



# RCA REFERENCE BOOK

• TUBES  
• PARTS

• ACCESSORIES  
• TEST EQUIPMENT

1951

EQUIPMENT SALES SECTION



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• TYPES  
• PARTS

• INTERFACES  
• TEST EQUIPMENT

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**RCA REFERENCE BOOK**

• TUBES

• BATTERIES

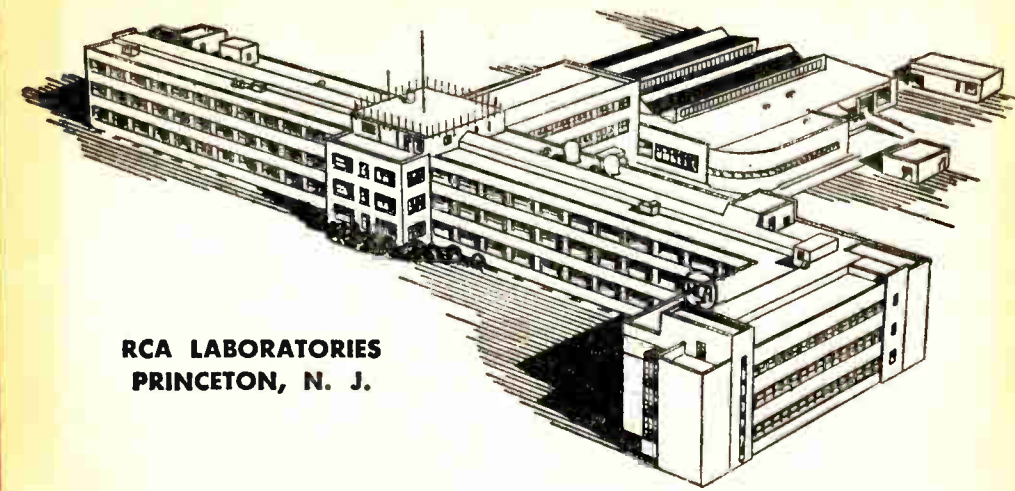
• PARTS

• TEST EQUIPMENT

**1951**

"EQUIPMENT SALES SECTION"

*The Fountainhead of Modern Tube Development is RCA*



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PRINCETON, N. J.**

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# 1951

## RCA REFERENCE BOOK

- TUBES
- BATTERIES
- PARTS
- TEST EQUIPMENT



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Harrison, N. J.

# RCA RENEWAL PRODUCTS

## RCA ELECTRON TUBES AND TELEVISION KINESCOPIES

Today, as never before, dependable quality is a primary requirement for electron tubes in every application — television, AM, FM, communications and industry. When ordering tubes, you'll find it pays to specify RCA. *The quality of RCA tubes is unquestioned.*

## RCA TUBES FOR INDUSTRY AND COMMUNICATIONS

For electron tubes to fill practically any industrial, broadcast, or communication need, look to your RCA Tube Distributor. He is in a position locally to offer you fast, dependable service on RCA power tubes, rectifier tubes, glow-discharge (cold-cathode) tubes, ignitrons, thyratrons, phototubes, cathode-ray, and special tubes.

## RCA BATTERIES FOR RADIO AND INDUSTRY

RCA provides a complete line of highest quality dry batteries — radio-engineered for extra hours of dependable service. *For Radio* — 56 types that service 99% of all radio requirements. *For Industry* — 28 types covering standard and special-purpose needs. It's *The Radio Battery for the Radio Trade.*

## RCA TEST EQUIPMENT

The new, Blue Ribbon line of RCA test equipment meets every TV and AM servicing need. Each instrument is manufactured to exacting requirements and designed for complete ease of operation. Tops in appearance and utility — RCA Test Equipment adds greater service time to every service day.

## RCA ELECTRONIC COMPONENTS

RCA has a complete line of television components for your replacement needs — *original* in design and unequalled in performance. You can also depend upon RCA for the finest in speakers, antennas, and accessories — plus a complete line of *genuine* RCA Victor Service Parts.

## RCA MINIATURE LAMPS

A fast-moving, comprehensive line that fills practically every radio-panel-lamp and flashlight need. Each RCA lamp is a popular replacement type . . . selected to meet your everyday sales requirements.

# TABLE OF CONTENTS

	PAGE
House Organs .....	2
Sales and Service Aids.....	3
Technical Publications .....	4-7
Receiving Tube Characteristics Chart.....	8-41
Receiving Tube Socket Connections.....	42-51
Quick Selection Guide to Power, Cathode-Ray, Photo, and Special Tubes.....	52-64
Miniature Lamps Characteristics Chart.....	65
Interchangeability Directory of Tubes for Com- munications and Industry.....	66-71
Battery Characteristics Chart and Interchange- ability Guide .....	72-73
Battery Socket and Terminal Guide.....	74-75
Battery Replacement Guide for 1948, 1949 and 1950 Portable Radios.....	76-79
Component Directory for RCA Victor Televi- sion Receivers .....	80-83
Speaker Characteristics Chart.....	84
Television Service Data.....	85-88
TV Trouble Shooting.....	89-91
Test Equipment .....	92-96

# RCA HOUSE ORGANS

## FOR THE SERVICE TECHNICIAN



### RCA RADIO SERVICE NEWS

Authoritative articles on television and radio servicing, sales and business tips, news about RCA products and promotions. Articles by noted authorities, such as John R. Meagher, RCA Television Specialist. Read it regularly. You'll find it genuinely helpful. *Free* from your RCA Distributor.

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Latest dope on tube applications, new circuits, and new equipment designs. Features exclusive construction articles. Written by active amateurs who are members of RCA's engineering staff. Full of authentic and useful material. *Free* from your RCA Distributor.



## FOR THE BROADCAST ENGINEER

### RCA TUBE TIPS

Newsletter, containing technical tips, new product data, and valuable application information. A timely publication for those who want to keep abreast of broadcast tube developments. Sent free of charge to broadcast engineers by the RCA Tube Department.





# RCA SALES AND SERVICE AIDS



The RCA sales and service aids illustrated represent only a few of the many useful business helps available from your RCA Distributor. RCA has a complete line of dealer aids designed to help you sell and serve your customers better. There are illuminated signs, window displays, counter cards, streamers, product merchandisers, personalized business stationery, repair tags, direct mail cards, service guide books, and authoritative technical literature.

Ask your RCA distributor about the latest RCA sales and service aids. They are your key to Better Servicing and Bigger Profit!

# TECHNICAL PUBLICATIONS OF RCA TUBE DEPARTMENT

The technical publications listed below are packed with up-to-the-minute information logically arranged for ready reference and application to your needs.

Ask your RCA Distributor for these publications, or write direct to Commercial Engineering, Tube Department, Radio Corporation of America, Harrison, N. J.

## ELECTRON TUBES

### **TUBE HANDBOOK (HB-3)**

No other tube handbook provides as much-up-to-the-minute technical data on tubes as the RCA HB-3 Handbook. Sold on a subscription basis, it's been "the bible of the industry" for over 15 years. There are three deluxe loose-leaf binders, containing over 2500 pages of operating data, characteristics curves, socket connections, and other useful information. Numerous supplementary sheets with new or revised data are issued during the year. Domestic price \$10.00, including service for one year.

### **RECEIVING TUBE MANUAL (RC-16)**

Newly revised and brought up-to-date. Over 300 pages of detailed technical information on more than 460 RCA receiving tubes and kinescopes, including many discontinued types. Included in this new edition are 1) an expanded section on tube and circuit theory with formulas and examples for calculation of power output, load resistance, and distortion for several classes of amplifier service; 2) cathode-follower design information; 3) kinescope installation and handling information; 4) a classification chart which groups types having similar characteristics and the same filament or heater voltages, and shows miniature types and their GT equivalents; 5) an expanded circuit section including many new audio amplifier and receiver circuit designs; and 6) a complete section on resistance-coupled amplifiers. Features lie-flat binding. Price 50 cents.

### **RECEIVING TUBES FOR AM, FM, & TV BROADCAST (1275-E)**

A 24-page booklet on RCA receiving tubes featuring classification chart, characteristics chart, base and en-

velope connection diagrams. Includes more than 450 RCA miniature, metal, glass, and kinescope types, and specially keys discontinued RCA types for the benefit of radio servicemen. Data arranged in easy-to-use, quick-reference style. Price 10 cents.

#### **RCA POWER AND GAS TUBES FOR RADIO AND INDUSTRY (PG-101-A)**

This new booklet contains 20 colorful pages of tabulated technical data, base diagrams, photographs, and "thumb-nail" sketches of 160 RCA vacuum power tubes, glow-discharge (cold-cathode) tubes, rectifier tubes, thyratrons, and ignitrons. Price 15 cents.

#### **RCA PHOTOTUBES, CATHODE-RAY TUBES, AND SPECIAL TUBES (CRPS-102-A)**

Completely revised. This new 20-page booklet contains detailed technical information on more than 140 RCA Single-Unit, Twin-Unit, and Multiplier Phototubes; Cathode-Ray Tubes; Camera Tubes; Monoscopes; and Types for Special Applications. Ratings, operating conditions, applications, and base and envelope connection diagrams are included. Many types are illustrated and spectral response curves are given for all phototubes. Form No. CRPS-102-A. Price 15 cents.

#### **RCA PREFERRED TYPES LIST (PTL-501-A)**

Lists RCA Preferred Tube Types for home radio and television receivers and for communications and industry, by function. An aid to equipment designers in the selection of tube types for new equipment design. Bulletin PTL-501-A. Single copy free on request.

#### **RCA INTERCHANGEABILITY DIRECTORY OF TUBES FOR COMMUNICATIONS AND INDUSTRY (ID-1020)**

A 20-page booklet listing 1600 type designations of 24 different manufacturers, arranged in numerical-alphabetical sequence and showing the RCA Direct Replacement Type or the RCA Similar Type, when available. Single copy free on request.

#### **HEADLINERS FOR HAMS (HAM-103-A)**

Four pages of technical information and terminal connections for 30 RCA "HAM" PREFERENCE TYPES: class B modulators, class C amplifiers and oscillators, frequency multipliers, rectifier tubes, thyratrons, and cold-cathode (glow-discharge) tubes. Single copy free on request.

**TELEVISION SERVICE DATA (TV-1003)**

112 pages of data on RCA Victor Models 630TS and 648PTK. Contains alignment procedures, schematic diagrams, complete parts lists, wiring diagrams, and chassis layouts. Price \$1.50 per copy.

**RCA TELEVISION "PICT-O-GUIDE," VOLUMES I AND II**

Covers different phases of TV trouble shooting by picture analysis. Vol. I contains 100 pages and more than 40 photographs; Vol. II, 224 pages and more than 80 photographs. Each volume contains circuit diagrams, basic television information, and detailed descriptions of picture troubles. Price per volume \$2.50.

**RCA TRIPLE PINDEX (Form 2F366R)**

Completely revised. Receiving tube and kinescope base diagram guide to over 600 types arranged in numerical-alphabetical sequence. The diagrams of any three tube types can be located and kept in front of you at the same time. Wire-spiral binding. Price 75 cents.

**INSTRUCTION BOOKLETS**

Complete, authorized information on individual RCA power tubes and other tubes for communications and industry. In requesting bulletin, be sure to specify tube type. Single copy on any type free on request.

**BATTERIES****RCA RADIO BATTERIES FOR FLASHLIGHT, RADIO, AND INDUSTRIAL APPLICATIONS (BAT-134)**

An 8-page booklet containing characteristics, terminal types, and socket patterns of 84 RCA dry batteries for radio, flashlight, and industrial applications. Includes a battery interchangeability directory, and a battery replacement guide for 1948, 1949, and 1950 portable radios. Single copy free on request.

**ELECTRONIC COMPONENTS AND SERVICE PARTS****COMPONENTS DIRECTORY (SP-1006A)**

Lists major replacement parts for approximately 500 television receivers of 38 manufacturers. 16 pages. Single copy free on request.

**RCA VICTOR SERVICE DATA**

Cover RCA Victor radios, phonographs, and tele-

vision receivers of 1923 through 1950. Material includes schematic and wiring diagrams, electrical and mechanical specifications, alignment and adjustment procedures, complete service parts lists, chassis layouts, and much other useful servicing data.

This material is available in two forms: (1) four bound volumes covering the years 1923 through 1948 (Volume V covering 1949 is in preparation); (2) booklets covering individual or similar models released to date in 1950.

### **BOUND VOLUMES—RADIO, PHONOGRAPH, TELEVISION**

VOLUME NO.	YEARS	PAGES	PRICE
I	1923 to 1937	880	\$3.50
II	1938 to 1942	816	4.00
III	1943 to 1946	290	4.00
IV	1947 to 1948	566	6.00

**BOOKLETS ON 1950 TV RECEIVERS 50 cents each**  
 6T72 S1000 T100 T120 T121 TA128 TA129 TA169  
 [TC124, TC125, TC127]\*

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 [960284-1, 960284-2]\* 960285-1

### **SERVICE PARTS DIRECTORY FOR RCA VICTOR TV RECEIVERS (SP-1007)**

80 pages of schematic diagrams and replacement parts for all RCA Victor television receivers manufactured from 1946 through June 1950 (56 models). Book opens so that schematic diagrams face corresponding parts lists for quick reference. Price 75 cents per copy.

*NOTE: All prices are net and apply in the U.S.A. They are subject to change and cancellation without notice. When ordering from Commercial Engineering, remittance should be made payable in U. S. dollars to Radio Corporation of America.*

\*Models within brackets are covered in one booklet.

# RCA RADIO TUBE CHART

Miniature, Metal, GT, and other Receiving Types Including Kinescopes

Type	Name	Tube Dimensions and Socket Connections		Cathode Type and Rating			Use <i>Values to right give operating conditions and characteristics for indicated typical use</i>	Plate Supply Volts	Grid Bias $\pm$ Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Trans-conductance (Grid-plate) $\mu$ mhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts
		Dimen.	S. C.	C. T.	Volts	Amp.											
00-A	Detector Triode	D12	4D	D.C. F	5.0	0.25	Grid-Leak Detector	45	Grid Return to (-) Filament			1.5	30000	666	20	—	—
01-A	Detector $\star$ Amplifier	D12	4D	D.C. F	5.0	0.25	Class A Amplifier	90 135	- 4.5 - 9.0	—	—	2.5 3.0	11000 10000	725 800	8.0 8.0	—	—
0Y4	Half-Wave Gas Rectifier	B2	4BU		Cold	—	Rectifier	Max. Peak Inverse Plate Volts, 300 Max. D-C Starting Volts, 95			Max. Peak Plate Current, 500 ma. Max. D-C Output Current, 75 ma.						
0Z4	Full-Wave Gas Rectifier	B2	4R		Cold	—	Rectifier	Starting-Supply Voltage per Plate, 300 min. peak volts. Peak Plate Current, 200 max. ma. D-C Output Current, 75 max., 30 min. ma. D-C Output Voltage, 300 max. volts.									
0Z4-G	Full-Wave Gas Rectifier	B1a	D-4R		Cold	—	Rectifier										
1A3	HF Diode	B0	5AP <sub>2</sub>		H	1.4	Detector Rectifier	Max. Peak Inverse Volts, 330 Max. Peak Plate Ma., 5			Max. D-C Output Ma., 0.5 Max. Peak Heater-Cathode Volts, 140						
1A4-P	Remote-Cutoff Pentode	D9	4M	D.C. F	2.0	0.06	Amplifier	For other characteristics, refer to Type 1D5-GP.									
1A5-GT	Power Amplifier Pentode	C3	G-6X	D.C. F	1.4	0.05	Class A Amplifier	85 90	- 4.5 - 4.5	85 90	0.7 0.8	3.5 4.0	300000 300000	800 850	—	25000 25000	0.100 0.115
1A6	Pentagrid Converter $\Phi$	D9	6L	D.C. F	2.0	0.06	Converter	135 180	{ - 3.0 min. }	67.5 67.5	2.5 2.4	1.2 1.3	400000 500000	Anode-Grid (#2): 180 v max. volts, 2.3 ma. Oscillator-Grid (#1) Resistor $\Phi$ . Conversion Transcond., 300 micromhos.			
1A7-GT	Pentagrid Converter $\Phi$	C3	GT-7Z $\Phi$	D.C. F	1.4	0.05	Converter	90	0	45 $\Phi$	0.7	0.6	600000	Anode-Grid (#2): 90 max. volts, 1.2 ma. Oscillator-Grid (#1) Resistor, 0.2 meg. Conversion Transcond., 250 micromhos.			
1AC5	Power Pentode	A	8CP		F	1.25	Class A Amplifier	30 45 67.5	- 2 - 3 - 4.5	30 45 67.5	0.1 0.2 0.4	0.5 1.0 2.0	200000 170000 150000	450 600 750	— — —	50000 40000 25000	5 15 50

<b>1A5</b>	Sharp-Cutoff Pentode	A	8CP <sub>1</sub>	F	1.25	0.04	Class A Amplifier	30 45 67.5	0 0 0	30 45 67.5	0.16 0.35 0.75	0.45 0.9 1.85	700000 700000 700000	430 580 735	—	—	—	
<b>1B3-GT</b>	Half-Wave Rectifier	D2	3C	F	1.25	0.2	Half-Wave Rectifier	Max. Peak Inverse Plate Volts, 30000 Max. Peak Plate Ma., 17						Max. Average Plate Ma., 2 Max. Frequency of Supply Voltage, 300 Kc				
<b>1B4-P</b>	RF Amplifier Pentode	D8	4M	D.C. F	2.0	0.06	Amplifier	For other characteristics, refer to Type 1E5-GP.										
<b>1B5/25S</b>	Duplex-Diode Triode	D5	6M	D.C. F	2.0	0.06	Triode Unit as Amplifier	For other characteristics, refer to Type 1H6-G.										
<b>1B7-GT</b>	Pentagrid Converter	C3	DT-72M	D.C. F	1.4	0.10	Converter	90	0	45	1.3	1.5	350000	Anode-Grid (#2): 90 max. volts, 1.6 ma. Oscillator-Grid (#1) Resistor, 0.2 meg. Conversion Transcond., 350 micromhos.				
<b>1C5-GT</b>	Power Amplifier Pentode	C2b	G-4X	D.C. F	1.4	0.10	Class A Amplifier	83 90	- 7.0 - 7.5	83 90	1.6 1.6	7.0 7.5	110000 115000	1500 1550	—	9000 8000	0.20 0.24	
<b>1C6</b>	Pentagrid Converter $\alpha$	D9	6L	D.C. F	2.0	0.12	Converter	For other characteristics, refer to Type 1C7-G.										
<b>1C7-G</b>	Pentagrid Converter $\alpha$	D8	G-7Z	D.C. F	2.0	0.12	Converter	135 180	- 3.0 - 3.0	67.5 67.5	2.5 2.0	1.3 1.5	600000 700000	Anode-Grid (#2): 180 max. volts, 4.0 ma. Oscillator-Grid (#1) Resistor $\alpha$ . Conversion Transcond., 325 micromhos.				
<b>1D5-GP</b>	Remote-Cutoff Pentode	D4	G-6Y	D.C. F	2.0	0.06	Class A Amplifier	90 180	{ - 3.0 } min.	67.5 67.5	0.9 0.8	2.2 2.3	600000 1.0 $\frac{1}{2}$	720 750	—	—	—	
<b>1D5-GT</b>	Remote-Cutoff Tetrode	D4	G-5R	D.C. F	2.0	0.06	Class A Amplifier	180	- 3.0	67.5	0.7	2.2	600000	650	—	—	—	
<b>1D7-G</b>	Pentagrid Converter $\alpha$	D4	G-7Z	D.C. F	2.0	0.06	Converter	For other characteristics, refer to Type 1A6.										
<b>1D8-GT</b>	Diode-Triode-Power Amplifier Pentode	C2b	G-8AJ	D.C. F	1.4	0.10	Pentode Unit as Class A Amplifier	45 90	- 4.5 - 9.0	45 90	0.3 1.0	1.6 5.0	300000 200000	650 925	—	20000 12000	0.035 0.200	
							Triode Unit as Class A Amplifier	45 90	0 0	—	—	0.3 1.1	77000 43500	325 575	25 25	—	—	
<b>1E5-GP</b>	RF Amplifier Pentode	D4	G-6Y	D.C. F	2.0	0.06	Class A Amplifier	90 180	- 3.0 - 3.0	67.5 67.5	0.7 0.6	1.6 1.7	1.0 $\frac{1}{2}$ 1.3	600 650	—	—	—	
<b>1E7-GT</b>	Twin-Pentode Power Amplifier	C2b	G-8C	D.C. F	2.0	0.24	Class A Amplifier	135	- 7.5	135	—	Power Output for one tube at stated plate-to-plate load.				24000	0.575	
<b>1E8</b>	Pentagrid Converter $\Delta$	A	8CN	F	1.25	0.04	Converter	30 45 67.5	0 0 0	30 45 67.5	0.8 1.1 1.5	0.3 0.6 1.0	300000 400000 400000	Oscillator Grid (#1) Resistor, 0.1 meg. Conversion Transcond., 150 micromhos				
<b>1F4</b>	Power Amplifier Pentode	D12	8K	D.C. F	2.0	0.12	Amplifier	For other characteristics, refer to Type 1F5-G.										

Discontinued types are shown in light face.

RCA Type	Name	Tube Dimensions and Socket Connections		Cathode Type and Rating			Use <small>Values to right give operating conditions and characteristics for indicated typical use</small>	Plate Supply Volts	Grid Bias in Volts	Screen Supply Volts	Screen Current Ma	Plate Current Ma	AC Plate Resistance Ohms	Trans-conductance (Grid-plate) $\mu$ mhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts
		Dim.	S.C.	C.T.	Volts	Ans.											
1F5-G	Power Amplifier Pentode	D10	G-4X	D.C. F	2.0	0.12	Class A Amplifier	90 135	- 3.0 - 4.5	90 135	1.1 2.4	4.0 8.0	240000 200000	1400 1700	—	20000 16000	0.11 0.31
1F6	Duplex-Diode Pentode	D9	8W	D.C. F	2.0	0.06	Pentode Unit as Amplifier	For other characteristics, refer to Type 1F7-G.									
1F7-G	Duplex-Diode Pentode	D8	G-7AF	D.C. F	2.0	0.06	Pentode Unit as RF Amplifier	180	- 1.5	67.5	0.7	2.2	1.0 $\frac{1}{2}$	650	—	—	—
							Pentode Unit as AF Amplifier	135 $\mu$	- 2.0	Screen Supply, 135 volts applied through 0.8-megohm resistor. Grid Resistor, ** 1.0 megohm. Voltage Gain, 46.							
1G4-GT	Medium-Mu Triode	C4	G-6S $\frac{1}{2}$	D.C. F	1.4	0.05	Class A Amplifier	90	- 6.0	—	—	2.3	10700	825	8.8	—	—
1G5-G	Power Amplifier Pentode	D10	G-4X	D.C. F	2.0	0.12	Class A Amplifier	90 135	- 6.0 - 13.5	90 135	2.5 2.5	8.5 8.7	133000 160000	1500 1550	—	8500 9000	0.25 0.55
1G6-GT	Twin-Triode Amplifier	C4	G-7AB	D.C. F	1.4	0.10	Class B Amplifier	90	0	—	—	Power Output is for one tube at stated plate-to-plate load.				12000	0.350
1H4-G	Detector* Amplifier	D3	G-6S $\frac{1}{2}$	D.C. F	2.0	0.06	Class A Amplifier	90 135 180	- 4.5 - 9.0 - 13.5	—	—	2.5 3.0 3.1	11000 10300 10300	850 900 900	9.3 9.3 9.3	—	—
							Class B Amplifier	157.5	- 15.0	—	—	1.0 $\phi$	—	—	8000	2.1 $\frac{1}{2}$	
							Triode Unit as Class A Amplifier	90	0	—	—	0.15	240000	275	65	—	—
1H5-GT	Diode High-Mu Triode	C3	GT-52 $\mu$	D.C. F	1.4	0.05	Triode Unit as Class A Amplifier	90	0	—	—	0.15	240000	275	65	—	—
1H6-G	Duplex-Diode Triode	D3	G-7AA	D.C. F	2.0	0.06	Triode Unit as Class A Amplifier	135	- 3.0	—	—	0.8	35000	575	20	—	—
1J5-G	Power Pentode	D10	G-4X	D.C. F	2.0	0.12	Class A Amplifier	135	- 16.5	135	2.0	7.0	105000	950	—	13500	0.45
1J6-GT	Twin-Triode Amplifier	C10	G-7AB	D.C. F	2.0	0.24	Class B Amplifier	135 135	0 - 3.0	—	—	Power Output is for one tube at stated plate-to-plate load.				10000 10000	2.2 2.0
1LA	RF Amplifier Pentode	B8	8AR	D.C. F	1.4	0.05	Class A Amplifier	90 90	0 0	67.5 90	1.2 2.0	2.9 4.5	600000 260000	925 1025	—	—	—
1LA4	Power Amplifier Pentode	B5	5AD $\frac{1}{2}$	D.C. F	1.4	0.05	Amplifier	For other characteristics, refer to Type 1A5-GT.									
1LA6	Pentagrid Converter	B8	7AK	D.C. F	1.4	0.05	Converter	90	0	45 $\phi$	D.6	0.55	750000	Anode-Grid (#2): 90 max. volts, 1.2 ma. Oscillator Grid (#1) Resistor, 0.2 meg. Conversion Transcond., 250 micromhos.			



Type	Description	Base	Symbol	D.C. F	μ	k	Class	For other characteristics, refer to Pentode Unit of Type 1D8-GT.									
								45	0	45	0.35	1.10	700000	750	—	—	—
1LB4	Power Amplifier Pentode	B5	8AD <sub>1</sub>	D.C. F	1.4	0.05	Class A Amplifier	45	0	45	0.35	1.10	700000	750	—	—	—
1LC5	RF Amplifier Pentode	B5	7A0	D.C. F	1.4	0.05	Class A Amplifier	90	0	45	0.30	1.15	1.0 $\frac{1}{2}$	775	—	—	—
1LC6	Pentagrid Converter	B5	7AK	D.C. F	1.4	0.05	Converter	45	0	35	0.75	0.70	300000	Anode-Grid (#2): 45 max. volts, 1.4 ma. Oscillator-Grid (#1) Resistor, 1.0 meg. Conversion Transcond., 275 micromhos.			
1LD5	Diode-Pentode	B5	8AX	D.C. F	1.4	0.05	Pentode Unit as Class A Amplifier	Plate Supply, 90 volts applied through 1 meg. resistor. Screen Supply, 90 volts applied through 5.6 meg. resistor. Grid Bias, 0 volts. Grid Resistor, 10 megohms. Voltage Gain, 101 approx.									
1LE3	Medium-Mu Triode	B5	4AA	F	1.4	0.05	Class A Amplifier	90	0	—	—	4.5	11200	1300	14.5	—	—
1LG5	Remote-Cutoff Pentode	B5	7A0	F	1.4	0.05	Class A Amplifier	90	0	45	0.4	1.7	1.0 $\frac{1}{2}$	800	—	—	—
1LH4	Diode High-Mu Triode	B5	8AQ	D.C. F	1.4	0.05	Triode Unit as Class A Amplifier	90	— 1.5	90	0.9	3.7	500000	1150	—	—	—
1LN5	RF Amplifier Pentode	B5	7AD	D.C. F	1.4	0.05	Class A Amplifier	90	0	90	0.35	1.6	1.1 $\frac{1}{2}$	800	—	—	—
1N5-GT	RF Amplifier Pentode	C3	DT-5YK	D.C. F	1.4	0.05	Class A Amplifier	90	0	90	0.3	1.2	1.5 $\frac{1}{2}$	750	—	—	—
1N6-G	Diode-Power Amplifier Pentode	D1	G-7AM	D.C. F	1.4	0.05	Pentode Unit as Class A Amplifier	90	— 4.5	90	0.7	3.4	300000	800	—	25000	0.1
1P5-GT	Remote-Cutoff Pentode	C3	DT-5YK	D.C. F	1.4	0.05	Class A Amplifier	90	0	90	0.7	2.3	800000	750	—	—	—
1Q5-GT	Beam Power Amplifier	C3	G-6AF	D.C. F	1.4	0.1	Class A Amplifier	90	— 4.5	90	1.3	9.5	90000	2200	—	8000	0.27
1R5	Pentagrid Converter	B0	7AT	D.C. F	1.4	0.05	Converter	45	0	45	1.9	0.7	600000	Grid #1 Resistor, 100000 ohms. Conversion Transcond., 300 micromhos.			
1S4	Power Amplifier Pentode	B0	7AV	D.C. F	1.4	0.1	Class A Amplifier	45	— 4.5	45	0.8	3.8	100000	1250	—	8000	0.065
1S5	Diode-Pentode	B0	8AU	D.C. F	1.4	0.05	Pentode Unit as AF Amplifier	90	— 7.0	67.5	1.4	7.4	100000	1575	—	8000	0.27
1T4	Super-Control RF Amplifier Pentode	B0	8AR	O.C. F	1.4	0.05	Class A Amplifier	45	0	45	0.7	1.7	350000	700	—	—	—
1T5-GT	Beam Power Amplifier	C4	G-4X	D.C. F	1.4	0.05	Class A Amplifier	90	— 6.0	90	0.8	6.5	—	1150	—	14000	0.17
1T6	Diode-Pentode	A	8DA	F	1.25	0.04	Pentode Unit as Class A Amplifier	30	0	30	0.10	0.33	500000	330	—	—	—
								45	0	45	0.21	0.75	500000	475	—	—	—
								67.5	0	67.5	0.4	1.6	400000	600	—	—	—

Discontinued types are shown in light face.

Type	Name	Tube Dimensions and Socket Connections		Cathode Type and Rating			Use <small>Values to right give operating conditions and characteristics for indicated typical use</small>	Plate Supply Volts	Grid Bias in Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Trans-conductance (Grid-plate) $\mu$ ohms	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts
		Dimen.	S.C.	C.T.	Volts	Amp.											
1U4	RF Amplifier Pentode	B0	6AR	D.C. F	1.4	0.05	Class A Amplifier	90	0	90	0.50	1.0	1.0 $\frac{1}{2}$	900	—	—	—
1U5	Diode-Pentode	B0	6BW	D.C. F	1.4	0.05	Pentode Unit as Class A Amplifier	Plate Supply, 90 volts applied through 1 meg. resistor. Screen Supply, 90 volts applied through 3.3 meg. resistor. Grid Bias, 0 volts. Grid Resistor, 10 megohms. Voltage Gain, 66 approx.									
1-V	Half-Wave Rectifier	D5	4G	H	6.3	0.3	With Capacitive-Input Filter	Max. A-C Plate Volts (RMS), 325 Min. Total Effective Plate-Supply Impedance: Up to 117 Max. D-C Output Ma., 45 volts, 0 ohms; at 150 volts, 30 ohms; at 325 volts, 75 ohms.									
1V2	Half-Wave Rectifier	B0a	9U	F	0.625	0.3	Pulsed Rectifier	Max. Peak Inverse Plate Volts, 7500 Max. Peak Plate Ma., 10 Max. Average Plate Ma., 0.5									
1X2	Half-Wave Rectifier	B4	7CB	F	1.25	0.2	Half-Wave Rectifier	Max. Peak Inverse Plate Volts, 15000 Max. Peak Plate Ma., 10 Max. Average Plate Ma., 1 Max. Frequency of Supply Voltage, 300Kc									
2A3	Power Amplifier Triode	E3	4D	F	2.5	2.5	Class A Amplifier	250	-45.0	—	—	60.0	800	5250	4.2	2500	3.5
							Push-Pull Class AB <sub>1</sub> Amplifier	300	Cath. Bias, 780 ohms $\phi$ -62 volts, fixed bias		80.0 $\phi$	80.0 $\phi$	—	—	—	5000	10.0 $\uparrow$
2A4-G	Clow-Discharge Triode	D3	G-557	D.C. F	2.5	2.5	Relay Service	Max. Peak Inverse Anode Volts, 200 Max. Peak Forward Anode Volts, 200 Max. Peak Anode Current, 1.25 ampere Max. Av. Anode Current, 0.1 ampere									
2A5	Power Amplifier Pentode	D12	6B	H	2.5	1.75	Amplifier	For other characteristics, refer to Type 6F6-G.									
2A6	Duplex-Diode High-Mu Triode	D9	6Q	H	2.5	0.8	Triode Unit as Amplifier	For other characteristics, refer to Type 6SQ7.									
2A7	Pentagrid Converter	D9	7C	H	2.5	0.8	Converter	For other characteristics, refer to Type 6A8.									
2B7	Duplex-Diode Pentode	D9	7D	H	2.5	0.8	Pentode Unit as Amplifier	For other characteristics, refer to Type 6B8-G.									
2E5	Electron-Ray Tube	D8	6R	H	2.5	0.8	Visual Indicator	For other characteristics, refer to Type 6E5.									
3A8-GT	Diode-Triode RF Amplifier Pentode	C8	6AS	D.C. F	1.4	0.1	Triode Unit as Class A Amplifier	90	0	—	—	0.2	200000	325	65	—	—
					2.8	0.05	Pentode Unit as Class A Amplifier	90	0	90	0.5	1.5	800000	750	—	—	—

3KP4	Directly Viewed Kinescope	G1a	11M	H	6.3	0.6	Picture Reproduction	Focus: Electrostatic Deflection: Electrostatic Phosphor: No. 4 Picture Size: 1 3/4" x 2 1/4" Deflection Factors: DJ, and DJ, (nearer screen), 100 to 136 vdc/in./kv; DJ, and DJ, (nearer base), 76 to 104 vdc/in./kv.	Anode No. 2 and Grid No. 2 Volts, 2500 max. Anode No. 1 Volts for Focus, 320 to 600 (1000 max.) Anode No. 1 Current Range, -15 to +10 microamperes Grid No. 1 Volts for Visual Cutoff, -38 to -90								
3LF4	Beam Power Amplifier	B5	68B	D.C. F	1.4 2.8	0.1 0.05	Class A Amplifier	For other characteristics, refer to Type 3Q5-GT.									
3Q4	Power Amplifier Pentode	B0	78A	D.C. F	1.4 2.8	0.1 0.05	Class A Amplifier	For other characteristics, refer to Type 3V4									
3Q5-GT	Beam Power Amplifier	C3	G-7AP	D.C. F	1.4 2.8	0.1 0.05	Class A Amplifier	110 110	- 6.6 - 6.6	110 110	1.4 1.1	10.0 8.5	100000 110000	2200 2000	----- -----	8000 8000	0.40 0.33
354	Power Amplifier Pentode	B0	78A	D.C. F	1.4 2.8	0.1 0.05	Class A Amplifier	90 90	- 7 - 7	67.5 67.5	1.4 1.1	7.4 6.1	100000 100000	1575 1425	----- -----	8000 8000	0.27 0.235
3V4	Power Amplifier Pentode	B0	68X	D.C. F	1.4 2.8	0.1 0.05	Class A Amplifier	90 90	- 4.5 - 4.5	90 90	2.1 1.7	9.5 7.7	100000 120000	2150 2000	----- -----	10000 10000	0.27 0.24
5AZ4	Full-Wave Rectifier	C2a	5T	F	5.0	2.0		For ratings and characteristics, refer to Type 5Y3-GT.									
5T4	Full-Wave Rectifier	D7	5T	F	5.0	2.0	With Capacitive- Input Filter	Max. A-C Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1550	Max. D-C Output Ma., 225 Max. Peak Plate Ma., 675	Min. Total Effect. Supply Imped. per Plate, 150 ohms							
							With Inductive- Input Filter	Max. A-C Volts per Plate (RMS), 550 Max. Peak Inverse Volts, 1550	Max. D-C Output Ma., 225 Max. Peak Plate Ma., 675	Min. Value of Input Choke, 3 henries							
5TP4	Projection Kinescope	H1	12C	H	6.3	0.6	Picture Reproduction With Reflective Optical System	Focus: Electrostatic Deflection: Magnetic Deflection Angle: 50° Phosphor: No. 4 Picture Size: 18" x 24"	Anode-No. 2 Volts, 27000 (max.) Anode-No. 1 Volts for Focus, 4300 to 5400 (6000 max.) Grid-No. 2 Volts, 200 (350 max.) Grid-No. 1 Volts for Visual Cutoff, -42 to -98	Anode-No. 2 Current Range, 100 to 200 microamperes Anode-No. 1 Current, 75 microamperes (max.) Grid-No. 2 Current Range, -15 to +15 microamperes							
5U4-G	Full-Wave Rectifier	E2	G-5T1	F	5.0	3.0	With Capacitive- Input Filter	Max. A-C Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1550	Max. D-C Output Ma., 225 Max. Peak Plate Ma., 675	Min. Total Effect. Supply Imped. per Plate, 150 ohms							
							With Inductive- Input Filter	Max. A-C Volts per Plate (RMS), 550 Max. Peak Inverse Volts, 1550	Max. D-C Output Ma., 225 Max. Peak Plate Ma., 675	Min. Value of Input Choke, 3 henries							
5V4-G	Full-Wave Rectifier	D10	G-8L1	H	5.0	2.0	With Capacitive- Input Filter	Max. A-C Volts per Plate (RMS), 375 Max. Peak Inverse Volts, 1400	Max. D-C Output Ma., 175 Max. Peak Plate Ma., 525	Min. Total Effect. Supply Imped. per Plate, 100 ohms							
							With Inductive- Input Filter	Max. A-C Volts per Plate (RMS), 500 Max. Peak Inverse Volts, 1400	Max. D-C Output Ma., 175 Max. Peak Plate Ma., 525	Min. Value of Input Choke, 4 henries							
5W4 5W4-GT	Full-Wave Rectifiers	C2 C5	5T G-5T1	F	5.0	1.5	With Capacitive- Input Filter	Max. A-C Volts per Plate (RMS), 350 Max. Peak Inverse Volts, 1400	Max. D-C Output Ma., 100 Max. Peak Plate Ma., 300	Min. Total Effect. Supply Imped. per Plate, 50 ohms							
							With Inductive- Input Filter	Max. A-C Volts per Plate (RMS), 500 Max. Peak Inverse Volts, 1400	Max. D-C Output Ma., 100 Max. Peak Plate Ma., 300	Min. Value of Input Choke, 6 henries							

Discontinued types are shown in light face.

Type	Name	Tube Dimensions and Socket Connections		Cathode Type and Rating			Use Values to right give operating conditions and characteristics for indicated typical use	Plate Supply Volts	Grid Bias $\pm$ Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Trans-conductance (Grid-plate) $\mu$ mhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	
		Dimens.	S. C.	C. T.	Volts	Amp.												
5X4-G	Full-Wave Rectifier	E2	Q-30	F	5.0	3.0	For other ratings, refer to Type 5U4-G.											
5Y3-G 5Y3-GT	Full-Wave Rectifiers	C6	Q-5T1 Q-6T1	F	5.0	2.0	With Capacitive-Input Filter	Max. A-C Volts per Plate (RMS), 350 Max. Peak Inverse Volts, 1400	Max. D-C Output Ma., 125 Max. Peak Plate Ma., 400	Min. Total Effect. Supply Imped. per Plate, 50 ohms								
							With Inductive-Input Filter				Max. A-C Volts per Plate (RMS), 500 Max. Peak Inverse Volts, 1400	Max. D-C Output Ma., 125 Max. Peak Plate Ma., 400	Min. Value of Input Choke, 10 henries					
5Y4-G	Full-Wave Rectifier	D18	Q-30	F	5.0	2.0	For other ratings, refer to Type 5Y3-GT.											
5Z3	Full-Wave Rectifier	E3	40	F	5.0	3.0	For other ratings, refer to Type 5U4-G.											
5Z4	Full-Wave Rectifier	C2	8L	H	5.0	2.0	With Capacitive-Input Filter	Max. A-C Volts per Plate (RMS), 350 Max. Peak Inverse Volts, 1400	Max. D-C Output Ma., 125 Max. Peak Plate Ma., 375	Min. Total Effect. Supply Imped. per Plate, 50 ohms								
							With Inductive-Input Filter				Max. A-C Volts per Plate (RMS), 500 Max. Peak Inverse Volts, 1400	Max. D-C Output Ma., 125 Max. Peak Plate Ma., 375	Min. Value of Input Choke, 5 henries					
6A3	Power Amplifier Triode	E3	4D	F	6.3	1.0	Amplifier	For other characteristics, refer to Type 6B4-G.										
6A4/LA	Power Amplifier Pentode	D12	5B	F	6.3	0.3	Class A Amplifier	100 180	- 6.5 -12.0	100 180	1.6 3.9	9.0 22.0	83250 45500	1200 2200	—	11000 8000	0.31 1.40	
6A6	Twin-Triode Amplifier	D12	7B	H	6.3	0.8	Amplifier	For other characteristics, refer to Type 6N7-GT.										
6A7	Pentagrid Converter $\oplus$	D9	7C	H	6.3	0.3	Converter	For other characteristics, refer to Type 6A8.										
6A7S	Pentagrid Converter $\oplus$	D9	7C	H	6.3	0.3	Converter	For other characteristics, refer to Type 6A8.										
6A8 6A8-G 6A8-GT	Pentagrid Converters $\oplus$	C1 D8 C3	8A Q-8A1 QT-8A2	H	6.3	0.3	Converter	100 250	- 1.5 - 3.0	50 100	1.3 2.7	1.1 3.5	600000 360000	Anode-Grid (#2): 250 $\mu$ max. volts, 4.0 ma. Oscillator-Grid (#1) Resistor = Conversion Transcond., 550 micromhos.				
6AB4	RF Amplifier Triode	B0	8CE	H	6.3	0.15	Class A Amplifier	100	- 1	—	—	3.7	—	4000	54	—	—	
								250	- 2	—	—	10.0	—	5500	55	—	—	

6AB5/ 6N5	Electron-Ray Tube	D4	8R	H	6.3	0.15	Visual Indicator	Plate & Target Supply = 135 volts. Triode Plate Resistor = 0.25 meg. Target Current = 2.0 ma. Grid Bias, - 10.0 volts; Shadow Angle, 0° Bias, 0 volts; Angle, 90°; Plate Current, 0.5 ma.									
								Plate & Target Supply = 135 volts. Triode Plate Resistor = 1.0 meg. Target Current = 1.9 ma. Grid Bias, -15.5 volts; Shadow Angle, 0° Bias, 0 volts, Angle 90°; Plate Current, 0.13 ma.									
6AB7	Remote-Cutoff Pentode	B2	8N	H	6.3	0.45	Class A Amplifier	300	- 3.0	200	3.2	12.5	70000	5000	—	—	—
6AC5-GT	High-Mu Power Amplifier Triode	C3	G-4Q1	H	6.3	0.4	Class B Amplifier	250	0	—	—	5.0	—	—	—	10000	8.0†
							Dynamic-Coupled Amplifier With 76 Driver	250	Bias for both 6AC5-GT and 76 is developed in coupling circuit. Average Plate Current of Driver = 5.5 milliamperes. Average Plate Current of 6AC5-GT = 32 milliamperes.						7000	3.7	
6AC7	Sharp-Cutoff Pentode	B2	8N	H	6.3	0.45	Class A Amplifier	300	Cath. Bias	150	2.5	10.0	1.0‡	9000	Cathode-Bias Resistor, 160 ohms		
6AD6-G	Electron-Ray Tube Twin Indicator Type	866	7A6	H	6.3	0.15	Visual Indicator	Target Voltage, 100 volts. Control-Electrode Voltage, -23 volts; Shadow Angle, 135°; Target Current, 0.8 ma. Control-Electrode Voltage, 45 volts; Angle, 0°; Target Current, 1.5 ma.									
								Target Voltage, 150 volts. Control-Electrode Voltage, -50 volts; Shadow Angle, 135°; Target Current, 1.2 ma. Control-Electrode Voltage, 75 volts; Angle, 0°; Target Current, 3 ma.									
6AD7-G	Triode-Power Amplifier Pentode	D18	8AY	H	6.3	0.85	Triode Unit as Class A Amplifier	250	-25.0	—	—	3.7	19000	325	6	—	—
							Pentode Unit as Class A Amplifier	250	-16.5	250	6.5	34.0	80000	2500	—	7000	3.2
							Pentode Unit With 6F6-G as Push-Pull Class AB <sub>1</sub> Amplifier	375	Cath. Bias	250	6.7	41.0	Cathode-Bias Resistor, 470 ohms			16000	9.0†
6AE5-GT	Amplifier Triode	C3	G-8Q1	H	6.3	0.3	Class A Amplifier	95	-15.0	—	—	7.0	3500	1200	4.2	—	—
6AE6-G	Twin-Plate Control Tube	D9	7AM	H	6.3	0.15	Remote Cutoff Triode	250	- 1.5	—	—	6.5	25000	1000	25	—	—
							Remote Cutoff Triode	250	- 35.0	—	—	0.01	—	—	—	—	—
							Remote Cutoff Triode	250	- 1.5	—	—	4.5	35000	950	33	—	—
6AE7-GT	Twin-Input Triode Amplifier	C3	G-7AX	H	6.3	0.5	Class A Amp. AA	250	- 13.5	—	—	10.0	4650	3000	14	—	—
							Driver For Push- Pull 6AC5-GT In Dynamic-Coupled Amplifier	250	Bias for both 6AC5-GT and 6AE7-GT developed in coupling circuit. Zero-Signal Plate Current of 6AE7-GT = 10 milliamperes. Zero-Signal Plate Current of 6AC5-GT = 64 milliamperes. Power Output is for two 6AC5-GT at stated plate-to-plate load.						10000	9.5	

Discontinued types are shown in light face.

Type	Name	Tube Dimensions and Socket Connections		Cathode Type and Rating			Use Values in right give operating conditions and characteristics for indicated typical use	Plate Supply Volts	Grid Bias m Volts	Screen Supply Volts	Screen Current Ma	Plate Current Ma	AC Plate Resistance Ohms	Trans-conductance (Grid-plate) $\mu$ mhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts
		Dimm.	S. C.	C. T.	Volts	Amp.											
6AF6-G	Electron-Ray Tube Twin Indicator Type	B0c	7A0	H	6.3	0.15	Visual Indicator	Target Voltage, 125 volts. Control-Electrode Voltage, 0 volts; Shadow Angle, 95°; Target Current, 0.65 ma. Control-Electrode Voltage, 80 volts; Angle, 0°. Target Voltage, 250 volts. Control-Electrode Voltage, 0 volts; Shadow Angle, 95°; Target Current, 2.2 ma. Control-Electrode Voltage, 160 volts; Angle, 0°.									
6AG5	Sharp-Cutoff Pentode	B0	7B0	H	6.3	0.3	As Pentode Class A Amplifier	100	Cath. Bias	100	1.5	4.5	700000	4250	Cath. Bias Res., 180 ohms		
							As Triode Class A Amplifier	180	Cath. Bias	—	—	7.0	7900	5700	Cath. Bias Res., 350 ohms		
							Class A Amplifier	250	Cath. Bias	—	—	5.5	11000	3800	Cath. Bias Res., 825 ohms		
6AG7	Video Power Amplifier Pentode	C2	8Y	H	6.3	0.65	Class A Amplifier	300	Cath. Bias — 2.0	125	7.0	28.0	Cathode-Bias Resistor, 57 ohms. Load Resistance, 3500 ohms. Peak-to-Peak Volts Output, 140 approx.				
6AH6	Sharp-Cutoff Pentode	B0	7BK	H	6.3	0.45	Class A Amplifier	300	Cath. Bias	150	2.5	10.0	500000	9000	Cath. Res., 160 ohms		
6AK5	Sharp-Cutoff Pentode	A1	7B0	H	6.3	0.175	Class A Amplifier	120	Cath. Bias	120	2.5	7.5	340000	5000	Cath. Res., 200 ohms		
6AK6	Power Amplifier Pentode	B0	7BK	H	6.3	0.15	Class A Amplifier	180	— 9.0	180	2.5	15	200000	2300	—	10000	1.1
							Detector Rectifier	Max. Peak Inverse Volts, 330 Max. Peak Plate Ma. per Plate, 54						Max. D-C Output Ma. per Plate, 9 Max. Peak Heater-Cathode Volts, 330			
6AL7-GT	Electron-Ray Tube Indicator Type	C0a	8CH	H	6.3	0.15	Visual Indicator	Target Voltage, 315 volts Grid Voltage = 0 volts Cathode Bias Res., 3300 ohms approx. Deflecting-Electrodes—No. 1, No. 2 and No. 3 Voltage = 0									
6AQ5	Beam Power Amplifier	B1	7BZ	H	6.3	0.45	Single Tube Class A Amplifier	180	— 8.5	180	3.0	29.0	58000	3700	—	5500	2.0
							Class A Amplifier	250	—12.5	250	4.5	45.0	52000	4100	—	5000	4.5
							Push-Pull Class AB <sub>1</sub> Amplifier	250	—15.0	250	5.0	70.0	60000	—	—	10000	10.0
6AQ6	Duplex-Diode High-Mu Triode	B0	7BT	H	6.3	0.15	Triode Unit as Class A Amplifier	100	— 1.0	—	—	0.8	61000	1150	70	—	—
							Class A Amplifier	250	— 3.0	—	—	1.0	58000	1200	70	—	—
6AQ7-GT	Twin-Diode High-Mu Triode	C2b	8CK	H	6.3	0.3	Triode Unit as Class A Amplifier	250	— 2	—	—	2.3	44000	1600	70	—	—
6AR5	Power Pentode	B1	6CC	H	6.3	0.4	Class A Amplifier	250	—16.5	250	10	34.0	65000	2400	—	7000	3.2
							Class A Amplifier	250	—18	250	10	32.0	68000	2300	—	7600	3.4

6A55	Beam Power Amplifier	B1	7CV	H	6.3	0.8	Class A Amplifier	150	- 8.5	110	2.0	35	—	5600	—	4500	2.2	
6A57-G	Low-Mu Twin Power Triode	E2	88D	H	6.3	2.5	DC Amplifier	135	Cath. Res., 250 ohms			125	280	7000	2.0	—		
							Booster Tube for Television Scanning	Max. Peak Inverse Plate Volts, 1700 Max. Heater-Cathode Volts, ±300						Max. Peak Plate Current (Per Plate), 125 ma Max. Plate Dissipation (Per Plate), 13 watts				
6AT6	Duplex-Diode High-Mu Triode	B0	7BT	H	6.3	0.3	Triode Unit as Class A Amplifier	100	- 1.0	—	—	0.8	54000	1300	70	—	—	
								250	- 3.0	—	—	1.0	58000	1200	70	—	—	
6AU5-GT	Beam Power Amplifier	C2b	8CK	H	6.3	1.25	Horizontal Deflection Amplifier in TV Equipment	Max. DC Plate Volts, 450; Max. DC Plate Ma., 100				Max. Peak Positive-Pulse Plate Volts, 5000 Max. Plate Dissipation, 10 watts						
6AU6	RF Amplifier Pentode	B0	7BK <sub>1</sub>	H	6.3	0.3	Class A Amplifier	100	Cath. Bias	100	2.1	5.0	500000	3900	Cath. Bias Res., 150 ohms			
								250	—	150	4.3	10.6	1.0 $\frac{1}{2}$	5200	Cath. Bias Res., 68 ohms			
6AV6	Twin-Diode High-Mu Triode	B0	7BT	H	6.3	0.3	Triode Unit as Class A Amplifier	100	- 1.0	—	—	0.5	80000	1250	100	—	—	
								250	- 2.0	—	—	1.2	62500	1600	100	—	—	
6AX5-GT	Full-Wave Rectifier	C2b	G-8S	H	6.3	1.2	With Capacitive-Input Filter	Max. AC Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1250				Max. DC Output Ma., 150 Max. Peak Plate Ma., 375		Min. Total Effec. Supply Imped. per Plate, 105				
							With Inductive-Input Filter	Max. AC Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1250				Max. OC Output Ma., 150 Max. Peak Plate Ma., 375		Min. Value of Input Choke, 10 henries				
6B4-G	Power Amplifier Triode	E2	G-5S <sub>2</sub>	F	6.3	1.0	Class A Amplifier	250	- 45.0	—	—	60.0	800	5250	4.2	2500	3.20	
							Push-Pull Class AB <sub>1</sub> Amplifier	325	Cath. Bias, 850 ohms $\phi$	—	—	80.0 $\phi$	—	—	—	—	—	—
								325	- 68 volts, fixed bias	—	—	80.0 $\phi$	—	—	—	3000	15.0 $\phi$	
6B5	Direct-Coupled Power Amplifier	D12	6AS	H	6.3	0.8	Class A Amplifier	For other characteristics, refer to Type 6N6-G.										
6B6-G	Duplex-Diode High-Mu Triode	D8	G-7V <sub>1</sub>	H	6.3	0.3	Triode Unit as Amplifier	For other characteristics, refer to Type 6SQ7										
6B7	Duplex-Diode Pentode	D9	7D	H	6.3	0.3	Pentode Unit as Amplifier	Input Triode: Plate Volts, 300 max., Grid Volts, 0, Plate Ma., 8, AF Signal Volts (Peak), 21 Output Triode: Plate Volts, 300 max., Plate Ma., 45; Plate Res., 24000 ohms, Load Resistance, 7000 ohms; Power Output, 4 watts.										
6B7S	Duplex-Diode Pentode	D9	7D	H	6.3	0.3	Pentode Unit as Amplifier	For other characteristics, refer to Type 6B7										
6B8	Duplex-Diode Pentode	C1	8E	H	6.3	0.3	Pentode Unit as Amplifier	For other characteristics, refer to Type 12C8.										
6E8-G	Duplex-Diode Pentode	D8	G-8E <sub>1</sub>	H	6.3	0.3	Pentode Unit as RF Amplifier	100	- 3.0	100	1.7	5.8	300000	950	—	—	—	
							Pentode Unit as AF Amplifier	250	- 3.0	125	2.3	9.0	600000	1125	—	—	—	—
								90 $\mu$ Cath. Bias, 3500 ohms. Screen Resistor = 1.1 meg. Grid Resistor,** Gain per stage = 55 300 $\mu$ Cath. Bias, 1600 ohms. Screen Resistor = 1.2 meg. 0.5 megohm. Gain per stage = 79										
6BA6	RF Amplifier Pentode	B0	7BK <sub>1</sub>	H	6.3	0.3	Class A Amplifier	100	Cath. Bias	100	4.4	10.8	250000	4300	Cath. Bias Res., 68 ohms			
								250	—	100	4.2	11.0	1.0	4400	Cath. Bias Res., 68 ohms			

Discontinued types are shown in light face.

RCA Type	Name	Tube Dimensions and Socket Connections		Cathode Type and Rating			Use Values to right give operating conditions and characteristics for indicated typical use	Plate Supply Volts	Grid Bias in Volts	Screen Supply Volts	Screen Current Ma	Plate Current Ma	AC Plate Resistance Ohms	Trans-conductance (Grid-plate) $\mu$ mhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts
		Dimen.	S. C.	C. T.	Volts	App.											
6BA7	Pentagrid Converter $\Delta$	80a	8CT	H	6.3	0.3	Converter	100 250	- 1.0 - 1.0	100 100	10.2 10.0	3.6 3.8	500000 1.0 $\Omega$	Grid-No. 1 Resistor, 20000 ohms Conversion Transcond., 950 micromhos			
6BC5	Sharp-Cutoff Pentode	80	7BD	H	6.3	0.3	Class A Amplifier	250	Cath. Bias	150	2.1	7.5	800000	5700	Cath. Bias Res., 180 ohms		
6BD6	Remote-Cutoff Pentode	80	7CC	H	6.3	0.3	Class A Amplifier	100 250	- 1 - 3	100 100	5.0 3.0	13.0 9.0	150000 800000	2550 2000			
6BE6	Pentagrid Converter $\Delta$	80	7CM	H	6.3	0.3	Converter	100 250	- 1.5 - 1.5	100 100	7.5 7.5	2.6 2.6	400000 1.0 $\Omega$	Grid # 1 Resistor, 20000 ohms Conversion Transcond., 475 micromhos			
6BF6	Duplex-Diode Triode	80	7BT	H	6.3	0.3	Triode Unit as Class A Amplifier	For other characteristics, refer to Type 6SR7.									
6BG6-G	Beam Power Amplifier	F <sub>1</sub>	8BT	H	6.3	0.9	Horizontal Deflection Amplifier in TV Equipment	Max. DC Plate Volts, 700 Max. DC Plate Ma., 100					Max. Peak Positive-Pulse Plate Volts, 6000 Max. Plate Dissipation, 20 watts				
6BH6	Sharp-Cutoff Pentode	80	7CM	H	6.3	0.15	Class A Amplifier	100 250	- 1.0 - 1.0	100 150	1.4 2.9	3.6 7.4	700000 1.4 $\Omega$	3400 4600			
6BJ6	RF Amplifies Pentode	80	7CM	H	6.3	0.15	Class A Amplifier	100 250	- 1.0 - 1.0	100 100	3.5 3.3	9.0 9.2	250000 1.3 $\Omega$	3650 3800			
6BQ6-GT	Beam Power Amplifier	C11	6AM	H	6.3	1.2	Horizontal Deflection Amplifier in TV Equipment	Max. DC Plate Volts, 550 Max. DC Plate Ma., 100					Max. Peak Positive Pulse Plate Volts, 4000 Max. Plate Dissipation, 10 watts				
6C4	HF Power Triode	80	8BD	H	6.3	0.15	Class A Amplifier	100 250	0 - 8.5	—	—	11.8 10.5	6250 7700	3100 2200	19.5 17		
							Class C Amplifier	300	- 27.0	—	—	25.0	Grid Current, 7 ma. Driving Power, 0.35 watt		—	5.5	
6C5 6C5-GT	Medium-Mu Triodes	82 C3	8Q GT-40 $\Delta$	H	6.3	0.3	Class A Amplifier	250	- 8.0	—	—	8.0	10000 2000	20			
							Bias Detector	250	- 17.0 approx.	Plate current to be adjusted to 0.2 milliampere with no signal.			Gain per stage = 11 Gain per stage = 13				
6C6	Sharp-Cutoff Pentode	D13	8F	H	6.3	0.3	Amplifier Detector	For other characteristics, refer to Type 6J7.									
6CB6	Sharp-Cutoff Pentode	80	7CM	H	6.3	0.3	Class A Amplifier	200	Cath. Bias	150	2.8	9.5	600000	6200	Cath. Bias Res., 180 ohms		
6C7	Duplex-Diode Triode	D9	7D	H	6.3	0.3	Triode Unit as Class A Amplifier	250	- 9.0	—	—	4.5	16000	1250	20		



6C8-G	Twin-Triode Amplifier	D6	0-80	M	6.3	0.3	Each Unit as Amplifier	250	- 4.5	—	—	3.2	22500	1600	36	—	—
6CD6-G	Beam Power Amplifier	F1	5BT	M	6.3	2.5	Horizontal Deflection Amplifier in TV Equipment	Max. DC Plate Volts, 700 Max. DC Plate Ma., 170				Max. Peak Positive-Pulse Plate Volts, 6000 Max. Plate Dissipation, 15 watts					
6D6	Remote-Cutoff Pentode	D13	8F	M	6.3	0.3	Amplifier Mixer	For other characteristics, refer to Type 6U7-G.									
6D7	Sharp-Cutoff Pentode	D13	7H	M	6.3	0.3	Amplifier Detector	For other characteristics, refer to Type 6J7.									
6D8-G	Pentagrid Converter	D8	0-8A1	M	6.3	0.15	Converter	135 250	- 3.0 - 3.0	67.5 100	1.7 2.6	1.5 3.5	600000 400000	Anode-Grid (#2): 250 $\mu$ max. volts, 4.3 ma. Oscillator-Grid (#1) Resistor $\mu$ . Conversion Transcond., 550 micromhos.			
6E5	Electron-Ray Tube	D4	8R	M	6.3	0.3	Visual Indicator	Plate & Target Supply = 125 volts. Triode Plate Resistor = 1.0 meg. Target Current = 0.8 ma. Grid Bias, -4.0 volts; Shadow Angle, 0°. Bias, 0 volts; Angle, 90°; Plate Current, 0.1 ma.									
								Plate & Target Supply = 250 volts. Triode Plate Resistor = 1.0 meg. Target Current = 2.0 ma. Grid Bias, -7.5 volts; Shadow Angle, 0°. Bias, 0 volts; Angle, 90°; Plate Current, 0.2 ma.									
6E6	Twin-Triode Power Amplifier	D12	7B	M	6.3	0.6	Push-Pull Class A Amplifier	180	- 20.0	—	—	Power Output is for one tube at stated plate-to-plate load.			1500 $\mu$	0.75	
								250	- 27.5	—	—	14000	1.60				
6E7	Remote-Cutoff Pentode	D13	7H	M	6.3	0.3	Amplifier	For other characteristics, refer to Type 6U7-G.									
6F5	High- $\mu$ Triode	C1	9M,	M	6.3	0.3	Amplifier	For other characteristics, refer to Type 6SP5.									
6F5-GT	High- $\mu$ Triode	C2b	0-5M, 1	M	6.3	0.3	Amplifier	For other characteristics, refer to Type 6SP5.									
6F6	Power Pentodes	C2	7B	M	6.3	0.7	Pentode Class A Amplifier	250 285	- 16.5 - 20.0	250 285	6.5 7.0	34.0 38.0	80000 78000	2500 2550	—	7000 7000	3.2 4.8
							Triode Class A Amplifier	250	- 20.0	—	—	31.0	2600	2600	6.8	4000	0.85
6F6-G	Power Pentodes	D10	0-7B1	M	6.3	0.7	Pentode Push-Pull Class A Amplifier	315 315	Cath. Bias - 24.0	285 285	12.0 $\phi$ 12.0 $\phi$	62.0 $\phi$ 62.0 $\phi$	Cath. Bias Resistor, 320 ohms $\phi$			10000 10000	10.5 $\uparrow$ 11.0 $\uparrow$
							Pentode Push-Pull Class AB <sub>2</sub> Amplifier	375 375	Cath. Bias - 26.0	250 250	8.0 $\phi$ 5.0 $\phi$	54.0 $\phi$ 34.0 $\phi$	Cath. Bias Resistor, 340 ohms $\phi$			10000 10000	19.0 $\uparrow$ 18.5 $\uparrow$
6F6-GT	Power Pentodes	C10	0-7B1	M	6.3	0.7	Triode Push-Pull Class AB <sub>2</sub> Amplifier	350 350	Cath. Bias - 38.0	—	—	50.0 $\phi$ 48.0 $\phi$	Cath. Bias Resistor, 730 ohms $\phi$			10000 8000	9.0 $\uparrow$ 13.0 $\uparrow$

Discontinued types are shown in light face.

Type	Name	Tube Dimensions and Socket Connections		Cathode Type and Rating			Use Values to right give operating conditions and characteristics for indicated typical use	Plate Supply Volts	Grid Bias $\mu$ Volts	Screen Supply Volts	Screen Current Ma	Plate Current Ma	AC Plate Resistance Ohms	Trans-conductance (Grid-plate) $\mu$ mhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts
		Diagon.	S. C.	C. T.	Volts	Ang.											
6F7	Triode-Pentode	D9	7E	H	6.3	0.3	Triode Unit as Class A Amplifier	100	- 3.0 min.	—	—	3.5	16000	500	8	—	—
							Pentode Unit as Class A Amplifier	100 250	- 3.0 min.	100 100	1.6 1.5	6.3 6.3	290000 850000	1050 1100	—	—	—
							Pentode Unit as Mixer	250	- 10.0	100	0.6	2.8	Oscillator Peak Volts = 7.0. Conversion Transcond. = 300 micromhos.				
6F8-G	Twin-Triode Amplifier	D8	G-80	H	6.3	0.6	Each Unit as Amplifier	For other characteristics, refer to Type 6J5.									
6G6-G	Power Amplifier Pentode	D3	G-75	H	6.3	0.15	Pentode Class A Amplifier	135 180	- 6.0 - 9.0	135 180	2.0 2.5	11.5 15.0	170000 175000	2100 2300	—	12000 10000	0.6 1.1
							Triode Class A Amplifier	180	- 12.0	—	—	11.0	4750	2000	9.5	12000	0.25
6HS 6HG-GT	Twin Diodes	A1a C3	7Q G-7011	H	6.3	0.3	Voltage Doubler	Max. A-C Supply Volts per Plate (RMS), 150 Total Effect. Plate-Supply Imped. per Plate: half-wave, 30 ohms; full-wave, 15 ohms.					Max. D-C Output Ma., 8 min.				
							Half-Wave Rectifier	Max. A-C Plate Volts (RMS), 150 Max. D-C Output Ma., 8 per Plate					Min. Total Effective Plate-Supply Impedance: up to 117 volts, 15 ohms; at 150 volts, 40 ohms.				
6J5 6J5-GT	Medium-Mu Triodes	B2 B3	6Q GT-50	H	6.3	0.3	Class A Amplifier	90 250	0 - 8.0	— —	— —	10.0 9.0	6700 7700	3000 2600	20 20	— —	— —
							Each Unit as Class A Amplifier	100	Cathode Resistor, for both units, 50 ohms			8.5	7100	5300	38	—	—
6J6	Medium-Mu Twin Triode	B0	78F	H	6.3	0.45	Push-Pull Class C Amplifier	150	- 10.0	Cath. Res., 220 ohms, both units		30.0	Grid Current, 16 ma. Driving Power, 0.35 watt.				
							Pentode Class A RF Amplifier	100 250	- 3.0 - 3.0	100 100	0.5 0.5	2.0 2.0	1.0 1.0 + $\frac{1}{2}$	1185 1225	—	—	—
6J7 6J7-G 6J7-GT	Sharp-Cutoff Pentodes	C1 D6 C3	7R G-7R11 GT-7R	H	6.3	0.3	Pentode Class A AF Amplifier	90 $\mu$ Cath. Bias, 2600 ohms. Screen Resistor = 1.2 meg. / Grid Resistor, ** / Gain per stage = 85 300 $\mu$ Cath. Bias, 1200 ohms. Screen Resistor = 1.2 meg. / 0.5 megohm. / Gain per stage = 140					Plate Resistor, 50000 ohms. Grid Resistor, ** 25000 ohms.				
							Pentode Bias Detector	250	- 4.3	100	Cathode Current 0.43 ma.		—	Plate Resistor, 50000 ohms. Grid Resistor, ** 25000 ohms.			
Triode Class A Amplifier	180 250	- 5.3 - 8.0	— —	— —	5.3 6.5	11000 10500	1800 1900	20 20	— —	— —							

6J8-G	Triode-Heptode Converter	D8	G-8H	M	6.3	0.3	Triode Unit as Oscillator	100	Triode-Grid Resistor, 50000 ohms			4.0	Triode-Grid & Heptode-Grid Current, 0.3 ma.					
							250	100	100	3.0	5.8	Triode-Grid & Heptode-Grid Current, 0.4 ma.						
6K5-GT	High-Mu Triode	C3	GT-5U	M	6.3	0.3	Heptode Unit as Mixer	100	- 3.0	100	3.0	1.4	900000 Conversion Transcond., 260 micromhos.					
							250	- 3.0	100	2.9	1.3	4.0 Conversion Transcond., 290 micromhos.						
6K6-GT	Power Amplifier Pentode	C3	G-7B1	M	6.3	0.4	Class A Amplifier	100	- 1.5	—	—	0.35	78000	900	70	—	—	
							250	- 3.0	—	—	1.1	50000	1400	70	—	—		
6K7	Remote-Cutoff Pentodes	C1	7R	M	6.3	0.3	Single-Tube Class A Amplifier	100	- 7.0	100	1.6	9.0	104000	1500	—	12000	0.35	
							250	- 18.0	250	5.5	32.0	90000	2300	—	7600	3.40		
6K7-GT		C3	GT-7R-B				315	- 21.0	250	4.0	25.5	110000	2100	—	9000	4.50		
6K8	Triode-Hexode Converters	C1	8K	M	6.3	0.3	Push-Pull Class A Amplifier	285	- 25.5	285	9.0	55.0	—	—	—	12000	10.51	
							285	Cath. Bias	285	9.0	55.0	Cath. Bias Resistor, 400 ohms.					12000	9.81
6K7-G		D8	G-7R1				100	- 1.0	100	2.7	9.5	150000	1650	—	—	—		
6K7-GT		C3	GT-7R-B				250	- 3.0	125	2.6	10.5	600000	1650	—	—	—		
6K8-G		C1	8K				100	—	—	—	—	Oscillator Peak Volts = 7.0						
6K8-GT		D8	G-8K1				250	- 10.0	100	—	—							
6L5-G	Medium-Mu Triode	D3	G-4Q1	M	6.3	0.15	Triode Unit as Oscillator	100	Triode-Grid Resistor, 50000 ohms			3.8	Triode-Grid & Hexode-Grid Current, 0.15 ma.					
							100	- 3.0	100	6.2	2.3	400000 Conversion Transcond., 325 micromhos.						
6L6	Beam Power Amplifiers	D7	7AC	M	6.3	0.9	Hexode Unit as Mixer	100	- 3.0	100	6.0	2.3	600000 Conversion Transcond., 350 micromhos.					
							250	- 3.0	100	6.0	2.5							
6L6-G		E2	G-7AC1	M	6.3	0.9	Class A Amplifier	135	- 5.0	—	—	3.5	11300	1500	17	—	—	
							250	- 9.0	—	—	8.0	9000	1900	17	—	—		
6L7	Pentagrid Mixers	C1	7T	M	6.3	0.3	Single-Tube Class A Amplifier	250	- 14.0	250	5.0	72.0	—	—	—	2500	6.5	
							250	Cath. Bias	250	5.4	75.0	Cath. Bias Resistor, 170 ohms.					2500	6.5
6L7-G		D8	G-7T1	M	6.3	0.3	Push-Pull Class A Amplifier	270	- 17.5	270	11.0	134.0	—	—	—	5000	17.51	
							270	Cath. Bias	270	11.0	134.0	Cath. Bias Resistor, 125 ohms.					5000	18.51
6N6-G	Direct-Coupled Power Triode	D10	G-7AU	M	6.3	0.8	Push-Pull Class AB <sub>1</sub> Amplifier	360	- 22.5	270	5.0	88.0	—	—	—	6600	26.51	
							360	Cath. Bias	270	5.0	88.0	Cath. Bias Resistor, 250 ohms.					9000	24.51
6N6-G		D10	G-7AU	M	6.3	0.8	Push-Pull Class AB <sub>2</sub> Amplifier	360	- 18.0	225	3.5	78.0	—	—	—	6000	31.01	
							360	- 22.5	270	5.0	88.0	Cath. Bias Resistor, 250 ohms.					3800	47.01
6N6-G		D10	G-7AU	M	6.3	0.8	Single Triode Class A Amplifier	250	- 20.0	—	—	40.0	1700	4700	8.0	5000	1.4	
							250	Cath. Bias	—	—	40.0	Cath. Bias Resistor, 490 ohms.					6000	1.3
6N6-G		D10	G-7AU	M	6.3	0.8	Mixer in Superheterodyne	250	- 3.0	100	7.1	2.4	Oscillator-Grid (#3) Bias, -10 volts. Grid #3 Peak Swing, 12 volts minimum. Conversion Transcond., 375 micromhos.					
							Class A Amplifier	250	- 3.0	100	6.5	5.3	600000	1100	—	—	—	
6N6-G		D10	G-7AU				Class A Amplifier	Output Triode: Plate Volts, 300; Plate Ma., 45; Load, 7000 ohms. Input Triode: Plate Volts, 300; Grid Volts, 0; A-F Signal Volts (Peak), 21; Plate Ma., 8.										4.0

Discontinued types are shown in light face.

RCA Type	Name	Tube Dimensions and Socket Connections		Cathode Type and Rating			Use Values in right give operating conditions and characteristics for indicated typical use	Plate Supply Volts	Grid Bias m Volts	Screen Supply Volts	Screen Current Ma	Plate Current Ma	AC Plate Resistance Ohms	Trans-conductance (Grid-plate) $\mu$ hos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts
		Dimen.	S. C.	C. T.	Volts	Ampl.											
6N7 6N7-GT	High-Mu Twin Power Triodes	C2	8B	H	6.3	0.8	Class A Amplifier (as Driver)*	250	- 5.0	—	—	6.0	11300	3100	35	20000	exceeds
		C3	0-8B1					294	- 6.0			7.0	11000	3200	35	20000 or more	0.4
6P5-GT	Medium-Mu Triode	C3	0-4Q1	H	6.3	0.3	Amplifier Detector	For other characteristics, refer to Type 76.									
6P7-G	Triode-Pentode	D8	0-7U	H	6.3	0.3	Amplifier and Converter	For other characteristics, refer to Type 6P7.									
6Q7 6Q7-G 6Q7-GT	Twin-Diode High-Mu Triodes	C1	7V	H	6.3	0.3	Triode Unit as Class A Amplifier	100	- 1.0	—	—	0.8	58000	1200	70	—	—
		D8	0-7V1					250	- 3.0			1.1	58000	1200	70		
6R7 6R7-G 6R7-GT	Twin-Diode Medium-Mu Triodes	C1	7V	H	6.3	0.3	Triode Unit as Class A Amplifier	90x 300x	Cath. Bias, 7600 ohms.		Grid Resistor, ** 0.5 megohms.				Gain per stage = 32		
		D8	0-7V1					250	- 9.0	—	—	9.5	8500	1900	16	Gain per stage = 45	
6S4	Medium-Mu Triode	C2b	0-7V1	H	6.3	0.6	Vertical Deflection Amplifier in TV Equipment	90V 300V	Cath. Bias, 4400 ohms.		Grid Resistor, ** 0.25 megohm.				Gain per stage = 10		
		D8	0-7V1					250	- 9.0	—	—	9.5	8500	1900	16	Gain per stage = 10	
6S4	Medium-Mu Triode	B3	8AC	H	6.3	0.6	Vertical Deflection Amplifier in TV Equipment	Max. DC Plate Volts, 500 Max. DC Cathode Ma., 30				Max. Peak Positive-Pulse Plate Volts, 2000 Max. Plate Dissipation, 7.5 watts					
		D8	0-7R1	H	6.3	0.15	Class A Amplifier	135 250	- 3.0 - 3.0	67.5 100	0.9 2.0	3.7 8.5	1.0 1.0	1250 1750	—	—	—
6S8-GT	Triple-Diode Triode	C9b	8CB	H	6.3	0.3	Triode Unit as Class A Amplifier	100 250	- 1.0 - 2.0	—	—	0.4 0.9	110000 91000	900 1100	100 100	—	—
6SA7	Pentagrid ConverterA	B2	8R	H	6.3	0.3	Mixer	100 250	Self-Excited	100 100	8.5 8.5	3.3 3.5	500000 1.0	Grid #1 Resistor, 20000 ohms. Conversion Transcond., 450 micromhos.			
6SA7-GT	Pentagrid ConverterA	C3	0-8AD	H	6.3	0.3	Mixer	For other characteristics, refer to Type 6SA7.									
6SB7-V	Pentagrid ConverterA	B2	8R	H	6.3	0.3	Mixer	100 250	- 1.0 - 1.0	100 100	10.2 10.0	3.6 3.8	500000 1.0	Grid #1 Resistor, 20000 ohms Conversion Transcond., 950 micromhos			
6SC7	Twin-Triode Amplifier	B2	8B	H	6.3	0.3	Each Unit as Amplifier	250	- 2.0	—	—	2.0	53000	1325	70	—	—

6SF5 6SF5-GT	High-Mu Triodes	B2	6AB	H	6.3	0.3	Class A Amplifier	100	- 1.0	—	—	0.4	85000	1150	100	—	—
		250	- 2.0					—	—	0.9	66000	1500	100	—	—		
		C3	G-6AB1					90M	Cath. Bias, 8800 ohms.		Grid Resistor, ** 0.5 megohm.		Gain per stage = 43				
								300M	Cath. Bias, 3200 ohms.				Gain per stage = 63				
6SF7	Diode- Remote-Cutoff Pentode	B2	7AZ	H	6.3	0.3	Pentode Unit as Class A Amplifier	100	- 1.0	100	4.3	13.5	200000	1975	—	—	—
								250	- 1.0	100	4.1	13.9	700000	2050	—	—	—
6SG7	Remote-Cutoff Pentode	B2	88K	H	6.3	0.3	Class A Amplifier	100	- 1.0	100	3.2	8.2	250000	4100	—	—	—
								250	- 1.0	125	4.4	11.8	900000	4700	—	—	—
								250	- 2.5	150	3.4	9.2	1.0+§	4000	—	—	—
6SH7	Sharp-Cutoff Pentode	B2	88K	H	6.3	0.3	Class A Amplifier	100	- 1.0	100	2.1	5.3	350000	4000	—	—	—
								250	- 1.0	150	4.1	10.8	900000	4900	—	—	—
6SJ7 6SJ7-GT	Sharp-Cutoff Pentodes	B2	8N	H	6.3	0.3	Class A Amplifier	100	- 3.0	100	0.9	2.9	700000	1575	—	—	—
		250	- 3.0					100	0.8	3.0	1.0+§	1650	—	—	—		
		C3	GT-8N1					90M	Cath. Bias, 1700 ohms.		Grid Resistor, ** 0.5 megohm.		Gain per stage = 53				
								300M	Cath. Bias, 860 ohms.				Gain per stage = 167				
6SK7	Remote-Cutoff Pentodes	B2	8N	H	6.3	0.3	Class A Amplifier	100	- 1.0	100	4.0	13.0	120000	2350	—	—	—
6SK7-GT		C3	GT-8N1					250	- 3.0	100	2.6	9.2	800000	2000	—	—	—
6SL7-GT	Twin-Triode Amplifier	C3	88D	H	6.3	0.3	Each Unit as Amplifier	250	- 2.0	—	—	2.3	44000	1600	70	—	—
6SN7-GT	Twin-Triode Amplifier	C3	88D	H	6.3	0.6	Each Unit as Amplifier	For other characteristics, refer to Type 6J5.									
6SQ7 6SQ7-GT	Twin-Diode High-Mu Triodes	B2	8Q	H	6.3	0.3	Triode Unit as Class A Amplifier	100	- 1.0	—	—	0.5	110000	925	100	—	—
		250	- 2.0					—	—	1.1	85000	1175	100	—	—		
		C3	GT-8Q1					90M	Cath. Bias, 11000 ohms.		Grid Resistor, ** 0.5 megohm.		Gain per stage = 40				
								300M	Cath. Bias, 3900 ohms.				Gain per stage = 53				
6SR7	Duplex-Diode Triode	B2	8Q	H	6.3	0.3	Triode Unit as Class A Amplifier	250	- 9.0	—	—	9.5	8500	1900	16	10000	0.3
6SS7	Remote-Cutoff Pentode	B2	8N	H	6.3	0.15	Class A Amplifier	100	- 1.0	100	3.1	12.2	120000	1930	—	—	—
								250	- 3.0	100	2.0	9.0	1.0‡	1850	—	—	—
6ST7	Duplex-Diode Triode	B2	8Q	H	6.3	0.15	Triode Unit as Amplifier	For other characteristics, refer to Type 6SR7.									
6SZ7	Duplex-Diode High-Mu Triode	B2	8Q	H	6.3	0.15	Triode Unit as Class A Amplifier	100	- 1.0	—	—	0.8	61000	1150	70	—	—
								250	- 3.0	—	—	1.0	58000	1200	70	—	—
								135	- 1.5	—	—	0.9	65000	1000	65	—	—
								250	- 3.0	—	—	1.2	62000	1050	65	—	—
6T7-G	Duplex-Diode High-Mu Triode	D8	G-7V1	H	6.3	0.15	Triode Unit as Class A Amplifier	90M	Cath. Bias, 8300 ohms.		Grid Resistor, ** 0.5 megohm.		Gain per stage = 30				
								300M	Cath. Bias, 4580 ohms.				Gain per stage = 40				

Discontinued types are shown in light face.

Type	Name	Tube Dimensions and Socket Connections		Cathode Type and Rating			Use Values to right give operating conditions and characteristics for indicated typical use	Plate Supply Volts	Grid Bias Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Trans-conductance (Grid-plate) $\mu$ mhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	
		Disom.	S. C.	C. T.	Volts	Ampl.												
6T8	Triple-Diode High-Mu Triode	B0a	9E	H	6.3	0.45	Triode Unit as Class A Amplifier	100 250	- 1 - 3	—	—	0.8 1.0	54000 58000	1300 1200	70 70	—	—	
6U5	Electron-Ray Tube	D4	8R	H	6.3	0.3	Visual Indicator	Plate & Target Supply = 125 volts. Triode Plate Resistor = 0.5 meg. Target Current = 1.0 ma. Grid Bias, -8 volts; Shadow Angle, 0°. Bias, 0 volts; Angle, 90°; Plate Current, 0.19 ma. Plate & Target Supply = 250 volts. Triode Plate Resistor = 1.0 meg. Target Current = 4.0 ma. Grid Bias, -22 volts; Shadow Angle, 0°. Bias, 0 volts; Angle, 90°; Plate Current, 0.24 ma.										
6U7-G	Remote-Cutoff Pentode	D12a	G-7R $\frac{1}{2}$	H	6.3	0.3	Class A Amplifier	100 250	- 3.0 - 3.0	100 100	2.2 2.0	8.0 8.2	250000 800000	1500 1600	—	—	—	
							Mixer in Superheterodyne	100 250	-10.0 -10.0	100 100	—	—	Oscillator Peak Volts = 7.0					
6V6	Beam Power Amplifiers	C2	7AC	H	6.3	0.45	Single-Tube Class A Amplifier	180 250 315	- 8.5 -12.5 -13.0	180 250 225	3.0 4.5 2.2	29.0 45.0 34.0	58000 52000 77000	3700 4100 3750	— — —	5500 5000 8500	2.0 4.5 5.5	
6V6-GT		C3	G-7AC $\frac{1}{2}$				Push-Pull Class AB $\frac{1}{2}$ Amplifier	250 285	-15.0 -19.0	250 285	5.0 $\uparrow$ 4.0 $\uparrow$	70.0 $\uparrow$ 70.0 $\uparrow$	— —	— —	— —	— —	10000 8000	10.0 $\uparrow$ 14.0 $\uparrow$
6V7-G		D8	G-7V $\frac{1}{2}$				Triode Unit as Amplifier	For other characteristics, refer to Type 85.										
6W4-GT	Half-Wave Rectifier	C2a	4CG	H	6.3	1.2	With Capacitive-Input Filter	Max. A-C Plate Volts (RMS), 350 Max. Peak Inverse Volts 3500 $\uparrow$ , 1250		Max. D-C Output Ma., 100 Max. Peak Plate Ma., 600		Min. Total Effect. Supply Imped. per Plate, 145 ohms.						
6W7-G	Sharp-Cutoff Pentode	D8	G-7R $\frac{1}{2}$	H	6.3	0.15	Class A Amplifier	250	- 3.0	100	0.5	2.0	1.5 $\frac{1}{2}$	1225	—	—	—	
6X4	Full-Wave Rectifier	B3	8BS	H	6.3	0.6	With Capacitive-Input Filter	Max. A-C Volts per Plate (RMS), 325 Max. Peak Inverse Volts, 1250		Max. D-C Output Ma., 70 Max. Peak Plate Ma., 210		Min. Total Effect. Supply Imped. per Plate, 150 ohms						
							With Inductive-Input Filter	Max. A-C Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1250		Max. D-C Output Ma., 70 Max. Peak Plate Ma., 210		Min. Value of Input Choke, 8 henries						
6X5	Full-Wave Rectifiers	C2	6S	H	6.3	0.6	With Capacitive-Input Filter	Max. A-C Volts per Plate (RMS), 325 Max. Peak Inverse Volts, 1250		Max. D-C Output Ma., 70 Max. Peak Plate Ma., 210		Min. Total Effect. Supply Imped. per Plate, 150 ohms						
6X5-GT							C3	G-6S $\frac{1}{2}$	With Inductive-Input Filter	Max. A-C Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1250		Max. D-C Output Ma., 70 Max. Peak Plate Ma., 210		Min. Value of Input Choke, 8 henries				
6Y5	Full-Wave Rectifier	D5	8J	H	6.3	0.8	With Capacitive-Input Filter	Max. A-C Volts per Plate (RMS), 350 Max. D-C Output Ma., 50										

<b>6Y6-G</b>	Beam Power Amplifier	D18	G-7AC <sub>1</sub>	H	6.3	1.25	Single-Tube Class A Amplifier	135 300	-13.5 -14.0	135 135	3.5 2.2	58.0 61.0	9300 18300	7000 7100	----- -----	2000 2600	3.6 6.0
<b>6Y7-G</b>	Twin-Triode Amplifier	D3	G-8B <sub>1</sub>	H	6.3	0.6	Class B Amplifier	For other characteristics, refer to Type 79.									
<b>6Z5</b>	Full-Wave Rectifier	D6	8K	H	6.3 12.6	0.8 0.4	With Capacitive-Input Filter	Max. A-C Volts per Plate (RMS), 230 Max. D-C Output Ma., 60									
<b>6Z7-G</b>	Twin-Triode Amplifier	D3	G-8B <sub>1</sub>	H	6.3	0.3	Class B Amplifier	135 180	0 0	-----	-----	Power Output is for one tube at stated plate-to-plate load.			9000 12000	2.5 4.2	
<b>6ZY5-G</b>	Full-Wave Rectifier	D3	G-6B <sub>1</sub>	H	6.3	0.3	With Capacitive-Input Filter	Max. A-C Volts per Plate (RMS), 325		Max. D-C Output Ma., 40		Min. Total Effect. Supply Imped. per Plate, 225 ohms					
							With Inductive-Input Filter	Max. A-C Volts per Plate (RMS), 450		Max. D-C Output Ma., 40		Min. Value of Input Choke, 13.5 henries					
<b>7A4</b>	Medium-Mu Triode	B5	5AC <sub>2</sub>	H	6.3	0.3	Amplifier	For other characteristics, refer to Type 6J5.									
<b>7A5</b>	Beam Power Amplifier	C2a	8AA	H	6.3	0.75	Class A Amplifier	110 125	- 7.5 - 9.0	110 125	3.0 3.3	40.0 44.0	16000 17000	5800 6000	-----	2500 2700	1.5 2.2
<b>7A6</b>	Twin Diode	B5	7AJ	H	6.3	0.15	Detector Rectifier	Maximum A-C Voltage per Plate.....150 Volts, RMS Maximum D-C Output Current per plate..... 8 Milliamperes									
<b>7A7</b>	Remote-Cutoff Pentode	B5	8V	H	6.3	0.3	Class A Amplifier	For other characteristics, refer to Type 6SK7.									
<b>7A8</b>	Octode Converter	B5	8U	H	6.3	0.15	Converter	100	- 3.0	75	2.7	1.8	650000 700000	Anode-Grid (#2): 250 $\mu$ max. volts, 4.2 ma. Oscillator-Grid (#1) Resistor $\approx$ Conversion Transcond., 550 micromhos.			
								250	- 3.0	100	3.2	3.0					
<b>7AD7</b>	Power Pentode	C2a	8V	H	6.3	0.6	Class A Amplifier	300	Cath. Bias	150	7.0	28.0	300000	9500	Cath. Res., 68 ohms		
<b>7AF7</b>	Medium-Mu Twin Triode	B5	8AC	H	6.3	0.3	Each Unit as Class A Amplifier	250	-10	-----	-----	9.0	7600	2100	16	-----	
								100	Cath. Bias	-----	-----	10.8	6500	2600	17	Cath. Res., 1100 ohms	
<b>7AG7</b>	Sharp-Cutoff Pentode	B4	8V	H	6.3	0.15	Class A Amplifier	250	Cath. Bias	250	2.0	6.0	1 meg.	4200	Cathode-Bias Resistor, 250 ohms		
<b>7AH7</b>	Sharp-Cutoff Pentode	B5	8V	H	6.3	0.15	Class A Amplifier	250	Cath. Bias	250	1.9	6.8	1 meg.	3300	Cath. Res., 250 ohms		
<b>7B4</b>	High-Mu Triode	B4	8AC <sub>1</sub>	H	6.3	0.3	Amplifier	For other characteristics, refer to Type 6SF5.									
<b>7B5</b>	Power Amplifier Pentode	C2a	8AE	H	6.3	0.4	Class A Amplifier	For other characteristics, refer to Type 6K6-OT.									
<b>7B6</b>	Duplex-Diode High-Mu Triode	B5	8W	H	6.3	0.3	Triode Unit as Amplifier	For other characteristics, refer to Type 6SQ7.									

Discontinued types are shown in light face.

Type	Name	Tube Dimensions and Socket Connections		Cathode Type and Rating			Use Values to right give operating conditions and characteristics for indicated typical use	Plate Supply Volts	Grid Bias in Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Trans-conductance (Grid-plate) $\mu$ ohms	Amplification Factor	Load or Stated Power Output Ohms	Power Output Watts	
		Dimen.	S. C.	C. T.	Volts	Ampl.												
7B7	Remote-Cutoff Pentode	B5	8V	H	6.3	0.15	Class A Amplifier	250	- 3.0	100	1.7	8.5	750000	1750	—	—	—	
7B8	Pentagrid Converter	B5	8X	H	6.3	0.3	Converter	For other characteristics, refer to Type 6A8.										
7C5	Beam Power Amplifier	C2a	8AA	H	6.3	0.45	Class A Amplifier	For other characteristics, refer to Type 6V6-GT.										
7C6	Duplex-Diode High-Mu Triode	B5	8W	H	6.3	0.15	Triode Unit as Class A Amplifier	250	- 1.0	—	—	1.3	100000	1000	100	—	—	
7C7	Sharp-Cutoff Pentode	B5	8V	H	6.3	0.15	Class A Amplifier	100 250	- 3.0 - 3.0	100 100	0.4 0.5	1.8 2.0	1.2 2.0	1225 1300	—	—	—	
7DP4	Directly Viewed Kinescope	11	12C	H	6.3	0.6	Picture Reproduction	Focus: Electrostatic Deflection; Magnetic Deflection Angle: 50° Phosphor: No. 4 Size of Picture with Rounded Ends: 4 3/4" x 6 3/4"					Requires External Double-Field Ion-Trap Magnet			Anode-No. 2 Volts 8000 (max.) Anode-No. 1 Volts for Focus, 1216 to 1644 (2400 max.) Grid-No. 2 Volts, 250 (410 max.) Grid-No. 1 Volts for Visual Cutoff, -27 to -63		
7E6	Duplex-Diode Triode	B5	8W	H	6.3	0.3	Triode Unit as Amplifier	For other characteristics, refer to Type 6R7.										
7E7	Duplex-Diode Pentode	B5	8AE	H	6.3	0.3	Pentode Unit as Class A Amplifier	100 250	- 1.0 - 3.0	100 100	2.7 1.6	10.0 7.5	150000 700000	1600 1300	—	—	—	
7F7	Twin-Triode Amplifier	B5	8AC	H	6.3	0.3	Each Unit as Amplifier	For other characteristics, refer to Type 6SL7-GT.										
7F8	Twin-Triode Amplifier	B5	8BW	H	6.3	0.3	Each Unit as Class A Amplifier	250	Cathode-Bias Res., 500 ohms			6.0	—	3300	48	—	—	
7G7	Sharp-Cutoff Pentode	B5	8V	H	6.3	0.45	Class A Amplifier	250	- 2.0	100	2.0	6.0	800000	4500	—	—	—	
7GP4	Directly Viewed Kinescope	K	14Q4	H	6.3	0.6	Picture Reproduction	Anode-No. 2 and Grid-No. 2 Volts, 4000 (max.) Anode-No. 1 Volts for Focus, 1080 to 1600 Grid-No. 1 Volts for Visual Cutoff, 48 to 112					For other characteristics, refer to Type 7JP4.					
7H7	Sharp-Cutoff Pentode	B5	8V	H	6.3	0.3	Class A Amplifier	100 250	- 1.0 - 2.5	100 150	2.6 3.2	7.5 10.0	350000 800000	4000 4000	—	—	—	



7J7	Triode-Heptode Converter	B5	8BL	H	6.3	0.3	Triode Unit as Oscillator	100	Triode-Grid Resistor, 50000 ohms			3.2	Triode-Grid & Heptode-Grid Current, 0.3 ma.				
							Heptode Unit as Mixer	250	- 3.0	100	2.6	1.5	500000	Triode-Grid & Heptode-Grid Current, 0.4 ma.			
7K7	Twin-Diode-High-Mu Triode	B5	8BF	H	6.3	0.3	Triode Unit as Class A Amplifier	250	- 2	—	—	2.3	44000	1600	70	—	—
7JP4	Directly Viewed Kinescope	J	14G	H	6.3	0.6	Picture Reproduction	Focus: Electrostatic Deflection: Electrostatic Phosphor: No. 4 Size of Picture with Rounded Ends: 4 1/4" x 6 1/2" Anode-No. 2 and Grid-No. 2 Volts, 6000 (max.) Anode-No. 1 Volts for Focus, 1620 to 2400 (2800 max.) Anode-No. 1 Current Range, -15 to +10 microamperes Grid-No. 1 Volts for Visual Cutoff, -72 to -168 Deflection Factors, DJ <sub>1</sub> and DJ <sub>2</sub> (nearer screen), 31 to 41 vdc/in./kv; DJ <sub>1</sub> and DJ <sub>2</sub> (nearer base), 25 to 34 vdc/in./kv									
7L7	RF Amplifier Pentode	B5	8V	H	6.3	0.3	Class A Amplifier	100	- 1.0	100	2.4	5.5	100000	3000	—	—	—
								250	- 1.5	100	1.5	4.5	1.05	3100	—	—	—
7N7	Twin-Triode Amplifier	C2a	8AC	H	6.3	0.6	Each Unit as Class A Amplifier	For other characteristics, refer to Type 6SN7-GT									
7Q7	Pentagrid Converter	B5	8AL	H	6.3	0.3	Converter	100	- 2.0	100	8.5	3.3	500000	Grid #1 Resistor, 20000 ohms.			
								250	- 2.0	100	8.5	3.5	1.05	Conversion Transcond., 550 micromhos.			
7R7	Duplex-Diode Pentode	B5	8AE	H	6.3	0.3	Pentode Unit as Class A Amplifier	100	- 1.0	100	2.2	5.5	350000	3000	—	—	—
								250	- 1.0	100	2.1	5.7	1.05	3700	—	—	—
7S7	Triode-Heptode Converter	B5	8BL	H	6.3	0.3	Triode Unit as Oscillator	100	Triode-Grid Resistor, 50000 ohms			3.0	Triode-Grid & Heptode-Grid Current, 0.3 ma.				
							Heptode Unit as Mixer	250	- 2.0	100	3.0	1.9	500000	Triode-Grid & Heptode-Grid Current, 0.4 ma.			
								250	- 2.0	100	3.0	1.8	1.255	Conversion Transcond., 500 micromhos. Conversion Transcond., 525 micromhos			
7V7	RF Amplifier Pentode	B5	8V	H	6.3	0.45	Class A Amplifier	300	—	150	3.9	10.0	300000	5800	Cath. Bias Res., 160 ohms		
7W7	RF Amplifier Pentode	B5	8BJ	H	6.3	0.45	Class A Amplifier	For other characteristics, refer to Type 7V7.									
7X7	Twin Diode-High-Mu Triode	C2a	8BZ	H	6.3	0.3	Triode Unit as Class A Amplifier	100	0	—	—	1.2	85000	1000	85	—	—
								250	- 1.0	—	—	1.9	67000	1500	100	—	—
7Y4	Full-Wave Rectifier	B5	8AB	H	6.3	0.5	With Capacitive-Input Filter	Max. A-C Volts per Plate (RMS), 325 Max. Peak Inverse Volts, 1250				Max. D-C Output Ma., 70 Max. Peak Plate Ma., 180		Min. Total Effect. Supply Imped. per Plate, 150 ohms.			
							With Inductive-Input Filter	Max. A-C Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1250				Max. D-C Output Ma., 70 Max. Peak Plate Ma., 180		Min. Value of Input Choke, 10 henries			
7Z4	Full-Wave Rectifier	C2a	8AB	H	6.3	0.9	With Capacitive-Input Filter	Max. A-C Volts per Plate (RMS), 325 Max. Peak Inverse Volts, 1250				Max. D-C Output Ma., 100 Max. Peak Plate Ma., 300		Min. Total Effect. Supply Imped. per Plate, 75 ohms			
							With Inductive-Input Filter	Max. A-C Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1250				Max. D-C Output Ma., 100 Max. Peak Plate Ma., 300		Min. Value of Input Choke, 6 henries			

Discontinued types are shown in light face.

RCA Type	Name	Tube Dimensions and Socket Connections		Cathode Type and Rating			Use Values to right give operating conditions and characteristics for indicated typical use	Plate Supply Volts	Grid Bias $\Omega$ Volts	Screen Supply Volts	Screen Current Ma	Plate Current Ma	AC Plate Resistance Ohms	Trans-conductance (Grid-plate) $\mu$ mhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts		
		Dimen.	S. C.	C. T.	Volts	Amp.													
9AP4	Directly Viewed Kinescope	0	8AL	H	2.5	2.1	Picture Reproduction	Focus: Electrostatic Deflection: Magnetic Phosphor: No. 4 Picture Size: $5\frac{3}{8}'' \times 7\frac{1}{4}''$			Anode-No. 2 Volts, 7000 (max.) Anode-No. 1 Volts for Focus, 1192 to 1788 (2000 max.) Grid-No. 2 Volts, 250 (300 max.)		Grid-No. 1 Volts for Visual Cutoff, -20 to -60 Grid-No. 1 Signal Voltage, (Peak-to-Peak) value, 30 volts approx.						
10B	Power Amplifier Triode	E3	4D	F	7.5	1.25	Class A Amplifier	350 425	-32.0 -40.0	—	—	16.0 18.0	5150 5000	1550 1600	8.0 8.0	11000 10200	0.9 1.6		
10BP4	Directly Viewed Kinescope	This type has clear glass face plate, but in other respects is same as 10BP4-A.																	
10BP4-A	Directly Viewed Kinescope "With Filterglass" Face Plate	M	12D <sub>1</sub>	H	6.3	0.3	Picture Reproduction	Focus: Magnetic Deflection: Magnetic Deflection Angle: 57° Phosphor: No. 4 Size of Picture with Rounded Ends: $6\frac{3}{8}'' \times 9\frac{3}{8}''$			Requires External, Double-Field, Ion-Trap Magnet		Anode Volts, 12000 max. Grid-No. 2 Volts, 250 (410 max.) Grid-No. 1 Volts for Visual Cutoff, -27 to -63 volts Grid-No. 1—Circuit-Resistance, 1.5 megohms max.						
11 12	Detector * Amplifier Triode	D2a D8a	4F 4D	D.C. F	1.1	0.25	Class A Amplifier	90 135	- 4.5 -10.5	—	—	2.5 3.0	15500 15000	425 440	6.6 6.6	—	—		
12A5	Power Amplifier Pentode	D8	7F	H	6.3 12.6	0.6 0.3	Class A Amplifier	100 180	-15.0 -25.0	100 180	3.0 8.0	17.0 45.0	50000 35000	1700 2400	—	4500 3300	0.8 3.4		
12A7	Rectifier-Pentode	D8	7K	H	12.6	0.3	Pentode Unit as Class A Amplifier	135	-13.5	135	2.5	9.0	102000	975	—	13500	0.55		
							Half-Wave Rectifier	Maximum A-C Plate Voltage.....										125 Volts, RMS	
								Maximum D-C Output Current.....										30 Milliamperes	
12A8-GT	Pentagrid Converter $\Phi$	C3	GT-8A $\frac{1}{2}$	H	12.6	0.15	Converter	For other characteristics, refer to Type 6A8.											
12AH7-GT	Twin Triode	C0a	8BE	H	12.6	0.15	Each Unit as Class A Amplifier	100 180	- 3.6 - 6.5	—	—	3.7 7.6	10300 8400	1550 1900	16 16	—	—		
12AL5	Twin-Diode	A1	8BT	H	12.6	0.15	Detector Rectifier	For other characteristics, refer to Type 6AL5.											

<b>12AP4</b>	Directly Viewed Kinescope	Q	8AL	H	2.5	2.1	Picture Reproduction	Focus: Electrostatic Deflection: Magnetic Phosphor: No. 4 Picture Size: 7 $\frac{3}{4}$ " x 9 $\frac{3}{4}$ "		Anode-No. 2 Volts, 7000 (max.) Anode-No. 1 Volts for Focus, 1192 to 1788 (2000 max.) Grid-No. 2 Volts 250 (300 max.)		Grid-No. 1 Volts for Visual Cutoff, -20 to -60 Grid-No. 1 Signal Voltage, (Peak-to-Peak) value, 30 volts approx.				
<b>12AT6</b>	Duplex-Diode High-Mu Triode	B0	7BT	H	12.6	0.15	Triode Unit as Class A Amplifier	For other characteristics, refer to Type 6AT6.								
<b>12AT7</b>	High-Mu Twin Triode	B0a	8A	H	6.3 12.6	0.3 0.15	Each Unit as Class A Amplifier	100 250	Cath. Res., 270 ohms Cath. Res., 200 ohms	3.7 10.0	15000 10900	4000 5500	60 60	-----	-----	
<b>12AU6</b>	RF Amplifier Pentode	B0	79K <sub>1</sub>	H	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6AU6.								
<b>12AU7</b>	Twin-Triode Amplifier	B0a	8A	H	6.3 12.6	0.3 0.15	Each Unit As Class A Amplifier	100 250	0 - 8.5	----- -----	11.8 10.5	6500 7700	3100 2200	20 17	-----	-----
<b>12AV6</b>	Twin-Diode High-Mu Triode	B0	7BT	H	12.6	0.15	Triode Unit as Class A Amplifier	For other characteristics, refer to Type 6AV6.								
<b>12AW6</b>	RF Amplifier Pentode	B0	7CM	H	12.6	0.15	As Pentode Class A Amplifier As Triode (□) Class A Amplifier	For other characteristics, refer to Type 6AG5.								
<b>12AX7</b>	High-Mu Twin Triode	B0a	8A	H	6.3 12.6	0.3 0.15	Each Unit as Class A Amplifier	100 250	- 1.0 - 2.0	----- -----	0.5 1.2	80000 62500	1250 1600	100 100	-----	-----
<b>12B8-GT</b>	Triode-Pentode	C10a	8T	H	12.6	0.3	Triode Unit as Class A Amplifier Pentode Unit as Class A Amplifier	90 90	0 - 3.0	----- 90	2.8 2.0	37000 200000	2400 1800	90	-----	-----
<b>12BA6</b>	RF Amplifier Pentode	B0	79K <sub>1</sub>	H	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6BA6.								
<b>12BA7</b>	Pentagrid Converter $\Delta$	B0a	8CT	H	12.6	0.15	Converter	For other characteristics, refer to Type 6BA7.								
<b>12BD6</b>	Remote-Cutoff Pentode	B0	7CC	H	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6BD6.								
<b>12BE6</b>	Pentagrid Converter $\Delta$	B0	7CH	H	12.6	0.15	Converter	For other characteristics, refer to Type 6BE6.								
<b>12C8</b>	Duplex-Diode Pentode	C1	8E	H	12.6	0.15	Pentode Unit as RF Amplifier Pentode Unit as AF Amplifier	250	- 3.0	125	2.3	10.0	600000	1325	-----	-----
<b>12F5-GT</b>	High-Mu Triode	C2b	0-5M, 1	H	12.6	0.15	Amplifier	90 x Cath. Bias, 3500 ohms. Screen Resistor = 1.1 meg.   Grid Resistor, **		300 x Cath. Bias, 1600 ohms. Screen Resistor = 1.2 meg.   0.5 megohm.		(Gain per stage = 55) (Gain per stage = 79)				
								For other characteristics, refer to Type 6SF5.								

Discontinued types are shown in light face.

RCA Type	Name	Tube Dimensions and Socket Connections		Cathode Type and Rating			Use Values to right give operating conditions and characteristics for indicated typical use	Plate Supply Volts	Grid Bias $\pm$ Volts	Screen Supply Volts	Screen Current Ma	Plate Current Ma	AC Plate Resistance Ohms	Trans-conductance (Grid-plate) $\mu$ ohms	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	
		Dimen.	Socket	C.T.	Volts	Amp.												
12H6	Twin-Diode	A1a	7Q	M	12.6	0.15	Detector Rectifier	For other ratings, refer to Type 6H6.										
12J5-GT	Medium-Mu Triode	C3	GT-4Q1	M	12.6	0.15	Amplifier	For other characteristics, refer to Type 6J5.										
12J7-GT	Sharp-Cutoff Pentode	C3	GT-7R <sub>2</sub>	M	12.6	0.15	Amplifier	For other characteristics, refer to Type 6J7.										
12K7-GT	Remote-Cutoff Pentode	C3	GT-7R <sub>2</sub>	M	12.6	0.15	Amplifier	For other characteristics, refer to Type 6K7.										
12K8	Triode-Hexode Converter	C1	8K	M	12.6	0.15	Oscillator Mixer	For other characteristics, refer to Type 6K8.										
12LP4	Directly Viewed Kinescope	This type has clear glass face plate, but in other respects is same as 12LP4-A																
12LP4-A	Directly Viewed Kinescope With "Filterglass" Face Plate	M	12D <sub>1</sub>	M	6.3	0.6	Picture Reproduction	Focus: Magnetic Deflection: Magnetic Deflection Angle: 57° Phosphor: No. 4 Size of Picture with Rounded Ends: 8 $\frac{1}{4}$ " x 11 $\frac{3}{4}$ "				Requires External, Double-Field, Ion-Trap Magnet		Anode Volts, 12000 max. Grid-No. 2 Volts, 250 (410 max.) Grid-No. 1 Volts for Visual Cutoff, -27 to -63 volts Grid-No. 1—Circuit Resistance, 1.5 megohms max.				
12Q7-GT	Duplex-Diode High-Mu Triode	C3	GT-7V <sub>2</sub>	M	12.6	0.15	Triode Unit as Amplifier	For other characteristics, refer to Type 6Q7.										
12S8-GT	Triple-Diode-High-Mu Triode	C9a	8CB	M	12.6	0.15	Triode Unit as Class A Amplifier	100 250	— 1 — 2	— —	— —	0.4 0.9	110000 91000	900 1100	100 100	— —	— —	
12SA7	Pentagrid Converter <sub>A</sub>	B2	8R	M	12.6	0.15	Mixer	For other characteristics, refer to Type 6SA7.										
12SA7-GT	Pentagrid Converter <sub>A</sub>	C3	G-8AD	M	12.6	0.15	Mixer	For other characteristics, refer to Type 6SA7.										
12SC7	Twin-Triode Amplifier	B2	8S	M	12.6	0.15	Each Unit as Class A Amplifier	For other characteristics, refer to Type 6SC7.										
12SF5	High-Mu Triode	B2	6A8	M	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6SF5.										
12SF5-GT	High-Mu Triode	C3	G-8AB1	M	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6SF5.										

<b>12SF7</b>	Diode-Remote-Cutoff Pentode	B2	7AZ	H	12.6	0.15	Pentode Unit as Amplifier	For other characteristics, refer to Type 6SF7.											
<b>12SG7</b>	Semi-Remote-Cutoff Pentode	B2	8BK	H	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6SG7.											
<b>12SH7</b>	Sharp-Cutoff Pentode	B2	8BK	H	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6SH7.											
<b>12SJ7</b> <b>12SJ7-GT</b>	Sharp-Cutoff Pentodes	B2 C3	8N GT-8N $\frac{1}{2}$	H	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6SJ7.											
<b>12SK7</b> <b>12SK7-GT</b>	Remote-Cutoff Pentodes	B2 C3	8N GT-8N $\frac{1}{2}$	H	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6SK7.											
<b>12SL7-GT</b>	Twin-Triode Amplifier	C3	8BD	H	12.6	0.15	Each Unit as Amplifier	For other characteristics, refer to Type 6SL7-GT.											
<b>12SN7-GT</b>	Twin-Triode Amplifier	C3	8BD	H	12.6	0.3	Each Unit as Amplifier	For other characteristics, refer to Type 6JS.											
<b>12SQ7</b>	Duplex-Diode High-Mu Triode	B2	9Q	H	12.6	0.15	Triode Unit as Amplifier	For other characteristics, refer to Type 6SQ7.											
<b>12SQ7-GT</b>	Duplex-Diode High-Mu Triode	C3	GT-9Q $\frac{1}{2}$	H	12.6	0.15	Triode Unit as Amplifier	For other characteristics, refer to Type 6SQ7.											
<b>12SR7</b> <b>12SR7-GT</b>	Duplex-Diode Triode	B2 C3	9Q GT-9Q $\frac{1}{2}$	H	12.6	0.15	Triode Unit as Amplifier	For other characteristics, refer to Type 6SR7.											
<b>12Z3</b>	Half-Wave Rectifier	D5	4Q	H	12.6	0.3	With Capacitive-Input Filter	Max. A-C Plate Volts (RMS), 235 Max. D-C Output Ma., 55 Min. Total Effective Plate-Supply Impedance: Up to 117 volts, 0 ohms; at 150 volts, 30 ohms; at 235 volts, 75 ohms.											
<b>14A4</b>	Medium-Mu Triode	B5	5C, C	H	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6J5.											
<b>14A5</b>	Beam Power Amplifier	B5	6AA	H	12.6	0.15	Class A Amplifier	250	-12.5	250	3.5	30	70000	3000	—	7500	2.8		
<b>14A7</b>	Remote-Cutoff Pentode	B5	8V	H	12.6	0.15	Class A Amplifier	100 250	-1.0 -3.0	100 100	4.0 2.6	13.0 9.2	120000 800000	2350 2000	—	—	—		
<b>14AF7</b>	Medium-Mu Twin Triode	B5	8AC	H	12.6	0.15	Each Unit as Class A Amplifier	For other characteristics, refer to Type 7AF7.											
<b>14B6</b>	Duplex-Diode High-Mu Triode	B5	8W	H	12.6	0.15	Triode Unit as Class A Amplifier	For other characteristics, refer to Type 6SQ7.											
<b>14B8</b>	Pentagrid Converter	B5	8X	H	12.6	0.15	Converter	For other characteristics, refer to Type 6A8.											

Discontinued types are shown in light face.

Type	Name	Dimensions and Socket Connections		Cathode Type and Rating			Use Values to right give operating conditions and characteristics for indicated typical use	Plate Supply Volts	Grid Bias in Volts	Screen Supply Volts	Screen Current ma	Plate Current ma	AC Plate Resistance Ohms	Trans-conductance (Grid-plate) $\mu$ ohms	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts
		Dimen.	S. C.	C. T.	Volts	amp.											
14C5	Beam Power Amplifier	C2a	8AA	H	12.6	0.225	Class A Amplifier	180 315	- 8.5 -13	180 225	3.0 2.2	29.0 34.0	58000 77000	3700 3750	— —	5500 8500	2 5.5
14C7	Sharp-Cutoff Pentode	B5	8V	H	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6SJ7									
14E6	Duplex-Diode Triode	B5	8W	H	12.6	0.15	Triode Unit as Class A Amplifier	For other characteristics, refer to Type 6SR7.									
14E7	Twin-Diode-Remote-Cutoff Pentode	B5	8AE	H	12.6	0.15	Pentode Unit as Class A Amplifier	100 250	- 1 - 3	100 100	2.7 1.6	10.0 7.5	150000 700000	1600 1300	— —	— —	— —
14F7	Twin-Triode Amplifier	B5	8AC	H	12.6	0.15	Each Unit as Class A Amplifier	For other characteristics, refer to Type 6SL7-GT.									
14F8	Medium-Mu Twin Triode	B0b	8BW	H	12.6	0.15	Each Unit as Class A Amplifier	250	Cathode-Bias Res., 500 ohms		6.0	—	3300	48	—	—	
14H7	Remote-Cutoff Pentode	B5	8V	H	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 7H7.									
14J7	Triode-Heptode Converter	B5	8BL	H	12.6	0.15	Converter	For other characteristics, refer to Type 7J7									
14N7	Twin-Triode Amplifier	C2a	8AC	H	12.6	0.3	Each Unit as Class A Amplifier	For other characteristics, refer to Type 6SN7-GT.									
14Q7	Pentagrid Converter	B5	8AL	H	12.6	0.15	Converter	For other characteristics, refer to Type 6SA7.									
14R7	Duplex-Diode Pentode	B5	8AE	H	12.6	0.15	Pentode Unit as Class A Amplifier	For other characteristics, refer to Type 7R7.									
15	RF Amplifier Pentode	D9	8F	D.C. H	2.0	0.22	Class A Amplifier	67.5 135	- 1.5 - 1.5	67.5 67.5	0.3 0.3	1.85 1.85	630000 800000	710 750	—	—	—
16AP4	Directly Viewed Kinescope	P	12D <sub>1</sub>	H	6.3	0.6	Picture Reproduction	Except for its clear glass face plate, 27-inch face plate radius, and maximum overall length of 22 $\frac{3}{8}$ " , this type is same as 16AP4-A									

<b>16AP4-A</b>	Directly Viewed Kinescope	P0	12D <sub>1</sub>	H	6.3	0.6	Picture Reproduction	Focus: Magnetic Deflection: Magnetic Deflection Angle: 53° Phosphor: No. 4 Size of Picture with Rounded Ends: 11" x 14½"	Requires External, Double-Field, Ion-Trap Magnet	Anode Volts, 14000 max. Grid-No. 2 Volts, 300 (410 max.) Grid-No. 1 Volts for Visual Cutoff, -33 to -77 volts Grid-No. 1—Circuit Resistance, 1.5 megohms max.							
<b>16GP4</b>	Directly Viewed Kinescope	L	12D <sub>1</sub>	H	6.3	0.6	Picture Reproduction	Focus: Magnetic Deflection: Magnetic Deflection Angle: 70° Phosphor: No. 4 Size of Picture with Rounded Ends: 11" x 14½"	Requires External, Single-Field, Ion-Trap Magnet	Anode Volts, 14000 max. Grid-No. 2 Volts, 300 (410 max.) Grid-No. 1 Volts, for Visual Cutoff, -33 to -77 volts Grid-No. 1—Circuit Resistance, 1.5 megohms max.							
<b>19</b>	Twin-Triode Amplifier	D3	8C	D.C. F	2.0	0.26	Amplifier	For other characteristics, refer to Type 1J6-G.									
<b>19BG6-G</b>	Beam Power Amplifier	F <sub>1</sub>	8MT	H	18.9	0.3	Horizontal Deflection Amplifier in TV Equipment	Max. DC Plate Volts, 500 Max. DC Plate Current, 100 ma.	Max. Peak Positive-Pulse Plate Volts, 6000 Max. Plate Dissipation, 20 watts								
<b>19J6</b>	Medium-Mu Twin Triode	B0	78F	H	18.9	0.15	Each Unit as Class A Amplifier	100	Cathode-Bias Res., 50s ohms	8.5	7100	5300	38	—	—		
<b>19T8</b>	Triple-Diode High-Mu Triode	B0a	8E	H	18.9	0.15	Triode Unit as Class A Amplifier	For other characteristics, refer to Type 6T8.									
<b>20</b>	Power Amplifier Triode	D1	4D	D.C. F	3.3	0.132	Class A Amplifier	90 135	-16.5 -22.5	—	—	3.0 6.5	8000 6300	415 525	3.3 3.3	9600 6500	0.045 0.110
<b>22</b>	RF Amplifier Tetrode	E1	4K	D.C. F	3.3	0.132	Screen-Grid RF Amplifier	135 135	-1.5 -1.5	45 67.5	0.6* 1.3*	1.7 3.7	725000 325000	375 500	—	—	—
<b>24-A</b>	RF Amplifier Tetrode	E1	8E	H	2.5	1.75	Screen-Grid RF Amplifier	180 250	-3.0 -3.0	90 90	1.7* 1.7*	4.0 4.0	400000 600000	1000 1050	—	—	—
							Bias Detector	250M	-5.0 approx.	20 to 45	—	Plate current to be adjusted to 0.1 milliampere with no signal.					
<b>25A6</b>	Power Amplifier Pentode	C2	7A	H	25.0	0.3	Class A Amplifier	95 160	-15.0 -18.0	95 120	4.0 6.5	20.0 33.0	45000 42000	2000 2375	—	4500 5000	0.9 2.2
<b>25A6-GT</b>	Power Amplifier Pentode	C3	G-7A <sub>1</sub>	H	25.0	0.3	Class A Amplifier	For other characteristics, refer to Type 25A6.									
<b>25A7-GT</b>	Rectifier Pentode	C3	8F	H	25.0	0.3	Pentode Unit as Class A Amplifier	100	-15.0	100	4.0	20.5	50000	1800	—	4500	0.77
							Half-Wave Rectifier	Max. A-C Plate Volts (RMS), 117 Max. Peak Inverse Volts, 350			Max. D-C Output Ma., 75 Max. Peak Plate Ma., 450		Min. Total Effect. Supply Impedance, 15 ohms.				

Discontinued types are shown in light face.

Type	Name	Tube Dimensions and Socket Connections		Cathode Type and Rating			Use <i>Values to right give operating conditions and characteristics for indicated typical use</i>	Plate Supply Volts	Grid Bias m Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Trans-conductance (Grid-plate) $\mu$ mhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts
		Dimen.	S. C.	C. T.	Volts	Amp.											
25AC5-GT	High-Mu Power Amplifier Triode	C3	G-4Q1	H	25.0	0.3	Class B Amplifier	180	0	—	—	4.0	—	—	—	4800	6.0
							Dynamic-Coupled Amp. With Type 6AE5-GT Driver	110	Bias for both 25AC5-GT and 6AE5-GT developed in circuit. Average Plate Current of Driver = 7 milliamperes. Average Plate Current of 25AC5-GT = 45 milliamperes.					2000	2.0		
25B5	Direct-Coupled Power Amplifier	D9a	6D	H	25.0	0.3	Amplifier	For other characteristics, refer to Type 25N6-G.									
25B6-G	Power Amplifier Pentode	D10	G-7S1	H	25.0	0.3	Class A Amplifier	105 200	-16.0 -23.0	105 135	2.0 1.8	48.0 62.0	15500 18000	4800 5000	—	1700 2500	2.4 7.1
25B8-GT	Triode-Pentode	C3	8T	H	25.0	0.15	Triode Unit as Class A Amplifier	100	-1.0	—	—	0.6	75000	1500	112	—	—
							Pentode Unit as Class A Amplifier	100	-3.0	100	2.0	7.6	185000	2000	—	—	—
25C6-G	Beam Power Amplifier	D10	G-7AC1	H	25.0	0.3	Class A Amplifier	For other characteristics, refer to Type 6Y6-G.									
25L6	Beam Power Amplifier	C2	7AC	H	25.0	0.3	Amplifier	110 200	-7.5 -8.0	110 110	4.0 2.0	49.0 50.0	13000 30000	9000 9500	—	2000 3000	2.1 4.3
25L6-GT	Beam Power Amplifier	C3	G-7AC1	H	25.0	0.3	Amplifier	For other characteristics, refer to Type 50L6-GT.									
25N6-G	Direct-Coupled Power Amplifier	D9	G-7W	H	25.0	0.3	Class A Amplifier	Output Triode: Plate Volts, 180; Plate Ma., 46; Load, 4000 ohms. Triode: Plate Volts, 100; Grid Volts, 0; A-F Signal Volts (Peak), 29.7; Plate Ma., 5.8.									3.8
25Y5	Rectifier-Doubler	D5	6E	H	25.0	0.3	Half-Wave Rectifier	Max. A-C Volts per Plate (RMS), 235 Min. Total Effective Plate-Supply Impedance per Plate, 0 ohms. Max. D-C Output Ma. per Plate, 75									
25W4-GT	Half-Wave Rectifier	C2b	4C	H	25.0	0.3	Rectifier-Doubler	For other characteristics, refer to Type 6W4-GT.									
25Z5	Rectifier-Doubler	D5	6E	H	25.0	0.3	Rectifier-Doubler	For other ratings, refer to Type 25Z6.									
25Z6 25Z6-GT	Vacuum Rectifier-Doublers	C2 C3	7Q G-7Q1	H	25.0	0.3	Voltage Doubler	Max. A-C Volts per Plate (RMS), 117 Min. Total Effective Plate-Supply Impedance: Half-Wave, 30 ohms; Full-Wave, 15 ohms. Max. D-C Output Ma., 75									
							Half-Wave Rectifier	Max. A-C Volts per Plate (RMS), 235 Min. Total Effect. Supply Imped. per Plate: Up to 117 volts, 15 ohms; at 150 volts, 40 ohms; at 235 volts, 100 ohms. Max. D-C Output Ma. per Plate, 75									
26	Amplifier Triode	D12	4D	F	1.5	1.05	Class A Amplifier	90 180	-7.0 -14.5	—	—	2.9 6.2	8900 7300	935 1150	8.3 8.3	—	—



27	Detector★ Amplifier Triode	D6	8A <sub>1</sub>	H	2.5	1.75	Class A Amplifier	135	- 9.0	—	—	4.5	9000	1000	9.0	—	—
								250	-21.0	—	—	5.2	9250	975	9.0	—	—
							Bias Detector	750	{ -30.0 approx. }	—	—	Plate current to be adjusted to 0.2 milliampere with no signal.					
30	Medium-Mu Triode	D5	4D	D.C. F	2.0	0.06	Amplifier	For other characteristics, refer to Type 1H4-G.									
31	Power Amplifier Triode	D9	4O	D.C. F	2.0	0.13	Class A Amplifier	135	-22.5	—	—	8.0	4100	925	3.8	7000	0.185
								180	-30.0	—	—	12.3	3600	1050	3.8	5700	0.375
32	RF Amplifier Tetrode	E1	4K	D.C. F	2.0	0.06	Screen-Grid RF Amplifier	135	- 3.0	67.5	0.4	1.7	950000	640	—	—	—
								180	- 3.0	67.5	0.4	1.7	1.0+ $\frac{1}{2}$	650	—	—	—
							Bias Detector	180	{ - 6.0 approx. }	67.5	—	Plate current to be adjusted to 0.2 milliampere with no signal.					
32L7-GT	Rectifier-Beam Power Amplifier	C3	8Z	H	32.5	0.3	Amplifier Unit as Class A Amplifier	90	- 5.0	90	3.0	38.0	15000	6000	—	2600	0.8
								90	- 7.0	90	2.0	27.0	17000	4800	—	2600	1.0
							Half-Wave Rectifier	Maximum A-C Plate Voltage ..... 125 Volts, RMS Maximum D-C Output Current..... 60 Milliamperes.									
33	Power Amplifier Pentode	D12	8K	D.C. F	2.0	0.26	Class A Amplifier	180	-18.0	180	5.0	22.0	55000	1700	—	6000	1.5
34	Supercontrol RF Amplifier Pentode	E1	4M	D.C. F	2.0	0.06	Screen-Grid RF Amplifier	135	{ - 3.0 min. }	67.5	1.0	2.8	600000	600	—	—	—
								180	{ - 3.0 min. }	67.5	1.0	2.8	1.0 $\frac{1}{2}$	620	—	—	—
35	Supercontrol RF Amplifier Tetrode	E1	8E	H	2.5	1.75	Screen-Grid RF Amplifier	180	{ - 3.0 min. }	90	2.5*	6.3	300000	1020	—	—	—
								250	{ - 3.0 min. }	90	2.5*	6.5	400000	1050	—	—	—
35A5	Beam Power Amplifier	C2a	8AA	H	35.0	0.15	Single-Tube Class A Amplifier	For other characteristics, refer to Type 35L6-GT.									
35B5	Beam Power Amplifier	B3	7DZ	H	35.0	0.15	Class A Amplifier	For other characteristics, refer to Type 35C5.									
35C5	Beam Power Amplifier	B3	7CV	H	35.0	0.15	Class A Amplifier	110	- 7.5	110	3.0	40.0	13000	5800	—	2500	1.5
35L6-GT	Beam Power Amplifier	C3	G-7AC1	H	35.0	0.15	Single-Tube Class A Amplifier	110	- 7.5	110	3.0	40.0	14000	5800	—	2500	1.5
								200	- 8.0	125	2.0	43.0	34000	6100	—	5000	3.3
35W4	Half-Wave Rectifier <small>(Heater Tap for Pilot)</small>	B3	8BQ $\frac{1}{2}$	H	35.0	0.15	With Capacitive- Input Filter	Max A-C Plate Volts (RMS), 117 Min Total Effect. Plate-Supply Impedance, 15 ohms Max. D-C Output Ma.: With Pilot and No Shunt Res., 60; With Pilot and Shunt Res., 90; Without Pilot, 100									
35Y4	Half-Wave Rectifier	C2a	5AL	H	35.0	0.15	With Capacitive- Input Filter	For other characteristics, refer to Type 35W4.									
35Z3	Half-Wave Rectifier	C2a	4Z	H	35.0	0.15	With Capacitive- Input Filter	For other ratings, refer to Type 35Z4-GT.									

Discontinued types are shown in light face.

Type	Name	Tube Dimensions and Socket Connections		Cathode Type and Rating			Use Values to right give operating conditions and characteristics for indicated typical use	Plate Supply Volts	Grid Bias Volts	Screen Supply Volts	Screen Current Ma	Plate Current Ma	AC Plate Resistance Ohms	Trans-conductance (Grid-plate) $\mu$ mhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	
		Dimen.	S. C.	C. T.	Volts	Ang.												
35Z4-GT	Half-Wave Rectifier	C3	G-5AA	H	35.0	0.15	With Capacitive-Input Filter	Max. A-C Plate Volts (RMS), 235 Max. D-C Output Ma., 100									Min. Total Effective Plate-Supply Impedance: Up to 117 volts, 15 ohms, at 235 volts, 100 ohms.	
35Z5-GT	Half-Wave Rectifier Heater Tap for Pilot	C3	G-6ADg	H	35.0	0.15	With Capacitive-Input Filter	Max. A-C Plate Volts (RMS), 235 Max. D-C Output Ma.: With Pilot and No Shunt Res., 60; With Pilot and Shunt Res., 90; Without Pilot, 100.									Min. Total Effect. Plate-Supply Imped., Up to 117 volts, 15 ohms.	
36	RF Amplifier Tetrode	D9	5E	H	6.3	0.3	Screen-Grid RF Amplifier	100 250	- 1.5 - 3.0	55 90	— 1.7*	1.8 3.2	550000 550000	850 1080				
							Bias Detector	100 $\phi$ 250 $\phi$	- 5.0 - 8.0	55 90								
37	Detector* Amplifier Triode	D6	5A <sub>1</sub>	H	6.3	0.3	Class A Amplifier	90 250	- 6.0 - 18.0	— —	— —	2.5 7.5	11500 8400	800 1100	9.2 9.2			
							Bias Detector	90 250	- 10.0 - 28.0									
38	Power Amplifier Pentode	D9	5F	H	6.3	0.3	Class A Amplifier	100 250	- 9.0 - 25.0	100 250	1.2 3.8	7.0 22.0	140000 100000	875 1200		15000 10000	0.27 2.50	
39/44	Remote-Cutoff Pentode	D9	5F	H	6.3	0.3	Class A Amplifier	90 250	(- 3.0 min.)	90 90	1.6 1.4	5.6 5.8	400000 1000 1050					
40	Medium-Mu Triode	D12	4D	D.C. F	5.0	0.25	Class A Amplifier	135 <sup>H</sup> 180 <sup>K</sup>	- 1.5 - 3.0	— —	— —	0.2 0.2	150000 150000	200 200	30 30			
41	Power Amplifier Pentode	D9	6B	H	6.3	0.4	Amplifier	For other characteristics, refer to Type 6K6-GT.										
42	Power Amplifier Pentode	D12	6B	H	6.3	0.7	Amplifier	For other characteristics, refer to Type 6F6-G.										
43	Power Amplifier Pentode	D12	6B	H	25.0	0.3	Amplifier	For other characteristics, refer to Type 25A6.										
45	Power Amplifier Triode	D12	4D	F	2.5	1.5	Class A Amplifier	180 275	- 31.5 - 56.0	— —	— —	31.0 36.0	1650 1700	2125 2050	3.5 3.5	2700 4600	0.82 2.00	
							Push-Pull Class AB <sub>1</sub> Amplifier	275 275	Cath. Bias, 775 ohms $\phi$ - 68.0 volts, fixed bias			36.0 $\phi$ 28.0 $\phi$						
45Z3	Half-Wave Rectifier	B0	5AM	H	45.0	0.075	Half-Wave Rectifier	Max. A-C Plate Volts (RMS), 117 Max. Peak Inverse Volts, 350									Max. D-C Output Ma., 65 Max. Peak Plate Ma., 390 Min. Total Effect. Plate-Supply Imped., 15 ohms.	

<b>45Z5-GT</b>	Half-Wave Rectifier Heater Tap for Pilot	C3	G-4AD†	H	45.0	0.15	With Capacitive-Input Filter	For other ratings, refer to Type 35Z5-4T.									
<b>46</b>	Dual-Grid Power Amplifier	E3	8C	F	2.5	1.75	Class A Amplifier □	250	-33.0	—	—	22.0	2380	2350	5.6	6400	1.25
							Class B Amplifier †	300 400	0	—	—	8.0 12.0	—	—	—	—	—
<b>47</b>	Power Amplifier Pentode	E3	8B	F	2.5	1.75	Class A Amplifier	250	-16.5	250	6.0	31.0	60000	2500	—	7000	2.7
<b>48</b>	Power Amplifier Tetrode	E3	8A	D.C. H	30.0	0.4	Tetrode	96	-19.0	96	9.0	52.0	—	3800	—	1500	2.0
							Class A Amplifier	125	-20.0	100	9.5	56.0	—	3900	—	1500	2.5
							Tetrode Push-Pull Class A Amplifier	125	-20.0	100	—	100.0	—	—	—	—	3000
<b>49</b>	Dual-Grid Power Amplifier	D12	8C	D.C. F	2.0	0.12	Class A Amplifier □	135	-20.0	—	—	6.0	4175	1125	4.7	11000	0.17
							Class B Amplifier †	180	0	—	—	4.0	—	—	—	—	12000
<b>50</b>	Power Amplifier Triode	F1a	4D	F	7.5	1.25	Class A Amplifier	300	-54.0	—	—	35.0	2000	1900	3.8	4600	1.6
								400	-70.0	—	—	55.0	1800	2100	3.8	3670	3.4
								450	-84.0	—	—	55.0	1800	2100	3.8	4350	4.6
<b>50A5</b>	Beam Power Amplifier	C2a	6AA	H	50.0	0.15	Class A Amplifier	For other characteristics, refer to Type 50L6-GT.									
<b>50B5</b>	Beam Power Amplifier	B3	7BZ	H	50.0	0.15	Class A Amplifier	For other characteristics, refer to Type 50C5.									
<b>50C5</b>	Beam Power Amplifier	B3	7CV	H	50.0	0.15	Class A Amplifier	110	-7.5	110	4.0	49.0	10000	7500	—	2500	1.9
<b>50C6-G</b>	Beam Power Amplifier	D10	7AC	H	50.0	0.15	Single-Tube Class A Amplifier	135	-13.5	135	3.5	58.0	9300	7000	—	2000	3.6
							Class A Amplifier	200	-14.0	135	2.2	61.0	18300	7100	—	2600	6.0
<b>50L6-GT</b>	Beam Power Amplifier	C3	G-7AC1	H	50.0	0.15	Single-Tube Class A Amplifier	110	-7.5	110	4.0	49.0	13000	8000	—	2000	2.1
							Class A Amplifier	200	0	125	2.2	46.0	28000	8000	—	4000	3.8
<b>50X6</b>	Rectifier-Doubler	C2a	7AJ	H	50.0	0.15	Rectifier-Doubler	Max. A-C Volts per Plate (RMS), 117 Max. D-C Output Ma., 75									
							Half-Wave Rectifier	Min. Total Effective Plate-Supply Impedance: Half-Wave, 30 ohms; Full-Wave, 15 ohms.									
<b>50Y6-GT</b>	Rectifier-Doubler	C3	G-7Q1	H	50.0	0.15	Rectifier-Doubler	Max. A-C Volts per Plate (RMS), 235 Max. D-C Output Ma. per Plate, 75									
							Min. Total Effect. Supply Imped. per Plate: Up to 117 volts, 15 ohms; at 150 volts, 40 ohms; at 235 volts, 100 ohms.										
<b>50Y7-GT</b>	Rectifier-Doubler Heater Tap for Pilot †	C2a	8AN	H	50.0	0.15	Voltage Doubler	Max. A-C Volts per Plate (RMS), 117 Max. D-C Output ma., 65									
							Half-Wave Rectifier	Min. Total Effect. Plate-Supply Imped. per Plate: Up to 117 volts, 15 ohms; at 150 volts, 40 ohms; at 235 volts, 100 ohms									

Discontinued types are shown in light face.

Type	Name	Tube Dimensions and Socket Connections		Cathode Type and Rating			Use <small>Values to right give operating conditions and characteristics for indicated typical use</small>	Plate Supply Volts	Grid Bias m Volts	Screen Supply Volts	Screen Current Ma	Plate Current Ma	AC Plate Resistance Ohms	Trans-conductance (Grid-plate) $\mu$ mbas	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts
		Dimen.	S. C.	C. T.	Volts	Amp.											
50Z7-G	Rectifier-Doubler Heater Tap for Pilot $\phi$	D3	G-8AN	H	50.0	0.15	Voltage Doubler	Max. A-C Volts per Plate (RMS), 117		Min. Total Effective Plate-Supply Impedance: 15 ohms.							
							Half-Wave Rectifier	Max. A-C Volts per Plate (RMS), 235		Min. Total Effective Plate-Supply Impedance per Plate: Up to 117 volts, 15 ohms; at 235 volts, 100 ohms.							
53	Twin-Triode Amplifier	D12	7B	H	2.5	2.0	Amplifier	For other characteristics, refer to Type 6N7-GT.									
55	Duplex-Diode Triode	D9	6Q	H	2.5	1.0	Triode Unit as Amplifier	For other characteristics, refer to Type 85.									
56	Medium-Mu Triode*	D5	5A <sub>1</sub>	H	2.5	1.0	Amplifier Detector	For other characteristics, refer to Type 76.									
57	Sharp-Cutoff Pentode	D13	6F	H	2.5	1.0	Amplifier Detector	For other characteristics, refer to Type 6J7.									
58	Remote-Cutoff Pentode	D13	6F	H	2.5	1.0	Amplifier Mixer	For other characteristics, refer to Type 6U7-G.									
59	Triple-Grid Power Amplifier	E3	7A	H	2.5	2.0	Triode† Class A Amplifier	250	-28.0	—	—	26.0	2300	2600	6.0	5000	1.25
							Pentode** Class A Amplifier	250	-18.0	250	9.0	35.0	55000	2500	—	6000	3.0
							Triode* Class B Amplifier	300 400	0 0	—	—	20.0 $\phi$ 26.0 $\phi$	—	—	—	4800 6000	15.0† 20.0†
70L7-GT	Rectifier-Beam Power Amplifier	C10	8AA	H	70.0	0.15	Amplifier Unit as Class A Amplifier	110	-7.5	110	3.0	40.0	15000	7500	—	2000	1.8
							Half-Wave Rectifier	Max. A-C Plate Volts (RMS), 117		Max. D-C Output Ma., 70		Min. Total Effect. Plate-Supply Imped., 15 ohms					
71-A	Power Amplifier Triode	D12	4D	F	5.0	0.25	Class A Amplifier	90 180	-16.5 -40.5	—	—	10.0 20.0	2170 1750	1400 1700	3.0 3.0	3000 4800	0.125 0.790
							Amplifier	For other characteristics, refer to Type 6SQ7.									
76	Detector Amplifier Triode*	D8	5A <sub>1</sub>	H	6.3	0.3	Class A Amplifier	250	-13.5	—	—	5.0	9500	1450	13.8	—	—
							Bias Detector	250	[-20.0] approx.	—	—	Plate current to be adjusted to 0.2 milliampere with no signal.					

77	Triple-Grid Detector Amplifier	D9	8F	H	6.3	0.3	Class A Amplifier	100 250	- 1.5 - 3.0	60 100	0.4 0.5	1.7 2.3	600000 1.0+†	1100 1250	—	—	—
							Bias Detector	250	- 1.95	50	Cathode current 0.65 ma		—	Plate Resistor, 250000 ohms. Grid Resistor,** 250000 ohms.			
78	Remote-Cutoff Pentode	D9	8F	H	6.3	0.3	Amplifier Mixer	For other characteristics, refer to Type 6K7.									
79	Twin-Triode Amplifier	D9	8H	H	6.3	0.6	Class B Amplifier	180 250	0 0	—	—	Power Output is for one tube at stated plate-to-plate load			7000 14000	5.5 8.0	
80	Full-Wave Rectifier	D12	4C	F	5.0	2.0	For other ratings, refer to Type 5Y3-GT										
81	Half-Wave Rectifier	F1a	4B	F	7.5	1.25	With Capacitive- Input Filter	Max A-C Plate Volts (RMS), 700 Max Peak Inverse Volts, 2000				Max. D-C Output Ma., 85 Max Peak Plate Ma., 500					
82	Full-Wave Rectifier	D12	4C	F	2.5	3.0	With Capacitive- Input Filter	Max. A-C Volts per Plate (RMS), 450 Max Peak Inverse Volts, 1550		Max. D-C Output Ma., 115 Max Peak Plate Ma., 600		Min. Total Effect. Supply Imped. per Plate, 50 ohms.					
							With Inductive- Input Filter	Max. A-C Volts per Plate (RMS), 550 Max. Peak Inverse Volts, 1550		Max. D-C Output Ma., 115 Max Peak Plate Ma., 600		Min. Value of Input Choke, 6 henries					
83	Full-Wave Rectifier	E3	4C	F	5.0	3.0	With Capacitive- Input Filter	Max. A-C Volts per Plate (RMS), 450 Max Peak Inverse Volts, 1550		Max. D-C Output Ma., 225 Max Peak Plate Ma., 1000		Min. Total Effect. Supply Imped. per Plate, 50 ohms.					
							With Inductive- Input Filter	Max. A-C Volts per Plate (RMS), 550 Max. Peak Inverse Volts, 1550		Max. D-C Output Ma., 225 Max. Peak Plate Ma., 1000		Min. Value of Input Choke, 3 henries					
83-V	Full-Wave Rectifier	D12	4AD	H	5.0	2.0	For other ratings, refer to Type 5V4-G.										
84/6Z4	Full-Wave Rectifier	D5	8D	H	6.3	0.5	With Capacitive- Input Filter	Max. A-C Volts per Plate (RMS), 325 Max Peak Inverse Volts, 1250		Max. D-C Output Ma., 60 Max Peak Plate Ma., 180		Min. Total Effect. Supply Imped. per Plate, 150 ohms.					
							With Inductive- Input Filter	Max. A-C Volts per Plate (RMS), 450 Max Peak Inverse Volts, 1250		Max. D-C Output Ma., 60 Max Peak Plate Ma., 180		Min. Value of Input Choke, 10 henries					
85	Duplex-Diode Triode	D9	8Q	H	6.3	0.3	Triode Unit as Class A Amplifier	135 250	- 10.5 - 20.0	—	—	3.7 8.0	11000 7500	750 1100	8.3 8.3	25000 20000	0.075 0.350
89	Triple-Grid Power Amplifier	D9	8F	H	6.3	0.4	As Triode†	160	- 20.0	—	—	17.0	3300	1425	4.7	7000	0.30
							Class A Amplifier	250	- 31.0	—	—	32.0	2600	1800	4.7	5500	0.90
							As Pentode**	100	- 10.0	100	1.6	9.5	104000	1200	—	10700	0.33
							Class A Amplifier	250	- 25.0	250	5.0	32.0	70000	1800	—	6750	3.40
							As Triode†	180	0	—	—	6.0†	—	—	—	13600	2.50†
							Class B Amplifier	—	—	—	—	—	—	—	—	9400	3.50†
V-99 X-99	Detector* Amplifier Triodes	C4 D1	4E 4D	D.C. F	3.3	0.063	Class A Amplifier	90	- 4.5	—	—	2.5	15500	425	6.6	—	—

Discontinued types are shown in light face.

Type	Name	Tube Dimensions and Socket Connections		Cathode Type and Rating			Use <small>Values to right give operating conditions and characteristics for indicated typical use</small>	Plate Supply Volts	Grid Bias Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Trans-conductance (Grid-plate) $\mu$ ohms	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts
		Dimen.	I. C.	C. T.	Volts	Amp.											
112-A	Detector* Amplifier Triode	D12	4D	D.C. F	5.0	0.25	Class A Amplifier	90 180	- 4.5 -13.5	—	—	5.0 7.7	5400 4700	1575 1800	8.5 8.5	—	—
117L7/M7-GT	Rectifier-Beam Power Amplifier	C5b	8A0	H	117	0.09	Amplifier Unit as Class A Amplifier	105	- 5.7	105	4.0	43.0	17000	5300	—	4000	0.85
117N7-GT	Rectifier-Beam Power Amplifier	C5b	8AV	H	117	0.09	Amplifier Unit as Class A Amplifier	Max. A-C Plate Volts (RMS), 117		Max. D-C Output Ma., 75		Min. Total Effect. Plate-Supply Imped., 15 ohms.					
							Half-Wave Rectifier	Max. Peak Inverse Volts, 350		Max. Peak Plate Ma., 450							
117P7-GT	Rectifier-Beam Power Amplifier	C5b	8AV	H	117	0.09	Amplifier Unit as Class A Amplifier	100	- 6.0	100	5.0	51.0	16000	7000	—	3000	1.2
							Half-Wave Rectifier	Max. A-C Plate Volts (RMS), 117		Max. D-C Output Ma., 75		Min. Total Effect. Plate-Supply Impedance, 15 ohms.					
								For other characteristics, refer to Type 117L7/M7-GT.									
								For other ratings, refer to Type 117L7/M7-GT.									
117Z3	Half-Wave Rectifier	B1a	4CB	H	117	0.04	With Capacitive-Input Filter	Max. A-C Plate Volts (RMS), 117		Max. D-C Output Ma., 90		Min. Total Effect. Plate-Supply Imped., 15 ohms					
								Max. Peak Inverse Volts, 330		Max. Peak Plate Ma., 540							
117Z4-GT	Half-Wave Rectifier	C0	G-5AA	H	117.0	0.04	With Capacitive-Input Filter	Max. A-C Plate Volts (RMS), 117		Max. D-C Output ma., 90		Min. Total Effect. Plate-Supply Imped., 30 ohms					
								Max. Peak Inverse Volts, 350		Max. Peak Plate ma., 540							
117Z6-GT	Rectifier-Doubler	C3	G-7Q1	H	117	0.075	Voltage Doubler	Max. A-C Volts per Plate (RMS), 117		Min. Total Effective Plate-Supply Impedance per Plate: Half-Wave, 30 ohms; Full-Wave, 15 ohms.							
							Half-Wave Rectifier	Max. D-C Output Ma., 60									
								Max. A-C Volts per Plate (RMS), 235		Min. Total Effect. Supply Imped. per Plate: Up to 117 volts, 15 ohms; at 150 volts, 40 ohms; at 235 volts, 100 ohms.							
183/483	Power Amplifier Triode	D12	4D	F	5.0	1.25	Class A Amplifier	250	- 60.0	—	—	30.0	1750	1700	3.0	5000	1.8
485	Detector Amplifier Triode	D6	6A1	H	3.0	1.25	Class A Amplifier	180	- 9.0	—	—	5.8	8900	1400	12.5	—	—
876	Current Regulator	G1	—	F	—	—	Voltage Range.....	40 to 60 Volts				Operating Current.....1.7 Amperes					
886	Current Regulator	G1	—	F	—	—	Voltage Range.....	40 to 60 Volts				Operating Current.....2.05 Amperes					

Discontinued types are shown in light face.

## KEY TO TUBE DIMENSIONS

Symbol	Maximum Length + Overall Diameter	Symbol	Maximum Length + Overall Diameter	Symbol	Maximum Length + Overall Diameter	Symbol	Maximum Length + Overall Diameter	Symbol	Maximum Length + Overall Diameter
A	1 1/2" x 3/8"	B5	2 1/2" x 1 1/8"	C10	3 1/2" x 1 1/8"	D9	4 1/2" x 1 1/8"	G1a	1 1/2" x 2 1/8"
A1	1 1/2" x 3/8"	B5a	2 1/2" x 1 1/8"	C10a	3 1/2" x 1 1/8"	D9a	4 1/2" x 1 1/8"	H1	1 1/2" x 5/8"
A1a	1 1/2" x 1 1/8"	C0	3" x 1 1/8"	C11	3 1/2" x 1 1/8"	D10	4 1/2" x 1 1/8"	I1	14 1/2" x 7 1/8"
B0	2 1/2" x 3/8"	C0a	3 1/8" x 1 1/8"	D1	4" x 1 1/8"	D12	4 1/2" x 1 1/8"	J	14 1/2" x 7 1/8"
B0a	2 1/8" x 1 1/8"	C1	3 1/8" x 1 1/8"	D2	4 1/8" x 1 1/8"	D12a	4 1/2" x 1 1/8"	K	14 1/2" x 7 1/8"
B0b	2 1/8" x 1 1/8"	C2	3 1/8" x 1 1/8"	D2a	4 1/8" x 1 1/8"	D13	4 1/2" x 1 1/8"	L	17 1/2" x 16"
B0c	2 1/8" x 1 1/8"	C2a	3 1/8" x 1 1/8"	D3	4 1/8" x 1 1/8"	E1	5 1/2" x 1 1/8"	M	18" x 10 1/2"
B1	2 1/8" x 1 1/8"	C3	3 1/8" x 1 1/8"	D4	4 1/8" x 1 1/8"	E2	5 1/8" x 1 1/8"	N	19 1/2" x 12 1/8"
B1a	2 1/8" x 1 1/8"	C5	3 1/8" x 1 1/8"	D5	4 1/8" x 1 1/8"	E3	5 1/2" x 2 1/8"	O	21 1/2" x 9 1/8"
B2	2 1/8" x 1 1/8"	C5a	3 1/8" x 1 1/8"	D7	4 1/8" x 1 1/8"	F1	5 1/8" x 2 1/8"	P	22 1/2" x 16"
B3	2 1/8" x 1 1/8"	C9a	3 1/8" x 1 1/8"	D8	4 1/8" x 1 1/8"	F1a	6 1/8" x 2 1/8"	P0	22 1/2" x 16"
B4	2 1/8" x 1 1/8"			D8a	4 1/8" x 1 1/8"	G1	8" x 2 1/8"	Q	25 1/2" x 12 1/8"

- ★ For Grid-leak Detection—plate volts, 45; grid return to + filament or to cathode.
- Either ac or dc may be used on filament or heater, except as specifically noted. For use of dc on ac filament types, decrease stated grid volts by 1/2 (approx.) of filament voltage.
- Supply voltage applied through 20000-ohm voltage-dropping resistor.
- ▶ Mercury-Vapor Type.
- Grid #1 is control grid. Grid #2 is screen. Grid #3 tied to cathode.
- ¶ Grid #1 is control grid. Grids #2 and #3 tied to plate.
- Grids #1 and #2 connected together. Grid #3 tied to plate.
- Grids #3 and #5 are screen. Grid #4 is signal-input control grid.
- ▲ Grids #2 and #4 are screen. Grid #1 is signal-input control grid.
- For grid of following tube.
  - Both grids connected together; likewise, both plates.
  - † Power output is for two tubes at stated plate-to-plate load.
  - ◆ For two tubes.
  - ‡ This diagram is like the one having the same designation without the prefix G, except that Pin No. 1 has no connection.
  - ◆ Obtained preferably by using 70000-ohm voltage-dropping resistor in series with a 90-volt supply
  - ◆ This diagram is like the one having the same designation with the prefix G, except that base sleeve is connected to Pin No. 1. ■ Panel lamp section is between pins 2 and 6.
  - ◆ For television damper service.

- ‡‡ This diagram is like the one having the same designation without the prefix G, except that Pin No. 1 is connected to internal shield.
- ‡ Panel lamp section is between pins 2 and 3.
- ‡• Grids #2 and #3 tied to plate.
- ▲▲ Both grids connected together; likewise both cathodes.
- ‡• This diagram is like the one having the same designation without the prefix GT, except that the base sleeve is connected to Pin No. 1.
- Applied through plate resistor of 250000 ohms or 500-henry choke shunted by 0.25-megohm resistor.
  - ‡ Maximum.
  - ‡ Megohms.
  - 50000 ohms.
  - Grids #1 and #2 tied together.
- ♥ Applied through plate resistor of 100000 ohms.
- × Applied through plate resistor of 250000 ohms.
- Grid #2 tied to plate.
- Applied through plate resistor of 150000 ohms.
- ‡ For signal-input control-grid (#1); control-grid #3 bias, -3 volts.
- ▲ Grids #2 and #4 are screen. Grid #3 is signal-input control grid.
- Notes 1: Types with octal bases have *Miniature Cap*; all others have *Small Cap*.
- Notes 2: Subscript 1 on class of amplifier service (as AB<sub>1</sub>) indicates that grid current does not flow during any part of input cycle.
- Subscript 2 on class of amplifier service (as AB<sub>2</sub>) indicates that grid current flows during some part of the input cycle.

# LEGEND FOR BASE AND ENVELOPE CONNECTION DIAGRAMS

Bottom Views

## KEY TO TERMINAL DESIGNATIONS

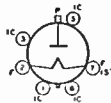
Subscripts B, D, HP, HX, P, T, and TR indicate, respectively, beam unit, diode unit, heptode unit, hexode unit, pentode unit, triode unit, and tetrode unit in multi-unit types.

BC - Base Sleeve  
 BS - Base Shell  
 DJ - Deflecting Electrode  
 ES - External Shield  
 F - Filament  
 FM - Filament Mid-Tap

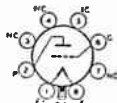
G - Grid  
 H - Heater  
 HL - Heater Tap for  
 Panel Lamp  
 H<sub>M</sub> - Heater Mid-Tap

IC - Internal Connection-  
 Do Not Use  
 IS - Internal Shield  
 K - Cathode  
 NC - No Connection

P - Plate (Anode)  
 RC - Ray-Control Electrode  
 S - Shell  
 TA - Target  
 U - Unit  
 ● - Gas-Type Tube



3C



4AA



4AD



4B



4BU



4C

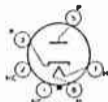


4C1





4CB



4CG



4D

4D<sub>1</sub>

4E



4F



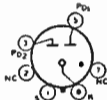
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4K



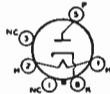
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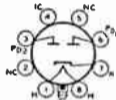
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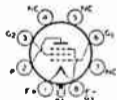
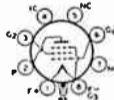
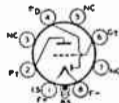
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5A<sub>1</sub>

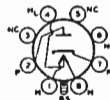
G-5AA



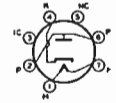
5AB

SAC<sub>1</sub>SAC<sub>2</sub>SAD<sub>1</sub>SAD<sub>2</sub>

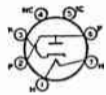
SAG



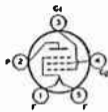
SAL



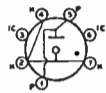
SAM



SAP2



SB



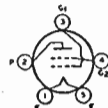
SBQ



SBS



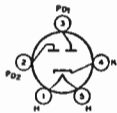
SBT



SC



SCE



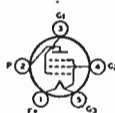
SD



SE



SF



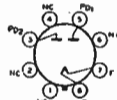
SK



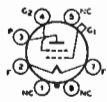
SL



SM1



G-5Q



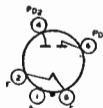
G-5R



G-5S7



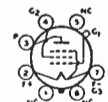
G-5S8



ST



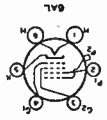
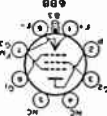
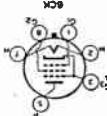
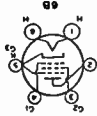
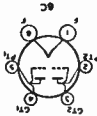
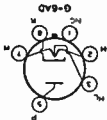
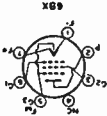
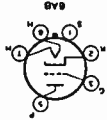
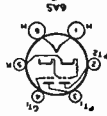
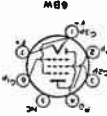
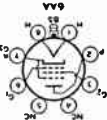
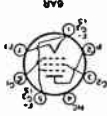
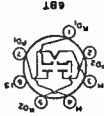
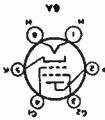
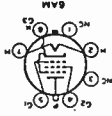
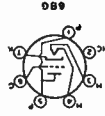
GT-5U



G-5Y

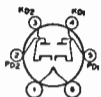


GT-5Z





6D



6E



6F



6G



6H



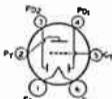
6J



6K



6L



6M



6Q



6R



6S



G-6S



6W



G-6X



7A



G-7AA



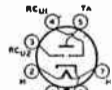
G-7AB



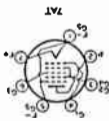
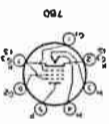
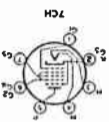
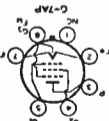
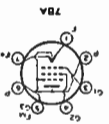
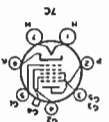
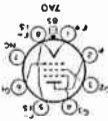
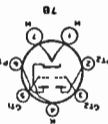
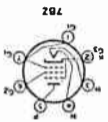
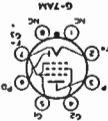
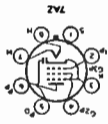
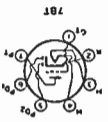
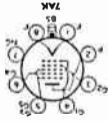
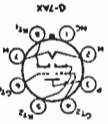
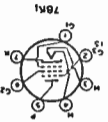
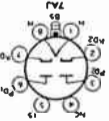
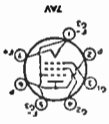
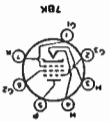
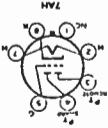
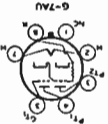
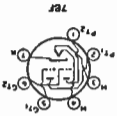
7AC



G-7AF

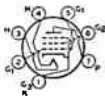


7AG





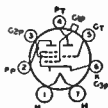
7CM



7CV



7D



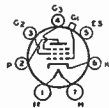
7E



7F



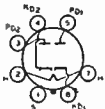
7G



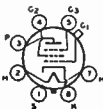
7H



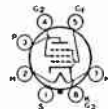
7K



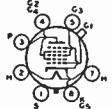
7Q



7R



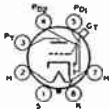
7S



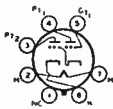
7T



G-7U



7V



G-7W



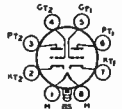
G-7Z



8A



8AA



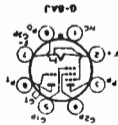
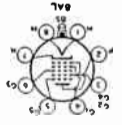
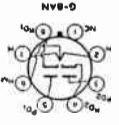
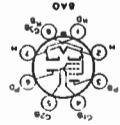
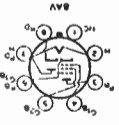
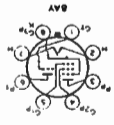
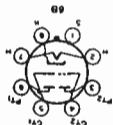
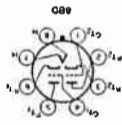
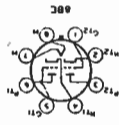
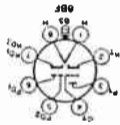
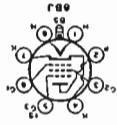
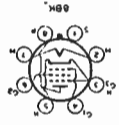
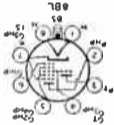
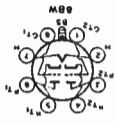
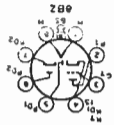
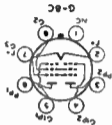
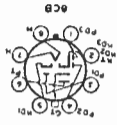
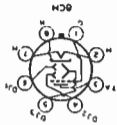
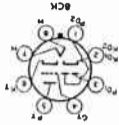
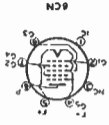
8AC



G-8AD



8AC



US



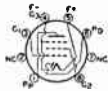
BCP



BCP1



BCT



BDA



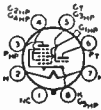
BE



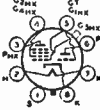
BF



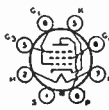
B-G



G-BH



BH



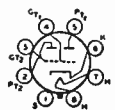
BN



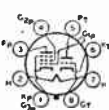
BQ



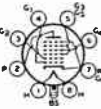
BR



BS



BT



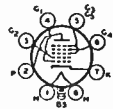
BU



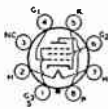
BV



BW



BX



BV

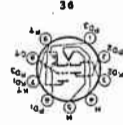
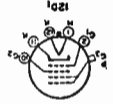
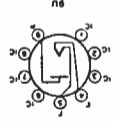
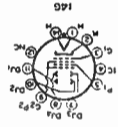
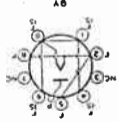
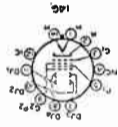
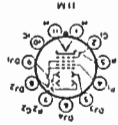
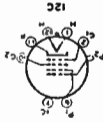


BZ



9A





# RCA QUICK SELECTION GUIDE

## Power, Cathode-Ray, Photo—, and Special Tubes for Radio and Industry

### VACUUM POWER TUBES

TYPE	MAX. DIMENSIONS INCHES			AMPLIFI- CATION FACTOR	MAX. PLATE RATINGS*	
	Cathode Volts	Length	Diam.		DC VOLTS	DISSI- PATION WATTS
<b>TRIODES (AIR-COOLED)</b>						
3C33	12.6	3 1/8	2 3/8	11b	±2000	15
10-Y	7.5	5 3/8	2 1/8	8	450	15
203-A	10	7 7/8	2 1/8	25	1250	100
204-A	11	14 3/8	4 1/8	23	2500	250
211	10	7 7/8	2 1/8	12	1250	100
304TH	5/10	7 5/8	1 1/2*	20	3000	300
800	7.5	6 3/8	2 1/8	15	1250	35
801-A	7.5	5 3/8	2 1/8	8	600	20
805	10	8 1/2	2 1/8	variable	1500	125
806	5	10	3 1/2	12.6	3300†	225†
808	7.5	6 1/8	2 1/8	47	2000†	75†
809	6.3	6 1/8	2 1/8	50	1000†	30†
810	10	8 3/4	2 1/4*	36	2500†	175†
811-A	6.3	6 2/8	2 1/8	160	1500†	65†
812-A	6.3	6 3/8	2 1/8	29	1500†	65†
826	7.5	3 1/8	2 3/8	31	1000†	55†
830-B	10	6 1/8	2 1/8	25	1000	60
833-A	10	8 1/8	4 1/2	35	4000†	450†
834	7.5	6 7/8	2 1/8	10.5	1250	50
835	10	7 7/8	2 1/8	12	1250	100
838	10	7 7/8	2 1/8	variable	1250	100
841	7.5	5 3/8	2 1/8	30	450	15
842	7.5	5 3/8	2 1/8	3	425	12
843	2.5	5 3/8	2 1/8	7.7	450	15
845	10	7 7/8	2 1/8	5.3	1250	100
849	11	14 3/8	4 1/8	19	2500	400
851	11	17 5/8	6 1/8	20.5	2500	750
1608	2.5	5 3/8	2 1/8	20	425	20
1623	6.3	6 1/8	2 1/8	20	1000†	30†
1626	12.6	4 1/8	1 1/8	5	250	5
5556	4.5	5 5/8	2 1/8	8.5	350	10
8000	10	8 3/4	2 1/4*	16.5	2500†	175†
8003	10	8 1/2	2 1/8	12	1350	100
8005	10	6 1/8	2 1/8	20	1500†	85†
8012-A	6.3	3 1/8	1 1/8*	18	1000	40
8025-A	6.3	4 1/8	1 5/16*	18	1000†	30†

†For Intermittent Commercial and Amateur Service. \*Maximum Radius.

\*Absolute values for Continuous Commercial Service, unless otherwise specified. b Per Unit.

# RCA QUICK SELECTION GUIDE

## VACUUM POWER TUBES (cont'd)

TYPE	MAX. DIMENSIONS INCHES			AMPLIFI- CATION FACTOR	MAX. PLATE RATINGS*	
	Cathode Volts	Length	Diam.		DC VOLTS	DISSI- PATION WATTS
<b>TRIODES (WATER-COOLED)</b>						
9C21	19.5	24½	9½	20	17000	40000
207	22	20¾	6½*	36	15000	10000
846	11	9½	3¾*	40	7500	2500
858	22	24½	7½*	42	20000	20000
862-A	33	60¾	10*	45	20000	100000
880	12.6	11¾	7	20	10500	20000
889-A	11	10½	3⅝	21	8500	5000
891	11#	20⅞	6½*	8.5	12000	6000
892	11#	20⅞	6½*	50	15000	10000
893-A	10‡	26¾	6¾*	36	20000	20000
898-A	33#	60¾	10*	45	20000	100000
5770	11	24½	9½	39	17000	50000
5771	7.5	11¼	7	20	12500	22500
<b>TRIODES (FORCED-AIR-COOLED)</b>						
4C33	5	4⅞	2⅞	25	13000‡	250‡
6C24	11	6½	1¾	30	3000	600
7C24	12.6	7½	4½	29	5000	2000
9C22	19.5	25	8½*	36	17000	20000
9C25	6	17¾	14¼	32	11500	17500
889R-A	11	11¾	5⅞*	21	8500	5000
891-R	11#	22	6½*	8.5	10000	4000
892-R	11#	22	6½*	50	12500	4000
893A-R	10*	28	8½*	36	20000	20000
5588	6.3	3½	1¾	18	1000	200
5592	11	17¾	14¼	32	11500	17500
5671	11	25	16½	39	15000	25000
5713	3.3	4⅞	2⅞	25	1500	250
5762	12.6	7½	4½	29	5250	2500
5786	11	10	2¾	30	3000	600
5831	6	38¾	8½	25	16000	150000
<b>TETRODES (WATER-COOLED)</b>						
8D21	3.2	12¾	5¾	5§b	6000	6000
<b>TETRODES (FORCED-AIR-COOLED)</b>						
4X150A	6	2½	1⅝	5§	1250	150
4X500A	5	4¾	2⅞	6.2§	4000	500
827-R	7.5	6⅞	4¾	16§	3500	800

\*Maximum Radius. #Per Section.

•Absolute values for Continuous Commercial Service, unless otherwise specified.

§Grid-Screen Mu-Factor. b Per Unit. \*Per Strand.

‡Pulsed Oscillator Operation—Class C Plate Modulated.

▷Approx.

# RCA QUICK SELECTION GUIDE

## VACUUM POWER TUBES (cont'd)

TYPE	Cathode Volts	MAX. DIMENSIONS INCHES		Transcon- ductance Micro- mhos	MAX. PLATE RATINGS*		
		Length	Diam.		DC VOLTS	DISSI- PATION WATTS	
<b>BEAM POWER TUBES AND PENTODES (AIR-COOLED)</b>							
2E24	6.3	3 $\frac{3}{4}$	1 $\frac{5}{8}$	3200	600†	13.5†	
2E26	6.3	4 $\frac{3}{8}$	2 $\frac{3}{8}$	3500	600†	13.5†	
3E22	6.3/12.6	4 $\frac{5}{8}$	2 $\frac{3}{8}$	4000	600☆	35☆	
3E29★	6.3/12.6	4 $\frac{5}{8}$	2 $\frac{3}{8}$	.....	5000	15	
4E27/8001	5	6 $\frac{3}{8}$	2 $\frac{1}{8}$	2800	4000	75	
4E27A/ 5-125B	5.0	6 $\frac{3}{8}$	2 $\frac{3}{4}$	2150	4000	125	
802	6.3	5 $\frac{3}{4}$	2 $\frac{1}{8}$	2250	600†	13†	
803	10	9 $\frac{1}{4}$	2 $\frac{1}{8}$	4000	2000	125	
804	7.5	7 $\frac{1}{8}$	2 $\frac{1}{8}$	3250	1500†	50†	
807	6.3	5 $\frac{3}{4}$	2 $\frac{1}{8}$	6000	750†	30†	
813	10	7 $\frac{1}{2}$	2 $\frac{1}{8}$	3750	2250†	125†	
814	10	7 $\frac{1}{8}$	2 $\frac{1}{8}$	3300	1500†	65†	
815	6.3/12.6	4 $\frac{5}{8}$	2 $\frac{3}{8}$	4000	500†	25†	
828	10	7 $\frac{1}{8}$	2 $\frac{1}{8}$	2700	1500†	80†	
829-B	6.3/12.6	4 $\frac{1}{8}$	2 $\frac{3}{8}$	8500	750†	40†	
832-A	6.3/12.6	3 $\frac{5}{8}$	2 $\frac{3}{8}$	3500	750†	20†	
837	12.6	5 $\frac{3}{4}$	2 $\frac{1}{8}$	3400	500	12	
1610	2.5	5 $\frac{3}{8}$	2 $\frac{1}{8}$	2500	400	6	
1613	6.3	3 $\frac{1}{4}$	1 $\frac{5}{8}$	2500	350	10	
1614	6.3	4 $\frac{1}{8}$	1 $\frac{5}{8}$	6050	450†	25†	
1619	2.5	4 $\frac{1}{8}$	1 $\frac{5}{8}$	4500	400	15	
1624	2.5	5 $\frac{3}{4}$	2 $\frac{1}{8}$	4000	600	25	
1625	12.6	5 $\frac{3}{4}$	2 $\frac{1}{8}$	6000	750†	30†	
5618	3.0/6.0	2 $\frac{5}{8}$	$\frac{3}{4}$	3600	300†	5†	
5763	6	2 $\frac{5}{8}$	$\frac{7}{8}$	7000	300	12	

## TETRODES (AIR-COOLED)

4-65A	6	4 $\frac{3}{8}$	2 $\frac{3}{8}$	5§	3000	65
4-125A/4D21	5	5 $\frac{1}{8}$	2 $\frac{7}{8}$	6.2§	3000	125
4-250A/5D22	5	6 $\frac{3}{8}$	3 $\frac{1}{4}$	5.15§	4000	250
715-C	26	5 $\frac{7}{8}$	2 $\frac{5}{8}$	—	15000¶	60¶
860	10	8 $\frac{3}{4}$	4 $\frac{1}{4}$ *	1100	3000	100
861	11	17 $\frac{7}{8}$	6 $\frac{5}{8}$ *	2400	3500	400
865	7.5	5 $\frac{3}{4}$	2 $\frac{1}{8}$	750	750	15
5890	6.3	6 $\frac{3}{4}$	1 $\frac{1}{2}$	5§	30000	10

\*Absolute values for Continuous Commercial Service, unless otherwise specified.

†For Intermittent Commercial and Amateur Service.

¶Pulsed Rectangular-Wave Modulator Service (with Inductive Load). ☆For Intermittent Mobile Service.

§Grid-Screen Mu-Factor. \*Maximum Radius.

★Similar to Type 829-B but for pulsed operation.

# RCA QUICK SELECTION GUIDE

## THYRATRONS

TYPE	Cathode Volts	MAX. DIMENSIONS INCHES		MAX. ANODE RATINGS	
		Length	Diam.	PEAK INV. VOLTS	AV. AMP.
<b>TRIODES</b>					
2A4-G	2.5	4 $\frac{1}{8}$	1 $\frac{9}{16}$	200	0.1
3C23	2.5	6 $\frac{1}{8}$	2 $\frac{1}{16}$	1250	1.5
627	2.5	7	2 $\frac{7}{16}$	2500	0.64
629	2.5	4 $\frac{1}{4}$	1 $\frac{9}{16}$	350	0.04
676	5	11 $\frac{3}{4}$	3 $\frac{1}{8}$	2500	6.4
677	5	11 $\frac{3}{4}$	3 $\frac{1}{8}$	10000	4.0
884	6.3	4 $\frac{1}{8}$	1 $\frac{9}{16}$	350	0.075
885	2.5	4 $\frac{9}{16}$	1 $\frac{9}{16}$	350	0.075
1904	5	7	3	1000	2.5
5557	2.5	6 $\frac{5}{8}$	2 $\frac{7}{16}$	5000	0.5
5559	5	7 $\frac{1}{4}$	3	1000	2.5
5563	5	11 $\frac{1}{16}$	3 $\frac{7}{8}$	15000	1.6

## TETRODES

2D21	6.3	2 $\frac{1}{8}$	$\frac{3}{4}$	1300	0.1
3D22	6.3	4 $\frac{5}{8}$	2 $\frac{3}{8}$	1300	0.75
105	5	11 $\frac{1}{4}$	2 $\frac{1}{8}$ *	2500	6.4
172	5	10 $\frac{3}{4}$	2 $\frac{5}{8}$ *	2000	6.4
502-A	6.3	2 $\frac{1}{2}$	1 $\frac{1}{8}$	1300	0.1
672-A	5	8 $\frac{3}{8}$	2 $\frac{1}{8}$	2500	3.2
2050	6.3	4 $\frac{1}{8}$	1 $\frac{9}{16}$	1300	0.1
5560	5	7 $\frac{1}{8}$	2 $\frac{1}{4}$ *	1000	2.5
5696	6.3	1 $\frac{3}{4}$	$\frac{3}{4}$	500	0.025

## IGNITRONS

TYPE	Size	MAX. DIMENSIONS INCHES		MAX. ANODE RATINGS††	MAX. ANODE RATING*†		
		Approx. Length	Radius	KVA Demand	Correspond- ing Av. Anode Amp.	Peak Inv. Volts	Av. Amp.
5550	(A)	10	1 $\frac{3}{8}$	300	12.1	.....	.....
5551	(B)	13 $\frac{1}{2}$	2 $\frac{7}{8}$	600	30.2	.....	.....
5552	(C)	14 $\frac{1}{2}$	3 $\frac{5}{8}$	1200	75.6	.....	.....
5553	(D)	20	4 $\frac{1}{8}$	2400	192.	.....	.....
5554		17 $\frac{1}{2}$	3 $\frac{1}{8}$	.....	.....	2100	75
5555		18 $\frac{1}{2}$	4 $\frac{9}{16}$	.....	.....	2100	150

\*Maximum Radius. ††For Welding-control.

\*†For power rectification.

## PHOTOTUBES

TYPE	MAX. DIMENSIONS INCHES		MAX. ANODE- SUPPLY VOLTS	LUMINOUS SENSITIVITY MICROAMP. PER LUMEN	SPEC- TRAL RE- SPONSE
	Length	Diam.			
<b>GAS TYPES</b>					
1P29	4 $\frac{1}{8}$	1 $\frac{1}{8}$	100	40	S-3
1P37	4 $\frac{1}{8}$	1 $\frac{1}{8}$	100	135	S-4
1P40	Same as type 930 except for non-hygroscopic base.				
1P41	2 $\frac{1}{8}$	1 $\frac{1}{8}$	90	90	S-1
868	4 $\frac{1}{8}$	1 $\frac{1}{8}$	100	90	S-1
918	4 $\frac{1}{8}$	1 $\frac{1}{8}$	90	150	S-1
920¶	4	1 $\frac{1}{8}$	90	100	S-1
921	1 $\frac{3}{8}$	1 $\frac{1}{8}$	90	135	S-1
923	3 $\frac{1}{8}$	1 $\frac{1}{8}$	90	135	S-1
924	2 $\frac{1}{8}$	1 $\frac{1}{8}$	90	90	S-1
927	2 $\frac{1}{8}$	1 $\frac{1}{8}$	90	125	S-1
928	3 $\frac{1}{8}$	1 $\frac{1}{8}$	90	65	S-1
930	3 $\frac{1}{8}$	1 $\frac{1}{8}$	90	135	S-1
5581	3 $\frac{1}{8}$	1 $\frac{1}{8}$	100	135	S-4
5582	1 $\frac{3}{8}$	1 $\frac{1}{8}$	100	120	S-4
5583	2 $\frac{1}{8}$	1 $\frac{1}{8}$	100	135	S-4
5584	4	1 $\frac{1}{8}$	100	120	S-4

## VACUUM TYPES

1P39	Same as type 929 except for non-hygroscopic base.				
1P42	1 $\frac{1}{8}$	1 $\frac{1}{4}$	180	30	S-9
917	4 $\frac{1}{8}$	1 $\frac{1}{8}$	500	20	S-1
919	4 $\frac{1}{8}$	1 $\frac{1}{8}$	500	20	S-1
922	1 $\frac{3}{8}$	1 $\frac{1}{8}$	500	20	S-1
925	2 $\frac{3}{8}$	1 $\frac{1}{8}$	250	20	S-1
926	1 $\frac{3}{8}$	1 $\frac{1}{8}$	500	6.5	S-3
929	3 $\frac{1}{8}$	1 $\frac{1}{8}$	250	45	S-4
934	2 $\frac{1}{8}$	1 $\frac{1}{8}$	250	30	S-4
935	4 $\frac{1}{4}$	1 $\frac{1}{8}$	250	35	S-5
5652**	2 $\frac{7}{8}$	1 $\frac{1}{8}$	250	45	S-4

## MULTIPLIER PHOTOTUBES

TYPE	MAX. DIMENSIONS INCHES		MAX. ANODE- SUPPLY VOLTS	LUMINOUS SENSITIVITY MICROAMP. PER LUMEN	SPECTRAL RESPONSE
	Length	Diam.			
1P21	3 $\frac{1}{8}$	1 $\frac{1}{8}$	1250	80.0x10 <sup>6</sup>	S-4
1P22	3 $\frac{1}{8}$	1 $\frac{1}{8}$	1250	0.6x10 <sup>6</sup>	S-8
1P28	3 $\frac{1}{8}$	1 $\frac{1}{8}$	1250	20.0x10 <sup>6</sup>	S-5
931-A	3 $\frac{1}{8}$	1 $\frac{1}{8}$	1250	20.0x10 <sup>6</sup>	S-4
5819	5 $\frac{1}{8}$	2 $\frac{1}{4}$	1250	24.0x10 <sup>6</sup>	S-9

¶Twin Type. \*\*Composite anode—cathode type.

# RCA QUICK SELECTION GUIDE

## GLOW-DISCHARGE (COLD-CATHODE) TUBES

### VOLTAGE-REGULATOR TYPES

TYPE	MAX. DIMENSIONS INCHES		OPERATING VOLTS	OPERATING CURRENT DC MA.	
	Length	Diam.		MIN.	MAX.
OA2	2 5/8	3/4	151	5	30
OA3	4 1/8	1 1/8	75	5	40
OB2	2 5/8	3/4	108	5	30
OC3	4 1/8	1 1/8	108	5	40
OD3	4 1/8	1 1/8	153	5	40
874	5 3/8	2 1/8	90	10	50
991	1 1/8	5/8	59	0.4	2
5651*	2 1/8	3/4	87	1.5	3.5

### MAX. DIMENSIONS INCHES

### MAX. RATINGS

### RELAY TYPES

TYPE	Length	Diam.	PEAK ANODE VOLTS	PEAK CATHODE MA.	AV. CATHODE MA.
OA4-G	4 1/8	1 1/8	225	100	25
1C21	2 5/8	1 1/8	180	100	25
5823	2 1/8	3/4	200	100	25

### RECTIFIERS

### MAX. DIMENSIONS INCHES

### MAX. PLATE OR ANODE RATINGS

TYPE	Cathode Volts	Length	Diam.	PEAK INV. VOLTS	AV. AMP.
<b>VACUUM TYPES</b>					
2X2-A	2.5	4 1/2	1 1/8	12500	0.0075
2V3-G	2.5	4 1/8	1 1/8	16500	0.002
5R4-GY	5	5 1/8	2 1/8	2800	0.175
217-C	10	8 1/8	2 1/8	7500	0.150
579-B	2.5	7 1/8	2 1/8	20000	0.025
836	2.5	6 1/8	2 7/8	5000	0.25
878	2.5	7 5/8	1 1/2	20000	0.005
1616	2.5	6 1/2	2 1/8	6000	0.13
5825	1.6	5 3/4	2 1/8	60000	0.002
8013-A	2.5	6 1/8	2 1/8	40000	0.020
8020	5	8	2 1/8	40000	0.100

### MERCURY-VAPOR TYPES

575-A	5	11 1/8	3 1/8	15000	1.5
673	5	11 3/8	3 1/8	15000	1.5
816	2.5	4 1/8	1 1/8	7500	0.125
857-B	5	19 7/8	7 1/8	22000	10
866-A	2.5	6 1/8	2 1/8	10000	0.25
869-B	5	14 1/8	5 1/8	20000	2.5
872-A	5	8 1/2	2 1/8	10000	1.25
5558	5	7	3	5000	2.5
5561	5	11 1/4	3 1/2	3000	6.4
8008	5	8 3/4	2 1/8	10000	1.25

### GAS TYPES

3B25	2.5	6 1/8	2 1/8	4500	0.5
4B26/2000	2.2	7	3 1/4	375	6

\*Voltage-reference type.

# RCA QUICK SELECTION GUIDE

## CATHODE-RAY TUBES

MAX. DIMENSIONS  
INCHES

TYPE	CATHODE VOLTS	Length	Approx. Screen Diam.	MAX. ANODE- No. 2 VOLTS	DEFLECTION FACTOR†† VOLTS DC/IN./KV.
<b>Oscillograph Types, Medium-Persistence Green Fluorescence</b>					
2AP1-A	6.3	7 $\frac{5}{8}$	2	1000	230
2BP1	6.3	7 $\frac{1}{8}$	2	2500	135
3AP1-A	2.5	11 $\frac{7}{8}$	3	1500	76
3BP1-A	6.3	10 $\frac{1}{4}$	3	2000	100
3JP7	6.3	10 $\frac{1}{4}$	3	2000	100
3KP1	6.3	11 $\frac{3}{4}$	3	2500	59
3MP1	6.3	8 $\frac{1}{4}$	3	2500	130
3RP1	6.3	9 $\frac{3}{8}$	3	2500	86
5BP1-A	6.3	17 $\frac{1}{8}$	5	2000	42
5CP1-A	6.3	17 $\frac{1}{8}$	5	2000	46
5UP1	6.3	15 $\frac{3}{8}$	5	2500	33
7CP1	6.3	13 $\frac{1}{8}$	7	8000	**
902-A	6.3	7 $\frac{5}{8}$	2	600	232.5
905-A	2.5	16 $\frac{7}{8}$	5	2000	57.5
912	2.5	16 $\frac{7}{8}$	5	15000	62
913	6.3	4 $\frac{3}{8}$	1	500	600
914-A	2.5	20 $\frac{7}{16}$	9	7000	46
<b>Oscillograph Types, Short-Persistence Bluish Fluorescence</b>					
2BP11	Same as type 2BP1 except for phosphor.				
3KP11	Same as type 3KP1 except for phosphor.				
5CP11-A	Same as type 5CP1-A except for phosphor.				
5UP11	Same as type 5UP1 except for phosphor.				
908-A	Same as type 3AP1-A except for phosphor.				
<b>Oscillograph Types, Long-Persistence Yellow Phosphorescence</b>					
3FP7-A	6.3	10 $\frac{1}{4}$	3	4000††	250
5CP7-A	Same as type 5CP1-A except for phosphor.				
5UP7	Same as type 5UP1 except for phosphor.				
5FP7-A	6.3	11 $\frac{1}{2}$	5	8000	**
7BP7-A	6.3	13 $\frac{5}{8}$	7	8000	**
7MP7	6.3	12 $\frac{7}{8}$	7	8000♦	**
10KP7	6.3	18	10	10000♦	**
12DP7-A	6.3	20 $\frac{1}{8}$	12	10000	**
<b>Flying-Spot Type, Short-Persistence Bluish-Green Fluorescence</b>					
5WP15	6.3	11 $\frac{1}{8}$	5	27000	**
<b>Transcriber Kinescope, Short-Persistence Bluish Fluorescence</b>					
5WP11	6.3	11 $\frac{1}{8}$	5	27000	**
<b>View-Finder Kinescope, Medium-Persistence White Fluorescence</b>					
5FP4-A	6.3	11 $\frac{1}{2}$	5	8000♦	**
<b>Monitor Kinescopes, Medium-Persistence White Fluorescence</b>					
7CP4	6.3	13 $\frac{1}{8}$	7	8000	**
7QP4	6.3	13 $\frac{1}{4}$	7	10000	**
1816-P4A	6.3	18	9	14000	**

\*\*Magnetic deflection. ♦ Anode and grid No. 3 volts.

††Anode-No. 3 volts.

‡‡For deflecting electrodes DJ<sub>1</sub> and DJ<sub>2</sub> (nearer screen).



# RCA QUICK SELECTION GUIDE

## ICONOSCOPES

- 1848 For portable television cameras. Image Size,  $2\frac{3}{8}$ " x  $2\frac{7}{8}$ ". Heater volts, 6.3. Max. anode-No. 2 volts, 1200.
- 1850-A For film and studio pick-up. Image Size,  $3\frac{9}{8}$ " x  $4\frac{3}{4}$ ". Heater volts, 6.3. Max. anode-No. 2 volts, 1200.
- 5527 For industrial and experimental applications. Image Size, 1.4" (diagonal). Max. anode-No. 2 volts, 900.

## IMAGE ORTHICONS

- 5769 Companion tube to 5655. For outdoor pickup use but also suitable for studio use.
- 5820 For outdoor pickup use and also suitable for studio use. Has exceptional sensitivity and response approaching that of the eye. Can be used to advantage to replace type 5769.
- 5826 For studio pickup use. Has negligible infrared response. Can be controlled. Has exceptionally high sensitivity, and a resolution capability better than 500 lines. Can be used to advantage to replace type 5655.

## MONOSCOPE

- 2F21 A 5" magnetic-deflection type for supplying signal to test video performance of television transmitters and receivers.

## VACUUM-GAUGE TUBES

- 1945 Hydrogen-Sensitive, Ionization Type. For locating minute leaks in vacuum enclosures.
- 1946 Thermocouple Type. For measuring gas pressures in the range from 1 mm to 0.0001 mm of mercury (1000 to 0.1 micron).
- 1947 Pirani Type. For measuring gas pressures in the range from 0.5 mm to 0.01 mm of mercury (500 to 10 microns).
- 1949 Ionization Type, hard-glass construction. For measuring gas pressures below 0.0001 mm of mercury (0.1 micron).
- 1950 Ionization Type. Similar to type 1949, but soft-glass construction.

## "SPECIAL-RED" TUBES

- 5691 High-Mu Twin Triode similar to type 6SL7-GT but designed and manufactured for critical industrial applications where 10000-hour life, rigid construction, uniformity, and stability are paramount.
- 5692 Medium-Mu Twin Triode similar to type 6SN7-GT but designed and manufactured for critical industrial applications where 10000-hour life, rigid construction, uniformity, and stability are paramount.
- 5693 Sharp-Cut off Pentode similar to 6SJ7 but designed and manufactured for critical industrial applications where 10000-hour life, rigid construction, uniformity, and stability are paramount.

# RCA QUICK SELECTION GUIDE

## KLYSTRONS

- 2K26 Single-resonator, reflex type oscillator for operation in the frequency range from 6250 to 7060 megacycles. It has a useful power output in the order of 100 milliwatts.
- 2K56 Same as 2K26 but for operation in the frequency range from 3840 to 4460 megacycles.

## MECHANO-ELECTRONIC TRANSDUCER

- 5734 Triode type for applications involving the measurement of mechanical vibration. Has a minimum free cantilever resonance of the internal section of the plate shaft of 12000 cycles per second.

## UHF "PENCIL" TRIODES

- 5675 Medium-Mu Triode. For use in grounded-grid circuits at frequencies up to 3000 Mc/s. As a local oscillator, it is capable of giving a power output of 475 milliwatts at 1700 Mc/s.
- 5876 High-Mu Triode. General purpose type. For use in grounded-grid circuits as an r-f amplifier, i-f amplifier, or mixer tube up to 1000 Mc/s; as a frequency multiplier up to 1500 Mc/s; and as an oscillator up to 1700 Mc/s. Will deliver 5 watts at 500 Mc/s as an unmodulated Class C r-f amplifier or oscillator, and 750 milliwatts as an oscillator at 1700 Mc/s.

## TYPES FOR ELECTRONIC-COMPUTER AND OTHER "ON-OFF" CONTROL APPLICATIONS

- 5915 Pentagrid Amplifier. 7-pin miniature type designed for use as a gated amplifier in electronic computers. Grids No. 1 and No. 3 can each be used as independent control electrodes.
- 5963 Medium-Mu Twin Triode. 9-pin miniature type intended for use in frequency-divider circuits in electronic computers. Has separate terminal for each cathode, and a mid-tapped heater for 6.3-volt or 12.6-volt operation.
- 5964 Medium-Mu Twin Triode. 7-pin miniature type intended for use in frequency-divider circuits in electronic computers.

## MAGNETRON

- 2J50 Internal resonant-circuit type intended for pulsed-oscillator service, such as radar, at a fixed frequency of 8825 Mc/s. Will give a peak power output of 45 kilowatts when operated at 12000 peak anode volts.

# RCA QUICK SELECTION GUIDE

## ACORNS TYPES FOR SPECIAL APPLICATIONS

- 6F4 Oscillator Triode. Heater-cathode type. For frequencies up to 1200 Mc.
- 6L4 U-H-F Oscillator Triode. Heater-cathode type. For frequencies up to 430 Mc.
- 954 Detector Amplifier Pentode. Heater-cathode type. For frequencies up to 1200 Mc.
- 955 Detector Amplifier Oscillator Triode. Heater-cathode type. For frequencies up to 600 Mc.
- 956 Super-Control R-F Amplifier Pentode. Remote cut-off, heater-cathode type. For frequencies up to 430 Mc.
- 957 Detector Amplifier Oscillator Triode. Filament volts, 1.25. Amplification factor, 13.5.
- 958-A Amplifier Triode. Filament volts, 1.25. For oscillator and r-f amplifier service.
- 959 Detector Amplifier Pentode. Filament volts, 1.25. For r-f amplifier and detector service.
- 9004 U-H-F Diode. Heater-cathode type. For u-h-f service as a rectifier, detector or measuring device. Resonant frequency, about 850 Mc.
- 9005 U-H-F Diode. Heater-cathode type. For u-h-f service as a rectifier, detector or measuring device. Resonant frequency, about 1500 Mc.

## MINIATURES

- 3A4 Power Amplifier Pentode. Filament volts, 1.4/2.8. A-F power output of 700 milliwatts.
- 3A5 H-F Twin Triode. Class C power output of 2 watts at 40 Mc.
- 6AS6 Sharp-cutoff Pentode. 7-pin miniature type. Grids No. 1 and No. 3 can each be used as independent control electrodes. For use in gated amplifier circuits, delay circuits, gain-controlled amplifiers, and mixer circuits.
- 6J4 U-H-F Amplifier Triode. Grounded-grid amplifier. For frequencies up to 500 Mc.
- 26A6 RF Amplifier Pentode. Remote-cutoff, heater-cathode type. Useful in aircraft receivers operating directly from 12-cell storage batteries.

# RCA QUICK SELECTION GUIDE

## TYPES FOR SPECIAL APPLICATIONS (cont'd)

- 26C6 Duplex-Diode Triode. Heater-cathode type. Useful in aircraft receivers operating directly from 12-cell storage batteries.
- 26D6 Pentagrid Converter. Heater-cathode type. Useful in aircraft receivers operating directly from 12-cell storage batteries.
- 1654 Half-Wave High-Vacuum Rectifier. Max. peak inverse plate volts, 4300. Max. average plate current, 1 ma.
- 5879 Sharp-Cutoff Pentode. 9-pin miniature type. Intended for use as an audio amplifier in applications requiring reduced microphonics, leakage noise, and hum. Especially useful in the input stages of medium-gain public address systems, home sound recorders, and general-purpose audio systems.
- 9001 Detector Amplifier Pentode. A sharp cut-off pentode for use as an r-f amplifier or detector in u-h-f service.
- 9002 U-H-F Triode. Useful as a u-h-f detector, amplifier and oscillator.
- 9003 Super-Control R-F Amplifier Pentode. Remote cut-off type useful as a mixer or as an r-f or i-f amplifier in u-h-f services.
- 9006 U-H-F Diode. Heater-cathode type. Resonant frequency, about 700 Mc. For u-h-f service as a rectifier, detector, or measuring device.

## METAL, GT, AND OTHER GLASS TYPES

- 2C21/1642 Twin-Triode Amplifier. Medium Mu. Plate dissipation per plate, 2.1 watts. Heater volts, 6.3; current, 0.6 ampere.
- 2C22 High-Frequency Triode. Max. plate dissipation, 3.3 watts. Max. plate volts, 300.
- 2C40 Lighthouse Triode. A high frequency amplifier and oscillator for use up to 3000 Mc. Plate dissipation, 5 watts max.,  $\mu = 36$ , gm = 4800 micromhos.
- 2C43 Lighthouse Triode. Has the same design features as the 2C40 except for a plate dissipation of 10 watts max.,  $\mu = 48$ , and gm = 8000 micromhos.

# RCA QUICK SELECTION GUIDE

## TYPES FOR SPECIAL APPLICATIONS (cont'd)

- 6AG7-Y** Power Amplifier Pentode. Similar to type 6AG7 except for micanol base.
- 6SJ7-Y** Triple-Grid Detector Amplifier. Same as type 6SJ7 except for micanol base.
- 6SN7-GTY** Twin-Triode Amplifier. Same as type 6SN7-GT except for micanol base.
- 12A6** Beam Power Amplifier. Metal type. Designed particularly for aircraft applications. Heater volts, 12.6. Max. plate volts, 250.
- 12K8-Y** Triode-Hexode Converter. Same as type 12K8 except for micanol base.
- 12L8GT** Twin-Pentode Power Amplifier. Heater volts, 12.6. Max. plate volts, 180. Plate dissipation per plate, 2.5 watts. Similar to type 1644.
- 12SW7** Duplex-Diode Triode. Heater-cathode type. Useful in aircraft receivers.
- 12SX7-GT** Twin-Triode Amplifier. Heater-cathode type. Useful in aircraft receivers.
- 12SY7** Pentagrid Converter. Single-ended metal type. Useful in aircraft receivers.
- 26A7-GT** Twin A-F Beam Power Amplifier. Heater volts, 26.5. Max. plate volts, 50. For 12-cell battery service.
- 89-Y** Triple-Grid Power Amplifier. Same as type 89 except for micanol base.
- 559** Lighthouse Diode. For use as a detector and in r-f switching.
- 864** Amplifier Triode. For low-microphonic applications. Filament volts, 1.1. Max. plate volts, 135.
- 1603** Triple-Grid Detector Amplifier. For low-microphonic applications. Heater volts, 6.3. Max. plate volts, 250. Similar to type 6C6. For new equipment 1620 is recommended.
- 1609** Amplifier Pentode. For low-microphonic applications. Filament volts, 1.1. Max. plate volts, 135.

# RCA QUICK SELECTION GUIDE

## TYPES FOR SPECIAL APPLICATIONS (cont'd)

- 1612 Pentagrid Amplifier. For low-microphonic applications. Heater volts, 6.3. Max. plate volts, 250. Similar to type 6L7.
- 1620 Triple-Grid Detector Amplifier. For low-microphonic applications. Heater volts, 6.3. Max. plate volts, 250. Similar to type 6J7.
- 1621 Power Amplifier Pentode. Metal type. For applications requiring continuity of service. Heater volts, 6.3. In push-pull service: Max. plate volts, 300; a-f power output, 5 watts.
- 1622 Beam Power Amplifier. Metal type. For applications requiring continuity of service. Heater volts, 6.3. In push-pull service: Max. plate volts, 300; power output, 10 watts.
- 1629 Electron-Ray Tube. Indicator type. Similar to type 6E5 except for a 12.6-volt heater and an octal base.
- 1631 Beam Power Amplifier. Metal type. Similar to type 6L6 except for a 12.6-volt heater. Max. plate dissipation, 16 watts.
- 1632 Beam Power Amplifier. Metal type. Similar to type 25L6 except for 12.6-volt heater, and plate voltage and dissipation ratings.
- 1633 Twin-Triode Amplifier. Similar to type 6SN7-GT except for 25-volt heater.
- 1634 Twin-Triode Amplifier. Single-ended metal type. Same as 12SC7 but especially suited for applications requiring matched triode units.
- 1635 Class B Twin Amplifier. Heater-cathode type. For audio amplifier applications.
- 1644 Twin-Pentode Power Amplifier. Same as type 12L8-GT, but is especially suited for applications requiring matched pentode units.
- 1851 Television Amplifier Pentode. Metal, heater-cathode type. For new equipment, type 6AC7/1852 is recommended.
- 5794 Fixed-Tuned Oscillator Triode. Intended for transmitting service in radiosonde applications at 1680 Mc.

# RCA MINIATURE LAMPS

## FLASHLIGHT TYPES

Type No.	Filament		Bulb Outline*	Bead Color	Use with RCA Dry Cell	
	Volts	Amps.				
PR-2	2.4	0.50	F	Blue	VS001	(Two)
PR-3	3.6	0.50	F	Green	VS001	(Three)
PR-6	2.5	0.30	F	Brown	VS001	(Two)
13	3.8	0.30	A	Green	VS001	(Three)
14	2.5	0.30	A	Blue	VS001	(Two)
112	1.1	0.22	B	Pink	VS034	(One)
222	2.2	0.25	B	White	VS034	(Two)
233	2.3	0.27	A	Purple	VS035	(Two)

## RADIO PANEL AND MISCELLANEOUS TYPES

Type No.	Filament		Bulb Outline*	Bead Color	Service
	Volts	Amps.			
40	6 to 8	0.15	E	Brown	Radio Panel
41	2.5	0.50	E	White	Radio Panel
42	3.2	0.35	E	Green	Radio Panel
43	2.5	0.50	E	White	Radio Panel
44	6 to 8	0.25	E	Blue	Radio Panel
45	3.2	0.35	E	Green	Radio Panel
46	6 to 8	0.25	E	Blue	Radio Panel
47	6 to 8	0.15	E	Brown	Radio Panel
48	2.0	0.06	E	Pink	Radio Panel
49	2.0	0.06	E	Pink	Radio Panel
50	6 to 8	1-candle power	A	White	Radio Panel
51	6 to 8	1-candle power	A	White	Radio Panel
55	6 to 8	2-candle power	G	White	Test Instrument Radio Panel, Test Instrument
291	2.9	0.17	E	White	Radio Panel
292	2.9	0.17	E	White	Pin-Game Machine
1490	3.2	0.16	E	White	Radio Panel

## \*DIMENSIONAL OUTLINES



C-4 1/2 BULB  
MINIATURE  
BAYONET BASE

A



TL-3 BULB  
MINIATURE  
SCREW BASE

B



C-3 1/2 BULB  
MINIATURE  
SCREW BASE

C



T-3 1/2 BULB  
MINIATURE  
BAYONET BASE

D



T-3 1/2 BULB  
MINIATURE  
SCREW BASE

E



B-3 1/2 BULB  
MINIATURE  
FLANGE BASE

F



C-3 1/2 BULB  
MINIATURE  
BAYONET BASE

G

**RCA INTERCHANGEABILITY DIRECTORY OF TUBES  
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**Direct Replacement Types**

RCA types shown below are direct replacements under all circumstances for corresponding types to be replaced.

<i>Type to be Replaced</i>	<i>Replace by RCA Type</i>	<i>Type to be Replaced</i>	<i>Replace by RCA Type</i>
OA3/VR75	OA3	CE-41	921
OC3/VR105	OC3	CE-42	922
OD3/VR150	OD3	RK-44	837
CE-1(A-D)	868, 918	RK-47	814
1P32	927	UH-50	834
2AP1	2AF1-A	R51A	927
2B4	885	CE-55	924
2X2/879	2X2-A	FG-57	5559
3AP1	3AP1-A	RK-57	805
3BP1	3BP1-A	RK-58	838
4D21	4-125A/4D21	CE-59	5581
4-250A	4-250A/5D22	R59A	868, 918
5BF1	5BP1-A*	R60A	920
5CP1	5CP1-A	HY-61/807	807
5CP7	5CP7-A	R61A	930
5D22	4-250A/5D22	CE-64	5583
5FP7	5FP7-A	FG-67	1904
5HP1-A	5BP1-A	VR75-30	OA3
7BP7	7BP7-A	FG-95	5560
PJ-8	5556	CE-98	5582
G9	868	FG-104	5561
BW-11	834	VR105-30	OC3
CE-11V(A-D)	917	HF120	211
RK-11	1623	VR150-30	OD3
12DP7	12DP7-A	WT-210-0001	2D21
FG-17	5557	WT-210-0003	884
CE-20	927	WT-210-0004	2050
RK-20A	804	WT-210-0006	6H6
CE-21(A-D)	920	WT-210-0008	866-A
CE-23(A-D)	923	WT-210-0009	84/6Z4
PJ-23	868	WT-210-0011	OC3
CE-25(A-D)	927	WT-210-0012	80
RK-25	802	WT-210-0013	5Z3
RK-25B	802	WT-210-0015	5557
CE-28(A-D)	928	WT-210-0018	OD3
RK-28	803	WT-210-0019	83
RK-28A	803	WT-210-0021	6X5
CE-29(A-D)	929, 1P39	WT-210-0025	117Z6-GT
CE-30(A-D)	930, 1P40	WT-210-0027	872-A
CE-30V	925	WT-210-0028	3Q5-GT
RK-30	800	WT-210-0029	6C5
FG-32	5558	WT-210-0031	902-A
RK-33	2C21/1642	WT-210-0037	117L7/M7-GT
CE-34	934	WT-210-0038	172
RK-39	807	WT-210-0040	6X4

\*Except in high-altitude service.



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**Direct Replacement Types (cont'd)**

RCA types shown below are direct replacements under all circumstances for corresponding types to be replaced.

<i>Type to be Replaced</i>	<i>Replace by RCA Type</i>	<i>Type to be Replaced</i>	<i>Replace by RCA Type</i>
WT-210-0042	5Y3-GT	WT-263	6Z4
WT-210-0044	575-A	WT-269	0C3
WT-210-0045	892	WT-270	80
WT-210-0047	3C23	WT-270X	5Z3
WT-210-0048	5U4-G	FG-271	5551
WT-210-0052	2AP1-A	WT-272	5557
WT-210-0053	3AP1-A	WE-274B	5R4-GY
WT-210-0056	5559	WE-289A	4B26/2000
WT-210-0057	5560	WT-294	0D3
WT-210-0058	676	WE-295A	203-A
WT-210-0060	0Z4	WT-301	83
WT-210-0061	117N7-GT	UE-303A	203-A
WT-210-0062	5557	WE-304B	834
WT-210-0069	5557	F-307A	207
WT-210-0070	5550	WT-308	6X5-GT
WT-210-0071	5551	CE-309	5557
WT-210-0072	5552	CE-311	3C23
WT-210-0073	5553	UE-311	211
WT-210-0074	105	UE-311C	835
WT-210-0078	172	UE-317C	217-C
WT-210-0079	105	WE-322A	803
WT-210-0081	6SJ7	UE-342B	211
WT-210-0082	6V6	WE-350A	807
WT-210-0083	7K7	375-A	575-A
WT-210-0084	6N7, 6N7-GT	WT-377	117Z6-GT
WT-210-0085	50B5	WT-389	3Q5-GT
WT-210-0086	833-A	WT-390	6C5
WT-210-0087	6K8	WE-397A	2K56
WT-210-0088	6J5, 6J5-GT	FJ-401	1F29
WT-210-0089	6G6-G	WE-403A	6AK5
WT-210-0090	6C6	GL-415	5550
WT-210-0091	0A4-G	WT-431	6E6
211-D	211	GL-451	8020
CE-226	4B26/2000	WT-606	2D21
FG-234A	5552	WL-630	2050
FG-238B	5555	WL-631	5559
242A	211	KU-634	677
242B	211	WL-661/656	5552
WT-245	884	WL-652/657	5551
WT-246	2050	WL-653B	5555
FG-258A	5553	WL-655/658	5553
FG-259B	5554	672	672-A
WT-261	6H6	WL-679	5554
WE-261A	835	WL-681/686	5550
WT-262	866-A	NL-715	5557

**RCA INTERCHANGEABILITY DIRECTORY OF TUBES  
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**Direct Replacement Types (cont'd)**

RCA types shown below are direct replacements under all circumstances for corresponding types to be replaced.

<i>Type to be Replaced</i>	<i>Replace by RCA Type</i>	<i>Type to be Replaced</i>	<i>Replace by RCA Type</i>
WL-735	868	2051	2050
801	801-A	2525A5	5BP1-A
812	812-A	5728	1904
829	829-B	8001	4E27/8001
829-A	829-B	8016	1B3-GT
832	832-A	198049	4B26/2000
833	833-A	289416D	4B26/2000
C-833	833-A	WTT-100	6X4
857	857-B	WTT-102	5Y3-GT
862	862-A	WTT-103	6H6
866	866-A	WTT-104	575-A
866-A/866	866-A	WTT-105	892
869-A	869-B	WTT-111	5559
872	872-A	WTT-112	5360
872-A/872	872-A	WTT-113	676
F-872B	872-A	WTT-114	0Z4
879	2X2-A	WTT-115	117N7-GT
889	889-A	WTT-117	5557
893	893-A	WTT-118	105
902	902-A	WTT-119	172
UE-905	805	WTT-122	6SJ7
905	905-A	WTT-123	6V6, 6V6-GT
906-P1	3AP1-A	WTT-124	7K7
908	908-A	WTT-125	6N7, 6N7-GT
914	914-A	WTT-126	50B5
931	931-A	WTT-127	833-A
UE-938	838	WTT-128	6K8
UE-949	849	WTT-129	6J5, 6J5-GT
UE-966A	866-A	WTT-130	6G6-G
UE-967	5557	WTT-131	6C6
UE-972A	872-A	WTT-132	0A4-G
UE-975A	575-A	WTT-135	5U4-G
1642	2C21/1642	WTT-136	2AP1-A
1802-P1	5BP1-A	WTT-137	3AP1-A
1803-P4	12AP4	WTT-149	172
1804-P4	9AP4		
1811-P1	7CP1		
1849	1850-A		
1850	1850-A		
2000	4B26/2000		

**NOTE:** For additional replacement data on RCA Tubes for broadcasting and industry, see the 20-page RCA Interchangeability Directory (Form ID-1020) listing 1600 industrial tube type numbers used by 24 manufacturers.

# RCA INTERCHANGEABILITY DIRECTORY OF TUBES FOR COMMUNICATIONS AND INDUSTRY

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## Similar Types

RCA types shown below are not directly interchangeable with the types to be replaced because of mechanical and/or electrical differences. For more information as to degree of interchangeability, refer to respective tube data or write to Commercial Engineering, Harrison, New Jersey.

<i>Type to be Replaced</i>	<i>Similar RCA Type</i>	<i>Type to be Replaced</i>	<i>Similar RCA Type</i>
CE-1V(A-D)	917, 919	RK-38	806
CE-2(A-D)	930, 1P40	HY-40	812-A
2B22	559	T-40	812-A
2E25	2E24	TZ-40	811-A
2E30	5618	HY-40Z	811-A
3B27	836	RK-41	807
3B28	866-A	RK-46	804
3C21	838	RK-87	814
3C24	1623	RK-48A	813
4C21	211	SR-50	917
4C22	8005	HY-51A	830-B
4X150G	4X150A	HY-51B	830-B
CE5(A-D)	927	HY-51Z	838
5C24	8000	RK-51	830-B
5D21	715-C	SR-51	926
WT-6	6L6	RK-52	811-A
7C20	5762	53AWB	927
7C27	5762	SR-53	917
HV-12	806	HK-54	808
RK-12	809	T-55	8005
CE-13	868	HY-57	812-A
CE-13V	917	R-58A	927
G-15F	927	58AWB	927
HV-18	810	59D	929
FV-20	8000	CE-60	917
T-20	1623	HF-60	8005
TV-20	810	HY-60	807
TZ-20	809	SK-60	868
PJ-21	5556	T-60	8005
CE-22(A-D)	1P41	R61BV	929
FJ-22	917	RK-63	806
RK-23	802	SK-63	918
RK-23A	802	RK-64	807
24-G	808	R64AV	925
HY-25	809	HY-69	1624
RK-27	806	V-70-D	8005
FG-27A	5559	R71A	930, 1P40
HY-30Z	809	R71AV	925
CE-31V	919	71D	929
FG-33	1904	FP-85	8020
35T	808	R85A	928
35TG	808	CE-91R	1P37
CE-36(A-D)	927	HF-100	8005
RK-36	806	100R	8020
RK-37	808	100TH	810

## FOR COMMUNICATIONS AND INDUSTRY

CONSULT THIS CHART SECOND

## Similar Types (cont'd)

RCA types shown below are not directly interchangeable with the types to be replaced because of mechanical and/or electrical differences. For more information as to degree of interchangeability, refer to respective tube data or write to Commercial Engineering, Harrison, New Jersey.

<i>Type to be Replaced</i>	<i>Similar RCA Type</i>	<i>Type to be Replaced</i>	<i>Similar RCA Type</i>
100TL	8000	T-219B	866-A
111-H	812-A	WE-249A	866-A
ZB-120	838	WE-249B	866-A
F123A	806	250TH	810
HF-125	8005	250TL	806
T-125	810	HF-250	8000
F-127A	810	251A	851
F-128A	851	WE-252A	842
HF-130	835	HK-254	810
HF-140	211	WE-254B	865
143D	2X2-A	WE-255B	869-B
GL-146	805	HF-258B	866-A
AB-150	845	260A	860
TW-150	810	HF-261A	835
150P	803	264A	864
150T	806	264B	864
152TH	806	266B	857-B
152TL	806	WE-266C	857-B
GL-152	805	267B	872-A
HK-154	808	WE-268A	801-A
T-155	806	WE-271A	843
C-200	810	WE-274A	5R4-GY
HF-200	8000	T-282A	8000
T-200	806	WE-284B	845
C-201	805	WE-284D	845
C-202	805	WE-287A	5557
HD-203A	805	WE-298A	862-A
HD-203C	805	300	806
HF-203H	8003	T-303C	8000
WE-205D	10-Y	UE-303U	8000
WE-205E	10-Y	UE-304A	204-A
WT-210-0007	6L6	WE-304B	6AK5
WT-210-0067	3C23	CE-306	676
211B	211	WE-307A	807
211C	835	UE-310	801-A
HD-211C	805	UE-311CH	8000
211E	835	UE-311T	8003
212E	849	UE-311CT	8003
WE-214E	217-C	WE-312A	828
WE-220C	892	315A	673
Z-225	866-A	319A	872-A
CE-225	4B26/2000	321A	673
WE-231D	864	323B	3C23
241B	833-A	WE-339A	807
242C	211	WE-341AA	891-R

**RCA INTERCHANGEABILITY DIRECTORY OF TUBES  
FOR COMMUNICATIONS AND INDUSTRY**  
*CONSULT THIS CHART SECOND*

**Similar Types (cont'd)**

RCA types shown below are not directly interchangeable with the types to be replaced because of mechanical and/or electrical differences. For more information as to degree of interchangeability, refer to respective tube data or write to Commercial Engineering, Harrison, New Jersey.

<i>Type to be Replaced</i>	<i>Similar RCA Type</i>	<i>Type to be Replaced</i>	<i>Similar RCA Type</i>
F-342A	858	UE-812H	8005
343A	858	T-814	806
WE-348A	1620	T-822	806
C-350	807		
WE-350B	807	825	1623
		C-849A	833-A
353A	872-A	C-849H	833-A
HK-354C	806	F-857A	857-B
HK-354D	806	861-A	861
HK-354E	806		
HK-354F	806	863	892
		866-B	866-A
WE-356A	808	C-872	872A
WE-357A	833-A	UE-911CH	835
F-357A	857-B	UE-942	842
WE-359A	1C21		
WE-261A	835	1847	5527
		1899	2F21
F-363A	892	2501-A3	3AP1-A
F-367A	673	2501-C3	908-A
F-376A	835	5514	811-A
WE-393A	3C23		
WE-394A	627	5516	2E24
		5591	6AK5
WE-395A	5823	5604	889R-A
WL-463	806	5606	892
UE-468	8000	5654	6AS6
WL-468	810		
WL-471	8003	5658	880
		5662	5696
WL-481	8013-A	5663	5696
GL-546	5696	5666	889-A
NL-615	5558	5667	889R-A
WL-632A	5560		
WL-632B	5560	5668	892
		5669	892-R
G78	5563	5685	676
NL-710	676	5686	5763
NL-711	5557	5695	816
WL-734	917		
WL-739	927	5725	6AS6
		5934	579-B
WL-741	923	7193	2C22
T-756	809		

NOTE: For additional replacement data on RCA Tubes for broadcasting and industry, see the 20-page RCA Interchangeability Directory (Form ID-1020) listing 1600 industrial tube type numbers used by 24 manufacturers.

RCA Type	Volts			Max. Dimensions (In.)			Interchangeable with		
	A	B	C	L	W	H	Eveready	Burgess	Others
<b>PORTABLE "A" TYPES</b>									
VS001	1½	—	—	—	1½	2½	950	2	—
VS002	4½	—	—	4	1¾	4½	746	G3	—
VS003	7½	—	—	3¾	2¾	4¾	687	G5	—
VS004	1½	—	—	2¾	2¾	4¾	742	4F	—
VS005	1½	—	—	3½	1¾	5¾	—	4PL	—
VS007	1½	—	—	3½	2¾	4¾	743	6F	—
VS008	1½	—	—	3½	1¾	10¾	745	8PL	—
VS009	6	—	—	2¾	2¾	4¾	744	F4P1	—
VS010	6	—	—	3¾	2½	5½	718	2F4	—
VS011	6	—	—	3¾	1¾	10¾	747	2F4L	—
VS036 ♦	1½	—	—	—	1¾	2¾	—	2R	Zenith Z4NL
VS065	7½	—	—	2¾	2	3¾	717	C5	—
VS067	4½	—	—	4	1¾	4¾	736	F3	—
VS068	6	—	—	1½	1½	2½	724	Z4	—
VS069	1½	—	—	2¾	1¾	2½	720	2D	—
VS070	1½	—	—	—	1¾	4¾	Hearing Aid	—	—
VS072	4½	—	—	3½	1¾	2½	726	D3	—
VS129	7½	—	—	4¾	½	3	—	B5	—
<b>PORTABLE "B" TYPES</b>									
VS012	—	45	—	4¾	2¾	5¾	762	B30	—
VS013	—	45	—	3¾	1½	5½	482	M30	—
VS014	—	45	—	3¾	2¾	4¾	—	A30	—
VS015	—	45	—	3	2¾	4	738	Z30	—
VS016	—	67½	—	2¾	1¾	3¾	467	XX45	—
VS055	—	45	—	2¾	½	3½	455	XX30	—
VS082	—	67½	—	2½	1¾	2¾	457	K45	—
VS090	—	90	—	3½	1¾	3¾	490	N60	—
<b>PORTABLE "A-B." AND "A-B-C" PACKS</b>									
VS018	7½, 9	90	—	10¾	3¾	4¾	754	G6M60	—
VS019	7½, 9	90	—	9½	2¾	4¾	753	F6A60	Zenith Z979
VS020	6, 7½	67½	—	9¾	2¾	4¾	—	F5M45	—
VS037	1½	90	—	11¾	1¾	6¾	—	6FA60	—
VS038	7½	63	—	8¾	2¾	4¾	—	G5A42	—
VS041	1½	67½	7½	4¾	3¾	6¾	—	—	—
VS043	1½	90	—	5¾	2½	7¾	—	5DA60	—
VS044	6	90	—	12½	2¾	4¾	—	2F4A60	—
VS046	6	75	—	12¾	2¾	4¾	—	G4B50	Zenith Z675
VS047	9	90	—	13¾	2¾	4¾	752	G6B60	Zenith Z985
VS048	6	90	—	10¾	2¾	5	—	F4B60	Zenith Z659
VS050	6, 7½	75	—	8¾	2¾	3½	755	T5Z50	—
VS052	1½	61½	—	9¾	2½	3¾	—	4GA41	Philco P41A4G
VS053	1½	63	—	9¾	2	4¾	—	4GA42	Philco 41A4FL
VS054	1½	90	—	10	2¾	4¾	—	6TMA60	—
VS057	7½, 9	90	—	9¾	2¾	3¾	756	T6Z60	Philco P361
VS058	9	90	—	9½	2¾	4¾	—	F6A60P	Zenith Z909

# RCA RADIO BATTERIES

Radio-Engineered for Extra Listening Hours

RCA Type	Volts			Max. Dimensions (In.)			Interchangeable with		
	A	B	C	L	W	H	Eveready	Burgess	Others
<b>FARM "A," "A-B" AND "B" TYPES</b>									
VS021	1½	90	—	10½	2¾	6¾	758	—	—
VS022	1½	90	—	15¾	4¼	6½	748	17GD60	—
VS024	1½	—	—	7½	2½	7	740	20F	—
VS025	3	—	—	11½	4	5½	X125	20F2	—
VS026	—	45	—	8½	3½	7½	485	2308P1	—
VS027	—	45	—	8½	4¼	7½	386	10308P1	—
VS045	1½	90	—	12½	5¾	6½	—	18GD60	Zenith Z28
VS049	6	75	—	14¾	4½	6½	—	3G4D50	Zenith Z682
<b>FLASHLIGHT AND LANTERN TYPES</b>									
VS001	1½	—	—	—	1½	2½	950	2	Zenith Z2NL
VS034	1½	(Penlite)	—	—	37/64	2	915	Z	—
VS035 ♦	1½	(Baby)	—	—	1½	1½	935	1	—
VS036 ♦	1½	—	—	—	1½	2¾	—	2R	Zenith Z4NL
VS040C	6	—	—	2½	2½	4½	409	F4H	—
VS132	9	—	—	4½	2½	2½	—	D6BP	—
<b>INDUSTRIAL AND SPECIAL-PURPOSE TYPES</b>									
VS006C	1½	—	—	—	2¾	6¾	6IGN	—	—
VS006S	1½	—	—	—	2¾	6½	6IGN	—	—
VS028	—	—	4½	2¾	½	2½	781	5360	—
VS029	—	—	7½	3½	¾	3½	773	5540	—
VS030	—	—	4½	3½	1¾	2½	X771	2370P1	—
VS031	—	—	22½	4	2½	3	768	5156P1	—
VS039	6	—	—	10¾	2½	7¾	1461-2	4F4H	—
VS040S	6	—	—	2½	2½	4½	—	F4BP	—
VS042C	1½	—	—	—	2¾	6¾	TEL	—	—
VS042S	1½	—	—	—	2¾	6½	TEL	—	—
VS093	—	300	—	2½	2½	3½	493	U200	—
VS100	1½	—	—	2¾	1¾	4½	—	F2BP	—
VS101	—	22½	—	2¾	1¾	4½	—	2FBP	—
VS102	1½	—	—	3¾	2¾	2¾	763	4156	—
VS106	—	45	—	2½	2½	4½	—	4FH	—
VS112	—	45	—	4¾	2¾	5½	762S	5308	—
VS114	—	45	—	2½	1½	4½	—	Z30NX	—
VS126	—	45	—	8¾	3¾	7½	—	2308SC	—
VS127W	—	45	—	8	4	6¾	—	10308SC	—
VS130	—	—	4½	3½	1¾	3	761T	2370ST	—
VS131	—	—	22½	4¾	2½	3½	778	5156SC	—
VS133	4½	—	—	2¾	½	3½	703	532	—
VS136	3	—	—	2½	2½	4½	—	2F2H	—
VS137	—	—	22½	6½	4	3¾	766	2156	—
VS138	3	—	—	3¾	2½	5½	—	4F2H	—
VS139	7½	—	—	7½	4	6½	1562	4F5H	—
VS140	9	—	—	8¾	4½	6½	1662	4F6H	—
VS157	—	45	—	8¾	4¾	7½	794	21308SC	Philco P30FL

Ask your Distributor for complete Battery Catalog, Form No. BAT-134; for Current Price List, and also for Battery Replacement Guide, Form No. BRG-1021.

♦Sealed-in-Steel.

# SOCKET AND TERMINAL GUIDE FOR RCA BATTERIES

Battery Type	Socket Pattern or Terminals	Battery Type	Socket Pattern or Terminals
VS001	Flashlight	VS044	Fig. 6
VS002	103	VS045	115, Fig. 2
VS003	105	VS046	Fig. 3
VS004	101	VS047	Fig. 4
VS005	101	VS048	Fig. 5
VS006C	2-Spring Clip	VS049	Fig. 3
VS006S	2-Screw	VS050	116
VS007	101	VS052	115
VS008	101	VS053	115
VS009	104	VS054	115
VS010	104	VS055	2-Snap
VS011	104	VS057	116
VS012	111	VS058	Fig. 4
VS013	110	VS065	105
VS014	111	VS067	103
VS015	111	VS068	Flashlight
VS016	2-Snap	VS069	101
VS018	116	VS070	101
VS019	116	VS072	103
VS020	116	VS082	2-Snap
VS021	115	VS090	2-Snap
VS022	115	VS093	2 Flush-1" In Jack
VS024	101	VS100	2-Insulated Screw
VS025	102	VS101	2-Screw
VS026	107	VS102	2-Screw
VS027	107	VS106	2-Screw
VS028	2-Screw	VS112	3-Insulated Screw
VS029	5-Screw, 1-Pigtail	VS114	3-Insulated Screw
VS030	112	VS126	3-Spring Clip
VS031 as "C"	113	VS127W	3-Spring Clip
VS031 as "B"	Fig. 8	VS129	105
VS034	Flashlight	VS130	4-Screw
VS035	Flashlight	VS131	8-Spring Clip
VS036	Flashlight	VS132	2-Screw
VS037	Fig. 9	VS133	2-Flat Spring
VS038	116	VS136	2-Insulated Screw
VS039	2-Insulated Screw	VS137	3-Spring Clip
VS040C	2-Coil Spring	VS138	2-Spr. ng Clip
VS040S	2-Screw	VS139	2-Insulated Screw
VS041	Fig. 7	VS140	2-Insulated Screw
VS042C	2-Spr. ng Clip	VS157	3-Spring Clip
VS042S	2-Screw		
VS043	115		



# RCA BATTERY SOCKET PATTERNS

Nos. 101-116 are based on corresponding RMA Standard Battery Socket Patterns

Top Views Are Shown

<p>101 "A"</p> <p>1 1/2 V</p>	<p>102 "A"</p> <p>3 V</p>	<p>103 "A"</p> <p>4 1/2 V</p>
<p>104 "A"</p> <p>6 V</p>	<p>105 "A"</p> <p>7 1/2 V</p>	<p>107 "B"</p> <p>+22 1/2 O O +45</p>
<p>110 "B"</p> <p>+22 1/2 (OR DEAD) O O +45</p>	<p>111 "B"</p> <p>+22 1/2 (OR DEAD) O O +45</p>	<p>112 "C"</p> <p>-4 1/2 O O -3</p>
<p>113 "C"</p> <p>-3 O O -22 1/2 -4 1/2 O O -18 1/2</p>	<p>115 "A+B"</p> <p>+90 O O -B +1 1/2 A O O -A</p>	<p>116 "A+B"</p> <p>-B O O +10 1/2 A +B O O +9 A +6 A O O +7 1/2 A</p>
<p>Fig 1 "B+C"</p> <p>+135 O O -9C +90 O O -7 1/2 C +67 1/2 O O -B+C</p>	<p>Fig 2 "A+B"</p> <p>+1 1/2 A O O -B -A O O +90</p>	<p>Fig 3 "A+B"</p> <p>-B +75 -A</p> <p>RECESSED</p>
<p>Fig 4 "A+B"</p> <p>+9 A O O +90 -A O O -B</p> <p>RECESSED</p>	<p>Fig 5 "A+B"</p> <p>-B O O +90 +6 A O O -A</p>	<p>Fig 6 "A+B"</p> <p>-A O O +6 A -B O O +90 B</p>
<p>Fig 7 "A+B+C"</p> <p>-7 1/2 C O O -A +1 1/2 A O O +67 1/2 -B</p>	<p>Fig 8 "B"</p> <p>+19 1/2 O O -B +16 O O +6</p>	<p>Fig 9 "A+B"</p> <p>+90 O O -B +1 1/2 A O O -A</p>

Note: Any particular battery type may not provide all voltages shown on patterns applicable to the type

# RCA BATTERY REPLACEMENT GUIDE

## FOR 1948, 1949, AND 1950 PORTABLE RADIOS

Make and Model	RCA Battery		Make and Model	RCA Battery	
	A	B		A	B
<b>Admiral</b>			<b>Airline (Mont-Ward)</b>		
4D11	2-VS036	1-VS016	B4GCB-		
4D12	2-VS036	1-VS016	1062A	1-VS036	1-VS016
4D13	2-VS036	1-VS016	14BD9-		
5F11	1-VS065	1-VS016	815	4-VS036	1-VS016
5F12	1-VS065	1-VS016	15BD11-		
6C11	1-Pack	VS019	917	1-Pack	VS018
6F11	1-Pack	VS019	62TL-1062	1-VS036	1-VS016
6F12	1-Pack	VS019	74KR-		
6Y1	1-Pack	VS019	1210A	1-Pack	VS018
6Y18	1-Pack	VS019	84WG-		
6Y19	1-Pack	VS019	1060A	4-VS036	1-VS016
			94WG-1059A	1-Pack	VS018
<b>Air-Castle (Spiegel)</b>			<b>Arvin</b>		
213	1-VS002	1-VS016	240P	3-VS036	1-VS016
G-521	2-VS002	2-VS013	241P	4-VS036	1-VS016
DM700	4-VS036	1-VS016	244P	4-VS036	1-VS016
EV760	4-VS036	1-VS016	250P	1-Pack	VS019
5024	1-Pack	VS018	350P	6-VS035	1-VS000
5027	2-VS002	2-VS013	351P	6-VS035	1-VS090
5028	2-VS036	1-VS016	466P	2-VS036	1-VS016
5029	2-VS036	1-VS016	447P	2-VS036	1-VS016
132564	1-Pack	VS022	448P	6-VS035	1-VS016
147114	5-VS036	1-VS016	449P	6-VS035	1-VS016
			2410P	4-VS036	1-VS016
<b>Airchief (Firestone)</b>			<b>Automatic</b>		
4C1	2-VS036	1-VS016	Tom Thumb		
4C5	2-VS036	1-VS016	(Buddy)	2-VS036	1-VS016
4C13	5-VS036	1-VS016	Tom Thumb		
			(Camera)	2-VS036	1-VS016
			(Bike) B44	2-VS036	1-VS016
			C-65	1-VS011	2-VS013
<b>Air King</b>			<b>Bendix</b>		
A410	2-VS036	1-VS016	PMR-3A	1-VS036	1-VS016
A425	1-VS036	1-VS016	PAR-80	1-Pack	VS018
A426	1-VS036	1-VS055	55X4	4-VS035	1-VS016
A427	1-VS036	1-VS055	416A	1-Pack	VS022
A520	3-VS036	1-VS016	687A	1-Pack	VS018
520A	1-VS129	1-VS016			
			<b>Clarion</b>		
			13201	1-Pack	VS022
			13203	1-Pack	VS022

# RCA BATTERY REPLACEMENT GUIDE

## FOR 1948, 1949, AND 1950 PORTABLE RADIOS

(Continued)

Make and Model	RCA Battery		Make and Model	RCA Battery	
	A	B		A	B
<b>Crosley</b>			<b>General Electric</b>		
9-101	1-Pack	VS022	141	1-Pack	VS057
9-302	1-Pack	VS019	143	1-Pack	VS057
9-304	2-VS036	1-VS016	145	2-VS036	1-VS016
9-307M	1-Pack	VS057	150	1-Pack	VS019
10-304M	1-VS067	1-VS090	165	1-Pack	VS019
10-307M	1-Pack	VS057	601	1-Pack	VS057
10-308	1-Pack	VS057	602	1-Pack	VS057
10-309	1-Pack	VS057	603	1-Pack	VS057
			604	1-Pack	VS057
<b>Concord</b>			<b>Gilfillan</b>		
1-611	2-VS002	2-VS013	68BD	1-Pack	VS019
<b>Detrola</b>			<b>Globe</b>		
610-A	1-Pack	VS022	454	2-VS036	1-VS016
3891	2-VS002	2-VS013	456	2-VS036	1-VS016
3892	2-VS002	2-VS013			
3893	2-VS002	2-VS013			
<b>Dewald</b>			<b>Grantline</b>		
B-400	2-VS036	1-VS016	508-7	5-VS036	1-VS016
B-402	1-VS002	1-VS016			
B-504	1-VS002	1-VS016			
B-515	1-VS002	1-VS016			
<b>Dynavox</b>			<b>Hallcrafters</b>		
3P801	2-VS036	1-VS016	S-72	1-Pack	VS018
			S-72-1950	1-Pack	VS018
<b>Emerson</b>			<b>Jewel</b>		
559A	1-VS002	1-VS016	304	1-VS036	1-VS016
560A	1-VS067	1-VS090	349	1-VS065	1-VS090
568A	1-Pack	VS019	801	1-VS036	1-VS016
570	3-VS036	1-VS016	814	1-VS036	1-VS016
574	3-VS036	1-VS016	901	1-VS036	1-VS016
575	1-Pack	VS019	949	1-VS065	1-VS090
580	3-VS036	1-VS016	5007	1-VS065	1-VS016
613A	1-VS036	1-VS016	5010	1-VS065	1-VS016
643A	2-VS002	2-VS013			
<b>Garod</b>			<b>Knight</b>		
4B1	3-VS036	1-VS016	4D450	3-VS036	1-VS016
5D4	5-VS036	1-VS016	5D455	5-VS036	1-VS016
5D5	5-VS036	1-VS016	5F565	2-VS036	1-VS016
			145-D	5-VS036	1-VS016
			156-D	3-VS036	1-VS016
			449	1-Pack	VS019

# RCA BATTERY REPLACEMENT GUIDE

## FOR 1948, 1949, AND 1950 PORTABLE RADIOS

(Continued)

Make and Model	RCA Battery		Make and Model	RCA Battery	
	A	B		A	B
<b>Learadio</b>			<b>RCA</b>		
RM402C	1-Pack VS019		8BX5	1-Pack VS050	
			8BX6	1-Pack VS019	
			8B41	1-VS036	1-VS016
<b>Lewyt</b>			8B42	1-VS036	1-VS016
711	2-VS002	2-VS013	8B43	1-VS036	1-VS016
			9BX5	1-Pack VS050	
<b>Meck</b>			9BX6	1-Pack VS019	
CM500	5-VS036	2-VS055	9BX55	1-Pack VS050	
			9BX56	1-VS065	1-VS016
			BX6	1-Pack VS019	
<b>Motorola (Galvin)</b>			BX55	1-Pack VS050	
5A9 Series	2-VS036	1-VS016	BX57	1-Pack VS050	
5J1	2-VS036	1-VS016			
5L1	2-VS036	1-VS016	<b>Regal</b>		
5M1	2-VS036	1-VS016	BP47	1-VS036	1-VS016
6L1	1-Pack VS019		BP48	1-VS036	1-VS016
48L11	2-VS036	1-VS016	777	5-VS036	1-VS016
49L11Q	2-VS036	1-VS016	1500	1-Pack VS022	
49L13Q	2-VS036	1-VS016	1877	1-VS002	1-VS016
58L11	2-VS036	1-VS016	1878	1-VS002	1-VS016
59L11Q	2-VS036	1-VS016			
59L12Q	2-VS036	1-VS016	<b>Remler</b>		
59L14Q	2-VS036	1-VS016	5400	5-VS036	1-VS016
68L11	1-Pack VS019		5410	5-VS036	1-VS016
69L11	1-Pack VS019		PP5461	5-VS036	2-VS055
<b>Magictone</b>			<b>Radioette</b>		
510	1-VS036	1-VS016	PR-2	3-VS036	1-VS016
<b>Olympic</b>			<b>Sentinel</b>		
8-451	1-VS036	1-VS016	1U316PM	1-VS002	1-VS016
8-452	2-VS036	1-VS016	1U316PT	1-VS002	1-VS016
9-452	2-VS002	2-VS013	312-P	5-VS036	2-VS055
			316-P	1-VS067	1-VS016
<b>Philco</b>			319-P	1-VS067	1-VS090
48-150	1-Pack VS021		326-P	2-VS036	1-VS016
48-300	1-Pack VS019				
48-360	1-Pack VS019		<b>Setchell-Carlson</b>		
49-101	1-Pack VS019		447	1-Pack VS019	
49-601	1-Pack VS057		449	1-Pack VS019	
49-602	1-Pack VS057		501	3-VS036	1-VS013
49-605	1-Pack VS019				
49-607	1-Pack VS019		<b>Signal</b>		
50-620	1-Pack VS057		141	1-VS036	1-VS055
50-621	1-Pack VS057		341A	1-VS002	1-VS016



**COMPONENT DIRECTORY FOR  
RCA VICTOR TELEVISION RECEIVERS**

<b>COMPONENT TO BE REPLACED</b>		<b>RCA REPLACE- MENT TYPE</b>
Description	Stock or Part No.	
<b>MODEL NOS. 630TS, 630TCS, 641TV, 8TS30, 8TV41</b>		
Cathode Circuit Trap.....	71422**	202K4
Converter Transformer .....	71495	202K1
Deflecting Yoke .....	71777	201D3
	74141	201D3
	71420	201D3
Filament Choke .....	71505	204L1
Focusing Coil .....	71421	202D1
Hor. Blocking Osc. & Sync. Discr. Trans- former .....	71428	208T8
Hor. Defl. Output & HV Transformer....	73570	211T3
Hor. Linearity Control.....	71449	201R3
Ion-Trap Magnet .....	71522*	203D1
	71792*	203D1
	73301†	203D3
	74148†	203D3
1st or 2nd Sound IF Transformer.....	71424	201K1
1st Picture IF Transformer.....	71423	202K2
2nd Picture IF Transformer.....	71425	202K3
3rd or 4th Picture IF Transformer.....	71426	202L1
Power Transformer .....	71415	201T6
Sound Discr. Transformer.....	71427*	203K1
Television Tuner .....	71531	201E1
Vert. Blocking Osc. Transformer.....	71775	208T2
	71418	208T2
Vert. Defl. Output Transformer.....	71417	204T2
Video Coil (series peaking).....	71529	203L3
Video Coil (shunt peaking).....	71528	203L2
	71527	203L4
Width Control .....	71429	201R1
* Not used in Model 8TV41.		
† Models 8TS30 and 8TV41.		
** Not used in Model 8TS30.		
<b>MODEL NOS. 621TS, 721TCS, 721TS, 730TV1, 730TV2</b>		
Cathode Circuit Trap.....	71778	202K11
Converter Transformer .....	71495	202K1
Deflecting Yoke .....	71777	201D3
	74141	201D3
	71420	201D3
Filament Choke .....	71505	204L1
Focusing Coil .....	71421†	202D1
Hor. Defl. Output & HV Transformer....	73570	211T3
Hor. Lin. Control.....	71449	201R3
Hor. Osc. and Sync. Control Coil.....	72770*	203R1
Ion-Trap Magnet .....	71522	203D1
	71792	203D1
	73301*	203D3
	74148*	203D3
<b>(continued)</b>		

\* Not used in 621TS.

† Models 721TS and 721TCS only.

\*\* Models 730TV1 and 730TV2 only.

**COMPONENT DIRECTORY FOR  
RCA VICTOR TELEVISION RECEIVERS**

<b>COMPONENT TO BE REPLACED</b>		<b>RCA REPLACE- MENT TYPE</b>
<b>Description</b>	<b>Stock or Part No.</b>	
<b>MODEL NOS. 621TS, 721TCS, 721TS, 730TV1, 730TV2 (cont'd)</b>		
1st or 2nd Sound IF Transformer.....	71424	201K1
3rd or 4th Picture IF Transformer.....	71428	202L1
Power Transformer .....	71772	201T8
Sound Discr. Transformer.....	71427	203K1
Speaker .....	71961**	312S1
	73635**	312S1
Television Tuner .....	71531	201E1
Vert. Blocking Osc. Transformer.....	71775	208T2
	71418	208T2
Vert. Defl. Output Transformer.....	71417	204T2
Video Coll (series peaking).....	71528*	203L1
	71529	203L3
Width Control .....	71429	201R1
† Models 721TS and 721TCS only. * Not used in 621TS. ** Model 730TV1 and 730TV2 only.		
<b>MODEL NOS. T164, TA128, TC165, TC166, TC167, TC168, 9T256, 9TC245, 9TC247, 9TC249, 9TW309</b>		
Cathode Circuit Trap .....	71778	202K11
Converter Transformer .....	73448*	202K5
Deflecting Yoke .....	71777**	201D3
	74141**	202D3
	71420**	201D3
Hor. Linearity Control.....	71449	201R3
Hor. Osc. & Sync. Control Coll.....	73576	203R2
Ion-Trap Magnet .....	73301†	203D3
	74148†	203D3
1st or 2nd Sound IF Transformer .....	71424	201K1
5th Picture IF Transformer .....	73575	202K10
Sound Discriminator Transformer.....	71427	203K1
Speaker .....	71961††	312S1
	73635††	312S1
	74355*†	412S1
Vertical Blocking Osc. Transformer.....	73569	208T9
Video Circuit Trap.....	73577	203L5
Video Coll (shunt peaking).....	71526	203L2
	71527	203L4
Width Control .....	71429†	201R1

\* Not used in Model 9T256.

\*\* Models 9T256, 9TC245, 9TC247, and 9TC249 only.

† Not used in Models T164, TC165, TC166, TC167, and TC168.

†† Used in Models 9TC245, 9TC247, 9TC249, T164, TC165, TC166, TC167, and TC168.

\*† Model 9TW309 only.

## COMPONENT DIRECTORY FOR RCA VICTOR TELEVISION RECEIVERS

COMPONENT TO BE REPLACED		RCA REPLACE- MENT TYPE
Description	Stock or Part No.	
<b>MODEL NOS. 648PTK, 648PV, 741PCS, 8PCS41, 9PC41</b>		
Cathode Circuit Trap.....	71422	202K4
Converter Transformer .....	71495	202K1
Deflecting Yoke .....	72196	201D2
	71561	201D2
Filament Choke .....	71505	204L1
Hor. Defl. Output & IIV Transformer...	72178	211T2
Hor. Sync. Discr. Transformer .....	71428	208T8
1st or 2nd Sound IF Transformer.....	71424	201K1
1st Picture IF Transformer.....	71423	202K2
2nd Picture IF Transformer.....	71425	202K3
3rd or 4th Picture IF Transformer.....	71426	202L1
Sound Discr. Transformer.....	71427	203K1
Television Tuner .....	71531	201E1
Vert. Blocking Osc. Transformer.....	71775	208T2
	71418	208T3
Video Coil (series peaking).....	71529	203L3
Video Coil (shunt peaking).....	71526	203L2
	71527	203L4
Width Control .....	72180	201R2
<b>MODEL NOS. T100, T120, T121, TA129, TC124, TC125, TC127</b>		
Cathode Circuit Trap.....	71778	202K11
Converter Transformer .....	73448†	202K5
Deflecting Yoke .....	71777*	201D3
	74141*	201D3
	71420*	201D3
Hor. Lin. Control.....	71449	201R3
Hor. Osc. & Sync. Control Coll.....	73576**	203R2
Ion-Trap Magnet .....	73301	203D3
	74148	203D3
1st or 2nd Sound IF Transformer.....	71424	201K1
5th Picture IF Transformer.....	73575	202K10
Sound Discr. Transformer.....	71427	203K1
Speaker .....	71961††	312S1
	73635††	312S1
	74355*†	412S1
Vert. Blocking Osc. Transformer.....	73569	208T9
Video Circuit Trap.....	73577	203L5
Video Coil (shunt peaking).....	71526	203L2
	71527	203L4
Width Control .....	71429	201R1

\* Not used in Model TA129.

\*\* Not used in Models TC124, TC125, TC127.

† Not used in T100.

†† Models T121, TC124, TC125, and TC127 only.

\*† Model TA129 only.



## COMPONENT DIRECTORY FOR RCA VICTOR TELEVISION RECEIVERS

COMPONENT TO BE REPLACED		RCA REPLACE- MENT TYPE
Description	Stock or Part No.	
<b>MODEL NOS. 8T241, 8T243, 8T244, 8T270, 8TC270, 8TC271, 8TK29, 8TK320, 8TR29, 8TV321, 8TV323, 9T240, 9T270, 9T246, 9TC240, 9TC272, 9TC275, 9TW333, 9TW390, S1000</b>		
Cathode Circuit Trap .....	71778¶	202K11
Converter Transformer .....	73448	202K5
Deflecting Yoke .....	71777*	201D3
	74111*	201D3
	71420*	201D3
Hor. Defl. Output & HV Transformer....	73570††	211T3
Hor. Lin. Control .....	71449	201R3
Hor. Osc. & Sync. Control Coil.....	73576§	203R2
Ion-Trap Magnet .....	73301	203D3
	74148	203D3
1st or 2nd Sound IF Transformer.....	71424	201K1
1st Picture IF Transformer .....	73571	202K6
2nd Picture IF Transformer .....	73572	202K7
3rd Picture IF Transformer .....	73573	202K8
4th Picture IF Transformer .....	73574	202K9
5th Picture IF Transformer .....	73575	202K10
Power Transformer .....	73567**	201T7
Sound Discr. Transformer .....	71427	203K1
Speaker .....	74355†¶	412S1
	73635*†	312S1
	71961*†	312S1
	74169†	208S2
Vert. Blocking Osc. Transformer.....	73569††	208T9
Vert. Defl. Output Transformer .....	73568	204T9
Video Circuit Trap .....	73577	203L5
Video Coil (series peaking) .....	71528	203L1
	71529¶¶	203L3
Video Coil (shunt peaking) .....	71526	203L2
	71527*¶	203L4
Width Control .....	71429	201R1

\* Not used in Models S1000 and 8TK320.

\*\* Models 8T241, 8TV321, 8TV323, 9T240, 9T246, 9TC240, and 9TW333 only.

† Models 8T270, 8TC270, 8TC271, 9T270, 9TC272, 9TC275.

†† Models 8T241, 8T243, 8T244, 8TV321, 8TV323, 8TK29, 8TR29, 9T240, 9T246, 9TC240, and 9TW333 only.

\*† Model 9T240 and 9TC240 only.

¶ Not used in Model 9T240, 9TC240.

¶¶ Models 8TK320, 8T270, 8TC270, 8TC271, 9T270, 9TC272, 9TC275, 9TW390, and S1000 only.

\*¶ Not used in Models 8T241, 8T243, 8T244, 8TV321, 8TV323, 8TR29, 8TK29, 9T240, 9TC240, 9TW333.

†¶ Models 8TK320, 9TW390, and S1000 only.

§ Not used in Model 9T240.

# RCA SPEAKER CHARACTERISTICS CHART

## PERMANENT-MAGNET TYPES

SIZE	TYPE No.	RESONANT MAGNET		VOICE-COIL IMPEDANCE	MAXIMUM POWER HANDLING CAPABILITY		MOUNTING
		FREQUENCY (cps)	WEIGHT (oz.)		(WATTS)	(WATTS)	
2" x 3"	423S1	250—365	1.5	11.8 ohms at 1000 cycles	0.125		RIM
4" (shallow pot type)	304S2	175—225	1.0	3.2 ohms at 400 cycles	3		RIM or POT
	404S2	170—225	1.47	3.2 ohms at 400 cycles	3		RIM or POT
4" x 6"	246S2	150—200	0.68	3.2 ohms at 400 cycles	3		RIM or POT
4" x 6"	446S2	150—200	1.47	3.2 ohms at 400 cycles	3		RIM or POT
5"	205S2	150—200	0.68	3.2 ohms at 400 cycles	3		RIM or POT
5"	405S2	150—200	1.47	3.2 ohms at 400 cycles	3		RIM or POT
5" x 7"	257S1	120—140	1.47	3.2 ohms at 400 cycles	6		RIM or POT
6"	306S1	100—140	1.47	3.2 ohms at 400 cycles	4		RIM
6" x 9"	269S1	95—120	2.4	3.2 ohms at 400 cycles	8		RIM
8"	208S2	75—95	2.15	3.2 ohms at 400 cycles	8		RIM
8"	208S4	75—95	2.15	6-8 ohms at 400 cycles	8		RIM
10"	410S1	75—125	6.8	6-8 ohms at 400 cycles	10		RIM
12"	112S1	65—90	2.15	3.2 ohms at 400 cycles	12		RIM
12"	412S6	65—90	6.8	3.2 ohms at 400 cycles	12		RIM
12"	412S7	65—90	6.8	6-8 ohms at 400 cycles	12		RIM
15"	515S1	40—55	32	16 ohms at 400 cycles	25		RIM or FLANGE
15"	515S2	40—55	32	16 ohms at 400 cycles	25		RIM or FLANGE

## FIELD-COIL TYPES

SIZE	TYPE No.	RESONANT FIELD RE-		FIELD CURRENT	VOICE-COIL IMPEDANCE	MAXIMUM POWER HANDLING CAPABILITY		MOUNTING
		FREQUENCY (cps)	STANCE (ohms)			(WATTS)	(WATTS)	
4" x 6"	746S1	150—200	450	65 ma	3.2 ohms at 400 cycles	3		RIM or POT
5"	705S1	150—200	450	65 ma	3.2 ohms at 400 cycles	3		RIM or POT
6" x 9"	869S1	95—120	6	1 amp	3.2 ohms at 400 cycles	8		RIM
12"	712S2	70—85	1060	70 ma	3.2 ohms at 400 cycles	12		RIM

# TELEVISION SERVICE DATA

## TV CHANNELS AND CARRIER FREQUENCIES

Television Channel Number	Channel Freq. Mc	Picture Carrier Freq. Mc	Sound Carrier Freq. Mc
2	54- 60	55.25	59.75
3	60- 66	61.25	65.75
4	66- 72	67.25	71.75
5	76- 82	77.25	81.75
6	82- 88	83.25	87.75
7	174-180	175.25	179.75
8	180-186	181.25	185.75
9	186-192	187.25	191.75
10	192-198	193.25	197.75
11	198-204	199.25	203.75
12	204-210	205.25	209.75
13	210-216	211.25	215.75

### TV SIGNAL DATA:

Number of lines = 525, interlaced.

Frame frequency (number of complete pictures) = 30/sec.

Field frequency (number of alternate-line pictures) = 60/sec.

Horizontal frequency =  $525 \times 30 = 15,750$  cps.

Time for one complete line (including retrace time) =  $1/15,750 = 63.5$  microseconds.

Horizontal blanking time = 16% of 63.5 = 10.2 microseconds.

Active time for one horizontal line =  $63.5 - 10.2 = 53.3$  microseconds.

Vertical blanking duration = 6.5% of vertical scanning time.

Number of usable horizontal lines =  $525 - (525 \times 0.065) = 490$  lines.

Limiting horizontal resolution = 340 lines, approx.

Black level = 75% of maximum carrier voltage.

White level = 0-15% of maximum carrier voltage.

Aspect ratio (ratio of width to height) = 4 to 3.

Sound FM, 100% modulation =  $\pm 25$  kc deviation.

# TELEVISION RECEIVER ALIGNMENT

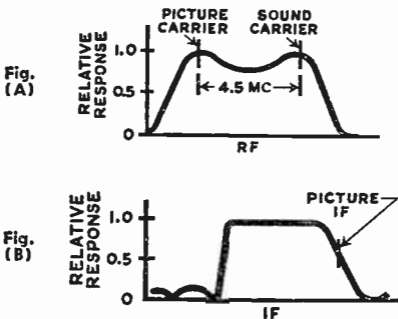


Figure (A) shows typical frequency response of rf and mixer circuits. Figure (B) shows typical frequency response of picture if amplifier. The position of the picture if carrier is important and is approximately 50% up the slope as shown.

The over-all rf and picture if response is similar to that shown in (B), providing the rf response is sufficiently wide and flat, as shown in (A).

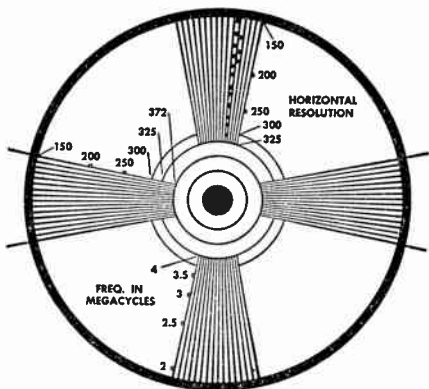
Traps are provided in the picture if amplifier to keep the sound if from getting through the picture if amplifier, and to attenuate the adjacent-channel sound and picture signals.

In most RCA Victor television receivers, the picture if is 25.75 Mc, the sound if is 21.25 Mc, and the adjacent channel traps are 27.25 and 19.75 Mc. In recent RCA Victor receivers, the picture if is 25.5 Mc, and the sound if is 21.00 Mc.

In some television receivers there is a sound trap in the video amplifier, tuned to 4.5 Mc, to suppress the difference-frequency beat between the picture and sound carriers.

In one type of television receiver, the sound and picture if signals are passed through a common if amplifier and the 4.5-Mc beat between the two carriers is trapped out in the video amplifier and passed through an FM discriminator and audio amplifier.

# USING THE TEST PATTERN



The television test pattern is used to set all of the controls and adjustments on television receivers, and to check definition in terms of "line resolution" or bandwidth. The test pattern illustrated above is the one used by WNBT.

*Linearity and size (both horizontal and vertical controls)* should be adjusted so that the large circles are as round as possible, and so that the test pattern is slightly larger than the cabinet opening.

*Brightness and contrast controls* should be adjusted so that each step (usually five) from black to white in the shading blocks is separate and distinct.

*Focus control* should be adjusted so that the separate lines in the vertical resolution wedge are distinct as far as possible in to the narrow end of the vertical wedge.

*Centering controls* should be adjusted so that the active or unblanked portion of the pattern is centered with respect to the cabinet opening.

## RESOLUTION WEDGES

Horizontal wedges indicate *vertical* resolution, which is expressed in terms of lines, and not in bandwidth.

Vertical wedges indicate *horizontal* resolution, which is expressed in terms of lines, or bandwidth, or both.

In some patterns, the wedges are marked at several points by numbers to indicate the equivalent number of lines: The last zero may be omitted (250 shown as "25"). If equivalent bandwidth is shown on the vertical wedge, it is given in megacycles, for example, 2.0 Mc is shown as "2".

In patterns where this information is not shown, it may be obtained from the TV station, or computed as follows:

The equivalent number of lines at any desired point along the horizontal or vertical wedge =  $\frac{V \times L}{d}$

Where  $V$  = height of test pattern in inches.

$d$  = accurately measured distance in inches across the wedge at the desired point.

$L$  = total number of black and white lines in the wedge.

To convert horizontal resolution in lines to bandwidth in Mc, divide by 80. Conversely, multiply the bandwidth by 80 to determine the equivalent number of lines.

BANDWIDTH		EQUIVALENT HORIZONTAL RESOLUTION IN LINES
1.0 Mc	=	80 lines
2.0 Mc	=	160 lines
3.0 Mc	=	240 lines
4.0 Mc	=	320 lines

# TV TROUBLE SHOOTING

By JOHN R. MEAGHER, *RCA Television Specialist*

Most troubles in television receivers produce visible symptoms in the picture. By learning to analyze these symptoms, the technician can determine which section of the receiver is at fault. It is a fortunate fact that even in the most complex television receiver any one section is relatively simple, consisting of only a few tubes and a handful of components. Therefore, if the technician accurately localizes the trouble to a particular section, it becomes a simple matter of checking components and voltages in the suspected section to find the exact fault.

The guiding rules for television service are —

1. *Localize the trouble* to a particular section of the receiver by analyzing the visible symptoms in the picture.
2. *Try new tubes* in the suspected section. If this does not correct the trouble, —
3. *Check the components*, voltages, and wiring in the suspected section.

In the following pages are indicated some of the typical symptoms of trouble in different sections of television receivers. This information has been taken from Volumes I and II of the famous RCA Pict-O-Guide\* which contains dozens of actual photographs of typical symptoms and is an invaluable aid for all television technicians.

## HORIZONTAL DEFLECTION TROUBLES

### Typical Symptoms

1. Insufficient width or poor horizontal linearity.
2. Bright vertical bars on raster.
3. Fold-over at left- or right-hand sides of raster.
4. Absence of raster due to high-voltage failure.

Failure of the horizontal oscillator, horizontal discharge, or horizontal output circuits will result in

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\*Copyright, 1949, Radio Corporation of America.

(The RCA Pict-O-Guide may be obtained through your RCA Distributor).

failure of high voltage. When high voltage fails, there is complete absence of raster or picture on the kinescope.

### **HORIZONTAL OSCILLATOR TROUBLES**

#### **Typical Symptoms**

1. Picture out of sync horizontally because oscillator is off frequency. (Adjust oscillator tank slug).
2. Picture not phased correctly. (Adjust discriminator transformer slug).
3. Microphonics in horizontal deflection. (Try new tube in horizontal oscillator or horizontal-frequency-control circuits).
4. Failure of high voltage due to failure of horizontal oscillator. (Check the developed grid voltage on oscillator).

### **POWER SUPPLY TROUBLES**

#### **Typical Symptoms**

Filter-capacitor failure in the power supply may affect two or more sections of the receiver, producing —

1. Hum in loudspeaker not controlled by audio volume control.
2. Hum in horizontal deflection, visible as curvature on left and right edges of raster.
3. Hum in video, visible as changes in raster brightness from top to bottom.

### **RF-IF TROUBLES**

#### **Typical Symptoms**

1. Poor picture quality, due to incorrect rf-if alignment.
2. Poor sync and blanking, due to insufficient low-frequency response. (Incorrect alignment).
3. Dark streaks across vertical wedge, due to if regeneration.
4. Poor signal-to-noise ratio, due to incorrect alignment.
5. Various interference conditions.
6. Sound in picture, picture in sound.



## **SYNC TROUBLES**

### **Typical Symptoms**

1. Failure of the sync separator section will cause the picture to roll vertically and go out of sync horizontally.
2. When only vertical sync is poor, check between the sync output and the vertical oscillator.
3. When only horizontal sync is poor, check between the sync output and the horizontal oscillator.

## **VIDEO TROUBLES**

### **Typical Symptoms**

1. Streaking or smearing in picture, due to poor low-frequency response.
2. Vertical blanking not as dark as the darkest picture elements, due to poor low-frequency video response. This condition may be accompanied by poor sync and inadequate blanking of return lines.
3. Portions of picture that should be a uniform black or grey have gradations in shading, due to poor video response.
4. Poor high-frequency definition, due to open or shorted video peaking coils.
5. Difficulty in obtaining suitable contrast, due to incorrect bias on video tubes.

Some of these symptoms, particularly 3 and 4, are frequently caused by incorrect rf-if alignment.

6. Horizontal pulling or weaving of picture at normal contrast, due to incorrect bias on video tubes or to faulty dc restorer.
7. Loss of sync or reduction of sync amplitude caused by clipping due to incorrect voltages on video tubes.

## **VERTICAL OSCILLATOR AND VERTICAL DEFLECTION TROUBLES**

### **Typical Symptoms**

1. Inability to form a single picture vertically at any setting of the vertical hold control, indicating that the frequency of the vertical oscillator is incorrect.
2. Insufficient height or poor vertical linearity.
3. Fold-over at top or bottom of raster.
4. Bright horizontal bar(s) across raster.
5. No vertical deflection, indicating failure of vertical oscillator or vertical output.

# RCA TEST EQUIPMENT

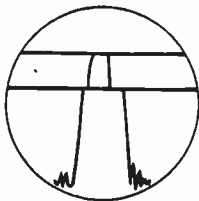
## CATHODE-RAY OSCILLOSCOPE, RCA WO-57A

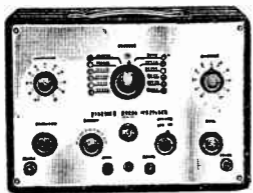


Is ideal for TV servicing. High-frequency square-wave response up to 100 kc provides faithful reproduction of blanking and sync-pulse waveshapes. The direct-coupled vertical amplifier with low-frequency response flat down to dc assures the low-frequency

square-wave reproduction essential to correct sweep alignment. The WO-57A incorporates a calibrating system which permits peak-to-peak and dc-voltage measurements directly from the face of the cathode-ray tube. Additional features include frequency-compensated attenuators; preset fixed sweep positions for synchronized display of television wave-shapes; internal positive and negative synchronization for easily holding a steady pattern regardless of pulse polarity; a linear-sweep range of 15 to 30,000 cps; an internal phase-controlled sinusoidal sweep for sweep-alignment applications; and a deflection switch for reversing the direction of the sweep trace.

The WO-57A features a superior square-wave response with less than 2% tilt and overshoot. This means it will provide accurate reproduction of sync and deflection waveshapes, pulses, and square waves. The excellent frequency response of the vertical amplifier permits accurate TV waveshape analysis and signal tracing.

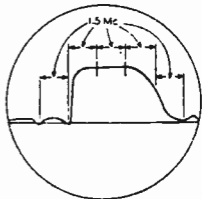




Covers all broadcast television channels, video and if bands, and FM intermediate-frequency bands. Features preset position for each television tuning channel and continuous tuning from 300 kc to 50 Mc on the if/video

band. Provides a flexible output with a sweep width continuously variable up to 10 Mc; an essentially flat frequency response, even at maximum sweep width; and a maximum voltage of 0.1 volt or better, which can be attenuated down to 5 microvolts. Is frequency modulated by a sturdy precision-type vibrating capacitor which provides good linearity and a wide sweep range. The WR-59B operates on oscillator-fundamental frequencies on all television channels, providing an output uncommonly free from spurious responses and undersirable frequency components. Additional features include a phase-controlled sinusoidal sweep for oscilloscopes, a zero-reference line for checking response-curve characteristics, an rf output cable terminated in 300 ohms balanced to ground, and an if/vf output cable.

The WR-59B provides sufficient sweep width to allow a generous overlap beyond the frequency limits of the circuits under test. Exceptional horizontal linearity makes it possible to scale frequencies accurately on the trace. Essentially flat frequency response insures a true representation of the test-circuit-response curve.

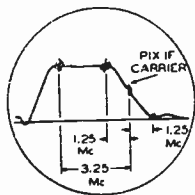




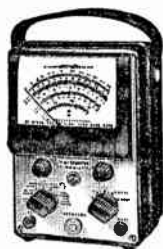
Designed primarily for aligning television receivers. Included in this one instrument are a crystal-calibrated variable-frequency oscillator which operates on fundamentals in all television bands, two crystal-controlled oscillators

with three crystal positions, a wide-band modulator stage for internally modulating the output at audio and rf frequencies, and an audio amplifier with internal speaker. An internal audio oscillator is also included for modulating the output of the variable-frequency oscillator. Frequency settings, as well as television picture and sound carriers, are indicated on a large, easily read drum dial. The WR-39B provides markers of crystal accuracy for peak-alignment applications, dual markers for sweep-alignment applications, triple markers for discriminator and ratio-detector adjustments, bar-pattern carrier frequencies for linearity adjustments, amplitude-modulated signals for intercarrier sound-if alignment, and facilities for zero-beating and identifying unknown frequencies.

The WR-39B provides markers of crystal accuracy at all TV sound and picture carrier frequencies, sound and picture intermediate frequencies, and local-oscillator frequencies. These markers are essential for determining TV response characteristics and in signal tracing.

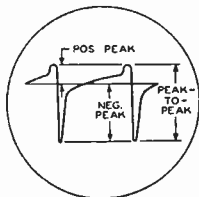


## SENIOR VOLTOHMYST\*, RCA WV-97A



Features a full-wave, high-impedance rectifier, with a frequency response flat to 3 Mc, for measuring peak-to-peak voltages of complex television waveshapes found in video, sync, and deflection circuits, and sine waves up to 1400 volts or better. The WV-97A will also measure rms voltage values of sine waves up to 1200 volts, dc voltages up to 1500 volts, and resistances up to 1000 megohms. The basic circuit of the WV-97A is a push-pull dc-amplifier bridge which features excellent linearity, a high degree of stability, and high input impedance. Additional features include an attenuator network which is frequency compensated for all voltages up to 1400 peak-to-peak volts; an input resistance of 11 megohms, including a 1-megohm isolating resistor in the DC Probe; an electronically protected, 200-microampere meter movement with a 2% accuracy; seven continuous ranges for both resistance and voltage; and a circuit design which permits ac-voltage measurements in the presence of dc and vice versa.

The peak - to - peak - reading feature of the WV-97A assures efficient trouble - shooting and signal-tracing of critical sync, video, and deflection circuits. The correct peak-to-peak voltages of complex TV waveforms are essential to proper triggering, blanking, timing, sweeping, and modulation.



\*Registered Trademark, U.S. Patent Office

**CATHODE-RAY OSCILLOSCOPE, RCA WO-56A:** Features direct-coupled amplifiers, three push-pull stages of amplification in both vertical and horizontal amplifiers, excellent frequency response, very high deflection sensitivity, superior square-wave response, a trace expansion of three times screen diameter with centering of any portion of the trace, linear-sweep oscillator of 3 cps to 30 kc, internal phase-controlled 60-cycle sinusoidal and linear sweep, and many additional facilities for TV servicing and design.

---

**HIGH-VOLTAGE PROBES, RCA WG-289, WG-290:** Especially useful for measuring high voltages in TV receivers, these probes can safely be used to measure up to 50,000 dc volts. Will multiply a dc-voltage reading by a factor of 100 when fitted with proper multiplier resistor. The WG-289 and WG-290 are identical except that the WG-289 is fitted with a microphone type connector and the WG-290 is fitted with phone tips.

---

**TV-ISOTAP, RCA WP-25A:** Facilitates servicing of television and radio receivers. Can be used either as a high-medium-low isolation transformer or as a high-medium-low autotransformer for testing receivers and duplicating operating conditions. Under maximum-load conditions, voltages of approximately 130, 115, and 105 volts are available at the primary and secondary receptacles when the selector is set to the nearest line-voltage value.

# JANUARY 1951

**New Year's Day**

**MON. 1**

**TUES. 2**

**WED. 3**

**THURS. 4**

**FRI. 5**

**SAT. 6**

**JANUARY 1951**

**SUN. 7**

**MON. 8**

**TUES. 9**

**WED. 10**

**THURS. 11**

**FRI. 12**

**SAT. 13**



# JANUARY 1951

SUN. 14

MON. 15

TUES. 16

WED. 17

THURS. 18

FRI. 19

SAT. 20

# JANUARY 1951

SUN. 21

MON. 22

TUES. 23

WED. 24

THURS. 25

FRI. 26

SAT. 27

# JANUARY - FEBRUARY 1951

**SUN. 28**

**MON. 29**

**TUES. 30**

**WED. 31**

**THURS. 1      FEBRUARY**

**FRI. 2**

**SAT. 3**

# FEBRUARY 1951

SUN. 4

MON. 5

TUES. 6

WED. 7

THURS. 8

FRI. 9

SAT. 10

**FEBRUARY 1951**

**SUN. 11**

**MON. 12**

**TUES. 13**

**WED. 14**

**St. Valentine's Day**

**THURS. 15**

**FRI. 16**

**SAT. 17**

**FEBRUARY 1951**

**SUN. 18**

**MON. 19**

**TUES. 20**

**WED. 21**

**THURS. 22**

**Washington's Birthday**

**FRI. 23**

**SAT. 24**

**FEBRUARY - MARCH 1951**

**SUN. 25**

**MON. 26**

**TUES. 27**

**WED. 28**

**THURS. 1      MARCH**

**FRI. 2**

**SAT. 3**

**MARCH 1951**

**SUN. 4**

**MON. 5**

**TUES. 6**

**WED. 7**

**THURS. 8**

**FRI. 9**

**SAT. 10**



**MARCH 1951**

**SUN. 11**

**MON. 12**

**TUES. 13**

**WED. 14**

**THURS. 15**

**FRI. 16**

**SAT. 17**

# MARCH 1951

**SUN. 18**

**MON. 19**

**TUES. 20**

**WED. 21**

**THURS. 22**

**FRI. 23**

**Good Friday**

**SAT. 24**

# MARCH 1951

**SUN. 25**

Easter Sunday

**MON. 26**

**TUES. 27**

**WED. 28**

**THURS. 29**

**FRI. 30**

**SAT. 31**

# APRIL 1951

SUN. 1

MON. 2

TUES. 3

WED. 4

THURS. 5

FRI. 6

SAT. 7

# APRIL 1951

SUN. 8

MON. 9

TUES. 10

WED. 11

THURS. 12

FRI. 13

SAT. 14

**APRIL 1951**

**SUN. 15**

**MON. 16**

**TUES. 17**

**WED. 18**

**THURS. 19**

**FRI. 20**

**SAT. 21**

**APRIL 1951**

**SUN. 22**

**MON. 23**

**TUES. 24**

**WED. 25**

**THURS. 26**

**FRI. 27**

**SAT. 28**

**APRIL - MAY 1951**

**SUN. 29**

**MON. 30**

**TUES. 1      MAY**

**WED. 2**

**THURS. 3**

**FRI. 4**

**SAT. 5**



# MAY 1951

SUN. 6

MON. 7

TUES. 8

WED. 9

THURS. 10

FRI. 11

SAT. 12

**MAY 1951**

**SUN. 13**

**MON. 14**

**TUES. 15**

**WED. 16**

**THURS. 17**

**FRI. 18**

**SAT. 19**

# MAY 1951

SUN. 20

MON. 21

TUES. 22

WED. 23

THURS. 24

FRI. 25

SAT. 26

**MAY - JUNE 1951**

**SUN. 27**

**MON. 28**

**TUES. 29**

**WED. 30**

Memorial Day

**THURS. 31**

**FRI. 1**

**JUNE**

**SAT. 2**

**JUNE 1951**

**SUN. 3**

**MON. 4**

**TUES. 5**

**WED. 6**

**THURS. 7**

**FRI. 8**

**SAT. 9**

# JUNE 1951

SUN. 10

MON. 11

TUES. 12

WED. 13

THURS. 14

FRI. 15

SAT. 16

**JUNE 1951**

**SUN. 17**

**MON. 18**

**TUES. 19**

**WED. 20**

**THURS. 21**

**FRI. 22**

**SAT. 23**

SUN. 24

MON. 25

TUES. 26

WED. 27

THURS. 28

FRI. 29

SAT. 30



# JULY 1951

**SUN. 1**

**MON. 2**

**TUES. 3**

**WED. 4**

**Independence Day**

**THURS. 5**

**FRI. 6**

**SAT. 7**

**JULY 1951**

**SUN. 8**

**MON. 9**

**TUES. 10**

**WED. 11**

**THURS. 12**

**FRI. 13**

**SAT. 14**

# JULY 1951

SUN. 15

MON. 16

TUES. 17

WED. 18

THURS. 19

FRI. 20

SAT. 21

**JULY 1951**

**SUN. 22**

**MON. 23**

**TUES. 24**

**WED. 25**

**THURS. 26**

**FRI. 27**

**SAT. 28**

**JULY - AUGUST 1951**

**SUN. 29**

**MON. 30**

**TUES. 31**

**WED. 1      AUGUST**

**THURS. 2**

**FRI. 3**

**SAT. 4**

**AUGUST 1951**

**SUN. 5**

**MON. 6**

**TUES. 7**

**WED. 8**

**THURS. 9**

**FRI. 10**

**SAT. 11**

**AUGUST 1951**

**SUN. 12**

**MON. 13**

**TUES. 14**

**WED. 15**

**THURS. 16**

**FRI. 17**

**SAT. 18**

**AUGUST 1951**

**SUN. 19**

**MON. 20**

**TUES. 21**

**WED. 22**

**THURS. 23**

**FRI. 24**

**SAT. 25**



# AUGUST-SEPTEMBER 1951

SUN. 26

MON. 27

TUES. 28

WED. 29

THURS. 30

FRI. 31

SAT. 1

SEPTEMBER

# SEPTEMBER 1951

SUN. 2

MON. 3

Labor Day

TUES. 4

WED. 5

THURS. 6

FRI. 7

SAT. 8

# SEPTEMBER 1951

SUN. 9

MON. 10

TUES. 11

WED. 12

THURS. 13

FRI. 14

SAT. 15

SEPTEMBER 1951

SUN. 16

MON. 17

TUES. 18

WED. 19

THURS. 20

FRI. 21

SAT. 22

**SEPTEMBER 1951**

**SUN. 23**

**MON. 24**

**TUES. 25**

**WED. 26**

**THURS. 27**

**FRI. 28**

**SAT. 29**

# SEPTEMBER - OCTOBER 1951

**SUN. 30**

**MON. 1            OCTOBER**

**TUES. 2**

**WED. 3**

**THURS. 4**

**FRI. 5**

**SAT. 6**

# OCTOBER 1951

SUN. 7

MON. 8

TUES. 9

WED. 10

THURS. 11

FRI. 12

Columbus Day

SAT. 13

OCTOBER 1951

SUN. 14

MON. 15

TUES. 16

WED. 17

THURS. 18

FRI. 19

SAT. 20



# OCTOBER 1951

SUN. 21

MON. 22

TUES. 23

WED. 24

THURS. 25

FRI. 26

SAT. 27

**OCTOBER - NOVEMBER 1951**

**SUN. 28**

**MON. 29**

**TUES. 30**

**WED. 31**

**THURS. 1      NOVEMBER**

**FRI. 2**

**SAT. 3**

# NOVEMBER 1951

SUN. 4

MON. 5

TUES. 6

WED. 7

THURS. 8

FRI. 9

SAT. 10

Armistice Day

**NOVEMBER 1951**

**SUN. 11**

**MON. 12**

**TUES. 13**

**WED. 14**

**THURS. 15**

**FRI. 16**

**SAT. 17**

# NOVEMBER 1951

SUN. 18

MON. 19

TUES. 20

WED. 21

THURS. 22

Thanksgiving Day

FRI. 23

SAT. 24

**NOVEMBER - DECEMBER 1951**

**SUN. 25**

**MON. 26**

**TUES. 27**

**WED. 28**

**THURS. 29**

**FRI. 30**

**SAT. 1      DECEMBER**

# DECEMBER 1951

**SUN. 2**

**MON. 3**

**TUES. 4**

**WED. 5**

**THURS. 6**

**FRI. 7**

**SAT. 8**

DECEMBER 1951

SUN. 9

MON. 10

TUES. 11

WED. 12

THURS. 12

FRI. 14

SAT. 15



**DECEMBER 1951**

**SUN. 16**

**MON. 17**

**TUES. 18**

**WED. 19**

**THURS. 20**

**FRI. 21**

**SAT. 22**

**DECEMBER 1951**

**SUN. 23**

**MON. 24**

**TUES. 25**

**Christmas Day**

**WED. 26**

**THURS. 27**

**FRI. 28**

**SAT. 29**

# DECEMBER 1951

SUN. 30

MON. 31

TUES.

WED.

THURS.

FRI.

SAT.

# ADDRESSES

Name

St. No.

City

Name

St. No.

City

Name

St. No.

City

Name

St. No.

City

Name

St. No.

City

Name

St. No.

City

Name

St. No.

City

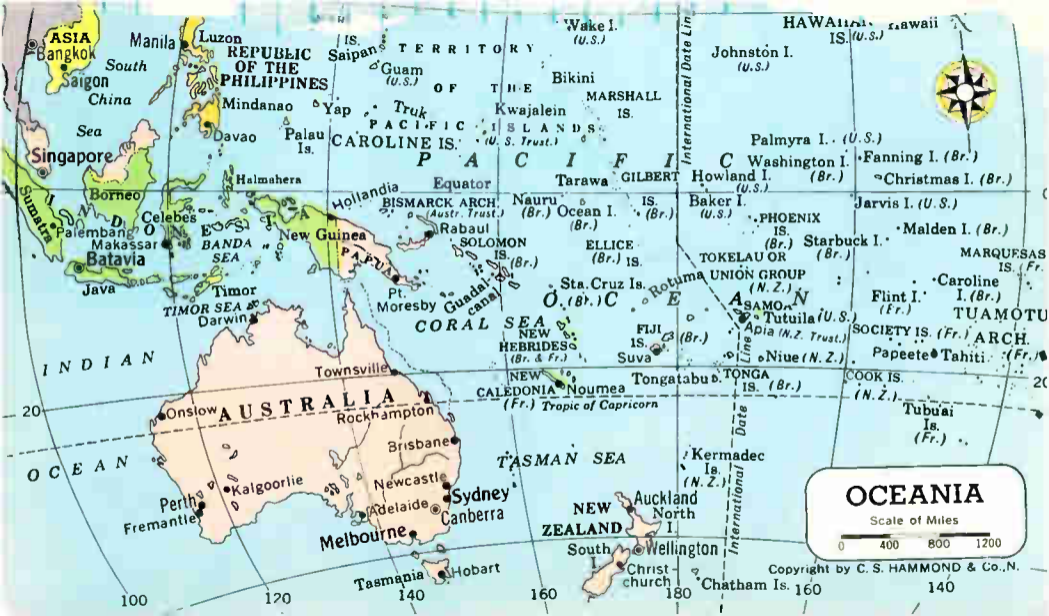


















# NORTH AMERICA

Scale of Miles

0 400 800 1200

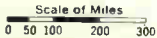
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6419

120 110 100 90 80



# MEXICO



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114

102

98

94



**UNITED STATES**  
Western Section



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120

7419

115

110





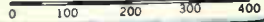




# UNITED STATES

## Eastern Section

Scale of Miles



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6419 75



# EUROPE

Scale of Miles



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4419

10

20



BARENTS SEA

FINLAND  
Murmansk  
Vaasa  
Helsinki  
Tampere  
Åbo  
Åland

ESTONIA  
Tallinn  
Riga  
LITHUANIA  
Vilnius  
Kaunas  
Lithuanian  
Grädi

POLAND  
Warsaw  
L'vov  
Chernovtsy  
Kishinev  
Odessa

RUMANIA  
Cluj  
Ploesti  
Bucharest

BULGARIA  
Sofia  
Danube  
Plovdiv  
Skopje

GREECE  
Athens  
Larisa  
Patras  
Crete  
Derna

ARMENIA  
Yerevan

Georgian  
Tbilisi

Arkhangel'sk  
Northern Dvina  
Syktyvkar  
L. Onega  
Petrozavodsk  
L. Ladoga  
Leningrad  
Yaroslavl'  
Kalinin  
MOSCOW  
Gor'kiy  
Kazan  
Ufa

SOCIALIST REPUBLICS  
Penza  
Saratov  
Kuybyshev  
Chkalov

Kursk  
Khar'kov  
Dnepropetrovsk  
Stalingrad  
Rostov  
Astrakhan  
Krasnodar  
Groznyy

BLACK SEA  
Istanbul  
Ankara  
Aleppo

ARABIA  
Tel Aviv  
Jerusalem  
Beirut  
Damascus  
Basra  
Baghdad

U.S.S.R.  
Molotov  
Sverdlovsk  
Chelyabinsk

Ural

CASPIAN SEA

Armenian

Georgian

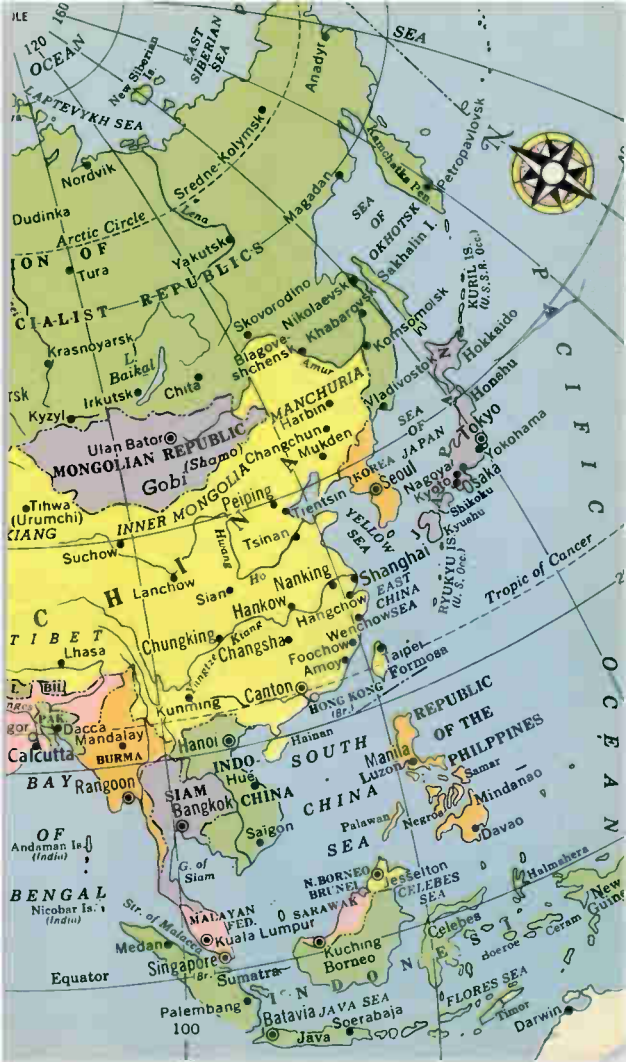


# ASIA

Scale of Miles



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# CANADA

Scale of Miles



UNITED STATES

GREENLAND  
NEWFOUNDLAND  
NOVA SCOTIA  
BRUNSWICK  
QUEBEC  
ONTARIO  
MANITOBA  
SASKATCHEWAN  
ALBERTA  
COLUMBIA  
BRITISH COLUMBIA  
YUKON  
NORTHWEST TERRITORIES





**PERSONAL**

---

*Name* \_\_\_\_\_

*Social Security No.* \_\_\_\_\_

*Residence* \_\_\_\_\_  
\_\_\_\_\_

*Business Address* \_\_\_\_\_  
\_\_\_\_\_

*In case of accident, please notify*  
\_\_\_\_\_  
\_\_\_\_\_

*Telephone* \_\_\_\_\_

*Accident Ins. Policy No.* \_\_\_\_\_

*Automobile Information:*

*License No.* \_\_\_\_\_

*Motor No.* \_\_\_\_\_

*Model No.* \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**THIS BOOK IS VALUABLE**  
If found, please return to the above.

