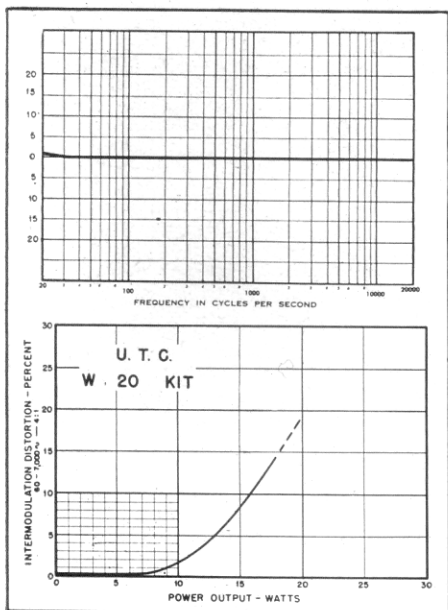


Equipment Report

UTC W-20 "Williamson" Amplifier Kit



THOSE WHO ENJOY the construction of their own equipment will find considerable satisfaction in the announcement of the new "Williamson" amplifier kit made available by United Transformer Co., under the designation W-20.

This kit does not limit the builder to a specific form of construction, since the materials furnished include only the transformers, filter chokes, and chassis—the latter being punched to fit the equipment supplied in the kit. However, detailed instructions are furnished to show the recommended construction, which involves the use of Vector sockets.

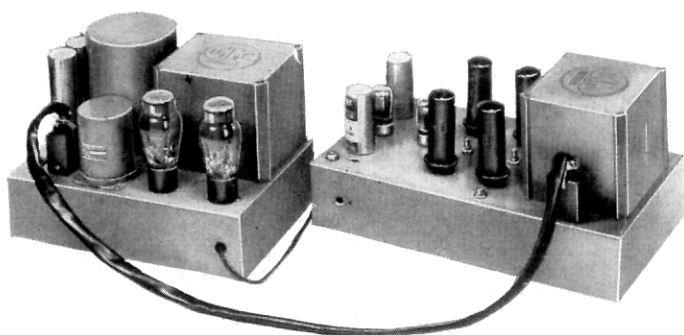
The amplifier is designed along the basic principles of the original Williamson, but employs four 1614's in a push-pull parallel

output stage, thus providing adequate performance at conservative operating voltages.

The model tested was constructed by a member of *Æ*'s staff who is not particularly familiar with typical audio practices, and a total of nine hours was required to complete the work. Vector socket wiring is not considered particularly difficult by experienced personnel, but to the uninitiated it often presents some problems. With the detailed drawings accompanying the kit, the work was done correctly the first time, and with a minimum of trouble.

The circuit employs two 7N7's for the first three stages—involving four tube sections—and four 1614's in the output. Parasitic oscillation is effectively suppressed by the use of stopper resistors in both plate and grid circuits of the output tubes. The completed amplifier showed the characteristics indicated in *Fig. 1*. Provision is made on the power supply to furnish plate and heater current to a preamplifier-control unit, which is not included as part of the kit, but must be furnished separately. Two 5U4G's are used as rectifiers, ensuring ample current carrying capacity for the amplifier.

When constructed in accordance with the schematic, *Fig. 2*, the input signal required for 1-watt output is 0.32 volts at 1000 cps; for 10-watt output, the input signal is 1.12 volts. This permits full output power from conventional preamplifier-control units—most of which are capable of providing an output signal of approximately 2 volts without undue distortion. The input connection to the amplifier is through an Amphenol microphone connector, and connections to the speaker are available through a telephone jack. Output impedances ranging from 1 to 15 ohms may be obtained by suitable connections of the output transformer secondary.



Left, the UTC W-20 Amplifier and Power Supply Kit, constructed according to instructions. Above, *Fig. 1*, performance data.

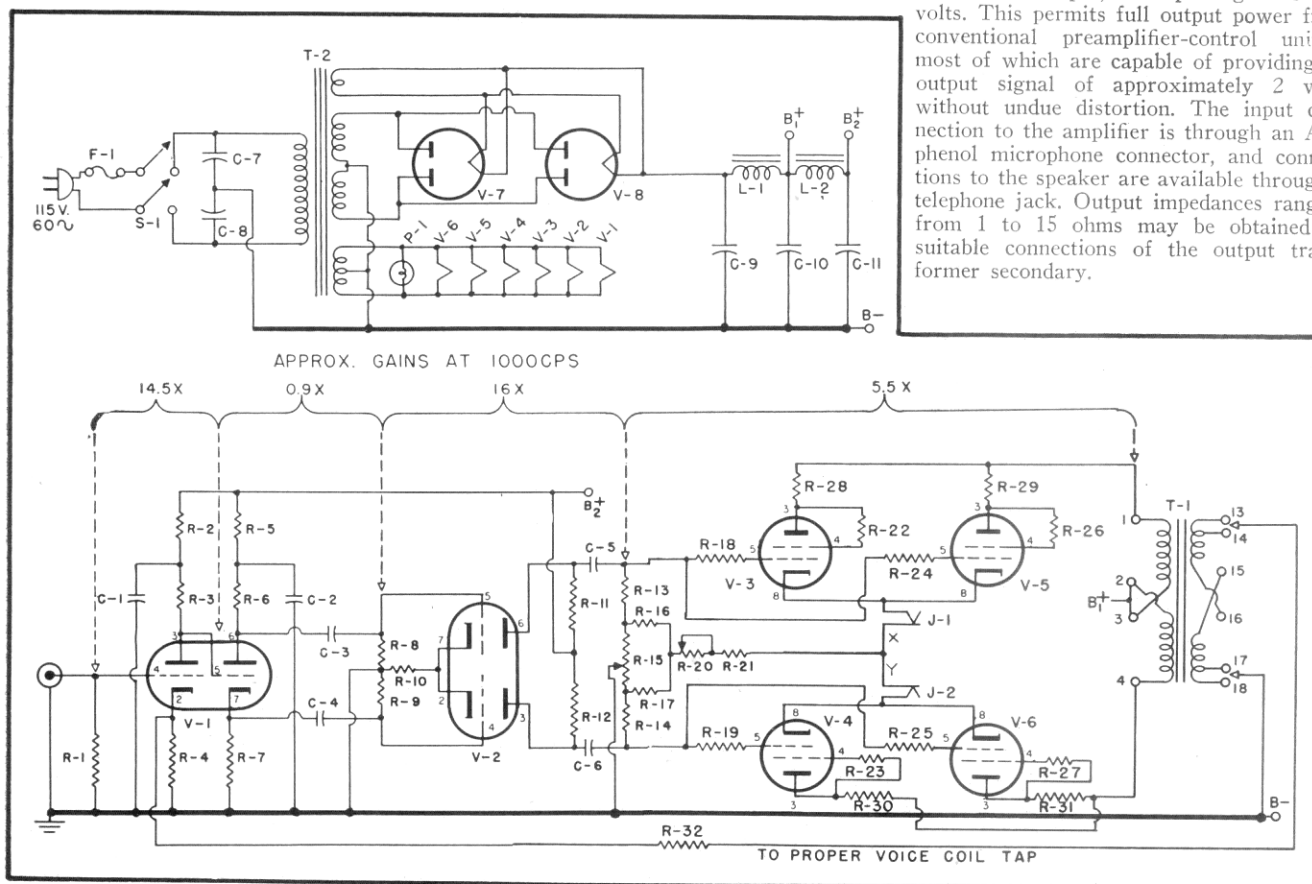


Fig. 2. Schematics of the power supply, above, and of the amplifier, below.