

AM transmitters transmitters

AM

20V-2, 550A-1, 300J-2

1,000, 500, 250 WATTS

AM

AM

AM

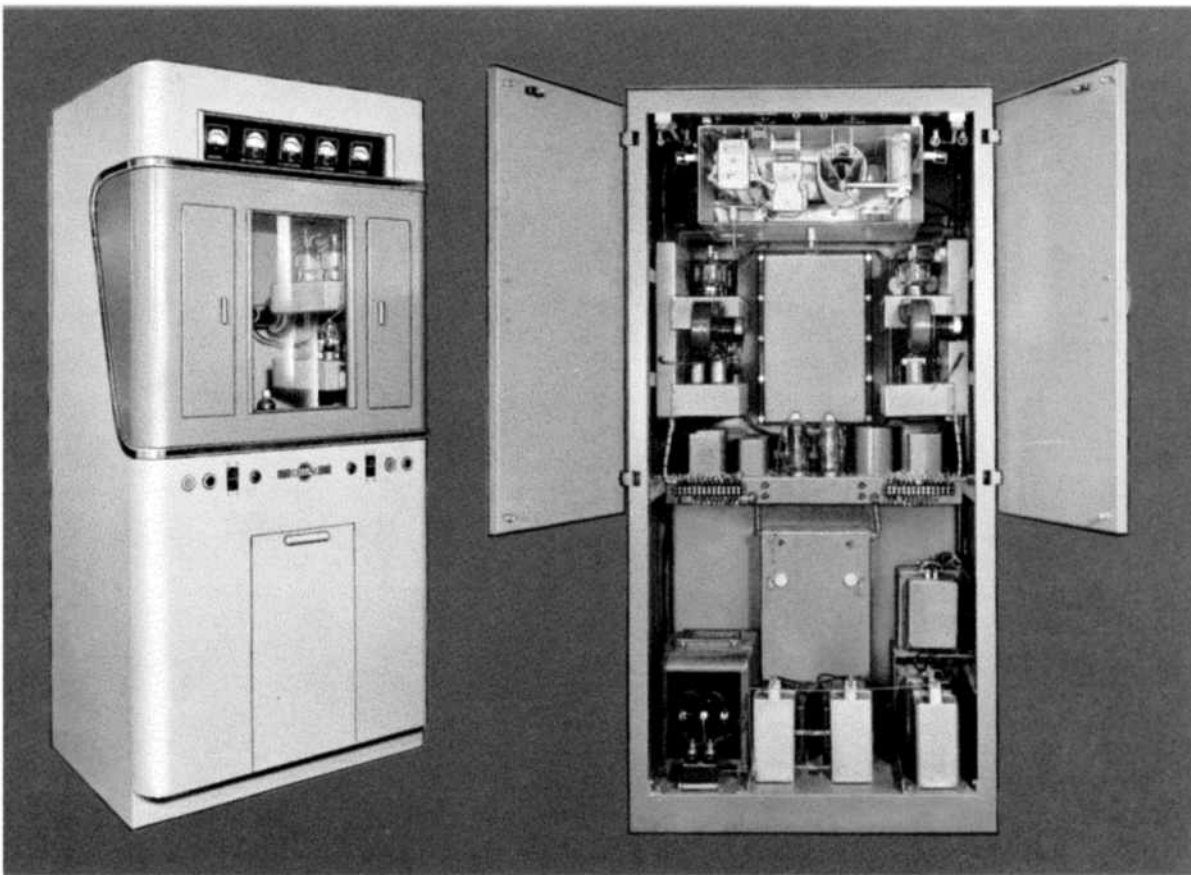
Collins

AM TRANSMITTERS

with

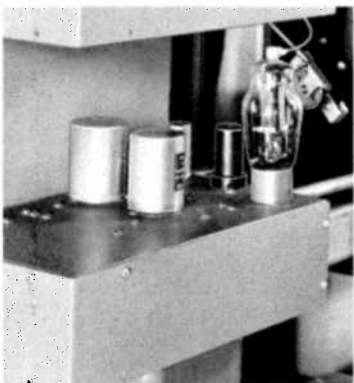
A survey of U.S. broadcasters shows that Collins AM Transmitters have less down-time than any other make. This is because Collins AM Transmitters are fully tested on the broadcaster's frequency before leaving the factory; they are straightforward electrically and me-

chanically; and they take advantage of improved performance offered by modern tubes and components. The superiority of the Collins line of AM transmitters has been proven and acclaimed by radio broadcasters throughout the world.

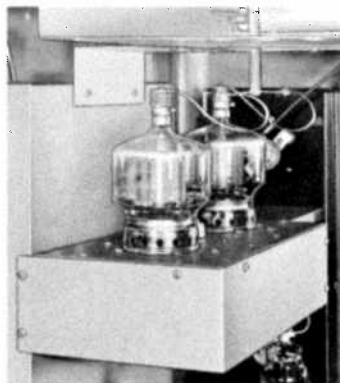


These three Collins AM Transmitters are basically alike except for output power. This text applies to all three. Differences related to power output are shown in the specifications on the back cover.

OSCILLATOR CHASSIS



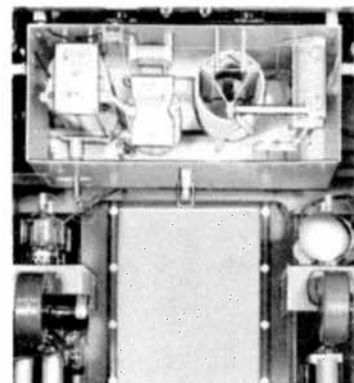
FINAL RF AMPLIFIER



MODULATOR STAGE



RF OUTPUT CIRCUITS



Provable Quality

MODERN STYLING is used throughout in keeping with the modern design of the transmitter circuitry. Streamlined polished chrome adds to the attractive appearance of the ruggedly constructed cabinet, which is finished in high gloss two-tone blue-gray enamel.

OPERATING CONTROLS feature flexibility and convenience. Pushbutton control of filament and plate power is provided and may be extended to a remote position. Automatic sequencing is supplied. Power circuit controls are easily accessible for adjustment while the transmitter is in operation.

FREQUENCY STABILITY is exceptionally good and well within the FCC specifications of ± 10 cps with typical stability of ± 2 cps. This stability is attained by using a highly perfected oscillator design in conjunction with very stable, low temperature coefficient crystals.

THERMAL TIME DELAY circuitry selects the proper time interval before returning the transmitter to the air after a power line failure. After an instantaneous power interruption the carrier can be returned to the air immediately, cutting off-the-air time to a minimum.

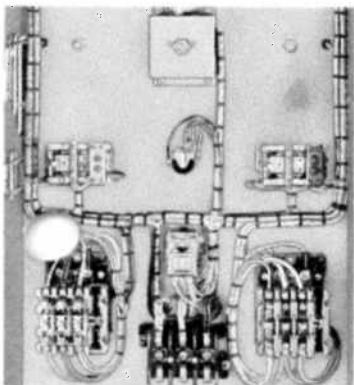
POWER SUPPLIES are heavy duty and conservative, which also simplifies the over-all circuitry. One high voltage power supply is used for the modulator and final amplifier. A separate low voltage supply feeds the modulator screen grids, as well as the plates and screen grids of the other RF and audio tubes. The bias supply provides voltages for the modulator, power amplifier and other biasing throughout the transmitter.

OVERLOAD RELAYS are adjustable and provided for the RF driver, audio driver, power amplifier and modulator stages. These relays are connected so that an overload removes plate power and the equipment must be re-energized manually.

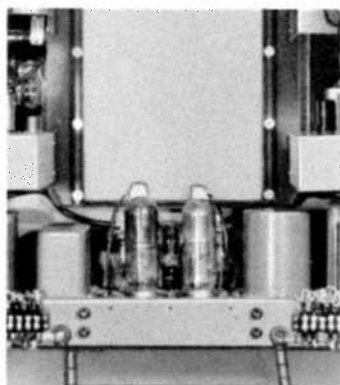
COOLING SYSTEM produces a high capacity air flow at a quiet, low speed. A large blower and filter assembly are housed in the lower rear panel of the transmitter, plus two auxiliary blowers in the 20V-2 and 550A-1 which blow air directly on the modulator and RF amplifier decks. Cooling requirements do not warrant auxiliary blowers in the 300J-2.

Collins AM Transmitters have long used high efficiency, economical and dependable tubes and circuitry. Too, major advances by Collins in crystal stability and oscillator design have eliminated crystal ovens and associated thermostats, relays and complex circuits. Many of these Collins AM Transmitter features only recently have been industry-wide accepted as the best in transmitter design and incorporated by others.

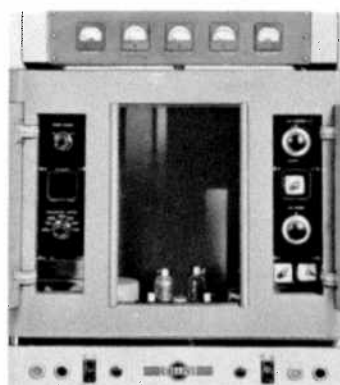
RELAY PANEL



POWER SUPPLY



**FRONT PANEL
CONTROLS AND METERS**



Examine the quality features of Collins AM Transmitters. Then call or write your Collins Broadcast Sales Engineer for a more complete and technical discussion.

TUBE COMPLEMENT reflects conservative operation by using high efficiency, high gain tetrode tubes in both the modulator and the power amplifier. Only seven different tube types are used, resulting in fewer spares to meet FCC specifications.

4	4-400A (20V-2)	
4	4-250A (550A-1)	2 — Final Amplifier
4	4-125A (300J-2)	2 — Modulator

1	807
3	6SJ-7
1	6AU6
2	575A
2	866A
1	5U4G

Driver Amplifier
1 — Buffer Amplifier
2 — Audio Amplifier
Crystal Oscillator
High Voltage Rectifier
Low Voltage Rectifier
Bias Rectifier

SPECIFICATIONS

20V-2

FREQUENCY RANGE: 540-1600 kc standard. Frequencies to 15 mc available.

POWER OUTPUT: Nominal 1,000/500 watt. Actual 1,100/550 watt. (1,100/275 watt on order.) Facilities for switch-operated reduction to 500 watts are standard equipment. Reduction to 250 watts is available on order.

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

AUDIO FREQUENCY RESPONSE: Within ± 1.5 db from 30-12,000 cps. (Typical — ± 1.5 db from 30-15,000 cps.)

AUDIO FREQUENCY DISTORTION: Less than 5% from 50-7,500 cps for 95% modulation, including all harmonics up to 16 kc. (Typical — Less than 3% from 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 ohm unbalanced, 40-600 ohm unbalanced on order.

AUDIO INPUT IMPEDANCE: 150/600 ohm.

AUDIO INPUT LEVEL: $+10$ dbm ± 2 db, pad input.

POWER SOURCE: 208/230 v, single phase 50/60 cps.

POWER DEMAND (at 1,100 watts output):

0% modulation	2,950 watts
30% modulation	3,250 watts
100% modulation	4,150 watts

(83% Power Factor)

AMBIENT TEMPERATURE RANGE: Up to 45°C.

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

WEIGHT: Approx. 1,150 lbs.

550A-1

FREQUENCY RANGE: 540-1600 kc standard. Frequencies to 15 mc available.

POWER OUTPUT: Nominal 500/250 watt. Actual 550/275 watt. (550/125 watt on order.) Facilities for reduction to 250 watts are standard equipment. Conversion to 1,000/500 watts with Collins power increase package.

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

AUDIO FREQUENCY RESPONSE: Within ± 1.5 db from 30-12,000 cps. (Typical — ± 1.5 db from 30-15,000 cps.)

AUDIO FREQUENCY DISTORTION: Less than 3% from 50-10,000 cps for 95% modulation, including all harmonics up to 16 kc. (Typical — Less than 3% from 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 ohm unbalanced, 40-600 ohm unbalanced on order.

AUDIO INPUT IMPEDANCE: 150/600 ohm.

AUDIO INPUT LEVEL: $+10$ dbm ± 2 db, pad input.

POWER SOURCE: 208/230 v, single phase 50/60 cps.

POWER DEMAND (at 550 watts output):

0% modulation	2,300 watts
30% modulation	2,370 watts
100% modulation	2,840 watts

(83% Power Factor)

AMBIENT TEMPERATURE RANGE: Up to 45°C.

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

WEIGHT: Approx. 1,050 lbs.

300J-2

FREQUENCY RANGE: 540-1600 kc standard. Frequencies to 15 mc available.

POWER OUTPUT: Nominal 250/100 watt. Actual 275/110 watt. Facilities for reduction to 100 watts are standard equipment. Overnight conversion to 500/250 watts or 1,000/500 watts with Collins power increase package.

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

AUDIO FREQUENCY RESPONSE: Within ± 1.5 db from 30-12,000 cps. (Typical — ± 1.5 db from 30-15,000 cps.)

AUDIO FREQUENCY DISTORTION: Less than 3% from 50-10,000 cps for 95% modulation, including all harmonics up to 16 kc. (Typical — Less than 3% from 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 ohm unbalanced, 40-600 unbalanced ohm on order.

AUDIO INPUT IMPEDANCE: 150/600 ohm.

AUDIO INPUT LEVEL: $+10$ dbm ± 2 db, pad input.

POWER SOURCE: 208/230 v, single phase 50/60 cps.

POWER DEMAND (at 275 watts output):

0% modulation	1,000 watts
30% modulation	1,250 watts
100% modulation	1,400 watts

(90% Power Factor)

AMBIENT TEMPERATURE RANGE: Up to 45°C.

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

WEIGHT: Approx. 900 lbs.



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INTERNATIONAL SALES DIVISION, P.O. BOX 1891, DALLAS 21, TEXAS