Here is a low-cost circuit of an FM booster that can be used to listen to programmes from distant FM stations clearly. The circuit comprises a common-emitter tuned RF preamplifier wired around VHF/UHF transistor 2SC2570. (Only C2570 is annotated on the transistor body.)

Assemble the circuit on a good-quality PCB (preferably, glass-epoxy). Adjust input/output trimmers (VC1/VC2) for maximum gain.

Input coil L1 consists of four turns of 20SWG enameled copper wire (slightly space wound) over 5mm diameter former. It is tapped at the first turn from ground lead side. Coil L2 is similar to L1, but has only three turns. Pin configuration of transistor 2SC2570 is shown in the figure.