price 25 cents

RCA RECEIVING-TYPE TUBES FOR INDUSTRY AND COMMUNICATIONS

"Special Red" Tubes
"Premium" Tubes
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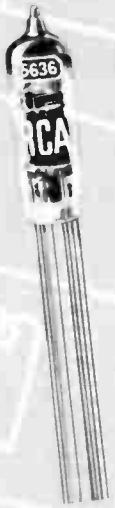
Computer Tubes
Glow-Discharge Tubes
Small Thyratrons
Low-Microphonic Amplifier Tubes
Traveling-Wave Tubes
and other Special Types

RADIO CORPORATION of AMERICA
ELECTRON TUBE DIVISION
HARRISON, N. J.

RIT-104A



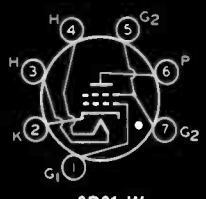
PREMIUM TUBES

Designed to Meet Military Specifications and Critical Commercial Applications

RCA Type	Proto-type	Name	Differences Between Type and Prototype: Rating or Characteristic	Premium Type	Proto-Type	Special Tests and Controls: Shock	Fatigue	Vibration	Glass Strain	Aging	Stability	Inoperatives	High-Altitude	Heater-Cycling	Life Test: Room Temp.	Life Test: Elevated Bulb Temp.
0A2-WA	0A2	Voltage Regulator*	This type is designed to meet the indicated military specification.			√	√	√	√	√	—	√	√	—	—	—
0B2-WA	0B2	Voltage Regulator*	This type is designed to meet the indicated military specification.			√	√	√	√	√	—	√	√	—	—	√
2D21-W	2D21	Thyratron Tetrode*	This type is designed to meet the indicated military specification.			√	√	√	—	√	—	—	—	—	—	—
6AC7-W	6AC7	Sharp-Cutoff Pentode♦	This type is designed to meet the indicated military specification.			√	√	√	—	√	—	—	—	—	—	—
6J4-WA	6J4	High-Mu Triode*	This type is designed to meet the indicated military specification.			√	√	√	√	√	√	√	√	√	√	—
12AT7-WA	12AT7	High-Mu Twin Triode§	This type is designed to meet the indicated military specification.			√	√	√	√	√	√	√	—	√	√	—
5636	—	Sharp-Cutoff Pentode•	Heater-Cathode Type. For gated amplifier circuits, delay circuits, mixer circuits at frequencies up to 400 Mc. and gain-controlled amplifier circuits.			√	√	√	√	√	√	√	√	√	√	—
5636-A	5636	Sharp-Cutoff Pentode•	This type is designed to meet the indicated military specification.			√	√	√	√	√	√	√	√	√	√	—
5654	6AK5	Sharp-Cutoff Pentode*	None	—	—	√	√	√	√	√	√	√	√	√	—	√
			For use as an rf or if amplifier in high-frequency broad-band circuits of communications receivers.													
5654/ 6AK5-W	6AK5	Sharp-Cutoff Pentode*	This type is designed to meet the indicated military specification.			√	√	√	√	√	√	√	√	√	—	√
5654/ 6AK5-W/ 6096	6AK5	Sharp-Cutoff Pentode*	This type is designed to meet the indicated military specification.			√	√	√	√	√	√	√	√	√	—	√
5670	2C51	Medium-Mu Twin Triode§	Heater Current, Amp.	0.35	0.3	√	√	√	√	√	√	√	√	√	—	√
5670-WA	2C51	Medium-Mu Twin Triode§	This type is designed to meet the indicated military specification.			√	√	√	√	√	√	√	√	√	—	√
5686	—	Beam Power Tube§	Heater-Cathode Type. For class A af power amplifier service, or class C rf power amplifier service up to 160 Mc.			√	√	√	√	√	√	√	—	√	√	—
5718	—	Medium-Mu Triode•	Heater-Cathode Type. Uhf amplifier and oscillator. Useful power output at 500 Mc., nearly one watt.			√	√	√	√	√	√	√	√	√	—	√
5718-A	5718	Medium-Mu Triode•	This type is designed to meet the indicated military specification.			√	√	√	√	√	√	√	√	√	—	√
5719	—	High-Mu Triode•	Heater-Cathode Type. Useful as an audio amplifier in mobile receivers.			√	√	√	√	√	√	√	√	√	—	√
5719-A	5719	High-Mu Triode•	This type is designed to meet the indicated military specification.			√	√	√	√	√	√	√	√	√	—	√

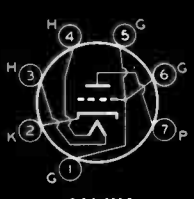
For key to terminal connections see page 22.
* 7-pin miniature type.
§ 9-pin miniature type.
♦ Small wafer octal 8-pin type.
• Subminiature type with flexible leads.

0A2-WA 0B2-WA

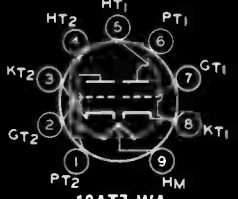


2D21-W

6AC7-W



6J4-WA

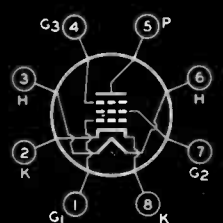


12AT7-WA

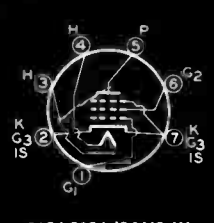
Designed to Meet Military Specifications and Critical Commercial Applications

Cathode		Maximum Dimensions Inches		Use Values to right give operating conditions and characteristics for indicated use.	Plate Supply	Grid-No. 1	Grid-No. 2 Supply	Grid-No. 2 Current	Plate Current	AC Plate Resistance	Transconductance	Amplification Factor	Load for Stated Power	Power Output	Type
Volts	Amps.	Length	Diam.		Volts	Volts	Volts	Ma.	Ma.	Ohms	Micromhos		Ohms	Watts	
Cold Cathode		$2\frac{5}{8}$	$\frac{3}{4}$	Voltage Regulator	For data refer to MIL-E-1/290A specification▲										**OA2-WA**
Cold Cathode		$2\frac{5}{8}$	$\frac{3}{4}$	Voltage Regulator	For data refer to MIL-E-1/291 specification▲										**OB2-WA**
6.3	0.6	$2\frac{1}{8}$	$\frac{3}{4}$	High-Sensitivity Control Service	For data refer to MIL-E-1/756 specification▲										**2D21-W**
6.3	0.45	$2\frac{5}{8}$	—	Class A_1 Amplifier	For data refer to MIL-E-1/354 specification▲										**6AC7-W**
6.3	0.4	$2\frac{1}{8}$	$\frac{3}{4}$	Class A_1 Amplifier in UHF applications	For data refer to MIL-E-1/619B specification▲										**6J4-WA**
6.3 12.6	0.3 0.15	$2\frac{3}{16}$	$\frac{7}{8}$	Class A_1 Amplifier	For data refer to MIL-E-1/3A specification▲										**12AT7-WA**
6.3	0.15	$1\frac{3}{8}$◓	0.383	Class A_1 Amplifier	100 100	Cath. Res., 150 Ohms	100 100	4 5.8	5.6 4	110000 50000	3200 1950	Grid-No. 3 Volts = 0 Grid-No. 3 Volts = −1			**5636**
6.3	0.15	$1\frac{3}{8}$◓	0.383	Class A_1 Amplifier	For data refer to MIL-E-1/715A specification▲										**5636-A**
6.3	0.175	$1\frac{3}{4}$	$\frac{3}{4}$	Class A_1 Amplifier	180	Cath. Bias	120	7.7	2.4	500000	5100	Cath. Res., 180 Ohms			**5654**
6.3	0.175	$1\frac{3}{4}$	$\frac{3}{4}$	Class A_1 Amplifier	For data refer to MIL-E-1/4A specification▲										**5654/ 6AK5-W**
6.3	0.175	$1\frac{3}{4}$	$\frac{3}{4}$	Class A_1 Amplifier	For data refer to MIL-E-1/236 specification▲										**5654/ 6AK5-W/ 6096**
6.3	0.35	$1\frac{3}{4}$	$\frac{7}{8}$	Class A_1 Amplifier Each Unit	150	Cath. Bias		8.2	—	—	5500	35	Cath. Res., 240 Ohms		**5670**
6.3	0.35	$1\frac{3}{4}$	$\frac{7}{8}$	Class A_1 Amplifier Each Unit	For data refer to MIL-E-1/247 specification▲										**5670-WA**
6.3	0.35	$2\frac{3}{16}$	$\frac{7}{8}$	Class A_1 Amplifier	250	−12.5	250	5	27	—	3100	—	9000	2.7	**5686**
				Class C RF Amplifier	250	−30	180	6.5	30	Peak RF Grid No. 1 Volts = 50		Grid No. 2 Current = −2 Ma. (approx.)			
6.3	0.15	$1\frac{3}{8}$◓	0.4	Class C Amplifier and Oscillator	Maximum Ratings, Absolute Values: DC Plate Volts, 165 DC Grid Volts, −55 DC Plate Ma., 22 DC Grid Ma., 5.5 Plate Dissipation 3.3 Watts										**5718**
6.3	0.15	$1\frac{3}{8}$◓	0.4	Class C Amplifier and Oscillator	For data refer to MIL-A-1/681 specification▲										**5718-A**
6.3	0.15	$1\frac{3}{8}$◓	0.4	Class A_1 Amplifier	150	Cath. Bias		—	1.85	30500	2300	70	Cath. Res., 680 Ohms		**5719**
6.3	0.15	$1\frac{3}{8}$◓	0.4	Class A_1 Amplifier	For data refer to MIL-A-1/682 specification▲										**5719-A**

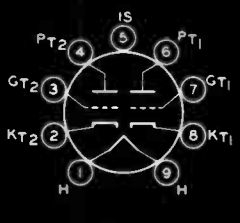
▲ A copy of this specification may be obtained from the Director of the Armed Forces Electro-Standards Agency (ASESA) at Fort Monmouth, New Jersey.
◓ Excluding flexible leads.



5636,5636-A



5654,5654/6AK5-W
5654/6AK5-W/6096



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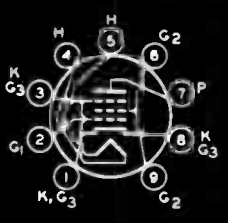
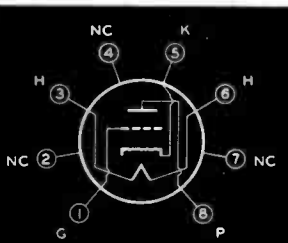


5686



5718 5719
5718-A 5719-A

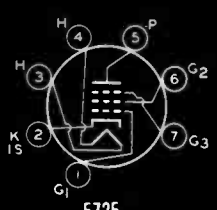
PREMIUM TUBES — Cont'd

Designed to Meet Military Specifications and Critical Commercial Applications

Type	Proto-type	Name	Differences Between Type and Prototype			Special Tests and Controls										
			Rating or Characteristic	Premium Type	Proto-Type	Shock	Fatigue	Vibration	Glass Strain	Aging	Stability	Inoperatives	High-Altitude	Heater-Cycling	Life Test: Room Temp.	Life Test: Elevated Bulb Temp.
5725	6AS6	Sharp-Cutoff Pentode*	Bulb Temperature, Max. °C (at hottest	165	120	√	√	√	√	√	√	√	√	√	—	√
5726	6AL5	Twin Diode*	Controlled Plate-Current Balance	Yes	No	√	√	√	√	√	√	√	—	√	√	—
5726/ 6AL5-W	6AL5	Twin Diode*	This type is designed to meet the indicated military specificatcn.			√	√	√	√	√	√	√	—	√	√	—
5726/ 6AL5-W/ 6097	6AL5	Twin Diode*	This type is designed to meet the indicated military specificatcn.			√	√	√	√	√	√	√	—	√	√	—
5727	2D21	Thyratron Tetrode*	Heater-cathode type. For use in relay, grid-controlled rectifier, and pulse-modulator applications. Can be operated in a high-sensitivity circuit directly from a vacuum phototube.			√	√	√	√	√	√	√	—	√	—	√
5727/ 2D21-W	2D21	Thyratron* Tetrode	This type is designed to meet the indicated military specification.			√	√	√	√	√	√	√	—	√	√	—
5749	6BA6	Remote-Cutoff Pentode*	Heater-Cathode Type. For high-gain rf or if amplifier service, and automatic-gain-control circuits.			√	√	√	√	√	√	√	—	√	√	—
5749/ 6BA6-W	6BA6	Remote-Cutoff Pentode*	This type is designed to meet the indicated military specification.			√	√	√	√	√	√	√	√	√	√	—
5750	6BE6	Pentagrid Converter	Heater-Cathode Type. For mixer-oscillator (converter) service.			√	√	√	√	√	√	√	—	√	—	√
5751	12AX7	High-Mu Twin Triode§	Heater Current Amp./Sect.	0.175	0.15	√	√	√	√	√	√	√	—	√	—	√
			Amplif. Factor	70	100											
			Transcond., μmhos	1200	1600											
			Controlled Plate-Current Balance	Yes	No											
5751-WA	12AX7	High-Mu Twin Triode§	This type is designed to meet the indicated military specification.			√	√	√	√	√	√	√	—	√	—	√
5814-A	12AU7	Medium-Mu Twin Triode§	Heater Current Amp./Sect.	0.175	0.15	√	√	√	√	√	√	√	√	√	—	√
			Peak H-K Volts	±100	±200♦											
			Controlled Plate-Current Balance	Yes	No											
5814-WA	12AU7	Medium-Mu Twin Triode§	This type is designed to meet the indicated military specification.			√	√	√	√	√	√	√	√	√	—	√
5840	—	Sharp-Cutoff Pentode•	Heater-Cathode Type. Useful as an rf or if amplifier tube in broad-band circuits of mobile and air-craft equipment. Can be used up to 400 Mc. as an rf amplifier.			√	√	√	√	√	√	√	√	√	—	√
5840-A	5840	Sharp-Cutoff Pentode•	This type is designed to meet the indicated military specification.			√	√	√	√	√	√	√	√	√	—	√

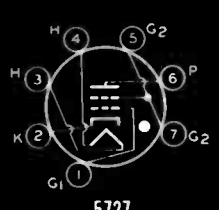
For key to terminal connections see page 22.

* 7-pin miniature type.
§ 9-pin miniature type.
• Subminiature type with flexible leads.
♦ DC component must not exceed +100 volts.

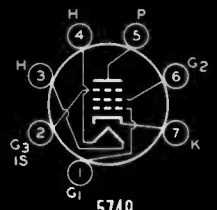


5725

5726/6AL5-W
5726/6AL5-W/6097



5727
5727/2D21-W

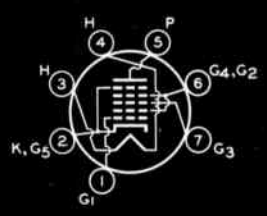


5749
5749/6BA6-W

Designed to Meet Military Specifications and Critical Commercial Applications

Cathode Volts	Cathode Amps.	Maximum Dimensions Inches Length	Maximum Dimensions Inches Diam.	Use — Values to right give operating conditions and characteristics for indicated use.	Plate Supply Volts	Grid-No. 1 Volts	Grid-No. 2 Supply Volts	Grid-No. 2 Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Transconductance Micromhos	Amplification Factor	Load for Stated Power Ohms	Power Output Watts	RCA Type
6.3	0.175	1 3/4	3/4	Class A_1 Amplifier	120	−2	120	3.5	5.2	—	3200	—	—	—	**5725**
6.3	0.3	1 3/4	3/4	Half-Wave Rectifier	Maximum Ratings, Absolute Values: Peak Inverse Plate Volts, 360; DC Output Ma. per Plate, 10; Peak Plate Ma. per Plate, 60; Peak Heater—Cathode Volts, ±360										**5726**
6.3	0.3	1 3/4	3/4	Half-Wave Rectifier	For data refer to MIL-E-1/7A specification▲										**5726/ 6AL5-W**
6.3	0.3	1 3/4	3/4	Half-Wave Rectifier	For data refer to MIL-E-1/235A specification▲										**5726/ 6AL5-W/ 6097**
6.3	0.6	2 1/8	3/4	Relay and Grid-Controlled Rectifier Service	Maximum Ratings: Peak Forward Anode Volts, 650; Peak Inverse Anode Volts, 1300; Peak Cathode Amp., 0.5; Av. Cathode Amp., 0.1; Fault Cathode Amp., 10										**5727**
				Pulse-Modulator Service	Maximum Ratings for Duty Cycles of 0.001 Max.: Peak Forward Anode Volts, 500; Peak Inverse Anode Volts, 100; Peak Cathode Amp., 10; Av. Cathode Amp., 0.1; —										
6.3	0.3	2 1/8	3/4	Control Service	For data refer to MIL-E-1/83A specification▲										**5727/ 2D21-W**
6.3	0.3	2 1/8	3/4	Class A_1 Amplifier	100	Cath. Bias	100	4.4	10.8	250000	4300	Cath. Res., 68 ohms			**5749**
					250		100	4.2	11	1000000	4400	Cath. Res., 68 ohms			
6.3	0.3	2 1/8	3/4	Class A_1 Amplifier	For data, refer to MIL-E-1B specification▲										**5749/ 6BA6-W**
6.3	0.3	2 3/16	7/8	Converter Service, Separate Excitation	100	—	100	7.5	2.6	400000	Osc. Grid Volts, rms = 10				**5750**
					250	—	100	7.5	2.6	1000000	Osc. Grid Volts, rms = 10				
6.3 / 12.6	0.35 / 0.175	2 3/16	7/8	Class A_1 Amplifier Each Unit	250	−3	—	—	1	58000	1200	70	—	—	**5751**
6.3 / 12.6	0.35 / 0.175	2 3/16	7/8	Class A_1 Amplifier	For data refer to MIL-E-1/237 specification▲										**5751-WA**
6.3 / 12.6	0.35 / 0.175	2 3/16	7/8	Class A_1 Amplifier Each Unit	250	−8.5	—	—	10.5	7770	2200	17	—	—	**5814-A**
6.3 / 12.6	0.35 / 0.175	2 3/16	7/8	Class A_1 Amplifier	For data refer to MIL-E-1/238A specification▲										**5814-WA**
6.3	0.15	1 3/8●	0.4	Class A_1 Amplifier	100	Cath. Bias	100	2.4	7.5	260000	5000	Cath. Res., 150 ohms			**5840**
6.3	0.15	1 3/8●	0.4	Class A_1 Amplifier	For data refer to MIL-E-1/720A specification▲										**5840-A**

▲ A copy of this specification may be obtained from the Director of the Armed Forces Electro-Standards Agency (ASESA) at Fort Monmouth, New Jersey.
● Excluding flexible leads.



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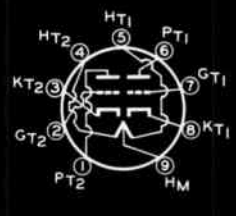
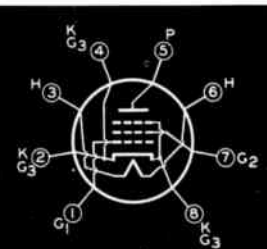


5751 5814-A
5751-WA 5814-WA



5840
5840-A

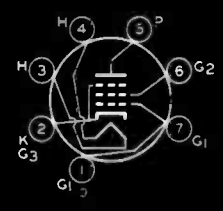
PREMIUM TUBES — Cont'd

Designed to Meet Military Specifications and Critical Commercial Applications

RCA Type	Proto-type	Name	Differences Between Type and Prototype			Special Tests and Controls										
			Rating or Characteristic	Premium Type	Proto-Type	Shock	Fatigue	Vibration	Glass Strain	Aging	Stability	Inoperatives	High-Altitude	Heater-Cycling	Life Test: Room Temp.	Life Test: Elevated Bulb Temp.
6005	6AQ5	Beam-Power Tube*	Max. Bulb Temperature, °C	225	250	√	√	√	√	√	√	√	—	√	—	√
6021	—	Medium-Mu Twin Triode•	For general-purpose oscillator and amplifier applications. Each unit has a separate cathode.			√	√	√	√	√	√	√	√	√	—	—
6072	12AY7	Medium-Mu Twin Triode§	Heater Current, Amperes, for Heater Volts = 6.3	0.35	0.3	√	√	√	√	√	√	√	√	√	√	—
			Heater Current, Amperes, for Heater Volts = 12.6	0.175	0.15											
6073/ 0A2	0A2	Voltage Regulator*	None	—	—	√	√	√	—	√	—	—	—	—	—	—
			Like 0A2, but intended for voltage-regulator applications critical as to shock and vibration.													
6074/ 0B2	0B2	Voltage Regulator*	None	—	—	√	√	√	—	√	—	—	—	—	—	—
			Like 0B2 but intended for voltage-regulator applications critical critical as to shock and vibration.													
6080-WA	6AS7-G	Low-Mu Twin Power Triode△	This type is designed to meet the indicated military specification.			√	√	√	—	√	√	√	√	√	√	—
6101	6J6	Medium-Mu Twin Triode*	Plate Dissip., Watts	0.85	1.5	√	√	√	√	√	√	√	√	—	—	√
			Plate Res., Ohms	6300	7000											
			Transcon., μmhos	6000	5000											
			Peak H-K Volts	±180	±90											
6101/ 6J6-WA	6J6	Medium-Mu Twin Triode*	This type is designed to meet the indicated military specification.			√	√	√	√	√	√	√	√	—	—	√
6111	—	Medium-Mu Twin Triode•	For general-purpose amplifier applications. May also be used as a combined oscillator and mixer tube in vhf applications.			√	√	√	√	√	√	√	√	√	—	—
6136	6AU6	Sharp-Cutoff Pentode*	Input Capacitance (μμf)	6.0	5.5	√	√	√	√	√	√	√	—	√	√	—
			For high-frequency broad-band applications.													
6186/ 6AG5-WA	6AG5	Sharp-Cutoff Pentode*	This type is designed to meet the indicated military specification.			√	√	√	√	√	√	√	√	√	—	√
6189/ 12AU7-WA	12AU7	Medium-Mu Twin Triode§	This type is designed to meet the indicated military specification.			√	√	√	√	√	√	√	√	√	—	√
6201	12AT7	High-Mu Twin Triode§	None	—	—	√	√	√	—	√	√	√	√	√	—	√
			For use as a mixer, oscillator and amplifier at frequencies up to 300 Mc.													
6205	5840	Sharp-Cutoff Pentode•	Grid-No. 3 brought out to separate pin	Yes	No	√	√	√	√	√	√	√	√	√	—	√

For key to terminal connections see page 22.

* 7-pin miniature type.
§ 9-pin miniature type.
• Subminiature type with flexible leads.
△ Large wafer octal 8-pin type with metal sleeve.



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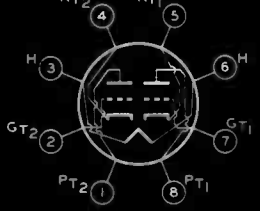

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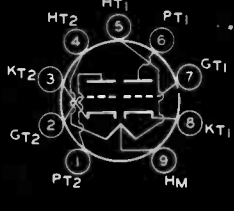

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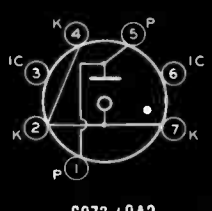
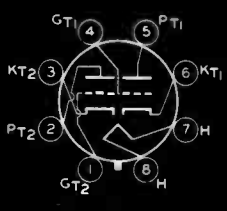
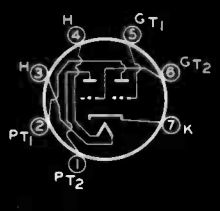


6073 / 0A2
6074 / 0B2



6080-WA

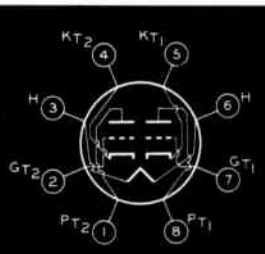


6101, 6101/6J6-WA

Designed to Meet Military Specifications and Critical Commercial Applications

Cathode		Maximum Dimensions Inches		Use — Values to right give operating conditions and characteristics for indicated use.	Plate Supply	Grid-No. 1	Grid-No. 2 Supply	Grid-No. 2 Current	Plate Current	AC Plate Resistance	Transconductance	Amplification Factor	Load for Stated Power	Power Output	Type
Volts	Amps.	Length	Diam.		Volts	Volts	Volts	Ma.	Ma.	Ohms	Micromhos		Ohms	Watts	
6.3	0.45	2 5/8	3/4	Class A_1 Amplifier	180	−8.5	180	3	29	58000	3700	—	5500	2	6005
					250	−12.5	250	4.5	45	52000	4100	—	5500	4.5	
6.3	0.3	1 3/8●	0.4	Class A_1 Amplifier	100	Cath. Res., 150 ohms			6.5	6500	5400	35	Grid Volts for Cutoff, −6.5		6021
6.3 / 12.6	0.35 / 0.175	2 3/16	7/8	Class A_1 Amplifier Each Unit	250	−4	—	—	3	25000	1750	44	—	—	6072
Cold Cathode		2 5/8	3/4	Voltage Regulator	Ambient Temp., −55 to +90° C Approx. DC Starting Volts, 156 Min. DC Anode-Supply Volts, 185						Approx. DC Operating Volts, 151 Regulation Range, 5 to 30 Ma. Regulation Volts, 2				6073/ OA2
Cold Cathode		2 5/8	3/4	Voltage Regulator	Ambient Temp., −55 to +90° C Approx. DC Starting Volts, 115 Min. DC Anode-Supply Volts, 133						Approx. DC Operating Volts, 108 Regulation Range, 5 to 30 Ma. Regulation Volts, 2				6074/ OB2
6.3	2.5	4 1/4	1.72	DC Amplifier	For data refer to MIL-E-1/510B specification▲										6080-WA
6.3	0.45	2 1/8	3/4	Class A_1 Amplifier Each Unit	100	Cath. Bias Res., 50 Ohms Common to both units		—	3.5	6300	6000	38	—	—	6101
6.3	0.45	2 1/8	3/4	Class A_1 Amplifier	For data refer to MIL-E-1/243A specification▲										6101/ 6J6-WA
6.3	0.3	1 3/8●	0.4	Class A_1 Amplifier	100	Cath. Bias	—	8.5	—	4000	5000	20	Grid Volts for Cutoff, −9		6111
6.3	0.3	2 1/8	3/4	Class A_1 Amplifier	100	Cath. Bias	100	2.1	10	500000	3900	Cath. Res., 150 Ohms Cutoff Volts, −4.2			6136
					250	Cath. Bias	150	4.3	10	1000000	5200	Cath. Res., 68 Ohms Cutoff Volts, −6.5			
6.3	0.3	2 1/8	3/4	Class A_1 Amplifier	For data refer to MIL-E-1/244A specification▲										6186/ 6AG5-WA
6.3 / 12.6	0.3 / 0.15	2 3/16	7/8	Class A_1 Amplifier	For data refer to MIL-E-1/246A specification▲										6189/ 12AU7-WA
6.3 / 12.6	0.3 / 0.15	2 3/16	7/8	Class A_1 Amplifier	100	Cath. Res., 270 ohms			3.3	14300	4000	57	Cutoff Volts, −5		6201
					250	Cath. Res., 200 ohms			10	10900	5500	60	Cutoff Volts, −12		
6.3	0.15	1 3/8●	0.4	Class A_1 Amplifier	100	Cath. Res., 150 Ohms	100	2.4	7.5	260000	5000	—	—	—	6205

▲ A copy of this specification may be obtained from the Director of the Armed Services Electro-Standards Agency (ASESA) at Fort Monmouth, New Jersey.
● Excluding flexible leads.

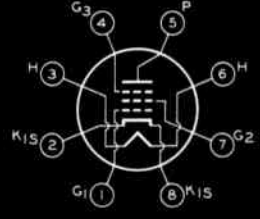


6111

6136

6186/6AG5-WA

6201, 6189/12AU7-WA



6205

SPECIAL RED TUBES

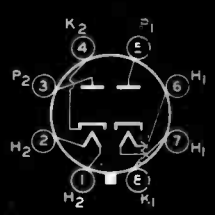
For Critical Industrial Applications Where 10000-Hour Life, Extreme Dependability, and Exceptional Stability are Paramount

RCA Type	Prototype	Name	Differences Between Type and Prototype: Rating or Characteristic	Prem. Type	Prototype	Special Tests and Controls: Shock	Fatigue	Vibration	Base Torsion	Aging	Stability Control	Inoperatives	High-Altitude	Heater-Cycling	Life Test: 500-Hour	Life Test: 1000-Hour
5690	--	Full-Wave Vacuum Rectifier†	Heater-Cathode Type. Each unit has its own heater and cathode with individual base-pin connections. Full ratings up to 40000 feet.			√	√	√	√	√	√	√	√	√	√	√
5691	6SL7-GT	High-Mu Twin Triode†	Heater Current	0.6	0.3	√	√	√	√	√	√	√	√	√	√	√
			Max. Plate Volts	275	300											
			Peak H-K Volts	±100	±90											
			Heaters in series for fail-safe operation	Yes	No											
			Controlled Plate-Current Balance	Yes	No											
5692	6SN7-GT	Medium-Mu Twin Triode†	Max. Plate Volts	275	300	√	√	√	√	√	√	√	√	√	√	√
			Plate Dissip., Watts	1.75	2.5											
			Peak H-K Volts	±100	±200											
			Heaters in series for fail-safe operation	Yes	No											
5693	6SJ7	Sharp-Cutoff Pentode‡	Plate Dissip., Watts	2	2.5	√	√	√	√	√	√	√	√	√	√	√
			Screen Dissip., Watts	0.3	0.7											
			Peak H-K Volts	±100	±90											

LOW-MICROPHONIC AMPLIFIER TUBES

RCA Type	Description
12AY7	Medium-Mu Twin Triode. 9-pin miniature type with a heater-cathode. For use in the first stages of high-gain audio amplifiers where reduction of microphonics, leakage noise, and hum are primary considerations.
1609	Sharp-Cutoff Pentode. Coated-filament type. Small 5-pin base. For new equipment design the 1620 is recommended.
1612	Pentagrid Mixer. Metal type. Similar to 6L7. For volume-expander-compressor circuits. Miniature cap. Octal 7-pin base.
1620	Sharp-Cutoff Pentode. Especially designed for applications critical as to microphonics. Metal type similar to 6J7. Miniature cap. Octal 7-pin base.
5879	Sharp-Cutoff Pentode. 9-pin miniature type with heater-cathode. For use as an audio amplifier in applications requiring reduced microphonics, leakage noise, and hum.

For key to terminal connections, see page 22. † Glass-octal 8-pin type. ‡ Metal-octal 8-pin type.



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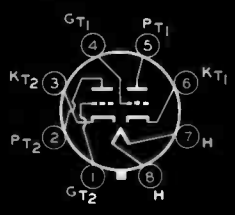
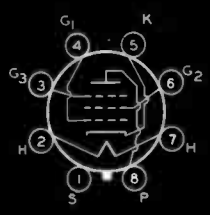


5691 5692



5693

SPECIAL RED TUBES

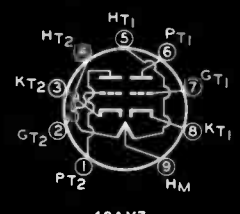
For Critical Industrial Applications Where 10000-Hour Life, Extreme Dependability, and Exceptional Stability are Paramount

Cathode Volts	Cathode Amps.	Maximum Dimensions Inches Length	Maximum Dimensions Inches Diam.	Use — Values to right give operating conditions and characteristics for indicated use.	Plate Supply Volts	Grid-No. 1 Volts	Grid-No. 2 Supply Volts	Grid-No. 2 Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Transconductance Micromhos	Amplification Factor	Load for Stated Power Ohms	Power Output Watts	RCA Type
12.6 / 6.3	1.2 / 2.4	4 1/4	1 23/32	Full-Wave Rectifier with Capacitive Input Filter	AC Volts Per Plate (RMS), 700 Filter Input Capacitor, 10 μf DC Output Volts at 110 Ma., 355 DC Output Volts at 55 Ma., 415					Max. Peak Inverse Plate Volts, 1120 Max. Peak Plate Ma. Per Plate, 375 Max. Av. Plate Ma. Per Plate, 75 Total Effect-Supply Imped. Per Plate, 350 Ohms					**5690**
				Full-Wave Rectifier with Inductive Input Filter	AC Volts Per Plate (RMS), 700 Filter Input Choke, 10 henries DC Output Volts at 135 Ma., 300 DC Output Volts at 67.5 Ma., 305					Max. Peak Inverse Plate Volts, 1120 Max. Peak Plate Ma. Per Plate, 375 Max. Av. Plate Ma. Per Plate, 75					
6.3	0.6	2 7/8	1 9/32	Industrial Service	250	−2	—	—	2.3	44000	1600	70	—	—	**5691**
					Max. Plate Current for Grid Volts = −5.5, 15 μa.		Difference in Plate Current Between Units, 0.9 Max. Ma. at Grid Volts, −2						Reverse Grid μa., 0.2 max.		
6.3	0.6	2 7/8	1 9/32	Industrial Service	250	−9	—	—	6.5	9100	2200	20	—	—	**5692**
					Max. Plate Current for Grid Volts = −24, 15 μa.		Difference in Plate Current Between Units, 2 Max. Ma. at Grid Volts, −9						Reverse Grid μa., 0.2 max.		
6.3	0.3	2 5/8	1 5/16	Industrial Service	250	−3	100	0.85	3.0	1.0*	1650	—	—	—	**5693**
					Max. Plate μa. 80, at Grid-No. 1 Volts, −7.5 Max. Plate μa. 750, at Grid-No. 3 Volts, −70					Reverse Grid-No. 1 μa., 0.1 max.					

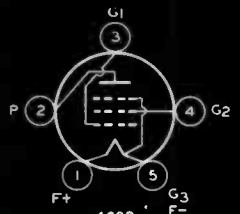
LOW-MICROPHONIC AMPLIFIER TUBES

Cathode Volts	Cathode Amps.	Maximum Dimensions Inches Length	Maximum Dimensions Inches Diam.	Use — Values to right give operating conditions and characteristics for indicated use.	Plate Supply Volts	Grid-No. 1 Volts	Grid-No. 2 Supply Volts	Grid-No. 2 Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Transconductance Micromhos	Amplification Factor	Load for Stated Power Ohms	Power Output Watts	RCA Type
12.6 / 6.3	0.15 / 0.3	2 3/16	7/8	Class A_1 Amplifier■	250	−4	—	—	3	25000	1750	44	—	—	**12AY7**
1.1	0.25	4 3/16	1 9/16	Class A_1 Amplifier	135	−1.5	67.5	0.65	2.5	400000	725	—	—	—	**1609**
6.3	0.3	3 1/8	1 5/16	Class A_1 Amplifier	250	−3†	100	6.5	5.3	600000	1100	—	—	—	**1612**
				Mixer in Superheterodyne	250	−3	100	7.1	2.4	Oscillator Grid (#3) Bias, −10 Volts Conversion Transcond., 375 μmhos					
6.3	0.3	3 1/8	1 5/16	As Pentode Class A_1 Amplifier	100 250	−3 −3	100 100	0.5 0.5	2 2	1.0§ 1.0+§	1185 1225	— —	— —	— —	**1620**
				As Triode Class A_1 Amplifier	180 250	−5.3 −8	Grids No. 2 and No. 3 connected to plate.		5.3 6.5	11000 10500	1800 1900	20 20	— —	— —	
6.3	0.15	2 3/16	7/8	As Pentode Class A_1 Amplifier	250	−3	100	0.4	1.8	2§	1000	—	—	—	**5879**
				As Triode Class A_1 Amplifier	100	−3	Grids No. 2 and No. 3 connected to plate.		2.2	17000	1240	21	—	—	

■ Each unit. § Megohms. † For signal input control grid (#1); control grid (#3) bias, −3 volts. * Minimum megohms.



12AY7



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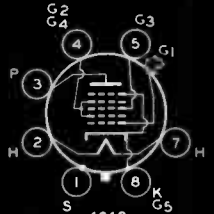

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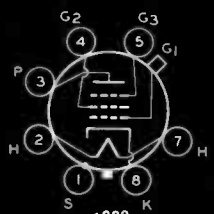

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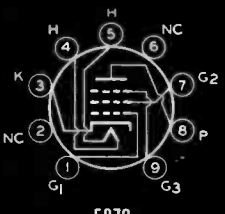
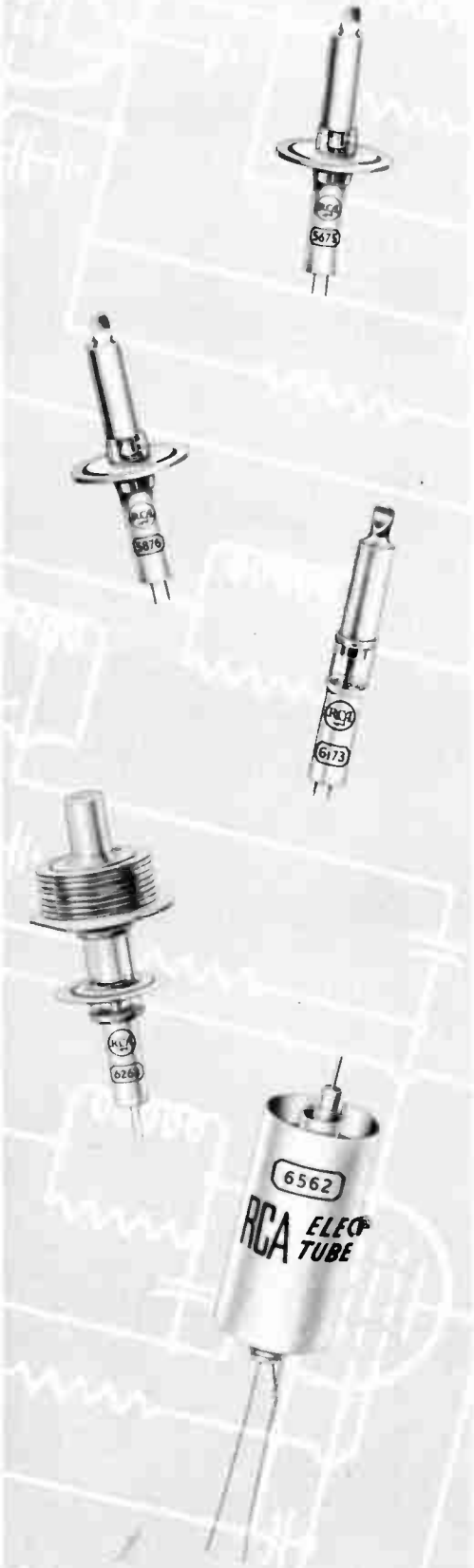


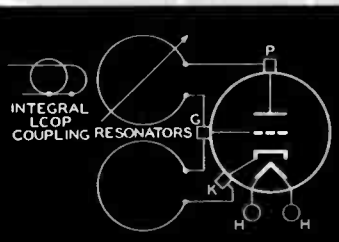
5879

TUBES FOR UHF APPLICATIONS

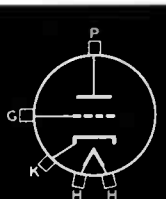


Type	Description	
"PENCIL" TUBES		
5675	Medium-Mu Triode. For use in cathode-drive service as a class C rf power amplifier and oscillator. Useful up to 3000 Mc.	"Pencil" tubes are well adapted for use in the uhf range:— The coaxial-electrode structure is of the double-ended metal-glass type in which the plate cylinder and cathode cylinder extend outward from each side of the grid flange. The latter is particularly effective in permitting isolation of the plate circuit from the cathode circuit in cathode-drive service. Although designed for use in circuits of the coaxial cylinder type, these tubes are also suitable for use in circuits of the line type and lumped-circuit type. In addition "pencil" tubes have small size, good thermal stability, and low heater wattage.
5794	Fixed-Tuned Oscillator Triode. Metal construction with two integral resonators. For transmitting service in radiosonde applications at 1680 Mc.	
5876	High-Mu Triode. For use in cathode-drive service as an rf amplifier, if amplifier, or mixer tube in receivers operating at frequencies up to about 1000 Mc; as a frequency multiplier up to about 1500 Mc; and as an oscillator up to 1700 Mc. Can be operated at altitudes up to 60000 feet without pressurized chambers.	
5876-A	High-Mu Triode. Like 5876 but intended for military and critical industrial applications.	
5893	Medium-Mu Triode. For use in cathode-drive service as a plate-pulsed oscillator up to about 3300 Mc. May also be used as an rf power amplifier, cw oscillator, or frequency doubler up to about 1000 Mc.	
6173	UHF Diode. High-perveance type for use in pulse detection and pulse-power-measuring service at frequencies up to 3300 Mc. Especially useful in rf probes of electronic voltmeters.	
6263	Medium-Mu Triode. Has external plate radiator. For use in cathode-drive service as an rf power amplifier and oscillator in mobile equipment and in aircraft transmitters at altitudes up to 60000 feet without pressurized chambers.	
6263-A	Medium-Mu Triode. Like 6263 but intended for military and critical industrial applications.	
6264	Medium-Mu Triode. Like the 6263 but has a Mu of 40. For frequency-multiplier service.	
6264-A	Medium-Mu Triode. Like 6264 but intended for military and critical industrial applications.	
6562	Fixed-Tuned Oscillator Triode. Like the type 5794 but has cathode externally connected to one of the heater leads to simplify circuit connections.	

For key to terminal connections, see page 22.
Note: The heater leads for these pencil tubes fit the Cinch Socket No. 54A16325 or equivalent.



5794

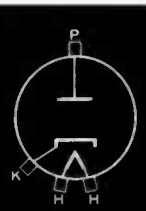


5675 5876,5876-A 5893
6263,6263-A 6264,6264-A

TUBES FOR UHF APPLICATIONS

Cathode Volts	Cathode Amp.	Maximum Dimensions Inches Length	Maximum Dimensions Inches Diam.	Use (Values to right give operating conditions and characteristics for indicated use.)	Plate Supply Volts	Grid-No. 1 Volts	Grid-No. 2 Supply Volts	Grid-No. 2 Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Transconductance Micromhos	Amplification Factor	Load for Stated Power Ohms	Power Output Watts	Type
"PENCIL" TUBES															
6.3	0.135	$2\frac{17}{64}$	$\frac{53}{64}$‡	Class A_1 Amplifier	135	Cath. Bias Res., 68 ohms			24	3225	6200	20	—	—	**5675**
				Cathode-Drive Osc. at 1700 Mc	120	Grid Res., 2000 ohms			25	—	Dc Grid Ma., 4		—	0.475	
6.0	0.16	$2\frac{7}{16}$☁	$\frac{7}{8}$◆	Radiosonde Service at 1680 Mc	Operating Frequency Drift: Heater-Voltage Range, 6.6 to 5.2 volts Ambient Temperature Range, +22° to −40°C; Plate-Voltage Range, 117 to 95 volts Max. Frequency Drift, +4 to −1 Mc; A frequency adjustment screw provides a ±12-Mc range. Grid-Circuit Res. range is 1000 to 5000 ohms.										**5794**
6.3	0.135	$2\frac{17}{64}$	$\frac{53}{64}$‡	Class A_1 Amplifier	250	Cath. Bias Res., 75 ohms			18	8625	6500	56	—	—	**5876**
				Class C Osc. at 1700 Mc	250	−2	—	23	DC Grid Current (Approx.), 3 ma					0.75	
				Tripler to 480 Mc	300	−90	—	18	Driver Output Watts (Approx.), 2.1					2.1	
				Doubler to 960 Mc	300	−70	—	17.3	Driver Output Watts (Approx.), 2					2	
	Undergoes the following tests during manufacture to minimize early failures and to insure dependable performance: glass fracture, vibrational acceleration, low-frequency vibration, heater-cycling, stability, and survival rate.														**5876-A**
6.0	0.330	$2\frac{5}{16}$	$\frac{13}{16}$‡	Plate-Pulsed Osc.—Class C	Max. Ratings for a Max. "on" Time of 5 μsec, Absolute Values: Positive Peak Pulse Volts, 1750 Plate Dissipation, 6 watts; Peak Plate Amperes, 3 Pulse Duration, 1.5 μsec										**5893**
6.3	0.135	$2\frac{1}{4}$	$\frac{3}{8}$	Pulse-Detection and Pulse-Power Measurements	Maximum Ratings, Absolute Values: Peak Inverse Plate Volts, 1000 Peak Pulse Plate Ma, 1000; Peak Pulse Plate Volts, 150 Average Plate Ma, 1										**6173**
6.0	0.28	$2\frac{5}{8}$	$\frac{17}{32}$◆	Cathode-Drive Osc. at 500 Mc.	350	−35	DC grid current, approx., 14 ma		40	—	—	—	—	7	**6263**
				Cathode Drive RF Amplifier at 500 Mc.	350	−58	DC grid current, approx., 15 ma		40	Driver Power Output Approx., 3 watts				10	
	Undergoes the following tests during manufacture to minimize early failures and to insure dependable performance: glass fracture, vibrational acceleration, low-frequency vibration, heater-cycling, stability, and survival rate.														**6263-A**
6.0	0.28	$2\frac{5}{8}$	$\frac{17}{32}$◆	Tripler to 510 Mc Cathode-Drive ICAS Conditions	350	−122	DC grid current, 5.8 ma		36.5	Driver Power Output Approx., 4.5 watts				3.4	**6264**
	Undergoes the following tests during manufacture to minimize early failures and to insure dependable performance: glass fracture, vibrational acceleration, low-frequency vibration, heater-cycling, stability, and survival rate.														**6264-A**
5.2 to 6.6	—	$2\frac{7}{16}$☁	$\frac{7}{8}$◆	Radiosonde Service at 1680 Mc	Operating Frequency Drift: Heater-Voltage Range, 6.6 to 5.2 volts Ambient Temperature Range, +22° to −40°C; Plate-Voltage Range, 117 to 95 volts Max. Frequency Drift, +4 to −1 Mc; A frequency adjustment screw provides a ±12-Mc range. Grid-Circuit Res. range is 1300 to 1800 ohms.										**6562**

‡ Including grid flange. ◆ Maximum radius. ☁ Excluding flexible leads.



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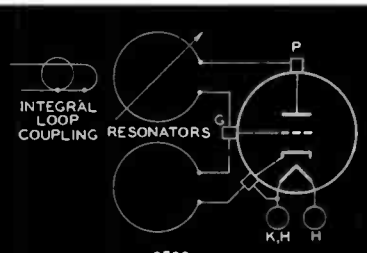

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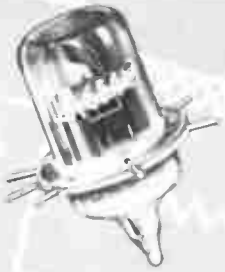
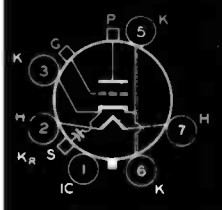
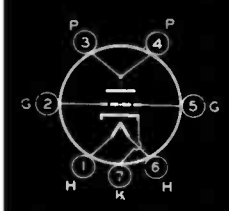
TUBES FOR UHF APPLICATIONS

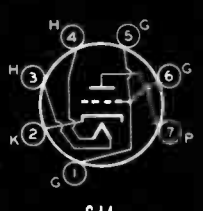




2C40 2C43



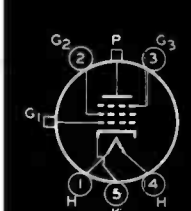
6F4 6L4



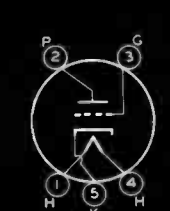
6J4

Type	Description
OTHER UHF TYPES	
2C40	Lighthouse Triode. For use as an RF amplifier at frequencies up to 1200 Mc and as a continuous-wave oscillator at frequencies up to 3370 Mc. Octal 6-pin base.
2C43	Lighthouse Triode. Similar to Type 2C40 except for higher dissipation rating. For use as a continuous-wave oscillator at frequencies up to 1500 Mc.
6F4	Oscillator Triode. Acorn type with a heater-cathode. For use at frequencies up to 1200 Mc.
6J4	High-Mu Triode. 7-pin miniature type with a heater-cathode. For use in cathode-drive circuits. Has a mu of 55 and a gm of 12000 micromhos. Useful up to about 500 Mc.
6L4	Oscillator Triode. Similar to 6F4 but operates at a higher plate voltage, has higher amplification factor, and lower grid-to-plate capacitance.
954	Sharp-Cutoff Pentode. Acorn type with a heater-cathode. For use at frequencies up to 430 Mc.
955	Medium-Mu Triode. Acorn type with a heater-cathode. For use at frequencies up to 600 Mc.
956	Remote-Cutoff Pentode. Acorn type with a heater-cathode. For use at frequencies up to 430 Mc.
957	Medium-Mu Triode. Acorn type with a coated filament for operation from a dry-cell supply.
958-A	Medium-Mu Triode. Acorn type with a coated filament. Designed for transmitter service. Useful up to 350 Mc.
959	Sharp-Cutoff Pentode. Acorn type with a coated filament for operation from a dry-cell supply.
5718	Medium-Mu Triode. Subminiature type. For use as an rf power amplifier and oscillator in uhf applications critical as to shock and vibration. Useful power output of nearly 1 watt at 500 Mc. Full input up to 1000 Mc.
6026	Oscillator Triode. Subminiature type. Intended particularly as an oscillator for transmitting service in radiosonde and similar applications at 400 Mc.
6861	Traveling-Wave Tube. Low-noise, low-level amplifier tube of the helix-transmission type. Frequency range, 2700 to 3500 Mc. For use in input stage of radar, scatter propagation and other microwave receivers, and in if amplifier service.
9001	Sharp-Cutoff Pentode. 7-pin miniature type with a heater-cathode. Electrically similar to the 954.
9002	Medium-Mu Triode. 7-pin miniature type with a heater-cathode. Electrically similar to the 955. For frequencies up to 500 Mc.
9003	Remote-Cutoff Pentode. 7-pin miniature type with a heater-cathode. Electrically similar to the 956.
9004	UHF Diode. Acorn type with a heater-cathode. For use as a rectifier, detector, or measuring device. Resonant frequency about 850 Mc.
9005	UHF Diode. Acorn type with a heater-cathode. For use as a rectifier, detector, or measuring device. Resonant frequency about 1500 Mc.
9006	UHF Diode. 7-pin miniature type with a heater-cathode. Resonant frequency about 700 Mc. For uhf service as a rectifier, detector, or measuring device.

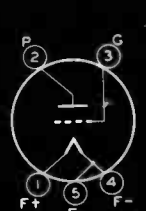
For key to terminal connections, see page 22.
Note 1: P is on long part of bulb (top); G_1 is on short part of bulb.
Note 2: Long part of bulb is top.



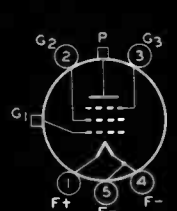
See Note 1
954 956



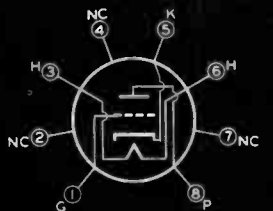
See Note 2
955



See Note 2
957 958-A



See Note 1
959



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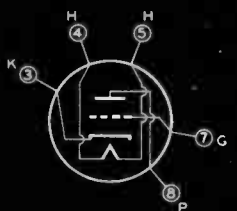
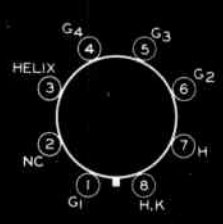


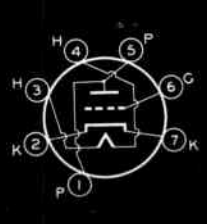
6026

Cathode Volts	Cathode Amp.	Maximum Dimensions Inches Length	Maximum Dimensions Inches Diam.	Use — Values to right give operating conditions and characteristics for indicated use.	Plate Supply Volts	Grid-No. 1 Volts	Grid-No. 2 Supply Volts	Grid-No. 2 Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Transconductance Micromhos	Amplification Factor	Load for Stated Power Ohms	Power Output Watts	Type
OTHER UHF TYPES															
6.3	0.75	2 9/16	1 5/16	Class C Amplifier Oscillator	Max. DC Plate Volts, 500 Max. DC Plate Current, 25 Ma.					Max. Peak Heater-Cathode Volts, ±90 Max. Plate Dissipation, 6.5 watts					2C40
6.3	0.9	2 11/16	1 5/16	Class C Amplifier Oscillator	Max. DC Plate Volts, 500 Max. DC Plate Current, 40 Ma.					Max. Peak Heater-Cathode Volts, ±90 Max. Plate Dissipation, 12 watts					2C43
6.3	0.225	1 3/8	1 5/32	RF Amp. & Osc. Class C Telegraphy	150	−15	—	—	20	DC Grid Ma, 7.5 Driver Power, 0.2 watt			—	1.8	6F4
6.3	0.4	2 1/8	3/4	Class A_1 Amplifier	100 150	Cath. Res., 100 ohms Cath. Res., 100 ohms			10 15	5000 4500	11000 12000	55 55	— —	— —	6J4
6.3	0.225	1 3/8	1 5/32	Class A_1 Amplifier	80	Cath. Res., 150 ohms			9.5	4400	6400	28	—	—	6L4
					Max. Plate Volts, 500			Max. Plate Ma, 15			Max. Plate Dissipation, 1.7 watts				
6.3	0.15	1 7/8	1 5/32	Class A_1 Amplifier	250	−3	100	0.7	2.0	1.0+§	1400	—	—	—	954
				Bias Detector	250	−6	100	DC plate ma. adjusted to 0.1 with no input signal. Cath. Res. of 20000 to 50000 ohms.					250000	—	
6.3	0.15	1 3/8	1 5/32	RF Amp. & Osc. Class C Telegraphy	180	−35	—	—	7	—	DC Grid Ma, 1.5		—	0.5 at 60 Mc	955
6.3	0.15	1 7/8	1 5/32	Class A_1 Amplifier	250	−3	100	2.7	6.7	0.7	1800	—	—	—	956
				Mixer	250	−10	100	Conversion Transcond., 550 μmhos				Osc. Peak Volts, 9			
1.25	0.05	1 3/8	1 5/32	Class A_1 Amplifier	135	−5	—	—	2	20800	650	13.5	—	—	957
1.25	0.1	1 3/8	1 5/32	RF Amp. & Osc. Class C Telegraphy	135	−20	from grid res., 20000 ohms		7	DC Grid Ma, 1 Driving Power, 0.035 watt			—	0.6	958-A
1.25	0.05	1 7/8	1 5/32	Class A_1 Amplifier	135	−3	67.5	0.4	1.7	800000	600	—	—	—	959
6.3	0.15	1 3/8 ◓	0.4	Amplifier and Osc.— Class C Telegraphy	Maximum Ratings, Absolute Values: DC Plate Volts, 165 DC Plate Ma, 22 Plate Dissipation Watts, 3.3 DC Grid Volts, −55 DC Grid Ma, 5.5 Peak Heater-Cathode Volts, ±200										5718
6.3	0.2	1 1/2 ◓	0.4	400 Mc Oscillator Class C Telegraphy	135	Grid Res., 1300 ohms DC Grid Ma, 9.5			20	4000	5900	24	—	1.25	6026
5	0.65	19 3/8	1.38▲	RF & IF Amplifier	Typical Operation at 3100 Mc: DC Collector Volts, 400 Saturated Power Output, 1 mw. Noise Figure, 6.5 db. Gain (low-level), 25 db.										6861
6.3	0.15	1 3/4	3/4	Class A_1 Amplifier	250	−3	100	0.7	2	1.0+§	1400	—	—	—	9001
				Mixer	250	−5	100	Conversion Transcond., 550 μmhos				Osc. Peak Volts, 4			
6.3	0.15	1 3/4	3/4	Class A_1 Amplifier	90 250	−2.5 −7	—	—	2.5 6.3	14700 11400	1700 2200	25 25	—	—	9002
6.3	0.15	1 3/4	3/4	Class A_1 Amplifier	250	−3	100	2.7	6.7	700000	1800	—	—	—	9003
				Mixer	250	−10	100	Conversion Transcond., 600 μmhos				Osc. Peak Volts, 9			
6.3	0.15	1 3/8	1 5/32	Detector Rectifier	Max. AC Plate Volts, 117 Max. DC Output Ma, 5					Max. DC Heater-Cathode Volts, ±90 Resonant Frequency (Approx.), 850 Mc					9004
3.6	0.165	1 3/8	1 5/32	Detector Rectifier	Max. AC Plate Volts, 117 Max. DC Output Ma, 1					Max. DC Heater-Cathode Volts, −50 Resonant Frequency (Approx.), 1500 Mc					9005
6.3	0.15	1 3/4	3/4	Detector Rectifier	Max. AC Volts per Plate (RMS), 270 Max. Peak Plate Ma, 15 Min. Total Effective Plate- Max. Peak Inverse Plate Volts, 750 Max. DC Output Ma, 5 Supply Imped., 100 ohms										9006

§ Megohms. ◓ Excluding flexible leads. ▲ Metal shell.



6861

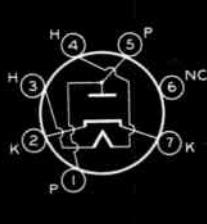


9002

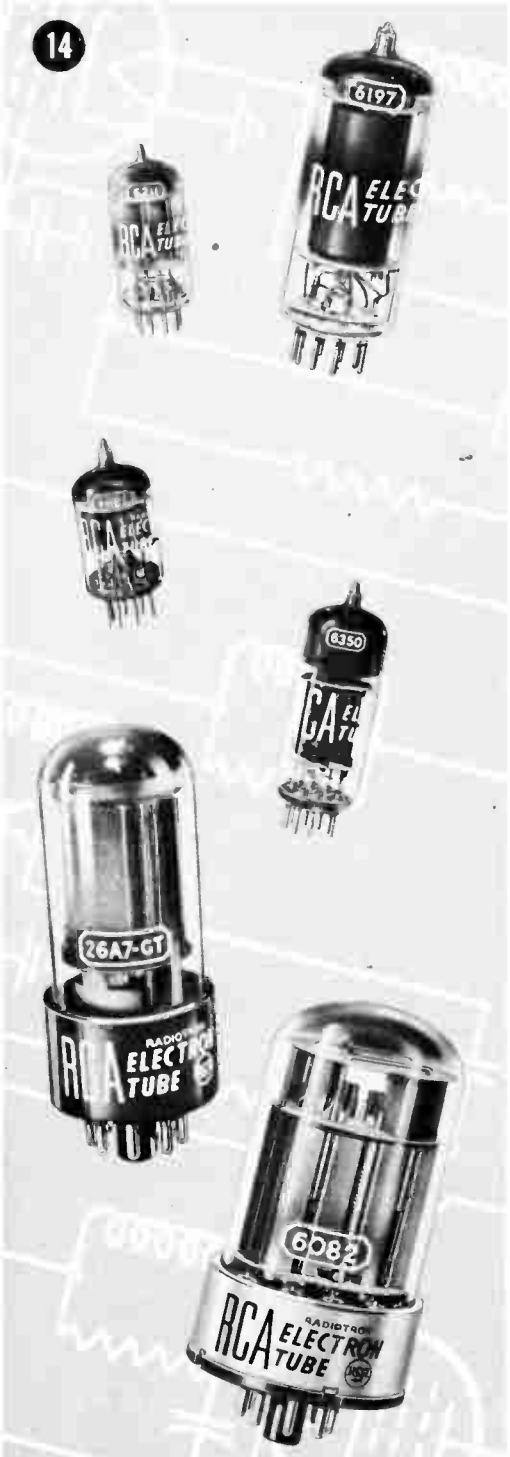
9001, 9003

See Note 2
9004

See Note 2
9005



9006



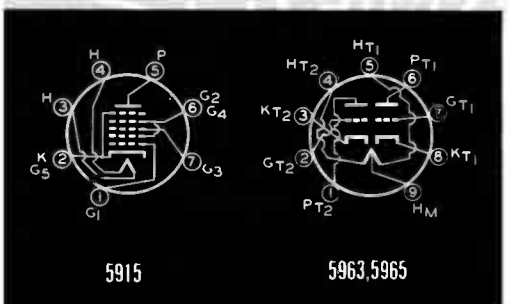
TUBES FOR COMPUTER APPLICATIONS

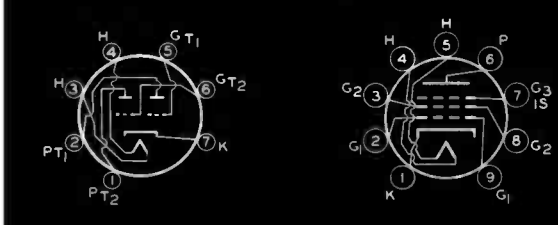
Type	Description	
5915	Pentagrid Amplifier. 7-pin miniature type. For use as gated amplifier. Grids No. 1 and No. 3 can each be used as independent control grids.	Heater-cathode types for electronic computer and other "on-off" control applications involving long periods of operation under cutoff conditions. Provide good consistency of plate current during "on" cycles.
5963	Medium-Mu Twin Triode. 9-pin miniature type. Has a separate terminal for each cathode. Values shown are for each unit.	
5964	Medium-Mu Twin Triode. 7-pin miniature type. Values shown are for each unit.	
5965	Medium-Mu Twin Triode. 9-pin miniature type. Separate terminal for each cathode. Values shown are for each unit.	
6197	Sharp-Cutoff Power Pentode. 9-pin miniature type. Also useful in pulse amplifier circuits. Has a gm of 11000 micromhos.	
6211	Medium-Mu Twin Triode. 9-pin miniature type. Separate terminal for each cathode. Values shown are for each unit.	
6350	Medium-Mu Twin Triode. 9-pin miniature type. Especially useful in high-speed digital computers. Values are for each unit.	
6887	Twin Diode. Heater-cathode, 7-pin miniature type. For use in switching circuits of medium-speed electronic computers. Low-wattage heater (only 1.26 watts).	

TUBES HAVING 26.5-VOLT HEATERS

Type	Description	
26A6	Remote-Cutoff Pentode. 7-pin miniature type. Features high transconductance.	Of special use in aircraft receivers where operating voltages are obtained from 12-cell storage batteries.
26A7-GT	Twin Beam Power Tube. Single-ended type with a common cathode. Octal 8-pin base.	
26C6	Twin Diode—Medium-Mu Triode. 7-pin miniature. Useful as a detector, amplifier and avc tube.	
26D6	Pentagrid Converter. 7-pin miniature. Useful as mixer and oscillator in superheterodyne receivers.	
6082	Low-Mu Twin Triode. Useful as regulator tube in stabilized dc power supplies subject to shock and vibration. Octal 8-pin base.	

For key to terminal connections, see page 22.





TUBES FOR COMPUTER APPLICATIONS

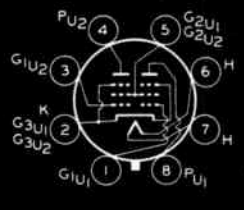
Cathode Volts	Cathode Amp.	Max. Dimensions Inches Length	Max. Dimensions Inches Diam.	Max. Ratings Plate Dissip. Watts Each Unit	Max. Ratings Plate Dissip. Watts Both Units◆	Max. Ratings DC Cathode Current Ma	Use (Values to right give operating conditions and characteristics for indicated use.)	Plate Supply Volts	Grid-No. 1 Volts	Grid-No. 2 and -No. 4 Supply Volts	Grid-No. 3 Supply Volts	Plate Current Ma	Grid-No. 2 and -No. 4 Current Ma	Plate Circuit Resistance Ohms	Grid-No. 1 Circuit Resistance Ohms	Grid-No. 3 Circuit Resistance Ohms	RCA Type
6.3	0.3	2 1/8	3/4	1		20	Gated Amp:										
							Grid-No. 1	*150*	*−10▲*	*75*	*0*	*0*	*0*	*20000*	*47000*	*47000*	
							Grid-No. 2	*150*	*0*	*75*	*−10*	*0*	*14*	*20000*	*47000*	*47000*	
								150	0	75	0	5.8	9	20000	47000	47000	**5915**
12.6/6.3	0.15/0.3	2 3/16	7/8	2.5	5.0	20	Frequency Halfer●	*150*	*−15*	—	—	*0*	—	*20000*	*47000*	—	
								150	0	—	—	5.1	—	20000	47000	—	**5963**
6.3	0.45	2 1/8	3/4	1.5	3.0	15	Frequency Halfer●	*150*	*−10*	—	—	*0*	—	*20000*	*47000*	—	
								150	0	—	—	5	—	20000	47000	—	**5964**
12.6/6.3	0.225/0.45	2 3/16	7/8	2.4	4.4	16.5	Frequency Divider●	*150*	*Grid Volts (Approx.) for Plate Current of 150 μamp = −5.5*			—	*Difference between Grid Voltages Plate Load of Units for Plate Currents of Resistance = 150 μamp per Unit = 1.5 volts Max. 7200 ohms*				**5965**
								150	Grid Volts (Approx.) for Grid Current of 140 μamp = less than 1 volt			10.5	—	7200	—	—	
6.3	0.65	2 5/8	7/8	7.5		50	Frequency Divider●	*250**	*−12*	*150**	*0*	*0*	—	—	—	—	
								250*	−3	150*	0	30	—	—	—	—	**6197**
12.6/6.3	0.15/0.3	2 3/16	7/8	1.5	3.0	16	Frequency Divider●	*150*	*Grid Volts (Approx.) for Plate Current of 100 μamp = −10 volts Max.*			—	*Difference between Grid Voltages Plate Load of Units for Plate Currents of Resistance = 100 μamp per Unit = 1 volt Max. 20000 ohms*				**6211**
								150	0	—	—	5.15	—	20000	47000	—	
12.6/6.3	6.3/0.6	2 5/8	7/8	4	7	45	Cathode Follower	Maximum Ratings, Absolute Values: DC Plate Volts, 330; Peak Positive-Pulse Plate Volts, 1000; DC Grid Volts, −80; +4 ↻; Grid Current (ma), dc = 5.5; peak = 110; Cathode Current (ma), dc = 45; peak = 350									**6350**
6.3	0.2	1 3/4	3/4	—	—	30△ 10◓	Switching Service	Maximum Ratings, Absolute Values: Peak Inverse Plate Volts, 300; Peak Heater-Cathode Volts, ±150; Peak Plate Current, 30 ma; DC Plate Current, 10 ma									**6887**

TUBES HAVING 26.5-VOLT HEATERS

Cathode Volts	Cathode Amps.	Max. Dimensions Inches Length	Max. Dimensions Inches Diam.	Use (Values to right give operating conditions and characteristics for indicated use.)	Plate Supply Volts	Grid-No. 1 Volts	Grid-No. 2 Supply Volts	Grid-No. 2 Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Transconductance Micromhos	Amplification Factor	Load for Stated Power Ohms	Power Output Watts	RCA Type
26.5	0.07	2 1/8	3/4	Class A_1 Amplifier	26.5	—	26.5	0.7	1.7	250000	2000	Grid Res., 2 megohms			
					250	—	100	4.0	10.5	1.0§	4000	Cath. Res., 125 ohms			**26A6**
26.5	0.6	3 13/16	1 5/16	Class A_1 Amplifier■	26.5	−4.5	26.5	1.9	20	—	5700	—	1500	0.165	
				Class AB Amplifier	26.5	−7	26.5	2	19	—	—	—	2500¶	0.5	**26A7-GT**
26.5	0.07	2 1/8	3/4	Triode Unit as	26.5	from grid res., 2 megohms			1.1	15500	1100	17	—	—	
				Class A_1 Amplifier	250	−9	—	—	9.5	8500	1900	16	—	—	**26C6**
26.5	0.07	2 1/8	3/4	Converter	26.5	−0.5	26.5	1.6	0.45	—	Conversion Transcond., 270 μmhos				
					250	−1.5	100	7.8	3	1.0§	Conversion Transcond., 475 μmhos				**26D6**
26.5	0.6	4 1/16	1 23/32	DC Amplifier■	Maximum Ratings, Absolute Values: Plate Volts, 250; Plate Dissipation, 13 watts; Grid-Circuit Resistance for Plate Ma., 125; Peak Heater-Cathode Volts, ±300; Cath.-Bias Operation, 1 megohm										**6082**

● Values shown in italics are for cutoff condition; other values are for conduction condition. ▲ Grid-No. 1 Supply Volts. * Voltages at electrode terminals.
△ Peak Plate Current. ◓ DC Plate Current. ■ Each unit. ¶ Plate-to-plate. § Megohms. ◆ With both units operating.

26A6

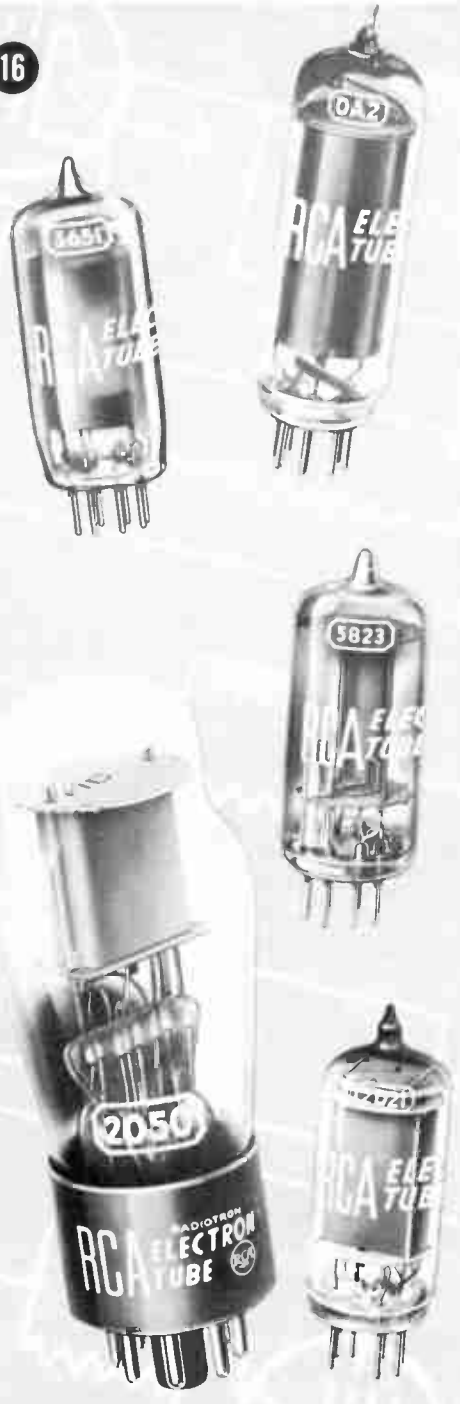


26A7-GT

26C6

26D6

6082



GLOW-DISCHARGE (Cold-Cathode) TUBES

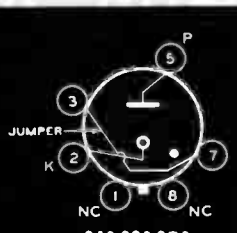
Type	Description	
VOLTAGE-REGULATOR TYPES		
OA2	Intended for use in applications where it is necessary to maintain a constant dc output voltage across a load, independent of load current and moderate line-voltage variations.	Miniature button 7-pin base.
OA3		Octal 6-pin base.
OB2		Miniature button 7-pin base.
OC3		Octal 6-pin base.
OD3		Octal 6-pin base.
991		Candelabra, double-contact base.
6073/OA2	Like the OA2 and OB2 but having very stable characteristics and intended for applications critical as to shock and vibration.	
6074/OB2		
VOLTAGE-REFERENCE TYPES		
5651	7-pin miniature type designed for extreme voltage stability. Voltage stability is such that voltage fluctuations at any current value within the operating current range (1.5 to 3.5 ma.) are less than 0.1 volt.	
RELAY TYPES		
OA4-G	For use in calculating machines and carrier-current relay systems. Octal 6-pin base.	
1C21	Similar to OA4-G, but for dc operation only.	
5823	Miniature 7-pin type intended primarily for the "on-off" control of low-current electrical circuits.	

THYRATRONS

Type	Description
TRIODES (Gas Types)	
884	Negative-control, heater-cathode type. Small shell, octal 6-pin base.
885	Negative-control, heater-cathode type. Small 5-pin base.
TETRODES (Gas Types)	
2D21	Miniature heater-cathode type. Can be operated in a high-sensitivity circuit directly from a vacuum phototube. Miniature button 7-pin base.
502-A	Metal, negative-control, heater-cathode type. Octal 8-pin base.
2050	Negative-control, heater-cathode type. Can be operated directly from a vacuum phototube. Octal 8-pin base.
5696	Miniature 7-pin type for relay applications such as counter-circuits where low-heater-current drain and short deionization time are important considerations.
6012	Negative-control, heater-cathode type. For grid-controlled rectifier and relay applications, particularly those involving motor-control and low-power inverter service.

For key to terminal connections, see page 22.

0A2,0B2



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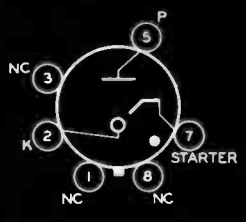
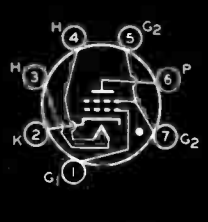
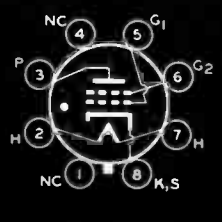


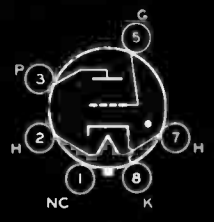
0A4-G,1C21



2D21 5696



502-A 2050



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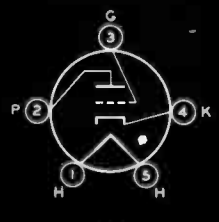


885

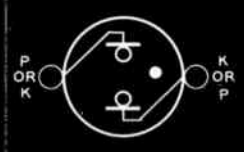
GLOW-DISCHARGE (Cold-Cathode) TUBES

Applications	Max. Dimensions Inches		Max. Starting Current Ma.	DC Operating Current Ma.		Ambient Temperature Range °C	Operating Conditions					RCA Type
							Approx. DC Starting Volts	Min. DC Anode-Supply Volts	Approx. DC Operating Volts	Regulation		
	Length	Diam.		Max.	Min.					Current Range Ma.	Volts	
VOLTAGE-REGULATOR TYPES												
Regulation of dc voltage supplies for amplifiers, oscillators, etc.; can also be used as relaxation oscillators	2 5/8	3/4	75	30	5	−55 to +90	156	185	151	5 to 30	2	**OA2**
	4 1/8	1 9/16	100	40	5	−55 to +90	100	105	75	5 to 40	5	**OA3**
	2 5/8	3/4	75	30	5	−55 to +90	115	133	108	5 to 30	1	**OB2**
	4 1/8	1 9/16	100	40	5	−55 to +90	115	133	108	5 to 40	2	**OC3**
	4 1/8	1 9/16	100	40	5	−55 to +90	160	185	153	5 to 40	4	**OD3**
	1 9/16	5/8	—	2	0.4	—	67	87	59	0.4 to 2.0	8	**991**
Same as OA2 and OB2	Instantaneous Impact Acceleration, 500 max. g Vibrational Acceleration for Extended Periods, 2.5 g											**6073/OA2**
	Instantaneous Impact Acceleration, 500 max. g Vibrational Acceleration for Extended Periods, 2.5 g											**6074/OB2**
VOLTAGE-REFERENCE TYPES												
Voltage-Reference Tube	2 1/8	3/4	—	3.5	1.5	−55 to +90	107	115	87	1.5 to 3.5	3	**5651**
RELAY TYPES												
Relay Service	4 1/8	1 9/16	Max. Peak Inverse Anode Volts, 225 Peak Starter-Electrode Breakdown Volts, +75 to +90			Max. Peak Cathode Current, 100 ma. Max. Av. Cathode Current, 25 ma.						**OA4-G**
	2 5/8	1 5/16	Max. Peak Inverse Anode Volts, 180 Peak Starter-Electrode Breakdown Volts, +66 to +80			Max. Peak Cathode Current, 100 ma. Max. Average Cathode Current, 25 ma.						**1C21**
	2 1/8	3/4	Max. Peak Anode and Starter-Electrode Volts, 200 Peak Starter-Electrode Breakdown Volts, +73 to +105			Max. Peak Cathode Current, 100 ma. Max. Average Cathode Current, 25 ma.						**5823**

THYRATRONS

Applications	Cathode		Max. Dimensions Inches		Approx. Tube Drop Volts	Maximum Ratings						RCA Type
						Temperature Range		Peak Forward Anode Volts	Peak Inverse Anode Volts	Peak Cathode Amperes	Average Cathode Amperes	Fault Amperes	
	Volts	Amp.	Length	Diam.		Condensed Mercury °C	Ambient °C						
For complete listing of Thyratrons, see Power and Gas Tubes Booklet, PG-101-C.												**TRIODES (Gas Types)**	
Relaxation oscillators.	6.3	0.6	4 1/8	1 9/16	14	—	−75 to +90	350	—	0.3	0.075	—	**884**
	Max. Ratings for Relaxation Osc., Peak Anode Volts, 300; Peak Cathode Amp., 0.3												
Relaxation oscillators.	2.5	1.5	4 3/16	1 9/16	14	—	−75 to +90	350	—	0.3	0.075	—	**885**
	Max. Ratings for Relaxation Osc., Peak Anode Volts, 300; Peak Cathode Amp., 0.3												
												TETRODES (Gas Types)	
High-sensitivity relay control circuits.	6.3	0.6	2 1/8	3/4	8	—	−75 to +90	650	1300	0.5	0.1	10	**2D21**
	Typical Operation Relay Service-Anode Volts, 400; Grid-No. 1 Circuit Res., 1 megohm												
	6.3	0.6	2 5/8	1 5/16	8	—	−55 to +90	650	1300	1.0	0.1	10	**502-A**
	6.3	0.6	4 1/8	1 9/16	8	—	−75 to +90	650	1300	1.0	0.1	10	**2050**
	Grid-No. 1 Circuit Resistance, 10 megohms max.												
	6.3	0.15	1 3/4	3/4	10	—	−55 to +90	500	500	0.1	0.025	2	**5696**
	Typical Operating Conditions for Relay Service: AC Anode Voltage (RMS), 117 volts; Grid-No. 1 Bias Volts (RMS), 5; Peak Grid-No. 1 Signal Volts, 5; Grid-No. 1 Circuit Resistance, 0.1 megohm												
	6.3	2.6	4 1/4	1 23/32	10	—	−75 to +90	650	1300	5	0.5	20	**6012**
	Grid-No. 1 Circuit Resistance, 2 megohms max.												

All thyratron ratings are for continuous service.

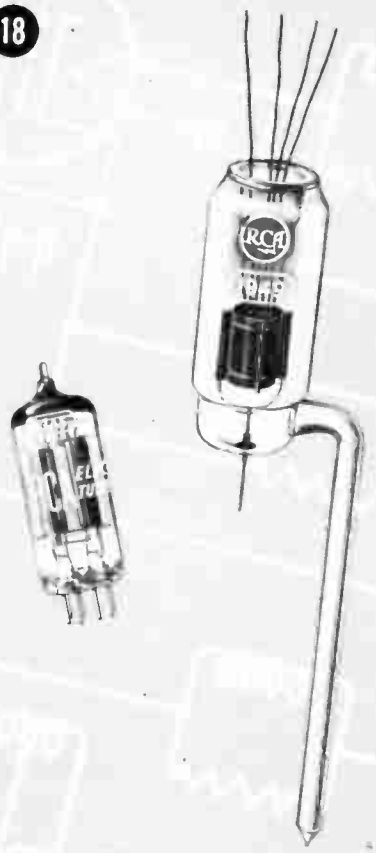


991

5651
6073/0A2 6074/0B2

5823

6012



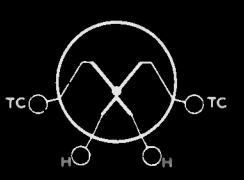
VACUUM-GAUGE TUBES

RCA Type	Description	
1946	Thermocouple Type. Resistance of thermocouple, 5 ohms approx.	For use in determination of gas pressures in vacuum systems and vacuum enclosures.
1947	Pirani Type. Each tube individually calibrated to 135.8 ohms res., under vacuum better than 3 x 10^{-5} mm of Hg. Small 4-pin base.	
1949	Ionization Type having two tungsten filaments, one a spare.	
1950	Ionization Type similar to 1949 but constructed with soft glass.	

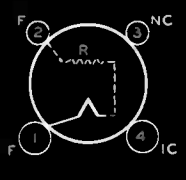
MISCELLANEOUS TYPES

RCA Type	Description
3A4	Power Pentode. 7-pin miniature, coated-filament, dry-cell type. Can deliver 1.2 watts power output at 10 Mc in rf amplifier service.
3A5	Medium-Mu Twin Triode. 7-pin miniature, coated-filament, dry-cell type. Can deliver 2 watts power output at 40 Mc in push-pull class C service.
5R4-GY	Full-Wave Vacuum Rectifier. Coated-filament type. Useful in aircraft applications at altitudes up to 40000 feet. Octal 5-pin base.
6AG7-Y	Power Pentode. Has a low-loss-phenolic base but otherwise identical with the 6AG7.
6AS6	Sharp-Cutoff Pentode. 7-pin miniature type with heater-cathode. For use in gated amplifier circuits, delay circuits, and gain-controlled amplifier circuits.
6AS7-G	Low-Mu Twin Triode. Heater-cathode type. Has high perveance, a mu of 2, and an ac plate resistance of 280 ohms. For use as a regulator tube in dc power supplies, and in projection television booster scanning applications. Octal 8-pin base.
6SJ7-Y	Sharp-Cutoff Pentode. Has a low-loss-phenolic base but otherwise identical with the 6SJ7.
12A6	Beam Power Tube. Metal type with 12.6-volt heater. Octal 7-pin base.
12L8-GT	Twin Power Pentode. 12.6-volt heater. Octal 8-pin base.
12SW7	Twin Diode—Medium-Mu Triode. Single-ended metal type with an octal 8-pin base. Similar to the 6SR7 except for heater rating.

For key to terminal connections, see page 22.



1946



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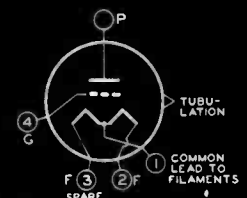
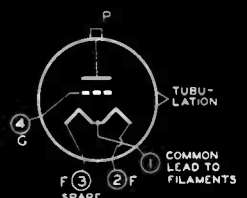
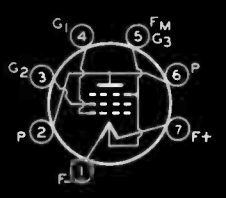


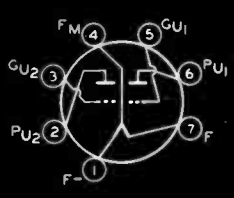
1949



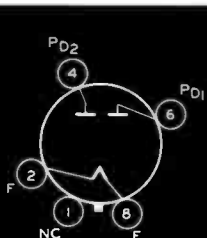
1950



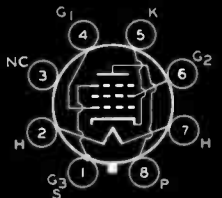
3A4



3A5



5R4-GY



6AG7-Y

VACUUM-GAUGE TUBES

Heater or Filament		Maximum Dimensions Including Tabulation Inches			Type of Glass	Maximum Ratings				Operating Position	Range of Gas Pressure				RCA Type
						Filament Volts	DC Plate Volts	DC Grid Volts	Ambient Temp. °C		Useful Sensitivity		Greatest Sensitivity		
						During Operation					Microns of Hg	Mm of Hg	Microns of Hg	Mm of Hg	
Volts	Amp.	Length	Diam.	Tubulation Diam.											
Htr. 1.0	0.07	6 1/4♦	1 11/16	3/8	Hard, Corning Code 772 Nonex	—	—	—	—	Any	1000 to 0.1	1 to 10^{-4}	1000 to 1	1 to 10^{-3}	1946
Fil. 10	0.07 to 0.1	7 9/16	1 3/16	7/32	Soft, Corning Code 001 Lead	16	—	—	—	Any	1500 to less than 10	1.5 to less than 0.01	500 to 10	0.5 to 0.01	1947
Fil. 5	3.5	11 1/2♦	2 3/16*	1/2	Hard, Corning Code 772 Nonex	6.5	−100	+200	100	See Note A	below 0.1	below 10^{-4}	—	—	1949
Fil. 5	3.5	11 1/4♦	2 3/16*	1/2	Soft, Corning Code 012 Lead	6.5	−100	+200	100	See Note A	below 0.1	below 10^{-4}	—	—	1950

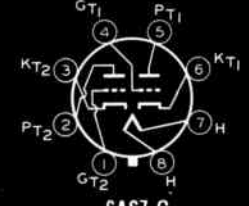
MISCELLANEOUS TYPES

Cathode		Maximum Dimensions Inches		Use Values to right give operating conditions and characteristics for indicated use.	Plate Supply Volts	Grid-No. 1 Volts	Grid-No. 2 Supply Volts	Grid-No. 2 Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Transconductance Micromhos	Amplification Factor	Load for Stated Power Ohms	Power Output Watts	RCA Type
Volts	Amps.	Length	Diam.												
2.8 / 1.4	0.1 / 0.2	2 1/8	3/4	Class A_1 Amplifier	150	−8.4	90	2.2	13.3	80000	2250	—	8000	0.7	3A4
				Rf Power Amplifier	150	Grid Leak	135	6.5	18.3	Power Output, 1.2 watts at 10 Mc.					
2.8 / 1.4	0.11 / 0.22	2 1/8	3/4	Class A_1 Amplifier■	90	−2.5	—	—	3.7	8300	1800	15	—	—	3A5
				Push-Pull Class C Amplifier	135	−20	—	—	30.0 Driving power, 0.2 watt					2.0 at 40 Mc.	
5	2	5 5/16	2 1/16	At 40000 Feet With Capacitive-Input Filter	Max. AC Volts per Plate (RMS), 750 Max. DC Output Ma., 250 Min. Total Effect. Supply Max. Peak Inverse Volts, 2100 Max. Peak Plate Ma., 650 Imped. per Plate, 125 ohms										5R4-GY
				At 40000 Feet With Inductive-Input Filter	Max. AC Volts per Plate (RMS), 850 Max. DC Output Ma., 250 Min. Value of Input Choke, Max. Peak Inverse Volts, 2400 Max. Peak Plate Ma., 650 5 henries										
6.3	0.65	3 1/4	1 5/16	Class A_1 Amplifier	300	−3	150	7	30	130000	11000	—	10000	3	6AG7-Y
6.3	0.175	1 3/4	3/4	Class A_1 Amplifier	120	−2	120	3.5	5.2	110000	3200	—	—	—	6AS6
6.3	2.5	5 5/16	2 1/16	DC Amplifier	Maximum Ratings, Design Center Values: Plate Volts, 250 Plate Watts, 13 Grid-Circuit Resistance for Plate Ma, 125 Peak Heater-Cathode Volts, ±300 Cath.-Bias Operation, 1 megohm.										6AS7-G
6.3	0.3	2 5/8	1 5/16	Class A_1 Amplifier	250	−3	100	0.8	3	*	1650	—	—	—	6SJ7-Y
12.6	0.15	3 1/4	1 5/16	Class A_1 Amplifier	250	−12.5	250	3.5	30.0	70000	3000	—	7500	3.4	12A6
12.6	0.15	3 5/16	1 5/16	Class A_1 Amplifier■	180	−9.0	180	2.8	13.0	160000	2150	—	10000	1.0	12L8-GT
12.6	0.15	2 5/8	1 5/16	Class A_1 Amplifier	26.5	from grid res., 2 meg.			1.1	15500	1100	17	—	—	12SW7
					250	−9	—	—	9.5	8500	1900	16	—	—	

* Maximum radius.
■ Each unit.
♦ Excluding flexible leads.
* Greater than 1 megohm.

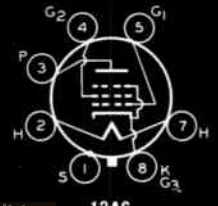
Note A: Vertical, with tubulation up or down; horizontal, with stem press in vertical plane.

6AS6



6AS7-G

6SJ7



12A6

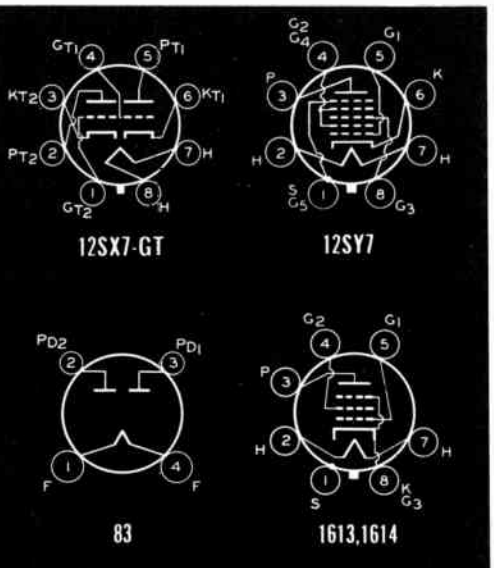
12L8-GT

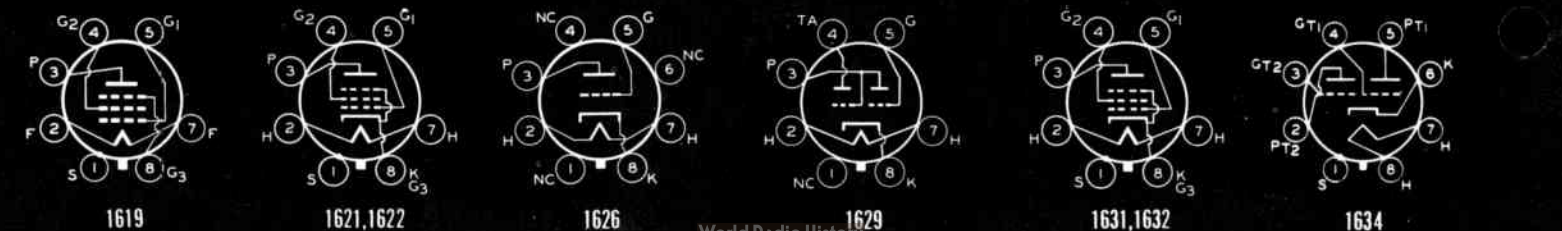
12SW7

MISCELLANEOUS TYPES—Cont'd

Type	Description
12SX7-GT	Medium-Mu Twin Triode. Similar to the 6SN7-GT except for heater rating. Octal 8-pin base.
12SY7	Pentagrid Converter. Metal type with an octal 8-pin base. Similar to the 6SA7 except for heater rating.
83	Full-Wave Mercury-Vapor Rectifier. Useful in dc power supplies subject to wide variations in the output current. Values shown are for the temperature range from 20° to 60° C. Medium 4-pin base.
1613	Power Pentode. Heater-cathode type. For police and emergency broadcast use. Useful as a crystal oscillator. Octal 7-pin base.
1614	Beam Power Tube. Heater-cathode type. For police and emergency broadcast use. Octal 7-pin base.
1619	Beam Power Tube. Has a fast-heating, coated filament. Useful in equipment requiring quick off-to-on action. Octal 7-pin base. Values shown are for two tubes in class AB_2 service.
1621	Power Pentode. Similar to 6F6. For applications requiring continuity of service. Octal 7-pin base. Values shown are for two tubes.
1622	Beam Power Tube. Similar to 6L6. For applications requiring continuity of service. Octal 7-pin base. Values shown are for two tubes.
1626	Low-Mu Triode. For rf oscillator applications requiring stability of characteristics. Has a low-loss-phenolic, octal 8-pin base.
1629	Electron-Ray Tube. Similar to 6E5 except for 12.6-volt heater. Useful as a voltage indicator in aircraft equipment. Octal 7-pin base.
1631	Beam Power Tube. Similar to 6L6 except for 12.6-volt heater and dissipation ratings. For applications critical as to uniformity of characteristics.
1632	Beam Power Tube. Similar to the 25L6 except for 12.6-volt heater and dissipation ratings. For applications critical as to uniformity of characteristics.
1634	Twin-Triode Amplifier. Similar to type 12SC7 but especially suited for applications requiring matched triode units.
1635	High-Mu Twin Triode. Heater-cathode type. For audio amplifier applications. Octal 8-pin base.
5618	VHF Power Pentode. 7-pin miniature type. Has a center-tapped heater for either 3- or 6-volt operation. Off-to-on action takes only one second. Useful as a frequency multiplier at full ratings up to 100 Mc.
5642	Half-Wave Rectifier. Subminiature filamentary type with flexible leads. For use in compact portable equipment requiring high peak inverse voltages.
5687	Medium-Mu Twin Triode. 9-pin miniature type. For general-purpose amplifier applications. Separate base-pin connection for each cathode.
5734	Mechano-Electronic Transducer. Triode type. For translating mechanical vibration into electrical current variations which can be observed and measured. Flexible leads.
5763	VHF Beam Power Tube. 9-pin miniature. For use in compact, low-power mobile transmitters and in low-power stages of fixed station transmitters. Particularly useful in doubler and tripler service. Has unipotential cathode.

For key to terminal connections, see page 22.

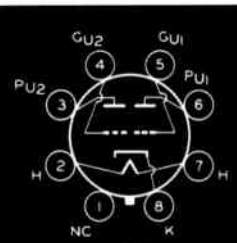




MISCELLANEOUS TYPES – Cont'd

Cathode Volts	Cathode Amps.	Maximum Dimensions Inches Length	Maximum Dimensions Inches Diam.	Use — Values to right give operating conditions and characteristics for indicated use.	Plate Supply Volts	Grid-No. 1 Volts	Grid-No. 2 Supply Volts	Grid-No. 2 Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Transconductance Micromhos	Amplification Factor	Load for Stated Power Ohms	Power Output Watts	Type
12.6	0.3	3 5/16	1 5/16	Each Unit as Class A_1 Amplifier	26.5 250	from grid res., 0.05 meg. −8	— —	— —	1.8 9	11500 7700	1800 2600	21 20	— —	— —	12SX7-GT
12.6	0.15	2 5/8	1 5/16	Converter	26.5 250	−1‡ −2‡	26.5† 100†	1.7† 8.5†	0.45 3.5	— 1.0§	Conversion Transcond., 250 μmhos Conversion Transcond., 450 μmhos				12SY7
5.0	3.0	5 3/8	2 1/16	With Capacitive-Input Filter	Max. AC Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1550				Max. DC Output Ma., 225 Max. Peak Plate Amp., 1		Min. Total Effec. Supply Imped./Plate, 50 ohms				83
				With Inductive-Input Filter	Max. AC Volts per Plate (RMS), 550 Max. Peak Inverse Volts, 1550				Max. DC Output Ma., 225 Max. Peak Plate Ma., 1000		Min. Value of Input Choke, 3 henries				
6.3	0.7	3 1/4	1 5/16	Class C Telephony	275	−35	200	10	42	—	2500	—	—	6	1613
				Class C Telegraphy	350	−35	200	10	50	—	2500	—	—	9	
6.3	0.9	4 5/16	1 5/8	Class C Telephony**	375	−50	250	7	93	—	6050	—	—	24.5	1614
				Class C Telegraphy**	450	−45	250	8	100	—	6050	—	—	31	
2.5	2.0	4 5/16	1 5/8	RF Amp. & Osc. Class C Telegraphy	400	−16.5	300	6.5	75	—	4500	—	6000¶	36	1619
				Class C Telephony	325	−50	285	7.5	62	—	4500	—	—	13	
				Class C Telegraphy	400	−55	300	10.5	75	—	4500	—	—	19.5	
6.3	0.7	3 1/4	1 5/16	Push-Pull Class A_1 Amplifier	300	−30	300	6.5	38	—	—	—	4000¶	5	1621
6.3	0.9	4 5/16	1 5/8	Push-Pull Class A_1 Amplifier	300	−20	250	4	86	—	—	—	4000¶	10	1622
12.6	0.25	4 1/8	1 9/16	Class C Telegraphy	250	−70	—	—	25	Driving Power, 0.5 watt approx.		5	—	4	1626
12.6	0.15	4 1/8	1 3/16	Visual Indicator	Plate and Target Supply Volts, 250. Triode Plate Resistor, 1.0§. At zero grid bias, target ma = 2, triode plate ma. = 0.2, shadow angle = 90°. At −7.5-volts grid bias, shadow angle = 0°.										1629
12.6	0.45	4 5/16	1 5/8	Push-Pull Class AB_1 Amplifier	360 360	−22.5 −22.5	270 270	5◆ 5◆	88◆ 88◆	—	—	—	6600¶ 3800	26.5 18	1631
12.6	0.6	3 1/4	1 5/16	Single Tube Class A_1 Amplifier	110	−7.5	110	4	49	13000	9000	—	2000	2.1	1632
12.6	0.15	2 5/8	1 5/16	Each Unit as Class A Amplifier	250	−2	—	—	2.0	53000	1325	70	—	—	1634
6.3	0.6	3 5/16	1 5/16	Class B Amplifier	300	0	—	—	Power output is for one tube at stated plate-to-plate load.				12000	10.4	1635
6.0° / 3.0△	0.23° / 0.46△	2 5/8	3/4	Class A_1 Amplifier**	250	−8	75	2.0	19.0	—	3600	—	12000	1.4	5618
				RF Amp. & Osc. Class C Telegraphy**	300	−45	75	7.0	25.0	Approx. driving power, 0.3 watts				4.5 at 80 Mc.	
				Tripler to 80 Mc.**	300	−125	75	5.5	25.0	Approx. driving power, 0.75 watts				2.7	
1.25	0.2	2.38◓	0.4	Half-Wave Rectifier	Max. Peak Inverse Volts, 10,000 Supply Voltage Frequency, 400 Kc max.				Max. DC Plate Ma., 2 Max. Peak Plate Ma., 12						5642
6.3 / 12.6	0.9 / 0.45	2 3/16	7/8	Class A_1 Amplifier	120	−2	—	—	36	1700	11000	18.5	—	—	5687
					180	−7	—	—	21	2100	8250	17.5	—	—	
					250	−12.5	—	—	12.5	3000	5500	16.5	—	—	
6.3	0.15	1.300	0.328	Measurement of Mechanical Vibration	300	0	—	—	1.5•	72000•	275•	20•	75000	—	5734
					Deflection Sensitivity, 40 volts per degree (2300 volts/radian) Minimum Free Cantilever Resonance, 12000 cycles per second										
6.0	0.75	2 5/8	7/8	RF Ampifier Class C Telephony**	300	−42.5	250	6	50	Approx. driving power at 30 Mc, 0.15 watt				10	5763
				RF Amp. & Osc. Class C Telegraphy	300	−60	250	5	50	Approx. driving power at 50 Mc, 0.35 watt				7	
				Tripler to 175 Mc.	300	−100	300••	5	35	Approx. driving power, 0.6 watt				1.3	

◆ For two tubes. ¶ Plate-to-plate. •• With a screen resistor of 12500 ohms. • For plate shaft in undeflected position. ✻ Including tubulation. § Megohms.
** Intermittent Commercial and Amateur Service. ° For series filament arrangement, filament voltage is applied between pins No. 1 and No. 7. The grid-No. 1 voltage is referred to pin No. 1, and grid-No. 3 is connected to pin No. 1. △ For parallel filament arrangement, filament voltage is applied between pin No. 5 and pins No. 1 and No. 7 connected together. Grid-No. 1 voltage is referred to pin No. 5, and grid-No. 3 is connected to pin No. 5. ◓ Excluding flexible leads.
† For No. 2- and No. 4-grids, which are connected internally. ‡ For No. 3-grid, which is control grid.



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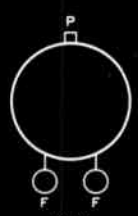

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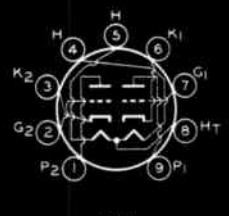

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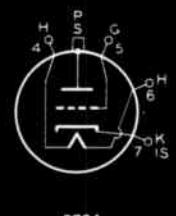

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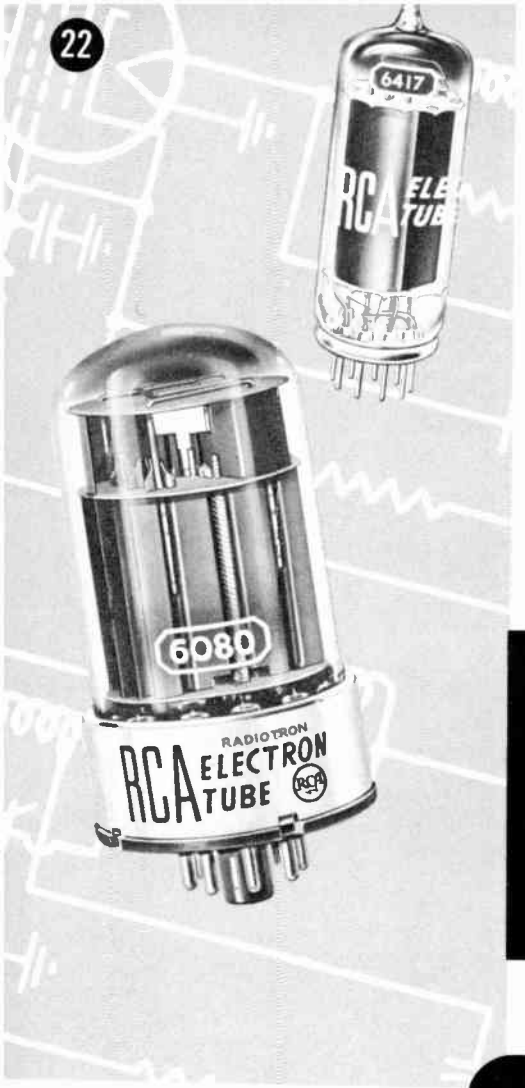
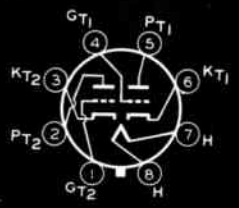


MISCELLANEOUS TYPES—Cont'd

RCA Type	Description
5881	Beam Power Tube. Glass-octal type. For output stages of radio receivers and audio amplifiers particularly in the push-pull stages of high-fidelity audio amplifiers. Octal 7-pin base.
6080	Low-Mu Twin Triode. Similar to the 6AS7-G, but smaller in size. Intended for applications critical as to shock and vibration, and requiring reduced susceptibility to electrolysis. Octal 8-pin base.
6417	VHF Beam Power Tube. 9-pin miniature type. Identical with 5763 except for 12.6-volt heater.

5881



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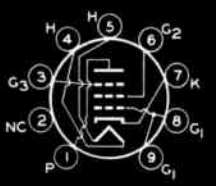


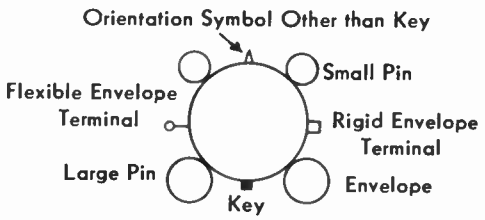
6417

LEGEND FOR BASE AND ENVELOPE CONNECTION DIAGRAMS

Diagrams show terminals veiwed from base or filament end of tube.

Alphabetical subscripts B, D, P, T, and TR, indicate, respectively, beam unit, diode unit, pentode unit, triode unit, and tetrode unit in multi-unit types.

F = Filament
FM = Filament Mid-Tap
G = Grid
H = Heater
HM = Heater Mid-Tap
IC = Internal Connection—Do Not Use.
IS = Internal Shield
K = Cathode
● = Gas-Type Tube
NC = No Connection
P = Plate (Anode)
TA = Target
S = Shell
U = Unit



In addition to the tube types covered in this booklet, the ELECTRON TUBE DIVISION of the RADIO CORPORATION OF AMERICA offers the following:

PHOTOSENSITIVE DEVICES
Television Camera Tubes: Image Orthicons, Iconoscopes, Monoscopes, and Vidicons; *Phototubes:* Single-Unit, Twin-Unit, and Multiplier Types; and *Photoconductive Cells.*

DRY BATTERIES
For Radios, Flashlights, and Industrial Applications.

RECEIVING TUBES FOR AM, FM, AND TV BROADCAST
Rectifiers, Diode Detectors, Converters, Voltage and Power Amplifiers, Oscillators, Mixers, and TV Picture Tubes.

CATHODE-RAY AND STORAGE TUBES
Special-Purpose Kinescopes, Oscillograph Types, and Storage Types.

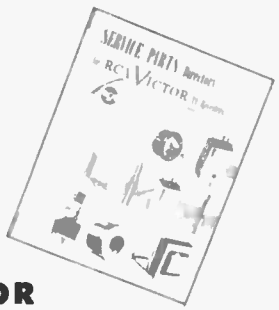
RCA VICTOR SERVICE PARTS
For RCA Phonographs, Radios, and TV Receivers.

SEMICONDUCTOR DEVICES
Transistors and Diodes.

TEST AND MEASURING EQUIPMENT
For AM, FM, and TV Servicing, as well as for Laboratories and Industrial Uses.

For a complete listing of these RCA products, or for technical information on any of these items, see your RCA Tube Distributor, or write to Commercial Engineering, RCA, Harrison, New Jersey.

RCA *Technical* PUBLICATIONS



RCA VICTOR SERVICE DATA

- *schematic diagrams*
- *wiring diagrams*
- *alignment procedures*
- *waveforms*
- *trouble-shooting suggestions*
- *latest production changes*
- *complete parts lists*
- *top and bottom chassis views*
- *voltage charts*
- *shop tips*

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Vol. No.	Years	Pages	Price
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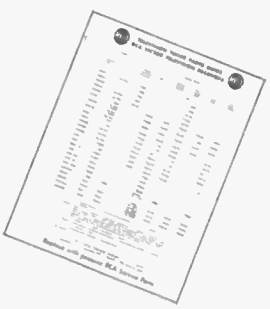
II	1938-1942	816	$4.00
III	1943-1946	290	$4.00
IV	1947-1948	566	$6.00
V	1949	330	$5.00
VI	1950	472	$5.50
VII	1951	304	$5.00
VIII	1952	314	$5.00



• **SERVICE PARTS DIRECTORIES FOR RCA VICTOR TV RECEIVERS**—SP-1007 (10⅞" x 16¾") 80 pages. Schematic diagrams and replacement parts lists for all RCA Victor TV receivers manufactured from 1946 through June 1950 (56 models). Each schematic diagram faces its corresponding parts list for quick reference. Price, 75 cents per copy.

SP-1014 (10⅞" x 16¾") 142 pages. Schematic diagrams, replacement parts, and top and bottom chassis views for the 71 models of 1950 and 1951 RCA Victor TV receivers. The comprehensive index for model and chassis numbers provides a ready source of reference. Price, $1.50 per copy.

SP-1021 (10⅞" x 16¾") 36 pages. Schematic diagrams, wiring diagrams, replacement parts, and top and bottom chassis views for the 27 models of 1952 RCA Victor TV receivers. The comprehensive index cross-references RCA TV model names to model numbers, and model numbers to the publication in which information may be found. Price, 50 cents per copy.

SP-1028 (10⅞" x 16¾") 84 pages. Schematic diagrams, wiring diagrams, replacement parts, and top and bottom chassis views for the 108 models of 1953 RCA Victor TV receivers. Also includes schematic diagrams, replacement parts, and other information for radio chassis used in radio-TV combination receivers. Cross-references model names to model numbers of all RCA TV receivers from 1946 through 1953. Cross-references all model numbers and chassis numbers to the publication in which information may be found. Price, $1.35 per copy.

• **RCA VICTOR TV SERVICE PARTS GUIDE**—SP-2001 (10⅞" x 8⅜") 12 pages. Lists stock numbers of major replacement parts for RCA Victor TV sets by receiver model number. Covers period from 1946 through 1953. Price, 25 cents per copy.

• **RCA TELEVISION TUNER PARTS GUIDE**—SP-2002 (10⅞" x 8⅜") Single sheet. Lists stock numbers of tuner-replacement parts by tuner-chassis numbers. Also lists tuner-chassis numbers by RCA Victor model numbers. Covers period of 1946 through 1953. Single copy free on request.

• **RCA PHONOGRAPH CARTRIDGE GUIDE**—SP-2003 (10⅞" x 8⅜") Single sheet. Lists stock numbers of RCA cartridges and replacement stylii. Also lists stock numbers of RCA cartridges and model numbers of record players by RCA Victor model numbers. Single copy free on request.

These publications may be obtained from your RCA Tube Distributor or direct from Commercial Engineering, Tube Division, Radio Corporation of America, Harrison, New Jersey.

RADIO CORPORATION of AMERICA

TUBE DIVISION **HARRISON, N. J.**

11-54/FORM No. SPP-1009-H

TECHNICAL PUBLICATIONS ON RCA ELECTRON TUBES

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• **PHOTOTUBES BOOKLET—PT-20R1** (10⅞" x 8⅜")—16 pages. Phototube theory, data on 15 types, curves and circuits for light-operated relays, light measurements, and sound reproduction. Single copy free on request.

• **RADIOTRON DESIGNER'S HANDBOOK**—4th Edition (8¾" x ")—1500 pages. New, enlarged, up-to-date 4th Edition is comprehensive reference thoroughly covering the design of radio and audio circuits and equipment. Written for the design engineer, student, and experimenter. Contains 1000 illustrations, 2500 references, and cross-referenced index of 7000 entries. Edited by F. Langford-Smith of Amalgamated Wireless Valve Company Pty Ltd. in Australia. Price $7.00*.

• **POWER AND GAS TUBES FOR RADIO AND INDUSTRY**—Bulletin PG-101-A (10⅞" x 8⅜")—20 pages. Technical information on more than 160 RCA vacuum power tubes, rectifier tubes, thyratrons, ignitrons, and voltage regulators. Includes terminal connections. Price 15 cents.*

• **PHOTOTUBES, CATHODE-RAY AND SPECIAL TUBES**—Bulletin CRPS-102-A (10⅞" x 8⅜")—20 pages. Completely revised and brought up to date. Technical information on 150 single-unit, twin-unit, and multiplier phototubes, cathode-ray tubes, camera tubes, monoscopes, and types for special applications. Includes terminal connection diagrams. Price 15 cents.*

• **RECEIVING TUBES FOR AM, FM, AND TELEVISION BROADCAST**—Bulletin 1275-F (10⅞" x 8⅜")—24 pages. Completely revised and brought up to date. Contains characteristics of more than 495 RCA receiving tubes including kinescopes. Socket connection diagrams arranged for quick and easy reference. Price 15 cents.*

• **RCA KINESCOPES**—Bulletin KB-1022 (10⅞" x 8⅜")—20 pages. Characteristics and basing diagrams for RCA's complete line of kinescopes. Includes interchangeability directory and features a conversion chart helpful in modifying television receivers for larger kinescopes. Price 25 cents.*

• **RCA POWER-TUBE FITTINGS**—Bulletin PTF-1012 (10⅞" x 8⅜")—24 pages. Lists 39 power-tube fittings designed for supporting and cooling power tubes, and illustrates their use with power tubes made by RCA and other manufacturers. Includes exploded-view assembly drawings as well as detail drawings of all fittings. Price 25 cents.*

• **INSTRUCTION BOOKLETS**—Complete authorized information on RCA transmitting tubes and other tubes for communications and industry. Be sure to mention tube-type booklet desired. Single copy on any type free on request.

• **HEADLINERS FOR HAMS**—Bulletin HAM-103B (10⅞ x 8⅜)—4 pages. Technical information and terminal connection diagrams for 48 RCA "HAM" PREFERENCE TYPES: modulators, class C amplifiers and oscillators, frequency multipliers, rectifier tubes, thyratrons, cold-cathode (glow-discharge) tubes, and cathode-ray tubes. Single copy free on request.

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• **TV SERVICING**. Bulletin TVS-1030 (10⅞" x 8⅜")—48 pages. This new booklet contains a compilation of articles on TV trouble shooting, TV tuner alignment, and TV circuit analysis by two of RCA's experts in the field of TV servicing and test equipment—John R. Meagher and Art Liebscher. Price 35 cents.*

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*Prices shown apply in U.S.A. and are subject to change without notice

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RADIO CORPORATION of AMERICA
TUBE DIVISION HARRISON, N. J.

FORM NO. HTP-100-A8-1-55

Litho in U.S.A.

MISCELLANEOUS TYPES—Cont'd

Cathode		Maximum Dimensions Inches		Use Values to right give operating conditions and characteristics for indicated use.	Plate Supply	Grid-No. 1	Grid-No. 2 Supply	Grid-No. 2 Current	Plate Current	AC Plate Resistance	Transconductance	Amplification Factor	Load for Stated Power	Power Output	RCA Type
Volts	Amps.	Length	Diam.		Volts	Volts	Volts	Ma.	Ma.	Ohms	Micromhos		Ohms	Watts	
6.3	0.9	$3^{15}/_{32}$	$1^{7}/_{16}$	Class A_1 Amplifier	250	−14	250	7.6	80	30000	6100	—	2500	6.7	5881
					350	−18	250	8.5	65	48000	5200	—	4200	11.3	
				Push-Pull Class AB_1 Amplifier	360	−22.5	270	15	132	—	—	—	6600	26.5	
					360	−22.5	270	11	140	—	—	—	3800	18	
6.3	2.5	$4^{1}/_{16}$	$1^{23}/_{32}$	DC Amplifier	Maximum Ratings, Absolute Values: Plate Volts, 250 Plate Dissipation, 13 watts Grid-Circuit Resistance for Plate Ma, 125 Peak Heater-Cathode Volts, ±300 Cath.-Bias Operation, 1 megohm										6080
12.6	0.375	$2^{5}/_{8}$	$^{7}/_{8}$	For other characteristics, refer to type 5763											6417

INDEX TO RCA RECEIVING-TYPE TUBES FOR INDUSTRY AND COMMUNICATIONS

TECHNICAL PUBLICATIONS

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● **RCA TUBE HANDBOOK**—HB-3 (7⅜" x 5"). Five deluxe 2-inch-capacity binders imprinted in gold. The bible of the industry—contains over 3100 pages of loose-leaf data and curves on RCA receiving tubes, picture tubes, cathode-ray tubes, phototubes, special tubes, and semiconductor devices. Available on subscription basis. Price $17.50* including service for first year. Write to Commercial Engineering for descriptive folder and order form.

● **RCA RECEIVING TUBE MANUAL**—RC-18 (8⅜" x 5⅜")—384 pages. Revised, expanded, and brought up to date. Contains the latest receiving tubes, including types for black-and-white and color television applications. Features tube theory written for the layman, application data, Resistance-Coupled Amplifier Section, and several new circuits for high-fidelity audio amplifiers. Features lie-flat binding. Price 75 cents.*

● **RADIOTRON DESIGNER'S HANDBOOK**—4th Edition (8¾" x 5½")—1500 pages. New, enlarged, up-to-date 4th Edition is comprehensive reference thoroughly covering the design of radio and audio circuits and equipment. Written for the design engineer, student, and experimenter. Contains 1000 illustrations, 2500 references, and cross-referenced index of 7000 entries. Edited by F. Langford-Smith of Amalgamated Wireless Valve Company Pty Ltd. in Australia. Price $7.00.*

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● **RCA POWER AND GAS TUBES**—PG-101C (10⅞" x 8⅜")—24 pages. Completely revised and brought up to date. Technical information on 174 RCA vacuum power tubes, rectifier tubes, thyratrons, ignitrons, magnetrons, and vacuum-gauge tubes. Includes terminal connections. Price 20 cents.*

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● **RCA PREFERRED TYPES LIST**—PTL-501F (10⅞" x 8⅜")—4 pages. Lists RCA Preferred Tube Types both receiving and non-receiving by function. An aid to equipment designers in the selection of tube types for new equipment design. Single copy free on request.

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● **RCA INTERCHANGEABILITY DIRECTORY OF INDUSTRIAL-TYPE ELECTRON TUBES**—ID-1020A (10⅞" x 8⅜")—16 pages. Lists more than 2000 type designations of 26 different manufacturers arranged in alphabetical-numerial sequence; shows the RCA Direct Replacement Type or the RCA Similar Type, when available. Price 20 cents.*

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● **TV SERVICING**—TVS-1030 (10⅞" x 8⅜") 48 pages. This booklet contains a compilation of articles on TV trouble shooting, TV tuner alignment, and TV circuit analysis by RCA's expert in the field of TV servicing and test equipment—John R. Meagher. Price 35 cents.*

● **TV SERVICING, SUPPLEMENT 1.**—TVS-1031 (10⅞" x 8⅜")—12 pages. This new booklet contains an article by John R. Meagher on solving trouble-shooting problems in those hard-to-service television receivers known to service technicians as "tough" sets or "dogs". Emphasizes time-saving component-checking techniques and proper use of test equipment. Price 15 cents.*

● **PRACTICAL COLOR TELEVISION**—Revised Edition (11" x 8½")—84 pages. Black-and-white and color illustrations. Presents comprehensive information on basic color principles, transmitted color signal, color camera, and color kinescope. Covers commercial-model receiver circuit using the RCA-15GP22 kinescope, as well as installation and service of color receivers. Provides detailed description of color-test equipment. Price $2.00.*

● **PRACTICAL COLOR TELEVISION, SUPPLEMENT 1.**—(11" x 8½")—Contains 36 pages plus fold-out schematic and block diagrams; describes theory, operation and servicing of large-screen color TV receiver utilizing RCA-21AXP22 color kinescope; includes 55 black-and-white and color illustrations including schematic and block diagrams, wave-forms, and explanations of color circuits and adjustments. Price 75 cents.*

TRANSISTORS AND SEMICONDUCTOR DIODES—

● **RCA TRANSISTORS AND SEMICONDUCTOR DIODES**—SCD-108 (10⅞" x 8⅜")—24 pages. New booklet contains technical data on RCA transistors and semiconductor diodes. Includes section on transistor theory, an interchangeability directory which lists over 500 type designations of 27 different manufacturers, and a section on circuits containing 20 schematics illustrating some of the more important applications of transistors and semiconductor diodes. Price 25 cents.

* Prices shown apply in U.S.A. and are subject to change without notice

Copies of the publications listed above may be obtained as follows:

ELECTRON TUBES	TRANSISTORS, SEMICONDUCTOR DIODES
From your RCA Tube Distributor	From your RCA Transistor Distributor
or	or
From RCA, Commercial Engineering, Electron Tube Division, Harrison, New Jersey	From RCA, Commercial Engineering, Semiconductor Division, Somerville, New Jersey