



Reference Guide for TELEVISION PICTURE TUBES

This CBS Reference Guide for Television Picture Tubes lists, to the best of our knowledge, all magnetically deflected picture tubes to date — monochrome or color — regardless of make. Basing diagrams and pertinent data for 258 tubes are presented in easy-to-use form. As an additional aid to the television serviceman, bold-face type highlights the important characteristics that differ among similar tube types having different suffix letters, such as 20DP4, A, B, and C.

MONOCHROME SECTION

Type No.	Face-plate Description (See Notes)	Envelope	Screen	Deflection Angle (deg.)	Focusing	Basing	Max. Over-all Length (in.)	Max. Diameter or H. x W. (in.)	Min. Useful Screen Diam. or H. x W. (in.)	Max. Neck Length	Capacitance (μF) between Bulb Coating and Anode Min. Max.	Bulb Contact	Ion Trap	Max. Ratings		Typical Operation and Characteristics					Type No.					
														Applied Voltages		Applied Voltages			Focusing Coil Current (mA.) (approx.)							
														Anode	Grid No. 2	Anode	Focusing Electrode	Grid No. 3		Grid No. 1 (Visual Cut-off)						
3NF4	C. S. Ro	Glass	Alum.	42°	Magnetic	8BV	10 3/4	2 1/2	Projection Type	7 1/2	275-375	Ball	None	25,000	—	24,000	—	—	—	—	—	120	3NF4			
3ACP4	C. S. Ro	Glass	Alum.	53°	Electro	8EO	11 1/2	0 1/2	4 1/2	7 1/2	No Coating	Ball	None	18,000	410	12,000	0	250	-27 to -63	—	—	—	3ACP4			
3ANP4	C. S. Ro	Glass	—	53°	Auto-Electro	12S	11	5 1/2	4 1/2	7 1/2	No Coating	Cavity	None	18,000	600	14,000	—	300	-28 to -72	—	—	—	3ANP4			
3AZP4	C. S. Ro	Glass	Alum.	50°	Electro	12AA	12 1/2	5 1/2	5 1/2	7 1/2	Projection Type	Ball	None	40,000	400	38,000	6650 to 8100	200	—	—	—	—	—	3AZP4		
3FP4A	C. S. Ro	Glass	—	53°	Magnetic	5AN	11 1/2	8 1/2	4 1/2	7 1/2	No Coating	Ball	None	8000	410	6,000	—	250	-25 to -70	—	—	—	3FP4A			
3QP4	C. S. Ro	Glass	Alum.	53°	Magnetic	5AN	11 1/2	5 1/2	4 1/2	7 1/2	No Coating	Ball	None	12,000	438	10,000	—	300	-28 to -72	—	—	—	3QP4			
3QPA	C. S. Ro	Glass	Alum.	53°	Magnetic	5AN	11 1/2	5 1/2	4 1/2	7 1/2	No Coating	Ball	None	12,000	788	10,000	—	300	-28 to 72	—	—	—	3QPA			
3TP4	C. S. Ro	Glass	Alum.	50°	Electro	12C	12 1/2	5 1/2	5 1/2	7 1/2	Projection Type	Cavity	None	100-500	350	27,000	—	4900	200	-42 to -48	—	—	—	3TP4		
7AP4	C. S. Ro	Glass	—	55°	Electro	5AJ	13 1/2	7 1/2	6	7 1/2	No Coating	None	None	3500	No Grid	3500	—	675	—	—	—	—	—	7AP4		
7CP4	C. S. Ro	Glass	—	57°	Electro	8BO	13 1/2	7 1/2	6 1/2	7 1/2	No Coating	Ball	None	8000	410	6000	1140	—	250	-25 to 70	—	—	—	7CP4		
7DP4	C. S. Ro	Glass	—	50°	Electro	12R	14 1/2	7 1/2	6	8 1/2	400-1500	Cavity	Double	8000	410	6000	1200 to 1660	250	-27 to -63	—	—	—	—	7DP4		
7NP4	C. S. Ro	Glass	—	50°	Magnetic	12N	13 1/2	7 1/2	8 1/2	7 1/2	500	Ball	Double	8800	450	6000	—	250	-33 to -77	—	—	—	—	7NP4		
7NP4	C. S. Ro	Glass	Alum.	35°	Electro	14N	20 1/2	7 1/2	10 1/2	10 1/2	No Coating	Cap	None	80,000	600	75,000	16K to 18K	400-600	-185	—	—	—	—	—	7NP4	
7OP4	C. S. Ro	Glass	—	52°	Magnetic	12D	13 1/2	7 1/2	6 1/2	7 1/2	No Coating	Cavity	Single	10,000	410	8000	—	300	-33 to -77	—	—	—	—	7OP4		
7BP4	C. S. Ro	Glass	Alum.	50°	Magnetic	12Q	14 1/2	7 1/2	8	8 1/2	No Coating	Cavity	None	12,000	410	9000	—	250	-27 to -63	—	—	—	—	7BP4		
7TP4	C. S. Ro	Glass	Alum.	60°	Electro	12Q	13 1/2	7 1/2	8	7 1/2	No Coating	Cavity	None	12,000	410	10,000	1170 to 1590	200	-18 to -48	—	—	—	—	—	7TP4	
7NP4	C. S. Ro	Glass	Alum.	35°	Electro	14N	20 1/2	7 1/2	10 1/2	10 1/2	Has Coating	Cap	None	80,000	600	75,000	16K to 18K	400-600	-155	—	—	—	—	—	7NP4	
8AP4	C. S. Ro	Metal	—	54°	Magnetic	12H	14 1/2	8 1/2	7 1/2	7 1/2	—	Rim	Single	9000	No Grid	7000	—	—	-27 to -63	—	—	—	—	—	8AP4	
8BP4A	C. S. Ro	Metal	—	64°	Magnetic	12H	14 1/2	8 1/2	7 1/2	7 1/2	—	Rim	Single	9000	No Grid	7000	—	—	-27 to -63	—	—	—	—	—	8BP4A	
8AP4	C. S. Ro	Glass	—	40°	Electro	6AL	21 1/2	9 1/2	7 1/2	10 1/2	No Coating	Cap	None	7000	250	7000	1190 to 1790	250	-20 to -60	—	—	—	—	—	8AP4	
8CP4	C. S. Ro	Glass	—	—	Magnetic	4AF	13 1/2	9	—	8 1/2	No Coating	Cap	None	7000	No Grid	7000	—	—	-100	—	—	—	—	—	8CP4	
10BP4	C. S. Ro	Glass	—	50°	Magnetic	12N	18	10 1/2	9	9 1/2	500-2500	Cavity	Double	10,000	410	9000	—	250	-27 to -63	—	—	—	—	—	10BP4	
10BP4A*	C. S. Ro	Glass	—	50°	Magnetic	12N	18	10 1/2	9	8 1/2	500-2500	Cavity	Double	10,000	410	9000	—	250	-27 to -63	—	—	—	—	—	10BP4A*	
10BP4C	C. S. Ro	Glass	Alum.	50°	Magnetic	12N	18	10 1/2	9	8 1/2	500-2500	Cavity	Single	10,000	410	9000	—	250	-27 to -63	—	—	—	—	—	10BP4C	
10BP4D	C. S. Ro	Glass	Alum.	50°	Magnetic	12N	18	10 1/2	9	8 1/2	500-2500	Cavity	Single	10,000	410	9000	—	250	-27 to -63	—	—	—	—	—	10BP4D	
10CP4	C. S. Ro	Glass	—	50°	Magnetic	12N	17	10 1/2	8	7 1/2	500	Ball	Double	12,000	450	9000	—	250	-27 to -63	—	—	—	—	—	10CP4	
10DP4	C. S. Ro	Glass	Alum.	50°	Electro	12M	18	10 1/2	8	8 1/2	No Coating	Cavity	None	10,000	410	9000	2900	—	-36 to -84	—	—	—	—	—	10DP4	
10FP4	C. S. Ro	Glass	—	50°	Magnetic	12N	18	10 1/2	9	8 1/2	Has Coating	Ball	Double	12,000	410	8000	—	250	-33 to -77	—	—	—	—	—	10FP4	
10FP4	C. S. Ro	Glass	Alum.	50°	Magnetic	12N	18	10 1/2	9	8 1/2	500-2500	Cavity	None	12,000	410	9000	—	250	-27 to -63	—	—	—	—	—	10FP4	
10BP4A	C. S. Ro	Glass	Alum.	54°	Magnetic	12N	18	10 1/2	9	8 1/2	500-2500	Cavity	None	12,000	410	9000	—	250	-27 to -63	—	—	—	—	—	10BP4A	
10MP4	C. S. Ro	Glass	—	57°	Magnetic	12Q	17 1/2	10 1/2	9 1/2	7 1/2	500-2500	Cavity	Double	10,000	No Grid	9000	—	—	-27 to -63	—	—	—	—	—	10MP4	
10MP4A	C. S. Ro	Glass	—	52°	Magnetic	12Q	17 1/2	10 1/2	9 1/2	7 1/2	500-2500	Cavity	Double	10,000	No Grid	9000	—	—	-27 to -63	—	—	—	—	—	10MP4A	
10BP4	C. S. Ro	Glass	Alum.	50°	Electro	12L	16 1/2	10 1/2	9 1/2	7 1/2	750-1500	Cavity	None	16,000	600	12,000	-48 to +260	300	-28 to -72	—	—	—	—	—	—	10BP4
10SP4	G. S. Ro	Glass	Alum.	50°	Electro	12M	17	10 1/2	9 1/2	7 1/2	No Coating	Cavity	None	14,000	410	12,000	-65 to +300	300	-28 to -72	—	—	—	—	—	—	10SP4
12AP4	C. S. Ro	Glass	—	40°	Electro	6AL	25 1/2	12 1/2	10	9 1/2	No Coating	Cap	None	7000	300	7000	—	—	-27 to -48	—	—	—	—	—	12AP4	
12CP4	C. S. Ro	Glass	—	—	Magnetic	4AF	18 1/2	12 1/2	10	10	No Coating	Cap	None	7000	No Grid	7000	—	—	-110	—	—	—	—	—	12CP4	
12BP4	C. S. Ro	Glass	Alum.	50°	Magnetic	12D	18	12 1/2	10	10	No Coating	Ball	None	12,000	410	10,000	—	250	-27 to -63	—	—	—	—	—	12BP4	
12BP4	C. S. Ro	Glass	Alum.	64°	Magnetic	12N	18	12 1/2	11 1/2	7 1/2	500-2500	Cavity	None	12,000	410	11,000	—	250	-27 to -63	—	—	—	—	—	12BP4	
12BP4A	C. S. Ro	Glass	Alum.	64°	Magnetic	12N	18	12 1/2	11 1/2	7 1/2	500-2500	Cavity	None	12,000	410	11,000	—	250	-27 to -63	—	—	—	—	—	12BP4A	
12LP4	C. S. Ro	Glass	—	54°	Magnetic	12N	18 1/2	12 1/2	11	8 1/2	750-3000	Cavity	Double	12,000	410	11,000	—	250	-27 to -63	—	—	—	—	—	12LP4	



TELEVISION PICTURE TUBES

MONOCHROME SECTION

Type No.	Face-plate Description (See Notes)	Envelope	Screen	Deflection Angle (Approx.)	Focusing	Basing	Max. Over-all Length (in.)	Max. Diameter or Ht. x Wd. (in.)	Min. Useful Screen Diam. or Ht. x Wd. (in.)	Max. Mesh Length	Capacitance (pF) between Bulb Coating and Anode Min. Max.	Bulb Contact	Ion Trap	Max. Ratings		Typical Operation and Characteristics					Type No.
														Applied Voltages		Applied Voltages					
														Anode	Grid No. 2	Anode	Focusing Electrode	Grid No. 3	Grid No. 1 (Visual Cut-off)	Focusing Current (ma.) (approx.)	
16SP4	G, S, Ro	Glass	—	70°	Magnetic	12N	17 1/2	16	14 1/2	7 1/2	1500-3500	Cavity	Double	14,000	410	12,000	—	300	-33 to -77	110	16SP4
16SP4A	G, S, Ro	Glass	—	70°	Magnetic	12N	17 1/2	16	14 1/2	7 1/2	1500-3500	Cavity	Double	14,000	400	12,000	—	300	-33 to -77	110	16SP4A
16TP4	G, S, Ro	Glass	—	65°	Magnetic	12N	18 1/2	16 1/2	10 1/2 x 13 1/2	7 1/2	750-2000	Cavity	Single	14,000	410	12,000-14,000	—	300	-33 to -77	115	16TP4
16UP4	G, S, Ro	Glass	—	65°	Magnetic	12D	18 1/2	16 1/2	10 1/2 x 13 1/2	7 1/2	No Coating	Cavity	Single	15,000	410	12,000	—	300	-27 to -63	100	16UP4
16VP4	G, S, Ro	Glass	—	70°	Magnetic	12D	17 1/2	16	14 1/2	7 1/2	No Coating	Cavity	Single	15,000	410	12,000	—	250	-27 to -63	110	16VP4
16WP4	G, S, Ro	Glass	—	70°	Magnetic	12D	18 1/2	16	14 1/2	7 1/2	No Coating	Cavity	Double	15,000	410	12,000	—	250	-27 to -63	110	16WP4
16WPA4	G, S, Ro	Glass	—	70°	Magnetic	12M	18 1/2	16	14 1/2	7 1/2	750-3500	Cavity	Double	15,000	410	12,000-16,000	—	250	-27 to -63	110	16WPA4
16ZP4	G, S, Ro	Glass	—	65°	Magnetic	12D	19 1/2	16 1/2	10 1/2 x 13 1/2	7 1/2	No Coating	Cavity	Double	15,000	410	12,000	—	250	-27 to -63	100	16ZP4
16ZPA	G, S, Ro	Glass	—	70°	Magnetic	12N	17 1/2	16	14 1/2	7 1/2	750-2000	Cavity	Single	14,000	410	12,000	—	300	-33 to -77	100	16ZPA
16ZPA	G, S, Ro	Glass	—	52°	Magnetic	12N	22 1/2	16	14 1/2	7 1/2	750-1500	Cavity	Double	16,000	410	12,000	—	300	-33 to -77	110	16ZPA
17AP4	G, S, Ro	Glass	—	65°	Magnetic	12N	19	12 3/4 x 15 1/2	10 3/4 x 14 1/2	7 1/2	750-2000	Cap	Single	16,000	410	12,000	—	300	-33 to -77	100	17AP4
17ASP4	C, S, Ro	Glass	—	65°	Magnetic	12N	19 1/2	12 3/4 x 15 1/2	10 3/4 x 14 1/2	7 1/2	1100	Cap	Single	14,000	410	12,000	—	250	-33 to -77	Not ind	17ASP4
17ATP4	G, S, Ro	Glass	—	85°	Electro	12L	16 1/4	12 3/4 x 15 1/2	10 3/4 x 14 1/2	7 1/2	750-1500	Cavity	Single	16,000	500	14,000	-55 to +300	300	-33 to -77	—	17ATP4
17ATPA4	G, S, Ho	Glass	Alum.	85°	Electro	12L	16 1/4	12 3/4 x 15 1/2	10 3/4 x 14 1/2	7 1/2	750-1500	Cavity	Single	16,000	500	14,000	-55 to +300	300	-33 to -77	—	17ATPA4
17AVPA4	G, S, Ho	Glass	Alum.	85°	Electro	12L	16	12 1/2 x 15 1/2	10 3/4 x 14 1/2	6 1/2	750-1500	Cavity	Single	16,000	500	12,000	-50 to +350	300	-33 to -77	—	17AVPA4
17BPA4	G, S, Ro	Glass	—	65°	Magnetic	12D	19 1/2	12 3/4 x 15 1/2	10 3/4 x 14 1/2	7 1/2	No Coating	Cavity	Single	16,000	410	12,000	-50 to +350	300	-33 to -77	100	17BPA4
17BPA4*	G, S, Ro	Glass	—	65°	Magnetic	12N	19 1/2	12 3/4 x 15 1/2	10 3/4 x 14 1/2	7 1/2	750-3500	Cavity	Single	16,000	410	12,000	—	300	-33 to -77	100	17BPA4*
17BPA4*	G, S, Ro	Glass	Alum.	65°	Magnetic	12N	19 1/2	12 3/4 x 15 1/2	10 3/4 x 14 1/2	7 1/2	750-3500	Cavity	Single	16,000	410	12,000	—	250	-27 to -63	115	17BPA4*
17BP4C	G, T, S, Ro	Glass	—	65°	Magnetic	12N	19 1/2	12 3/4 x 15 1/2	10 3/4 x 14 1/2	7 1/2	750-1500	Cavity	Single	16,000	410	12,000	—	300	-33 to -77	100	17BP4C
17CP4	G, F, S, Ro	Metal	—	66°	Magnetic	12D	19	12 3/4 x 16 1/4	11 x 14 3/4	7 1/2	—	Rim	Single	16,000	410	12,000	—	300	-33 to -77	96	17CP4
17CP4A	G, S, Ro	Metal	—	66°	Magnetic	12D	19	12 3/4 x 16 1/4	11 x 14 3/4	7 1/2	—	Rim	Single	16,000	410	14,000	—	300	-33 to -77	104	17CP4A
17FP4	G, S, Ro	Glass	—	65°	Electro	12L	19 1/2	12 3/4 x 15 1/2	10 3/4 x 14 1/2	7 1/2	500-750	Cavity	Single	18,000	410	12,000	2300 to 3100	300	-33 to -77	—	17FP4
17FPA4	G, S, Ho	Glass	—	65°	Electro	12L	19 1/2	12 3/4 x 15 1/2	10 3/4 x 14 1/2	7 1/2	750-2000	Cavity	Single	18,000	500	12,000	3100 to 4100	300	-33 to -77	—	17FPA4
17GPA4	G, F, S, Ro	Metal	—	88°	Electro	12M	19 1/2	12 3/4 x 15 1/2	11 x 14 3/4	7 1/2	—	Rim	Single	16,000	500	12,000	2290 to 3100	300	-33 to -77	—	17GPA4
17HP4	G, S, Ro	Glass	—	65°	Electro	12L	19 1/2	12 3/4 x 15 1/2	10 3/4 x 14 1/2	7 1/2	750-1500	Cavity	Single	16,000	500	14,000-16,000	-56 to +310	300	-33 to -77	—	17HP4
17HP4A	G, T, S, Ro	Glass	—	65°	Electro	12L	19 1/2	12 3/4 x 15 1/2	10 3/4 x 14 1/2	7 1/2	750-1500	Cavity	Single	16,000	500	14,000-16,000	-56 to +310	300	-33 to -77	—	17HP4A
17HP4B*	G, S, Ro	Glass	Alum.	65°	Electro	12L	19 1/2	12 3/4 x 15 1/2	10 3/4 x 14 1/2	7 1/2	750-1500	Cavity	Single	16,000	500	14,000	-56 to +310	300	-28 to -72	—	17HP4B*
17JP4	G, S, Ro	Glass	—	65°	Magnetic	12N	19 1/2	12 3/4 x 15 1/2	10 3/4 x 14 1/2	7 1/2	500-750	Cavity	Single	18,000	410	16,000	—	300	-33 to -77	100	17JP4
17KPA4	G, S, Ro	Glass	—	65°	Auto-Electro	12D	19 1/2	12 3/4 x 15 1/2	10 3/4 x 14 1/2	7 1/2	1000-1500	Cavity	Single	16,000	500	12,000	—	300	-33 to -77	—	17KPA4
17LPA4	G, Cy, Re	Glass	—	65°	Electro	12L	19 1/2	12 3/4 x 15 1/2	10 3/4 x 14 1/2	7 1/2	750-2000	Cavity	Single	16,000	500	12,000	-48 to +260	300	-33 to -77	—	17LPA4
17MPA4	G, Cy, Re	Glass	Alum.	65°	Electro	12L	19 1/2	12 3/4 x 15 1/2	10 3/4 x 14 1/2	7 1/2	750-1500	Cavity	Single	16,000	500	14,000	-56 to +310	300	-33 to -77	—	17MPA4
17OP4	G, Cy, Re	Glass	—	65°	Magnetic	12N	19 1/2	12 3/4 x 15 1/2	10 3/4 x 14 1/2	7 1/2	750-2000	Cavity	Single	16,000	410	12,000	—	300	-33 to -77	100	17OP4
17QPA4*	G, Cy, Re	Glass	Alum.	65°	Magnetic	12N	19 1/2	12 3/4 x 15 1/2	10 3/4 x 14 1/2	7 1/2	750-1500	Cavity	Single	18,000	500	14,000	—	300	-28 to -72	95	17QPA4*
17RPA4	G, S, Ro	Glass	—	66°	Electro	12L	19 1/2	12 3/4 x 15 1/2	10 3/4 x 14 1/2	7 1/2	750-1500	Cavity	Single	16,000	500	14,000	—	300	-33 to -77	—	17RPA4
17SPA4	G, Cy, Re	Glass	—	66°	Auto-Electro	12N	19 1/2	12 3/4 x 15 1/2	10 3/4 x 14 1/2	7 1/2	500-750	Cavity	Single	14,000	410	12,000	—	250	-33 to -66	—	17SPA4
17TP4*	G, F, S, Ro	Metal	—	66°	Electro	12M	19 1/2	12 3/4 x 16 1/4	11 x 14 3/4	7 1/2	—	Rim	Single	16,000	500	16,000	-55 to +300	300	-33 to -77	—	17TP4*
17UP4	G, Cy, Re	Glass	—	70°	Magnetic	12N	19 1/2	12 3/4 x 15 1/2	10 3/4 x 14 1/2	7 1/2	500-750	Cavity	Single	14,000	410	12,000	—	250	-26 to -63	110	17UP4
17VP4	G, Cy, Re	Glass	—	66°	Electro	12L	19 1/2	12 3/4 x 15 1/2	10 3/4 x 14 1/2	7 1/2	750-1500	Cavity	Single	16,000	500	14,000	—	300	-33 to -77	—	17VP4
17WP4	G, Cy, Re	Glass	—	65°	Magnetic	12N	19 1/2	12 3/4 x 15 1/2	10 3/4 x 14 1/2	7 1/2	500-750	Cavity	Single	18,000	500	16,000	—	300	-33 to -77	100	17WP4
18AP4	C, F, S, Ho	Metal	—	66°	Magnetic	12D	22	18 3/4	17 3/4	7 1/2	—	Rim	Single	19,000	410	12,000	—	300	-33 to -77	140	18AP4
18BPA4	C, S, Ro	Metal	—	66°	Magnetic	12D	22	18 3/4	17 3/4	7 1/2	—	Rim	Single	19,000	410	12,000	—	300	-33 to -77	140	18BPA4
18BPA4*	C, F, S, Ro	Metal	—	66°	Magnetic	12D	22	18 3/4	17 3/4	7 1/2	—	Rim	Single	19,000	410	12,000	—	300	-33 to -77	140	18BPA4*
18BP4C	C, F, S, Ro	Metal	Alum.	66°	Magnetic	12D	22	18 3/4	17 3/4	7 1/2	—	Rim	Single	19,000	410	15,000	—	300	-33 to -77	115	18BP4C
18BP4D	C, F, S, Ro	Metal	—	66°	Magnetic	12D	22	18 3/4	17 3/4	7 1/2	—	Rim	Single	19,000	410	15,000	—	300	-33 to -77	140	18BP4D
18CP4	C, S, Ho	Glass	—	66°	Magnetic	12N	21 1/2	18	17 1/2	7 1/2	750-2500	Cavity	Double	17,000	410	13,000	—	250	-26 to -63	146	18CP4
18CP4A	C, S, Ho	Glass	—	66°	Magnetic	12N	21 1/2	18	17 1/2	7 1/2	750-2500	Cavity	Double	17,000	410	13,000	—	250	-26 to -63	146	18CP4A
18DP4	G, S, Ho	Glass	—	65°	Magnetic	12D	21 1/2	13 1/2 x 17 1/2	12 x 16	7 1/2	No Coating	Cavity	Single	19,000	410	13,000	—	250	-26 to -63	95	18DP4
18FP4	G, S, Ro	Glass	—	66°	Magnetic	12D	22 1/2	19	17 3/4	7 1/2	No Coating	Cavity	Double	19,000	410	13,000	—	250	-26 to -63	110 to 130	18FP4
18GPA4	G, S, Ro	Glass	—	66°	Magnetic	12D	21 3/4	19	17 3/4	7 1/2	No Coating	Cavity	Single	19,000	410	13,000	—	250	-27 to -63	110 to 130	18GPA4
18HP4	G, S, Ro	Glass	—	66°	Magnetic	12D	21 3/4	13 1/2 x 17 1/2	12 x 16	7 1/2	No Coating	Cavity	Single	18,000	410	12,000	—	300	-33 to -77	95	18HP4
18OP4	G, S, Ro	Glass	—	66°	Electro	12L	21 1/2	13 1/2 x 17 1/2	12 x 16	7 1/2	500-750	Cavity	Single	18,000	410	15,000	-50 to +350	300	-33 to -77	—	18OP4
20BP4	C, S, Ro	Glass	—	54°	Magnetic	12D	28 3/4	20 3/4	18												

Type No.	Face-plate Description (See Notes)	Envelope	Screen	Deflection Angle (Approx.)	Focusing	Basing	Max. Over-all Length (in.)	Max. Diameter (in.)	Min. Useful Screen Diam. or Wire Wd. (in.)	Max. Neck Length	Capacitance (pF) between Bulb Coating and Anode	Bulb Content	Ion Trap	Max. Ratings			Typical Operation and Characteristics					Type No.
														Applied Voltages		Applied Voltages			Grid No. 1 (Visual Cut-off)	Focusing Current (mA) (approx.)		
														Anode	Grid No. 2	Anode	Focusing Electrode	Grid No. 3				
30CP40*	G. S. Ro	Glass	Alum.	66°	Magnetic	12N	21 1/2	15 1/2 @ 18 1/2	12 3/4 @ 17	7 1/2	300-750	Cavity	Single	18,000	410	12,000	—	300	-33 to -77	95	30CP40*	
30DP4	G. S. Re	Glass	—	65°	Magnetic	12D	21 3/4	15 1/2 @ 18 1/2	12 3/4 @ 17	7 1/2	No Coating	Cavity	Single	18,000	410	12,000	—	300	-33 to -77	95	30DP4	
30CP4A*	G. S. Re	Glass	Alum.	66°	Magnetic	12M	22 1/2	15 1/2 @ 18 1/2	12 3/4 @ 17	7 1/2	No Coating	Cavity	Single	18,000	410	12,000	—	300	-33 to -77	95	30CP4A*	
30DP4C*	G. S. Re	Glass	Alum.	66°	Magnetic	12N	22 1/2	15 1/2 @ 18 1/2	12 3/4 @ 17	7 1/2	No Coating	Cavity	Single	18,000	410	12,000	—	300	-28 to -72	95	30DP4C*	
30FP4	G. S. Re	Glass	—	66°	Electro	12M	22 1/2	15 1/2 @ 18 1/2	13 1/4 @ 17 1/4	7 1/2	No Coating	Cavity	Single	18,000	410	12,000	2300 to 3200	300	-33 to -77	—	30FP4	
30GP4	G. S. Re	Glass	—	66°	Electro	12L	22 1/2	15 1/2 @ 18 1/2	13 1/4 @ 17 1/4	7 1/2	No Coating	Cavity	Single	18,000	500	14,000	2750 to 3740	300	-33 to -77	—	30GP4	
30HP4*	G. S. Re	Glass	—	66°	Electro	12M	22 1/2	15 1/2 @ 18 1/2	12 3/4 @ 17	7 1/2	No Coating	Cavity	Single	16,000	500	14,000	-56 to +310	300	-33 to -77	—	30HP4*	
30HP4A*	G. S. Re	Glass	—	66°	Electro	12L	22 1/2	15 1/2 @ 18 1/2	12 3/4 @ 17	7 1/2	No Coating	Cavity	Single	16,000	500	14,000	-56 to +310	300	-33 to -77	—	30HP4A*	
30HP4B	G. T. S. Ro	Glass	—	66°	Electro	12M	22 1/2	15 1/2 @ 18 1/2	12 3/4 @ 17	7 1/2	No Coating	Cavity	Single	16,000	600	14,000	-56 to +310	300	-33 to -77	—	30HP4B	
30HP4C*	G. S. Re	Glass	Alum.	66°	Electro	12M	22 1/2	15 1/2 @ 18 1/2	12 3/4 @ 17	7 1/2	No Coating	Cavity	Single	16,000	500	14,000	-56 to +310	300	-28 to -72	—	30HP4C*	
30HP4D*	G. S. Re	Glass	Alum.	66°	Electro	12L	22 1/2	15 1/2 @ 18 1/2	12 3/4 @ 17	7 1/2	No Coating	Cavity	Single	16,000	500	14,000	-56 to +310	300	-28 to -72	—	30HP4D*	
30IP4	G. S. Re	Glass	—	65°	Auto-Electro	12P	22 1/2	15 1/2 @ 18 1/2	12 3/4 @ 17	7 1/2	500-750	Cavity	Single	18,000	500	12,000	—	300	-33 to -77	—	30IP4	
30IP4A*	G. S. Re	Glass	—	65°	Auto-Electro	12P	22 1/2	15 1/2 @ 18 1/2	12 3/4 @ 17	7 1/2	750-1500	Cavity	Single	16,000	500	14,000	0	300	-33 to -77	—	30IP4A*	
30MP4	G. S. Re	Glass	—	66°	Electro	12L	22 1/2	15 1/2 @ 18 1/2	12 3/4 @ 17	7 1/2	500-750	Cavity	Single	16,000	500	14,000	0	300	-33 to -77	—	30MP4	
31ACP4	G. S. Re	Glass	—	85°	Magnetic	12N	20 3/4	16 1/2 @ 20 3/4	14 1/2 @ 18 1/2	7 1/2	500-750	Cavity	Single	20,000	500	16,000	—	300	-28 to -72	117	31ACP4	
31ACP4A	G. S. Re	Glass	Alum.	85°	Magnetic	12N	20 3/4	16 1/2 @ 20 3/4	14 1/2 @ 18 1/2	7 1/2	500-750	Cavity	Single	20,000	500	16,000	—	300	-28 to -72	117	31ACP4A	
31AP4	G. S. Ho	Glass	—	85°	Electro	12L	20 3/4	16 1/2 @ 20 3/4	14 1/2 @ 18 1/2	7 1/2	No Coating	Cavity	Single	18,000	500	14,000	-55 to +350	300	-28 to -72	—	31AP4	
31AP4A*	G. S. Ho	Glass	Alum.	85°	Electro	12L	20 3/4	16 1/2 @ 20 3/4	14 1/2 @ 18 1/2	7 1/2	500-750	Cavity	Single	18,000	500	14,000	-55 to +300	300	-28 to -72	—	31AP4A*	
31AP4B	G. S. Ho	Glass	Alum.	85°	Electro	12L	20 3/4	16 1/2 @ 20 3/4	14 1/2 @ 18 1/2	7 1/2	500-750	Cavity	Single	18,000	500	14,000	-55 to +300	300	-28 to -72	—	31AP4B	
31AP4B*	G. S. Ho	Glass	Alum.	85°	Electro	12L	20 3/4	16 1/2 @ 20 3/4	14 1/2 @ 18 1/2	7 1/2	500-750	Cavity	Single	20,000	500	14,000	-55 to +300	300	-28 to -72	—	31AP4B*	
31AMP4	G. S. Re	Glass	—	85°	Magnetic	12N	20 3/4	16 1/2 @ 20 3/4	14 1/2 @ 18 1/2	7 1/2	500-750	Cavity	Single	18,000	500	16,000	—	300	-28 to -72	102	31AMP4	
31AMP4A*	G. S. Re	Glass	Alum.	85°	Magnetic	12N	20 3/4	16 1/2 @ 20 3/4	14 1/2 @ 18 1/2	7 1/2	500-750	Cavity	Single	18,000	500	16,000	—	300	-28 to -72	102	31AMP4A*	
31AMP4B*	G. S. Re	Glass	Alum.	85°	Magnetic	12N	20 3/4	16 1/2 @ 20 3/4	14 1/2 @ 18 1/2	7 1/2	500-750	Cavity	Single	18,000	500	16,000	—	300	-33 to -77	102	31AMP4B*	
31ANP4	G. S. Re	Glass	Alum.	85°	Electro	12M	20 3/4	16 1/2 @ 20 3/4	15 1/2 @ 19 1/2	7 1/2	No Coating	Cavity	Single	18,000	500	14,000	-55 to +300	300	-28 to -72	—	31ANP4	
31ANP4A*	G. S. Re	Glass	Alum.	85°	Electro	12M	20 3/4	16 1/2 @ 20 3/4	15 1/2 @ 19 1/2	7 1/2	No Coating	Cavity	Single	18,000	500	14,000	-55 to +300	300	-28 to -72	—	31ANP4A*	
31AP4A*	G. F. S. Re	Metal	—	66°	Magnetic	12D	22 3/4	15 1/2 @ 19 3/4	13 1/4 @ 18 1/2	7 1/2	No Coating	Rim	Single	18,000	500	14,000-18,000	—	300	-33 to -77	100	31AP4A*	
31AP4A*	G. S. Re	Glass	Alum.	85°	Magnetic	12D	22 3/4	16 1/2 @ 20 3/4	15 1/2 @ 19 1/2	7 1/2	No Coating	Cavity	Single	18,000	500	16,000	—	300	-28 to -72	102	31AP4A*	
31AP4A*	G. S. Re	Glass	Alum.	85°	Magnetic	12D	22 3/4	16 1/2 @ 20 3/4	15 1/2 @ 19 1/2	7 1/2	No Coating	Cavity	Single	18,000	500	16,000	—	300	-28 to -72	102	31AP4A*	
31BP4	G. S. Ho	Glass	—	65°	Int. Magnetic	12N	23 1/2	15 1/2 @ 20 3/4	14 1/2 @ 18 1/2	7 1/2	500-750	Cavity	Internal	20,000	500	16,000	—	300	-28 to -72	—	31BP4	
31BP4A*	G. S. Ho	Glass	Alum.	65°	Int. Magnetic	12N	23 1/2	15 1/2 @ 20 3/4	14 1/2 @ 18 1/2	7 1/2	500-750	Cavity	Internal	20,000	500	16,000	—	300	-28 to -72	—	31BP4A*	
31AP4A*	G. S. Re	Glass	Alum.	67°	Magnetic	12N	23 1/2	16 1/2 @ 20 3/4	15 1/2 @ 19 1/2	7 1/2	750-1500	Cavity	Single	18,000	500	16,000	—	300	-28 to -72	95	31AP4A*	
31AP4A*	G. S. Re	Glass	Alum.	66°	Electro	12L	22 3/4	15 1/2 @ 18 1/2	12 3/4 @ 17	7 1/2	750-1500	Cavity	Single	18,000	410	16,000	—	300	-28 to -72	—	31AP4A*	
31BP4A*	G. S. Re	Glass	Alum.	85°	Electro	12L	20 3/4	16 1/2 @ 20 3/4	15 1/2 @ 19 1/2	7 1/2	500-750	Cavity	None	20,000	500	16,000	0 to 500	300	-28 to -72	—	31BP4A*	
31BP4A*	G. S. Re	Glass	Alum.	65°	Electro	12L	23 1/2	15 1/2 @ 20 3/4	14 1/2 @ 18 1/2	7 1/2	500-750	Cavity	None	20,000	500	16,000	+50 to +550	300	-28 to -72	—	31BP4A*	
31BP4A*	G. S. Re	Glass	Alum.	67°	Electro	12L	23 1/2	16 1/2 @ 20 3/4	15 1/2 @ 19 1/2	7 1/2	500-750	Cavity	None	20,000	500	16,000	+50 to +550	300	-28 to -72	—	31BP4A*	
31BP4A*	G. S. Re	Glass	Alum.	67°	Electro	12L	23 1/2	16 1/2 @ 20 3/4	15 1/2 @ 19 1/2	7 1/2	1200-1500	Cavity	None	20,000	500	16,000	0 to 500	300	-28 to -72	—	31BP4A*	
31DP4	G. F. S. Ho	Metal	—	66°	Electro	12M	22 3/4	15 1/2 @ 19 3/4	13 1/4 @ 18 1/2	7 1/2	—	Rim	Single	18,000	500	14,000-18,000	—	300	-33 to -77	—	31DP4	
31DP4A*	G. C. S. Re	Glass	—	65°	Magnetic	12D	23 3/4	15 3/4 @ 20 1/2	13 3/4 @ 19 1/2	7 1/2	No Coating	Cavity	Single	18,000	500	16,000	—	300	-33 to -77	95	31DP4A*	
31EP4A*	G. Cy. Re	Glass	—	65°	Magnetic	12N	23 3/4	15 3/4 @ 20 1/2	13 3/4 @ 19 1/2	7 1/2	500-750	Cavity	Single	18,000	500	16,000	—	300	-33 to -77	95	31EP4A*	
31EP4A*	G. Cy. Re	Glass	—	65°	Magnetic	12N	23 3/4	15 3/4 @ 20 1/2	13 3/4 @ 19 1/2	7 1/2	500-750	Cavity	Single	18,000	500	16,000	—	300	-33 to -77	116	31EP4A*	
31FP4	G. Cy. Re	Glass	—	65°	Electro	12M	23 3/4	15 3/4 @ 20 1/2	13 3/4 @ 19 1/2	7 1/2	No Coating	Cavity	Single	18,000	500	14,000	-56 to +308	300	-33 to -77	—	31FP4	
31FP4A*	G. Cy. Re	Glass	Alum.	65°	Electro	12L	23 3/4	15 3/4 @ 20 1/2	13 3/4 @ 19 1/2	7 1/2	500-750	Cavity	Single	18,000	500	14,000	-56 to +310	300	-28 to -72	—	31FP4A*	
31FP4C*	G. Cy. Re	Glass	Alum.	65°	Electro	12L	23 3/4	15 3/4 @ 20 1/2	13 3/4 @ 19 1/2	7 1/2	500-750	Cavity	Single	18,000	500	14,000	-56 to +310	300	-28 to -72	—	31FP4C*	
31JP4	G. Cy. Ho	Glass	—	67°	Int. Magnetic	12N	23 1/2	15 3/4 @ 20 1/2	13 3/4 @ 19 1/2	7 1/2	500-750	Cavity	Internal	20,000	500	14,000	—	300	-33 to -77	—	31JP4	
31JP4A*	G. Cy. Ho	Glass	Alum.	67°	Int. Magnetic	12N	23 1/2	15 3/4 @ 20 1/2	13 3/4 @ 19 1/2	7 1/2	500-750	Cavity	Internal	20,000	500	14,000	—	300	-28 to -72	—	31JP4A*	
31KP4	G. Cy. Re	Glass	—	65°	Auto-Electro	12P	23 3/4	15 1/2 @ 21 1/2	13 3/4 @ 19 1/2	7 1/2	No Coating	Cavity	Single	18,000	410	14,000	—	300	-33 to -77	—	31KP4	
31LP4A*	G. F. S. Re	Glass	—	65°	Auto-Electro	12P	23 3/4	15 1/2 @ 20 3/4	13 3/4 @ 19 1/2	7 1/2	500-750	Cavity	Single	18,000	500	12,000	—	300	-33 to -77	—	31LP4A*	
31MP4*	G. F. S. Re	Metal	—	66°	Electro	12M	22 3/4	15 1/2 @ 19 3/4	13 1/4 @ 18 1/2	7 1/2	—	Rim	Single	16,000	500	14,000-16,000	-56 to +300	300	-33 to -77	—	31MP4*	
31WP4	G. S. Re	Glass	—	66°	Magnetic	12N	22 3/4	15 1/2 @ 18 1/2	12 3/4 @ 17	7 1/2	500-750	Cavity	Single	18,000	410	16,000	—					



TELEVISION PICTURE TUBES

MONOCHROME SECTION

Type No.	Face-plate Description (See Notes)	Envelope	Screen	Deflection Angle (Approx.) [†]	Focusing	Beating	Max. Over-all Length (in.)	Max. Diameter or Hx.Wd. (in.)	Min. Useful Screen Diam. or Hx.Wd. (in.)	Max. Mesh Length (in.)	Capacitance (pF) between Bulb Coating and Anode Min. Max.	Bulb Contact	In. Tra.	Max. Ratings		Typical Operation and Characteristics					Type No.
														Applied Voltages		Applied Voltages			Grid No. 1 (Visual Cut-off)	Focusing Coil Current (ma) (approx.)	
														Anode	Grid No. 2	Anode	Focusing Electrode [*]	Grid No. 2			
23AP4A	C, S, Ro	Metal	—	70°	Magnetic	12D	23 3/8	2 1/2	20 1/2	7 1/2	—	Rim	Single	18,000	410	14,000	—	300	-33 to -77	117	23AP4A
24AP4	G, S, Ro	Metal	—	70°	Magnetic	12D	24 1/8	2 3/4	22 1/2	7 1/2	—	Rim	Single	16,000	410	15,000	—	300	-33 to -77	114	24AP4
24AP4A	G, S, Ro	Metal	Alum.	70°	Magnetic	12D	24 1/8	2 3/4	22 1/2	7 1/2	—	Rim	Single	16,000	410	15,000	—	300	-33 to -77	114	24AP4A
24AP4B	G, T, S, Ro	Metal	—	70°	Magnetic	12D	24 1/8	2 3/4	22 1/2	7 1/2	—	Rim	Single	16,000	410	15,000	—	300	-33 to -77	114	24AP4B
24BP4	G, S, Ro	Metal	—	70°	Electro	12M	24 3/8	2 3/4	22 1/2	7 1/2	—	Rim	Single	16,000	500	14,000	-56 to +310	300	-33 to -77	—	24BP4
24CP4	G, S, Ro	Glass	—	85°	Magnetic	12N	21 1/2	1 8/8	18 1/2	7 1/2	500-750	Cavity	Single	20,000	500	18,000	—	300	-33 to -77	115	24CP4
24CP4A*	G, S, Ro	Glass	Alum.	85°	Magnetic	12N	21 1/2	1 8/8	18 1/2	7 1/2	500-750	Cavity	Single	20,000	500	16,000	—	300	-33 to -77	105	24CP4A*
24DP4	G, S, Ro	Glass	—	85°	Electro	12L	21 1/2	1 8/8	18 1/2	7 1/2	500-750	Cavity	Single	20,000	500	18,000	-72 to +400	300	-33 to -77	—	24DP4
24DP4A*	G, S, Ro	Glass	Alum.	85°	Electro	12L	21 1/2	1 8/8	18 1/2	7 1/2	500-750	Cavity	Single	20,000	500	16,000	-64 to +350	300	-28 to -72	—	24DP4A*
24DP4	G, S, Ro	Glass	—	85°	Magnetic	12N	21 1/2	1 8/8	18 1/2	7 1/2	500-750	Cavity	Single	18,000	500	16,000	—	300	-28 to -72	100	24DP4
24VP4	G, S, Ro	Glass	Alum.	85°	Magnetic	12N	21 1/2	1 8/8	18 1/2	7 1/2	250-750	Cavity	Single	20,000	500	14,000	—	300	-33 to -77	110	24VP4
24VP4	G, S, Ro	Glass	—	87°	Magnetic	12N	21 1/2	1 8/8	18 1/2	7 1/2	750-1500	Cavity	Single	22,000	600	20,000	—	300	-31 to -77	125	24VP4
24VP4A*	G, S, Ro	Glass	Alum.	87°	Magnetic	12N	21 1/2	1 8/8	18 1/2	7 1/2	750-1500	Cavity	Single	22,000	600	20,000	—	300	-31 to -77	125	24VP4A*
24RP4	G, S, Ro	Glass	—	85°	Magnetic	12D	21 1/2	1 8/8	18 1/2	7 1/2	No Coating	Cavity	Single	20,000	500	18,000	—	300	-28 to -72	125	24RP4
24RP4	G, S, Ro	Glass	Alum.	85°	Electro	12L	21 1/2	1 8/8	18 1/2	7 1/2	1200-1500	Cavity	Single	20,000	500	16,000	-64 to +350	300	-28 to -72	—	24RP4
24RP4	G, S, Ro	Glass	Alum.	85°	Electro	12L	21 1/2	1 8/8	18 1/2	7 1/2	500-750	Cavity	None	20,000	500	16,000	0 to 500	300	-28 to -72	—	24RP4
27AP4	G, T, S, Ro	Metal	—	85°	Electro	12M	22 3/8	2 1/2	20 1/2	7 1/2	—	Rim	Single	18,000	500	15,000	-60 to +300	300	-33 to -77	—	27AP4
27BP4	G, S, Ro	Glass	Alum.	85°	Magnetic	12D	23 1/8	2 1/2	20 1/2	7 1/2	No Coating	Cavity	Single	20,000	500	16,000	—	300	-33 to -77	118	27BP4
27BP4	G, S, Ro	Glass	—	85°	Magnetic	12D	23 1/8	2 1/2	20 1/2	7 1/2	No Coating	Cavity	Single	22,500	500	16,000	—	300	-33 to -77	95	27BP4
27BP4	G, S, Ro	Glass	Alum.	85°	Magnetic	12N	24 1/8	2 1/2	21 1/2	7 1/2	250-400	Cavity	Single	22,000	600	20,000	—	300	-33 to -77	148	27BP4
27MP4	G, F, S, Ro	Metal	—	85°	Magnetic	12D	22 3/8	2 1/2	20 1/2	7 1/2	—	Rim	Single	18,000	500	16,000-18,000	—	300	-33 to -77	—	27MP4
27NP4	G, S, Ro	Glass	—	85°	Magnetic	12N	23 3/8	2 1/2	20 1/2	7 1/2	500-750	Cavity	Single	18,000	500	16,000	—	300	-28 to -72	95	27NP4
27NP4	G, S, Ro	Glass	Alum.	85°	Magnetic	12N	23 1/8	2 1/2	20 1/2	7 1/2	500-750	Cavity	Single	20,000	500	16,000	-72 to +396	300	-28 to -72	—	27NP4
27UP4	G, S, Ro	Glass	—	85°	Electro	12L	23 1/8	2 1/2	20 1/2	7 1/2	500-750	Cavity	Single	20,000	500	16,000	0 to 396	300	-28 to -72	—	27UP4
28BP4	G, S, Ro	Metal	—	90°	Magnetic	12D	24 1/8	3 3/8	28 1/2	7 3/8	—	Rim	Single	30,000	410	12,000	—	300	-33 to -77	95	28BP4

Bold-face type highlights the important characteristics that differ among similar Tube Types having different suffix letters.

NOTES:

All tubes in this section have heater ratings of 6.3 volts and 0.6 ampere. Only tubes that are magnetically deflected are included.
Face-Plate Code: C — clear, Cy — cylindrical, F — frosted, G — gray, Re — rectangular, Ro — round, S — spherical, T — treated.

† Design-center values.

* Most commonly used types.

‡ Internal magnetic unit to be used with external tubular magnetic shield.

§ For rectangular tubes, the horizontal deflection angle is given.

COLOR SECTION

Type No.	Face-Plate Description (See Notes)	Envelope	Screen	Deflection Angle (Approx.) [†]	Focusing	Convergence	Beating	Max. Over-all Length (in.)	Max. Diameter or Hx.Wd. (in.)	Min. Useful Screen Diam. or Hx.Wd. (in.)	Max. Mesh Length (in.)	Capacitance (pF) between Bulb Coating and Anode Min. Max.	Bulb Contact	Max. Ratings		Typical Operation and Characteristics					Type No.	
														Applied Voltages		Applied Voltages			Grid No. 1* (Visual Cut-off)			
														Anode	Grid No. 2	Anode	Focusing Electrode*	Convergence Electrode†		Grid No. 2		
150P33	C, S, Ro	Glass	Flat, Alum.	45°	Electro	Electro	15GP22	26 1/2	1 5/8	8 5/8	11 1/2	10 1/2	1500-3000	Metal-flange	20,000	500	20,000	2400 to 3800	8500 to 10,200	140 to 315	-45 to -100	150P33
150P33	C, S, Ro	Glass	Sph. Alum.	45°	Electro	Electro	15HP22	26 1/2	1 5/8	12	10 1/2	10 1/2	1500-2500	Metal-flange	20,000	500	20,000	3100	9300	240	-45 to -100	150P33
160P33	G, S, Ro	Glass	Sph. Alum.	60°	Electro	Electro	16TP22	24 3/8	2 1/4	12 1/2	16 1/2	10 1/2	1500-3000	Metal-flange	22,000	500	20,000	1950 to 3250	8500 to 10,200	200	-42 to -78	160P33
160P33*	G, S, Ro	Glass	Sph. Alum.	62°	Electro	Magnetic	14W	26 7/8	2 1/2	13 1/2	17 1/2	10 1/2	1500-3000	Metal-flange	27,000	500	25,000	6500 to 8000	—	160 to 330	-45 to -100	160P33*
21AXP33	G, S, Ro	Metal	Sph. Alum.	70°	Electro	Magnetic	14W	25 1/2	2 1/4	15 1/2	19 1/2	9 5/8	—	Metal-shield lip	25,000	800	25,000	3800 to 5300	—	140 to 310	-45 to -100	21AXP33

NOTES:

All tubes in this section contain three electron-beam sources with heater ratings of 6.3 volts and 1.8 ampere total current (heaters electrically paralleled within the tube). The screens of the tubes in this section are of the In-color (red, green, and blue), phosphor-dot type with an associated shadow mask containing uniformly spaced perforations (one for each triad).

All tubes in this section are magnetically deflected.

Face-Plate Code: C — clear, G — gray, Ro — round, S — spherical.

* For each of the three electron-beam sources.

† Most commonly used type.

‡ Horizontal deflection angle is given.

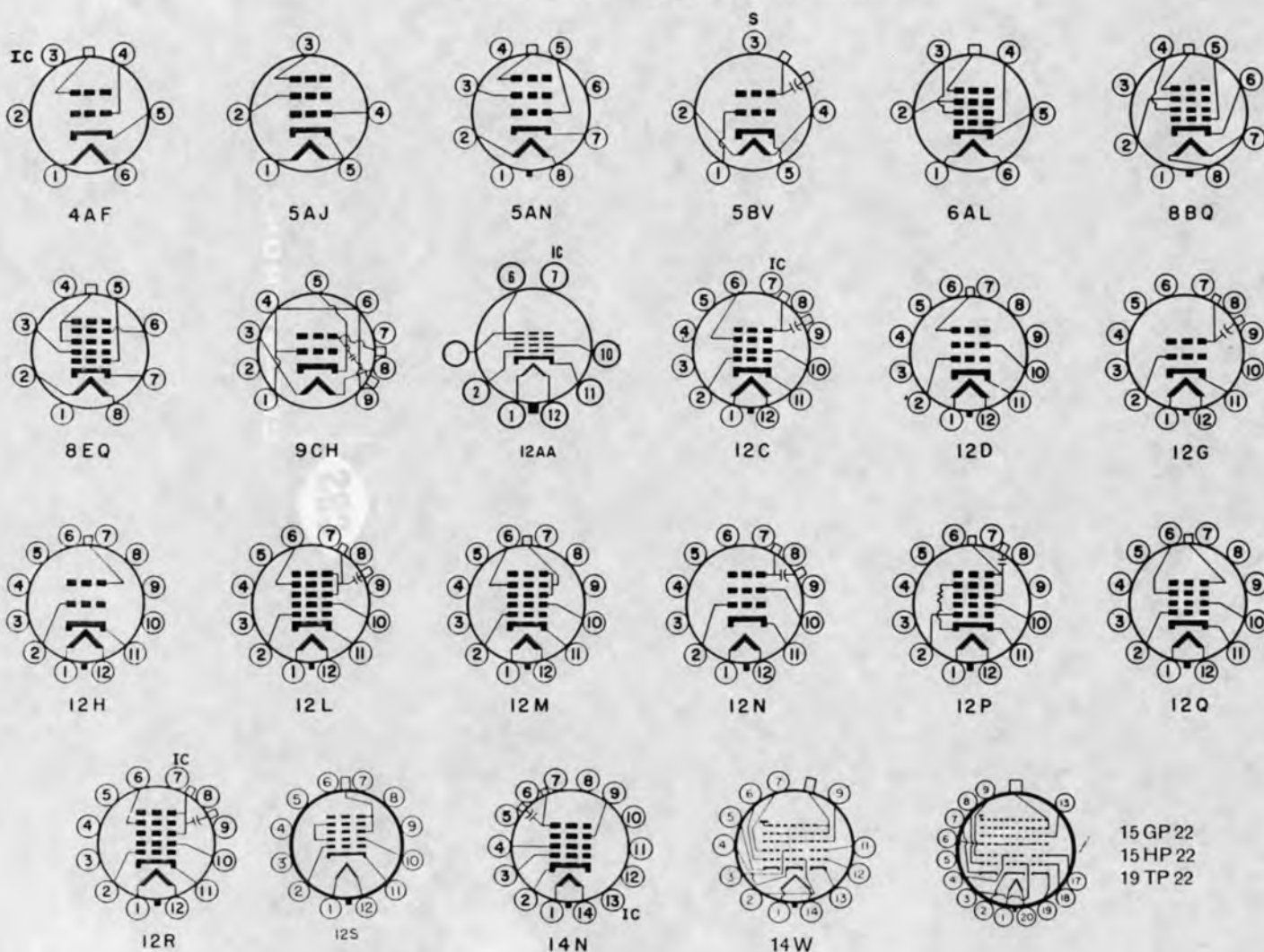
§ Does not include the dynamic convergence component.

¶ Screen on inner surface of face-plate.

The data in this reference guide have been compiled with the utmost care as to technical accuracy from sources we believe to be authoritative and reliable. CBS-Hytron, however, cannot assume any liability or obligation for the use or application of these data.

BASING DIAGRAMS

Bottom Views of Socket Connections



Courtesy of John Folsom