from JETEC release #1550, Dec. 12, 1955

AMPEREX TUBE TYPE 6445

The 6445 is an improved version of the standard type 892R, forced air-cooled triode, and is interchangeable with it in every respect. Incorporating the latest developments in tube design and techniques, the 6445 fills industrial and communication requirements for a tube which is completely interchangeable with the popular 892R and is superior in mechanical construction and electrical performance.

Among the outstanding features of the new AMPEREX 6445 are:

1. A rugged, powdered glass stem which replaces the conventional stem press construction.
2. A Kovar ring grid connection instead of the projecting feather-edge seal grid arm.
3. Lower grid lead inductance because of a strong conical internal grid support instead of the 3 legged, riveted construction.
4. Shorter overall length - approx. 3 inches.
5. A rugged Kovar anode seal to eliminate the more fragile feather-edge, copper seal.
6. A new, stronger spiral filament providing more uniform heat distribution over the anode surface.

GENERAL CHARACTERISTICS

FORCED AIR-COOLED TRIODE

ELECTRICAL

Filament	Two unit, tungsten type for single or two phase AC or DC operation.	
Voltage (per unit)	11	volts
Current (per unit)	60	amps
(Starting current must never exceed 120 amps per unit, even momentarily)		
Amplification Factor	50	
Transconductance (Grid to Plate at I_b = 0.75A)	7000	micromhos
Direct Interelectrode Capacitances		
Plate to grid	32	uuf
Grid to filament	17	uuf
Plate to filament	1.8	uuf

MECHANICAL

Maximum Overall Dimensions		
Length	19 1/8	inches
Diameter (incl. radiator handles)	11	inches

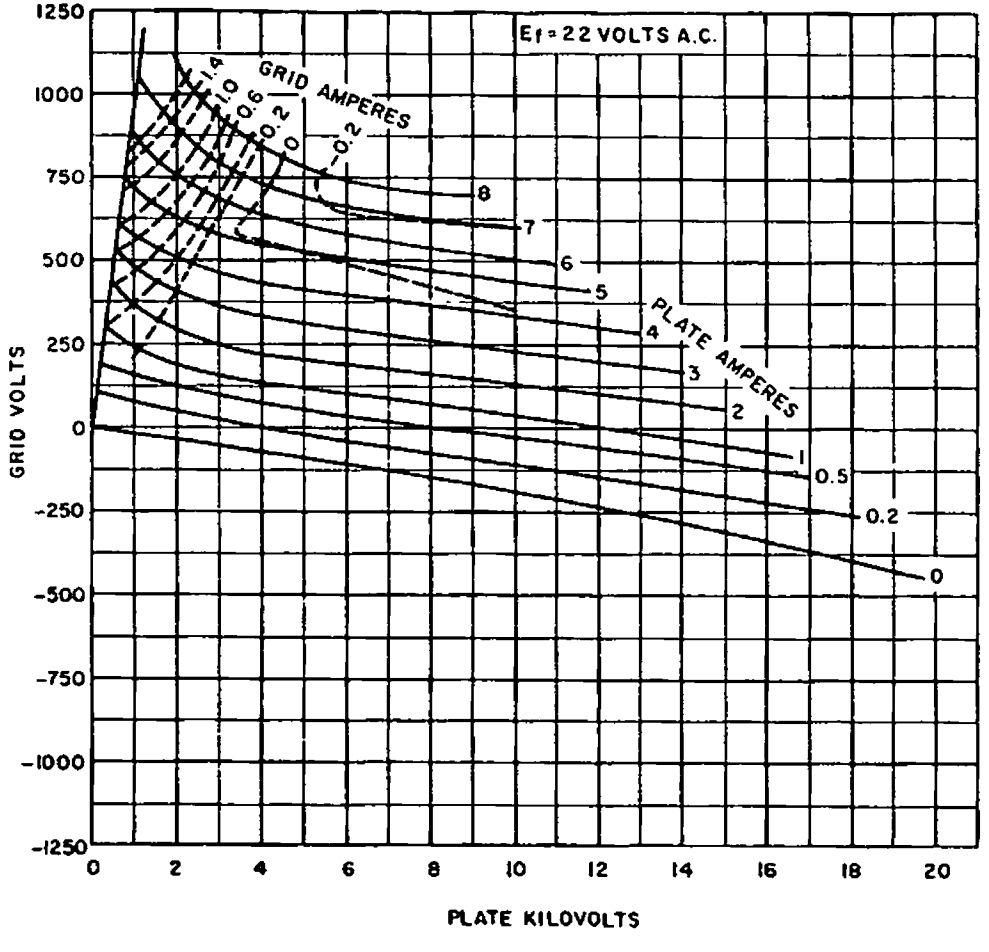
MECHANICAL (Con't)

Mounting Position				Vertical - anode down
Type of cooling [1]				Forced - air
Plate Dissipation	5.0	4.0	3.0	KW
Air Flow to Radiator	530	450	360	cfm
Back Pressure	0.67	0.50	0.33	inches water
Maximum Temperatures				
Glass-to-Metal Seals				180°C
Radiator				230°C
Incoming Air				45°C
Net Weight (approx.)				35 lbs.

ACCESSORIES

External Filament Connector	AMPEREX # S-13484
External Grid Connector	AMPEREX # Y-13326 (supplied with tube without charge)

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



6445

6445

MAXIMUM RATINGS AND TYPICAL OPERATION CONDITIONS

A.F. POWER AMPLIFIER OR MODULATOR - CLASS B

Maximum Ratings

D.C. Plate Voltage	12,500 volts
D.C. Plate Current, Max. Signal [2]	2.0 amps
Plate Input, Max. Signal [2]	12,500 watts
Plate Dissipation [2]	5,000 watts

Typical Operation
(Values are for two tubes)

A.C. Filament Voltage [3]	21	22 volts
D.C. Plate Voltage	6,000	10,000 volts
D.C. Plate Current, Zero Signal	0.4	0.5 amps
D.C. Plate Current, Max. Signal	2.5	2.5 amps
D.C. Grid Voltage	−25	−120 volts
Grid to Grid Voltage, Peak AF	1200	1400 volts
Effective Load, Plate to Plate	4200	8400 ohms
Minimum Grid Input Resistance	400	300 ohms
Maximum Signal Drive Power (approx.)	150	300 watts
Maximum Signal Plate Input [2]	15	25 kilowatts
Maximum Signal Power Output	8	17 kilowatts

R.F. POWER AMPLIFIER - CLASS B

(Carrier conditions per tube for use with a maximum modulation of 1.0)

Maximum Ratings

D.C. Plate Voltage	12,500 volts
D.C. Plate Current	1.1 amps
Plate Input	6,000 watts
Plate Dissipation	5,000 watts

Typical Operation

D.C. Filament Voltage [3]	21	22 volts
D.C. Plate Voltage	6000	8000 volts
D.C. Plate Current	0.5	0.75 amps
D.C. Grid Voltage	−60	−80 volts
D.C. Grid Current (approx.)	38	20 ma
Grid Voltage, Peak R.F.	310	380 volts
Driving Power (approx.)	96	30 watts
Power Output	1000	2000 watts

PLATE MODULATED, R.F. POWER AMPLIFIER CLASS C - TELEPHONY

(Carrier conditions per tube for use with a maximum modulation factor of 1.0)

Maximum Ratings

D.C. Plate Voltage	10,000 volts
D.C. Plate Current	1.0 amp
Plate Input	10,000 watts
Plate Dissipation	3,000 watts
D.C. Grid Voltage	−3,000 volts
D.C. Grid Current	0.4 amps

Typical Operation

A.C. Filament Voltage [3]	22	22 volts
D.C. Plate Voltage	6,000	8,000 volts
D.C. Plate Current	0.77	0.96 amp
D.C. Grid Voltage	−1000	−1250 volts
Grid Voltage, Peak R.F.	1650	2000 volts
D.C. Grid Current (approx.)	0.160	0.156 amp
Driving Power (approx.)	250	310 watts
Power Output	3500	6000 watts

R.F. POWER AMPLIFIER OR OSCILLATOR CLASS C - TELEGRAPHY

(Key down conditions per tube without modulation)

Maximum Ratings

D.C. Plate Voltage	12,500 volts
D.C. Plate Current	2.0 amps
Plate Input	18,000 watts
Plate Dissipation	5,000 watts
D.C. Grid Voltage	−3,000 volts
D.C. Grid Current	0.4 amp

Typical Operation

A.C. Filament Voltage [3]	22	22 volts
D.C. Plate Voltage	8000	10,000 volts
D.C. Plate Current	1.2	1.4 amp
D.C. Grid Voltage	−1000	−1300 volts
Grid Voltage, Peak R.F.	1800	2200 volts
D.C. Grid Current (approx.)	0.165	0.160 amp
Driving Power (approx.)	280	340 watts
Power Output	7100	10,500 watts

Maximum ratings apply up to 5 megacycles, but operation at higher frequencies is possible provided the input is reduced according to the following chart and the glass-to-metal seal temperatures are not exceeded.

Frequency	5	12.5	20 mc.
Percent of Maximum Rated Plate Voltage and Plate Input	100	75	50 percent

[2] Averaged over any audio-frequency cycle of sine-wave form.

[3] Two filament units in series

[4] At crest of audio-frequency cycle with modulation factor of 1.0.