800-950MHZ FREQUENCY CONVERTER.

THIS CIRCUIT WILL TAKE AN 800-950MHZ SIGNAL AND MIX IT WITH A CARRIER FREQUENCY, OR 40.000MHZ. THIS MIXED SIGNAL IS THE OUTPUT.

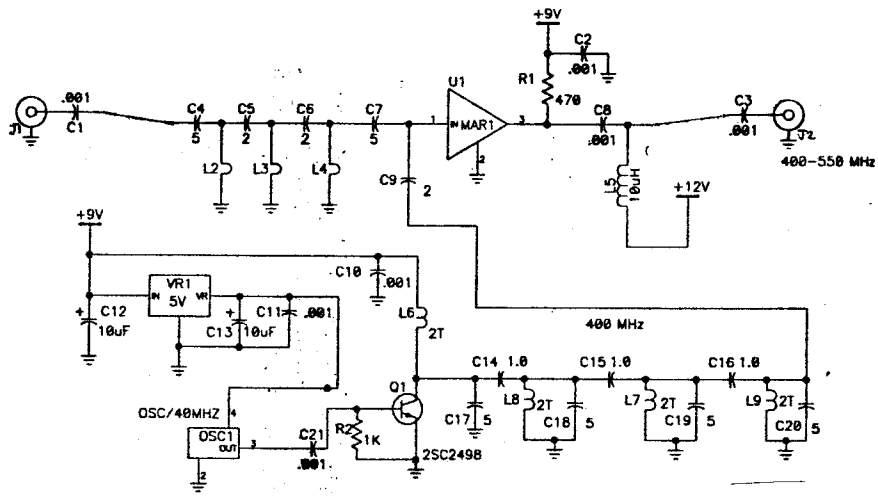
THE OUTPUT FREQUENCY OF THE DEVICE WILL BE 400-450MHZ.

THEORY: THE SIGNAL IS FED INTO THE INPUT RCA JACK. THIS SIGANL PASSES THROUGH A SIRIES OF FILTERS AND IS MULTIPLEXED WITH A 40MHZ SIGNAL WHICH IS GENERATED BY THE OSCILLATOR. THIS MIXED SIGNAL IS FED INTO A MAR1 AMP MIXER WHERE IT IS TRULY MIXED AND AMPLIFIED. THIS SIGNAL IS THE OUTPUT.

SCHEMATIC DIAGRAM

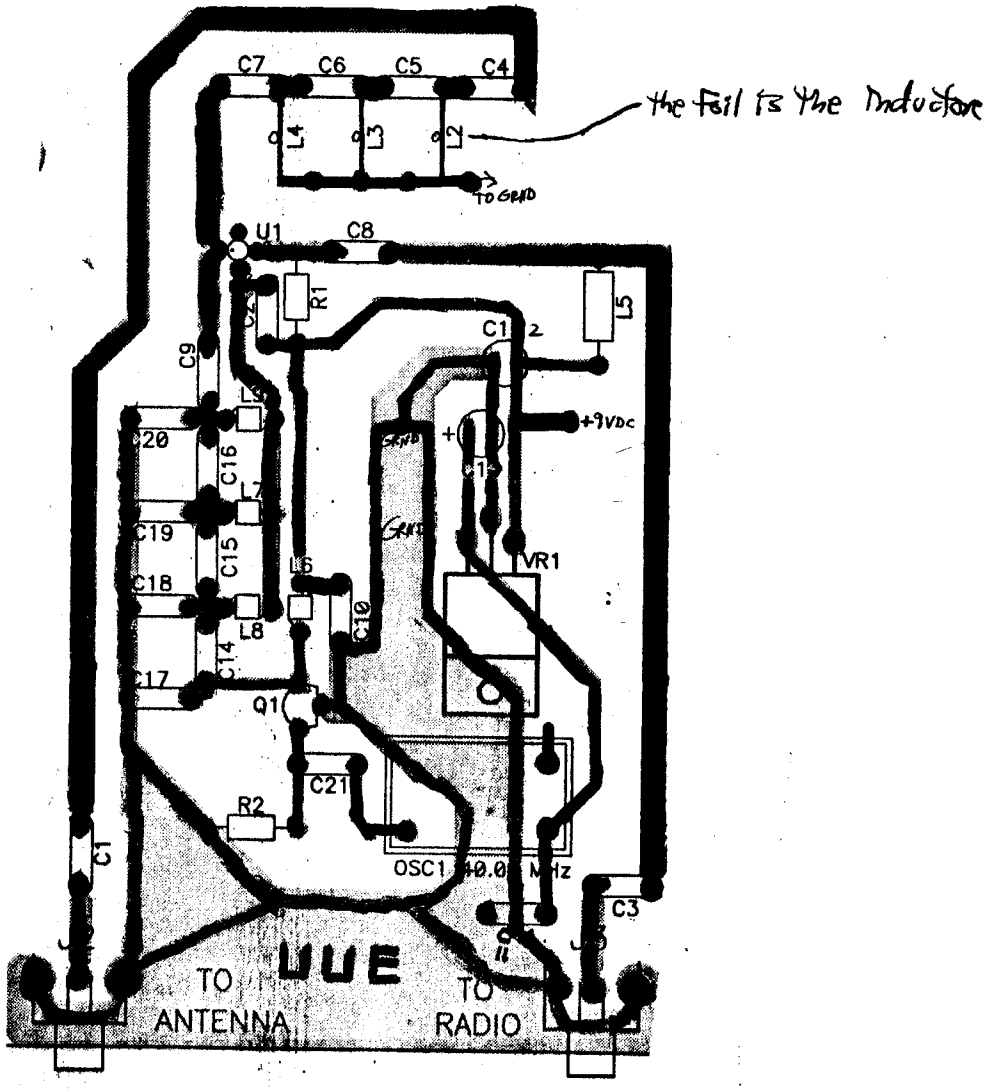
PARTS LIST.

R1=220 OHM
R2=1K OHM
C1, 2, 3, 8, 10, 21=.001uF DISC
C4, 7, 17, 18, 19, 20=5pF DISC
C5, 6, 9=2pF DISC
C12, 13=10uF ELECT
C14, 15, 16=1pF DISC
L1, 5=10uH INDUCTORS
L6, 7, 8, 9=2 TURN INDUCTORS, USE VARIABLE FOR BEST RESULTS. 28-32 GA WIRE.
L2, 3, 4=1 TURN INDUCTORS, USE VARIABLE FOR BEST RESULTS. 28-32 GA WIRE.
Q1=2SC2498 NPN
MAR 1=MMIC AMP
REG1=5V DC REGULATOR
OSC1=40.000MHZ OSCILLATOR
J1, 2=RCA JACKS.



MAKE SURE ALL COMPONENTS ARE SOLDERED TOGETHER WELL. IF THE UNIT FAILS TO OPERATE CORRECTLY TRY USING A DIFFERENT SET OF INDUCTORS FOR THE 1 TURN ONES OR USE SHIELDED WIRE ON ALL WIRING. PUT THE DEVICE IN A METAL BOX. USE AN O-SCOPE TO VIEW THE CORRECT FREQUENCY FROM THE OUTPUT. EITHER A 40MHZ MODULATED SIGNAL OR 400-450MHZ MODULATED SIGNAL.

PICTORAL OF CIRCUIT BOARD.

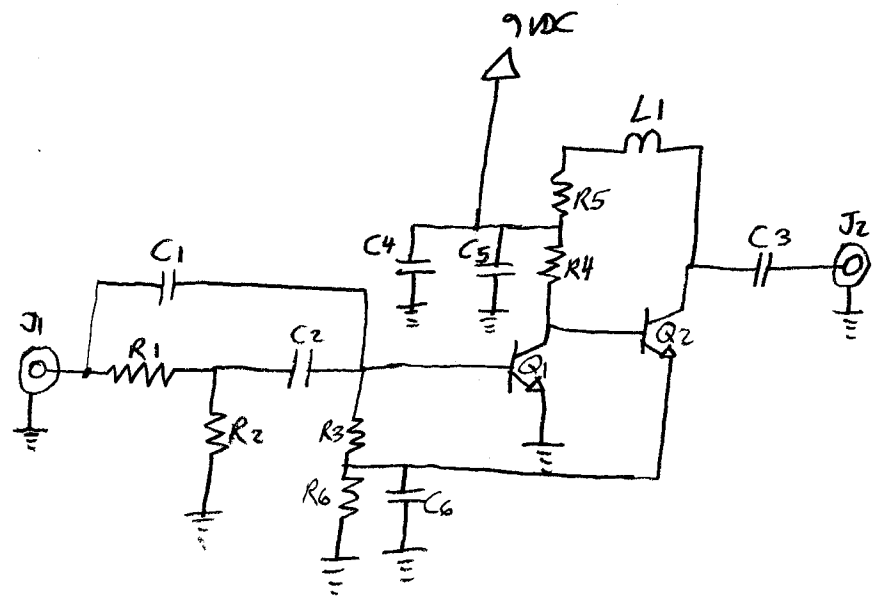


100KHZ-1.3GHZ RF PREAMPLIFIER

THIS CIRCUIT IS AN EXCELLENT UNIT. IT USES TWO MICROWAVE TRANSISTORS FOR WIDE RANGE AND EXCELLENT STABILITY. LOW LOSS, LOW SUSCEPTABILITY TO NOISE AND LOW POWER CONSUMPTION OF AROUND 15MA. THE CIRCUIT BOARD CAN BE A PERFBOARD. JUST MAKE SURE THE TRANSISTORS ARE SHIELDED FROM L1.

THIS UNIT WILL PUT OUT AROUND 100MW.

SCHEMATIC DIAGRAM.



PARTS LIST:

R1,5=100 OHM
R2=51 OHM
R3=470 OHM
R4=1K OHM
R6=47 OHM
C1=5pF DISC
C2, 3, 5=.01uF DISC
C4=10uF ELECT
C6=2.2pF DISC
L1=.04uH INDUCTOR
Q1,2=2SC2498 TRANSISTORS (NPN)