

Radio Craftsmen C-800 Tuner and C-500 Amplifier

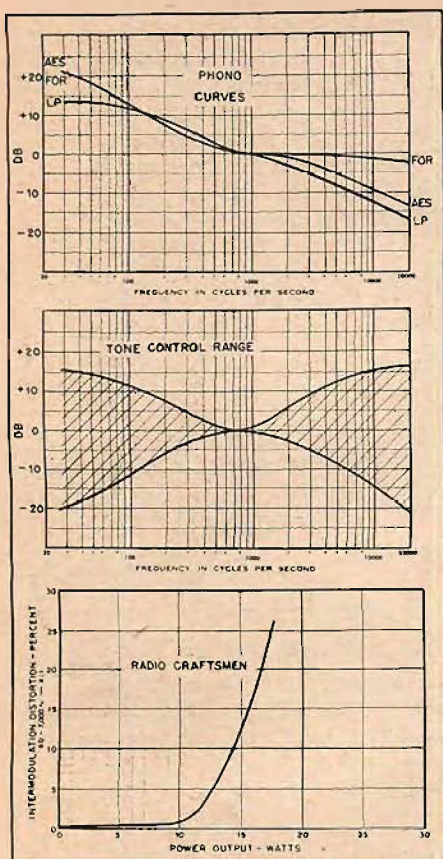


Fig. 1. Performance data for Craftsman C-800 tuner and C-500 amplifier.

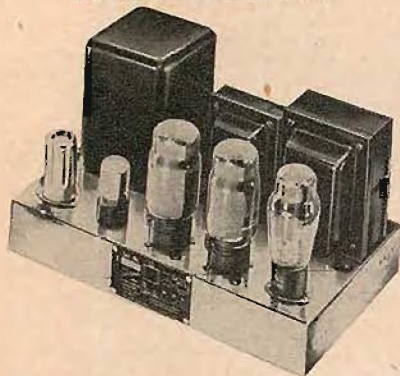


Fig. 2. The Craftsman amplifier.

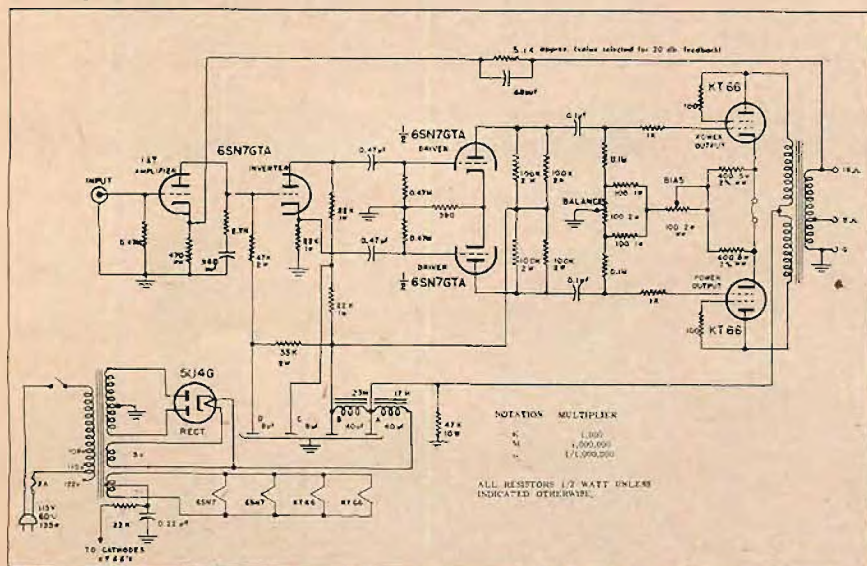


Fig. 3. Schematic of the C-500 amplifier.

MORE AND MORE manufacturers are beginning to provide an entire complement of material for the home music system. Heretofore it has been felt that most of the FM-AM tuners which provided tone controls were equipped with circuitry which was not considered as satisfactory as that used in preamp-control units usually available. However, this is not the case with the Radio Craftsmen C-800 tuner, for its tone controls compare favorably with those used on most separate control units, and the phonograph equalization is adequate for any records that will be encountered today.

The tuner offers excellent sensitivity—somewhat better than 5 microvolts on FM, it appears. The controls are conveniently arranged, with the selector on the left, followed by bass, volume, treble, and tuning. The volume control is a dual unit, which eliminates the possibility of overloading the first stage by signals of high level, and also aids in keeping the hum level to a satisfactory minimum. Two outputs are provided—one ahead of the tone controls labeled "Detector," so that it is possible to connect a tape recorder at this point permanently without any possibility of recording a program with the tone controls improperly set; conversely it is possible to use the tone controls to assist in correcting the frequency response to make up for deficiencies in the recorder without affecting the program being reproduced in the speaker at the same time.

One good feature of the Craftsman tuners has always been the ease of mounting—a single rectangular opening and five holes for the knob shafts. The escutcheon fits close to the panel and any imperfections in cut-

ting the opening are thoroughly obscured. Dial calibrations were accurate in the model tested, and the tuning indicator—a 6AL7—gave an excellent indication of the correct tuning point. Special mention should be made of the switching between various inputs—there were no "pops" which can be so damaging to tweeters.

The Power Amplifier

The C-500 amplifier, Fig. 2, is an excellent embodiment of the Williamson-type circuit in a commercial product. It has a sensitivity of 1.45 volts for rated output (12.5 watts), and hum and noise level (measured) of 50 db below zero level (.001 watts). This corresponds to 92 db below maximum output, which is better than average. On the 16-ohm tap the output impedance measured 0.47 ohms, which is a damping factor of 34.

The schematic of the amplifier is shown in Fig. 3. Note that the power supply has a choke input, and that there are two filter chokes to minimize hum. Heaters of all four tubes in the amplifier are biased about 40 volts above ground as a further step toward reducing hum. Both balance and bias adjustments are provided, and the amplifier is fused.

Physically, both amplifier and tuner are of attractive appearance, the chassis being finished in chromium plate, and the transformers and chokes in black. This is not considered important in many installations, but most audiophiles take pride in attractive equipment and would enjoy exhibiting the "insides" of their cabinets when equipped with Craftsman components.

Figure 1 shows the measured performance data, plotted in accordance with AUDIO's standard practice. The table below gives the pertinent facts about sensitivity, tuner output, and so on. Measured IM distortion of the amplifier output was 0.98%; at 0.5 volts output it was 0.32%.

CRAFTSMEN C-800 TUNER

Input voltage for 1-volt output

Input Setting	"Amplifier" Out	"Detector" Out
LP	.0065	.035
AES	.0059	.032
EUR	.0054	.030
TV and SPARE	0.19	1.06