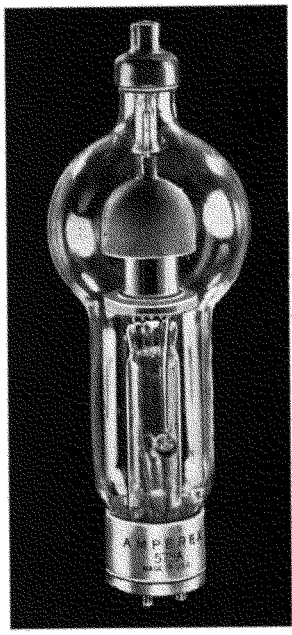
AMPEREX MERCURY VAPOR RECTIFIER 575-A



FILAMENT

A.C. Voltage	5.0
Current (amperes)	10.0
Preheating Period (Seconds)*	30

*Before plate voltage is applied.

MAXIMUM RATINGS

For Operation at Supply Frequency Up to 150 Cycles

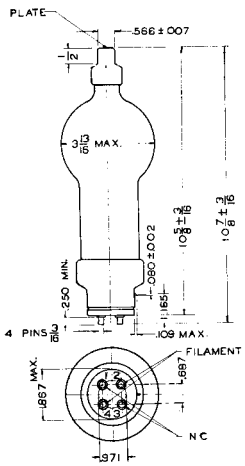
	Filament Excitation In Phase Condensed Mercury Temperature Range 25°C. to 50°C.	Filament Excitation Out of Phase (90° ± 30°) Condensed Mercury Temperature Range 25°C. to 60°C.
Peak Inverse Voltage	15000	10000
Peak Plate Current (amperes)	6.0	10.0
Average Plate Current (amperes)*	1.5	2.5
Approx. Tube Voltage Drop	10.0	10.0

*Averaged over period of 20 seconds.

MAXIMUM OUTPUTS IN TYPICAL CIRCUITS

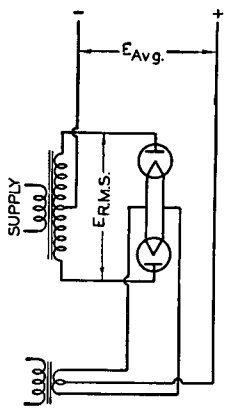
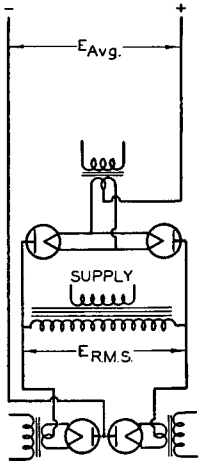
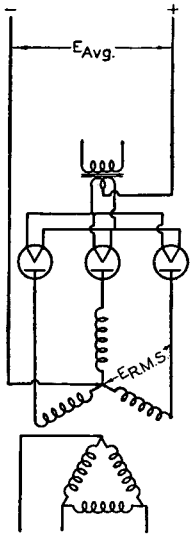
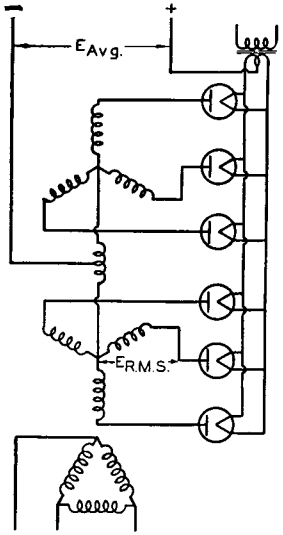
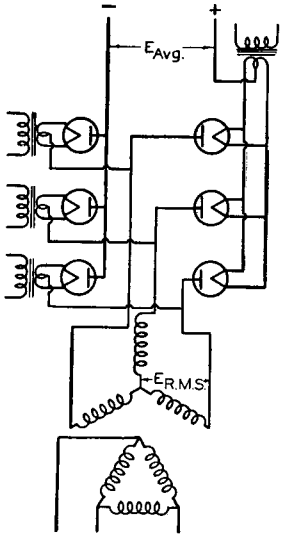
	Filament Excitation in Phase			Filament Excitation Out of Phase		
	A.C. Input Volts R.M.S.	D.C. Output Volts to Filter	Max. D.C. Load Current Amperes	A.C. Input Volts R.M.S.	D.C. Output Volts to Filter	Max. D.C. Load Current Amperes
Single-Phase Full Wave (2 Tubes)	5300*	4770	3.0	3550*	3195	5.0
Single-Phase Full Wave Bridge (4 Tubes)	10600†	9540	3.0	7100†	6320	5.0
Three-Phase Half Wave (3 Tubes)	6100‡	7140	4.5	4085‡	4785	7.5
Three-Phase Double Y-Parallel (6 Tubes)	6100‡	7140	9.0	4085‡	4785	15.0
Three-Phase Full Wave (6 Tubes)	6100‡	14280	4.5	4085‡	9665	7.5

*Per Tube. †Total. ‡Per Leg.



AMPEREX

575-A

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.