

preserves the uniform frequency response at all gain settings. A rectifier type output level indicator is furnished when desired, calibrated both in decibels and in volts.

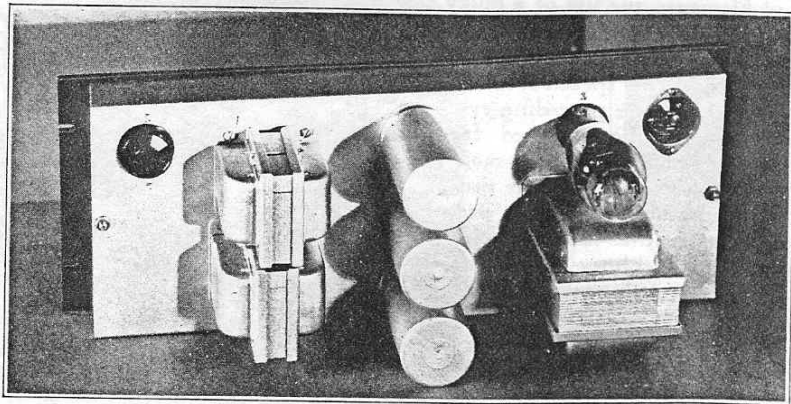
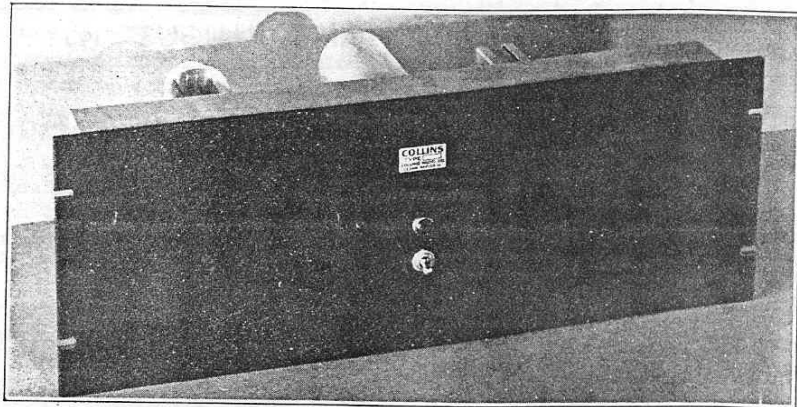
Mechanical Construction

The 7B amplifier is mounted on a standard size 19" rack panel occupying a vertical space of 7". The panel is of aluminum with a black crackle finish. The volume control and volume indicator are placed in instrument mountings on the front of the panel. The amplifier itself is constructed on a special type of steel chassis secured to the back of the panel. The chassis is heavily copper plated and finished with aluminum bronze. Individual tube shields are provided and transformers are neatly encased so that the amplifier is effectively shielded even when a dust cover is not used. Input, output and cable connections are made to standard plugs and receptacles so that the amplifier can be instantly connected and it is impossible to reverse any of the connections. Wiring beneath the chassis is carefully done, and, whenever it is permissible to do so, the leads are grouped and neatly cabled. This general method of construction has been specially worked out for the amplifier and is a departure from the usual method of construction where several unrelated assemblies are used behind the panel and all wiring is exposed whenever the dust cover is removed.

The power supply for the amplifier is also mounted on a relay rack panel occupying a vertical space of 7" and its general appearance and construction is harmonious with that of the amplifier. The power transformer is provided with a static shield which prevents line interference from entering the amplifier circuits and an unusually elaborate filter system reduces the hum in the amplifier to an extremely low value. The filaments of the amplifier are operated from AC taken from the 300A power supply. It is entirely possible to use DC on the amplifier filaments if desired but careful measurement has shown that there is no advantage in doing so, since special measures have been taken to see that no AC voltage from the heater circuits is induced into the output of the amplifier. The only measurable hum which can occur is caused by induction between the power

transformer in the 300A power supply and the input transformer in the 7B amplifier when the power supply is placed adjacent to the amplifier itself. All interference of this nature can be eliminated by mounting the power supply 30 inches or more away from the amplifier. This would not be possible if the amplifier and power supply were embodied in the same unit.

tubes in the output stage provide an output of 10 watts with a distortion η less than 2%. A special grid filtering network is used in the output stage which maintains a fixed bias voltage desirable with the 2A3 tubes. Any desired value of input or output impedance can be furnished. A 200-ohm input and 500-ohm output are standard and will be furnished unless other val-



The 300B Power Supply for 7B Amplifier

Electrical Performance

The wide frequency range of the 7B amplifier would have been considered impossible of attainment a few years ago. The amplifier is flat overall within ± 1 decibels from 30 to 12,000 cycles. This excellent response is accomplished without the use of equalizer or padding devices and is the result of straightforward design employing very high-grade transformers, accurate values of capacity and resistance and careful decoupling between the various stages. Phase distortion is negligible at both ends of the frequency range.

The gain of the 7B amplifier is approximately 70 DB. The new 2A3

uses are specified. When the 7B amplifier is used for driving two 203A class B modulators, a special output transformer is used which has the proper output impedance to couple directly to the grids of the class B tubes through a shielded line.

The 7B amplifier is ideally adapted for many uses other than as a program amplifier. It can be used as a bridging or a monitoring amplifier or as a separate speech amplifier for audition work in broadcast studios. The 10 watts of undistorted output available from the 7B amplifier makes it excellently suited as a public address amplifier and it is capable of handling

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