

COLLINS

20V-3

1,000 / 500 / 250 WATT

AM TRANSMITTER

High fidelity, superior reliability and versatility make the Collins 20V-3 1,000/500/250-Watt AM Transmitter one of the most advanced installations for quality broadcasting.

Bold, clean-cut styling enhances the decor of the most modern station; careful attention to circuitry design makes it an easy-to-operate and easy-to-maintain installation.

Typifying the Collins attention to detail are:

SIMPLE OPERATION — The 20V-3 is push-button controlled; automatic sequencing of power control circuits is incorporated. Filament and plate power may be controlled remotely. Adjustment may be made while the transmitter is on the air. Built-in thermal time delay circuitry selects optimum time for returning the transmitter to the air after a power failure.

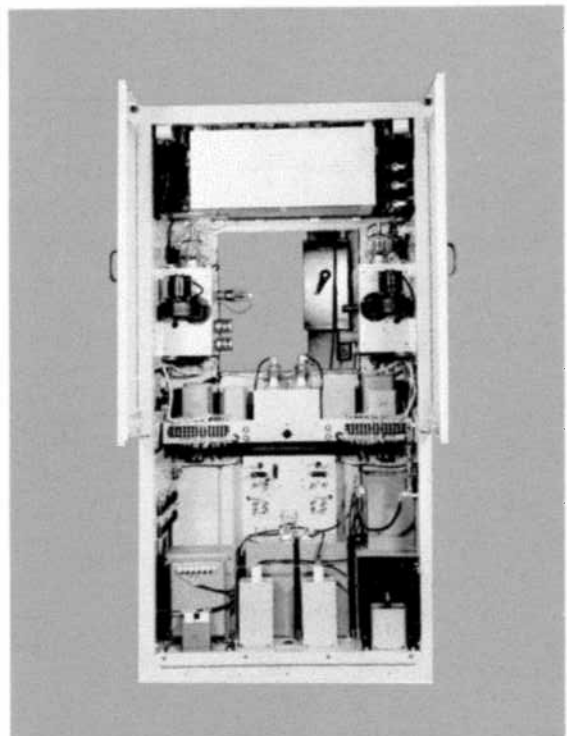
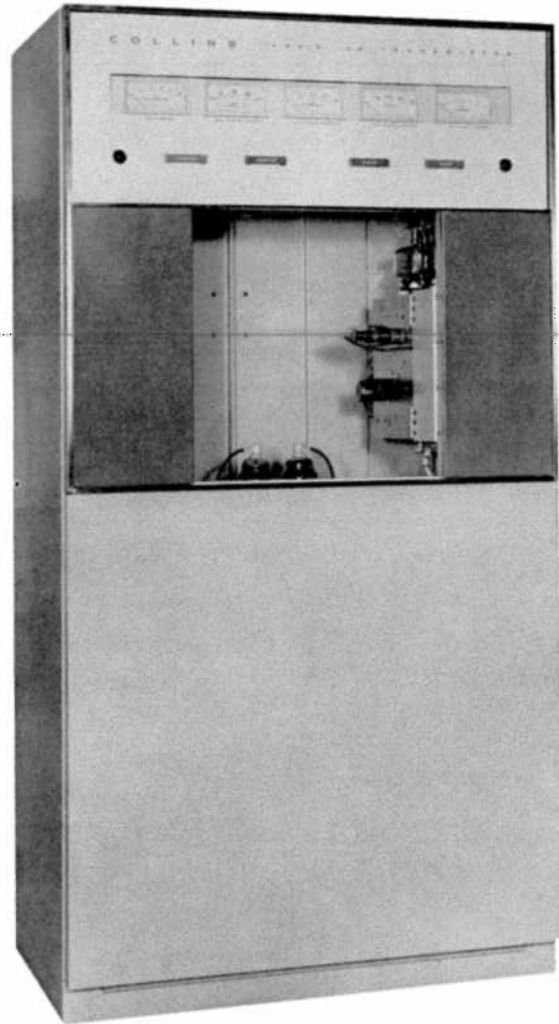
MAINTENANCE EASE — The RF and audio chassis swing out; the power supply tilts up for instant accessibility to all components.

DEPENDABLE — Quiet, high capacity blowers force air directly on the tubes in the RF and audio chassis to give extra assurance of long tube life. Highly perfected oscillator design in conjunction with extremely stable, low temperature coefficient crystals eliminates the troublesome crystal ovens. Typical stability is ± 2 cps.

VERSATILE — The 20V-3 may be used as either a 250, 500 or 1,000-watt installation. High fidelity is assured on any specified frequency from 540 kc to 1600 kc or in any of the high frequency broadcast bands up to 12 mc.

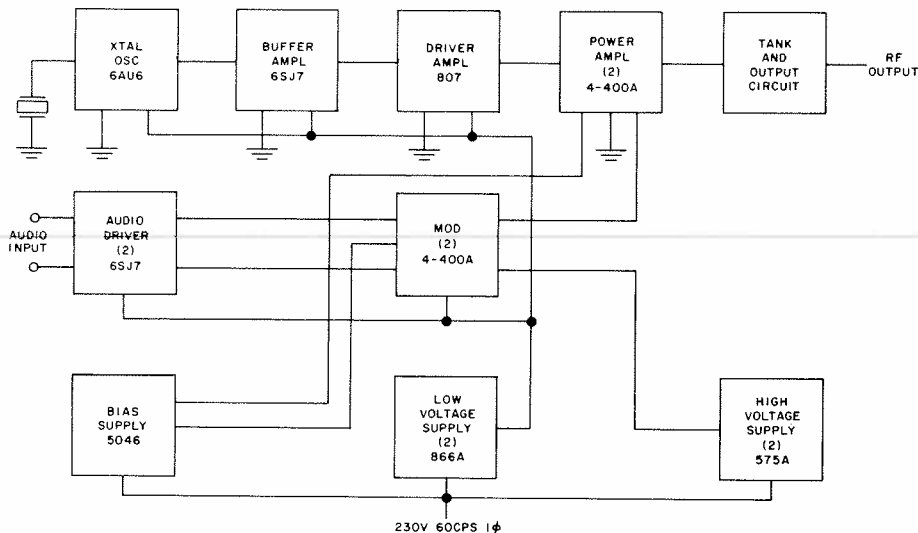
RIGIDLY TESTED — The 20V-3 is tested in accordance with strict Collins standards on the broadcaster's channel under proper load conditions before shipment.

The 20V-3 power supplies are heavy duty and conservative. One high voltage power supply is used for the modulator and final amplifier. A separate low



voltage supply feeds the modulator screen grids, as well as the plates and screen grids of the other RF and audio tubes. The bias supply provides voltages for the modulator, power amplifier and other biasing throughout the transmitter.

The Collins 20V-3 uses four, Type 4-400A tetrodes in the modulator and final amplifier. The use of the 4-400A tetrodes is another concept pioneered by Collins and now widely accepted as the best in transmitter design.



20V-3 SPECIFICATIONS

FREQUENCY RANGE: 540-1600 kc standard. Frequencies to 12 mc available.

POWER OUTPUT: 1,000/500/250 watts.

FREQUENCY STABILITY: Better than ± 5 cps. (Typical—Better than ± 2 cps.)

AUDIO FREQUENCY RESPONSE: Within ± 2 db, 50-10,000 cps.

AUDIO FREQUENCY DISTORTION: Less than 3%, 50-7,500 cps up to 95% modulation level. (Typical—Less than 3%, 30-15,000 cps.)

RESIDUAL NOISE LEVEL: 60 db or better below 100% modulation.

CARRIER SHIFT: Less than 3%, 0-100% modulation. (Typical—Less than 2%.)

RF OUTPUT IMPEDANCE: 50-70 ohms, unbalanced. Others, including balanced, available on order.

AUDIO INPUT IMPEDANCE: 150/600 ohms balanced.

AUDIO INPUT LEVEL: +10 dbm, ± 2 db.

POWER SOURCE: 208-240 v ac, single phase 50/60 cps.

POWER DEMAND (at 1,000 watts output):

Filaments	660 watts	85% pf
0% modulation	2,950 watts	80% pf
30% modulation	3,250 watts	83% pf
100% modulation	4,150 watts	83% pf

TUBE COMPLEMENT:

4	4-400A	2 — Final Amplifier
		2 — Modulator
1	807	Driver Amplifier
3	6SJ7	1 — Buffer Amplifier
		2 — Audio Amplifier
1	6AU6	Crystal Oscillator
2	575A	High Voltage Rectifier
2	866A	Low Voltage Rectifier
1	5U4G	Bias Rectifier

AMBIENT TEMPERATURE RANGE: +15° C to +45° C.

SIZE: 38" W, 76" H, 27" D.

WEIGHT: Approximately 1,200 lbs.

COLLINS RADIO COMPANY • CEDAR RAPIDS • DALLAS • LOS ANGELES • NEW YORK

International Division, Dallas, Texas

Collins Radio Company of Canada, Ltd., Toronto, Ontario

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