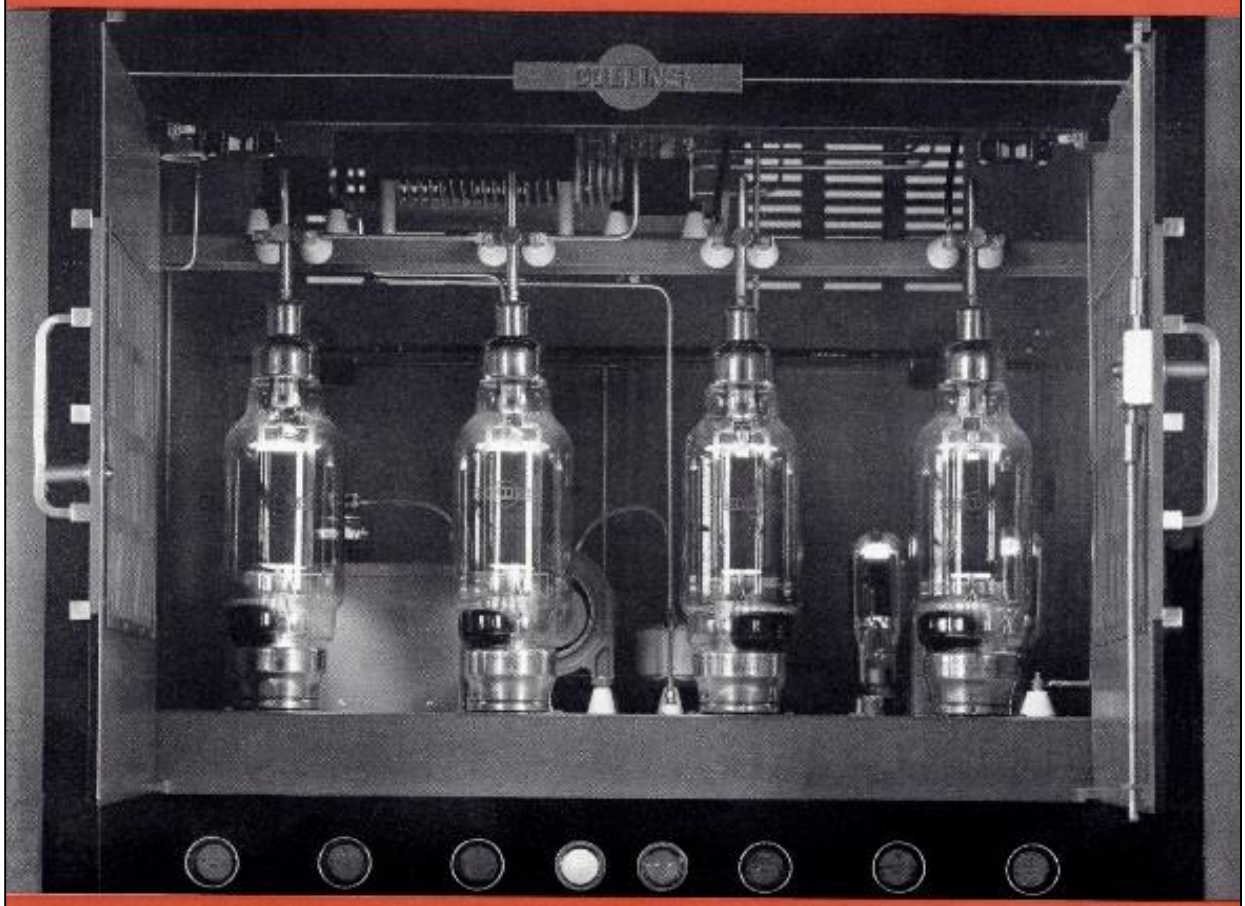
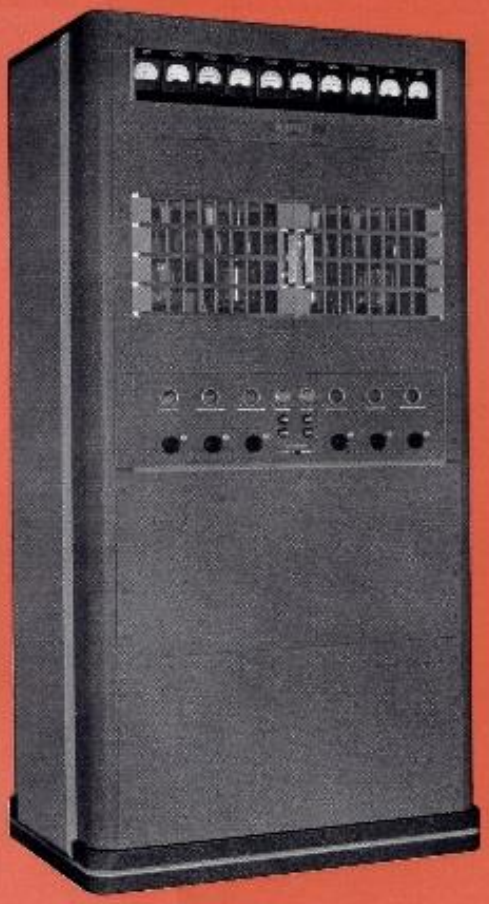
COLLINS



20H 1000 WATT 20J

BROADCAST TRANSMITTERS

COLLINS 20H 20J 1000 WATT BROAD



20H

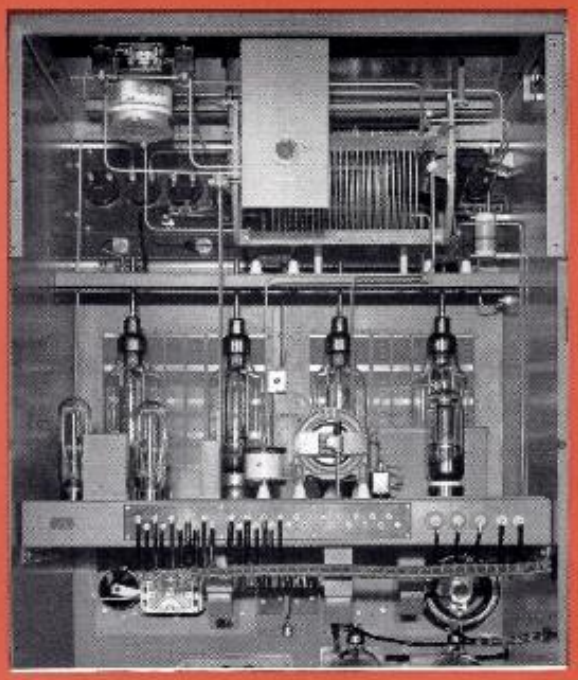
20H

THE 20H and 20J Transmitters are the latest models of the well known 20 Series, 1000 watt broadcast transmitters which have been widely used and which have established a reputation for excellent service in the field. These new models have certain improvements which, although they do not change the basic design, are of real merit.

The most important change is in the tube complement. The 20H and 20J Transmitters are identical except that the former uses 833 tubes and the latter C-849A tubes in the power amplifier and modulator stages. The 833 tubes are slightly lower in first cost than the C-849A tubes, but the latter operate at materially below their maximum ratings and can be expected to have somewhat longer useful life. In both the 20H and 20J Transmitters, the cost of the total tube complement is appreciably lower than that of previous 1000 watt transmitters.

The dial controls have been arranged on the panel in the order of normal adjusting procedure and positive gear drives have been used throughout. A panel control is provided for adjustment of output loading. A single panel control is used for adjustment of all filament voltages in place of individual filament rheostats. A novel vernier inductance tuning device is used in the intermediate and power amplifier stages to eliminate variable condensers which occasionally are over in dusty locations.

CAST TRANSMITTERS



20J

STYLING BY JOHN F. VAN DYCK

prevent entrance of dust. The component and layout design is such that a safe temperature rise is not exceeded if the forced ventilation system is omitted and modified louvers installed. Forced ventilation is an added feature of value in hot climates and where maximum reliability is desired. However, when it is not used the equipment still operates under safe conditions.

Another feature of importance is that the 20H and 20J Transmitters are arranged for use as the exciter section of the 21D 1000/5000 watt transmitter with a minimum of field modifications.

Ten high quality instruments provide a continuous indication of the correct functioning of all principal circuits. A useful feature is the provision, in addition to the line current ammeter, of an instrument for remote indication of antenna current when the 2Y Antenna Tuning Unit is used. The instruments are illuminated behind a plate glass window.

The 20H and 20J Transmitters are arranged for part time or full time operation at a carrier power of 500 watts in accordance with the terms of certain station licenses. A single switch key effects instant change of power without carrier interruption and efficient operation is maintained at reduced power.

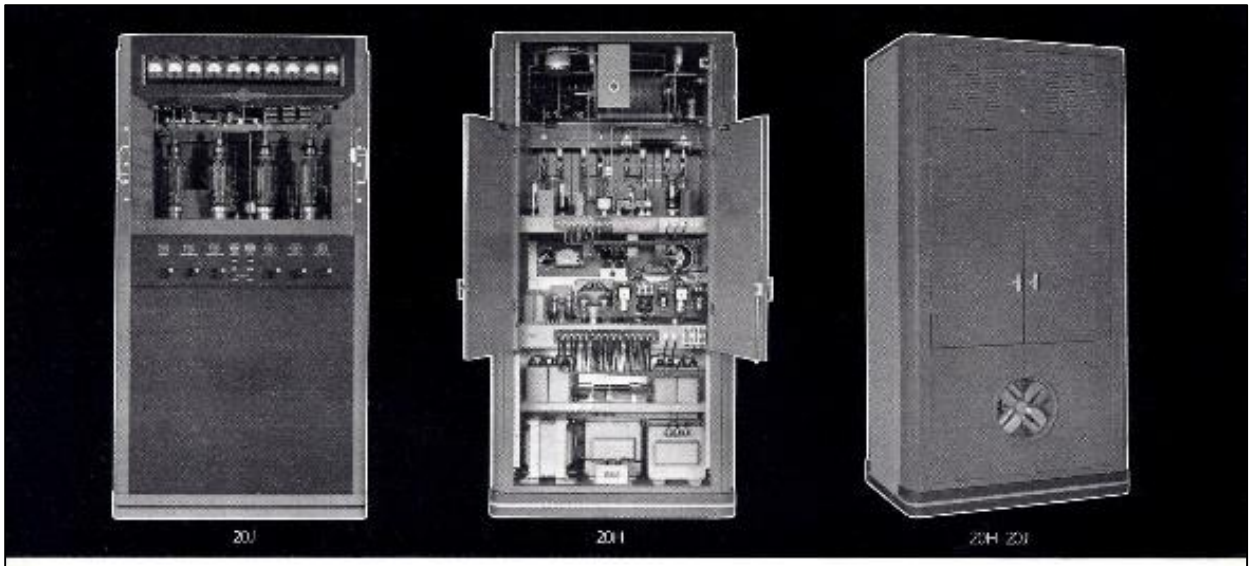
The basic design features of the 20H and 20J Transmitters, such as high level Class B modulation, efficient output circuit design, extremely stable frequency control, inductive neutralization, refined mechanical design, complete automatic protection, ease of installation, power economy, and high fidelity, have been thoroughly proved in previous 20 Series designs.

All relays have been grouped on a shock mounted panel so that noise and vibration are eliminated. Filament and bias transformers are provided with readily adjustable primary taps which permit accurate setting of individual filament and bias voltages. Transformers are of an improved type with especially treated coils and ventilated cases. Oil-filled filter condensers which previously were mounted inverted are now mounted upright, to avoid any possibility of oil leakage. The forced ventilation system has been modified so that the coolest air comes in contact with the coolest components, and rectifier tubes operate under direct air blast. A positive internal pressure makes it possible to install an entrance air filter as an optional accessory to

NEW

SIMPLICITY
FIDELITY
RELIABILITY
PERFORMANCE

COLLINS



20H 20J SPECIFICATIONS

POWER OUTPUT: 1000 watts, 500 or 1000/500 watts.

FREQUENCY RANGE: 550 kc. to 1700 kc.

R-F TUBES: 1—803, 2—C-849A (2—833 in 20H).

A-F TUBES: 2 C-845, 2 C-849A (2—833 in 20H).

RECTIFIER TUBES: 2—5Z3, 2—C-866A, 2—C-872A (3—C-872A when ordered for 3 phase power).

FREQUENCY CONTROL: 40D Frequency Control Unit employing 1—C-100D, 1—45, 1—RK23, 1—5Z3, with dual 297 Mounted Quartz Plates, is mounted in separate 19G Rack Cabinet with mounting space also available for visual frequency and modulation monitors.

MODULATION SYSTEM: High level Class B.

A-F RESPONSE: Uniform with ± 1 db. from 30 to 10000 c.p.s. Response is substantially independent of modulation level.

RESIDUAL NOISE LEVEL: More than 55 db. below 100% modulation (unweighted).

A-F AMPLITUDE DISTORTION: Less than 3% r.m.s. at 500 c.p.s. at any modulation level. Less than 5% r.m.s., 60-10000 c.p.s.

A-F INPUT: + 17 db. for 100% modulation. (6 mw. reference level.)

R-F OUTPUT IMPEDANCE: Normally 60-80 ohms, for concentric transmission line.

CABINET DIMENSIONS: 78" high, 36" wide, 28" deep. Standard colors are gray with black trim, and terra-cotta with blue and gray trim. Other colors to order.

NET WEIGHT: 1500 pounds.

POWER SOURCE: 115/230 volts, 3 wire, 50/60 cycles single phase, or 230 volt, 50/60 cycles, three phase, on special order.

POWER INPUT: 5.0 kw. at 100% modulation. 4.25 kw. at average modulation.

COLLINS RADIO COMPANY

CEDAR RAPIDS, IOWA NEW YORK, N. Y: 11 WEST 42 STREET

REPRESENTATIVES IN FOREIGN COUNTRIES

