

Tubeless Hi-Fi Tuner

High-fidelity addicts will remember the Western Electric 10A Radio Receiver as, for its time, one of the best from the standpoint of quality but it was not commercially available to the home user. The circuit of this tuner was simplified and appeared on the market as a wide range unit, employing a four-gang capacitor and a total of eight coils (two of them untuned) and three or four tubes. Having a wide pass band, it was useful only in close proximity to radio stations, and the sensitivity was not very great for this reason. However, the audio quality was excellent, and there are many of these wide-range tuners still in use.

Utilizing the same circuit principles, a new tuner has recently appeared which serves practically the same purpose. It is broad, and thus suffers from no side-band cutting; it has low sensitivity, which is desirable for tuners of this type; and it has remarkable audio quality. The circuit of the tuner is shown in *Fig. 1*, and it will be seen to consist of two antenna coils essentially back-to-back, with a two-gang

tuning capacitor and a negative-mutual coupling coil (EL-56 on the schematic). The 1N34 Germanium diode serves as the detector, with the signal being developed across the resistor.

This tuner is designed for use in metropolitan areas where there are likely to be a number of radio stations within a radius of 20 to 25 miles, and when used with a good antenna from 75 to 100 feet in length will give an audio output ranging from .05 to 0.5 volts. Even with a shorter antenna, satisfactory results are obtained with an output of less than .001 volts, pro-

viding the signal is fed into a high-impedance microphone input channel of a high-quality amplifier.

The coils specified for this tuner are the products of J. W. Miller Co. of Los Angeles, and while a complete kit is available—consisting of the coils, tuning capacitor, slide-rule dial, and chassis—it is possible to assemble the tuner with any desired chassis and capacitor, provided it covers the tuning range. For satisfactory results, it is necessary that high-Q coils be employed, and this requirement is fulfilled by the 242-A coils specified.

Fig. 1.

