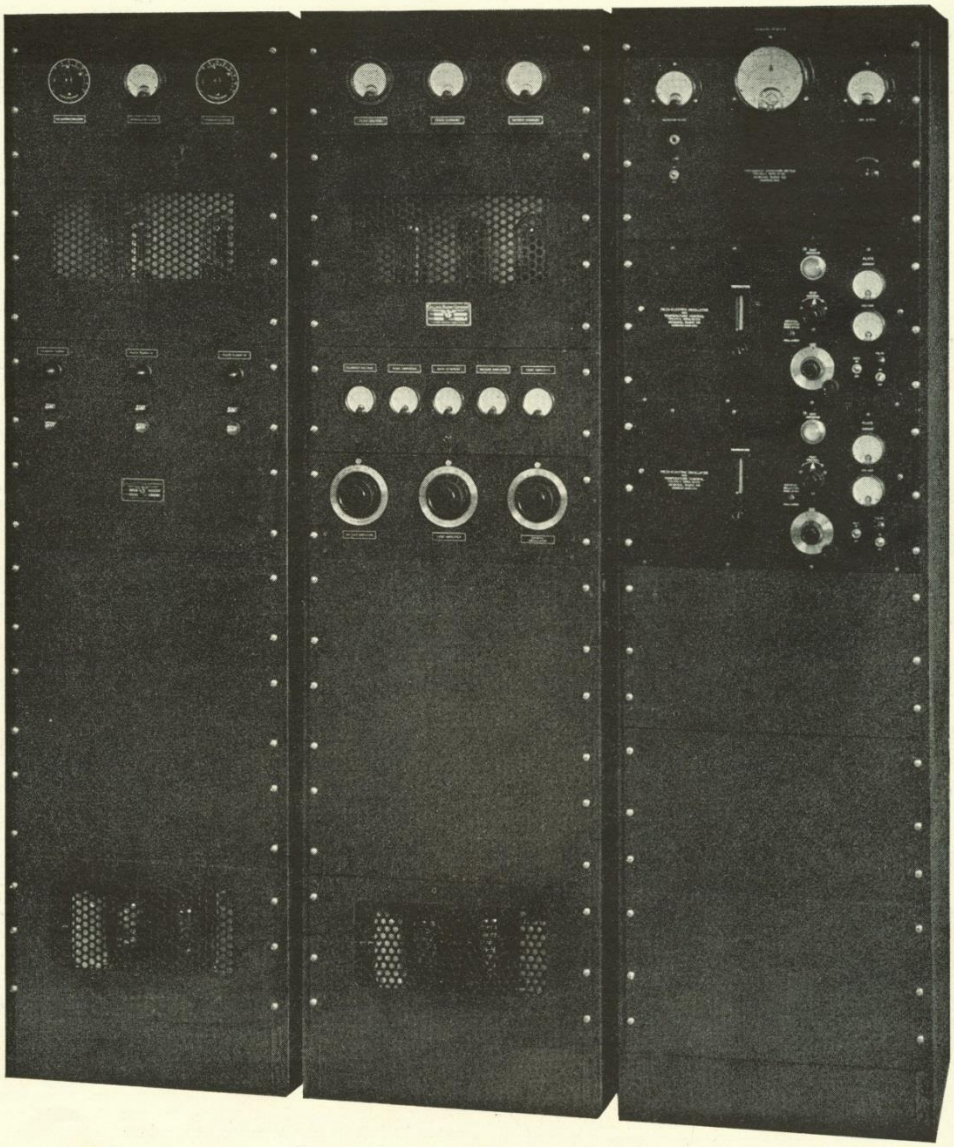
COLLINS RADIO COMPANY

CEDAR RAPIDS IOWA U S A

THE 300B TRANSMITTER



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THE 300B TRANSMITTER

The 300B Transmitter has been designed to embody all of the qualities most desirable in a 100-250 watt broadcast transmitter. Chief among these are: straightforward design, excellent workmanship, simplicity of installation and operation, reliability, freedom from necessity for technical supervision, low power consumption, low tube cost, and, most important of all, high fidelity.

The importance of high fidelity to the small station owner has become more apparent in recent years because radio listeners are now primarily interested in "good reception." The chief factor which determines whether they will listen to the same program from a local station or from a more powerful distant station is the comparative clarity and naturalness of the received signals. Successful operation of a local station therefore dictates that the fidelity of its transmission be at least equal to that of the more powerful stations. The 300B is the first broadcast transmitter which accomplishes high fidelity transmission without involving unnecessarily costly and complicated apparatus.

SPECIFICATIONS

POWER OUTPUT: 100-250 watts. The transmitter can be furnished for continuous operation at either 100 or 250 watts or it can be provided with a switch for instantly changing from 100 to 250 watts without interruption of the program.

FREQUENCY RANGE: Tank circuits and antenna tuning equipment are provided for any specified frequency within the range, 550-1500 kc.

FREQUENCY CONTROL: The new "A" cut low temperature coefficient crystals are used in connection with a very rugged temperature controlled crystal holder, so that maintenance of the assigned frequency within plus or minus 50 cycles is greatly simplified.

FREQUENCY MONITOR: A General Radio Type 581B Frequency Monitor and its associated 575E Oscillator are supplied as standard equipment.

RADIO FREQUENCY TUBES: Two 47's crystal oscillator, two 46's first buffer, one 203A second buffer, two or three 203A's final amplifier.

AUDIO FREQUENCY TUBES: Two 203A's are used as class B modulators.

POWER SUPPLY: Two type 410A Power Supplies, each employing two 866's as full wave rectifiers, are used. One of the 410A Power Supplies furnishes plate and filament voltage to the 203A buffer and the 203A final amplifier. The other 410A Power Supply furnishes plate and filament voltage to the modulators. A 401C low-voltage power supply, using a 5Z3 rectifier, supplies plate and filament voltage to the oscillator and first buffer.

MODULATION CAPABILITY: 100%.

AUDIO FREQUENCY RANGE: 30 to 10,000 cycles with uniform response within plus or minus 1.5 DB.

AMPLITUDE DISTORTION: Less than 5% at 95% modulation.

RESIDUAL CARRIER NOISE: 50 to 65 DB below program level.

POWER SOURCE: 110/220 volts 60 cycles single-phase. The average power consumption during 250 watt operation is approximately 1.2 kw.

INSTRUMENTS: High-grade instruments are furnished for reading plate current in all stages, grid current in the 203A amplifier stages, filament voltage, plate voltage and antenna current.

SPEECH EQUIPMENT: The type 12A Speech apparatus is recommended.

ANTENNA TUNING: A Type 2D Antenna Matching Unit and Harmonic Attenuator is supplied as standard equipment. This is mounted at the base of the antenna and the output of the transmitter is carried to the Antenna Matching Unit by means of a 600 ohm transmission line. The 300B Transmitter is so arranged that the type 2D Antenna Matching Unit and the 600 ohm transmission line may be omitted if desired.

PHYSICAL DIMENSIONS: The Type 300B Transmitter is mounted in two Type 19A Cabinets, each having the dimensions, 20½" wide, 14" deep, 72" high. All radio frequency components and their power supplies are mounted in one cabinet. The modulators and associated power supplies are mounted in the other cabinet. A third Type 19A Cabinet is supplied for mounting the frequency monitor and also to provide space for any auxiliary equipment which may be desired.

FIXED NEUTRALIZATION: The tuning adjustments of the 300B Transmitter are extremely simple. All neutralizing condensers are locked in adjustment at the factory.

BIAS SUPPLY: The 300B Transmitter employs a special arrangement for obtaining bias to the various RF tubes and the class B modulator tubes so that no batteries or external source of bias are required. A control is provided on the front of the panel for adjusting the modulator bias to the predetermined value. Momentary changes in line voltage affect plate voltage and bias voltage proportionally so that distortion is not introduced in the modulators.

CONSTRUCTIONAL DETAILS: The 19A Cabinets, in which the Transmitter is constructed, are built of special auto-body steel, heavily copper plated before the duco finish is applied. The front panels are of sand-blasted, gray-plate aluminum. The external finish is black crinkle duco. Special shades and colors can be supplied at a slight additional charge. The interiors of the cabinets are finished in aluminum duco. Aluminum, bright nickle and chromium are the predominant finishes on the various parts inside the cabinets. All pieces of apparatus, including mica condensers, pyranol filter condensers, variable condensers, transformers, reactors, etc., are unusually large and are operated at a fraction of their rated capacity. Parts subject to attack of moisture in tropical climates are impregnated and otherwise protected with the utmost care.

GUARANTEE: In common with other COLLINS products, the 300B Transmitter is unconditionally guaranteed to give complete satisfaction, and each purchaser is given individual attention to see that his particular installation is performing at greatest efficiency.

— 300B TRANSMITTER —

PRICES—ON APPLICATION

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