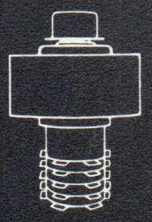
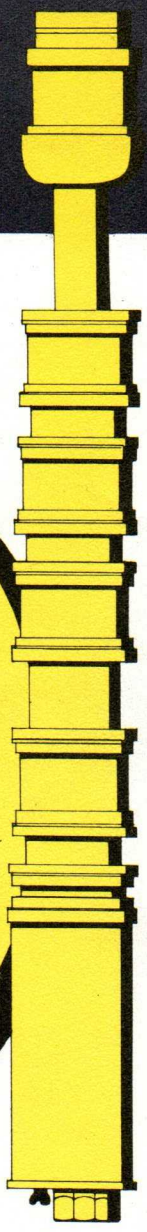
QUICK-REFERENCE CATALOGUE





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TUBES

EITEL-McCULLOUGH, INC.
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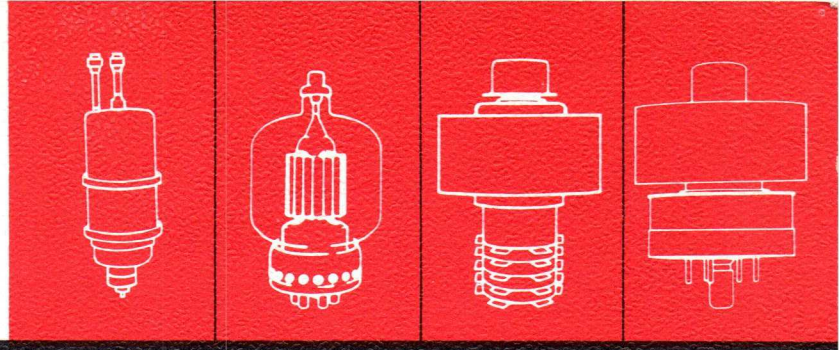
AUGUST, 1956



TETRODES

QUICK-REFERENCE DATA

TYPE DESCRIPTION	MAXIMUM DIMENSIONS Length Inches	MAXIMUM DIMENSIONS Diam. Inches	FILAMENT Volts	FILAMENT Amps.	TRANSCONDUCTANCE umhos	CLASS OF SERVICE	Max. Frequency Full Rating Mc.	MAX. PLATE RATINGS DC Volts	MAX. PLATE RATINGS DC Amps.	MAX. PLATE RATINGS Dissipation Watts	TYPICAL OPERATING CONDITIONS DC Plate Volts	DC Screen Volts	DC Grid Volts	DC Plate Amps.	Plate Load Ohms	Driving Power Watts	Power Output Watts
4-65A 65-watt plate dissipation, radiation cooled, general purpose radial-beam power tetrode. See Note 1.	4.38	2.38	6.0	3.5	4,000	B Aud	...	3,000	.150	65	1,800	250	—35	.050/.220	20,000	1.1	270
						C CW	150	3,000	.150	65	3,000	250	—90	.115	...	1.7	280
						AM PI	150	2,500	.120	45	2,500	250	—150	.108	...	1.9	225
4-125A 125-watt plate dissipation, radiation cooled, general purpose radial-beam power tetrode. See Note 1.	5.69	2.81	5.0	6.5	2,450	B Aud	...	3,000	.225	125	2,500	350	—43	.093/.260	22,200	2.4	400
						C CW	120	3,000	.225	125	3,000	350	—150	.167	...	2.5	375
						AM PI	120	2,500	.200	85	2,500	350	—210	.152	...	3.3	300
4-250A 250-watt plate dissipation, radiation and forced-air cooled, general purpose radial-beam power tetrode. See Note 1.	6.38	3.56	5.0	14.5	4,000	B Aud	...	4,000	.350	250	3,000	300	—53	.125/.473	16,000	1.9	1,040
						C CW	110	4,000	.350	250	4,000	500	—225	.312	...	2.5	1,000
						AM PI	110	3,200	.275	165	3,000	400	—310	.250	...	3.5	585
4-400A 400-watt plate dissipation, radiation and forced-air cooled, general purpose radial-beam power tetrode. See Note 1.	6.38	3.56	5.0	14.5	4,000	B Aud	...	4,000	.350	400	4,000	500	—90	.120/.638	14,000	3.5	1,750
						C CW	110	4,000	.350	400	4,000	500	—220	.350	...	6	1,100
						C CW	110	4,000	.350	400	4,000	400	—170	.270	...	10	720✦
						AM PI	110	3,200	.275	270	3,000	400	—310	.275	...	4	640
4-1000A 1000 - watt plate dissipation, radiation and forced - air cooled, general purpose radial-beam power tetrode. See Note 1.	9.63	5.25	7.5	21.0	10,000	B Aud	...	6,000	.700	1,000	6,000	500	—75	.150/.950	15,000	4.7	3,900
						C CW	110	6,000	.700	1,000	6,000	500	—200	.700	...	15	3,400
						C CW	110	6,000	.700	1,000	6,000	500	—180	.625	...	200	2,600✦
						AM PI	30	5,500	.600	670	5,500	500	—200	.600	...	9	2,630
4PR60A High-vacuum, radial-beam, pulse modulator tetrode. Oxide cathode internal anode. Unilateral replacement for 715B, 715C and 5D21.	6.0	3.06	26.0	2.2	90,000	Pulse Mod	...	20,000	18	60	20,000	1,250	—800	15	...	...	...
4W300B General purpose radial beam tetrode. 300-watt, external water-cooled anode. Oxide-coated unipotential cathode. Usable at frequencies up to UHF.	3.58	1.56	6.0	2.1	12,000	AB_1 Aud	...	...	0.2	300	2,000	350	—50	.200/.500	8,260	0	650
						B TV	400	2,000	(Avg.) 0.2	300	2,000	250	—75	.305	...	...	310★
						C CW	400	2,000	0.2	300	2,000	250	—90	.250	...	...	410
						C CW	400	2,000	0.2	300	2,000	250	—90	.250	...	...	140✦
						AM PI	400	1,500	0.2	300	1,500	250	—100	.200	...	2.1	250
4W20000A 20 Kw., water-cooled, high transconductance radial beam, power tetrode. Unipotential thoriated tungsten cathode, non-emitting grid, external anode. Concentric VHF terminals.	12.0**	5.03	10.0†	30.0	75,000	B TV	220	8,000	(Avg.) 15	20,000	7,000	1,200	—150	6.0	...	...	26,000★
						C CW	220	8,000	15	20,000	7,000	1,200	—400	3.4	...	830	13,000✦

Note 1: Thoriated tungsten filament, non-emitting grids, pyrovac plate.

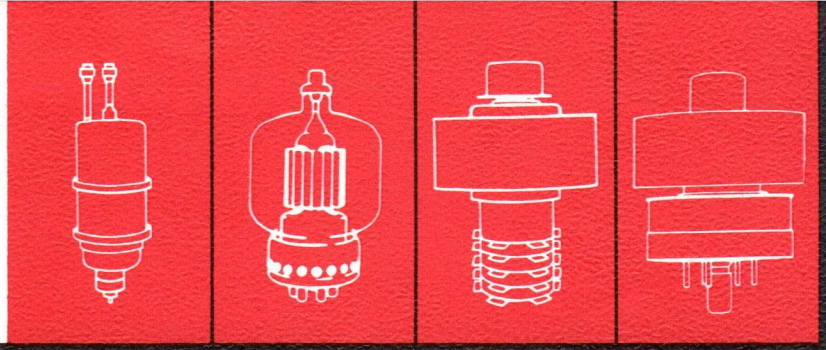
* Max. pulsed cathode current 7 amps., Max. pulse duration 5 microseconds.

** Does not include water couplings.

✦ Typical operation at maximum frequency for full rating.

† Bombardment heated cathode, requires 1400v DC at 1.8 amps.

★ Peak synchronizing level.

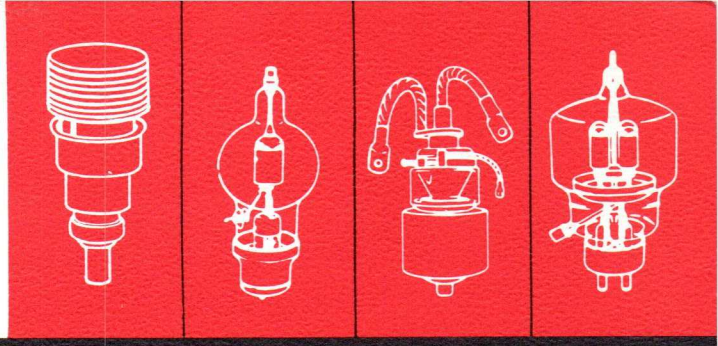


TETRODES (CONTINUED)

TYPE	DESCRIPTION	MAXIMUM DIMENSIONS Length Inches	MAXIMUM DIMENSIONS Diam. Inches	FILAMENT Volts	FILAMENT Amps.	TRANSCONDUCTANCE umhos	CLASS OF SERVICE	Max. Frequency Full Rating Mc.	MAX. PLATE RATINGS DC Volts	MAX. PLATE RATINGS DC Amps.	MAX. PLATE RATINGS Dissipation Watts	TYPICAL OPERATING CONDITIONS DC Plate Volts	DC Screen Volts	DC Grid Volts	DC Plate Amps.	Plate Load Ohms	Driving Power Watts	Power Output Watts
4X150A **4X150D**	150-watt plate dissipation, forced-air cooled, general purpose, high transconductance radial-beam power tetrode. Oxide coated cathode, external anode. Operates in normal amplifier service through 500 Mc.	2.47	1.64	A 6.0	2.6	12,000	B Aud	...	1,250	.250	150	1,250	300	—44	.180/.475	5,600	0.075	425
							B TV	500	1,250	.250 (Avg.)	150	1,250	300	—70	.305	...	...	250★
							C CW	500	1,250	.250	150	1,250	250	—90	.200	...	1.2	195
				D 26.5	0.57		C CW	500	1,250	.250	150	1,250	280	—115	.200	...	30	140✦
							AM PI	500	1,000	.200	100	1,000	250	—105	.200	...	1.1	145
4X150G	150-watt plate dissipation, forced-air cooled, general purpose radial-beam power tetrode. Oxide coated cathode, external anode. Concentric UHF terminals. Operates up through 1000 Mc.	2.75	1.64	2.5	6.25	12,000	C CW	750	1,250	.250	150	1,250	250	—60	.200	...	9	100✦
							Plate Pulse	1,200	7,000	*	150	7,000	1,000	—250	6.0	...	...	20,000✦
4X250B **4X250F**	250-watt plate dissipation. Forced-air cooled. General purpose, high transconductance, radial beam power tetrode useful into UHF band.	2.59	1.64	B 6.0	2.1	12,000	B Aud	...	2,000	.250	250	2,000	350	—50	.500(2)	8,260	0	650(2)
							B TV	400	2,000	.250	250	2,000	350	—50	.300	...	...	375★
							B SSB	400	2,000	.250	250	2,000	350	—50	.250	...	0	325
							C CW	400	2,000	.250	250	2,000	250	—90	.250	...	2.8	410
				F 26.5	0.5		AM PI	400	1,500	.200	165	1,500	250	—100	.200	...	2.1	250
4X250M	250-watt plate dissipation. Forced-air cooled. High transconductance, radial-beam power tetrode with concentric terminals for VHF and UHF circuits.	2.87	1.64	26.5	0.57	12,000	Pulse C CW	750	1,250	.25	250	1,250	250	—60	.2	...	9	100✦
							Plate Pulse	1,200	7,000	*	250	7,000	1,000	—250	6.0	...	...	20,000✦
4X500A **4X500F**	500-watt plate dissipation, forced-air cooled, general purpose radial - beam power tetrode. Thoriated tungsten filament, non-emitting grids, external anode.	A 4.75	2.63	5.0	13.5	5,200	C CW	110	4,000	.350	500	4,000	500	—250	.315	...	13	980✦
							B TV	220	3,000	.350	500	2,400	500	—100	.400	3,000	25	600✦
		F 5.13	2.81	5.0	13.5	5,200	C CW	110	4,000	.350	500	4,000	500	—250	.315	...	13	980✦
4X5000A	5000-watt, general purpose tetrode. Ceramic and metal construction. Forced-air cooled, external anode, thoriated tungsten filament, non-emitting grids.	8.75	4.88	7.5	75.0	35,000	B Aud	...	7,500	4	5,000	7,000	1,250	—325	3.45(2)	4,000	0	16,000
							C CW	30	7,500	3	5,000	7,500	500	—400	2.8	...	150	16,000
							SSB	30	7,500	4	6,000	7,500	1,250	—300	1.9	...	0	10,000
							AM PI	30	5,000	2.5	5,000	5,000	500	—300	1.30	...	25	5,500
4CX300A	300 - watt plate dissipation external anode, forced-air cooled, ceramic general purpose power tetrode. Operates through 500 Mc. at maximum ratings.	2.38	1.63	6.0	2.55	12,000	B Aud	...	2,000	.250	300	2,000	350	—50	.200/.500	8,260	0	650
							C CW	500	2,000	.250	300	2,000	250	—90	.250	...	2.8	410
							C CW	500	2,000	.250	300	2,000	250	—90	.250	...	...	225✦
							AM PI	500	1,500	.200	200	1,500	250	—100	.200	...	2.1	250

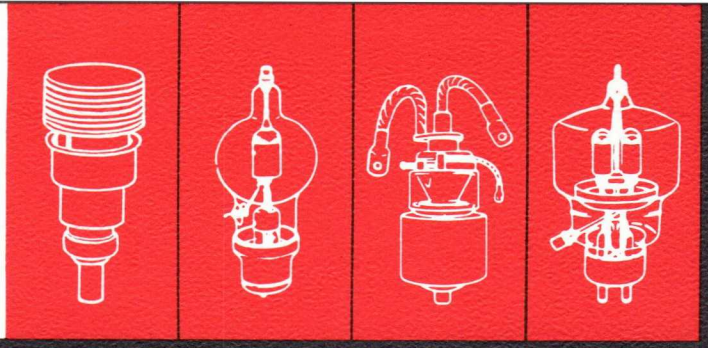
PENTODE

TYPE	DESCRIPTION	MAXIMUM DIMENSIONS Length Inches	MAXIMUM DIMENSIONS Diam. Inches	FILAMENT Volts	FILAMENT Amps.	TRANSCONDUCTANCE umhos	CLASS OF SERVICE	Max. Frequency Full Rating Mc.	MAX. PLATE RATINGS DC Volts	MAX. PLATE RATINGS DC Amps.	MAX. PLATE RATINGS Dissipation Watts	TYPICAL OPERATING CONDITIONS DC Plate Volts	DC Screen Volts	DC Grid Volts	DC Plate Amps.	Plate Load Ohms	Driving Power Watts	Power Output Watts
4E27A/5-125B	125 - watt plate dissipation, radiation cooled, general purpose radial - beam power pentode. See Note 1.	6.19	2.75	5.0	7.5	2,150	B Aud	...	4,000	.200	125	2,500	500	—85	.065/.250	20,000	.2	400
							C CW	75	4,000	.200	125	3,000	500	—200	.167	...	2	375
							AM PI	75	3,200	.160	85	2,500	500	—200	.152	...	2	295



TRIODES

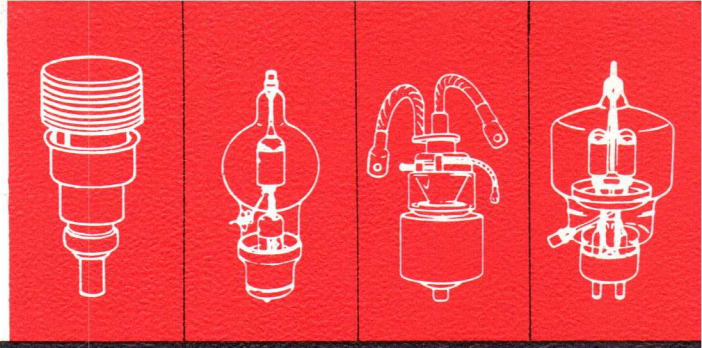
TYPE DESCRIPTION	MAXIMUM DIMENSIONS Length Inches	Diam. Inches	FILAMENT Volts	Amps.	TRANSCONDUCTANCE umhos	CLASS OF SERVICE	Max. Frequency Full Rating Mc.	MAX. PLATE RATINGS DC Volts	DC Amps.	Dissipation Watts	TYPICAL OPERATING CONDITIONS DC Plate Volts	DC Grid Volts	Peak A.F. Grid Input Volts Per Tube	DC Plate Amps.	Plate Load Ohms	Driving Power Watts	Power Output Watts
2C39A Forced - air cooled planar UHF triode. Oxide coated cathode, external anode. Operates as power amplifier, multiplier and oscillator to 2500 Mc.	2.75	1.26	6.3	1.0	22,000	C CW	2,500	1,000	.125‡	100	800	—20	....	.080	...	6	27
						AM PI	2,500	600	.100‡	70	600	—16	....	.075	...	6	18
2C39B Planar, UHF, ceramic body, triode. Forced - air cooled, external anode. Oxide coated cathode. Power amplifier, frequency multiplier, or oscillator to 2500 Mc.	2.75	1.26	6.3	1.0	22,000	C CW	2,500	1,000	.125‡	100	800	—20	....	.080	...	6	27
						AM PI	2,500	600	.100‡	70	600	—16	....	.075	...	6	18
3C24 General purpose triode. 25-watt dissipation, radiation-cooled plate. Thoriated tungsten filament, non-emitting grids, pyrovac coated plate.	4.38	1.44	6.3	3.0	2,500	B Aud	...	2,000	.075	25	1,250	—42	135	.024/.130	21,400	3.4	112
						C CW	60	2,000	.075	25	2,000	—130	....	.063	...	4	100
						AM PI	60	1,600	.060	17	1,600	—170	....	.053	...	3.1	68
3W5000A3 5 - Kw. water **3W5000F3** cooled, general purpose, high transconductance triode. See Note 2.	8.0**	3.0	7.5	51.0	20,000	B Aud	...	6,000	2.5	5,000	6,000	—240	390	.4/3.0	4,650	115	13,000
						C CW	A 75 F 30	6,000	2.5	5,000	6,000	—500	....	2.08	...	136	10,000
						AM PI	A 75 F 30	5,000	2.0	3,350	5,000	—550	....	1.45	...	76	5,580
3W10000A3 10-Kw., water-cooled, high transconductance triode. Unipotential thoriated tungsten cathode, non-emitting grid, external anode. Concentric VHF terminals.	13.0**	5.0	10.0†	30.0	55,000	B TV	220	5,000	10	10,000	3,250	—190	....	4.25	560	400	5,500✦
3X2500A3 2.5-Kw., forced- **3X2500F3** air cooled, general purpose, high transconductance triode. See Note 2.	9.0	4.16	7.5	51.0	20,000	B Aud	...	6,000	2.5	2,500	6,000	—240	390	.4/3.0	4,650	113	13,000
						C CW	A 40 F 30	6,000	2.5	2,500	6,000	—500	....	2.08	...	136	10,000
						C CW	A 110	4,000	2.0	2,500	4,000	—500	....	1.85	...	1,900	7,500✦
						AM PI	A 40 F 30	5,000	2.0	1,670	5,000	—550	....	1.45	...	76	5,580
3X3000A1 3-Kw., forced-air **3X3000F1** cooled, low - mu power triode, intended for use as an audio amplifier, modulator or oscillator for industrial service. See Note 2.	9.0	4.16	7.5	51.0	11,000	B Aud	...	6,000	2.5	3,000	6,000	—1300	1250	.335/2.65	4,560	...	16,000
						C CW	75	6,000	2.5	3,000	6,000	—1200	....	1.50	...	...	6,500
6C21 High-vacuum, radiation cooled, pulse modulator triode. Thoriated tungsten filament, non-emitting grid, pyrovac plate.	12.63	5.13	8.2	17.0	5,800	Pulse Mod	...	30,000	15	300	27,000	—1500	3100	15	1,600	...	...
25T 25-watt plate dissipation, radiation cooled, general purpose triode. Thoriated tungsten filament, non-emitting grid, pyrovac plate.	4.38	1.44	6.3	3.0	2,500	B Aud	....	2,000	.075	25	1,250	—42	135	.024/.130	21,400	3.4	112
						C CW	60	2,000	.075	25	2,000	—130	....	.063	...	4	100
						AM PI	60	1,600	.060	17	1,600	—170	....	.053	...	3.1	68



TRIODES (CONTINUED)

TYPE	DESCRIPTION	MAXIMUM DIMENSIONS Length Inches	MAXIMUM DIMENSIONS Diam. Inches	FILAMENT Volts	FILAMENT Amps.	TRANSCONDUCTANCE umhos	CLASS OF SERVICE	Max. Frequency Full Rating Mc.	MAX. PLATE RATINGS DC Volts	MAX. PLATE RATINGS DC Amps.	MAX. PLATE RATINGS Dissipation Watts	TYPICAL OPERATING CONDITIONS DC Plate Volts	DC Grid Volts	Peak A.F. Grid Input Volts Per Tube	DC Plate Amps.	Plate Load Ohms	Driving Power Watts	Power Output Watts
35T **35TG**	50-watt plate dissipation, radiation cooled, general purpose triode. Thoriated tungsten filament, non-emitting grid, pyrovac plate.	5.5	1.81	5.0	4.0	2,850	B Aud	...	2,000	.150	50	2,000	—40	130	.034/.167	27,500	4	235
							C CW	100	2,000	.150	50	2,000	—135	....	.125	...	13	200
							AM PI	100	1,600	.120	33	1,500	—150	....	.090	...	11	105
75TH **75TL**	75-watt plate dissipation, radiation cooled, general purpose triode. Thoriated tungsten filament, non-emitting grid, pyrovac plate. H version high-mu, L version low-mu.	7.25	2.81	5.0	6.25	H 4,150 L 3,350	B Aud	...	3,000	.225	75	2,000	H —90 L —190	175 300	.050/.225 .050/.250	19,300 18,000	3 5	300 350
							C CW	40	3,000	.225	75	2,000	H —200 L —300	....	.150 .150	...	10 8	225 225
							AM PI	40	2,400	.180	50	2,000	H —300 L —500	....	.110 .130	...	6 14	170 210
100TH **100TL**	100-watt plate dissipation, radiation cooled, general purpose triode. Thoriated tungsten filament, non - emitting grid, pyrovac plate. H version high-mu, L version low-mu.	7.75	3.19	5.0	6.3	H 4,500 L 3,000	B Aud	...	3,000	.225	100	2,500	H —50 L —145	155 290	.060/.280 .048/.250	22,000 22,000	7.5 10	425
							C CW	40	3,000	.225	100	3,000	H —200 L —400	....	.165 .165	... ...	18 20	400
							AM PI	40	2,500	.180	65	2,500	H —250 L —500	....	.140 .140	... ...	17 23	285
152TH **152TL**	150-watt plate dissipation, radiation cooled, general purpose triode. Thoriated tungsten filament, non - emitting grid, pyrovac plate. H version high-mu, L version low-mu.	7.63	2.56	5 or 10	12.5 or 6.25	H 8,300 L 7,150	B Aud	...	3,000	.450	150	3,000	H —150 L —260	430 675	.067/.335 .100/.500	20,300 20,400	3 3	700
							C CW	40	3,000	.450	150	3,000	H —300 L —400	....	.250 .250	... ...	27 20	600
							AM PI	40	2,500	.350	100	2,000	H —300 L —550	....	.250 .250	... ...	30 25	400
250TH **250TL**	250-watt plate dissipation, radiation cooled, general purpose triode Thoriated tungsten filament, non - emitting grid, pyrovac plate. H version high-mu, L version low-mu.	10.13	3.81	5.0	10.5	H 5,600 L 2,650	B Aud	...	4,000	.350	250	3,000	H —65 L —170	260 400	.100/.560 .100/.500	12,250 13,000	42 16	1,180 1,000
							C CW	40	4,000	.350	250	4,000	H —220 L —500	....	.313 .313	... ...	39 33	1,000
							AM PI	40	3,000	.280	165	3,000	H —200 L —520	....	.200 .200	... ...	14 11	435
304TH **304TL**	300-watt plate dissipation, radiation cooled, general purpose triode. Thoriated tungsten filament, non - emitting grid, pyrovac plate. H version high-mu, L version low-mu.	7.63	3.56	5 or 10	25 or 12.5	16,700	B Aud	...	3,000	.900	300	3,000	H —150 L —290	210 390	.134/.667 .130/.800	10,200 9,100	6 55	1,400 1,800
							C CW	40	3,000	.900	300	3,000	H —300 L —400	....	.500 .500	... ...	53 40	1,200
							AM PI	40	2,500	.700	200	2,500	H —400 L —550	....	.450 .450	... ...	50 40	925
450TH **450TL**	450-watt plate dissipation, radiation cooled, general purpose triode. Thoriated tungsten filament, non - emitting grid, pyrovac plate. H version high-mu, L version low-mu.	12.63	5.13	7.5	12.0	H 6,650 L 5,000	B Aud	...	6,000	.600	450	5,000	H —115 L —240	267 430	.120/.620 .120/.620	18,600 18,500	10 28	2,200
							C CW	40	6,000	.600	450	5,000	H —300 L —500	....	.450 .450	... ...	46 42	1,800
							AM PI	40	4,500	.500	300	4,500	H —400 L —550	....	.345 .345	... ...	35 31	1,250
592/3-200A3	200-watt plate dissipation, radiation cooled, general purpose triode. Thoriated tungsten filament, non-emitting grid, pyrovac plate.	6.0	3.41	10.0	5.0	3,600	B Aud	...	3,500	.250	200	3,000	—90	270	.080/.400	18,000	20	820
							C CW	150	3,500	.250	200	3,500	—270	....	.228	...	15	600
							AM PI	150	2,600	.200	130	2,500	—300	....	.200	...	19	375

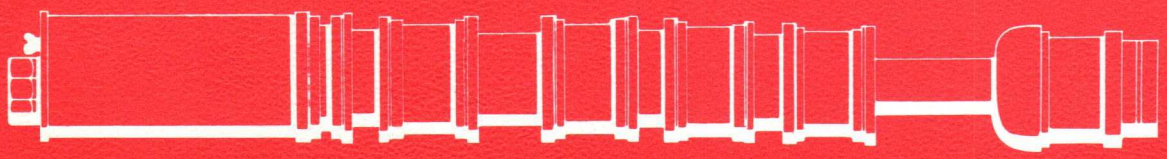
Note 2: Thoriated tungsten filament, non-emitting grid, external anode.
A Concentric VHF terminals.
F Flexible lead terminals.
✦Typical operation, grounded grid at full rating.
† Bombardment heated cathode, requires 1600v. DC at 1.9 amps.
**Does not include water couplings.
‡ Cathode Current.



TRIODES (CONTINUED)

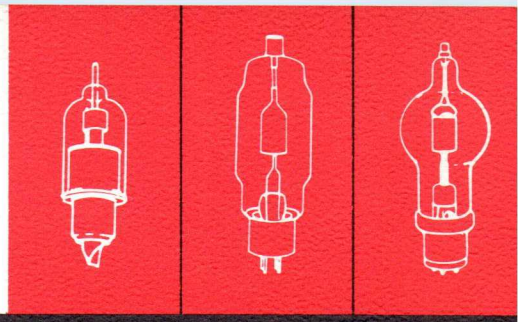
TYPE DESCRIPTION	MAXIMUM DIMENSIONS Length Inches	Diam. Inches	FILAMENT Volts	Amps.	TRANSCONDUCTANCE umhos	CLASS OF SERVICE	Max. Frequency Full Rating Mc.	MAX. PLATE RATINGS DC Volts	DC Amps.	Dissipation Watts	TYPICAL OPERATING CONDITIONS DC Plate Volts	DC Grid Volts	Peak A.F. Grid Input Volts Per Tube	DC Plate Amps.	Plate Load Ohms	Driving Power Watts	Power Output Watts
1000T 1000-watt plate dissipation, radiation and forced-air cooled, general purpose triode. Thoriated tungsten filament, non-emitting grid, pyrovac plate.	12.3	5.13	7.5	15.5	9,050	B Aud	...	7,500	.750	1,000	6,000	—160	335	.220/1.05	13,300	60	4,600
						C CW	50	7,500	.750	1,000	6,000	—350	....	.667	...	60	3,000
						AM PI	50	6,000	.600	665	6,000	—500	....	.600	...	75	2,935
750TL 750-watt plate dissipation, radiation cooled, general purpose triode. Thoriated tungsten filament, non-emitting grid, pyrovac plate.	17.0	7.13	7.5	21.0	3,500	B Aud	...	10,000	1.0	750	6,000	—390	650	.166/.834	16,300	46	3,500
						C CW	40	10,000	1.0	750	6,000	—700	....	.625	...	125	3,000
						AM PI	40	8,000	.8	500	6,000	—950	....	.415	...	75	2,000
1500T 1500-watt plate dissipation, radiation and forced-air cooled, general purpose triode. Thoriated tungsten filament, non-emitting grid, pyrovac plate.	17.0	7.13	7.5	24.0	10,000	B Aud	...	8,000	1.25	1,500	6,000	—190	570	.330/1.65	8,200	115	7,000
						C CW	40	8,000	1.25	1,500	7,000	—500	....	.860	...	85	4,500
						AM PI	40	6,000	1.00	1,000	6,000	—750	....	.835	...	120	4.000
2000T 2000-watt plate dissipation, radiation and forced-air cooled, general purpose triode. Thoriated tungsten filament, non-emitting grid, pyrovac plate.	17.75	8.13	10.0	23.5	11,000	B Aud	...	8,000	1.75	2,000	7,000	—280	600	.300/1.80	9,200	175	8,600
						C CW	40	8,000	1.75	2,000	7,000	—600	....	1.15	...	115	6,000
						AM PI	40	6,000	1.40	1,350	6,000	—800	....	1.13	...	225	5,400

† Cathode bombardment power, 1600 max. watts (2300 Vdc., .69A).
‡ Cathode bombardment power, 1700 max. watts (2400 Vdc., .71A).
★Peak synchronizing level.



KLYSTRONS

TYPE	DESCRIPTION	MAXIMUM DIMENSIONS		FILAMENT		FREQUENCY RANGE	MAXIMUM RATINGS			CLASS OF SERVICE	TYPICAL OPERATING CONDITIONS				
OSCILLATORS		Length Inches	Diam. Inches	Volts	Amps.	Mc.	DC Volts	Resonator DC Amps.	Dissipation Watts		Mode	Resonator DC Volts	Resonator DC Amps	Repeller Volts	Power Output Watts
1K015CA (Coaxial Output) **1K015CG** (Waveguide Output)	Ruggedized, internal-cavity reflex Klystrons intended for C-band local oscillator service.	2.75 3.63	1.19 1.83	6.3	0.8	5400-6000	350	.050	15	C CW	3¾	350	50	—250	0.1
1K015XA (Coaxial Output) **1K015XG** (Waveguide Output)	Ruggedized, integral-cavity reflex Klystrons intended for X-band local oscillator service.	2.38 3.56	1.18 1.47	6.3	0.80	8700-9600	350	.045	15	C CW	6¾	350	40	—170	0.04
AMPLIFIERS							DC Volts	Beam DC Amps.	Collector Dissipation Watts			DC Volts	Beam DC Amps.	Driving Power Watts	Power Output Watts
3K2500SG	3 gap, 3-Kw. Collector dissipation, forced-air cooled Klystron.	17.16	8.00	7.5	5.5	1700-2400	7,000	0.575	3,000	B TV C CW		7,000	0.575	1.5	1,420
3K3000LA **3K3000LQ**	3 gap, externally-tuned Klystron. Forced-air cooled 3-Kw. Collector. Oxide-coated unipotential cathode.	A42.94 Q33.13	5.13 5.13	5.0	33.0	375-570 700-1000	9,000	0.75	3,000	C CW		8,000	0.57	4.0	2,000
3KM3000LA	3 gap, externally-tuned Klystron. Forced-air cooled 3-Kw. Collector. Oxide-coated unipotential cathode. Can amplitude modulate or pulse modulate.	42.94	5.13	5.0	33.0	375-540	9,000	0.75	3,000	C CW C AM Plate-Pulsed		8,000	0.57	4.0	2,000
3K20000LA **3K20000LF** **3K20000LK**	3 gap 20-Kw. Collector dissipation, water and forced-air cooled Klystron for use in UHF TV band. Use of external cavities provides coverage of entire band with three versions of the tube.	A50.5 F44.0 K36.75	5.69 5.69 5.69	9.0†	42.0	A470-580 F580-720 K720-890	13,500	1.7	20,000	B TV C CW		13,000 10,000	1.5 1.0	100 approx. 10 approx.	5,000★ 2,500
3K50,000LA **3K50,000LF** **3K50,000LK** **3K50,000LQ**	3 gap 50-Kw. Collector dissipation, water and forced-air cooled Klystrons for use in UHF band. Use of external cavities provides coverage of entire band with four tube types.	A54 F49 K45 Q45	5.13 5.13 5.13 5.13	9.0‡ 9.0‡	42.0 42.0	A470-580 F580-720 K720-890 Q750-1000	19,500 20,000	2.56 2.5	50,000 50,000	B TV C CW C CW		17,200 16,000 16,000	2.15 1.6 1.60	55 approx. 20 approx. 50	12,000★ 11,000 11,000
4K50,000LQ	4 gap externally-tuned Klystron. Water and forced-air cooled. Collector dissipation 50 Kw. For use in UHF band. Gain 50 db @2 mc. b.w.	44.63	5.13	9.0‡	42.0	700-1000	20,000	2.5	50,000	C CW		16,000	1.6	0.10	11,000



HIGH VACUUM RECTIFIERS

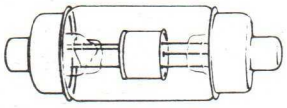
TYPE	DESCRIPTION	MAXIMUM DIMENSIONS Length Inches	MAXIMUM DIMENSIONS Diameter Inches	AVERAGE PLATE CUR. Ma.	PLATE DISSI-PATION Watts	PEAK INVERSE VOLTAGE Volts	FILAMENT Volts	FILAMENT Amps.
2-01C	General purpose UHF instrument diode. Accurate to 700 Mc. 5-volt oxide coated cathode. Resonant frequency 2800 Mc. Suited to probe mounting.	1.81	.563	1	0.1	1,000	5.3	0.4
2-25A	High vacuum rectifier. High voltage, medium current. Instant heating, thoriated tungsten filament. Radiation cooled pyrovac plate.	4.38	1.44	50	15	25,000	6.3	3.0
2-50A	High vacuum rectifier. High voltage, medium current. Instant heating, thoriated tungsten filament. Radiation cooled pyrovac plate.	5.50	1.82	75	30	30,000	5.0	4.0
2-150D	High vacuum rectifier. High voltage, medium current. Instant heating, thoriated tungsten filament. Radiation cooled pyrovac plate.	8.88	2.50	250	90	30,000	5.0	13.0
2-240A	High vacuum rectifier. High voltage, high current. Instant heating, thoriated tungsten filament. Radiation cooled pyrovac plate.	11.2	3.82	500	150	40,000	7.5	12.0
2-2000A	High vacuum rectifier. High voltage, high current. Instant heating, thoriated tungsten filament. Radiation cooled pyrovac plate.	17.8	8.13	750	1,200	75,000	10.0	25.0
2X1000A	External anode high vacuum rectifier for clipper diode service only. High voltage, high current, low internal drop. Indirectly-heated, oxide-coated unipotential cathode.	7.19	3.13	25a Peak	1,000	25,000	26.5	2.25
2X3000F	External anode high vacuum high power rectifier. High voltage, high current. Instant heating, thoriated tungsten filament.	9.00	4.16	3,000	3,000	25,000	7.5	51.0
250R	High vacuum rectifier. High voltage, medium current. Instant heating, thoriated tungsten filament. Radiation cooled pyrovac plate.	10.13	3.82	250	150	60,000	5.0	10.5
253	High vacuum rectifier. High current. Instant heating, thoriated tungsten filament. Radiation cooled pyrovac plate.	8.75	2.50	350	100	15,000	5.0	10.0
8020/100R	High vacuum rectifier. High voltage, medium current. Instant heating, thoriated tungsten filament. Radiation cooled pyrovac plate.	8	2.32	100	60	40,000	5.0	6.5
2CL40A	High Vacuum rectifier or clipper diode. Rugged ceramic and metal construction. Air or liquid cooled.	2.25	1.13	120 (liquid cooled)	40 (liquid cooled) 10 (air cooled)	16,000 (liquid cooled) 8,000 (air cooled)	6.0	2.1

MERCURY VAPOR RECTIFIERS

					Peak Plate Amps.			
KY21A	Grid-controlled, mercury vapor rectifier. 2.5-volt, oxide coated filament. 750-Ma. average plate current.	7.69	2.25	750	3	11,000	2.5	10.0
RX21A	Mercury vapor rectifier. 2.5-volt, oxide coated filament. 750-Ma. average plate current.	7.63	2.25	750	3	11,000	2.5	10.0

VACUUM CAPACITORS

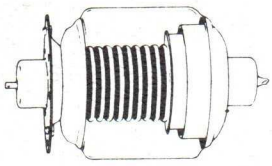
FIXED TYPE



Eimac vacuum capacitors are small, vacuum-dielectric units intended principally for use as all or part of the plate tank capacitance. They are also frequently used as high-voltage coupling and by-pass capacitors at high frequencies and as high-voltage neutralizing capacitors. Overall length 6¾", diameter 2¼".

TYPE →	VC6-20	VC6-32	VC12-20	VC12-32	VC25-20	VC25-32	VC50-20	VC50-32
Capacitance uufd	6	6	12	12	25	25	50	50
Max. Peak volts	20,000	32,000	20,000	32,000	20,000	32,000	20,000	32,000
Max. RMS amps.	28	28	28	28	28	28	28	28

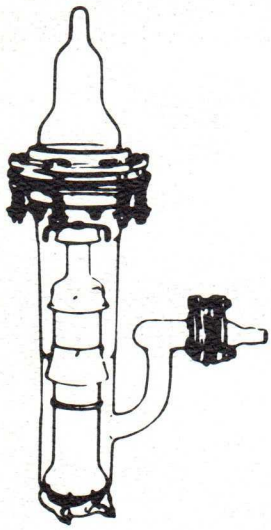
VARIABLE TYPE



Eimac variable vacuum capacitors are intended principally for use as plate tank capacitors in radio frequency amplifiers and oscillators. The capacitance variation is linear with respect to shaft rotation and return to previously indexed settings is positive. The low-torque tuning mechanism is designed with adequate bearing surfaces to provide long life.

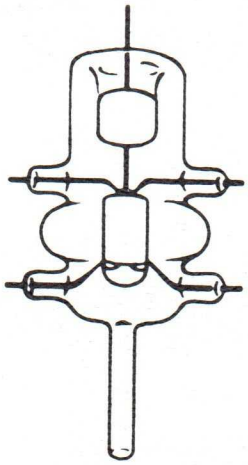
TYPE	MAX. DIMENSIONS Length	Height	Width	CAPACITANCE uufd		Max. Peak RF Voltage Volts		Max. RMS Current Amps.	
VVC60-20	5.69	...	3.06	10-60		20,000		40	
VVC2-60-20	6.28	3.13	8.13	Parallel 20-120	Split Stator 5-30	Parallel 20,000	Split Stator 40,000	Parallel 80	Split Stator 40
VVC4-60-20	6.28	7.81	7.81	40-240	10-60	20,000	40,000	160	80

VACUUM PUMPS & GAUGES



VACUUM PUMP

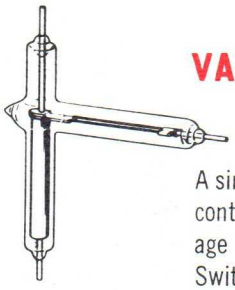
A glass barrel, triple-jet, air-cooled vacuum pump of the oil-diffusion type. Ultimate vacuum of 4×10^{-7} mm of mercury. Speed without baffle approximately 67 liters per second. Simple to operate, requires no liquid cooling, cold trap, or charcoal trap. Can be disassembled with wrenches. Heater voltage 110 volts. Current 1.7 amperes. Overall length below high-vac manifold 16½". Shipping weight 18 pounds. Complete assembly includes flanges and nipples for connecting to high-vacuum manifold and fore-pump system, together with necessary gaskets and complete operating instructions.



IONIZATION GAUGE

Essentially a triode vacuum tube with a pure tungsten filament and molybdenum electrodes for measuring pressures from 10^{-3} to less than 10^{-8} mm of mercury, constructed of "hard" glass for sealing directly to nonex glass vacuum systems.

VACUUM SWITCHES FINGER STOCK & HEAT DISSIPATING CONNECTORS

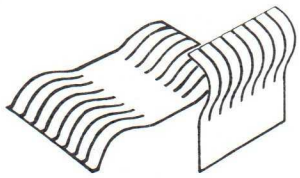


VACUUM SWITCH

A single pole, double throw switch with contacts in high vacuum for high voltage switching. Contact spacing .015". Switch will handle r-f potentials as high as 20 Kv. In DC switching will handle approximately 1.5 amps. at 5 Kv.

VS-2
VS-5
VS-6

CONTACT FINGER STOCK

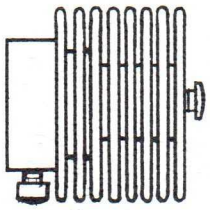


Eimac preformed finger stock is the inexpensive, efficient answer to many circuit and equipment design problems . . . Used for efficient electrical contact in high-frequency tuning devices, in coaxial tube sockets, for electronic weather stripping around access doors in equipment, and for dozens of other purposes, resilient silver-plated EIMAC finger-stock is outstanding.

EIMAC finger stock is accurately heat-treated to maintain uniform mechanical properties, can be fitted around a ½-inch radius, and may be fastened by screws, rivets, clamps or soft soldering.

HEAT DISSIPATING CONNECTORS

HR Heat Dissipating Connectors are machined from solid dural rod, and are supplied with the necessary machine screws.



TYPE	Length	Dia.	Hole Dia.
HR-1	11/16"	1/2"	.052"
HR-2	11/16"	1/2"	.062"
HR-3	11/16"	1/2"	.070"
HR-4	7/8"	3/4"	.102"
HR-5	7/8"	3/4"	.125"
HR-6	7/8"	3/4"	.359"
HR-7	1-11/32"	1-3/8"	.125"
HR-8	1-11/32"	1-3/8"	.570"
HR-9	4-11/32"	1-3/8"	.570"
HR-10	1-11/32"	1-3/8"	.510"

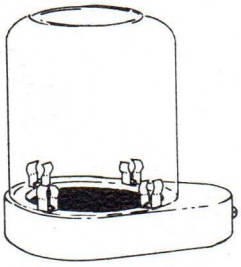
Single Edge	Width	Double Edge	Width	Klystron Types
CF-100	17/32	CF-200	13/16	CF-700
CF-300	31/32	CF-400	1-17/32	CF-800
CF-500	1- 3/8	CF-600	2- 1/4	

SOCKETS

AIR SYSTEM SOCKETS & CHIMNEYS

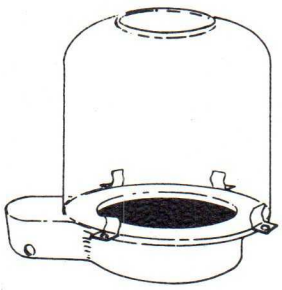
AIR SYSTEM SOCKETS

SK-300 (4X5000A/4001)
SK-400 (4-400A/4001)
SK-500 (4-1000A/4001)
SK-600 (4X150A/4001)
SK-610 (4X150A/4011)
SK-620
SK-630
SK-640



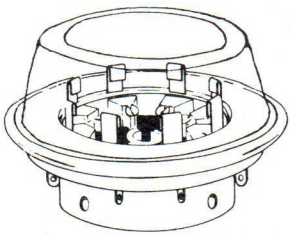
SK-400 Air System Socket

This socket is designed to simplify cooling of the 4-400A Eimac tetrode. Its use insures distribution of the correct amount of cooling air to the various seals of the tube with the most economical blower size.



SK-500 Air System Socket

This socket is specifically designed for use with the Eimac 4-1000A tetrode. Its function with this tube is the same as the 4-400A socket. These sockets are supplied with all the necessary mounting screws, ground clips, and a pyrex glass chimney for cooling the plate seal area.



SK-600 Air System Socket

Designed for use with the Eimac 4X150 and 4X250 power tetrodes. In addition to insuring adequate cooling, it makes possible improved circuit arrangements in high frequency applications. It employs a built-in screen to cathode bypass capacitor. Its compact construction reduces lead inductance to a minimum.

CHIMNEYS

SK-406 (4-400A/4006)
SK-506 (4-1000A/4006)
SK-606 (4X150A/4006)

TUBE EXTRACTOR

The 4X150 tube extractor may be used for inserting or extracting the 4X150 and 4X250 series tubes from normal or deep cavities.

EXPLANATION OF CLASS OF SERVICE SYMBOLS

B Aud	Class-AB or -B Audio Frequency Power Amplifier or Modulator. (Typical operations shown are for two tubes.)
B TV	Class-B Linear Radio Frequency Power Amplifier. Visual Television Service.
C CW	Class-C Radio Frequency Power Amplifier and Oscillator. Continuous Wave, such as for Telegraphy and Frequency Modulated Service.
AM Pl	Amplitude Modulated Radio Frequency Power Amplifier. Plate Modulated or High Level Modulated (Plate and Screen Voltages Modulated).
Pulse Plate	Pulsed Radio Frequency Power Amplifier. Plate and r-f Excitation Voltages Pulsed.
Pulse Mod	Pulse Power Amplifier, Modulator, or Keyer Service.

EIMAC TUBES FOR PULSE SERVICE

Eimac tubes, with their "clean" internal construction, ample filament emission reserve, and hard-vacuum, make exceptionally fine pulse modulators, amplifiers, or oscillators. Peak voltages and currents considerably in excess of the published data for continuous operation can be used in pulse work.

Data for specific pulse applications, or our Application Bulletin No. 3 titled "Pulse Service Notes," will be supplied upon request. Our engineering services are also available. Please don't hesitate to call on us; we are anxious to work with you.

COMPLETE DATA

ON PRODUCTS LISTED IN THIS CATALOGUE ARE AVAILABLE

A complete technical data sheet for a specific tube type will be sent upon request. Such data sheets are also included in the package with each tube. The sheet contains application information in addition to electrical and mechanical data.

If you wish help in selecting the proper tube type or proper operating conditions for an application, please write for advice to:

Application Engineering Dept.

EITEL-McCULLOUGH, INC.

SAN BRUNO, CALIFORNIA

LITHO IN U. S. A.

NOTES

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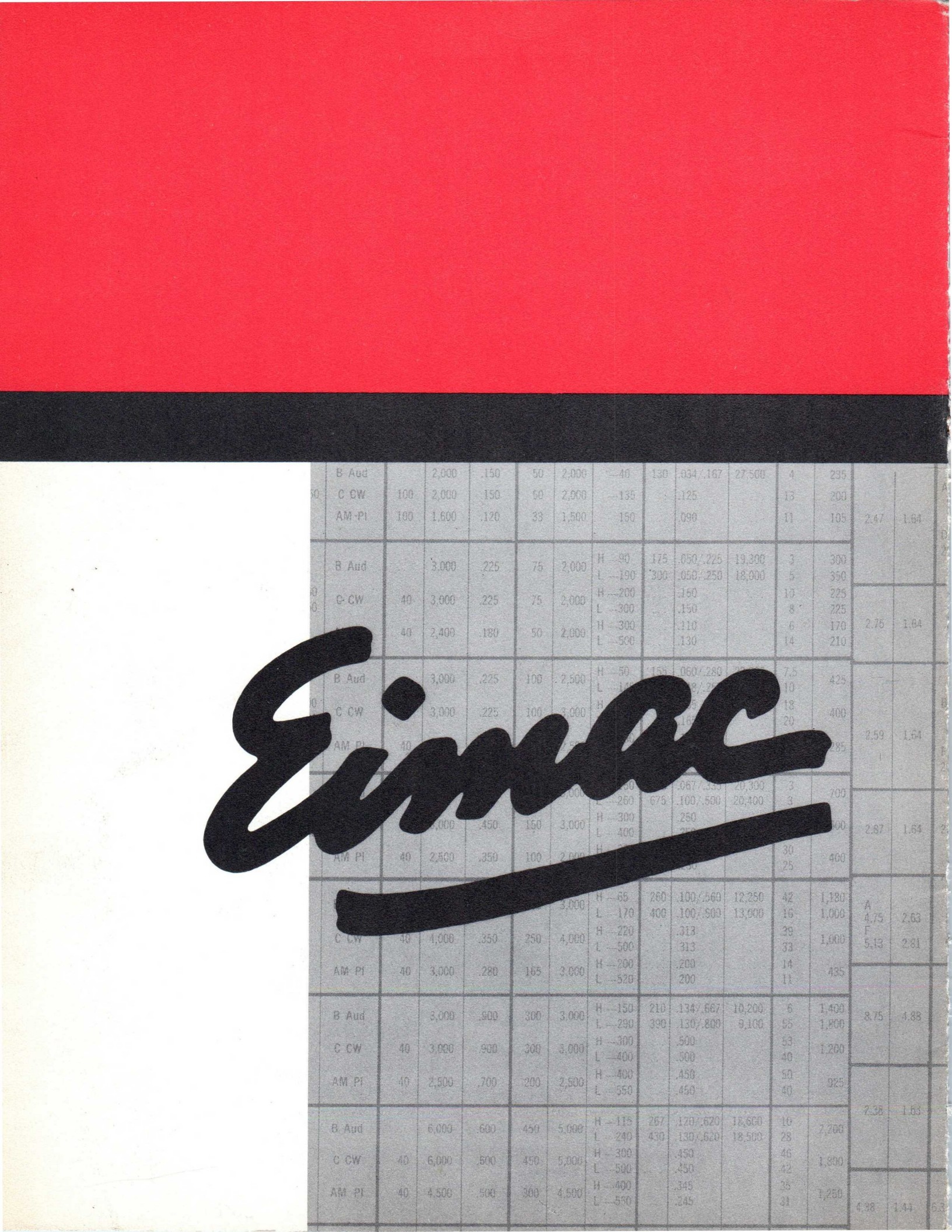
Eimac