

AMPEREX TUBE TYPE 6446

6446

from JETEC release #1550, Dec. 12, 1955

The 6446 is an improved, ruggedized, heavy wall version of the standard type 892 tube.

Incorporating the latest developments in tube design and techniques, the 6446 fills the requirements of the industrial field for a tube which is electrically similar to the 892 tube, but with higher dissipation reserve allowing for extreme mismatch of load to tube impedance. The tube is, therefore, protected against maladjustment of misuse of equipment.

Among the outstanding features of the new AMPEREX tube are the following:

1. Heavy wall, high conductivity copper anode (7/16" thick)
2. Rugged powdered glass stem which takes the place of the stem press construction.
3. Elimination of the projecting feather-edge seal grid arm by the incorporation of a Kovar ring grid connection.
4. Addition of a strong, conical internal grid support instead of the 3 legged riveted construction. This also provides much lower inductance.
5. Elimination of the more fragile copper feather-edge anode seal and replacement with a Kovar seal.
6. New, stronger spiral filament providing more uniform heat distribution over the anode surface.
7. Only one-half the water flow required for 892 for equivalent anode dissipation.

RF Power Amplifier and Oscillator

TENTATIVE DATA

GENERAL CHARACTERISTICS

WATER COOLED TRIODE

ELECTRICAL

Filament	Tungsten
Two unit type, for single-phase or two-phase A.C., or C.D. operation	
Voltage (per unit)	11 volts
Current (per unit)	60 amperes
Starting current must never exceed 2.0 times the normal current.	
Amplification Factor	50
Grid to Plate transconductance at a Plate Current of 0.75 amperes	7000 micromhos
Direct Interelectrode Capacitances	
Grid to Plate	32 uuf
Grid to Filament	17 uuf
Plate to Filament	1.8 uuf

MECHANICAL

Overall Dimensions

Length (approx.)	17½ inches
Maximum Dia. (approx.)	4 inches
Mounting Position - Vertical	Anode Down
Type of Cooling	Water
Water Jacket	Amperex Type # S-15096
Water Flow ¹	3-8 gal. per min.
Pressure Drop ² (approx.)	1-5 lbs. per sq. in.
Max. Outlet Water Temp.	70°C.

ACCESSORIES

External Fil. Lead	Amperex Type # S-13484
External Grid Connector	Amperex Type # Y-13326 (supplied with tube without charge)
Net Weight (approx.)	10 lbs.
Shipping Weight (approx.) (one tube)	18 lbs.

¹ Rated water flow must be continuous between the time any voltage is applied and for 5 minutes after voltage is removed.

² The approximate water pressure is measured directly across the jacket alone and does not include connecting piping.

MAXIMUM RATING AND TYPICAL OPERATING CONDITIONS

RF POWER AMPLIFIER AND OSCILLATOR - CLASS "C"

PLATE VOLTS AND INPUT MAX. % FOR FREQUENCIES INDICATED (mc)		100	75	50	
		5	12.5	20	
		MAXIMUM RATING PER TUBE		TYPICAL OPERATION ONE TUBE	
A.C. Filament Voltage	_____	21.2	21.5	21.8	22.0 volts
D.C. Plate Voltage	15,000	8,000	10,000	12,000	15,000 volts
D.C. Grid Voltage	- 3,000	- 300	- 400	- 500	- 1,250 volts
Peak R.F. Grid Voltage	_____	1,000	1,200	1,400	2,400 volts
D.C. Plate Current	2.0	1.6	1.8	2.0	2.0 amps
Plate Input	30	12.8	18.0	24.0	30.0 KW
Plate Dissipation	20	4.1	5.2	6.5	10.0 KW
D.C. Grid Current	400	210	220	230	250 mA
Drive Power (Approx.)	_____	290	250	300	620 watts
Plate Power Output	_____	8.7	12.8	17.5	20.0 KW
Tube Output	_____	494	715	996	1138BTU/Mi

[illegible]