

40-METRE DIRECT CONVERSION RECEIVER

Using the circuit of direct-conversion receiver described here, one can listen to amateur radio QSO signals in CW as well as in SSB mode in the 40-metre band.

The circuit makes use of three n-channel FETs (BFW10). The first FET (T1) performs the function of ant./RF amplifier-cum-product detector, while the second and third FETs (T2 and T3) together form a VFO (variable frequency oscillator) whose output

is injected into the gate of first FET (T1) through 10pF capacitor C16. The VFO is tuned to a frequency which differs from the incoming CW signal frequency by about 1 kHz to produce a beat frequency note in the audio range at the output of transformer X1, which is an audio driver transformer of the type used in transistor radios.

The audio output from transformer X1 is connected to the input of audio amplifier built around IC1 (TBA820M) via volume

control VR1. An audio output from the AF amplifier is connected to an 8-ohm, 1-watt speaker.

The receiver can be powered by a 12-volt power-supply, capable of sourcing around 250mA current. Audio-output stage can be substituted with a readymade L-plate audio output circuit used in transistor amplifiers, if desired. The necessary data regarding the coils used in the circuit is given in the circuit diagram itself.

