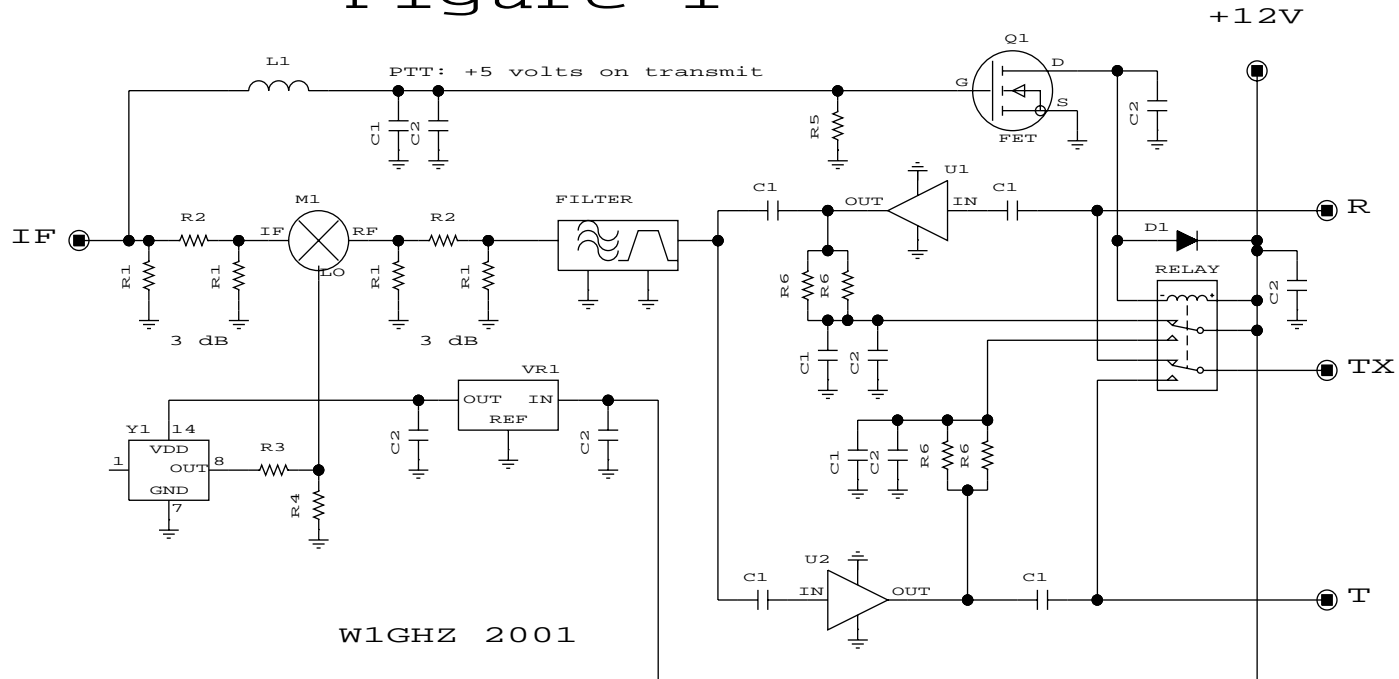


MINI-TRANSVERTER

Figure 1



W1GHZ 2001

C1 - 500 to 1000 pf, 0603 chip

C2 - 0.1 uf, 0603 or 0805 chip

L1 - 1 uh RF choke

M1 - TUF-1 mixer

Q1 - VN2222 or similar FET

VR1 - 78L05 3-terminal regulator

U1, U2 - MAR-6 MMIC

Y1 - 4 pin CMOS oscillator (see text)

R1 - 300 ohms, 0603 chip

R2 - 18 ohms, 0603 chip

R3 - 300 ohms, 0603 chip

R4 - as needed for LO level

R5 - 100K (not critical), 0603 chip

R6 - 400 ohms, 1206 chip (1/8 watt)

Filter - Toko 272MT - 1006A helical

Relay - Omron G5V-2 or Radio Shark 275-213A