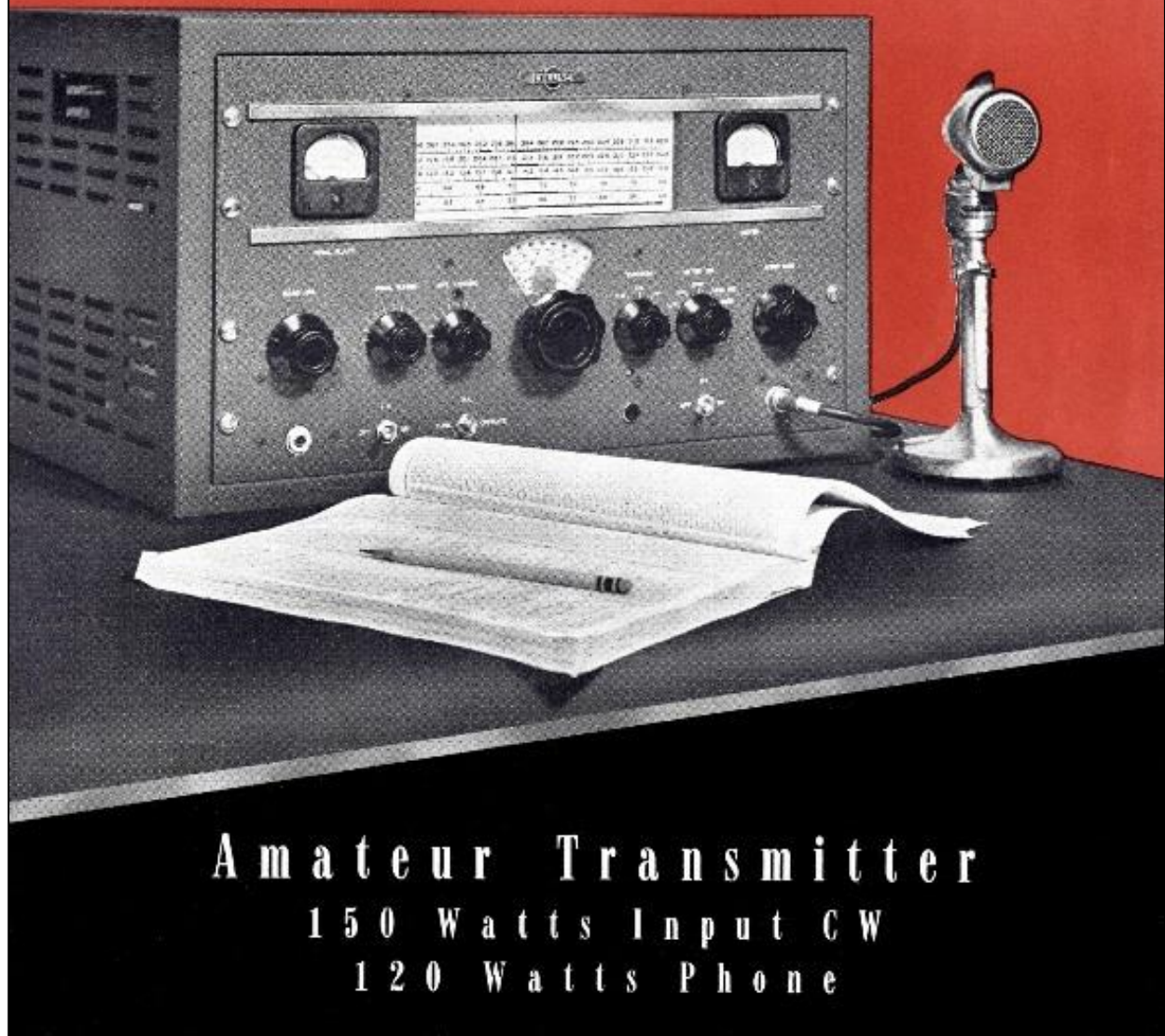
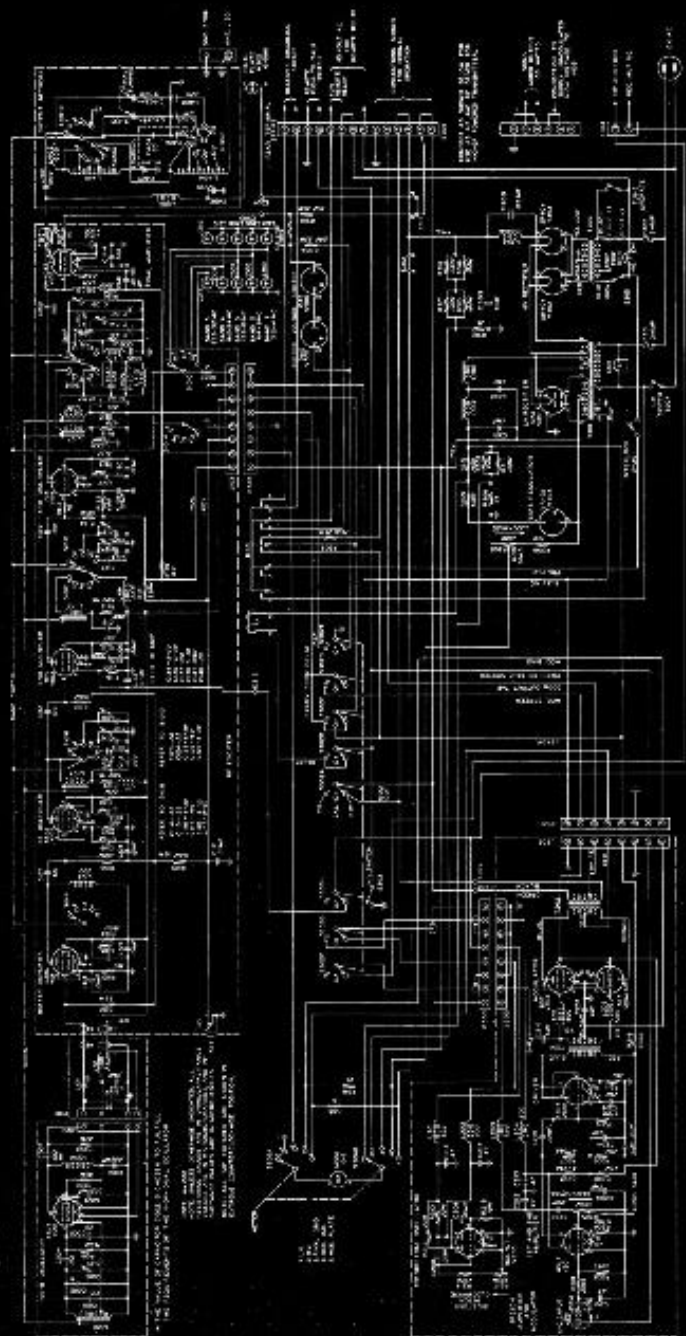


COLLINS

32V-2



A m a t e u r T r a n s m i t t e r
1 5 0 W a t t s I n p u t C W
1 2 0 W a t t s P h o n e



Features

TVI Reduction

Completely Band
Switched

Break-in Operation

Clickless Keying

Push-to-Talk

One Dial Division
Accuracy

32V-2 complete schematic diagram

Complete and Compact

The Collins 32V-2 is a VFO controlled bandswitching, gang-tuned amateur transmitter, conservatively rated at 150 watts input on c-w and 120 watts input on phone. It covers the 80, 40, 20, 15, 11, and 10 meter bands. The entire transmitter is built into a cabinet 21-1/8" wide, 12-7/16" high, and 13-7/8" deep—identical in size and styling with the cabinet which houses the Collins 75A-1 amateur receiver. Thus the owner of both a 32V-2 and a 75A-1 has a complete ham station right on the operating desk, with fingertip control.

Accurate and Stable

The heart of the 32V-2 is the 70E-8A Permeability Tuned Oscillator, which is used as the VFO. The frequency range of the 70E-8A is 1600-2000 kc, which is covered in 16 turns of the vernier dial. The dial calibration is very accurate, and frequency stability compares favorably with most crystals used by amateurs.

To assure operation free from humidity effects this oscillator is baked until thoroughly dry, then completely sealed and moisture proofed. As an added protection against moisture absorption, a silica gel capsule is factory inserted in the oscillator.

The slide rule dial roughly indicates operating frequency, while the vernier dial provides a direct reading in kilocycles. There are no reference charts or curves to interpolate.

Tubes and Functions

The r-f tube line-up: a 6SL7 VFO, 6AK6 buffer, 6AG7, 7C5 and 7C5 frequency multipliers, and 4D32 final amplifier. Speech line-up: a 6SL7 in cascade to a 6SN7 to a pair of 807 modulators, which furnish 60 watts of audio power to modulate the final amplifier. The power supply contains a 5Z4 (low voltage) and two 5R4GY (high voltage) rectifiers, a VR-75 bias regulator, and two OA2 screen voltage limiters.

Operation

All controls are conveniently located on the front panel. As an additional refinement, both coarse and fine antenna loading controls are actuated by the same dial.

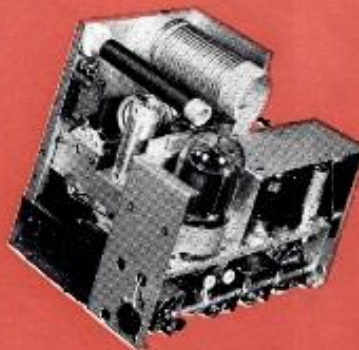
The 32V-2 can be operated by a push-to-talk switch on the microphone, a key, or a separate switch. Terminals are provided for supplying the energizing voltage to the coil of an antenna change-over relay. There are also terminals, paralleled with the operate switch, with which to disable the receiver when the transmitter is in the SEND position. Grid-block key-

ing is utilized on three stages following the VFO. The back-wave of the VFO as heard in a receiver placed beside the 32V-2 is negligible; thus break-in operation is accomplished without difficulty. Keying is very clean, without chirp or clicks. The keyer circuit also includes a side tone oscillator which is used as a c-w keying monitor.

TVI Considerations

The problem of interference with reception of television signals has become more important with the widespread installation of television receivers. These receivers are often used in secondary service areas where the television signal is extremely weak and a satisfactory signal is impossible with the presence of a very low-level interfering signal. The difficulty lies in many cases in the design of the receivers. The following methods of avoiding TVI have been provided in the design of the 32V-2 and accessory units:

- (a) Reduction of spurious signals in the transmitter output
- (b) Filtering of transmitter output at the antenna terminal
- (c) Shielding of transmitter



r-f multipliers, amplifier, and output network



Viewing the 32V-2 from above

TVI Reduction

(a) and (b). In the 32V-2 series traps were added in the exciter portions and an L section was added to the unbalanced pi output network to reduce unwanted signals to a degree which will remedy some phases of television interference. This output network is designed primarily to feed into a 52 ohm coaxial transmission line, such as RG-8/U. It will also match unbalanced impedances of approximately 13 to 300 ohms and will tune out normal reactances. A coaxial fitting is provided. This permits the use of a well shielded transmission line in which the Collins 35C-1 Low Pass Filter may be inserted to give approximately 70 db additional attenuation to output on TV channels. The unbalanced output permits grounding of the outer conductor of the line and the ease of the filter.

(c). For reducing TVI from sources other than the antenna, a special shielded cabinet for the 32V-2 is available at extra cost. It includes well filtered control wires and forced air ventilation. It is expected that generally this special cabinet will not be needed. Provision is made for mounting the 35C-1 filter on the rear of the cabinet.

For proper operation the 35C-1 filter should feed a properly terminated 52 ohm line. Coupling to a balanced antenna may be accomplished by an antenna tuner or by the Collins 315E-1 Balun Transformer which is a wide band, low loss transmission line for coupling from a 52 ohm unbalanced line to a 300 ohm balanced load without tuning controls. It consists of a modified "Bazooka" plus a tapered transmission line. Over the frequency range 7 to 30 mc, a standing wave ratio of less than 2 to 1 is possible. The efficiency of the system is good even beyond the specified limits.

Applications

The 32V-2 is excellent for either permanent or semi-portable installations. It weighs 106 pounds.

If the owner of a 32V-2 later decides to increase his power, none of his original investment is lost. The r-f output of the 32V-2 is sufficient to drive a kilowatt final amplifier using standard triodes, and the modulation transformer has a 500 ohm tap making available 60 watts of audio power to drive the modulators of the kilowatt final.

Price

Domestic price, complete with tubes and instruction book.....\$575.00

Exclusive of any state or local taxes.

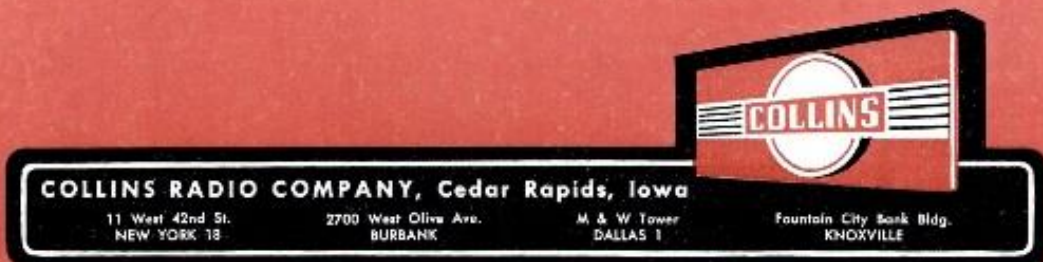
Other Collins Equipment for Amateurs

30K-1 transmitter—500 watts input on c-w, 375 watts input on phone.

75A-1 receiver—precision calibration, double conversion, extreme stability, high image rejection on all bands.

35C-1 50 ohm 3-section low-pass filter for attenuation of harmonic emissions at television frequencies.

315E-1—Balun transformer—wide band, low loss—for coupling 52 ohm unbalanced line to 300 ohm balanced load.



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