

AMPEREX MERCURY VAPOR RECTIFIER 872-A

FILAMENT

A.C. Voltage	5.0
Current (amperes)	6.75
Preheating Period (Seconds)*	30

*Before plate voltage is applied.

MAXIMUM RATINGS

For Operation at Supply Frequency Up to 150 Cycles

	Condensed Mercury Temperature Range	
	15°C. to 60°C.	15°C. to 50°C.
Peak Inverse Voltage	5000	10000
Peak Plate Current (amperes)	5.0	5.0
Average Plate Current (amperes)*	1.25	1.25
Approx. Tube Voltage Drop	10	10

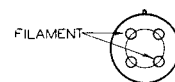
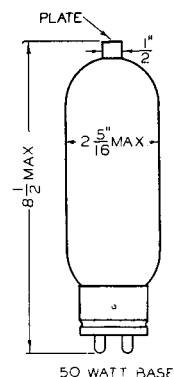
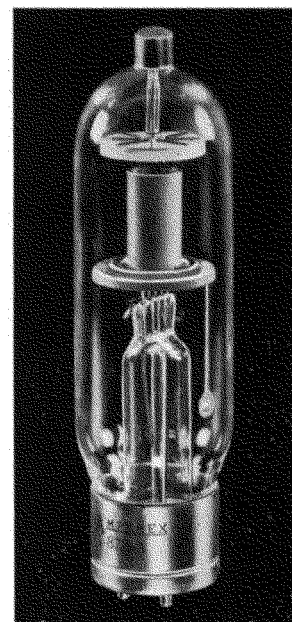
*Averaged over period of 15 seconds.

MAXIMUM OUTPUTS IN TYPICAL CIRCUITS

	A.C. Input Volts R.M.S.	D.C. Output Volts to Filter	Max. D.C. Load Current Amperes
Single-Phase Full Wave (2 Tubes)	3535*	3180	2.5
Single-Phase Full Wave Bridge (4 Tubes)	7070†	6360	2.5
Three-Phase Half Wave (3 Tubes)	4080‡	4780	3.75
Three-Phase Double Y-Parallel (6 Tubes)	4080‡	4780	7.50
Three-Phase Full Wave (6 Tubes)	4080‡	9570	3.75

*Per Tube. †Total. ‡Per Leg.

NOTE: For Out-Of-Phase Filament Excitation information see "Maximum Peak Plate Current" and "Maximum Average Plate Current", pp. 3 and 4, "General Information and Application Notes" section, "Mercury Vapor High Voltage RECTIFIER TUBES".



AMPEREX
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872-A — AMPEREX MERCURY VAPOR RECTIFIER

RECTIFIER CIRCUIT	SINGLE PHASE FULL-WAVE 2 TUBES	SINGLE PHASE FULL-WAVE 4 TUBES	THREE PHASE HALF-WAVE	THREE PHASE DOUBLE-Y	THREE PHASE FULL-WAVE
<p>Conditions assumed for following relations</p> <ol style="list-style-type: none"> 1. Sine-Wave Supply Voltages 2. Balanced Phase 3. Zero Tube Drop 4. Pure Resistance Load 5. No Filter Used <p>NOTE: All rectifier filaments supplied by single phase transformers, with secondaries insulated for voltages greater than the Maximum Peak Inverse Voltage.</p>	<p>FIG. 1</p>	<p>FIG. 2</p>	<p>FIG. 3</p>	<p>FIG. 4</p>	<p>FIG. 5</p>
<i>E</i> Average	.450 <i>E</i> rms .318 <i>E</i> max	.900 <i>E</i> rms .636 <i>E</i> max	1.170 <i>E</i> rms .827 <i>E</i> max	1.170 <i>E</i> rms .827 <i>E</i> max	2.34 <i>E</i> rms 1.65 <i>E</i> max
<i>E</i> Inverse	3.14 <i>E</i> avg	1.57 <i>E</i> avg	2.09 <i>E</i> avg	2.09 <i>E</i> avg	1.045 <i>E</i> avg
<i>I</i> Average	.636 <i>I</i> max	.636 <i>I</i> max	.827 <i>I</i> max	1.91 <i>I</i> max	.955 <i>I</i> max
Ripple Frequency	2 X Supply Freq.	2 X Supply Freq.	3 X Supply Freq.	6 X Supply Freq.	6 X Supply Freq.
Ripple Voltage (Rms)	48.3%	48.3%	18.3%	4.2%	4.2%
† Ratio Secondary <i>K</i> _{Va} D.C. Output/ <i>K</i> _w	1.57	1.11	1.48	1.48	1.05
† Ratio Primary <i>K</i> _{Va} D.C. Output/ <i>K</i> _w	1.11	1.11	1.21	1.05	1.05

† These ratios assume that a choke input filter is used to maintain the output current substantially constant.