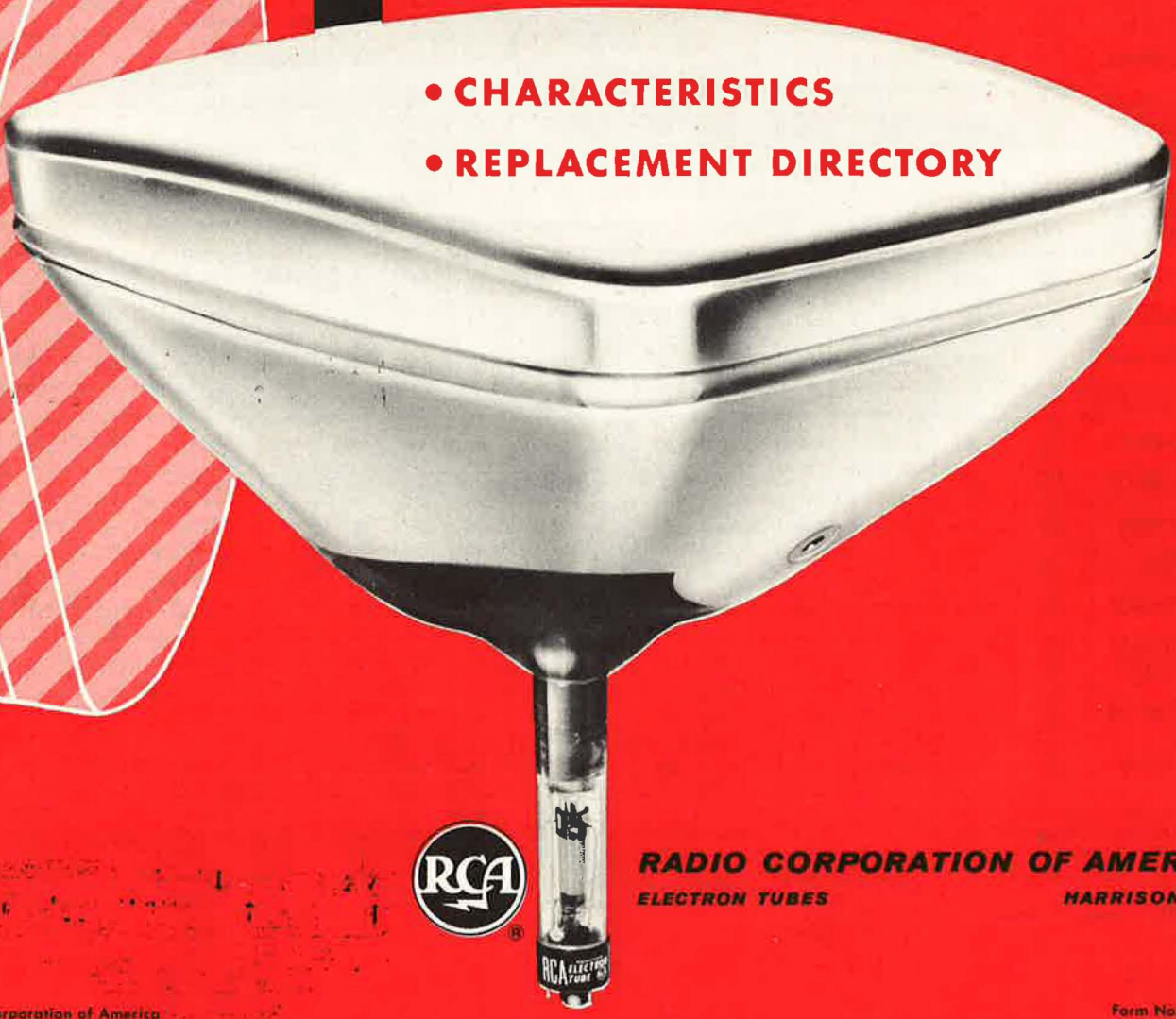
PRICE 20 CENTS

RCA

PICTURE TUBES

- CHARACTERISTICS
- REPLACEMENT DIRECTORY



RADIO CORPORATION OF AMERICA
ELECTRON TUBES HARRISON, N. J.

Form No. K8-106
Printed in U.S.A.

RCA PICTURE TUBE CHARACTERISTICS CHART

RCA Type	Envelope	Aluminized Screen (Asterisk (*) denotes "Silverama" type)	Faceplate φ	External Conductive Coating Max. μμf	External Conductive Coating Min. μμf	Focusing Method	Deflection Method	Approx. Deflection Angle Degrees Diag.	Horiz.	Vert.	Maximum Dimensions Inches Overall Length	Envelope Dia. or Diagonal	Width	Height	Neck Length Inches	Minimum Screen Size Inches
Black-and-White Types																
5TP4■	Ⓖ	Yes	CL	500	100	E	M	—	50	—	12 1/8	5 1/8	—	—	7 1/2	4 1/2 Dia.
7DP4	Ⓖ	No	CL	1500	400	E	M	—	50	—	14 7/16	7 5/16	—	—	8 1/8	6 Dia.
7JP4	Ⓖ	No	CL	None	None	E	E⊙	—	—	—	14 7/8	7 1/8	—	—	—	6 Dia.
9AP4	Ⓖ	No	CL	None	None	E	M	—	40	—	21 3/8	9 1/8	—	—	10	7 7/8 Dia.
10BP4	Ⓖ	No	Same as 10BP4-A, except has clear glass faceplate.													
10BP4-A	Ⓖ	No	FG	2500	500	M	M	—	52	—	18	10 5/8	—	—	8 3/16	9 1/8 Dia.
10FP4-A	Ⓖ	* Yes	FG	2500	500	M	M	—	50	—	18	10 5/8	—	—	8 3/16	9 1/8 Dia.
12AP4	Ⓖ	No	CL	None	None	E	M	—	40	—	25 3/8	12 3/16	—	—	9 3/16	10 3/4 Dia.
12KP4-A	Ⓖ	* Yes	FG	2500	500	M	M	—	54	—	18	12 9/16	—	—	7 1/8	11 1/8 Dia.
12LP4	Ⓖ	No	Same as 12LP4-A, except has clear glass faceplate.													
12LP4-A	Ⓖ	No	FG	2000	750	M	M	—	57	—	19 1/8	12 9/16	—	—	8 1/4	11 Dia.
14EP4/ 14CP4	Ⓖ	No	FG	2000	750	M	M	70	65	50	16 7/8	13 13/16	12 21/32	9 27/32	7 5/16	11 1/8 x 8 5/16
14HP4	Ⓖ	No	FG	2000	750	E	M	70	65	50	17 5/32	13 13/16	12 21/32	9 27/32	7 1/2	11 1/8 x 8 5/16
16AP4	Ⓜ	No	Same as 16AP4-A, except has clear glass faceplate.													
16AP4-A	Ⓜ	No	FG	None	None	M	M	—	53	—	22 5/16	16	—	—	7 9/16	14 3/8 Dia.
16DP4-A	Ⓖ	No	FG	None	None	M	M	—	60	—	21	16	—	—	7 7/8	14 1/2 Dia.
16GP4	Ⓜ	No	Same as 16GP4-B, except has Filterglass faceplate.													
16GP4-A	Ⓜ	No	Same as 16GP4-B, except has clear glass faceplate.													
16GP4-B	Ⓜ	No	FFG	None	None	M	M	—	70	—	17 11/16	16	—	—	6 7/8	14 3/8 Dia.
16GP4-C	Ⓜ	No	Same as 16GP4-B, except has frosted clear glass faceplate.													
16LP4-A	Ⓖ	No	FG	2000	750	M	M	—	52	—	22 5/8	16	—	—	7 3/8	14 1/2 Dia.
16RP4/ 16KP4	G	No	FG	1500	750	M	M	70	65	50	19 1/8	16 1/4	14 7/8	11 5/8	7 1/2	13 1/2 x 10 1/8
16RP4-A/ 16KP4-A	G	* Yes	Same as 16RP4/16KP4, except has aluminized screen.													
16TP4	G	No	FG	2000	750	M	M	70	65	50	18 1/2	16 5/16	14 15/16	11 11/16	6 7/8	13 1/2 x 10 1/8
16WP4-A	Ⓖ	No	FG	1500	750	M	M	—	70	—	18 1/8	16	—	—	7 7/16	14 1/2 Dia.
17AVP4	G	No	FG	1500	1200	E	M	90	85	68	16	16 3/4	15 33/64	12 13/32	6 1/2	14 1/4 x 10 3/4
17AVP4-A	G	* Yes	Same as 17AVP4, except has aluminized screen.													
17BP4-A	G	No	FG	1500	750	M	M	70	65	50	19 9/16	16 3/4	15 33/64	12 13/32	7 1/2	14 1/4 x 10 3/4
17BP4-B	G	* Yes	Same as 17BP4-A, except has aluminized screen.													
17CP4	M	No	FFG	None	None	M	M	70	66	50	19	17	16 1/16	12 3/8	7 3/16	14 3/8 x 10 11/16
17CP4-A	M	No	Same as 17CP4, except has Filterglass faceplate.													
17GP4	M	No	FFG	None	None	E	M	70	66	50	19 5/16	17	16 1/16	12 3/8	7 1/2	14 3/8 x 10 11/16
17HP4/ 17RP4	G	No	FG	1500	750	E	M	70	65	50	19 9/16	16 3/4	15 33/64	12 13/32	7 1/2	14 1/4 x 10 3/4
17HP4-B	G	* Yes	FG	1500	750	E	M	70	65	50	19 9/16	16 3/4	15 33/64	12 13/32	7 1/2	14 1/4 x 10 3/4
17JP4	G	No	FG	750	500	M	M	70	65	50	19 9/16	16 3/4	15 33/64	12 13/32	7 1/2	14 1/4 x 10 3/4

For base diagrams, see pages 6 and 7.

Light face = Discontinued type.
G = Glass rectangular.
M = Metal rectangular.
CL = Clear glass.
FFG = Frosted Filterglass.

Ⓖ = Glass round.
Ⓜ = Metal round.
FG = Filterglass.
M = Magnetic.
E = Electrostatic.

Note: All picture tubes shown have 6.3-volt/0.6-ampere heaters except types 9AP4 and 12AP4 which have 2.5-volt/2.1-ampere heaters.

φ Spherical, unless otherwise specified.

■ Projection type.

⊙ Deflection factors (volts dc/in.) for typical operating conditions shown:

D_1 & D_2 (nearer screen)	D_3 & D_4 (nearer base)
186 to 246	150 to 204

High Voltage Terminal	Basing	Maximum Ratings: Final High-Voltage Electrode (Ultor*) Volts	Focusing Electrode Volts	Grid-No. 2 Volts	Grid-No. 1 Volts§	Peak Heater-Cathode Volts H(−) During Warm-Up●	Peak Heater-Cathode Volts H(−) After Warm-Up	Peak Heater-Cathode Volts H(+)	Typical Operating Conditions in Grid-Drive Service: Final High-Voltage Electrode (Ultor*) Volts	Grid-No. 2 Volts	Focusing Electrode Volts	Grid-No. 1 Volts For Visual Extinction of Focused Raster	P M Ion-Trap Magnet Min. Gausses	RCA Type
														Black-and-White Types
Cavity Cap	B	27000	6000	350	−150	410	175	10	27000	200	4320 to 5400	−37 to −93	None	**5TP4■**
Cavity Cap	B	8000	2400	410	−125	410	150	150	6000	250	1215 to 1645	−22 to −58	—	**7DP4**
Base Pin	C	6000	2800	∞	−200	410	125	125	6000	∞	1620 to 2400	−67 to −163	None	**7JP4**
Medium Cap	D	7000	2000	300	−125	—	—	—	7000	250	1190 to 1790	−15 to −55	None	9AP4
Ratings are typical operating conditions are same as for type 10BP4-A.														10BP4
Cavity Cap	E	12000	—	410	−125	410	150	150	8000 to 12000	250	—	−22 to −58	—	**10BP4-A**
Cavity Cap	E	12000	—	410	−125	410	140	140	8000 to 12000	250	—	−22 to −58	None	**10FP4-A**
Medium Cap	D	7000	2000	300	−125	—	—	—	7000	250	1190 to 1790	−15 to −55	None	12AP4
Cavity Cap	E	12000	—	410	−125	410	140	140	9000 to 12000	250	—	−22 to −58	None	**12KP4-A**
Ratings and typical operating conditions are same as for type 12LP4-A.														12LP4
Cavity Cap	E	12000	—	410	−125	410	150	150	9000 to 12000	250	—	−22 to −58	—	**12LP4-A**
Cavity Cap	E	14000	—	410	−125	410	150	150	12000 14000	300 300	— —	−28 to −72 −28 to −72	29 31	**14EP4/ 14CP4**
Cavity Cap	H	14000	+500 −500	500	−125	410	180	180	12000 14000	300 300	−50 to +265 −55 to +310	−28 to −72 −28 to −72	29 31	**14HP4**
Ratings and typical operating conditions are same as for type 16AP4-A.														16AP4
Metal-Shell Lip	F	14000	—	410	−125	410	150	150	9000 12000	300 300	— —	−28 to −72 −28 to −72	25 29	**16AP4-A**
Cavity Cap	F	15000	—	410	−125	410	125	125	9000 to 15000	250	—	−22 to −58	—	**16DP4-A**
Ratings and typical operating conditions are same as for type 16GP4-B.														16GP4
Ratings and typical operating conditions are same as for type 16GP4-B.														16GP4-A
Metal-Shell Lip	F	14000	—	410	−125	410	180	180	12000 14000	300 300	— —	−28 to −72 −28 to −72	29 31	**16GP4-B**
Ratings and typical operating conditions are same as for type 16GP4-B.														16GP4-C
Cavity Cap	E	14000	—	410	−125	410	125	125	12000 to 14000	300	—	−28 to −72	—	**16LP4-A**
Cavity Cap	A	16000	—	410	−125	410	150	150	12000 14000	300 300	— —	−28 to −72 −28 to −72	29 31	**16RP4/ 16KP4**
Ratings and typical operating conditions are same as for type 16RP4/16KP4.														**16RP4-A/ 16KP4-A**
Cavity Cap	E	14000	—	410	−125	410	150	150	12000 14000	300 300	— —	−28 to −72 −28 to −72	29 31	**16TP4**
Cavity Cap	E	16000	—	410	−125	410	125	125	12000 to 16000	250	—	−22 to −58	—	**16WP4-A**
Cavity Cap	H	16000	+1000 −500▲	500	−125	410	180	180	14000 16000	300 300	−55 to +310 −65 to +350	−28 to −72 −28 to −72	31 33	**17AVP4**
Ratings and typical operating conditions are same as for type 17AVP4.														**17AVP4-A**
Cavity Cap	A	16000	—	410	−125	410	150	150	12000 14000	300 300	— —	−28 to −72 −28 to −72	29 31	**17BP4-A**
Ratings and typical operating conditions are same as for type 17BP4-A.														**17BP4-B**
Metal-Shell Lip	F	16000	—	410	−125	410	180	180	12000 14000	300 300	— —	−28 to −72 −28 to −72	29 31	**17CP4**
Ratings and typical operating conditions are same as for type 17CP4.														17CP4-A
Metal-Shell Lip	G	16000	5000	500	−125	410	180	180	12000 14000	300 300	2040 to 2760 2380 to 3220	−28 to −72 −28 to −72	29 31	**17GP4**
Cavity Cap	H	16000	+1000 −500▲	500	−125	410	180	180	14000 16000	300 300	−55 to +300 −65 to +350	−28 to −72 −28 to −72	31 33	**17HP4/ 17RP4**
Cavity Cap	H	16000	+1000 −500▲	500	−125	410	180	180	14000 16000	300 300	−55 to +300 −65 to +350	−28 to −72 −28 to −72	31 33	**17HP4-B**
Cavity Cap	A	18000	—	410	−125	410	150	150	14000 16000	300 300	— —	−28 to −72 −28 to −72	31 33	**17JP4**

For base diagrams, see pages 6 and 7.

* The ULTOR is the electrode to which is applied the highest dc voltage for accelerating the electrons in the beam prior to its deflection.

§ Positive bias value = 0 volts; positive peak value = 2 volts.

▲ This value has been specified to take care of the condition where an ac voltage is provided for dynamic focusing.

● During equipment warm-up not exceeding 15 seconds.

∞ Grid-No. 2 connected to final high-voltage electrode within tube.

RCA PICTURE TUBE CHARACTERISTICS CHART (Cont'd)

RCA Type	Envelope	Aluminized Screen (Asterisk (*) denotes "Silverama" type)	Faceplate φ	External Conductive Coating Max. μμf	External Conductive Coating Min. μμf	Focusing Method	Deflection Method	Approx. Deflection Angle Degrees Diag.	Horiz.	Vert.	Maximum Dimensions Inches Overall Length	Envelope Dia. or Diagonal	Width	Height	Neck Length Inches	Minimum Screen Size Inches
Black-and-White Types (Cont'd)																
17LP4/ 17VP4	G	No	FG▲▲	1500	750	E	M	70	65	50	19 9/16	16 3/4	15 33/64	12 13/32	7 1/2	14 1/4 x 10 3/4
17LP4-A	G	* Yes	FG▲▲	1500	750	E	M	70	65	50	19 9/16	16 3/4	15 33/64	12 13/32	7 1/2	14 1/4 x 10 3/4
17QP4	G	No	FG▲▲	1500	750	M	M	70	65	50	19 9/16	16 3/4	15 33/64	12 13/32	7 1/2	14 1/4 x 10 3/4
17QP4-A	G	* Yes	FG▲▲	1500	750	M	M	70	65	50	19 9/16	16 3/4	15 33/64	12 13/32	7 1/2	14 1/4 x 10 3/4
17TP4	M	No	FFG	None	None	E	M	70	66	50	19 5/16	17	16 1/16	12 3/8	7 1/2	14 3/8 x 10 11/16
19AP4	Ⓜ	No	Same as 19AP4-B, except has clear glass faceplate.													
19AP4-A	Ⓜ	No	Same as 19AP4-B, except has Filterglass faceplate.													
19AP4-B	Ⓜ	No	FFG	None	None	M	M	—	66	—	22	18 3/4	—	—	7 1/8	17 1/4 Dia.
19AP4-D	Ⓜ	No	Same as 19AP4-B, except has frosted clear glass faceplate.													
20CP4	G	No	FG	None	None	M	M	70	66	50	21 13/16	20 9/32	18 7/8	15 1/8	7 3/16	17 x 12 3/4
20DP4-A/ 20CP4-A	G	No	FG	750	500	M	M	70	66	50	21 7/8	20 7/32	18 13/16	15 1/16	7 5/16	17 x 12 3/4
20DP4-C/ 20CP4-D	G	* Yes	FG	750	500	M	M	70	66	50	21 7/8	20 7/32	18 13/16	15 1/16	7 5/16	17 x 12 3/4
20HP4-A/ 20MP4	G	No	FG	1500	750	E	M	70	66	50	22 1/8	20 7/32	18 13/16	15 1/16	7 1/2	17 x 12 3/4
20HP4-D	G	* Yes	FG	1500	750	E	M	70	66	50	22 1/8	20 7/32	18 13/16	15 1/16	7 1/2	17 x 12 3/4
20MP4	G	No	FG	750	500	E	M	70	66	50	22 1/8	20 9/32	18 7/8	15 1/8	7 1/2	17 x 12 3/4
21ACP4-A	G	* Yes	FG	750	500	M	M	90	85	68	20 3/8	21 1/2	20 3/8	16 1/2	7 1/2	19 1/8 x 15
21ALP4-A	G	* Yes	FG	750	500	E	M	90	85	68	20 3/8	21 1/2	20 3/8	16 1/2	7 1/2	19 1/8 x 15
21ALP4-B	G	* Yes	FG	750	500	E	M	90	85	68	20 3/8	21 1/2	20 3/8	16 1/2	7 1/2	19 1/8 x 15
21AMP4-A	G	* Yes	FG	750	500	M	M	90	85	68	20 3/8	21 1/2	20 3/8	16 1/2	7 1/2	19 1/8 x 15
21AP4	M	No	FFG	None	None	M	M	70	66	50	22 5/8	21	19 27/32	15 7/16	7 1/2	18 1/8 x 13 11/16
21ATP4	G	* Yes	FG	1500	1200	E	M	90	85	68	20 3/8	21 1/2	20 3/8	16 1/2	7 1/2	19 1/8 x 15
21AVP4/ 21AUP4	G	No	FG	1500	1200	E	M	72	67	53	23 15/32	21 1/2	20 3/8	16 1/2	7 1/2	19 1/8 x 15
21AVP4-A/ 21AUP4-A	G	* Yes	Same as 21AVP4/21AUP4, except has aluminized screen.													
21AWP4	G	* Yes	FG	1500	1200	M	M	72	67	53	23 15/32	21 1/2	20 3/8	16 1/2	7 1/2	19 1/8 x 15
21EP4	G	No	Same as 21EP4-A, except has no external conductive coating.													
21EP4-A	G	No	FG▲▲	750	500	M	M	70	65	50	23 3/8	21 11/32	20 3/8	15 11/16	7 15/32	19 1/8 x 13 7/8
21EP4-B	G	* Yes	Same as 21EP4-A, except has aluminized screen.													
21FP4-A	G	No	FG▲▲	750	500	E	M	70	65	50	23 3/8	21 11/32	20 3/8	15 11/16	7 15/32	19 1/8 x 13 7/8
21FP4-C	G	* Yes	Same as 21FP4-A, except has aluminized screen.													

For base diagrams, see pages 6 and 7.

Light face = Discontinued type.
G = Glass rectangular.
M = Metal rectangular.
CL = Clear glass.
FFG = Frosted Filterglass.

Ⓖ = Glass round.
Ⓜ = Metal round.
FG = Filterglass.
M = Magnetic.
E = Electrostatic.

Note: All picture tubes shown have 6.3-volt/0.6-ampere heaters except types 9AP4 and 12AP4 which have 2.5-volt/2.1-ampere heaters.
φ Spherical, unless otherwise specified.
▲▲ Cylindrical faceplate.

High Voltage Terminal	Basing	Maximum Ratings: Final High-Voltage Electrode (Ultor*) Volts	Focusing Electrode Volts	Grid-No. 2 Volts	Grid-No. 1 Volts§	Peak Heater-Cathode Volts H(−) During Warm-Up●	Peak Heater-Cathode Volts H(−) After Warm-Up	Peak Heater-Cathode Volts H(+)	Typical Operating Conditions in Grid-Drive Service: Final High-Voltage Electrode (Ultor*) Volts	Grid-No. 2 Volts	Focusing Electrode Volts	Grid-No. 1 Volts For Visual Extinction of Focused Raster	P M Ion-Trap Magnet Min. Gausses	RCA Type
Black-and-White Types (Cont'd)														
Cavity Cap	H	16000	+1000 −500▲	500	−125	410	180	180	14000 16000	300 300	−55 to +300 −65 to +350	−28 to −72 −28 to −72	31 33	**17LP4/ 17VP4**
Cavity Cap	H	16000	+1000 −500▲	500	−125	410	180	180	14000 16000	300 300	−55 to +300 −65 to +350	−28 to −72 −28 to −72	31 33	**17LP4-A**
Cavity Cap	A	16000	—	410	−125	410	150	150	12000 14000	300 300	— —	−28 to −72 −28 to −72	29 31	**17QP4**
Cavity Cap	A	18000	—	500	−125	410	150	150	12000 14000	300 300	— —	−28 to −72 −28 to −72	29 31	**17QP4-A**
Metal-Shell Lip	G	16000	+1000 −500▲	500	−125	410	180	180	14000 16000	300 300	−55 to +300 −65 to +350	−28 to −72 −28 to −72	31 33	**17TP4**
Ratings and typical operating conditions are same as for type 19AP4-B.														19AP4
Ratings and typical operating conditions are same as for type 19AP4-B.														19AP4-A
Metal-Shell Lip	F	16000	—	410	−125	410	150	150	12000 14000	300 300	— —	−28 to −72 −28 to −72	29 31	**19AP4-B**
Ratings and typical operating conditions are same as for type 19AP4-B														19AP4-D
Cavity Cap	F	18000	—	410	−125	410	150	150	14000 16000	300 300	— —	−28 to −72 −28 to −72	31 33	**20CP4**
Cavity Cap	A	18000	—	410	−125	410	180	180	14000 16000	300 300	— —	−28 to −72 −28 to −72	31 33	**20DP4-A/ 20CP4-A**
Cavity Cap	A	18000	—	410	−125	410	180	180	14000 16000	300 300	— —	−28 to −72 −28 to −72	31 33	**20DP4-C/ 20CP4-D**
Cavity Cap	H	16000	+1000 −500▲	500	−125	410	180	180	14000 16000	300 300	−55 to +300 −65 to +350	−28 to −72 −28 to −72	31 33	**20HP4-A/ 20MP4**
Cavity Cap	H	16000	+1000 −500▲	500	−125	410	180	180	14000 16000	300 300	−55 to +300 −65 to +350	−28 to −72 −28 to −72	31 33	**20HP4-D**
Cavity Cap	H	16000	+1000 −500▲	500	−125	410	180	180	14000 16000	300 300	−55 to +300 −65 to +350	−28 to −72 −28 to −72	31 33	**20MP4**
Cavity Cap	A	20000	—	500	−125	410	180	180	16000 18000	300 400	— —	−28 to −72 −37 to −96	33 35	**21ACP4-A**
Cavity Cap	H	18000	+1000 −500▲	500	−125	410	180	180	16000 18000	300 400	−65 to +350 −75 to +400	−28 to −72 −37 to −96	33 35	**21ALP4-A**
Cavity Cap	H	20000	+1000 −500▲	500	−125	410	180	180	16000 18000	300 400	−65 to +350 −75 to +400	−28 to −72 −37 to −96	33 35	**21ALP4-B**
Cavity Cap	A	18000	—	500	−125	410	180	180	16000 18000	300 400	— —	−28 to −72 −37 to −96	33 35	**21AMP4-A**
Metal-Shell Lip	F	18000	—	500	−125	410	180	180	14000 16000	300 300	— —	−28 to −72 −28 to −72	31 33	**21AP4**
Ratings and typical operating conditions are same as for type 21ALP4-A														**21ATP4**
Cavity Cap	H	18000	+1000 −500▲	500	−125	410	180	180	16000 18000	300 400	−65 to +350 −75 to +400	−28 to −72 −37 to −96	33 35	**21AVP4/ 21AUP4**
Ratings and typical operating conditions are same as for type 21AVP4/21AUP4.														**21AVP4-A/ 21AUP4-A**
Cavity Cap	A	18000	—	500	−125	410	180	180	16000 18000	300 400	— —	−28 to −72 −37 to −96	33 35	**21AWP4**
Cavity Cap	F	Ratings and typical operating conditions are same as for type 21EP4-A												21EP4
Cavity Cap	A	18000	—	500	−125	410	180	180	14000 16000	300 300	— —	−28 to −72 −28 to −72	31 33	**21EP4-A**
Ratings and typical operating conditions are same as for type 21EP4-A														**21EP4-B**
Cavity Cap	H	18000	+1000 −500▲	500	−125	410	180	180	14000 16000	300 300	−55 to +300 −65 to +350	−28 to −72 −28 to −72	31 33	**21FP4-A**
Ratings and typical operating conditions are same as for type 21FP4-A														**21FP4-C**

For base diagrams, see pages 6 and 7.

* The ULTOR is the electrode to which is applied the highest dc voltage for accelerating the electrons in the beam prior to its deflection.

§ Positive bias value = 0 volts; positive peak value = 2 volts.
▲ This value has been specified to take care of the condition where an ac voltage is provided for dynamic focusing.

● During equipment warm-up not exceeding 15 seconds.

RCA PICTURE TUBE CHARACTERISTICS CHART (Cont'd)

RCA Type	Envelope	Aluminized Screen (Asterisk (*) denotes "Silverama" type)	Faceplate ϕ	External Conductive Coating Max. μμf	External Conductive Coating Min. μμf	Focusing Method	Deflection Method	Approx. Deflection Angle Degrees Diag.	Horiz.	Vert.	Maximum Dimensions Inches Overall Length	Envelope Dia. or Diagonal	Width	Height	Neck Length Inches	Minimum Screen Size Inches
Black-and-White Types (Cont'd)																
21MP4	M	No	FFG	None	None	E	M	70	66	50	22 5/8	21	19 27/32	15 7/16	7 1/2	18 1/8 x 13 11/16
21YP4	G	No	FG	750	500	E	M	70	65	50	23 13/32	21 11/32	20 3/8	15 11/16	7 1/2	19 1/8 x 14 3/16
21YP4-A	G	* Yes	Same as 21YP4, except has aluminized screen.													
21ZP4-A	G	No	FG	750	500	M	M	70	65	50	23 13/32	21 11/32	20 3/8	15 11/16	7 1/2	19 1/8 x 14 3/16
21ZP4-B	G	* Yes	Same as 21ZP4-A, except has aluminized screen.													
24CP4-A	G	* Yes	FG	750	500	M	M	90	85	68	21 1/2	24 1/8	22 13/16	18 9/16	7 1/2	21 1/4 x 16 3/4
24DP4-A	G	* Yes	FG	750	500	E	M	90	85	68	21 1/2	24 1/8	22 13/16	18 9/16	7 1/2	21 1/4 x 16 3/4
24YP4	G	* Yes	FG	1500	1200	E	M	90	85	68	21 1/2	24 1/8	22 13/16	18 9/16	7 1/2	21 1/4 x 16 3/4
27MP4	M	* Yes	FFG	None	None	M	M	90	85	69	22 3/16	27 1/8	25 7/16	20 1/8	7 1/2	23 7/16 x 18 1/8
Color Types																
15GP22••	G	Yes	CL	3000	1500	E	M	—	45	35	26 1/8	14 25/32 ★	—	—	10 3/8	11 1/2 x 8 5/8
21AXP22	M	Yes	FG	None	None	E	M	—	70	55	25 5/16	20 11/16 †	—	—	9 21/32	19 1/16 x 15 1/4

Light face = Discontinued type.
G = Glass rectangular.
M = Metal rectangular.
CL = Clear glass.
FFG = Frosted Filterglass.

Ⓖ = Glass round.
Ⓜ = Metal round.
FG = Filterglass.
M = Magnetic.
E = Electrostatic.

Note: All picture tubes shown have 6.3-volt/0.6-ampere heaters except types 9AP4 and 12AP4 which have 2.5-volt/2.1-ampere heaters.
ϕ Spherical, unless otherwise specified.
★ At faceplate.
† At ultor lip-terminal.

•• This type has a flat, aluminized, Filterglass, phosphor-dot, screen plate.

High Voltage Terminal	Basing	Maximum Ratings: Final High-Voltage Electrode (Ultor*) Volts	Focusing Electrode Volts	Grid-No. 2 Volts	Grid-No. 1 Volts§	Peak Heater-Cathode Volts H(−) During Warm-Up•	Peak Heater-Cathode Volts H(−) After Warm-Up	Peak Heater-Cathode Volts H(+)	Typical Operating Conditions in Grid-Drive Service: Final High-Voltage Electrode (Ultor*) Volts	Grid-No. 2 Volts	Focusing Electrode Volts	Grid-No. 1 Volts For Visual Extinction of Focused Raster	P M Ion-Trap Magnet Min. Gausses	RCA Type
Black-and-White Types (Cont'd)														
Metal-Shell Lip	G	16000	+1000 −500▲	500	−125	410	180	180	14000 16000	300 300	−55 to +300 −65 to +350	−28 to −72 −28 to −72	31 33	**21MP4**
Cavity Cap	H	18000	+1000 −500▲	500	−125	410	180	180	16000 18000	300 300	−65 to +350 −70 to +395	−28 to −72 −28 to −72	33 35	**21YP4**
Ratings and typical operating conditions are same as for type 21YP4.														**21YP4-A**
Cavity Cap	A	18000	—	500	−125	410	180	180	16000 18000	300 300	— —	−28 to −72 −28 to −72	33 35	**21ZP4-A**
Ratings and typical operating conditions are same as for type 21ZP4-A.														**21ZP4-B**
Cavity Cap	A	20000	—	500	−125	410	180	180	16000 18000	300 400	— —	−28 to −72 −37 to −96	33 35	**24CP4-A**
Cavity Cap	H	20000	+1000 −500▲	500	−125	410	180	180	16000 18000	300 400	−65 to +350 −75 to +400	−28 to −72 −37 to −96	33 35	**24DP4-A**
Ratings and typical operating conditions are same as for type 24DP4-A														**24YP4**
Metal-Shell Lip	F	18000	—	500	−125	410	180	180	16000 16000	300 400	— —	−28 to −72 −37 to −96	33 33	**27MP4**
Color Types														
Metal Flange	J	20000	5000	500△	−200△	410	180	180	For additional data, refer to technical bulletin available on request.				None	**15GP22**
Metal-Shell Lip	K	25000	6000	800△	−400△	410	180	180	For additional data, refer to technical bulletin available on request.				None	**21AXP22**

* The ULTOR is the electrode to which is applied the highest dc voltage for accelerating the electrons in the beam prior to its deflection.

§ Positive bias value = 0 volts; positive peak value = 2 volts.
▲ This value has been specified to take care of the condition where an ac voltage is provided for dynamic focusing.

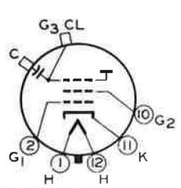
• During equipment warm-up not exceeding 15 seconds.
△ Each gun.

LEGEND FOR BASE AND ENVELOPE CONNECTION DIAGRAMS

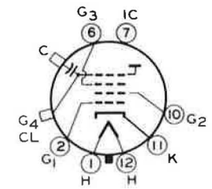
Bottom Views

KEY TO TERMINAL DESIGNATIONS

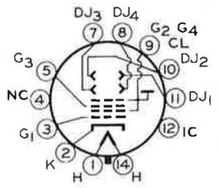
C = External Conductive Bulb Coating
CL = Collector
DJ = Deflecting Electrode
G = Grid
H = Heater
IC = Internal Connection—Do Not Use
K = Cathode
NC = No Connection



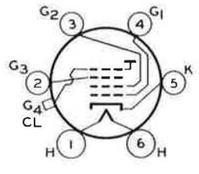
A
ULTOR = G_3 + CL



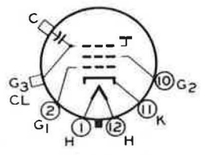
B
ULTOR = G_4 + CL
FOCUSING ELECTRODE = G_3



C
ULTOR = G_2 + G_4 + CL
FOCUSING ELECTRODE = G_3



D
ULTOR = G_4 + CL
FOCUSING ELECTRODE = G_3



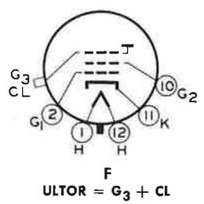
E
ULTOR = G_3 + CL

LEGEND FOR BASE AND ENVELOPE CONNECTION DIAGRAMS

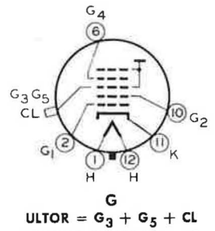
Bottom Views

KEY TO TERMINAL DESIGNATIONS

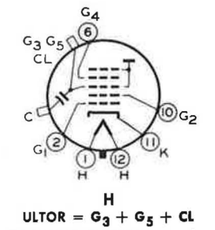
C = External Conductive Bulb Coating
CL = Collector
DJ = Deflecting Electrode
G = Grid
H = Heater
IC = Internal Connection—Do Not Use
K = Cathode
NC = No Connection



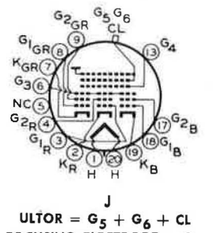
F
ULTOR = G_3 + CL



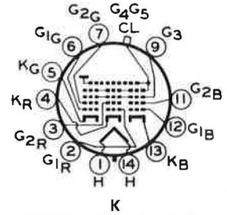
G
ULTOR = G_3 + G_5 + CL
FOCUSING ELECTRODE = G_4



H
ULTOR = G_3 + G_5 + CL
FOCUSING ELECTRODE = G_4



J
ULTOR = G_5 + G_6 + CL
FOCUSING ELECTRODE = G_3



K
ULTOR = G_4 + G_5 + CL
FOCUSING ELECTRODE = G_3

RCA PICTURE TUBE REPLACEMENT DIRECTORY

The RCA Picture Tube Replacement Directory has been prepared to assist the serviceman in selecting the proper RCA tube type as a replacement. The directory lists the RCA Direct Replacement Type or the RCA Similar Type, when one or the other is available. In the case of the RCA similar type, basic differences are given between the type to be replaced and the RCA similar type. Any RCA replacement type shown has the same basing arrangement as that of the corresponding type to be replaced.

When a glass kinescope has an external conductive coating, this coating in combination with the internal conductive coating provides a capacitor for use in filtering the high-voltage power supply.

To replace a picture tube without a conductive coating by one having a conductive coating, provision should be made to ground the coating. Connection to the coating may be made by using a soft brush-type contact preferably attached to the deflecting-yoke support. A contact area of at least ¼ square inch is required.

It will also be necessary to check the value of the combined capacitance of the filter capacitor across the high-voltage supply plus the supplementary filter capacitance provided by the replacement type. The total value of these capacitances must be within the maximum limit specified by the Underwriters' Laboratories, Inc. safety code covering shock hazard in TV receiving appliances. for final high-voltage electrode voltages of 12,000, 14,000, 16,000, and 18,000 volts the maximum values of filter capacitances are 3000, 3000, 2700, and 2100 $\mu\mu$f, respectively. If the total capacitance exceeds the maximum permissible value given above for the high-voltage value provided by the receiver being serviced, it is recommended either to remove the high-voltage capacitor or to substitute a capacitor of lower value.

To replace a picture tube with a conductive coating by one without a coating, it will be necessary to add a filter capacitor (of proper voltage rating) to compensate for the capacitance of the replaced picture tube. In adding the capacitor, be guided by the limiting capacitance values given in the preceding paragraph.

Type to be Replaced	RCA Replacement•											
	RCA TYPE▲ Asterisk (*) denotes "Silverama" type	DIFFERENCES BETWEEN RCA TYPE AND TYPE IN COLUMN 1										
		Maximum External Conductive Bulb Coating $\mu\mu$f		Type of Ion-Trap Magnet Required		Type of High-Voltage Connector Required		Maximum Final High-Voltage Electrode KV		RCA Type Larger (+ Inches) or Smaller (—Inches) Than Type in Column 1		
		Col. 1 Type	RCA Type	Col. 1 Type	RCA Type	Col. 1 Type	RCA Type	Col. 1 Type	RCA Type	Envelope Diameter	Overall Length	Neck Length
Black-and-White Types												
3KP4	**3KP4**	Direct Replacement										
5TP4	**5TP4**	Direct Replacement										
7DP4	**7DP4**	Direct Replacement										
7EP4		None										
7GP4	**7JP4**	Direct Replacement provided no connections are made to Pin Nos. 4 & 12										
7HP4		None										
7JP4	**7JP4**	Direct Replacement										
7RP4		None										
8AP4 8AP4-A		None										
8BP4		None										
8CP4		None										
9AP4	**9AP4**	Direct Replacement										
10BP4 10BP4-A 10BP4-C 10BP4-D	**10BP4-A or *10FP4-A**	Direct Replacement										
		2500	2500	Single	None	Cavity	Cavity	12	12	Same	Same	Same
10CP4	**10BP4-A or *10FP4-A**	500	2500	None	Single	Ball	Cavity	12	12	Same	+1	+1
		500	2500	None	None	Ball	Cavity	12	12	Same	+1	+1

• RCA replacement type shown has same basing arrangement as that of type in column 1.

▲ Suffix letters A, B, C, and D indicate a modification of the basic type such as change in faceplate material, change in faceplate treatment, or change in ratings.

Type to be Replaced	RCA Replacement●											
	RCA TYPE▲ Asterisk (*) denotes "Silverama" type	DIFFERENCES BETWEEN RCA TYPE AND TYPE IN COLUMN 1										
		Maximum External Conductive Bulb Coating μμf		Type of Ion-Trap Magnet Required		Type of High-Voltage Connector Required		Maximum Final High-Voltage Electrode KV		RCA Type Larger (+ Inches) or Smaller (—Inches) Than Type in Column 1		
		Col. 1 Type	RCA Type	Col. 1 Type	RCA Type	Col. 1 Type	RCA Type	Col. 1 Type	RCA Type	Envelope Diameter	Overall Length	Neck Length
Black-and-White Types (cont'd)												
10DP4		None										
10EP4	**10BP4-A** or ***10FP4-A**	2500	2500	Single	Single	Ball	Cavity	10	12	Same	Same	Same
		2500	2500	Single	None	Ball	Cavity	10	12	Same	Same	Same
10FP4 10FP4-A	***10FP4-A**	Direct Replacement										
10GP4		None										
10HP4		None										
10MP4 10MP4-A		None										
10RP4		None										
12AP4	**12AP4**	Direct Replacement										
12CP4		None										
12JP4	**12LP4-A** or ***12KP4-A**	None	3000	None	Single	Ball	Cavity	12	12	+7/16	+1¼	+1½
		None	2500	None	None	Ball	Cavity	12	12	+7/16	+⅛	+⅛
12KP4 12KP4-A	***12KP4-A**	Direct Replacement										
12LP4 12LP4-A 12LP4-C	**12LP4-A** or ***12KP4-A**	Direct Replacement										
		3000	2500	Single	None	Cavity	Cavity	12	12	Same	−1⅛	−1⅜
12QP4 12QP4-A	**12LP4-A** or ***12KP4-A**	None	3000	Single	Single	Ball	Cavity	12	12	Same	+1¼	+¼
		None	2500	Single	None	Ball	Cavity	12	12	Same	+⅛	+⅛
12RP4	**12LP4-A** or ***12KP4-A**	None	3000	Single	Single	Ball	Cavity	12	12	+7/16	+1¼	+¼
		None	2500	Single	None	Ball	Cavity	12	12	+7/16	+⅛	+⅛
12TP4	**12LP4-A** or ***12KP4-A**	None	3000	Single	Single	Cavity	Cavity	12	12	Same	Same	+¼
		None	2500	Single	None	Cavity	Cavity	12	12	Same	−1⅛	−1⅛
12UP4 12UP4-A 12UP4-B		None										
12VP4 12VP4-A		None										
12WP4 12WP4-A		None										
12XP4		None										
12YP4		None										
12ZP4 12ZP4-A	**12LP4-A** or ***12KP4-A**	2500	3000	Single	Single	Cavity	Cavity	12	12	Same	+1⅛	+1⅜
		2500	2500	Single	None	Cavity	Cavity	12	12	Same	Same	Same
14AP4		None										

● RCA replacement type shown has same basing arrangement as that of type in column 1.

▲ Suffix letters A, B, C, and D indicate a modification of the basic type such as change in faceplate material, change in faceplate treatment, or change in ratings.

RCA PICTURE TUBE REPLACEMENT DIRECTORY (Cont'd)

Type to be Replaced	RCA Replacement●												
		DIFFERENCES BETWEEN RCA TYPE AND TYPE IN COLUMN 1											
	RCA TYPE▲ Asterisk (*) denotes "Silverama" type	Maximum External Conductive Bulb Coating μμf		Type of Ion-Trap Magnet Required		Type of High-Voltage Connector Required		Maximum Final High-Voltage Electrode KV		RCA Type Larger (+ Inches) or Smaller (−Inches) Than Type in Column 1		
		Col. 1 Type	RCA Type	Col. 1 Type	RCA Type	Col. 1 Type	RCA Type	Col. 1 Type	RCA Type	Envelope Diameter	Overall Length	Neck Length
Black-and-White Types (cont'd)												
14BP4 14BP4-A	**14EP4/ 14CP4**	2000	2000	Single	Single	Cavity	Cavity	12	14	Same	−1/16	−1/16
14CP4 14CP4-A	**14EP4/ 14CP4**	Direct Replacement										
14DP4	**14EP4/ 14CP4**	None	2000	Single	Single	Cavity	Cavity	14	14	Same	Same	Same
14EP4/ 14CP4	**14EP4/ 14CP4**	Direct Replacement										
14GP4		None										
14HP4	**14HP4**	Direct Replacement										
14QP4	**14HP4**	900	2000	Single	Single	Cavity	Cavity	14	14	Same	+5/8	+5/8
15AP4		None										
15CP4		None										
15DP4		None										
15EP4		None										
16ABP4		None										
16ACP4		None										
16AEP4		None										
16AFP4		None										
16AP4 16AP4-A	**16AP4-A**	Direct Replacement										
16CP4	**16LP4-A**	None	2000	Single	Single	Cavity	Cavity	15	14	Same	+3/4	+3/4
16DP4 16DP4-A	**16DP4-A**	Direct Replacement										
16EP4 16EP4-A 16EP4-B		None										
16FP4	**16DP4-A**	None	None	Single	Single	Ball	Cavity	16	15	−1/4	+1/2	+7/8
16GP4 16GP4-A 16GP4-B 16GP4-C	**16GP4-B**	Direct Replacement										
16HP4 16HP4-A	**16DP4-A**	3500	None	Single	Single	Cavity	Cavity	14	15	Same	−1/2	−1/2
16JP4 16JP4-A	**16DP4-A**	2000	None	Single	Single	Cavity	Cavity	14	15	−1/4	Same	+3/8
16KP4 16KP4-A	**16RP4/ 16KP4 or *16RP4-A/ 16KP4-A**	Direct Replacement										
16LP4 16LP4-A	**16LP4-A**	Direct Replacement										

● RCA replacement type shown has same basing arrangement as that of type in column 1.

▲ Suffix letters A, B, C, and D indicate a modification of the basic type such as change in faceplate material, change in faceplate treatment, or change in ratings.

Type to be Replaced	RCA Replacement•											
	RCA TYPE▲ Asterisk (*) denotes "Silverama" type	DIFFERENCES BETWEEN RCA TYPE AND TYPE IN COLUMN 1										
		Maximum External Conductive Bulb Coating μμf		Type of Ion-Trap Magnet Required		Type of High-Voltage Connector Required		Maximum Final High-Voltage Electrode KV		RCA Type Larger (+ Inches) or Smaller (−Inches) Than Type in Column 1		
		Col. 1 Type	RCA Type	Col. 1 Type	RCA Type	Col. 1 Type	RCA Type	Col. 1 Type	RCA Type	Envelope Diameter	Overall Length	Neck Length
Black-and-White Types (cont'd)												
16MP4 16MP4-A	**16DP4-A**	3500	None	Single	Single	Cavity	Cavity	14	15	−¼	−1	−⅝
16QP4	**16QP4 or *16RP4-A/ 16KP4-A**	Direct Replacement										
		None	2000	Single	Single	Cavity	Cavity	16	16	Same	−⅜	−9/16
16RP4 16RP4-A 16RP4-A/ 16KP4-A	***16RP4-A/ 16KP4-A**	Direct Replacement										
16SP4 16SP4-A	**16WP4-A**	3500	1500	Single	Single	Cavity	Cavity	14	16	Same	+7/16	+7/16
16TP4	**16TP4 or *16RP4-A/ 16KP4-A**	Direct Replacement										
		2000	2000	Single	Single	Cavity	Cavity	14	16	Same	+⅝	+⅝
16UP4	**16TP4 or *16RP4-A/ 16KP4-A**	None	2000	Single	Single	Cavity	Cavity	15	14	Same	Same	Same
		None	2000	Single	Single	Cavity	Cavity	15	16	Same	+⅝	+⅝
16VP4	**16WP4-A**	None	1500	Single	Single	Cavity	Cavity	15	16	Same	+9/16	+⅝
16WP4	**16WP4-A**	None	1500	Single	Single	Cavity	Cavity	15	16	Same	Same	Same
16WP4-A	**16WP4-A**	Direct Replacement										
16XP4	**16TP4 or *16RP4-A/ 16KP4-A**	None	2000	Single	Single	Cavity	Cavity	15	14	Same	−⅝	−⅝
		None	2000	Single	Single	Cavity	Cavity	15	16	Same	Same	Same
16YP4	**16WP4-A**	2000	1500	Single	Single	Cavity	Cavity	14	16	Same	+7/16	+7/16
16ZP4	**16LP4-A**	2000	2000	Single	Single	Cavity	Cavity	16	14	Same	Same	Same
17AP4	**17BP4-A or *17BP4-B**	2000	1500	Single	Single	Cavity	Cavity	16	16	Same	+⅞	+⅝
17ATP4 17ATP4-A	**17AVP4 or *17AVP4-A**	1500	1500	Single	Single	Cavity	Cavity	16	16	Same	−⅜	−7/16
17AVP4 17AVP4-A	**17AVP4 or *17AVP4-A**	Direct Replacement										
17BP4 17BP4-A 17BP4-B 17BP4-C	**17BP4-A or *17BP4-B**	Direct Replacement										
17CP4 17CP4-A	**17CP4**	Direct Replacement										
17FP4 17FP4-A		None										

• RCA replacement type shown has same basing arrangement as that of type in column 1. some modifications which may involve faceplate, conductive coating, etc.

▲ Suffix letters A, B, C, and D indicate a modification of the basic type such as change in faceplate material, change in faceplate treatment, or change in ratings.

RCA PICTURE TUBE REPLACEMENT DIRECTORY (Cont'd)

Type to be Replaced	RCA Replacement●											
	RCA TYPE▲ Asterisk (*) denotes "Silverama" type	DIFFERENCES BETWEEN RCA TYPE AND TYPE IN COLUMN 1										
		Maximum External Conductive Bulb Coating μμf		Type of Ion-Trap Magnet Required		Type of High-Voltage Connector Required		Maximum Final High-Voltage Electrode KV		RCA Type Larger (+ Inches) or Smaller (−Inches) Than Type in Column 1		
		Col. 1 Type	RCA Type	Col. 1 Type	RCA Type	Col. 1 Type	RCA Type	Col. 1 Type	RCA Type	Envelope Diameter	Overall Length	Neck Length
Black-and-White Types (cont'd)												
17GP4	**17GP4**	Direct Replacement										
17HP4 17HP4/ 17RP4 17HP4-A 17HP4-B	**17HP4/ 17RP4 or *17HP4-B**	Direct Replacement										
17JP4	**17BP4-A or *17BP4-B**	750	1500	Single	Single	Cavity	Cavity	18	16	Same	+1/16	Same
17KP4		None										
17LP4/ 17VP4 17LP4-A	**17LP4/ 17VP4 or *17LP4-A**	Direct Replacement										
17QP4 17QP4-A	**17QP4 or *17QP4-A**	Direct Replacement										
17RP4 17HP4/ 17RP4 17HP4-B	**17HP4/ 17RP4 or *17HP4-B**	Direct Replacement										
17SP4		None										
17TP4	**17TP4**	Direct Replacement										
17UP4	**17QP4 or *17QP4-A**	750	1500	Single	Single	Cavity	Cavity	14	16	Same	+1/16	+1/16
		750	1500	Single	Single	Cavity	Cavity	14	18	Same	+1/16	+1/16
17VP4	**17LP4/ 17VP4 or *17LP4-A**	Direct Replacement										
17YP4	**17QP4 or *17QP4-A**	750	1500	Single	Single	Cavity	Cavity	18	16	Same	Same	Same
		750	1500	Single	Single	Cavity	Cavity	18	18	Same	Same	Same
19AP4 19AP4-A 19AP4-B 19AP4-C 19AP4-D	**19AP4-B**	Direct Replacement										
19DP4 19DP4-A		None										
19EP4		None										
19FP4		None										
19GP4		None										
19JP4		None										
19QP4		None										

● RCA replacement type shown has same basing arrangement as that of type in column 1.

▲ Suffix letters A, B, C, and D indicate a modification of the basic type such as change in faceplate material, change in faceplate treatment, or change in ratings.

Type to be Replaced	RCA Replacement●											
	RCA TYPE▲ Asterisk (*) denotes "Silverama" type	DIFFERENCES BETWEEN RCA TYPE AND TYPE IN COLUMN 1										
		Maximum External Conductive Bulb Coating μμf		Type of Ion-Trap Magnet Required		Type of High-Voltage Connector Required		Maximum Final High-Voltage Electrode KV		RCA Type Larger (+ Inches) or Smaller (—Inches) Than Type in Column 1		
		Col. 1 Type	RCA Type	Col. 1 Type	RCA Type	Col. 1 Type	RCA Type	Col. 1 Type	RCA Type	Envelope Diameter	Overall Length	Neck Length
Black-and-White Types (cont'd)												
20AP4		None										
20BP4		None										
20CP4	**20DP4-A/ 20CP4-A or *20DP4-C/ 20CP4-D**	None	750	Single	Single	Cavity	Cavity	18	18	Same	+⅛	+⅛
20CP4-A		Direct Replacement										
20CP4-B		None	750	Single	Single	Cavity	Cavity	18	18	Same	+⅛	+⅛
20CP4-C		None	750	Single	Single	Cavity	Cavity	18	18	Same	+⅛	+⅛
20CP4-D		Direct Replacement										
20DP4		None	750	Single	Single	Cavity	Cavity	18	18	Same	−3/16	−3/16
20DP4-A 20DP4-A/ 20CP4-A		Direct Replacement										
20DP4-B		None	750	Single	Single	Cavity	Cavity	18	18	Same	−3/16	−3/16
20DP4-C 20DP4-C/ 20CP4-D		Direct Replacement										
20FP4		None										
20GP4		None										
20HP4	**20HP4-A/ 20MP4 or *20HP4-D**	None	1500	Single	Single	Cavity	Cavity	16	16	Same	Same	Same
20HP4-A 20HP4-A/ 20MP4		Direct Replacement										
20HP4-B		None	1500	Single	Single	Cavity	Cavity	16	16	Same	Same	Same
20HP4-C		None	1500	Single	Single	Cavity	Cavity	16	16	Same	Same	Same
20HP4-D		Direct Replacement										
20JP4		None										
20LP4	**20HP4-A/ 20MP4 or *20HP4-D**	Direct Replacement										
20MP4	**20HP4-A/ 20MP4 or *20HP4-D**	750	1500	Single	Single	Cavity	Cavity	16	16	Same	Same	Same
21ACP4 21ACP4-A	***21ACP4-A**	Direct Replacement										
21AFP4	**21YP4 or *21YP4-A**	None	750	Single	Single	Cavity	Cavity	18	18	Same	Same	Same
21ALP4 21ALP4-A 21ALP4-B	**21ALP4-A or *21ALP4-B**	Direct Replacement										
21AMP4 21AMP4-A	***21AMP4-A**	Direct Replacement										

● RCA replacement type shown has same basing arrangement as that of type in column 1.

▲ Suffix letters A, B, C, and D indicate a modification of the basic type such as change in faceplate material, change in faceplate treatment, or change in ratings.

Type to be Replaced	RCA Replacement•											
	RCA TYPE▲ Asterisk (*) denotes "Silverama" type	DIFFERENCES BETWEEN RCA TYPE AND TYPE IN COLUMN 1										
		Maximum External Conductive Bulb Coating μμf		Type of Ion-Trap Magnet Required		Type of High-Voltage Connector Required		Maximum Final High-Voltage Electrode KV		RCA Type Larger (+ Inches) or Smaller (—Inches) Than Type in Column 1		
		Col. 1 Type	RCA Type	Col. 1 Type	RCA Type	Col. 1 Type	RCA Type	Col. 1 Type	RCA Type	Envelope Diameter	Overall Length	Neck Length
Black-and-White Types (cont'd)												
21ANP4 21ANP4-A	***21ALP4-A**	None	750	Single	Single	Cavity	Cavity	18	18	Same	Same	Same
21AP4	**21AP4**	Direct Replacement										
21AQP4 21AQP4-A	***21AMP4-A**	None	750	Single	Single	Cavity	Cavity	18	18	Same	Same	Same
21ARP4 21ARP4-A		None										
21ASP4	**21YP4 or *21YP4-A**	None	750	Single	Single	Cavity	Cavity	18	18	$+\frac{29}{32}$	$+\frac{25}{32}$	Same
21ATP4	**21ATP4**	Direct Replacement										
21AUP4 21AUP4-A 21AUP4-B 21AVP4/ 21AUP4 21AVP4-A/ 21AUP4-A 21AUP4	**21AVP4/ 21AUP4 or *21AVP4-A/ 21AUP4-A**	Direct Replacement										
21AWP4	***21AWP4**	Direct Replacement										
21AYP4	**21YP4 or *21YP4-A**	1500	750	Single	Single	Cavity	Cavity	18	18	$+\frac{29}{32}$	$+\frac{25}{32}$	Same
21BAP4		None										
21BCP4		None										
21BDP4		None										
21DP4		None										
21EP4 21EP4-A 21EP4-B	**21EP4-A or *21EP4-B**	Direct Replacement										
21FP4 21FP4-A 21FP4-C	**21FP4-A or *21FP4-C**	Direct Replacement										
21JP4 21JP4-A		None										
21KP4 21KP4-A		None										
21MP4	**21MP4**	Direct Replacement										
21WP4 21WP4-A	**21ZP4-A or *21ZP4-B**	750	750	Single	Single	Cavity	Cavity	18	18	$+\frac{19}{32}$	$+\frac{19}{32}$	Same
21XP4	**21YP4 or *21YP4-A**	None	750	Single	Single	Cavity	Cavity	18	18	$+\frac{29}{32}$	$+\frac{25}{32}$	Same
21XP4-A		750	750	Single	Single	Cavity	Cavity	18	18	$+\frac{29}{32}$	$+\frac{25}{32}$	Same

• RCA replacement type shown has same basing arrangement as that of type in column 1.

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Type to be Replaced	RCA Replacement●											
	RCA TYPE▲ Asterisk (*) denotes "Silverama" type	DIFFERENCES BETWEEN RCA TYPE AND TYPE IN COLUMN 1										
		Maximum External Conductive Bulb Coating μμf		Type of Ion-Trap Magnet Required		Type of High-Voltage Connector Required		Maximum Final High-Voltage Electrode KV		RCA Type Larger (+ Inches) or Smaller (—Inches) Than Type in Column 1		
		Col. 1 Type	RCA Type	Col. 1 Type	RCA Type	Col. 1 Type	RCA Type	Col. 1 Type	RCA Type	Envelope Diameter	Overall Length	Neck Length
Black-and-White Types (cont'd)												
21YP4 21YP4-A	**21YP4 or *21YP4-A**	Direct Replacement										
21ZP4	**21ZP4-A or *21ZP4-B**	None	750	Single	Single	Cavity	Cavity	18	18	Same	Same	Same
21ZP4-A 21ZP4-B		Direct Replacement										
22AP4 22AP4-A		None										
24AP4 24AP4-A 24AP4-B		None										
24BP4		None										
24CP4 24CP4-A	*24CP4-A	Direct Replacement										
24DP4 24DP4-A	*24DP4-A	Direct Replacement										
24QP4	*24CP4-A	750	750	Single	Single	Cavity	Cavity	18	20	Same	Same	Same
24TP4	*24CP4-A	Direct Replacement										
24VP4 24VP4-A	*24CP4-A	1500	750	Single	Single	Cavity	Cavity	22	20	Same	Same	Same
24XP4	*24CP4-A	None	750	Single	Single	Cavity	Cavity	20	20	Same	Same	Same
24YP4	*24YP4	Direct Replacement										
24ZP4	*24DP4-A	750	750	None	Single	Cavity	Cavity	20	20	Same	Same	Same
27AP4		None										
27EP4		None										
27GP4		None										
27LP4		None										
27MP4	*27MP4	Direct Replacement										
27NP4		None										
27RP4		None										
27SP4		None										
27UP4		None										
30BP4		None										
Color Types												
15GP22	15GP22	Direct Replacement										
15HP22		None										
19VP22		None										
21AXP22	21AXP22	Direct Replacement										

● RCA replacement type shown has same basing arrangement as that of type in column 1.

▲ Suffix letters A, B, C, and D indicate a modification of the basic type such as change in faceplate material, change in faceplate treatment, or change in ratings.

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