

COLLINS SIGNAL

Published by
COLLINS RADIO COMPANY

Designers and Manufacturers of
Transmitters, Transformers and Speech Equipment

CEDAR RAPIDS IOWA, U. S. A.

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Collins Radio Company
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Announcing the New Collins 7B Program Amplifier Which Sets New Standards in Audio Transmission

Up to the present time most of the conventional types of speech amplifiers which have been used in broadcast stations have had one or more serious drawbacks. Among these handicaps which the station engineers have had to face have been the necessity for DC operation of filaments, the use of a bulky and expensive plate voltage rectifier, insufficient power output necessitating the use of an additional speech amplifier stage in the transmitter preceding even a low-power modulator, limited frequency response and difficulty in maintenance. As a matter of fact the ordinary speech amplifier commonly used with a radio transmitter is more or less a hangover from telephone repeater design and is not primarily suited for radio use. Throughout the past few years there has been no particular effort to depart from the conventional design of speech amplifiers and to develop a new amplifier using all of the improvements made possible by new tubes and modern circuits.

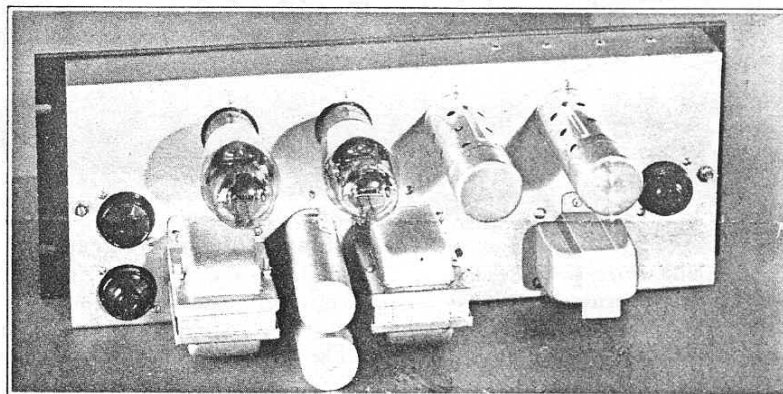
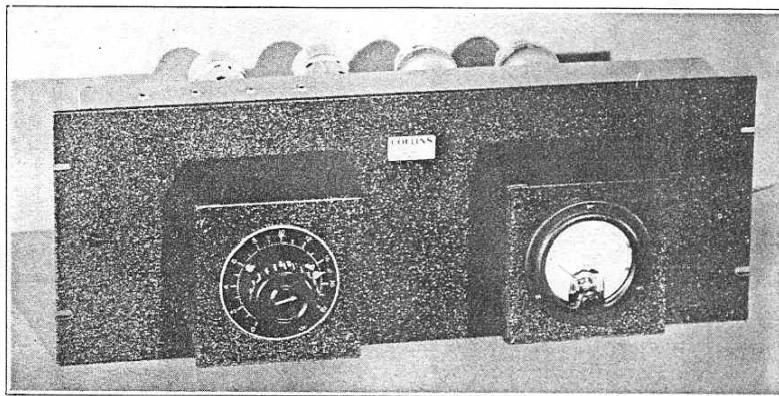
In answer to an insistent demand for a radically different type of amplifier, the Collins Radio Company set about to develop a piece of equipment which would really be adequate in every respect. It was thought desirable to build an amplifier which would be suited not only for use in existing installations where class A modulation is used, but also to have the amplifier properly designed for use with a modern class B modulation system. The 7B amplifier has proved itself to be extremely satisfactory in every respect during actual use in broadcast service and measurements in the laboratory show that its performance is more

nearly perfect than had been hoped for originally.

Circuit

The 7B amplifier used in connection with its associated 300A power supply is entirely AC operated. Two stages of amplification, employing type 56 tubes, are followed by an output-stage

using pushpull 2A3's. The input and pushpull circuits are transformer coupled and resistance-capacity coupling is used between the first and second stages. Special attention has been given to the volume control circuit. A moulded carbon volume control was found which introduces less noise than step by step volume controls and also



The 7B Amplifier Front and Rear View