Equipment Report

SONOCRAFT FM TUNER

Compact new FM tuner offers advantages for installation in small cabinets, yet provides satisfactory reception even in fringe areas.

For high-fidelity radio reception, it is generally conceded that FM provides better quality and less distortion than AM, and listeners located in cities where FM stations carry the programs of local or network stations simultaneously usually prefer to use only one type of receiver —FM. Actually, a good AM receiver is capable of high-quality reception, particularly when the receiver is of the t.r.f. type, but while such receivers are satisfactory in areas close to the transmitters, they are not nearly so desirable at long distances, because of atmospheric noise. Therefore, the listener desiring good quality will usually turn to FM, even if he may be in what is commonly termed a "fringe" area.

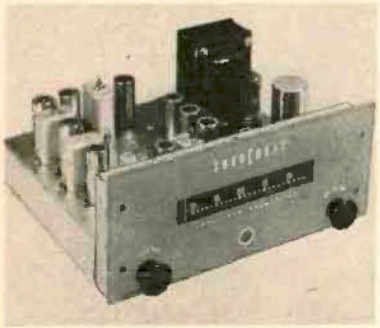

Fig. 1. External appearance of the tuner, which has a panel only 10-in. wide and 4¼ in. high.

FM reception in outlying areas offers a problem to many listeners, however, due to lack of sufficient signal strength. The Sonocraft FM tuner, however, has excellent sensitivity, and under test conditions at a location 40 miles from New York performed very satisfactorily.

The tuner is of conventional design, except for the r.f. and oscillator circuits, which are slug-tuned. It employs a ganged assembly of cores which move in and out of the coils, and the construction is such that trimming may be accomplished at both ends of the tuning range. The i.f. amplifier consists of three stages, followed by two limiter stages and a discriminator. The 6AG5 r.f. stage provides plenty of signal sensitivity, the figure claimed by the manufacturer being 5 microvolts for 20-db quieting. The bandwidth at 6 db down is 200 kc, with sufficient selectivity to reduce adjacent channels by 50 to 60 db.

The tuner is equipped with an effective a.f.c. circuit, which may be switched on or off from a front panel control. With the a.f.c. switched off, the drift is excessive for the first ten minutes of operation, but thereafter the drift is negligible over a period of hours.

One feature of the tuner is the indicator, which is simple and of clever design. A 6J6 serves as the indicator driver, being connected as a v.t. voltmeter tube. The indicator tube is an NE-51, connected between the plates of the 6J6. One plate of the NE-51 glows when the set is tuned on one side of the correct frequency, and the other glows when the set is tuned to the other side. When the set is correctly tuned, neither plate glows—from which the tuning indicator derives its name, "Blackout."

Because of its compactness, this tuner is adjudged to make a satisfactory addition to a home music system in which only FM is desired and which must be housed in small cabinets. It is self powered, and is not equipped with a volume control, since the tuner output is usually fed directly into the control amplifier.

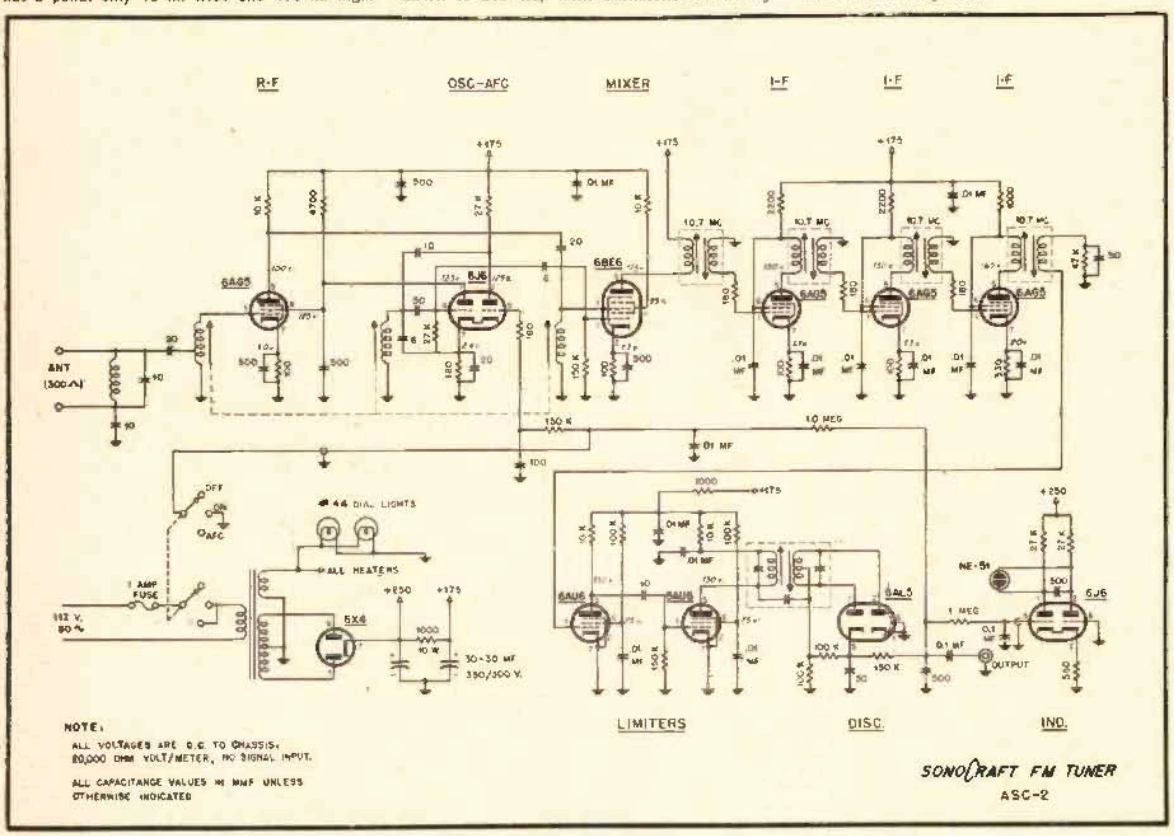

Fig. 2. Complete schematic of the Sonocraft FM Tuner, with operating voltages.