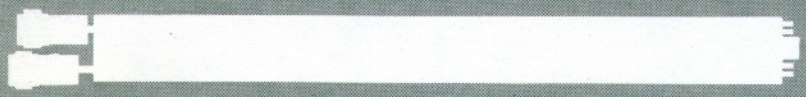
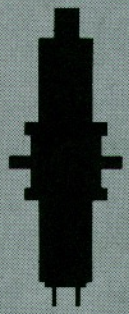
PRICE 30 CENTS

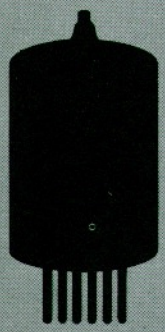
RCA

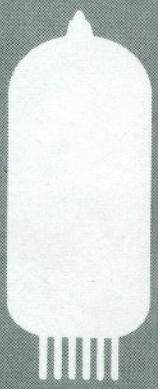
RECEIVING-TYPE TUBES FOR INDUSTRY AND COMMUNICATIONS

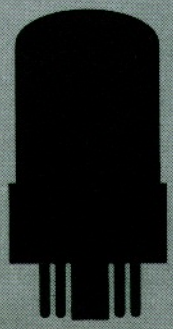




"Premium" Tubes
"Special Red" Tubes
"Pencil" Tubes
Computer Tubes
Glow Discharge Tubes
Small Thyratrons
Low-Microphonic Amplifier Tubes
Nuvistor Tubes
Traveling-Wave Tubes
and other Special Types

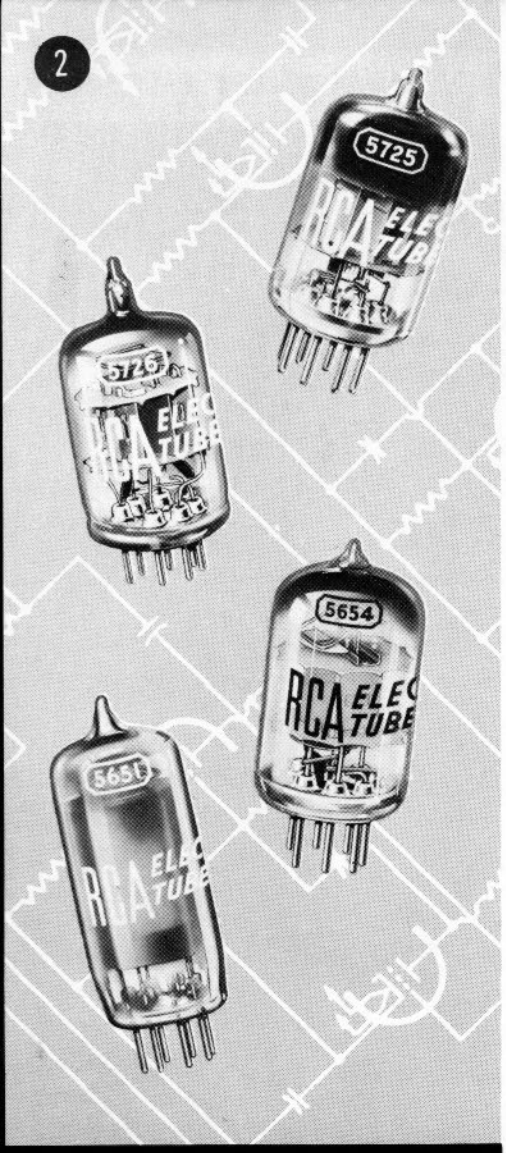






RADIO CORPORATION OF AMERICA
ELECTRON TUBE DIVISION
HARRISON, N. J.

Form No. RIT-104B



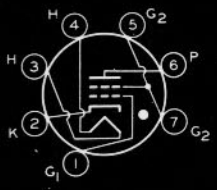
PREMIUM TUBES

Designed to Meet Military Specifications and Critical Industrial Applications

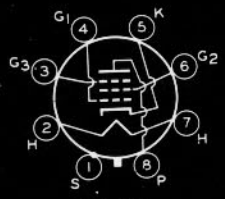
Type	Proto-type	Name	Description and/or Difference Between Type and Prototype: Rating or Characteristic	Premium Type	Proto-Type	Shock	Fatigue	Vibration	Glass Strain	AF Noise, Microphonics	Stability	Inoperatives	High-Altitude	Life Test: Heater-Cycling	Room Temp.	Elevated Bulb Temp.
0A2-WA	0A2	Voltage 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.			√	√	√	—	√	—	—	—	—	—	—
6AU6-WA	6AU6	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.			√	√	—	√	—	√	√	√	√	√	—
6J6-WA	6J6	Medium-Mu Twin 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, delay and mixer circuits up to 400 Mc. and gain-controlled amplifier circuits.			√	√	√	√	√	√	√	√	√	—	√
5639	—	Sharp-Cutoff Pentode•	Heater-Cathode Type. For use in high-gain wide-band circuits.			√	√	√	√	√	√	√	√	√	—	√
5651	—	Voltage Regulator*	For use in equipment where extreme voltage stability is required.			—	—	√	—	√	—	√	—	—	√	—
5651-WA	—	Voltage Regulator*	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 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 §	This type is designed to meet the indicated military specification.			√	√	√	√	√	√	√	√	√	—	√
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 renewal use only.			√	√	√	√	—	√	√	√	√	√	—
5718	—	Medium-Mu Triode•	Heater-Cathode Type. Uhf amplifier and oscillator. Useful power output at 500 Mc., nearly one watt.			√	√	√	√	√	√	√	√	√	—	√
5719	—	High-Mu Triode•	Heater-Cathode Type. Useful as an audio amplifier in mobile receivers.			√	√	√	√	√	√	√	√	√	—	√
5725	6AS6	Sharp-Cutoff Pentode*	Bulb Temperature, Max. °C (at hottest point)	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 specification.			√	√	√	√	—	√	√	√	√	—	√

For key to terminal connections see page 30.
* 7-pin miniature type. • Subminiature type with flexible leads. ■■ Small wafer octal 8-pin type.
§ 9-pin miniature type.

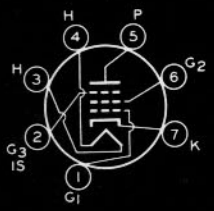
0A2-WA 0B2-WA
5651 5651-WA



2D21-W

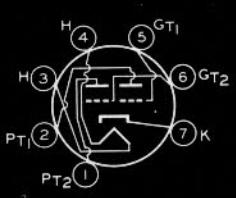


6AC7-W



6AU6-WA

6J4-WA



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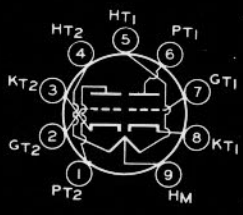

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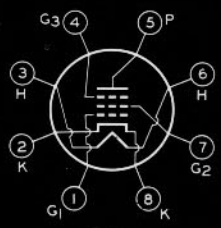

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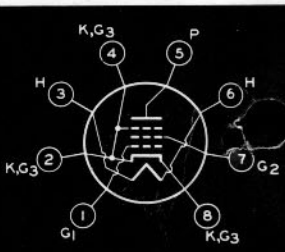


5639

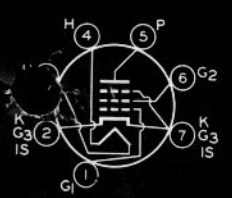
2-60
Printed in U.S.A.

PREMIUM TUBES

Designed to Meet Military Specifications and Critical Industrial Applications

Cathode		Maximum Dimensions Inches		Class of Service	Maximum Ratings				Operating Conditions and Characteristics								Type
Volts	Amps.	Length	Diam.		Plate Volts	Plate Dissipation Watts	Cathode Current Ma.	Grid-No. 2 Input Watts	Plate Supply Volts	Grid-No. 1 Volts(v) or Cathode Resistance Ohms	Grid-No. 2 Supply Volts	Plate Current Ma.	AC Plate Resistance Ohms	Transconductance Micromhos	Amplification Factor	Power Output Watts	
Cold Cathode		2 5/8	3/4	Voltage Regulator	For data refer to MIL-E-1/290B specification▲												OA2-WA
Cold Cathode		2 5/8	3/4	Voltage Regulator	For data refer to MIL-E-1/291 specification▲												OB2-WA
6.3	0.6	2 1/8	3/4	High-Sensitivity Control Service	For data refer to MIL-E-1/756B specification▲												2D21-W
6.3	0.45	2 5/8	—	Class A_1 Amplifier	For data refer to MIL-E-1/354 specification▲												6AC7-W
6.3	0.3	2 1/8	3/4	Class A_1 Amplifier	For data refer to MIL-E-1/1 specification▲												6AU6-WA
6.3	0.4	2 1/8	3/4	Class A_1 Amplifier for UHF Service	For data refer to MIL-E-1/619D specification▲												6J4-WA
6.3	0.45	2 1/8	3/4	Class A_1 Amplifier Each Unit	For data refer to MIL-E-243B specification▲												6J6-WA
6.3 12.6	0.3 0.15	2 3/16	7/8	Class A_1 Amplifier Each Unit	For data refer to MIL-E-1/3A specification▲												12AT7-WA
6.3	0.15	1 3/8‡	0.383	Class A_1 Amplifier	165	1.1	—	0.7	100 100	150 150	100 100	5.6 4	110000 50000	3200 Grid-No. 3 Volts, 0 1950 Grid-No. 3 Volts, −1			5636
6.3	0.45	1 3/4‡	0.4	Class A_1 Amplifier	165	4.0	40	1.0	150	100	100	21	50000	9000	—	—	5639
Cold Cathode		2 1/8	3/4	Voltage-Reference Tube	Ambient Temp., −55° to +90°C; Approx. DC Starting Volts, 107; Max. Starting Ma., 100; Min. DC Anode-Supply Volts, 115; Approx. DC Operating Volts, 87; Regulation Range, 1.5 to 3.5 Ma.; Regulation Volts, 115												5651
Cold Cathode		2 1/8	3/4	Voltage-Reference Tube	For data refer to MIL-E-1/825A specification▲												5651-WA
6.3	0.175	1 3/4	3/4	Voltage-Reference Tube	200	1.65	—	0.55	180	180	120	2.4	500000	5100	—	—	5654
6.3	0.175	1 3/4	3/4	Voltage-Reference Tube	For data refer to MIL-E-1/4A specification▲												5654/6AK5-W
6.3	0.175	1 3/4	3/4	Voltage-Reference Tube	For data refer to MIL-E-1/236 specification▲												5654/6AK5-W/6096
6.3	0.35	1 3/4	7/8	Class A_1 Amplifier Each Unit	For data refer to MIL-E-1/5C specification▲												5670
6.3	0.35	1 3/4	7/8	Class A_1 Amplifier Each Unit	For data refer to MIL-E-1/247 specification▲												5670-WA
6.3	0.35	2 3/16	7/8	Class A_1 Amplifier	250	7.5	—	3.0	250	−12.5v	250	27	45000	3100	—	2.7	5686
6.3	0.15	1 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 3/8‡	0.4	Class A_1 Amplifier	165	0.55	—	—	150	680	—	1.85	30500	2300	70	—	5719
6.3	0.175	1 3/4	3/4	Class A_1 Amplifier	200	1.65	20	0.55	120	−2v	120	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-1/7B specification▲												5726/6AL5-W

▲ 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.



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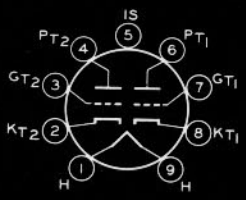
5654/6AK5-W/6096



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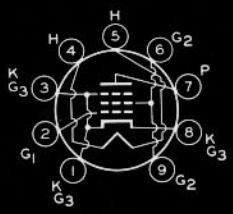

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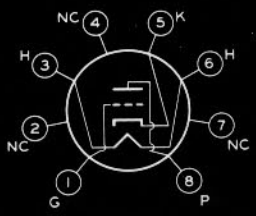
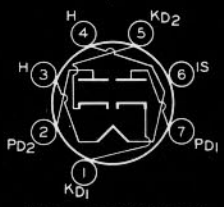


5718 5719

5725



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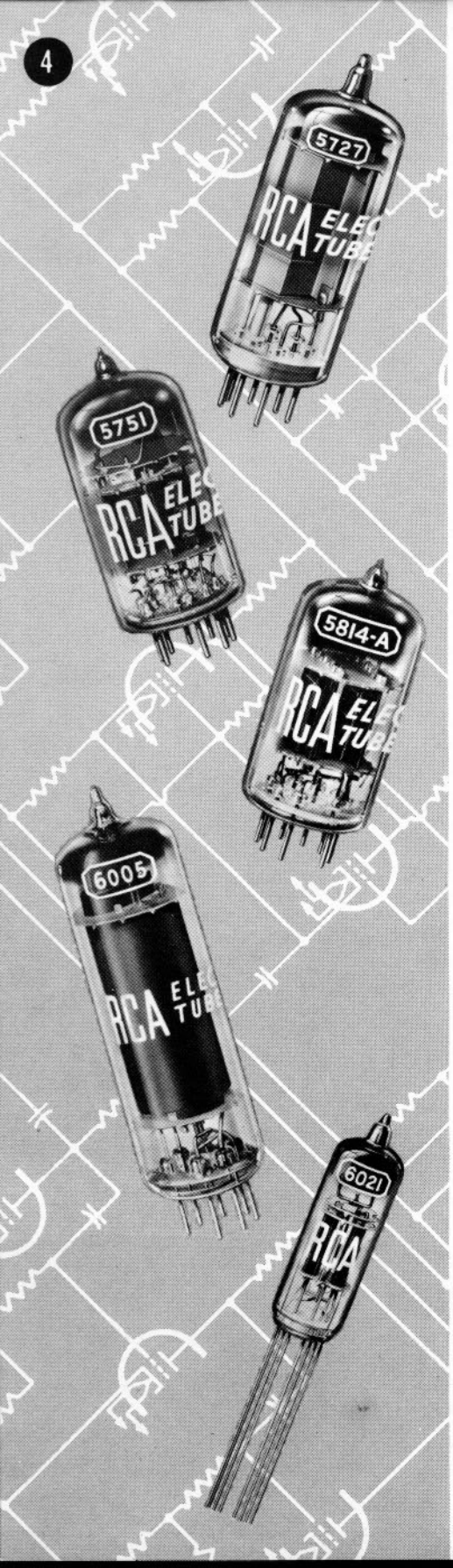


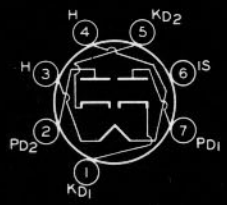
PREMIUM TUBES — Cont'd

Designed to Meet Military Specifications and Critical Industrial Applications

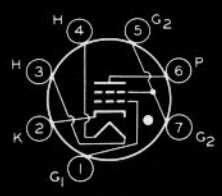
Type	Prototype	Name	Description and/or Difference Between Type and Prototype: Rating or Characteristic	Premium Type	Prototype	Shock	Fatigue	Vibration	Glass Strain	AF Noise, Microphonics	Stability	Inoperatives	High-Altitude	Heater-Cycling	Life Test: Room Temp.	Life Test: Elevated Bulb Temp.
5726/ 6AL5-W/ 6097	6AL5	Twin Diode*	This type is designed to meet the indicated military specification.			√	√	√	√	—	√	√	√	√	—	√
5727	2D21	Thyratron Tetrode*	Heater-Cathode Type. Relay, grid-controlled rectifier, and pulse-modulator service. Operates 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-grain 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 renewal use only.			√	√	√	√	√	√	√	√	√	—	√
5751	12AX7	High-Mu Twin Triode§	This type is designed to meet the indicated military specification.			√	√	√	√	√	√	√	√	√	—	√
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 specifications.			√	√	√	√	√	√	√	√	√	—	√
5840	—	Sharp-Cutoff Pentode•	Heater-Cathode Type. Useful as an rf or if amplifier tube in broadband circuits of mobile and aircraft equipment. Can be used up to 400 Mc. as an rf amplifier.			√	√	√	√	√	√	√	√	√	—	√
5896	—	Twin Diode•	Heater-Cathode Type. A low-current rectifier and detector at frequencies through the uhf regions.			√	√	√	√	—	√	√	√	√	—	√
5899	—	Semiremote-Cutoff Pentode•	Heater-Cathode Type. For use in agc rf and if amplifier circuits up to 400 Mc.			√	√	√	√	√	√	√	√	√	—	√
5902	—	Beam-Power Tube•	Heater-Cathode Type. For use as an audio-amplifier and series-regulator tube in power supplies.			√	√	√	√	√	√	√	√	√	—	√
6005	6AQ5	Beam-Power Tube*	Max. Bulb Temperature, °C	225	250	√	√	√	√	√	√	√	√	√	—	√
6005/ 6AQ5-W	6AQ5	Beam-Power Tube*	This type is designed to meet the indicated military specification.			√	√	√	√	√	√	√	√	√	—	√
6005/ 6AQ5-W/ 6095	6AQ5	Beam-Power Tube*	This type is designed to meet the indicated military specification.			√	√	√	√	√	√	√	√	—	—	√
6021	—	Medium-Mu Twin Triode•	For general-purpose oscillator and amplifier applications. Each unit has a separate cathode.			√	√	√	√	√	√	√	√	√	—	√

For key to terminal connections see page 30.

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



5726/6AL5-W/6097



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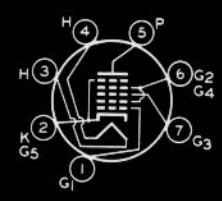
5727/2D21-W

5749 5749/6BA6-W



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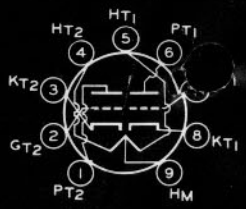


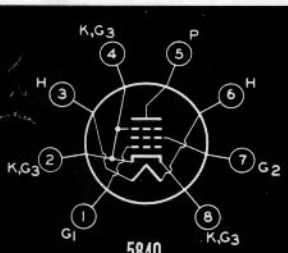
5751 5751-WA
5814-A 5814-WA

PREMIUM® TUBES — Cont'd

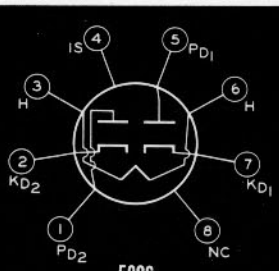
Designed to Meet Military Specifications and Critical Industrial Applications

Cathode		Maximum Dimensions Inches		Class of Service	Maximum Ratings				Operating Conditions and Characteristics								Type
Volts	Amps.	Length	Diam.		Plate Volts	Plate Dissipation Watts	Cathode Current Ma.	Grid-No. 2 Input Watts	Plate Supply Volts	Grid-No. 1 Volts(v) or Cathode Resistance Ohms	Grid-No. 2 Supply Volts	Plate Current Ma.	AC Plate Resistance Ohms	Transconductance Micromhos	Amplification Factor	Power Output Watts	
6.3	0.3	1¾	¾	Half-Wave Rectifier	For data refer to MIL-E-1/235A specification▲												5726/ 6AL5-W/ 6097
6.3	0.6	2⅛	¾	Relay and Grid-Controlled Rectifi-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
6.3	0.6	2⅛	¾	Control Service	For data refer to MIL-E-1/83B specification▲												5727/ 2D21-W
6.3	0.3	2⅛	¾	Class A_1 Amplifier	300	3.0	—	0.6	100 250	68 68	100 100	10.8 11	250000 1000000	4300 4400	— —	— —	5749
6.3	0.3	2⅛	¾	Class A_1 Amplifier	For data refer to MIL-E-1/8 specification▲												5749/ 6BA6-W
6.3	0.3	2 3/16	⅞	Converter Service Separate Excitation	300	1.0	14	1.0	100	—	100	2.6	400000	Osc. Grid Volts (rms.), 10			5750
6.3/12.6	0.35/0.175	2 3/16	⅞	Class A_1 Amplifier Each Unit	For data refer to MIL-E-1/10A specification▲												5751
6.3/12.6	0.35/0.175	2 3/16	⅞	Class A_1 Amplifier Each Unit	For data refer to MIL-E-1/237 specification▲												5751-WA
6.3/12.6	0.35/0.175	2 3/16	⅞	Class A_1 Amplifier Each Unit	For data refer to MIL-E-1/12A specification▲												5814-A
6.3/12.6	0.35/0.175	2 3/16	⅞	Class A_1 Amplifier Each Unit	For data refer to MIL-E-1/238A specification▲												5814-WA
6.3	0.15	1⅜‡	0.4	Class A_1 Amplifier	165	1.1	16.5	0.55	100	150	100	7.5	260000	5000	—	—	5840
6.3	0.3	1⅜‡	0.4	Full-Wave Rectifier	For data refer to MIL-E-1/174C specification▲												5896
6.3	0.15	1⅜‡	0.4	Class A_1 Amplifier	165	1.1	16.5	0.55	100	120	100	7.2	260000	4500	Grid-No. 1 Volts for Cutoff, −14		5899
6.3	0.45	1¾‡	0.4	Class A_1 Amplifier	165	4.0	50	1.0	110	270	110	30	15000	4200	Grid-No. 1 Volts for Cutoff, −40		5902
6.3	0.45	2⅝	¾	Class A_1 Amplifier	275	11	—	2.2	180 250	− 8.5v −12.5v	180 250	29 45	58000 52000	3700 4100	— —	2 4.5	6005
6.3	0.45	2⅝	¾	Class A_1 Amplifier	For data refer to MIL-E-1/13B specification▲												6005/ 6AQ5-W
6.3	0.45	2⅝	¾	Class A_1 Amplifier	For data refer to MIL-E-1/239 specification▲												6005/ 6AQ5-W/ 6095
6.3	0.3	1⅜‡	0.4	Class A_1 Amplifier Each Unit	165	1.1	—	—	100	150	—	6.5	6500	5400	35	Grid Volts for Cut-off, −6.5	6021

▲ 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.



5840
5899 5902



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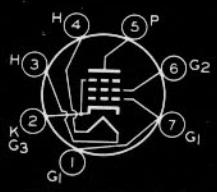
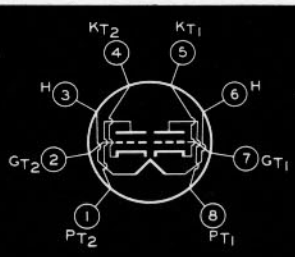


6005 6005/6AQ5-W
6005/6AQ5-W/6095



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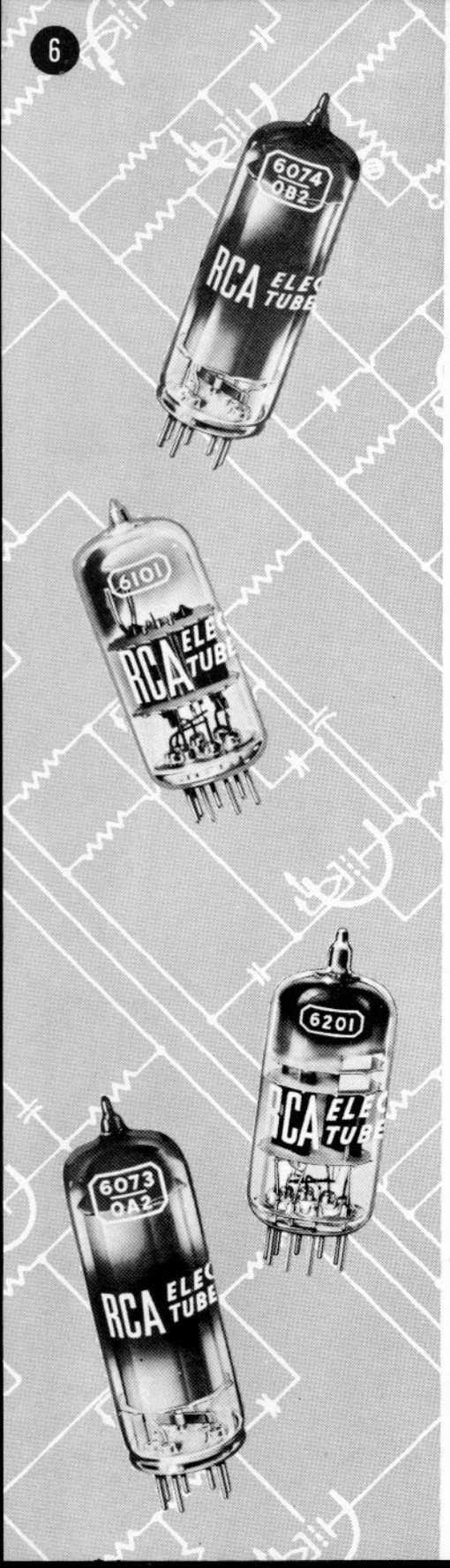
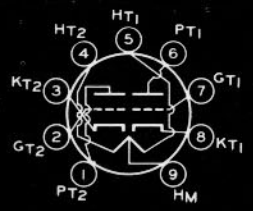


PREMIUM TUBES — Cont'd

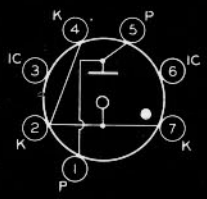
Designed to Meet Military Specifications and Critical Industrial Applications

Type	Prototype	Name	Description and/or Difference Between Type and Prototype: Rating or Characteristic	Premium Type	Prototype	Special Tests and Controls: Shock	Fatigue	Vibration	Glass Strain	AF Noise, Microphonics	Stability	Inoperatives	High-Altitude	Life Test: Heater-Cycling	Room Temp.	Elevated Bulb Temp.
6072	12AY7	Medium-Mu Twin Triode §	Heater Current, Amperes, for Heater Volts = 6.3	0.35	0.3	√	√	√	√	√	√	√	√	√	√	—
			For renewal use only.													
6073	0A2	Voltage Regulator*	None	—	—	√	√	√	—	√	—	—	—	—	—	—
			Like 0A2, but intended for voltage-regulator applications critical as to shock and vibration.													
6073/OA2	0A2	Voltage Regulator*	None	—	—	√	√	√	√	√	—	—	—	—	—	—
			Like 0A2, but intended for voltage-regulator applications critical as to shock and vibration.													
6074	0B2	Voltage Regulator*	None	—	—	√	√	√	—	√	—	—	—	—	—	—
			Like 0B2 but intended for voltage-regulator applications critical as to shock and vibration.													
6074/OB2	0B2	Voltage Regulator*	None	—	—	√	√	√	√	√	—	—	—	—	—	—
			Like 0B2 but intended for voltage-regulator applications 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.			√	√	√	—	—	√	√	√	√	√	—
6099	6J6	Medium-Mu Twin Triode*	Special Air Force application only. For other military uses, the 6101/6J6-WA is recommended.			√	√	√	√	—	√	√	√	√	√	√
6101	6J6	Medium-Mu Twin Triode*	Plate Dissip., Watts	0.85	1.5	√	√	√	√	√	√	√	√	—	—	√
			Plate Res., Ohms	6300	7100											
			Transcon., μmhos	6000	5300											
			Peak H-K Volts	±180	±100											
6101/6J6-WA	6J6	Medium-Mu Twin Triode*	This type is designed to meet the indicated military specification.			√	√	√	√	√	√	√	√	—	—	√
6111	—	Medium-Mu Twin Triode•	General-purpose amplifier. Also used as a combined oscillator and mixer tube in vhf applications.			√	√	√	√	√	√	√	√	√	—	√
6112	—	High-Mu Twin Triode•	Heater-Cathode Type. Low-level audio amplifier. Designed to meet indicated military specification.			√	√	√	√	√	√	√	√	√	—	√
6136	6AU6	Sharp-Cutoff Pentode*	Input Capacitance (μμf)	6.0	5.5	√	√	√	√	√	√	√	√	√	—	√
			For high-frequency broad-band applications.													
6186	6AG5	Sharp-Cutoff Pentode*	None	—	—	√	√	√	√	√	√	√	√	√	√	√
			RF Amplifier.													
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	—	—	√	√	√	—	√	√	√	√	√	—	√
			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	√	√	√	√	√	√	√	√	√	—	√
6206	5899	Semiremote-Cutoff Pentode•	Grid-No. 2 Ma.	2.2	2.0	√	√	√	√	√	√	√	√	√	—	√
			Similar to 5899 but uses a separate terminal for grid No. 3.													
6626/OA2-WA	0A2	Voltage Regulator*	This type is designed to meet the indicated military specification.			√	√	√	√	—	√	√	—	—	—	√

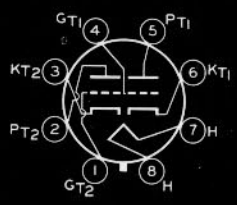
For key to terminal connections see page 30.
* 7-pin miniature type.
§ 9-pin miniature type.
△ Large wafer octal 8-pin type with metal sleeve.
• Subminiature type with flexible leads.



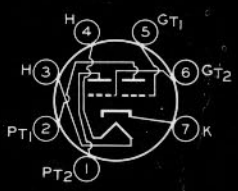
6072
6189/12AU7-WA 6201



6073
6073/OA2 6074 6074/OB2



6080-WA



6099 6101
6101/6J6-WA

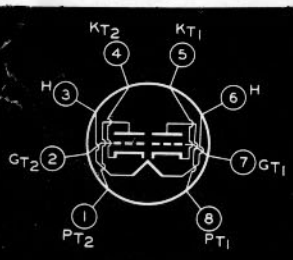
Designed to Meet Military Specifications and Critical Industrial Applications

Cathode		Maximum Dimensions Inches		Class of Service	Maximum Ratings				Operating Conditions and Characteristics								Type
Volts	Amps.	Length	Diam.		Plate Volts	Plate Dissipation Watts	Cathode Current Ma.	Grid-No. 2 Input Watts	Plate Supply Volts	Grid-No. 1 Volts(v) or Cathode Resistance Ohms	Grid-No. 2 Supply Volts	Plate Current Ma.	AC Plate Resistance Ohms	Transconductance Micromhos	Amplification Factor	Power Output Watts	
6.3 / 12.6	0.35 / 0.175	2 3/16	7/8	Class A_1 Amplifier Each Unit	300	1.5	—	—	250	−4v	—	3.0	25000	1750	44	Grid Volts for Cut-off, −8	**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**
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/ 0A2**
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, 1					**6074**
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, 1					**6074/ 0B2**
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	For government end use only												**6099**
6.3	0.45	2 1/8	3/4	Class A_1 Amplifier Each Unit	330	0.85	—	—	100	Cath. 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 Each Unit	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 Each Unit	165	1.1	Neg. DC Grid Volts, 55		100	220	—	8.5	4000	5000	20	Grid Volts for Cut-off, −9	**6111**
6.3	0.3	1 3/8‡	0.4	Class A_1 Amplifier Each Unit	For data refer to MIL-E-1/190C specification▲												**6112**
6.3	0.3	2 1/8	3/4	Class A_1 Amplifier	300	3.0	—	0.65	100 250	150 68	100 150	5 10.6	500000 1000000	3900 5200	Cutoff Volts, −4.2 Cutoff Volts, −6.5		**6136**
6.3	0.3	2 1/8	3/4	Class A_1 Amplifier	330	2.5	—	0.55	250	200	150	7.0	—	5000	—	—	**6186**
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 Each Unit	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 Each Unit	300	2.5	Neg. DC Grid Volts, 50		100 250	270 200	— —	3.3 10	14300 10900	4000 5500	57 60	— —	**6201**
6.3	0.15	1 3/8‡	0.4	Class A_1 Amplifier	165	1.1	16.5	0.55	100	150	100	7.5	260000	5000	Cutoff Volts, −9		**6205**
6.3	0.15	1 3/8‡	0.4	Class A_1 Amplifier	165	1.1	16.5	0.55	100	120	100	7.2	260000	4500	—	—	**6206**
Cold Cathode		2 5/8	3/4	Voltage Regulator	For data refer to MIL-E-1/939B specification◆												**6626/ 0A2-WA**

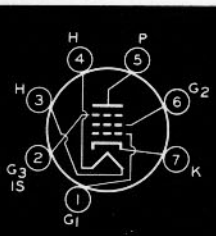
▲ A copy of this specification may be obtained from the Director of the Armed Services Electro-Standards Agency (ASESA) at Fort Monmouth, New Jersey.

◆ A copy of this specification may be obtained from the Bureau of Ships, Department of the Navy, Washington 25, D. C.

‡ Excluding flexible leads.



6111 6112



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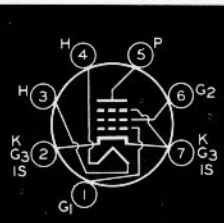
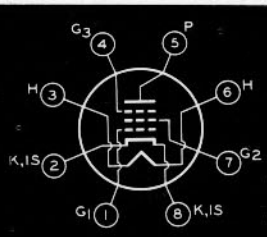
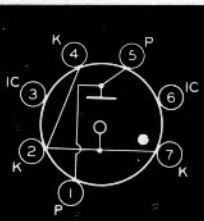


6186
6186/6AG5-WA



6205 6206



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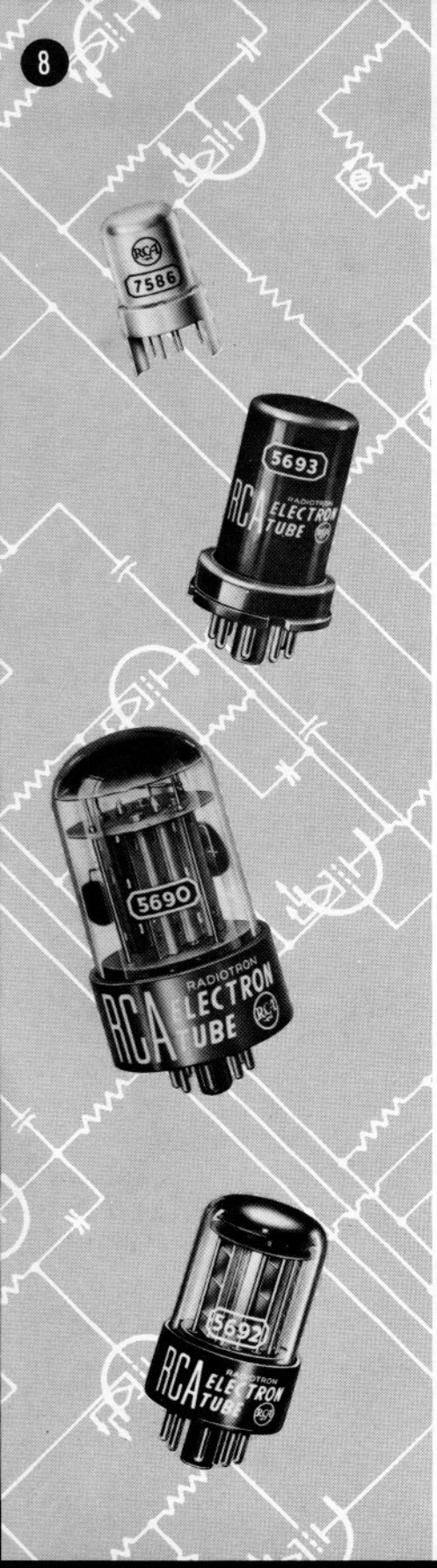


NUVISTOR TRIODE

General-Purpose Type for Critical Industrial Applications

Type	Name	Description	Special Tests and Controls									
										Life Tests		
			Shock	Fatigue	Variable-Frequency Vibration	High Altitude	Heater Cycling	Intermittent Shorts	Interelectrode Leakage	Early-Hour Stability	100-Hour Performance	1000-Hour Performance
7586	Medium-Mu Triode	Heater-cathode type; metal shell with indexing lugs; weight approximately 1/15 ounce (1.9 grams).	√	√	√	√	√	√	√	√	√	√

SPECIAL RED TUBES

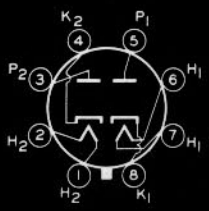
For Critical Industrial Applications Where 10000-Hour Life, Extreme Dependability, and Exceptional Stability are Paramount

RCA Type	Proto-type	Name	Description and/or Difference Between Type and Prototype			Special Tests and Controls										
															Life Test	
			Rating or Characteristic	Premium Type	Proto-Type	Shock	Fatigue	Vibration	Base Torsion	AF Noise, Microphonics	Stability	Inoperatives	High-Altitude	Heater-Cycling	500-Hour	1000-Hour
5690	—	Full-Wave Vacuum Rectifierø	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 Triodeø	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 Triodeø	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	√	√	√	√	√	√	√	√	√	√	√
			Grid-No. 2 Input Watts	0.3	0.7											
			Peak H-K Volts	±100	±90											

For key to terminal connections see page 30. ø Glass-octal 8-pin type. ‡ Metal-octal 8-pin type.

7586

INDEX = LARGE LUG
● = PIN CUT OFF



5690

NUVISTOR TRIODE

General-Purpose Type for Critical Industrial Applications

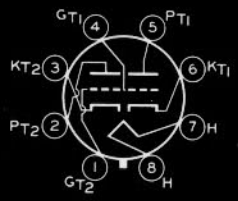
Cathode		Maximum Dimensions Inches		Maximum Ratings					Characteristics — Class A_1 Amplifier									Type
Volts	Amps.	Length	Diam.	Plate Supply Volts	Plate Volts	Plate Dissipation Watts	Grid Current Ma.	Plate Current Ma.	Plate Supply Volts	Plate Volts	Grid Supply Volts	Cathode Resistor Ohms	Grid-Circuit Resistance Ohms	Amplification Factor	AC Plate Resistance (Approx.) Ohms	Transconductance Micromhos	Plate Current Ma.	
6.3	0.14	0.800	0.440	330	110	1.0	2.0	20	—	26.5	0	—	500000	31	4400	7000	2.8	**7586**
									75	—	0	130	—	33	2900	11500	10.5	

SPECIAL RED TUBES

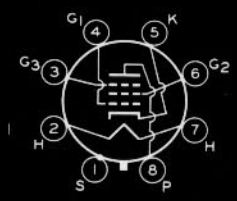
For Critical Industrial Applications Where 10000-Hour Life, Extreme Dependability, and Exceptional Stability are Paramount

Cathode		Maximum Dimensions Inches		Class of Service	Maximum Ratings				Operating Conditions and Characteristics								Type
Volts	Amps.	Length	Diam.		Plate Volts	Plate Dissipation Watts	Cathode Current Ma.	Grid-No. 2 Input Watts	Plate Supply Volts	Grid-No. 1 Volts(v) or Cathode Resistance Ohms	Grid-No. 2 Supply Volts	Plate Current Ma.	AC Plate Resistance Ohms	Transconductance Micromhos	Amplification Factor	Power Output Watts	
12.6/6.3	1.2/2.4	4¼	1 23/32	Full-Wave Rectifier with Capacitive Input Filter	AC Volts per Plate (RMS), 350 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, 62.5 Total Effect-Supply Imped. per Plate, 350 Ohms						**5690**
				Full-Wave Rectifier with Inductive Input Filter	AC Volts per Plate (RMS), 350 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	2⅞	1 9/32	Industrial Service (Each Unit)	275	1.0	10	—	250	−2v	—	2.3	44000	1600	70	—	**5691**
					Max. Plate Current for Grid Volts at −5.5, 15 μa Difference in Plate Current Between Units, 0.9 Max. Ma. at Grid Volts, −2								Max. Reverse Grid Current, 0.2 μa				
6.3	0.6	2⅞	1 9/32	Industrial Service (Each Unit)	275	1.75	15	—	250	−9v	—	6.5	9100	2200	20	—	**5692**
					Max. Plate Current for Grid Volts at −24, 15 μa Difference in Plate Current Between Units, 2 Max. Ma. at Grid Volts, −9								Max. Reverse Grid μa, 0.2				
6.3	0.3	2⅝	1 5/16	Industrial Service	300	2.0	10	0.3	250	−3v	100	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								Max. Reverse Grid-No. 1 Current, 0.1 μa				

•• Minimum megohms.



5691 5692



5693

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.
5876	General-Purpose, High-Mu Triode. For use in cathode-drive circuits as an rf amplifier, if amplifier, or mixer tube in receivers operating at frequencies up to 1000 Mc; as a frequency multiplier up to about 1500 Mc, and as an oscillator up to 1700 Mc.
5876-A	High-Mu Triode. Like the 5876 but intended for military and critical industrial applications.
5893	Medium-Mu Triode. For cathode-drive service as a plate-pulsed oscillator up to 3300 Mc. May also be used as an rf power amplifier, cw oscillator, or frequency doubler up to 1000 Mc.
6263	Medium-Mu Triode. Has external plate radiator. For use in cathode-drive service as an rf power amplifier and oscillator at frequencies up to 1700 Mc. Can be used in mobile equipment, and in aircraft transmitters at altitudes up to 60,000 feet without pressurized chambers.
6264-A	Medium-Mu Triode. Like the 6263 but has a mu of 40. Especially useful as a frequency multiplier. Intended for military and critical industrial applications.
6562/ 5794-A	Fixed-Tuned Oscillator Triode. Has two resonators integral with tube. Intended for radiosonde applications at 1680 Mc.
7533	Tunable Oscillator Triode. Has two resonators integral with the tube. Intended for radiosonde applications between 1660 Mc and 1700 Mc.
7552	High-Mu Triode type with ceramic-metal seals. For use in cathode-drive service as a low noise uhf amplifier at frequencies up to 1000 Mc and above. For compact mobile and aircraft equipment at altitudes up to 100,000 feet without pressurization.
7554	High-Mu Triode type with ceramic-metal seals. For use at frequencies up to 3000 Mc in cathode-drive service as an uhf power amplifier, oscillator and frequency multiplier in compact mobile and aircraft equipment at altitudes up to 100,000 feet without pressurization.

The heater leads for the Pencil tubes with the exceptions of types 6562, 7533, 7552, and 7554 fit the Cinch Socket, No. 54A1635, or equivalent. Connections to the plate, grid, and cathode terminals require flexible spring contacts. The cathode of the 6562 is externally connected to one of the heater leads.

G terminals nearer filament leads; P terminals nearer bulb tip.

G caps nearer base; P caps nearer bulb tip.

5675 5876 5876-A 5893
6263 6264-A 7552 7554

TUBES FOR UHF APPLICATIONS

Heater (H) or Filament		Max. Dimensions Inches		Amplification Factor	Class of Service	Max. Frequency for Full Input Mc	Max. Plate Ratings† Absolute Values			Typical Operating Conditions†							Type
Volts	Amp.	Length	Diam.				Volts	DC Input Watts	Dissipation Watts	Plate Volts	Grid Volts	Peak AF Grid-to-Grid Volts	Plate Amperes	Plate-to-Plate Load Ohms	Approx. Driving Power Watts	Approx. Power Output Watts	
PENCIL TUBES																	
6.3	0.135	2.252	0.816[aa]	20	C·T	—	300	9	9	120	−8	—	0.025	—	—	0.475	**5675**
						Oscillator at 1700 Mc→											
6.3	0.135	2.252	0.816[aa]	56	C·T	—	360	9	6.25	250	−2	—	0.023	—	—	0.75	**5876**
						Oscillator at 1700 Mc→											
					C·M	—	330	7.5	6.25	300	−70	—	0.017	—	2	2	
						Doubler to 960 Mc→											
For data refer to MIL-E-1/1043 (USAF) specification[xx]																	**5876-A**
6	0.28	2.297	0.816[aa]	27	Maximum Ratings for Plate-Pulsed Oscillator Service—Class C: Maximum "On" Time, 5 μsec in Any 5000 μsec Interval; Peak Positive-Pulse Plate Supply Volts, 1750; Peak Plate Amperes, 3; Plate Dissipation, 6 watts; Pulse Duration, 1.5 μsec												**5893**
6	0.28	2.63	1.01[bb]	27	• C·P	500	330	15	9	320	−52	—	0.035	—	2.4[m]	8[p]	**6263**
					• C·T	500	400	22	13								
						Oscillator at 500 Mc→				350	−35	—	0.04	—	—	7[p]	
						Rf Power Amp. at 500 Mc→				350	−58	—	0.04	—	3[m]	10[p]	
For data refer to MIL-E-1/1045 (USAF) specification[xx]																	**6264-A**
5.2 to 6.6	0.16 at 6.0 volts	3.256[c]	0.865[a]	—	C·T	Frequency (approx.), 1680 Mc. Frequency Adjustment Range, ±12 Mc; Max. Frequency Drift, +4 to −1 Mc; Plate-Voltage Range, 117 to 95 Volts; Ambient Temp. Range +22 to −40°C; Power Output (approx.), 600 mw												**6562/ 5794-A**
5.2 to 6.6	0.16 at 6.0 volts	3.23[c]	0.865[a]	—	C·T	Frequency (approx.), 1680 Mc; Frequency Adjustment Range, ±20 Mc; Max. Frequency Drift, +4 to − 1 Mc; Plate-Voltage Range, 117 to 95 Volts; Ambient Temp. Range +22 to −40°C; Power Output (approx.), 575 mw												**7533**
6.3	0.225	1.62	0.557	70	A_1	1000	250	—	2.5	125	Cathode Resistor 50 ohms		0.014	Power Gain:[zz] 16.5 db. above 70 dbm; Noise Factor: 6.5 db			**7552**
						Amplifier at 500 Mc→											
6.3	0.225	1.62	0.557	70	C·T	1000	250[h]	—	2.5	203[h]	3π	—	0.024[yy]	—	—	1.3[p]	**7554**
						Oscillator at 1000 Mc→											
					C·M	1000	250[h]	—	2.5	218[h]	18π	—	0.021[yy]	—	0.8[m]	0.9[p]	
						Doubler to 1000 Mc→											

Note: To facilitate comparison between types, all ratings are given on an absolute-maximum basis.

† Unless otherwise specified, all values shown are for Continuous Commercial Service.

• Intermittent Commercial and Amateur Service.

[h] Plate-to-grid volts.

[π] Cathode-to-grid volts.

[a] Maximum radius.

[c] Excluding flexible leads.

[m] Driver power output.

[p] Useful power output.

[yy] Cathode current.

[zz] For bandwidth of 5 Mc.

[aa] Including grid flange.

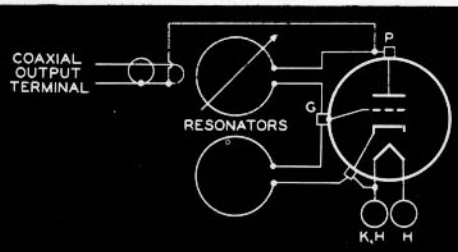
[bb] Including radiator fin.

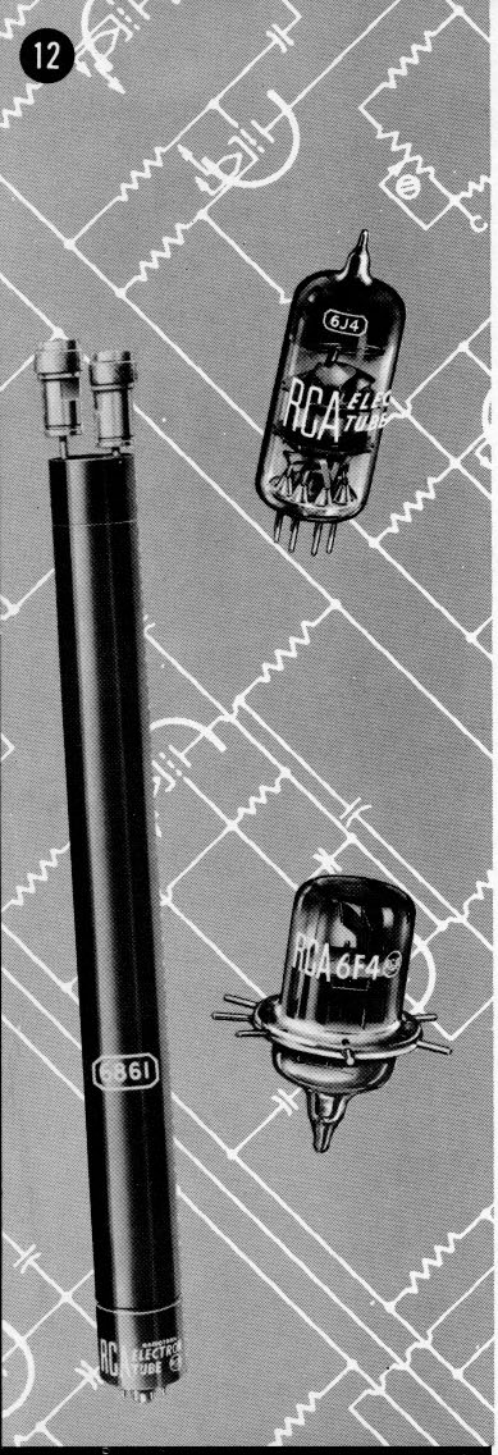
[xx] A copy of this specification may be obtained from the Commander, Wright-Patterson AFB, Attn., EWBFER, Wright-Patterson Air Force Base, Ohio.

EXPLANATION OF CLASS-OF-SERVICE ABBREVIATIONS

A_1 = Class A_1 RF Amplifier Service.
C·P = Class C Plate-Modulated Telephone Service.
C·M = Class C Frequency-Multiplier Service.
C·T = Class C Telegraph Service.

NOTE: In Classes of Service A_1, C·P, C·M, and C·T, the values shown under Maximum Plate Ratings and Typical Operating Conditions are for one tube.





TUBES FOR UHF APPLICATIONS — Cont'd

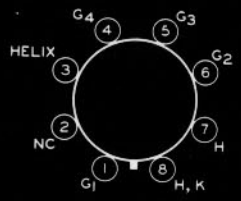
RCA Type	Description
TRAVELING-WAVE TUBES	
4009	Helix-transmission line type with built-in periodic permanent magnet focusing. Frequency range 2000 to 4000 Mc. Low-power amplifier tube for driver applications and for first stage of wide-band microwave receivers not requiring a low-noise figure; also for grid-No. 1 pulsed applications involving negligible driving power.
4010	Helix-transmission line type with built-in periodic permanent magnet focusing. Frequency range 2000 to 4000 Mc. Intermediate power amplifier for use as driver of higher-power traveling-wave tubes; or as output stage in applications requiring power output of 1.5 watts or less.
6861	Low-noise, low-level amplifier tube of the helix-transmission line 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.
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.
9001	Sharp-Cutoff Pentode. 7-pin miniature type with a heater-cathode. Electrically similar to the 954.

For key to terminal connections see page 30.
Note 1: P is on long part of bulb (top); G is on short part of bulb.
Note 2: Long part of bulb is top.

Lead Color Code

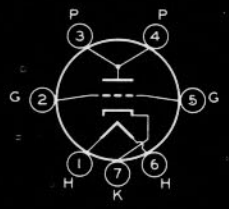
Heater (2)	Brown
Collector	Red
Helix	Orange
Grid No. 2	Blue
Grid No. 1	Green
Cathode	Yellow

4009 4010

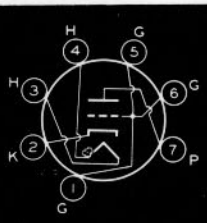


6861

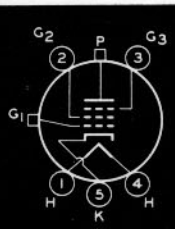
2C40 2C43



6F4 6L4



6J4



See Note 1
954 956

See Note 2
955

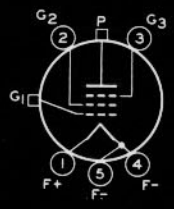
TUBES FOR UHF APPLICATIONS —Cont'd

Cathode Volts	Cathode Amp.	Maximum Dimensions Inches Length	Maximum Dimensions Inches Diam.	Class of Service	Maximum Ratings DC Plate Volts	Maximum Ratings DC Current Plate Ma.	Maximum Ratings Plate Dissipation Watts	Typical Operation Plate Supply Volts	Typical Operation Grid-No. 1 Volts(v) or Cathode Resistance Ohms	Typical Operation Grid-No. 2 Supply Volts	Typical Operation Grid-No. 2 Current Ma.	Typical Operation Plate Current Ma.	Typical Operation AC Plate Resistance Ohms	Typical Operation Transconductance Micromhos	Typical Operation Amplification Factor	Typical Operation Power Output Watts	Type
TRAVELING-WAVE TUBES																	
6.3	1.3	15 3/8▲	ø	RF Amplifier	1000●	5.0●	—	Typical Operation at 3000 Mc: DC Collector Volts, 700 Gain at 10 mw. Output, 35 db.					Saturated Power Output, 28 mw.				4009
6.0	1.3	15 3/8▲	ø	RF Amplifier	1300●	25.0●	—	Typical Operation at 3000 Mc: DC Collector Volts, 1150 Gain at 1 Watt Output, 32 db.					Saturated Power Output, 1.8 watts				4010
5	0.65	19 3/8	1.38□	RF & IF Amplifier	500●	500‡●	—	Typical Operation at 3100 Mc. DC Collector Volts, 400 Noise Figure, 6.5 db.					Saturated Power Output, 1 mw. Gain (low-level), 25 db.				6861
OTHER UHF TYPES																	
6.3	0.75	2 9/16	1 5/16	Class A_1 Amplifier	—	—	—	250	200	—	—	17	7452	4850	36	—	2C40
				Class C Amp. & Osc.	500△	25△	6.5△	—	—	—	—	—	—	—	—	—	
6.3	0.9	2 11/16	1 5/16	Class A_1 Amplifier	—	—	—	250	100	—	—	21	6000	8000	48	—	2C43
				Class C Amp. & Osc.	500△	40△	12△	—	—	—	—	—	—	—	—	—	
6.3	0.225	1 3/8	1 5/32	RF Amp. & Osc. Class C Telegraphy	150	20	2	150	−15v	—	—	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	150	20	2.25	100 150	100 100	— —	— —	10 15	5000 4500	11000 12000	55 55	— —	6J4
6.3	0.225	1 3/8	1 5/32	Class A_1 Amplifier	500	15	1.7	80	150	—	—	9.5	4400	6400	28	—	6L4
6.3	0.15	1 7/8	1 5/32	Class A_1 Amplifier	250	—	0.5	250	−3v	100	0.7	2.0	1.0+§	1400	—	—	954
				Bias Detector				250	−6v	100	DC plate ma. adjusted to 0.1 with no input signal. Cath. Res. of 20000 to 50000 ohms.						
6.3	0.15	1 3/8	1 5/32	RF Amp. & Osc. Class C Telegraphy	180	8.0	1.6	180	−35v	—	—	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	—	1.7	250	−3v	100	2.7	6.7	0.7§	1800	—	—	956
				Mixer				250	−10v	100	Conversion Transcond., 600 μmhos Osc. Peak Volts, 9						
1.25	0.05	1 3/8	1 5/32	Class A_1 Amplifier	135	—	—	135	−5v	—	—	2	20800	650	13.5	—	957
1.25	0.1	1 3/8	1 5/32	RF Amp. & Osc. Class C Telegraphy	135	7	0.6	135	−20v	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	145	—	—	135	−3v	67.5	0.4	1.7	0.8§	600	—	—	959
6.3	0.15	1 3/8♦	0.4	RF Amp. & Osc. Class C Telegraphy	Max. DC Grid Volts, −55* Max. DC Plate Volts, 165* Max. Peak Heater-Cathode Volts, ±200*								Max. DC Grid Ma., 5.5* Max. DC Plate Ma., 22* Max. Plate Dissipation, 3.3 watts*				5718
6.3	0.2	1 1/2♦	0.4	Class A_1 Amplifier	—	—	—	120	120	—	—	12	4000	5900	24	—	6026
				400 Mc Oscillator Class C Telegraphy	150*	—	3*	135	Grid Res., 1300 Ohms DC Grid Ma., 9.5			20	—	—	—	1.25	
6.3	0.15	1 3/4	3/4	Class A_1 Amplifier	250	—	0.5	250	−3v	100	0.7	2	1.0+§	1400	—	—	9001
				Mixer				250	−5v	100	Conversion Transcond., 550 μmhos Osc. Peak Volts, 4						

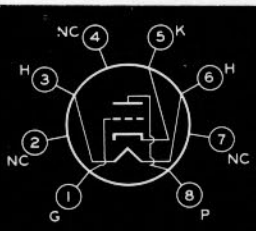
‡Microamperes. ●Collector. ▲Excluding flexible leads. øMaximum Height 2 5/8", Maximum Width 2 1/32". □Metal shell.

§ Megohms. ♦ Excluding flexible leads. * Absolute values. △ Under conditions as RF Amplifier and Oscillator, Class C Telegraphy.

See Note 2
957 958-A



See Note 1
959



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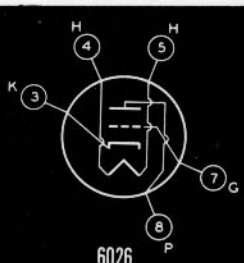

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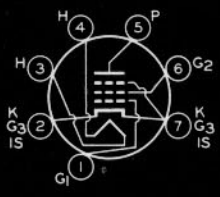


9001

TUBES FOR UHF APPLICATIONS — Cont'd

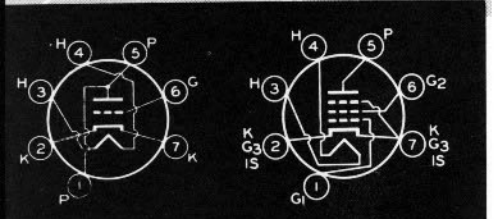
Type	Description
OTHER UHF TYPES (Cont'd)	
9002	Medium-Mu Triode. 7-pin miniature type with a heater-cathode. Electrically similar to the 955. For frequencies up to 500 Mc.
9003	Remote-Cutoff Pentode. 7-pin miniature type with a heater-cathode. Electrically similar to the 956.
9004	UHF Diode. Acorn type 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.

THYRATRONS

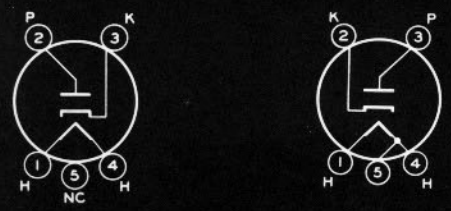
Type	Description
TRIODES (Gas Types)	
884	Negative-control, heater-cathode type. Small shell, octal 6-pin base.
885	Negative-control, heater-cathode type. Small 5-pin base. For renewal use only.
TETRODES (Gas Types)	
2D21	Miniature heater-cathode type. Can be operated in a high-sensitivity circuit directly from a vacuum phototube. Miniature button 7-pin base.
2D21-W	Like 2D21 but intended to meet indicated military specification.
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.
5727	Miniature heater-cathode type, 7-pin base. For use in relay, grid-controlled rectifier and pulse-modulator circuits.
5727/ 2D21-W	Designed to meet the indicated military specification.
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 30.

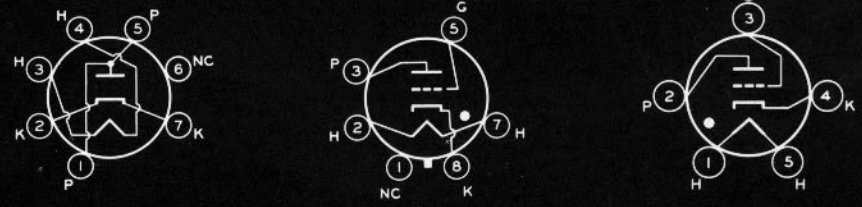
Note: Long part of bulb is top.



9002 9003



See Note 9004 See Note 9005



9006 884 885

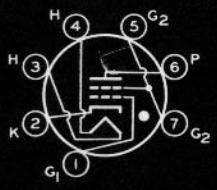
Cathode Volts	Cathode Amp.	Maximum Dimensions Inches Length	Maximum Dimensions Inches Diam.	Class of Service	Maximum Ratings: DC Plate Volts	Maximum Ratings: DC Current Plate Ma.	Maximum Ratings: Plate Dissipation Watts	Typical Operation: Plate Supply Volts	Typical Operation: Grid-No. 1 Volts(v) or Cathode Resistance Ohms	Typical Operation: Grid-No. 2 Supply Volts	Typical Operation: Grid-No. 2 Current Ma.	Typical Operation: Plate Current Ma.	Typical Operation: AC Plate Resistance Ohms	Typical Operation: Transconductance Micromhos	Typical Operation: Amplification Factor	Typical Operation: Power Output Watts	Type
OTHER UHF TYPES (Cont'd)																	
6.3	0.15	1¾	¾	Class A_1 Amplifier	250	—	1.6	90 250	−2.5v −7.0v	— —	— —	2.5 6.3	14700 11400	1700 2200	25 25	— —	**9002**
6.3	0.15	1¾	¾	Class A_1 Amplifier	250	—	1.7	250	−3v	100	2.7	6.7	0.7§	1800	—	—	**9003**
				Mixer				250	−10v	100	Conversion Transcond., 600 μmhos Osc. Peak Volts, 9						
6.3	0.15	1⅜	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	1⅜	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	1¾	¾	Detector Rectifier	Max. AC Plate Volts, 270 Max. Peak Inverse Plate Volts, 750						Max. Peak Plate Ma., 15 Max. DC Output Ma., 5						**9006**

THYRATRONS

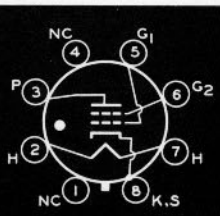
Applications	Cathode Volts	Cathode Amp.	Max. Dimensions Inches Length	Max. Dimensions Inches Diam.	Approx. Tube Drop Volts	Maximum Ratings: Temperature Range Condensed Mercury °C	Maximum Ratings: Temperature Range Ambient °C	Maximum Ratings: Peak Forward Anode Volts	Maximum Ratings: Peak Inverse Anode Volts	Maximum Ratings: Peak Cathode Amperes	Maximum Ratings: Average Cathode Amperes	Maximum Ratings: Fault Amperes	Type
For complete listing of Thyratrons, see Power and Gas Tubes Booklet, PG-101-D.													**TRIODES (Gas Types)**
Relaxation oscillators	6.3	0.6	4⅛	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	2⅛	¾	8	—	−75 to +90	650	1300	0.5	0.1	10	**2D21**
					Typical Operating Conditions for Relay Service: Anode Volts, 400				Grid-No. 1 Circuit Res., 1 megohm				
	6.3	0.6	2⅛	¾	For data refer to MIL-E-1/756B specification▲								**2D21-W**
	6.3	0.6	2⅝	1 5/16	8	—	−55 to +90	650	1300	1.0	0.1	10	**502-A**
	6.3	0.6	4⅛	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	1¾	¾	10	—	−55 to +90	500	500	0.1	0.025	2	**5696**
					Typical Operating Conditions for Relay Service: AC Anode Voltage (RMS), 117 Grid-No. 1 Bias Volts (RMS), 5			Peak Grid-No. 1 Signal Volts, 5 Grid-No. 1 Circuit Resistance, 0.1 megohm					
High-sensitivity relay control circuits	6.3	0.6	2⅛	¾	8	—	−75 to +90	650	1300	0.5	0.1	10	**5727**
	6.3	0.6	2⅛	¾	For data refer to MIL-E-1/83B specification▲								**5727/2D21-W**
	6.3	2.6	4¼	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. § Megohms.

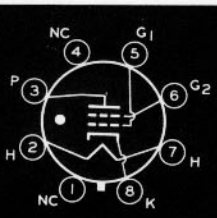
▲ A copy of this specification may be obtained from the Director of the Armed Services Electro-Standards Agency (ASESA) at Fort Monmouth, New Jersey.



2D21 2D21-W
5696 5727 5727/2D21-W



502-A



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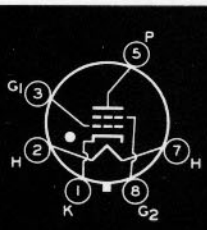
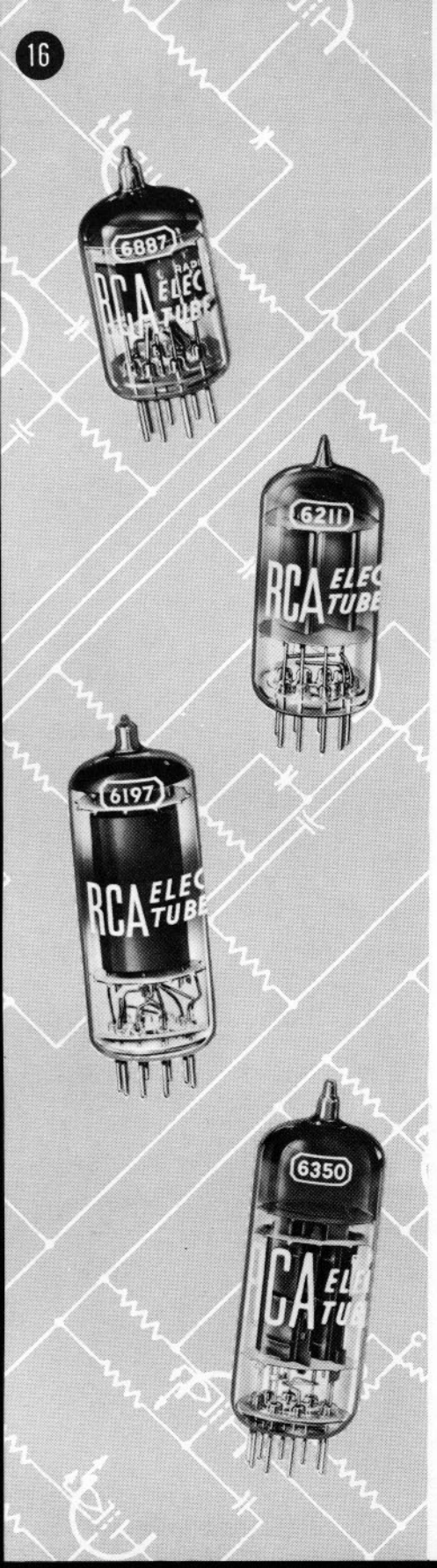


6012

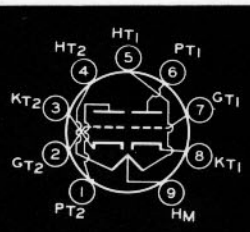
TUBES FOR COMPUTER APPLICATIONS



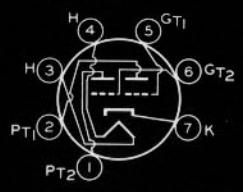
Type	Description
FOR ELECTRONIC COMPUTERS AND OTHER "ON-OFF" CONTROL APPLICATIONS	
5915	Pentagrid Amplifier. For gated amplifier service. Grids No. 1 and No. 3 can each be used as independent control electrodes. 7-pin miniature base.
5963	Medium-Mu Twin Triode. Especially useful in multivibrator applications. Noval 9-pin miniature base with separate terminals for each cathode. Mid-tapped heater for 6.3-volt or 12.6-volt operation.
5964	Medium-Mu Twin Triode. Especially useful in multivibrator applications. 7-pin miniature base.
5965	Medium-Mu Twin Triode. Especially useful in cathode-follower applications. Noval 9-pin miniature base with separate terminals for each cathode. Heater mid-tap for 6.3-volt or 12.6-volt operation.
6197	Sharp-Cutoff Power Pentode. Especially useful in pulse-amplifier applications. Noval 9-pin miniature base.
6211	Medium-Mu Twin Triode. Especially useful in multivibrator applications. Noval 9-pin miniature base with separate terminals for each cathode. Mid-tapped heater for 6.3-volt or 12.6-volt operation.
6350	Medium-Mu Twin Triode. High perveance type having transconductance per unit = 4600 micromhos. Especially useful in cathode-follower applications in high-speed digital computers. Noval 9-pin miniature base with separate terminals for each cathode. Mid-tapped heater for 6.3-volt or 12.6-volt operation.
6814	Medium-Mu Triode. For pulse-amplifier, inverter, and cathode-follower circuits in high-speed digital-type computers. Subminiature type with 8 flexible leads.
6887	Twin Diode. Especially useful in switching circuits of medium-speed electronic computers. Low wattage heater (only 1.26 watts). 7-pin miniature base.
7044	Medium-Mu Twin Triode. High-perveance type having transconductance per unit 10,000 micromhos. Especially useful in cathode-follower applications in high-speed digital computers. Noval 9-pin miniature base with separate terminals for each cathode. Mid-tapped heater for 6.3-volt or 12.6-volt operation.

For key to terminal connections see page 30.

5915



5963 5965 6211



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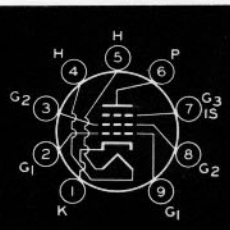
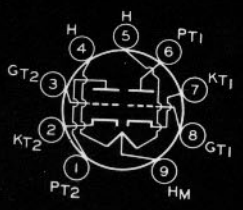


6197

TUBES FOR COMPUTER APPLICATIONS

Cathode Volts	Cathode Amp.	Maximum Dimensions Inches Length	Maximum Dimensions Inches Diam.	Maximum Ratings Plate Dissip. Watts Each Unit	Maximum Ratings Plate Dissip. Watts Both Units◆	Maximum 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	Type
FOR ELECTRONIC COMPUTERS AND OTHER "ON-OFF" CONTROL APPLICATIONS																	
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*	**5915**
							Grid-No. 3	*150*	*0*	*75*	*−10*	*0*	*14*	*20000*	*47000*	*47000*	
								150	0	75	0	5.8	9	20000	47000	47000	
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*	—	**5963**
								150	0	—	—	5.1	—	20000	47000	—	
6.3	0.45	2 1/8	3/4	1.5	3.0	15	Frequency Halfer●	*150*	*−10*	—	—	*0*	—	*20000*	*47000*	—	**5964**
								150	0	—	—	5	—	20000	47000	—	
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 μa = −7.5*			—	*Difference between Grid Voltages of Units for Plate Currents of 150 μa per Unit = 1.5 Max.*			*Plate Load Resistance = 7200 ohms*	**5965**
								150	Grid Volts (Approx.) for Grid Current of 140 μa = 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*	—	—	—	—	**6197**
								250*	−3	150*	0	30	—	—	—	—	
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 μa = −10 volts Max.*			—	*Difference between Grid Voltages of Units for Plate Currents of 100 μa per Unit = −1.5 Volt Max.*			*Plate Load Resistance = 20000 Ohms*	**6211**
								150	0	—	—	5.15	—	20000	47000	—	
12.6 / 6.3	0.3 / 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	0.15	1 3/8♦	0.4	2.2		22	Cathode Follower	Maximum Ratings, Absolute Values: Peak Heater-Cathode Volts, ±200; DC Grid Ma., 5.5; peak, 110; DC Grid Volts, −55; +5.5; DC Plate Volts, 275; Cathode Ma., dc = 22; peak = 440									**6814**
6.3	0.2	1 3/4	3/4	—	—	30△ 10§	Switching Service	Maximum Ratings, Absolute Values: Peak Inverse Plate Volts, 360; Peak Heater-Cathode Volts, ±150									**6887**
6.3 / 12.6	0.9 / 0.45	2 5/8	7/8	4.5	8	50	Cathode Follower	Maximum Ratings, Absolute Values: DC Plate Volts, 300; Grid Ma., dc = 5; peak = 200; Peak Heater-Cathode Volts, ±200; DC Grid Volts, −100; +1; Cathode Ma., dc = 50; peak = 400									**7044**

△ Peak Plate Current. § DC Plate Current. ◆ With both units operating. ▲ Grid-No. 1 Supply Volts. * Voltages at electrode terminals.
♦ Excluding leads. ● Values shown in italics are for cutoff condition; other values are conduction condition.



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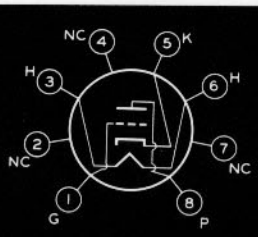
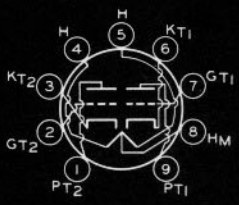


6814

6887



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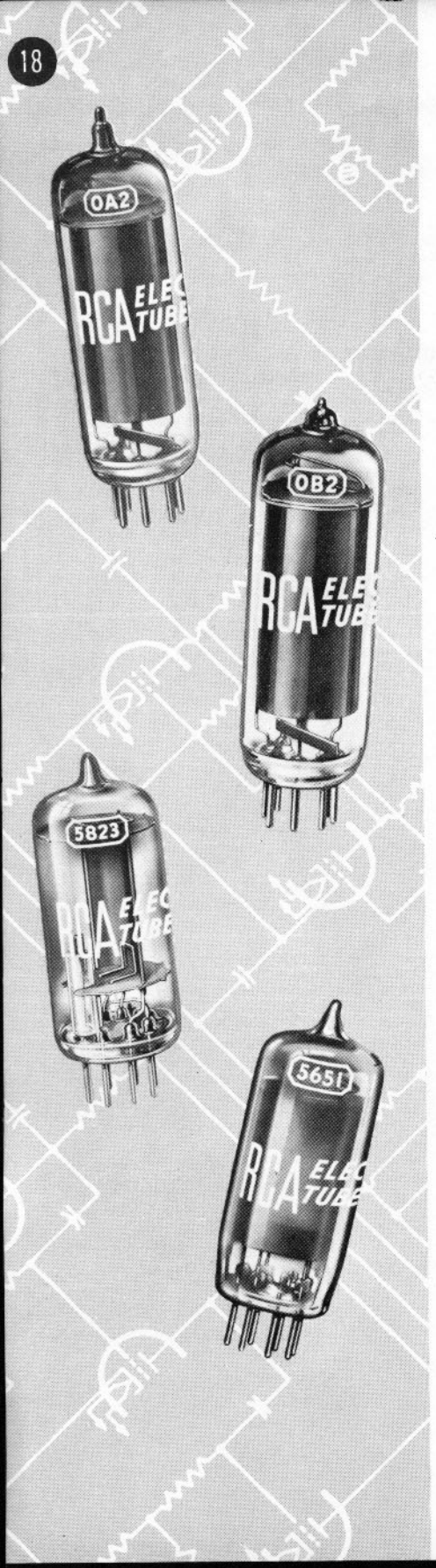
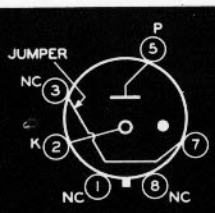


GLOW-DISCHARGE (Cold-Cathode) TUBES

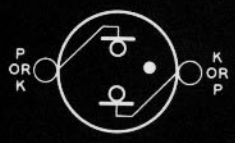
Type	Description	
VOLTAGE-REGULATOR TYPES		
OA2	Intended for use in applications where it is necessary to maintain a constant dc output voltage across a load, independent of load current and moderate line-voltage variations.	Miniature button 7-pin base.
OA3		Octal 6-pin base.
OB2		Miniature button 7-pin base.
OC2		Miniature button 7-pin base.
OC3		Octal 6-pin base.
OD3		Octal 6-pin base.
991		Candelabra, double-contact base.
6073	Like the OA2 but having very stable characteristics and intended for applications critical as to shock and vibration.	
6073/OA2	Like the OA2 but having very stable characteristics and intended for applications critical as to shock and vibration.	
6074	Like the OB2 but having very stable characteristics and intended for applications critical as to shock and vibration.	
6074/OB2	Like the OB2 but having very stable characteristics and intended for applications critical as to shock and vibration.	
6626/ OA2-WA	Like OA2 but intended to meet indicated military specification.	
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.	
5651-WA	Like 5651 but intended to meet indicated military specification.	
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.	

For key to terminal connections see page 30.

OA2 OB2 OC2 6073 6073/OA2
6074 6074/OB2 6626/OA2-WA



OA3 OC3 OD3



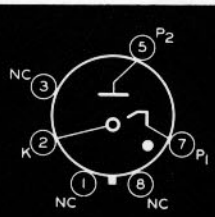
991

GLOW-DISCHARGE (Cold-Cathode) TUBES

Applications	Max. Dimensions Inches		Max. Starting Current Ma.	DC Operating Current Ma.		Ambient Temperature Range °C	Operating Conditions					Type
	Length	Diam.		Max.	Min.		Approx. DC Starting Volts	Min. DC Anode-Supply Volts	Approx. DC Operating Volts	Regulation Current Range Ma.	Regulation 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**
	2.63	3/4	75	30	5	−55 to +90	105	115	75	5 to 30	3	**OC2**
	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	Instantaneous Impact Acceleration, 500 Max. g Vibrational Acceleration for Extended Periods, 2.5 g											**6073**
Same as OA2	Instantaneous Impact Acceleration, 500 Max. g Vibrational Acceleration for Extended Periods, 2.5 g											**6073/OA2**
Same as OB2	Instantaneous Impact Acceleration, 500 Max. g Vibrational Acceleration for Extended Periods, 2.5 g											**6074**
Same as OB2	Instantaneous Impact Acceleration, 500 Max. g Vibrational Acceleration for Extended Periods, 2.5 g											**6074/OB2**
Same as OA2	For data refer to MIL-E-1/939B specification ◆											**6626/ OA2-WA**
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**
Voltage-Reference Tube	2 1/8	3/4	For data refer to MIL-E-1/825A specification▲									**5651-WA**
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**

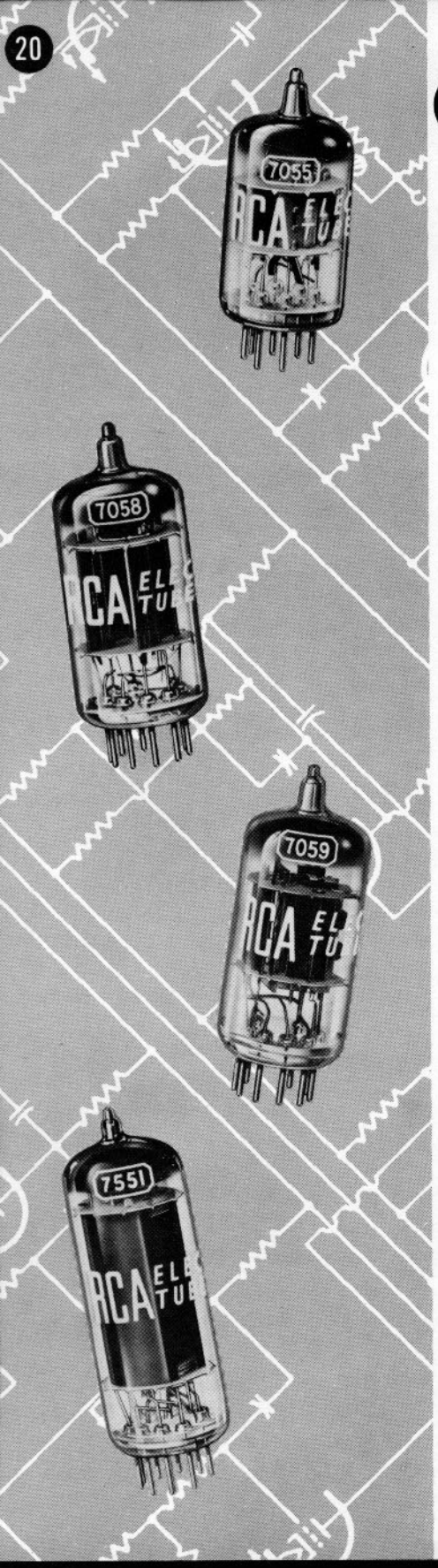
◆ A copy of this specification may be obtained from the Bureau of Ships, Department of the Navy, Washington 25, D. C.
▲ A copy of this specification may be obtained from the Director of the Armed Services Electro-Standards Agency (ASESA) at Fort Monmouth, New Jersey.

5651 5651-WA



OA4-G 1C21

5823



TUBES FOR MOBILE COMMUNICATIONS EQUIPMENT

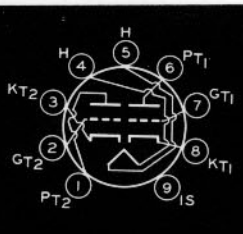
Type	Description	Special Tests and Controls: Low Frequency Vibration	Intermittent Shorts	Heater-Cathode Leakage	Interelectrode Leakage	Life Test: Heater-Cycling	Elevated Heater Volt.
TYPES OPERATING FROM 6-CELL STORAGE-BATTERY SYSTEMS							
7054	Power Pentode. 9-pin miniature heater-cathode type. For use as a class C rf power amplifier, oscillator or frequency multiplier at frequencies up to 40 Mc. Receiving-tube prototype 12BY7-A.	√	√	√	√	√	√
7055	Twin Diode. 7-pin miniature heater-cathode type. For use as a detector or full-wave rectifier in power supplies having low dc requirements. Receiving-tube prototype 6AL5.	—	√	√	√	√	√
7056	Sharp-Cutoff Pentode. 7-pin miniature heater-cathode type. For use as an if or rf amplifier at frequencies up to about 45 Mc. Receiving-tube prototype 6CB6.	√	√	√	√	√	√
7057	Medium-Mu Twin Triode. 9-pin miniature heater-cathode type. For use as an rf amplifier in cascode-type circuits at frequencies up to 200 Mc. Receiving-tube prototype 6BZ7.	√	√	√	√	√	√
7058	High-Mu Twin Triode. 9-pin miniature heater-cathode type. For use in phase-inverter, resistance-coupled amplifier and low-frequency oscillator circuits. Receiving-tube prototype 12AX7.	√	√	√	√	√	√
7059	Medium-Mu Triode, Sharp-Cutoff Pentode. 9-pin miniature heater-cathode type. For use as a combined oscillator and mixer-tube in receivers with if frequencies up to 40 Mc. Receiving-tube prototype 6U8-A.	√	√	√	√	√	√
7060	Medium-Mu Triode, Power Pentode. 9-pin miniature heater-cathode type. For use in rf power-amplifier and frequency multiplier applications at frequencies up to 40 Mc. Receiving-tube prototype 6AU8.	√	√	√	√	√	√
7061	Beam Power Tube. 9-pin miniature heater-cathode type. For use as an af power amplifier. Receiving-tube prototype 12AB5.	√	√	√	√	√	√
7551	Beam Power Tube. 9-pin miniature heater-cathode type. For use as a class C rf amplifier, oscillator, or frequency multiplier at frequencies up to 175 Mc.	√	—	—	—	√	—

For key to terminal connections see page 30.

7054

7055

7056



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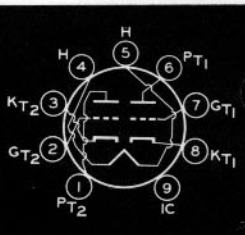


7058

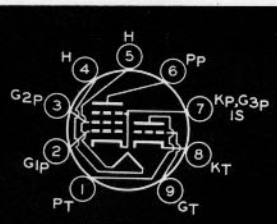
TUBES FOR MOBILE COMMUNICATIONS EQUIPMENT

Cathode Volts	Cathode Amp.	Maximum Dimensions Inches Length	Maximum Dimensions Inches Diam.	Class of Service	Maximum Ratings: Plate Volts	Maximum Ratings: Plate Dissipation Watts	Maximum Ratings: Grid-No. 2 Input Watts	Operating Conditions and Characteristics: Plate Supply Volts	Grid-No. 1 Volts(v) or Cathode Resistance Ohms	Grid-No. 2 Supply Volts	Grid-No. 2 Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Transconductance Micromhos	Amplification Factor	Power Output Watts	Type
TYPES OPERATING FROM 6-CELL STORAGE-BATTERY SYSTEMS																	
12.0 to 15.0	0.275 at 13.5V	2 5/8	0.875	Class A_1 Amplifier	330	5.0	1.0	250	120	150	3.5	19	100000	11500	—	—	7054
				RF Power Amplifier Class C Telegraphy	330	5.0	1.0	300	−12v	175	5.5	26	Power Output, 4 Watts at 40 Mc.				
				Frequency Doubler	330	5.0	1.0	300	−25v	175	4.0	20	Power Output, 2.5 Watts at 40 Mc.				
12.0 to 15.0	0.155 at 13.5V	1 3/4	0.75	Half-Wave Rectifier Each Unit	Maximum Ratings, Absolute Values: Peak Inverse Plate Volts, 350; Peak Plate Ma., 60; DC Output Ma., 10; Peak Heater-Cathode Volts, 120												7055
12.0 to 15.0	0.15 at 13.5V	2 1/8	0.75	Class A_1 Amplifier	330	2.0	0.5‡	200	180	150	2.8	9.5	600000	6200	—	—	7056
12.0 to 15.0	0.18 at 13.5V	2 3/16	0.875	Class A_1 Amplifier Each Unit	275	2.2	—	150	220	—	—	10	5300	6800	36	—	7057
12.0 to 15.0	0.155 at 13.5V	2 3/16	0.875	Class A_1 Amplifier Each Unit	330	1.0	—	250	−2v	—	—	1.25	61000	1650	100	—	7058
12.0 to 15.0	0.195 at 13.5V	2 3/16	0.875	Class A_1 Amplifier: Triode Unit	300	2.5	—	150	56	—	—	18	4700	8500	40	—	7059
				Class A_1 Amplifier: Pentode Unit	300	2.8	0.5◆	250	68	110	3.5	10	400000	5200	—	—	
12.0 to 15.0	0.28 at 13.5V	2 3/16	0.875	Class A_1 Amplifier: Triode Unit	300	2.5	—	150	150	—	—	9.0	8200	4900	40	—	7060
				Class A_1 Amplifier: Pentode Unit	300	3.0	0.5◆	200	82	125	3.4	15	150000	7000	—	—	
12.0 to 15.0	0.21 at 13.5V	2 5/8	0.875	Class A_1 Amplifier	345	9.0	2.0	200	−10v	200	9.0	35.5	60000	4200	—	3.0▲	7061
12.0 to 15.0	0.36 at 13.5V	2 5/8	0.875	Class A_1 Amplifier	—	—	—	250	−18v	250	3.0	40	—	5300	—	—	7551
				RF Power Amplifier Class C Telegraphy at 175 Mc.	300	10	2	300	−42v	200	3.7	70	—	—	—	8.5	
				Frequency Doubler at 175 Mc.	300	10	2	250	−53v	200	2.6	50	—	—	—	4.5	

‡ For Grid-No. 2 Volts up to 165. For Grid-No. 2 Volts between 165 and 330, see JEDEC Input Rating Chart J5-C4-2.

◆ For Grid-No. 2 Volts up to 150. For Grid-No. 2 Volts between 150 and 300, see JEDEC Input Rating Chart J5-C4-2.

▲ Load for stated power, 5000 ohms.



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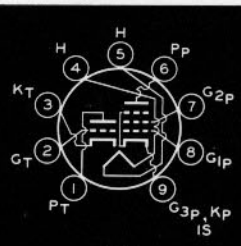

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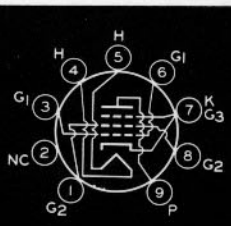

7061

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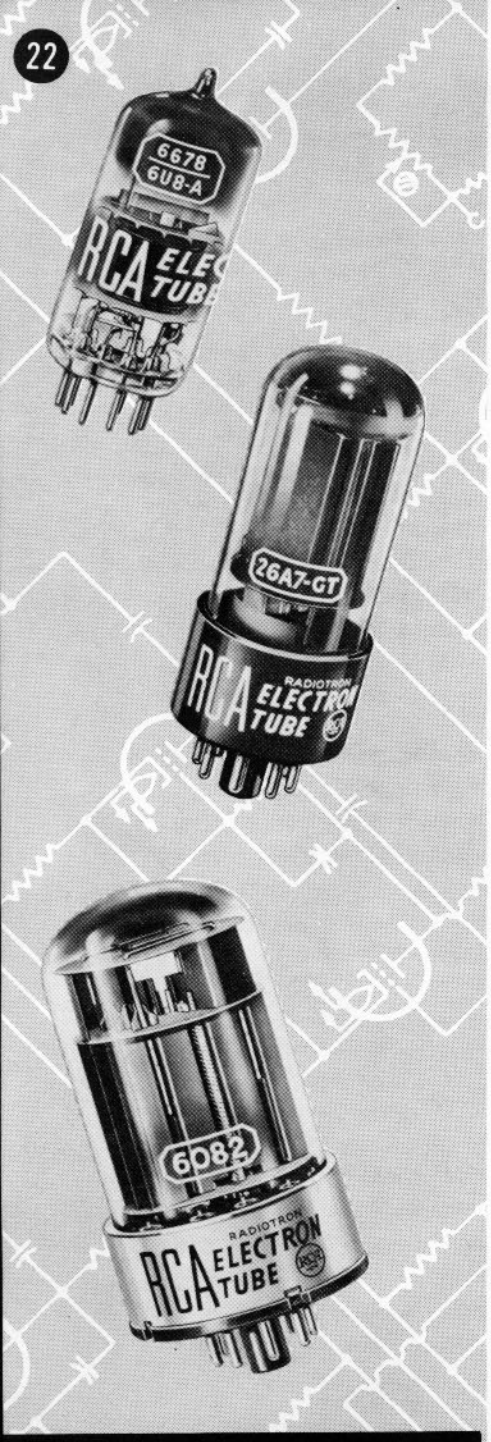


TUBES FOR MOBILE COMMUNICATIONS EQUIPMENT

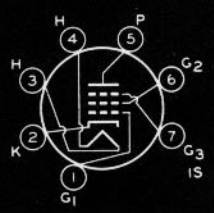
Type	Description
TYPES OPERATING FROM 3-CELL STORAGE-BATTERY SYSTEMS	
6660/ 6BA6	Remote-Cutoff Pentode. 7-pin miniature heater-cathode type. For hf wide-band amplifier circuits. For renewal use.
6661/ 6BH6	Sharp-Cutoff Pentode. 7-pin miniature heater-cathode type. For hf wide-band amplifier circuits. For renewal use.
6662/ 6BJ6	Remote-Cutoff Pentode. 7-pin miniature heater-cathode type. For use in rf wide-band amplifier circuits. For renewal use.
6663/ 6AL5	Twin Diode. 7-pin miniature heater-cathode type. For low-current rectifier and detector circuits. For renewal use.
6669/ 6AQ5-A	Beam Power Tube. 7-pin miniature heater-cathode type. For use as an af power amplifier. For renewal use.
6677/ 6CL6	Power Pentode. 9-pin miniature heater-cathode type. For output power stages. For renewal use.
6678/ 6U8-A	Medium-Mu Triode, Sharp-Cutoff Pentode. 9-pin miniature heater cathode type. For use as a combined oscillator and mixer in vhf circuits. For renewal use.
6679/ 12AT7	High-Mu Twin Triode. 9-pin miniature heater-cathode type. For use as a frequency converter below 300 Mc. For renewal use.
6680/ 12AU7-A	Medium-Mu Twin Triode. 9-pin miniature heater-cathode type. For oscillator and multivibrator applications. For renewal use.
6681/ 12AX7	High-Mu Twin Triode. 9-pin miniature heater-cathode type. For phase-inverter and oscillator circuits. For renewal use.

TUBES HAVING 26.5-VOLT HEATERS

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 Power Triode. Useful as regulator tube in stabilized dc power supplies subject to shock and vibration. Octal 8-pin base.	

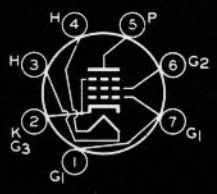
For key to terminal connections see page 30.

6660/6BA6 26A6

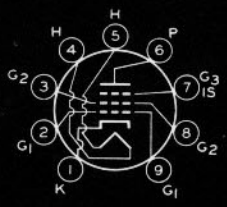


6661/6BH6 6662/6BJ6

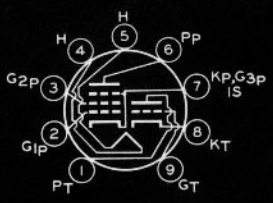
6663/6AL5



6669/6AQ5-A



6677/6CL6



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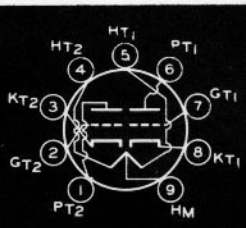


6679/12AT7
6680/12AU7-A 6681/12AX7

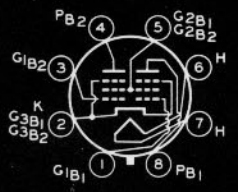
TUBES FOR MOBILE COMMUNICATIONS EQUIPMENT

Cathode Volts	Cathode Amp.	Maximum Dimensions Inches Length	Maximum Dimensions Inches Diam.	Class of Service	Maximum Ratings: Plate Volts	Maximum Ratings: Plate Dissipation Watts	Maximum Ratings: Grid-No. 2 Input Watts	Operating Conditions and Characteristics: Plate Supply Volts	Grid-No. 1 Volts(v) or Cathode Resistance Ohms	Grid-No. 2 Supply Volts	Grid-No. 2 Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Transconductance Micromhos	Amplification Factor	Power Output Watts	Type
TYPES OPERATING FROM 3-CELL STORAGE-BATTERY SYSTEMS																	
6.3	0.3	2 1/8	3/4	Class A_1 Amplifier	330	3.3	0.65	100	68	100	4.4	10.8	250000	4300	—	—	6660/ 6BA6
6.3	0.15	2 1/8	3/4	Class A_1 Amplifier	330	3.3	0.55	250	100	150	2.6	7.4	1400000	4600	—	—	6661/ 6BH6
6.3	0.15	2 1/8	3/4	Class A_1 Amplifier	330	3.3	0.65	250	80	100	3.3	9.2	1300000	3600	—	—	6662/ 6BJ6
6.3	0.3	1 3/4	3/4	Half-Wave Rectifier	Maximum Ratings, Design-Maximum Values: Peak Inverse Plate Volts, 275 DC Output Ma. (per Plate), 10 Steady-State Peak Plate Ma. (per Plate), 60												6663/ 6AL5
6.3	0.45	2 5/8	3/4	Class A_1 Amplifier	250	12	2.0	250	−12.5v	250	4.5	45	52000	4100	—	4.5▲	6669/ 6AQ5-A
6.3	0.65	2 5/8	7/8	Class A_1 Amplifier	330	8.5	2.0	250	−3v	150	7	30	150000	11000	—	2.8●	6677/ 6CL6
6.3	0.45	2 3/16	7/8	Class A_1 Amplifier — Triode Unit	330	3.0	—	150	56	—	—	18	5000	8500	40	—	6678/ 6U8-A
				Class A_1 Amplifier — Pentode Unit	330	3.0	0.55	250	68	110	3.5	10	400000	5200	—	—	
6.3/12.6	0.3/0.15	2 3/16	7/8	Class A_1 Amplifier Each Unit	330	2.8	—	250	200	—	—	10	10900	5500	60	—	6679/ 12AT7
6.3/12.6	0.3/0.15	2 3/16	7/8	Class A_1 Amplifier Each Unit	330	3.0	—	250	−8.5v	—	—	10.5	7700	2200	17	—	6680/ 12AU7-A
6.3/12.6	0.3/0.15	2 3/16	7/8	Class A_1 Amplifier Each Unit	330	1.1	—	250	−2v	—	—	1.2	62500	1600	100	—	6681/ 12AX7

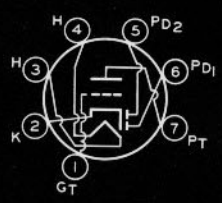
TUBES HAVING 26.5-VOLT HEATERS

Cathode Volts	Cathode Amp.	Maximum Dimensions Length	Maximum Dimensions Diam.	Class of Service	Plate Volts	Plate Dissipation	Grid-No. 2 Input	Plate Supply	Grid-No. 1 Volts(v) or Cathode Resistance	Grid-No. 2 Supply	Grid-No. 2 Current	Plate Current	AC Plate Resistance	Transconductance	Amplification Factor	Power Output	Type
26.5	0.07	2 1/8	3/4	Class A_1 Amplifier	250	3.0	0.4	26.5 250	— 125	26.5 100	0.7 4.0	1.7 10.5	250000 1000000	2000 4000	Grid Res., 2 meg. ohms —	— —	26A6
26.5	0.6	3 13/16	1 5/16	Class A_1 Amplifier■	50	2.0	0.5	26.5	−4.5v	26.5	1.9	20	—	5700	—	0.18†	26A7-GT
				Class AB_1 Amplifier	50■	2.0■	0.5■	26.5	−7v	26.5	2.0	19	—	—	—	0.54△	
26.5	0.07	2 1/8	3/4	Triode Unit as Class A_1 Amplifier	250	2.5	—	26.5 250	Grid Res., 2 megohms −9v	— —	—	1.1 9.5	15500 8500	1100 1900	17 16	— —	26C6
26.5	0.07	2 1/8	3/4	Converter	300	1.0	1.0	26.5 250	−.5v −1.5v	26.5 100	1.6 7.8	0.45 3.0	— 1000000	Conversion } 270 μmhos 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 Cathode-Bias Operation, 1 megohm Plate Ma., 125 Peak Heater-Cathode Volts, ±300												6082

† Load for stated power, 1500 ohms. ■ Each unit. △ Load for stated power, (plate-to-plate), 2500 ohms.
▲ Load for stated power, 5000 ohms. ● Load for stated power, 7500 ohms.

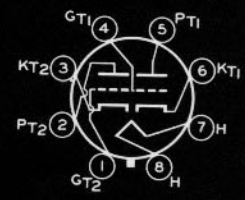


26A7-GT

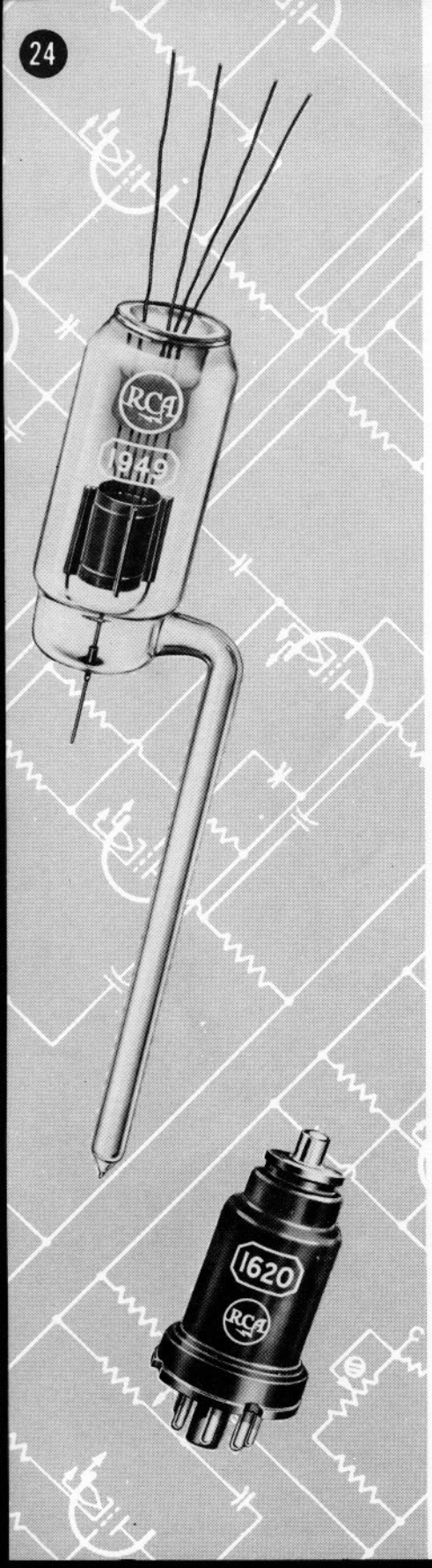


26C6

26D6



6082



VACUUM-GAUGE TUBES

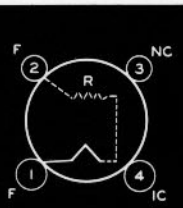
TYPE	DESCRIPTION	
1946	Thermocouple Type. Resistance of thermocouple, 5 ohms approx.	For use in determination of gas pressures in vacuum systems and vacuum enclosures.
1947	Pirani Type. Each tube individually calibrated to 135.8 ohms res., under vacuum better than 3 x 10^{-5} mm of Hg. Small 4-pin base.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

LOW-MICROPHONIC AMPLIFIER TUBES

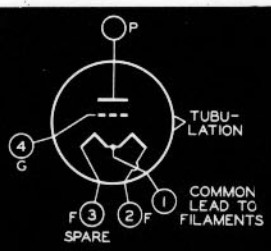
Type	Description
1609	Sharp-Cutoff Pentode. Coated-filament type. Small 5-pin base. For new equipment design the 1620 is recommended.
1612	Pentagrid Mixer. Metal type. Similar to 6L7. For volume-expander-compressor circuits. Miniature cap. Octal 7-pin base.
1620	Sharp-Cutoff Pentode. Especially designed for applications critical as to microphonics. Metal type similar to 6J7. Miniature cap. Octal 7-pin base.

For key to terminal connections see page 30.

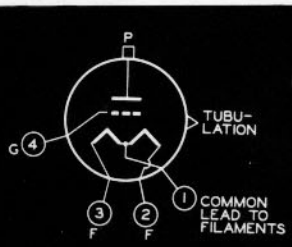
1946



1947



1949



1950

VACUUM-GAUGE TUBES

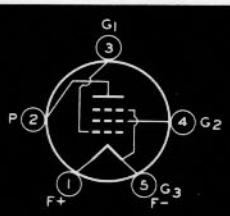
Heater or Filament		Maximum Dimensions Including Tubulation Inches			Type of Glass	Maximum Ratings				Operating Position	Range of Gas Pressure				Type
						Filament Volts	DC Plate Volts	DC Grid Volts	Ambient Temp. °C		Useful Sensitivity		Greatest Sensitivity		
Volts	Amp.	Length	Diam.	Tubulation Diam.		During Operation					Microns of Hg	Mm of Hg	Microns of Hg	Mm of Hg	
Htr. 1.0	0.07	6¼♦	1 11/16	3/8	Hard, Corning Code 772 Nonex	—	—	—	50	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	—	—	60	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	11½♦	2 3/16*	½	Hard, Corning Code 772 Nonex	6.5	−100	+200	100	See Note A	below 0.1	below 10^{-4}	—	—	**1949**
Fil. 5	3.5	11¼♦	2 3/16*	½	Soft, Corning Code 012 Lead	6.5	−100	+200	100	See Note A	below 0.1	below 10^{-4}	—	—	**1950**

LOW-MICROPHONIC AMPLIFIER TUBES

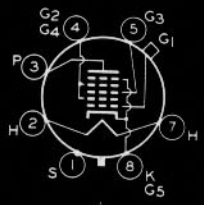
Cathode		Maximum Dimensions Inches		Class of Service	Maximum Ratings				Operating Conditions and Characteristics								Type
					Plate Volts	Plate Dissipation Watts	Cathode Current Ma.	Grid-No. 2 Input Watts	Plate Supply Volts	Grid-No. 1 Volts(v) or Cathode Resistance Ohms	Grid-No. 2 Supply Volts	Plate Current Ma.	AC Plate Resistance Ohms	Transconductance Micromhos	Amplification Factor	Power Output Watts	
Volts	Amps.	Length	Diam.														
1.1	0.25	4 3/16	1 9/16	Class A_1 Amplifier	135	—	—	—	135	−1.5v	67.5	2.5	400000	725	—	—	**1609**
6.3	0.3	3⅛	1 5/16	Class A_1 Amplifier	250	1.5	—	1.0	250	−3v†	100	5.3	600000	1100	—	—	**1612**
				Mixer in Superheterodyne	—	—	—	—	250	−3v	100	2.4	Oscillator Grid (#3) Bias, −10 Volts Conversion Transcond., 375 μmhos				
6.3	0.3	3⅛	1 5/16	Pentode as Class A_1 Amplifier	250	0.75	—	0.1	100 250	−3v −3v	100 100	2 2	1.0 meg. 1.0 meg.	1185 1225	— —	— —	**1620**
				Triode as Class A_1 Amplifier	250	1.75	—	—	180 250	−5.3v −8v	⊻ ⊻	5.3 6.5	11000 10500	1800 1900	20 20	— —	

† For signal input control grid (#1); control grid (#3) bias, −3 volts.
⊻ Grids No. 2 and No. 3 are connected to plate.

* Maximum radius. ♦ Excluding flexible leads. Note A: Vertical, with tubulation up or down; horizontal with stem press in vertical plane.



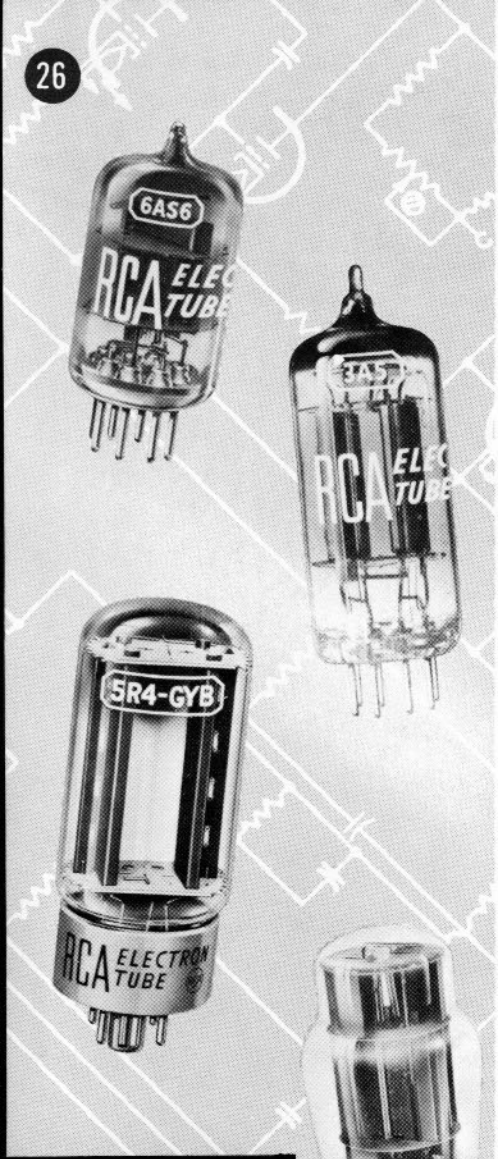
1609



1612

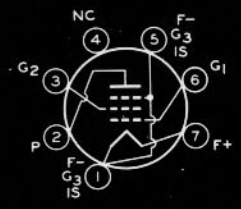
1620

MISCELLANEOUS TYPES

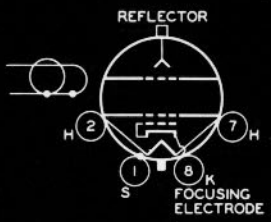


Type	Description
1L4	Sharp-Cutoff Pentode. 7-pin miniature type. For rf amplifiers in battery-supply receivers.
2K26	Single-resonator reflex Klystron with an integral resonant cavity and mechanical tuning mechanism. For local oscillator service in applications such as microwave receivers. Can be tuned electrically to give about a 55 Mc vernier adjustment. Useful power output about 100 Mw.
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.
5R4-GYB	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.
6AK6	Power Pentode. 7-pin miniature type. Similar to 6G6-G.
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.
12SW7	Twin Diode—Medium-Mu Triode. Single-ended metal type with an octal 8-pin base. Similar to the 6SR7 except for heater rating.
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. Useful as a crystal oscillator. For renewal use only.
1614	Beam Power Tube. Heater-cathode type. For police and emergency broadcast use. Octal 7-pin base.

For key to terminal connections see page 30.

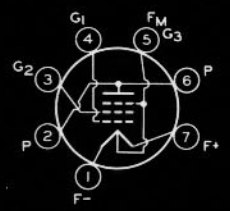


1L4

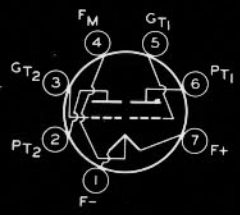


NOTE: COAXIAL OUTPUT LINE PASSES THROUGH VACANT PIN POSITION №4.

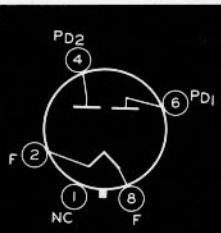
2K26



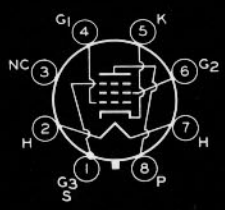
3A4



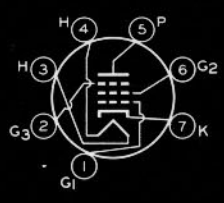
3A5



5R4-GY 5R4-GYB



6AG7-Y



6AK6

6AS6

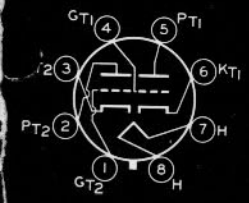
MISCELLANEOUS TYPES

Cathode Volts	Cathode Amp.	Maximum Dimensions Inches Length	Maximum Dimensions Inches Diam.	Class of Service	Maximum Ratings: Plate Volts	Maximum Ratings: Plate Dissipation Watts	Maximum Ratings: Grid-No. 2 Input Watts	Operating Conditions and Characteristics: Plate Supply Volts	Grid-No. 1 Volts(v) or Cathode Resistance Ohms	Grid-No. 2 Supply Volts	Grid-No. 2 Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Transconductance Micromhos	Amplification Factor	Power Output Watts	Type
1.4	0.05	2 1/8	3/4	Class A_1 Amplifier	110	—	—	90	0	67.5	1.2	2.9	260000	925	—	—	**1L4**
6.3	0.44	3 1/2	1 39/64	Class C CW Oscillator	Maximum Ratings, Absolute Values: DC Resonator Volts, 330; DC Reflector Volts, 0 to −350; Peak Heater-Cathode Volts, ±50; DC Resonator Ma., 35												**2K26**
2.8 / 1.4	0.1 / 0.2	2 1/8	3/4	Class A_1 Amplifier	150	2.0	0.4	150	−8.4v	90	2.2	13.3	100000	1900	—	0.7→	**3A4**
				RF Power Amplifier	150	2.0	0.9	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 Each Unit	135	5.0	—	90	−2.5v	—	—	3.7	8300	1800	15	—	**3A5**
				Push-Pull Class C Amplifier Each Unit	135	1.0	—	135	−20v	Power Output, 2 watts at 40 Mc.		30	Driving Power, 0.2 watt				
5	2	5 5/16	2 1/16	At 40000 Feet with Capacitive Input Filter	AC Volts per Plate (RMS), 750; Max. Peak Inverse Volts, 2400; Max. DC Output Ma., 175; Max. Peak Plate Ma., 650; Min. Total Effective Supply Impedance per Plate, 125 ohms												**5R4-GY**
				At 40000 Feet with Inductive Input Filter	AC Volts per Plate (RMS), 850; Max. Peak Inverse Volts, 2400; Max. DC Output Ma., 250; Max. Peak Plate Ma., 650; Min. Value of Input Choke, 5 Henries												
5	2	4 1/4	1 9/16	At 40000 Feet with Capacitive Input Filter	Max. AC Volts per Plate (RMS), 750; Max. Peak Inverse Plate Volts, 2650; Max. DC Output Ma. (Both Plates), 250; Max. Peak Plate Ma., 715; Min. Total Effective Supply Impedance per Plate, 100 ohms												**5R4-GYB**
				At 40000 Feet with Inductive Input Filter	Max. AC Volts per Plate (RMS), 800; Max. Peak Inverse Plate Volts, 2650; Max. DC Output Ma. (Both Plates), 250; Max. Peak Plate Ma., 715; Min. Value of Input Choke, 5 henries												
6.3	0.65	3 1/4	1 5/16	Class A_1 Amplifier	300	9.0	1.5	300	−3v	150	7.0	30	130000	11000	—	3.0θ	**6AG7-Y**
6.3	0.15	2 1/8	3/4	Class A_1 Amplifier	300	2.75	.75	180	−9v	180	2.5	15	200000	2300	—	1.1	**6AK6**
6.3	0.175	1 3/4	3/4	Class A_1 Amplifier	180	1.7	0.75	120	−2v	120	3.5	5.2	110000	3200	—	—	**6AS6**
6.3	2.5	4 5/8	1 9/16	Class A_1 Amplifier Each Unit	250	13	—	135	250	—	—	125	280	7000	2.0	—	**6AS7-G**
6.3	0.3	2 5/8	1 5/16	Class A_1 Amplifier	300	2.5	0.4	250	−3v	100	0.8	3.0	#	1650	—	—	**6SJ7-Y**
12.6	0.15	3 1/4	1 5/16	Class A_1 Amplifier	250	7.5	1.5	250	−12.5v	250	3.5	30	70000	3000	—	3.4ø	**12A6**
12.6	0.15	2 5/8	1 5/16	Class A_1 Amplifier	250	2.5	—	26.5	Grid Res., 2 meg.			1.1	15500	1100	17	—	**12SW7**
								250	−9v	—	—	9.5	8500	1900	16	—	
12.6	0.3	3 5/16	1 5/16	Class A_1 Amplifier Each Unit	300	2.5	—	26.5	Grid Res., 0.05 meg.			1.8	11500	1800	21	—	**12SX7-GT**
								250	−8v	—	—	9.0	7700	2600	20	—	
12.6	0.15	2 5/8	1 5/16	Converter	300	1.0	1.0	26.5	−1v‡	26.5†	1.7†	0.45	—	Conversion Transcond., 250 μmhos			**12SY7**
								250	−2v‡	100†	8.5†	3.5	1000000	Conversion Transcond., 450 μmhos			
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 Amp., 1; Min. Value of Input Choke, 3 henries												
6.3	0.7	3 1/4	1 5/16	Class C Telegraphy	275	7.0	2.0	350	−35v	200	10	50	—	—	—	9.0	**1613**
6.3	0.9	4 5/16	1 5/8	Class C Telephony**	375	21	2.5	375	−50v	250	7	93	—	—	—	24.5	**1614**
				Class C Telegraphy**	450	25	3.5	450	−45v	250	8	100	—	—	—	31	

Greater than 1 megohm.
‡ For Grid-No. 3, which is control grid.
† For Grids No. 2 and No. 4, which are internally connected.

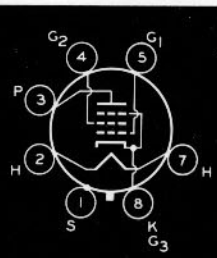
θ Load for stated power, 10000 ohms.
→ Load for stated power, 8000 ohms.
ø Load for stated power, 7500 ohms.

** Intermittent Commercial and Amateur Service.

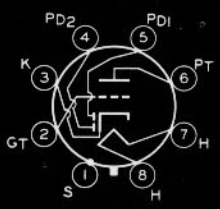


6AS7-G 12SX7-GT

6SJ7-Y



12A6 1613 1614



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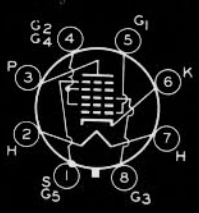

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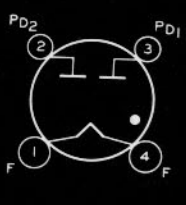

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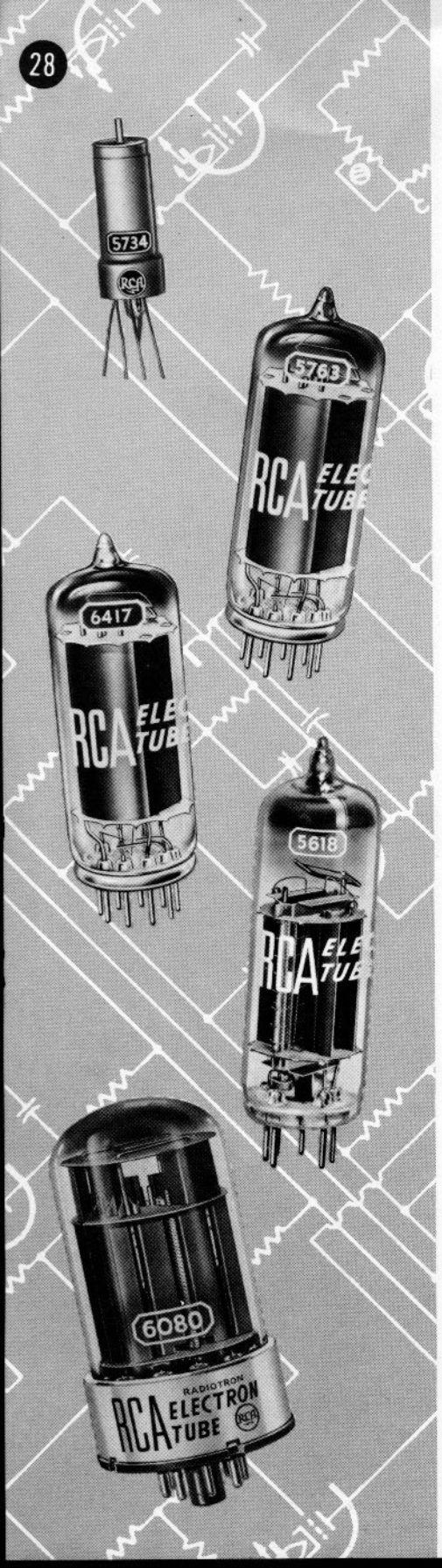
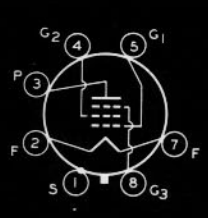


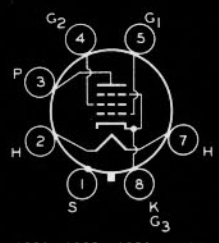
MISCELLANEOUS TYPES—Cont'd

Type	Description
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. For renewal use only.
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.
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.
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.

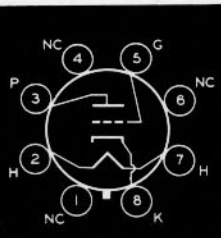
For key to terminal connections see page 30.



1619



1621 1622 1631 1632



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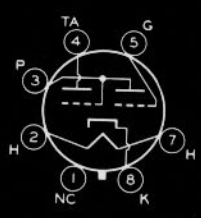

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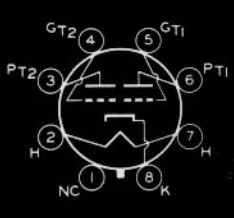

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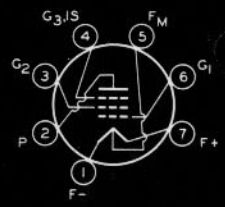
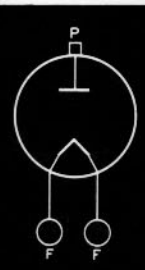


5618

MISCELLANEOUS TYPES—Cont'd

Cathode Volts	Cathode Amps.	Maximum Dimensions Inches Length	Maximum Dimensions Inches Diam.	Class of Service	Maximum Ratings: Plate Volts	Maximum Ratings: Plate Dissipation Watts	Maximum Ratings: Grid-No. 2 Input Watts	Operating Conditions and Characteristics: Plate Supply Volts	Grid-No. 1 Volts(v) or Cathode Resistance Ohms	Grid-No. 2 Supply Volts	Grid-No. 2 Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Transconductance Micromhos	Amplification Factor	Power Output Watts	Type
2.5	2.0	4 5/16	1 5/8	Push-Pull Class AB_2 Amplifier	400	15	3.5	400	−16.5v	300	6.5	75	Load for Stated Power (Plate-to-Plate), 6000 Ohms			36	1619
				Class C Telephony§	325	10	2.5	325	−50v	285	7.5	62	—	—	—	13	
				Class C Telegraphy	400	15	3.5	400	−55v	300	10.5	75	—	—	—	19.5	
6.3	0.7	3 1/4	1 5/16	Push-Pull♦ Class A_1 Amplifier	300	7.9	1.9	300	−30v	300	6.5	38	Load for Stated Power (Plate-to-Plate), 4000 Ohms			5.0	1621
6.3	0.9	4 5/16	1 5/8	Push-Pull♦ Class A_1 Amplifier	300	13.8	1.4	300	−20v	250	4.0	86	Load for Stated Power (Plate-to-Plate), 4000 Ohms			10	1622
12.6	0.25	4 1/8	1 9/16	Class C Telegraphy	250	5.0	—	250	−70v	Driving Power 0.5 Watt Approx.		25	—	—	5	4.0	1626
12.6	0.15	4 1/8	1 3/16	Visual Indicator	Plate and Target Supply Volts, 250. Triode Plate Resistor, 1 megohm. 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	16	2.5	360 360	−22.5v −22.5v	270 270	5.0♦ 5.0♦	88♦ 88♦	Load for Stated Power (Plate-to-Plate), 6600 Ohms Load for Stated Power (Plate-to-Plate), 3800 Ohms			26.5 18	1631
12.6	0.6	3 1/4	1 5/16	Class A_1 Amplifier	117	5.5	1.25	110	−7.5v	110	4.0	49	13000	9000	—	2.1⊕	1632
6.3	0.6	3 5/16	1 5/16	Class B Amplifier	300■	3.0■	—	300	0	Plate-to-plate load for power output of 1 tube, 12000 ohms						10.4	1635
6.0°/3.0△	0.23°/0.46△	2 5/8	3/4	Class A_1 Amplifier**	300	5.0	2.0	250	−8.0v	75	2.0	19	—	3600	—	1.4∴	5618
				RF Amp. & Osc. Class C Telegraphy**	300	5.0	2.0	300	−45v	75	7.0	25	Approx. driving power, 0.3 watt			4.5 at 80 Mc	
				Tripler to 80 Mc**	300	5.0	2.0	300	−125v	75	5.5	25	Approx. driving power, 0.75 watt			2.7	
1.25	0.2	2.38Σ	0.4	Half-Wave Rectifier	Max. Peak Inverse Volts, 10,000 Supply Voltage Frequency, 400 Kc Max.							Max. DC Plate Ma., 0.25 Max. Peak Plate Ma., 5					5642
6.3/12.6	0.9/0.45	2 3/16	7/8	Class A_1 Amplifier Each Unit	300	4.2	—	120 180 250	−2.0v −7.0v −12.5v	— — —	— — —	36 23 12	1560 2000 3000	11500 8500 5400	18 17 16	— — —	5687
6.3	0.15	1.3	0.328	Measurement of Mechanical Vibration	300⅓	0.4	—	300	0	—	—	1.5✱	72000✱	275✱	20✱	—	5734
									Deflection Sensitivity, 40 Volts per Degree (2300 Volts/Radian) Minimum Free Cantilever Resonance, 12000 Cyles per Second							
6.0	0.75	2 5/8	7/8	RF Amplifier Class C Telephony**	300	12	1.5	300	−42.5v	250	6	50	Approx. Driving Power at 30 Mc. 0.15 Watt			10	5763
				RF Amp. & Osc. Class C Telegraphy	300	12	2.0	300	−60v	250	5	50	Approx. Driving Power at 50 Mc. 0.35 Watt			7.0	
				Tripler to 175 Mc.	300	12	2.0	300	−100v	300●●	5	35	Approx. Driving Power, 0.6 Watt			1.3	
6.3	0.9	3 15/32	1 7/16	Class A_1 Amplifier	400	23	3.0	250 350	−14v −18v	250 250	4.3 2.5	75 53	30000 48000	6100 5200	— —	6.7◆ 11.3⅄	5881
				Push-Pull Class AB_1 Amplifier	400	23	3.0	360 360	−22.5v −22.5v	270 270	5.0 5.0	88 88	Load for Stated Power \6600 Ohms Load for Stated Power \3800 Ohms			26.5 18	
6.3	2.5	4 1/16	1 23/32	DC Amplifier	Maximum Ratings, Absolute Values: Plate Volts, 250 — Plate Dissipation, 13 watts Plate Ma., 125 — Peak Heater-Cathode Volts, ±300 Grid-Circuit Resistance for Cathode-Bias Operation, 1 megohm												6080
12.6	0.375	2 5/8	7/8	For other characteristics, refer to type 5763													6417

§ Plate modulated.
♦ Values are for 2 tubes.
⊕ Load for stated power, 2000 ohms.
■ Each unit.
Σ Excluding flexible leads.
◆ Load for stated power, 2500 ohms.
** Intermittent Commercial and Amateur Service.
∴ Load for stated power, 12000 ohms.
⅄ Load for stated power, 4200 ohms.
⅓ Plate supply volts.
●● With a screen resistor of 12500 ohms.
✱ For plate shaft in undeflected position.
° 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.



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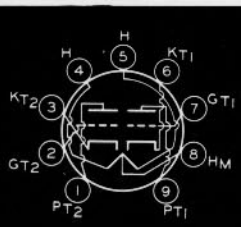

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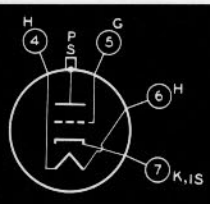

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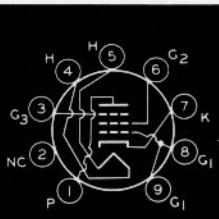

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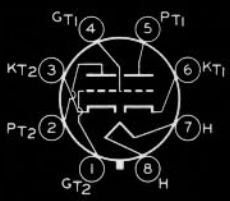

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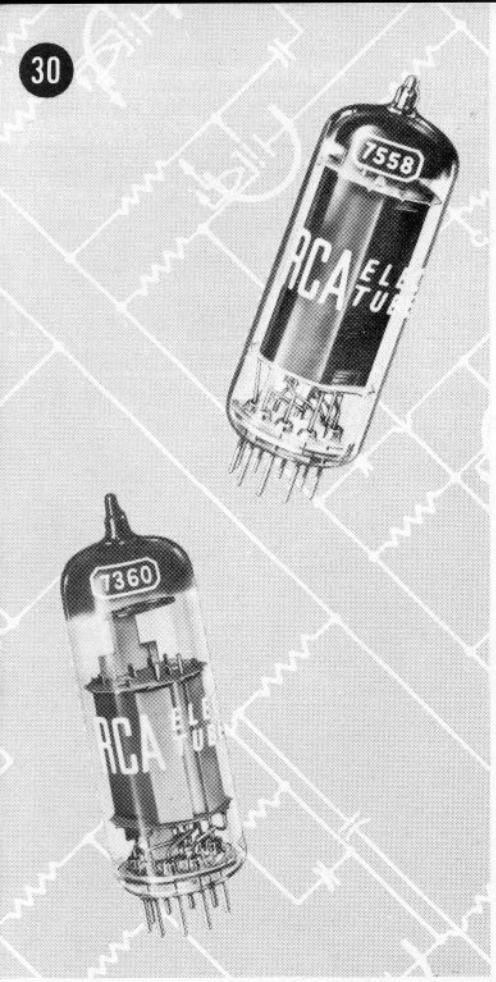
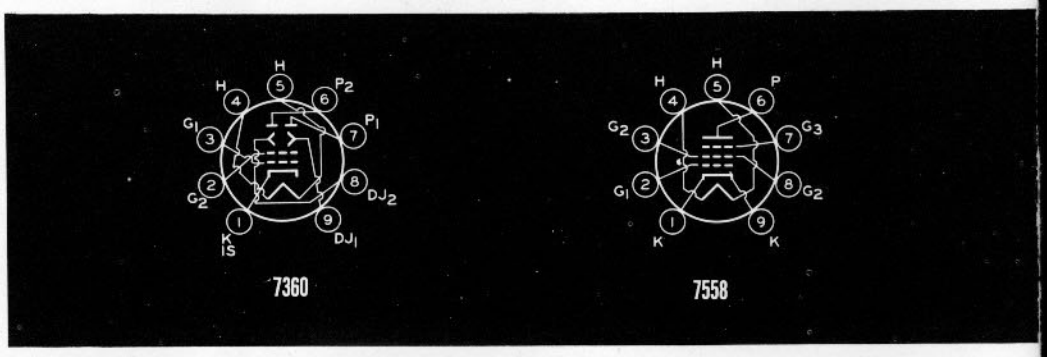


MISCELLANEOUS TYPES—Cont'd

Type	Description
7360	Beam-Deflection Tube. For use in modulator, demodulator, and frequency-converter applications in single- and double-side band suppressed-carrier communications equipment operating at frequencies up to 100 Mc. 9-pin miniature type.
7558	Beam Power Tube. For use as class C rf amplifier, oscillator or frequency multiplier at frequencies up to 175 Mc. 9-pin miniature type.

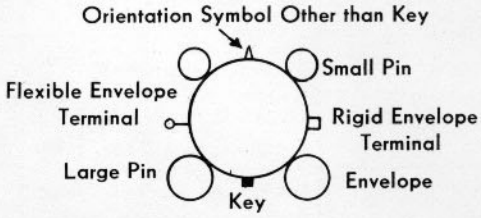


LEGEND FOR BASE AND ENVELOPE CONNECTION DIAGRAMS

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 Tap
IC = Internal Connection—Do Not Use.
IS = Internal Shield
K = Cathode
• = Gas-Type Tube
NC = No Connection
P = Plate (Anode)
S = Shell
TA = Target
TC = Thermocouple



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

RECEIVING TUBES FOR ENTERTAINMENT USE
Rectifiers, Diode Detectors, Converters, Voltage and Power Amplifiers, Oscillators, Mixers, and TV Picture Tubes.

PHOTOSENSITIVE DEVICES AND CATHODE-RAY TUBES
Phototubes, Photocells, Camera Tubes, Image-Converter Tubes, Storage Tubes, Cathode-Ray Tubes, Monoscopes.

MICROWAVE TUBES
Magnetrons and Traveling-Wave Tubes.

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

SEMICONDUCTOR DEVICES
Transistors and Silicon Rectifiers.

RECEIVING-TYPE INDUSTRIAL TUBES
Nuvistor Tubes, Special Red Tubes, Premium Tubes, Pencil-Type Tubes, Computer Tubes, Glow-Discharge Tubes, Small Thyratrons, Vacuum-Gauge Tubes, and Other Special Types.

DRY BATTERIES
For Electron-Tube and Transistor Radios, Flashlights, and Industrial Applications.

AUDIO DEVICES AND TV ACCESSORIES
Magnetic-Recording Sound Tape and Accessories, TV-Set Couplers, and Lightning Arrestors.

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

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

MISCELLANEOUS TYPES—Cont'd

Cathode Volts	Cathode Amps.	Maximum Dimensions Inches Length	Maximum Dimensions Inches Diam.	Class of Service	Maximum Ratings Plate Volts	Maximum Ratings Plate Dissipation Watts	Maximum Ratings Grid-No. 2 Input Watts	Operating Conditions and Characteristics Plate Supply Volts	Grid-No. 1 Volts(v) or Cathode Resistance Ohms	Grid-No. 2 Supply Volts	Grid-No. 2 Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Transconductance Micromhos	Amplification Factor	Power Output Watts	Type
6.3	0.35	2⅝	⅞	Balanced Modulator and/or Balanced Mixer	300+	1.5+	0.5	Plate Volts (Each Plate), 150; Grid-No. 2 Volts, 175; Cathode Resist., 1200 Ohms; Peak RF Grid-No. 1 Volts, 10; Plate Ma. (Each Plate), 1.5; Grid-No. 2 Ma., 0.75; Deflecting-Electrode Volts (Approx. Each Electrode), 25; Push-Pull Peak-to-Peak Double-Sideband Output Volts (Balanced Modulator), 4; Push-Pull Peak-to-Peak Single-Sideband Output Volts (Balanced Mixer), 40; Plate-to-Plate Load Imped.: Balanced Mixer, 10000 Ohms; Balanced Modulator, 5000 ohms										7360
6.3	0.8	2⅝	⅞	RF Power Amp. & Osc. Class C Telegraphy	300	10	2.0	300	−42v	200	3.7	70	—	—	—	8.5	7558
				Tripler to 175 Mc	300	10	2.0	200	−90v	200	3.0	50	—	—	—	2.3	
				Class AB_1 Amplifier	300■	10■	2.0■	300♦	−21v♦	250♦	2.0♦	40♦	Load for Stated Power (Plate-to-Plate), 5000 Ohms			20.5	

+ Each plate. ■ Each unit. ♦ Values are for 2 tubes.

INDEX TO RCA RECEIVING-TYPE TUBES FOR INDUSTRY AND COMMUNICATIONS

TECHNICAL PUBLICATIONS

ELECTRON TUBES—

• **RCA TUBE HANDBOOK**—HB-3 (7⅜" x 5¼"). Five deluxe 2-inch-capacity black binders imprinted in gold. The bible of the industry — contains over 4200 pages of loose-leaf data and curves on RCA receiving tubes; picture tubes; oscillograph tubes; special-purpose kinescopes; photosensitive devices including phototubes, photoconductive cells, photojunction cells, and camera tubes; storage tubes; gas tubes; and other miscellaneous types for special applications. Available on subscription basis. Price $17.50 including service for first year. Also available with HB-10 Semiconductor Products Handbook at special combination price of $20.00.* Write to Commercial Engineering for descriptive folder and order form.

• **RCA RECEIVING TUBE MANUAL**—RC-19 (8¼" x 5¾")—384 pages. Revised and expanded. Contains technical data on more than 625 receiving types. Features tube theory written for the layman, application information and a circuit section. Features lie-flat binding. Price 75 cents.*

• **RADIOTRON DESIGNER'S HANDBOOK**—4th Edition (8¾" x 5½")—1500 pages. 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.*

• **RCA TRANSMITTING TUBES**—TT-4 (8⅜" x 5⅜")—256 pages. Contains basic information on generic tube types, on tube parts and materials, and on tube insulation and application. Includes technical data and curves for power tubes having plate-input ratings up to 4 kilowatts, and data for associated rectifier tubes. Contains sections on transmitter-design considerations, rectifier circuits and filters, and circuit diagrams for transmitting and industrial applications. Features lie-flat binding. Price $1.00.*

• **RCA POWER AND GAS TUBES**—PG-101D (10⅞" x 8⅜")—32 pages. Technical information on over 175 RCA vacuum power tubes, rectifier tubes, thyratrons, and ignitrons. Includes terminal connections. Price 30 cents.*

• **RCA RECEIVING-TYPE TUBES FOR INDUSTRY AND COMMUNICATIONS**—RIT-104B (10⅞" x 8⅜")—32 pages. Technical data on 190 RCA "special red" tubes, premium tubes, computer tubes, pencil tubes, glow-discharge tubes, small thyratrons, low-microphonic amplifier tubes, traveling-wave tubes, and other special types. Price 30 cents.*

• **RCA RECEIVING TUBES AND PICTURE TUBES**—1275J (10⅞" x 8⅜")—48 pages. New, enlarged, and up-to-date booklet contains classification chart, characteristics chart, and base and envelope connection diagrams on more than 900 entertainment receiving tubes and picture tubes. Price 35 cents.*

• **RCA PREFERRED TYPES LIST**—PTL-501G (10⅞" x 8⅜")—8 pages. Lists RCA Preferred Tube Types both receiving and non-receiving by function. An aid in the selection of tube types for new equipment design. Single copy free on request.

• **RCA INTERCHANGEABILITY DIRECTORY OF INDUSTRIAL-TYPE ELECTRON TUBES**—ID-1020B (10⅞" x 8⅜")—24 pages. Lists more than 2700 type designations of 33 different manufacturers; shows the RCA Direct Replacement Type or the RCA Similar Type, when available. Price 25 cents.*

• **RCA PHOTOSENSITIVE DEVICES AND CATHODE-RAY TUBES**—CRPD-105A (10⅞" x 8⅜")—32 pages. Technical information on 134 RCA tubes including single-unit, twin-unit, and multiplier phototubes; camera and image-converter tubes; flying-spot tubes; monitor, projection, transcriber, and view-finder kinescopes; oscillograph and storage tubes. Price 30 cents.*

• **RCA MAGNETRONS AND TRAVELING-WAVE TUBES**—MT-301A (10⅞" x 8⅜")—48 pages. Operating theory for magnetrons and traveling-wave tubes, application considerations, and techniques for measurement of electrical parameters. Price 50 cents.*

• **RCA TRIPLE PINDEX**—PINDEX-109 (8¼" x 5¼")—240 pages. Gives base diagrams for more than 2000 JEDEC-registered receiving types including picture tubes. Base diagrams of over 1500 receiving types are presented in triplicate to provide the user with any three base diagrams at any one time. More than 200 small industrial receiving types and more than 200 foreign receiving types are cross-referenced to the receiving-tube section for base diagrams. Price $1.75.*

• **RCA INTERCHANGEABILITY DIRECTORY OF FOREIGN vs U.S.A. RECEIVING-TYPE ELECTRON TUBES**—ICE-197 (8⅜" x 10⅞")—4 pages. Covers approximately 450 foreign tube types used principally in AM and FM radios, TV receivers, and audio amplifiers. Indicates U.S.A. direct replacement type or similar type if available. Single copy free on request.

• **RCA HIGH-FIDELITY AMPLIFIER CIRCUITS BOOKLET**—HF-110 (8⅜" x 10⅞")—28 pages. Includes circuit diagrams with parts lists, design considerations and performance requirements, and characteristics chart of RCA high-fidelity tube types. For hobbyists, technicians, and others interested in construction of their own high-fidelity amplifier systems. Price 35 cents.*

• **RCA COLOR TELEVISION PICT-O-GUIDE**—(9⅝" x 5⅜")—200 pages. Developed and written by John R. Meagher RCA's nationally recognized authority on practical TV servicing. Prepared to aid TV technicians in trouble-shooting and adjusting color TV receivers. Color photographs are included to assist in recognizing and understanding visible symptoms of troubles and misadjustments. Price $4.50.*

• **TV SERVICING**—TVS-1030 (10⅞" x 8⅜")—48 pages. Contains 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-page booklet by John R. Meagher on solving trouble-shooting problems in those hard-to-service TV receivers known to service technicians as "tough" sets or "dogs". Price 15 cents.*

• **PRACTICAL COLOR TELEVISION**—Revised Edition (11" x 8½")—84 pages. Black-and-white and color illustrations. Comprehensive information on color principles, color signal, color camera, and color picture tubes. Covers commercial receiver circuit using the RCA-15GP22 color picture tube, 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")—36 pages. Describes theory, operation and servicing of large-screen color TV receiver using RCA-21AXP22. Has 55 black-and-white and color illustrations, wave-forms, and explanations of color circuits and adjustments. Price 75 cents.*

TRANSISTORS AND SILICON RECTIFIERS—

• **RCA SEMICONDUCTOR PRODUCTS HANDBOOK**—HB-10 (7⅜" x 5⅝"). Deluxe 2⅞-inch capacity red binder imprinted in gold. Contains over 400 pages of loose-leaf data and curves on semiconductor devices such as germanium transistors, silicon transistors, and silicon rectifiers. Available on subscription basis. Price $5.00* including service for one year. Also available with HB-3 Tube-Handbook at special combination price of $20.00.* Write to Commercial Engineering for descriptive folder and order form.

• **RCA SEMICONDUCTOR PRODUCTS**—SCD-108B (10⅞" x 8⅜")—40 pages. Contains technical data on RCA transistors and silicon rectifiers. Includes an interchangeability directory which lists over 1100 types of 29 different manufacturers, and a section on circuits containing 37 schematics illustrating some of the more important applications of these devices. Price 30 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
From your RCA Tube Disributor
or
From RCA, Commercial Engineering, Electron Tube Division, Harrison, New Jersey

TRANSISTORS, SILICON RECTIFIERS
From your RCA Transistor Distributor
or
From RCA, Commercial Engineering, Semiconductor and Materials Division, Somerville, New Jersey

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