COLLINS KW-1 AMATEUR TRANSMITTER

Here is MAXIMUM POWER

The Collins KW-1 Transmitter is engineered to equip the amateur for use of the absolute maximum power permitted by his license. This is the Transmitter known the world over for all the engineering planning that has gone into it, and it is the result of years of advanced planning and design — a unit you can be proud to own and operate. With the Collins KW-1 you can "reach" where you've never reached before.

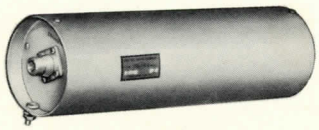
The KW-1 is a vfo controlled, bandswitching, gang tuned, phone and cw transmitter. Its input is a full *1000* watts on the 80, 40, 20, 15, 11, and 10 meter bands and *500* watts on the 160 meter band. The entire transmitter together with its power supply is enclosed in a handsome grey, wrinkle-finish cabinet.

RANGE

The KW-1's frequency range covers 160, 80, 40, 20, 15, 11, and 10 meter bands. Complete bandswitching of the exciter, driver, and power amplifier is accomplished by a single control on the front panel. This reduces to four the number of tuning functions required in operation: bandswitch selection, frequency setting, PA tuning, and PA loading. Over any narrow frequency range, it is only necessary to adjust the frequency control, which is by means of a recently developed, extremely stable, hermetically sealed master oscillator.

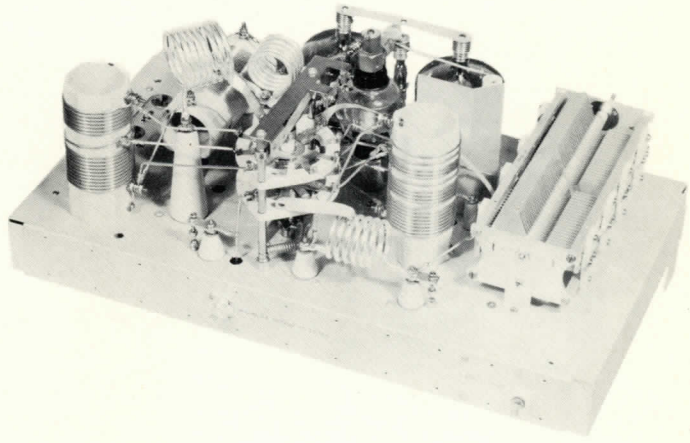
TVI

The design of the KW-1 transmitter is such that spurious radiation has been reduced to a very low value, *particularly* on television frequencies. The r-f unit is completely shielded in a metal box inside the main cabinet. All circuits passing through this shield are well filtered for attenuation at television frequencies. These features minimize direct radiation from the cabinet and external leads. In the power ampifier the use of a pi section followed by an L section very effectively reduces harmonics of the carrier frequency. To this is added the attenuation of the 35C-2 low pass filter.



Spurious radiation from the antenna is attenuated by careful design of the r-f circuits. There are always 3 or more tuned circuits at the carrier frequency. The variable vacuum capacitator used for power amplifier plate tuning provides a low impedance circuit to ground at television frequencies.

The speech amplifier has a peak clipper and a low and high level filter, permitting high-percentage modulation without splatter.

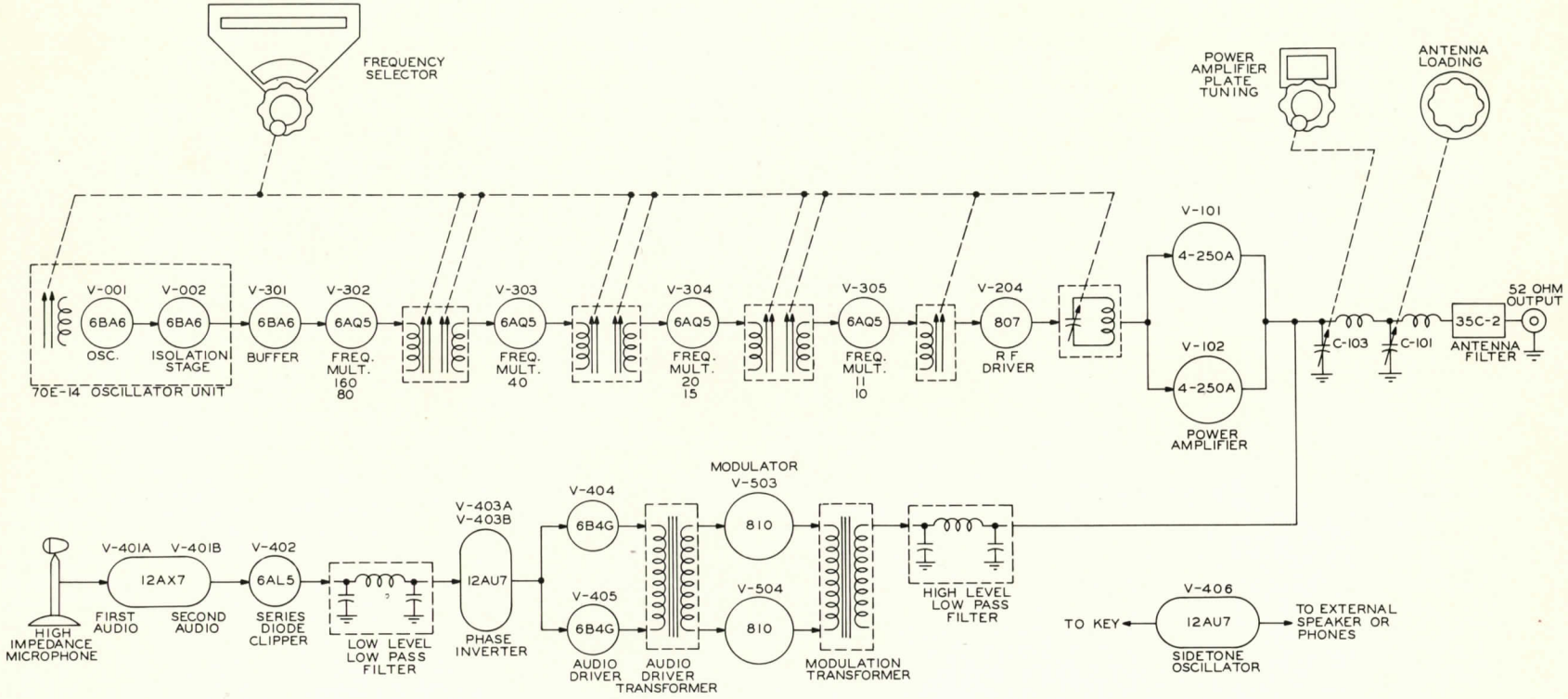


TUBE COMPLEMENT

Oscillator — two 6BA6's. Exciter — one 6BA6, four 6AQ5's, one 807W, two VR105's, one 6A10 ballast tube. Power amplifier — two 4-250A's. Speech amplifier — one 12AX7, one 6AL5, two 12AU7's, two 6B4G's, two 810's. Rectifiers — two 872A's, one 5R4GY and three 5V4's.

METERS

Modulator current, PA plate current, high voltage, line voltage, multipurpose meter, antenna ammeter. Line fuses, plus overload relay in Class C amplifier current lead, provide circuit protection.



BLOCK DIAGRAM

KW-1 SPECIFICATIONS

Power Amplifier Input	1000 watts (500 watts on 160 meters)
R-F Output Impedance	52 ohms
Maximum Permissible Standing Wave Ratio	2.5 to 1
Amateur Bands Covered	160, 80, 40, 20, 15, 11, 10 meters
Frequency Range	1800-2000 kc 3500-4000 kc 7000-7300 kc 14,000-14,400 kc 21000-21450 kc 26,960-29,700 kc
Emission	Voice or cw
Frequency Control	70E-14 Master Oscillator, 1675 to 2050 kc
Microphone	High impedance crystal or dynamic
Phone Patch Impedance	600 ohms, unbalanced to ground
Weight	600 pounds
Dimensions	66½" high, 28" wide, 18" deep
Circuit Protection	Overload relay, fuses, high voltage arc gaps
Tuning Controls	Bandswitching, frequency selector, PA tuning, PA loading
Other Controls	Filament switch, filament voltage adjustment, plate switch, overload reset switch, overload relay adjustment, send-standby-calibrate switch, emission selector switch, tune-operate switch, meter switch, power amplifier excitation control, modulator bias control, audio driver bias control, clipping level, audio gain control, bandspread adjustment.
Accessories Required	High impedance microphone, telegraph key, 52 ohm antenna, wiring to power source.
Power Source	230 v, 3 wire, 50/60 cycle, single phase, grounded neutral; or 115 v, 2 wire 50/60 cycle, single phase.
Typical Power Demand, CW	Key closed 2000 w Key open 800 w Calibrate, key closed 660 w Standby 500 w
Typical Power Demand, Phone	100% sine wave mod. 3100 w No modulation 2280 w Calibrate 780 w Standby 600 w

For excellence in amateur communications, it's . . .

COLLINS

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