

TABLE I. TUBE COMPLEMENT.

Quantity	Type	Function
1	6AU6	Oscillator
1	6CB6	Buffer-output
1	OA2	Voltage Regulator

1-8. THEORY OF OPERATION.

1-9. The oscillator stage, utilizing a 6AU6 tube, is basically a series tuned Clapp oscillator but with additional parallel padding. This modification of the Clapp circuit provides much better frequency stability, more constant output and less tube loading. The frequency stability of the oscillator is governed mainly by maintaining a constant temperature in the oscillator compartment and by utilizing temperature compensating condensers at critical points in the circuit. The fundamental oscillator frequency and output is in the 160 and 40 meter bands. Cathode keying of this stage is employed as it is the easiest and most dependable type of keying. A broadband load choke in the output circuit of the oscillator supplies RF drive to the buffer stage through a coupling capacitor.

1-10. The buffer stage employs a type 6CB6 tube operating as a Class "A" RF amplifier. The plate circuit of this stage is bandswitched to broadband RF coils which supply RF output in the 160 and 40 meter bands through an output coupling capacitor. The amount of RF output varies, depending upon the type and length of cable used plus the care exercised in tuning the output coils. (See 5-3).

1-11. The power supply is of the selenium rectifier type and furnished all necessary high voltages without unnecessary heat. The filament power is derived from a transformer. The B supply voltage is held constant by a type OA2 voltage regulator tube plus the fact that the buffer stage operates continuously and the oscillator current drain is very low. As a result the keying characteristics are very clean and overall stability is greatly improved.