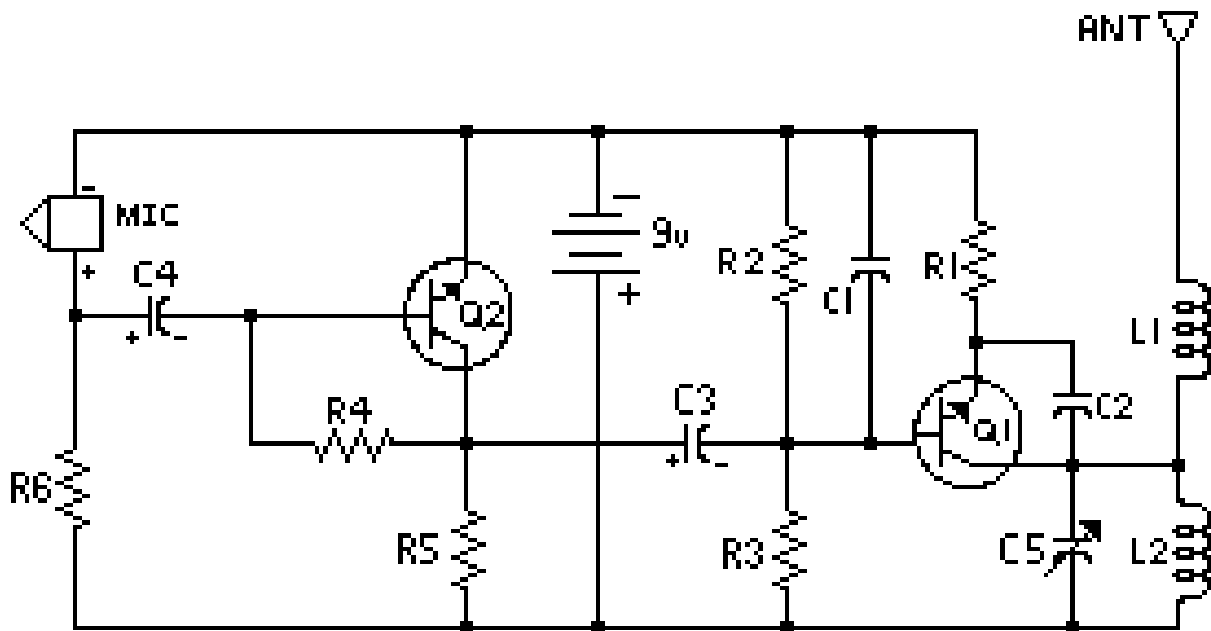


Here is the schematic, PC board pattern, and parts placement for a low powered FM transmitter. The range of the transmitter when running at 9V is about 300 feet. Running it from 12V increases the range to about 400 feet. This transmitter should not be used as a room or telephone bug.



Part	Total Qty.	Description	Substitutions
C1	1	0.001uf Disc Capacitor	
C2	1	5.6pf Disc Capacitor	
C3,C4	2	10uf Electrolytic Capacitor	
C5	1	3-18pf Adjustable Cap	
R1	1	270 Ohm 1/8W Resistor	270 Ohm 1/4W Resistor
R2,R5,R6	3	4.7k 1/8W Resistor	4.7K 1/4W Resistor
R3	1	10k 1/8W Resistor	10K 1/4W Resistor
R4	1	100k 1/8W Resistor	100K 1/4W Resistor
Q1, Q2	2	2N2222A NPN Transistor	2N3904, NTE123A
L1, L2	2	5 Turn Air Core Coil	
MIC	1	Electret Microphone	
MISC	1	9V Battery Snap, PC Board, Wire For Antenna	

1. L1 and L2 are 5 turns of 28 AWG enamel coated magnet wire wound with a inside diameter of about 4mm. The inside of a ballpoint pen works well (the plastic tube that holds the ink). Remove the form after winding then install the coil on the circuit board, being careful not to bend it.
2. C5 is used for tuning. This transmitter operates on the normal broadcast frequencies (88-108MHz).
3. Q1 and Q2 can also be 2N3904 or something similar.
4. You can use 1/4 W resistors mounted vertically instead of 1/8 W resistors.
5. You may want to bypass the battery with a .01uf capacitor.
6. An antenna may not be required for operation.