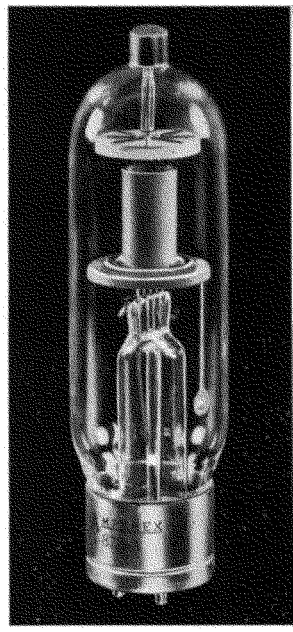
AMPEREX MERCURY VAPOR RECTIFIER 872-A



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

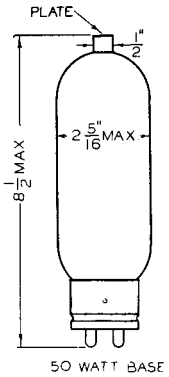
	Condensed Mercury Temperature Range	
	15°C. to 60°C.	15°C. to 50°C.
Peak Inverse Voltage	5000	10000
Peak Plate Current (amperes)	5.0	5.0
Average Plate Current (amperes)*	1.25	1.25
Approx. Tube Voltage Drop	10	10

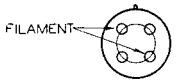
*Averaged over period of 15 seconds.

MAXIMUM OUTPUTS IN TYPICAL CIRCUITS

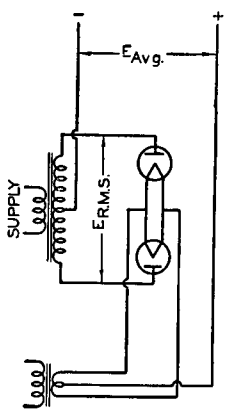
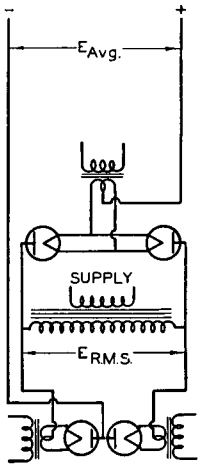
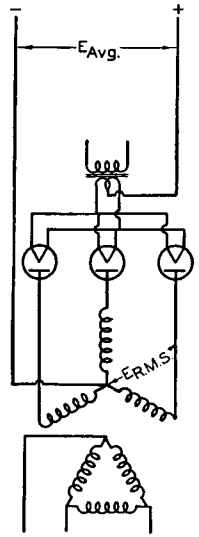
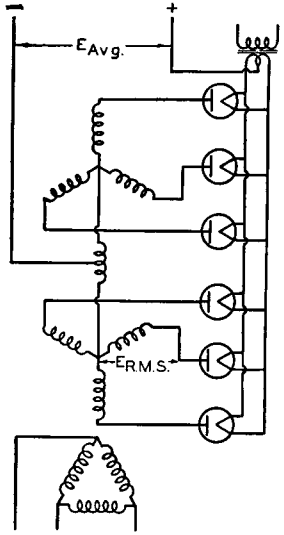
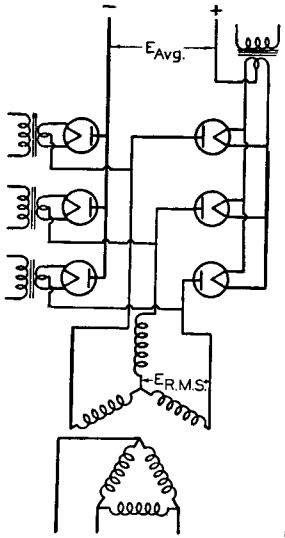
	A.C. Input Volts R.M.S.	D.C. Output Volts to Filter	Max. D.C. Load Current Amperes
Single-Phase Full Wave (2 Tubes)	3535*	3180	2.5
Single-Phase Full Wave Bridge (4 Tubes)	7070†	6360	2.5
Three-Phase Half Wave (3 Tubes)	4080‡	4780	3.75
Three-Phase Double Y-Parallel (6 Tubes)	4080‡	4780	7.50
Three-Phase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

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
Conditions assumed for following relations 1. Sine-Wave Supply 2. Balanced Phase Voltages 3. Zero Tube Drop 4. Pure Resistance Load 5. No Filter Used NOTE: All rectifier filaments supplied by single phase transformers, with secondaries insulated for voltages greater than the Maximum Peak Inverse Voltage.	FIG. 1 	FIG. 2 	FIG. 3 	FIG. 4 	FIG. 5 
E Average	.450 E_{rms} .318 E_{max}	.900 E_{rms} .636 E_{max}	1.170 E_{rms} .827 E_{max}	1.170 E_{rms} .827 E_{max}	2.34 E_{rms} 1.65 E_{max}
E Inverse	3.14 E_{avg}	1.57 E_{avg}	2.09 E_{avg}	2.09 E_{avg}	1.045 E_{avg}
I Average	.636 I_{max}	.636 I_{max}	.827 I_{max}	1.91 I_{max}	.955 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 $\frac{\text{Secondary Kva}}{\text{D.C. Output-Kw}}$	1.57	1.11	1.48	1.48	1.05
† Ratio $\frac{\text{Primary Kva}}{\text{D.C. Output-Kw}}$	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.