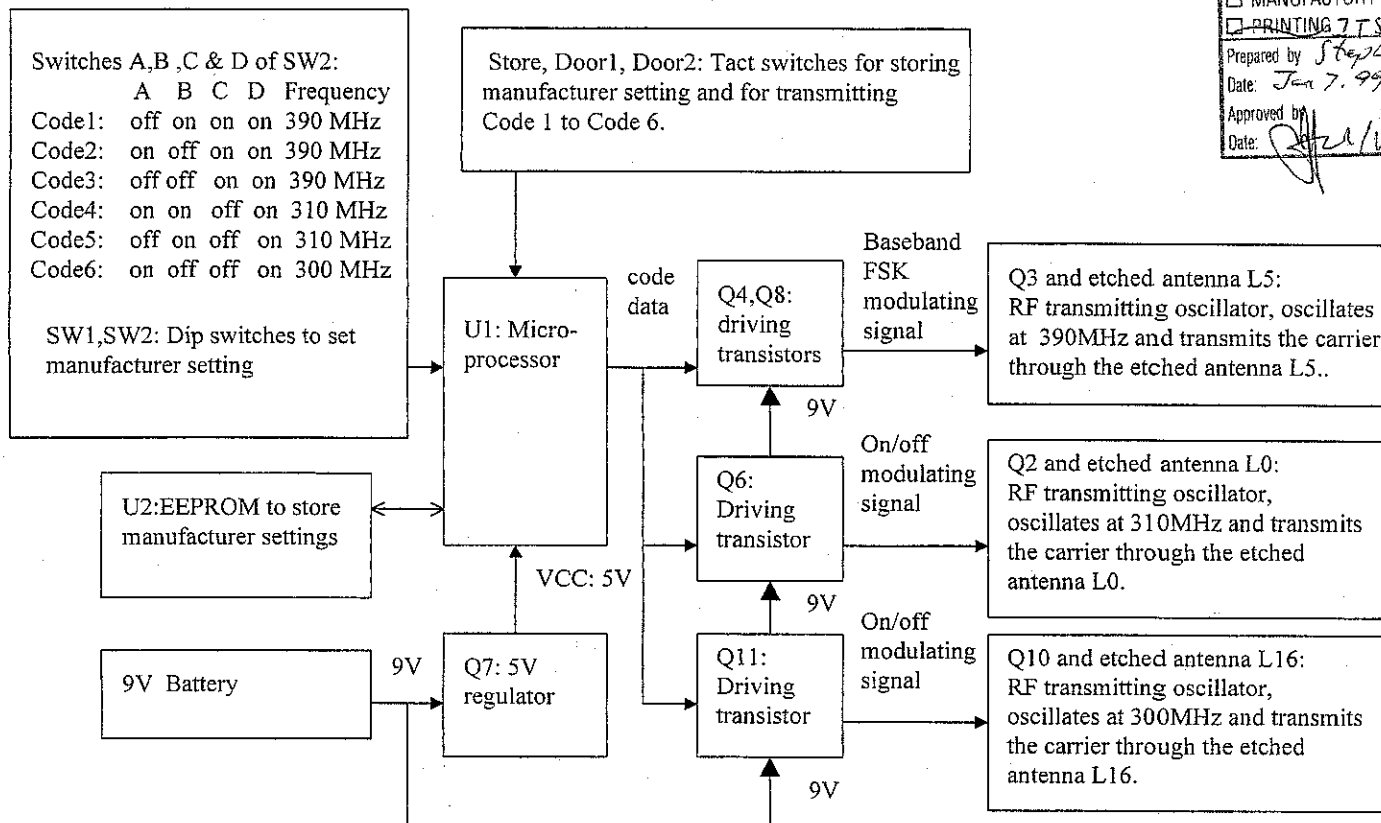


TECHNICAL DESCRIPTION FOR BW2101



The circuit mainly contain the above functional blocks. U1 is the micro-controller that response to key pressed and then either transmit RF radiation or store the dip switches configuration into EEPROM (U2). Please read the user manual before reading further.

Before using, the user will select the manufacturer and frequency of radiation by properly setting the dip switches SW1 and SW2. He will then store the setting into the EEPROM by pressing the "store" button together with the key (Door 1 or 2) that he wants to store.

When the user pressed Door1 or Door2 for transmission, the micro-controller will send the correct code (according to the manufacture stored) to RF transistors Q2, Q3 or Q10 depending on the frequency stored for that key. Q6, Q11, Q4 and Q8 simply acts as a level shifter that shift the 5V output from U1 to a 9V output. For example, when Q8 is on, Q4 is on and a 9V drive will be applied to the base of Q3 through R21 and L2. Hence Q3 will be turned on and oscillation starts. C3, L2, Q3, antenna L5, C7, VC1, C11, L1 and C1 constitute an RF oscillator which oscillates when bias is applied to Q3. L5 and VC1, C7 and C11 constitute the tank circuit that determine the frequency of oscillation. L5 acts as a loop antenna (PCB etched) that radiate RF out of the transmitter. Q2 or Q10 will be either in "off" state (no carrier) or in "on" state (radiate carrier). These two states correspond to logic "0" and "1" of the code sending. This is when the transmitter works under "on/off" keying for frequency 310MHz and 300MHz. This happens when transmitting code 3, 4, 5 or 6. For 390MHz, logic "0" is represented by a baseband modulating signal of 10KHz and logic "1" by 20 KHz. This happens when transmitting code 1 or 2. This is so called baseband FSK.