RADIO CORPORATION OF AMERICA

REFERENCE BOOK

1958

1958

REFERENCE BOOK

RECEIVING TUBES
INDUSTRIAL-TYPE TUBES
PICTURE TUBES
CATHODE-RAY AND POWER TUBES
PHOTOTUBES
SERVICE PARTS
TEST EQUIPMENT
BATTERIES
SEMICONDUCTOR PRODUCTS

A DAILY PRODUCT REMINDER FOR

INDUSTRY
COMMUNICATIONS
RADIO — TELEVISION
RESEARCH

PRICE **1.00**

Published by

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RCA TECHNICAL PUBLICATIONS

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

NOTE: All prices are net and apply in the U.S.A. They are subject to change and cancellation without notice.

ELECTRON TUBE DIVISION

Ask your RCA Distributor for these publications, or write directly to Commercial Engineering, Electron Tube Division, Radio Corporation of America, Harrison, New Jersey. When ordering from Commercial Engineering make remittance payable in U.S. dollars to Radio Corporation of America.

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

• **RCA TRANSMITTING TUBES**—TT-4 (8⅜" x 5⅜")—256 pages. Written for the engineer, service technician, radio amateur, student, and experimenter. Contains basic information on generic tube types, on tube parts and materials, on tube installation and application and on interpretation of tube data. Includes maximum ratings, typical operating values, and characteristics curves for power tubes having plate-input ratings up to 4 kilowatts, and maximum ratings and operating values for associated rectifier tubes. Contains sections on transmitter-design considerations and on rectifier circuits and filters. Features classification charts for quick, easy selection of tubes, and circuit diagrams for transmitting and industrial applications. Features lie-flat binding. Price $1.00.

• **RCA RECEIVING TUBE MANUAL**—RC-18 (8⅜" x 5⅜")—352 pages. Revised, expanded, and brought up to date. Contains the latest receiving tubes, including types for black-and-white and color television applications. Features tube theory written for the layman, application data, Resistance-Coupled Amplifier Section, and several new circuits for high-fidelity audio amplifiers. Features lie-flat binding. Price 75 cents.

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

• **RCA POWER AND GAS TUBES**—PG101C (10⅞" x 8⅜")—24 pages. Completely revised and brought up to date. Technical information on 174 RCA vacuum power tubes, rectifier tubes, thyratrons, ignitrons, magnetrons, and vacuum-gauge tubes. Includes terminal connections. Price 20 cents.

• **RCA RECEIVING-TYPE TUBES FOR INDUSTRY AND COMMUNICATIONS**—RIT 104A (10⅞" x 8⅜")—24 pages. Completely revised and brought up to date. Technical information on 150 RCA "special red" tubes, premium tubes, computer tubes, pencil tubes, glow-discharge tubes, small thyratrons, low-microphonic amplifier tubes, and other special types. Includes socket-connection diagrams. Price 25 cents.

• **RCA RECEIVING TUBES FOR AM, FM, AND TELEVISION BROADCAST**—1275-H (10⅞" x 8⅜")—36 pages. Completely revised and brought up to date. Contains classification chart, characteristics chart, and base and envelope connection diagrams on more than 700 entertainment receiving tubes and picture tubes. Price 25 cents.

• **RCA PHOTOSENSITIVE DEVICES AND CATHODE-RAY TUBES**—CRPD-105 (10⅞" x 8⅜")—24 pages. Contains technical information on 109 RCA tubes including single-unit, twin-unit, and multiplier phototubes; flying spot tubes; monitor, projection, transcriber, and view-finder kinescopes; and storage tubes. Price 20 cents.

• **RCA PICTURE TUBES**—KB-106 (10⅞" x 8⅜")—16 pages. Contains characteristics and base-connection diagrams for RCA's complete line of picture tubes. Features an interchangeability directory on more than 150 types. Price 20 cents.

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

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

*Trademark Registered U. S. Patent Office.

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

• **RCA TUBE PICTURE BOOK**—TPB-1 (10⅞" x 8⅜")—16 pages. Collection of photographs and cutaway drawings of representative tube types. Prepared especially for use by students. A visual aid for the details of tube construction. Price 25 cents.

• **RCA PREFERRED TYPES LIST**—PTL-502E (10⅞" x 8⅜")—2 pages. Lists RCA receiving type tubes by function. An aid to equipment designers in the selection of tube types for AM and FM broadcast receiver and television receiver design.

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

• **TV SERVICING**—TVS-1030 (10⅞" x 8⅜")—48 pages. This 48-page booklet is a compilation of articles on TV trouble shooting, TV tuner alignment, and TV circuit analysis. Price 35 cents.

• **TV SERVICING, SUPPLEMENT 1**—TVS-1031 (10⅞" x 8⅜"). A 12-page booklet containing an article by John R. Meagher on solving trouble shooting problems in those hard-to-service television receivers known to service technicians as "tough" sets or "dogs." Price 15 cents.

• **PRACTICAL COLOR TELEVISION**—(8⅜" x 10⅞")— 84 pages. Black-and-white and color illustrations. Presents comprehensive information on basic color principles, transmitted color signal, color camera, and color kinescope. Covers commercial-model receiver circuit using the RCA-15GP22 kinescope, as well as installation and service of color receivers. Provides detailed description of latest color-test equipment. Price $2.00.

• **PRACTICAL COLOR TELEVISION, SUPPLEMENT 1**—New Edition—36 pages plus 6 pages of fold-out schematic and block diagrams. Describes theory, operation and servicing of large-screen color-TV receiver utilizing RCA-21AXP22 color kinescope. Contains 55 black-and-white and color illustrations including schematic and block diagrams, waveforms, and explanations of color circuits and adjustments. Price 75 cents.

• **RADIO BATTERIES FOR FLASHLIGHT, RADIO AND INDUSTRIAL APPLICATIONS** (10⅞" x 8⅜")—8 pages. Contains characteristics, terminal types, and socket patterns of 82 RCA dry batteries for radio, flashlight, and industrial applications. Includes a battery interchangeability directory, and a battery replacement guide for portable radios. Price 10 cents.

• **SERVICE PARTS DIRECTORIES FOR RCA VICTOR TV RECEIVERS**—SP-1035 (10⅞" x 16¾")—72 pages. Schematic diagrams, top and bottom chassis views, replacement parts lists, and top and bottom chassis adjustments for the 106 models of 1954 RCA Victor TV receivers. Also included is information on the CT-100 and the 21-CT55 Color-TV Receivers, and the RP-197 and RP-198, 3-speed record changers. The index cross-references model names to model numbers of all RCA Victor TV receivers from 1946 through 1954. Price, $1.25 per copy.

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

SP-1021 (10⅞" x 16¾")—86 pages. Schematic diagrams, wiring diagrams, replacement parts, and top and bottom views for the 27 models of 1952 RCA Victor television receivers. The comprehensive index cross-references RCA TV model names to model numbers, and model numbers to the publication in which information may be found. Price, 50 cents per copy.

SP-1014 (10⅞" x 16¾")—142 pages. Schematic diagrams, replacement parts, and top and bottom views for the 71 models of 1950 and 1951 RCA Victor television receivers. The comprehensive index, easy to read model and chassis numbers, and the grouping of information on each set provide a ready source of reference for the service technician. Price, $1.50 per copy.

SP-1007 (10⅞" x 16¾")—80 pages. Schematic diagrams and replacement parts lists for all RCA Victor television receivers manufactured from 1946 through June 1950 (56 models). Large-size book opens so that each schematic diagram faces its corresponding parts list for quick reference. Price, 75 cents per copy.

• RCA VICTOR TV SERVICE PARTS GUIDE—SP-2001B (10⅞" x 8⅜")—24 pages. Lists stock numbers of major replacement parts for RCA Victor TV sets by receiver-model number and corresponding receiver-chassis number. Also lists stock numbers of tuner-replacement parts by tuner-chassis number. Covers period from 1946 through 1956. Price, 25 cents per copy.

• RCA PHONOGRAPH CARTRIDGE GUIDE—SP-2003B (10⅞" x 8⅜")—4 pages. Lists stock numbers of RCA cartridges and replacement stylii. Also lists stock numbers of RCA cartridges and model numbers of record players by RCA Victor model numbers. Single copy free.

• SERVICE PARTS DIRECTORY FOR RCA VICTOR RADIOS—(SP-1008). Lists stock numbers of major replacement parts by receiver model numbers for over 600 RCA Victor radio receivers. Covers period of 1938 through 1950. 24 pages. Price, 15 cents per copy.

SEMICONDUCTOR DIVISION

Ask your RCA Distributor for these publications, or write directly to Commercial Engineering, Semiconductor Division, Radio Corporation of America, Somerville, New Jersey. When ordering from Commercial Engineering make remittance payable in U.S. dollars to Radio Corporation of America.

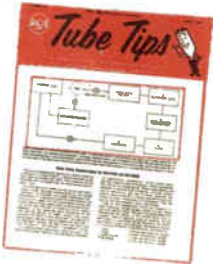
• RCA TRANSISTORS AND SEMICONDUCTOR DIODES—SCD-108 (10⅞" x 8⅜")—24 pages. New booklet contains technical data on RCA transistors and semiconductor diodes. Includes a section on transistor theory, an interchangeability directory which lists over 500 type designations of 27 different manufacturers, and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

RCA MAGAZINES

RCA RADIO & TELEVISION SERVICE NEWS

This publication is designed to keep the dealer and service technician informed on the latest television and radio sales and servicing techniques. Read it regularly for interesting articles as well as for helpful hints on new merchandising procedures, new products, and new promotions. Published bi-monthly. Available free from your RCA Tube Distributor.

RCA TUBE TIPS



This popular newsletter keeps the broadcast engineer up to date on the latest developments in broadcast tubes. It is a timely publication containing valuable application information, technical tips, and new product data. Published bi-monthly. Sent free of charge to broadcast station personnel by the RCA Electron Tube Division.

RCA HAM TIPS

Contains a wealth of informative articles on all phases of "ham" activity, including exclusive construction articles written by RCA personnel actively engaged in amateur radio work. Keep abreast of the latest, up-to-the-minute information on new circuits, TVI civil defense equipment, and novice gear. Published bi-monthly. Free from your RCA Tube Distributor.

TEST AND MEASURING EQUIPMENT

• **INSTRUCTION BOOKLETS** containing specifications, operating and maintenance data, application information, schematic diagrams, and replacement parts lists, are available for all RCA test instruments.

WA-44A	(Audio Oscillator)	$0.50
WA-44B	(Audio Oscillator)	.50
WO-56A	(7" Oscilloscope)	.50
WO-78A	(5" Oscilloscope)	.50
WO-78B	(5" Oscilloscope)	1.00
WO-88A	(5" Oscilloscope)	.50
WO-91A	(5" Oscilloscope)	1.00
WR-36A	(Dot-Bar Gen.)	.50
WR-39B	(TV Calibrator)	.50
WR-39C	(TV Calibrator)	.50
WR-46A	(Video Dot/Crosshatch Gen.)	.75
WR-49A	(RF Generator)	.50
WR-49B	(RF Generator)	1.00
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WR-59C	(TV Sweep Gen.)	.50
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WR-61B	(Color-Bar Gen.)	1.00
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WV-98A	(VoltOhmyst)	1.00
195-A	(VoltOhmyst)	.25
WT-100A	(Electron-Tube MicroMhoMeter)	1.75
WT-100A	(Tube Chart)	3.00
WT-110A	Automatic Electron-Tube Tester	1.00

RCA TEST INSTRUMENTS

for servicing • production • research

Senior VoltOhmyst®, WV-98A

The new Senior VoltOhmyst, WV-98A, includes an improved circuit providing 3% accuracy full scale on both ac and dc measurements with better than 1% tracking error. Separate color-coded peak-to-peak and rms-voltage scales in two distinctive colors simplify readings. Permits direct reading of peak-to-peak voltages of complex waveforms, found in video, sync, and deflection circuits. Features die-cast aluminum case; high input resistance; electronic protection against burnout; rugged 200-micro-ampere meter movement; and precision multiplier resistors with accuracy of ±1%.

Large easy-to-read, full-vision meter (26 sq. in.). Measures complex wave forms directly from 0.2 volt to 4,200 volts peak-to-peak. Measures rms values of sine waves from 0.1 volt to 1500 volts. Measures from 0.02 volt dc to 1500 volts on two scales, in seven overlapping "3-to-1" ranges. Measures resistance from 0.2 ohm to 1000 megohms on single scale, with seven overlapping ranges. Compact design: 7" wide, 3¾" deep, 6½" high.

Junior VoltOhmyst®, WV-77C

The RCA Junior VoltOhmyst, WV-77C, is equipped with five ranges each for dc and ac voltage, and resistance measurements. The WV-77C measures dc from 50 millivolts to 1200 volts; ac from 100 millivolts to 1200 volts rms; and resistance from 0.2 ohm to one billion ohms.

The WV-77C has essentially flat frequency response (30 cps to 3 Mc) . . . extends to 250 Mc with WG-301A Crystal-Diode Probe (available as accessory). Carbon-film ±1% multiplier resistors provide lasting accuracy and dependability. Sturdy 200-microampere meter movement is electronically protected against burn-out on all functions. Zero-centering facilities . . . for TV and FM discriminator alignment.

Master VoltOhmyst®, WV-87B

Featuring a 7½" easy-to-read meter, the Master VoltOhmyst is the deluxe member of the RCA VoltOhmyst family. Measures dc voltages accurately in high-impedance circuits, even with ac present. Reads rms values of sine waves and peak-to-peak values of complex waves or recurrent pulses, even with dc present. Measures resistance from 0.1 ohm to 1000 megohms, current from 10 microamperes to 15 amperes. Features ±1% multiplier and shunt resistors. Meter electronically protected against burnout on all resistance and ac and dc voltage ranges. The sensitive, mirror-backed 200-microampere meter movement has full scale accuracy of ±2% or better with tracking error of only ±1% or less.

Audio Signal Generator, RCA WA-44B

The WA-44B furnishes output signal up to 15 rms volts from 11 to 100,000 cps for measurement of frequency response of radio and audio amplifiers, testing loud speakers and enclosures, checking modulation characteristics of transmitters, etc.

The WA-44B may be used in both low and high impedance circuits. A front-panel terminal provides a 6-volt ac signal at line frequency for use in intermodulation distortion testing. Output from the WA-44B varies less than ±1 db throughout its tuning range. Total harmonic distortion is only 2% or less below 15,000 cps. Careful design and construction assures a hum level of less than 0.1% of rated output.

RF Signal Generator, RCA WR-49B

Designed for use either in the radio and TV shop or in the field, the WR-49B is extremely useful for alignment and signal tracing of am and fm radio receivers, alignment of low-frequency if amplifiers in TV receivers, and signal tracing and trouble-shooting in nearly all sections of TV receivers.

Six tuning ranges are employed to cover the entire frequency range from 85 Kc to 30 Mc. The generator may be modulated by a built-in 400-cps audio oscillator or externally through a front-panel connector. The WR-49B has built-in blocking capacitors to permit connection to circuits which contain dc voltage. A shielded output cable is provided with the instrument.

Video-Dot/Crosshatch Generator, WR-46A

The WR-46A is designed for making static and dynamic convergence adjustments in color-TV sets. The WR-46A produces highly stable dot, bar, or crosshatch patterns and will drive a picture tube directly. Equalizer control provided for V and H bar brightness. Solid pattern — exceptionally free of crawl and jitter. Pattern independent of receiver rf/if response Video output polarity reversible. Output cables are dc isolated.

Color-Bar Generator, WR-61B

The WR-61B generates the signals for producing 10 bars of different colors simultaneously, including bars corresponding to the R-Y B-Y, G-Y, I, and Q signals. All frequencies crystal controlled. 189-Kc pedestals, adjustable in amplitude, permit checking of phasing and matrixing of color-TV sets without use of scope.

Amplitude of color subcarrier and color-burst signal adjustable from front-panel for checking color sync-lock action of set. Both rf and "+" and "—" video output available. RF output at least 0.01 volt p-p; video output at least 0.25 volt p-p across 75 ohms, 8 volts p-p at Hi video output.

Television Sweep Generator, WR-69A

Tops for visual alignment of both TV and FM receivers, the all-new WR-69A has preset switch positions for all VHF TV channels, the FM broadcast band, and TV video, chrominance, and if frequencies. VHF output is on fundamental frequencies only; no beat notes or harmonics are used.

Exceptionally good linearity is provided by a precision vibrator capacitor. Continuously adjustable sweep width and flat output make for accurate sweep-response portrayals. The new WR-69A is especially suited to alignment of color receivers—video output covers the range from 0 to 4.5 Mc. Special sample-voltage terminal on panel permits use with marker-adder units in alignment. Dual-piston attenuator provides smooth even attenuation over 60 db range.

Crystal-Calibrated Marker Generator, WR-99A

Unmatched versatility and accuracy highlight the all-new WR-99A Calibrator. Variable-frequency oscillator tunes from 19 to 260 Mc in 8 expanded ranges. Precise crystal calibration obtainable at 10-Mc intervals throughout entire tuning range. Additional 1-Mc calibrating points provided for intermediate markers. All important sound- and picture-carrier frequencies, intermediate frequencies, and color-TV points are spotted on dial scales. Easy-to-read, spread-out dial scales and adjustable index pointer permit

precise setting of frequency. Built-in speaker for zero-beat calibration checks.

Special socket at rear of WR-99A permits insertion of external crystal or L-C circuit into internal oscillator circuit to produce calibrating beats at special intervals. Wide choice of internal modulation for dual sound and picture markers, calibration beats, and for FM-detector alignment. Slide-switch attenuator for precise setting of output-voltage level.

RF/IF/VF Marker Adder, WR-70A

Designed for rf, if, and video sweep alignment of both color and black-and-white TV receivers, the WR-70A provides sharp, easy-to-read markers for alignment. A choice of four different marker shapes is available, permitting use of marker type best suited to the response curve. The WR-70A is designed for use with conventional marker and sweep generators, such as the RCA WR-39 and WR-89 series marker generators and the WR-59 series TV sweep generators. With the WR-70A, the marker signal is added to the sweep-response curve after the sweep signal is taken out of the receiver under test.

Eliminates or reduces distortion of sweep curve by the marker and permits trap alignment without marker "suckout." Provides four marker choices; positive peak, negative peak, positive and negative peaks (wide band), positive and negative peaks (narrow band). Hi-Q markers are high in amplitude, narrow in width. Voltage is stabilized for rock-steady trace display.

Ultra-Sensitive DC Microammeter, WV-84B

The WV-84B is a battery-operated vacuum-tube microammeter designed for measuring minute direct currents. Low-drain tubes extend battery life and protect meter against burnout.

Six direct-current ranges provided for measuring currents from 0.0002 to 1000 microamperes. Can be used as ohmmeter to measure resistance in the order of billions of ohms. Input resistance of 100 megohms for measurement of voltages from 0.1 to 1 volt; 1000 megohms input resistance for voltages from 1 to 10 volts, 1005 megohms for voltages from 1 to 100 volts. Over-all microammeter accuracy on .01 range ±5% or better; accuracy on all other ranges ±4% or better. Voltage drop for full-scale deflection only 0.5 volt.

UHF Sweep Generator, RCA WR-86A

Designed for use in the UHF TV range, the WR-86A provides output from 300 to 950 Mc. The WR-86A has excellent sweep linearity and a maximum amplitude variation of 0.1 db/Mc. Sweep width is at least 10% up to 750 Mc, and 75 Mc from 750 to 950 Mc. Other features include a blanking circuit, horizontal sweep output for an oscilloscope, and 60-db range variable attenuator. The WR-86A has 50-ohm output and is supplied with a padded balun for working into balanced 300-ohm loads.

7" Oscilloscope, WO-56A

The 7" direct-coupled WO-56A features identical "V" and "H" amplifiers; dual controls simplify "coarse" and "fine" adjustments; fully shielded input cable and low-capacitance probe.

Identical vertical and horizontal push-pull DC amplifiers with frequency-compensated and voltage-calibrated attenuator networks. Built-in calibrating voltage. DC amplifiers flat within —2 db from 0 to 500 Kc; within —6 db from 0 to 1 Mc. Preset sweep positions at 30 cps and 7875 cps for automatic lock-in on TV "V" and "H" waveshapes. "Plus" and "minus" sync switch for easy lock-in.

5" Oscilloscope, WO-88A

The WO-88A has built-in voltage calibrating facilities for peak-to-peak voltage measurements. Reversible sync polarity. High - impedance probe provides 10 megohm input resistance at less than 10 $\mu\mu f$.

Frequency response flat within —3 db from 0 to 500 Kc. Direct-coupled vertical amplifier. 5" Cathode-ray tube with magnetic shield. 60-cycle sweep with wide angle phasing control. Frequency-compensated attenuator. 1-volt peak-to-peak calibration voltage.

WG-388A Modification Kit is available to adapt the WO-88A Oscilloscope for Color TV for narrow-band and wide-band operation from dc to 4.5 Mc.

5" Oscilloscope, WO-91A

The WO-91A is designed to measure color-burst signals and for trouble-shooting wide-band color circuits. A multi-scale graph screen makes peak-to-peak voltage measurements as simple as with a VTVM. Panel switch for wide-band or high-sensitivity operation.

Voltage-calibrated, frequency-compensated, 3-to-1 step attenuator for "V" amplifier. Shielded vertical-input connector and shielded cable minimize hum, stray field pick-up. Z-Axis input terminals. Preset "V" and "H" sweep positions. "Plus" or "minus" internal-sync selector.

5" Oscilloscope, WO-78B

The WO-78B is a dual-band scope designed for applications where flat response to 4.5 Mc is essential. Rise time is 0.1 μsec or less; overshoot is less than 5%. Full-screen deflection is obtained over entire rated range of vertical and horizontal amplifiers.

Push-button voltage calibration. Automatic sync limiter keeps the pattern locked in over a wide range of input voltage. Quick lock-in "V" and "H" sweep positions. 5ABP1 flat-faced cathode-ray tube with post-ultor potential of 3000 volts assures bright, sharply focused trace—interchangeable with 5ABP7 and 5ABP11.

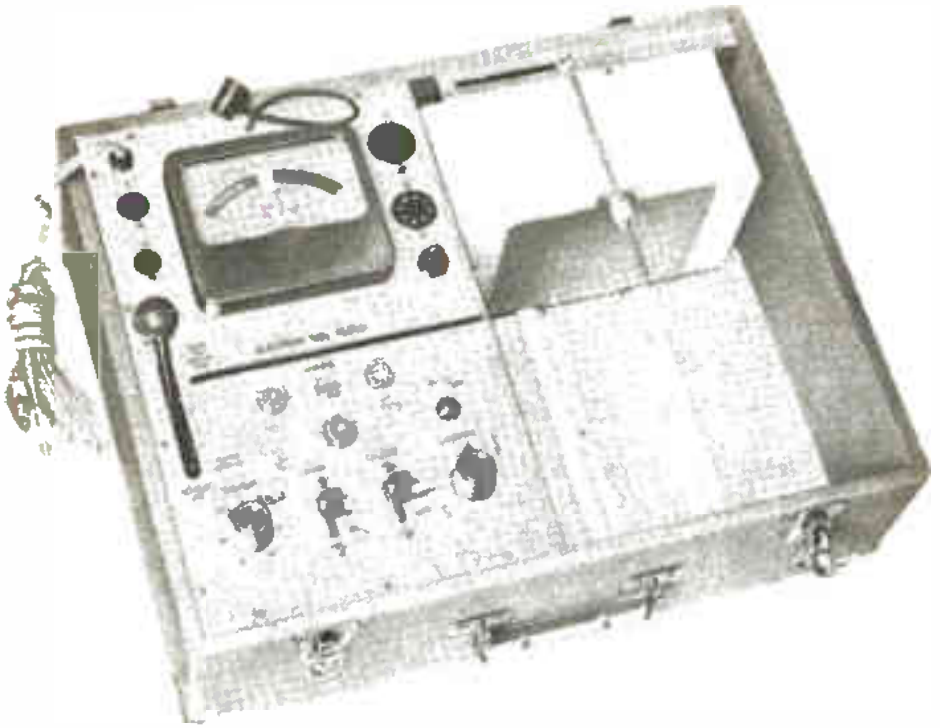
Electron-Tube MicroMhoMeter, WT-100A

The WT-100A is a laboratory-type instrument which measures tube characteristics, under actual operating-voltage and current conditions, with an accuracy comparable to that of tube manufacturers' equipment. Tests receiving-type and small transmitting tubes. Plug-in multiple-socket assemblies and 14-pin selector switches assure utmost flexibility for present and future requirements.

The WT-100A measures: true transconductance with an accuracy of better than ±3%, both control-grid-to-plate and suppressor-grid-to-plate values; electrode currents-plate, screen grid, suppressor grid, and control-grid currents up to 300 ma; ac heater current; and voltage drop of vacuum and gas tubes, dry-disc rectifiers and crystal diodes.

Built-in "shorts" test. Meter is burn-out proof, even on 3 microamp full-scale range. Regulated power supplies for dc voltages. 250-ma dc supply for filaments of battery-operated tube types. Built-in gm calibrating circuit—no null meters or extra devices required. Measures gm up to 100,000 micromhos in 6 ranges.

Automatic Electron-Tube Tester, WT-110A



All-new in approach to fast, accurate tube testing, the new WT-110A Automatic Electron-Tube Tester utilizies punched cards of heavy-duty plastic for automatic internal set-up of pin connections and test voltages. Complete transconductance test-set-up takes only seconds ; cards are permanently hinged in case for convenient insertion into test slot. The WT-110A tests for gas, shorts, interelectrode leakage and over-all tube quality. Quality of tube indicated on "Renew-?-Good" meter scale. Tests 7-pin, 9-pin, octal, and loctal types.

Simplified, automatic design speeds testing of diodes, triodes, and other multi-element tubes, as well as double- and triple-section tubes having similar or dissimilar sections. Designed especially for TV and general electron-tube service testing, the WT-110A punch-card system provides for flexibility and easy addition of cards for new tube types.

Direct Replacement Types

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

Type to be Replaced	Replace by RCA Type	Type to be Replaced	Replace by RCA Type
OA3/VR75	OA3	RK-11	1623
OC3/VR105	OC3	12DP7	12DP7-A
OD3/VR150	OD3	FG-17	5557
CE-1(A-D)	868, 918	WL17	5557
1P29/FJ-401	1P29	CE-20	927
1P32	927	RK-20A	804
2AP1	2AP1-A	CE-21(A-D)	920
2B4	885	CE-23(A-D)	923
2C38	2C39-A	PJ-23	868
2C39	2C39-A	CE-25(A-D)	927
ML-381	2C39-A	RK-25	802
3X100A11	2C39-A	RK-25B	802
ZP572	2C39-A	CE-28(A-D)	928
2X2/879	2X2-A	RK-28	803
3-50G2	834	RK-28A	803
3AP1	3AP1-A	CE-29(A-D)	929, 1P39
3BP1	3BP1-A	CE-30(A-D)	930, 1P40
3C45	6130/3C45	CE-30V	925
3D22	3D22-A	RK-30	800
4D21	4-125A/4D21	FG-32	5558
4-250A	4-250A/5D22	WL-32	5558
5BP1	5BP1-A	RK-33	2C21/1642
5CP1	5CP1-A	CE-34	934
5CP7	5CP7-A	RK-39	807
5D22	4-250A/5D22	CE-41	921
5FP7	5FP7-A	CE-42	922
5HP1-A	5BP1-A*	KU-42	6130/3C45
WT-6	6L6	RK-44	837
6Q5-G	884	RK-47	814
7BP7	7BP7-A	UH-50	834
7C24	5762/7C24	CE-55	924
7JP1	7VP1	FG-57	5559
PJ-8	5556	RK-57	805
BW-11	834	WL-57	5559
CE-5(A-D)	927	RK-58	838
CE-11V(A-D)	917	CE-59	5581

*Except in high-altitude service.

Direct Replacement Types (cont'd)

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

Type to be Replaced	Replace by RCA Type	Type to be Replaced	Replace by RCA Type
R59A	868	WT-210-0040	6X4
R60A	920	WT-210-0042	5Y3-GT
HY-61/807	807	WT-210-0044	575-A
R61A	930	WT-210-0045	892
CE-64	5583	WT-210-0048	5U4-G
FG-67	5728/FG-67	WT-210-0052	2AP1-A
VR75-30	OA3	WT-210-0053	3AP1-A
CE-91R	1P37	WT-210-0056	5559
FG-95	5560	WT-210-0057	5560
CE-98	5582	WT-210-0058	676
100R	8020	WT-210-0060	OZ4
FG-104	5561	WT-210-0062	5557
WL-104	5561	WT-210-0069	5557
VR105-30	OC3	WT-210-0070	5550
HF120	211	WT-210-0071	5551
VR150-30	OD3	WT-210-0072	5552
WT-210-0001	2D21	WT-210-0073	5553
WT-210-0003	884	WT-210-0074	105
WT-210-0004	2050	WT-210-0078	172
WT-210-0006	6H6	WT-210-0079	105
WT-210-0008	866-A	WT-210-0081	6SJ7
WT-210-0009	84/6Z4	WT-210-0082	6V6
WT-210-0011	OC3	WT-210-0083	7K7
WT-210-0012	80	WT-210-0084	6N7-GT, 6N7
WT-210-0013	5Z3	WT-210-0085	50B5
WT-210-0015	5557	WT-210-0086	833-A
WT-210-0018	OD3	WT-210-0087	6K8-GT
WT-210-0019	83	WT-210-0088	6J5-GT, 6J5
WT-210-0021	6X5	WT-210-0089	6G6-G
WT-210-0025	117Z6-GT	WT-210-0090	6C6
WT-210-0027	872-A	WT-210-0091	0A4-G
WT-210-0028	3Q5-GT	211-D	211
WT-210-0029	6C5	FG-235A	5552
WT-210-0031	902-A	FG-238B	5555
WT-210-0037	117L7/M7-GT	WT-245	884
WT-210-0038	172	WT-246	2050

Direct Replacement Types *(cont'd)*

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

Type to be Replaced	Replace by RCA Type	Type to be Replaced	Replace by RCA Type
HK-257B	4E27/8001	WL-631	5559
FG-258A	5553	KU-634	677
FG-259B	5554	WL-651/656	5552
WT-261	6H6	WL-652/657	5551
WT-262	866-A	WL-653B	5555
WT-263	84/6Z4	WL-655/658	5553
WT-269	0C3	672	672-A
WT-270	80	WL-679	5554
WT-270X	5Z3	WL-681/686	5550
FG-271	5551	WT-699	5550
WT-272	5557	NL-715	5557
WT-274B	5R4-GY	ML-728	5557
WT-294	0D3	WL-735	868
WT-301	83	801	801-A
UE-303A	203-A	811	811-A
WE-304B	834	812	812-A
F-307A	207	829	829-B
WT-308	6X5-GT	829-A	829-B
CE-309	5557	UE-830	830-B
CE-311	3C23	832	832-A
UE-317C	217-C	833	833-A
ML-322A	803	857	857-B
NL-331A	805	862	862-A
350A	807	866	866-A
366-A	866-A	866-A/866	866-A
WT-377	117Z6-GT	869-A	869-B
ML-381	2C39-A	872	872-A
WT-389	3Q5-GT	872-A/872	872-A
WT-390	6C5	879	2X2-A
FJ-401	1P29	889	889-A
403A	6AK5	889-R	889R-A
GL-415	5550	893	893-A
GL-451	8020	902	902-A
ZP-572	2C39-A	UE-905	805
WT-606	2D21	905	905-A
WL-630, 630A	2050	906-P1	3AP1-A

Direct Replacement Types (cont'd)

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

Type to be Replaced	Replace by RCA Type	Type to be Replaced	Replace by RCA Type
908	908-A	8016	1B3-GT
914	914-A	AX-9903	5894
931	931-A	WTT-100	6X4
UE-938	838	WTT-102	5Y3-GT
UE-945	845	WTT-103	6H6
UE-949	849	WTT-104	575-A
UE-966	866-A	WTT-105	892
UE-966A	866-A	WTT-111	5559
UE-967	5557	WTT-112	5560
UE-972A	872-A	WTT-113	676
UE-975A	575-A	WTT-114	0Z4
1640	6405/1640	WTT-115	117N7-GT
1701	5557	WTT-117	5557
1802-P1	5BP1-A	WTT-118	105
1811-P1	7CP1	WTT-119	172
1849	1850-A	WTT-122	6SJ7
1850	1850-A	WTT-123	6V6
1851	6AC7	WTT-124	7K7
1853	6AB7	WTT-125	6N7-GT
1854	6474/1854	WTT-126	50B5
1899	2F21		
1904	5728/FG-67	WTT-127	833-A
2051	2050	WTT-128	6K8
2525A5	5BP1-A	WTT-129	6J5-GT
5553	5553-A	WTT-130	6G6-G
5563	5563-A	WTT-131	6C6
5604	5604-A	WTT-132	0A4-G
5814	5814-A	WTT-135	5U4-G
ML-5897	5718	WTT-136	2AP1-A
ML-5898	5719	WTT-137	3AP1-A
8001	4E27/8001	WTT-149	172
8012	8012-A		

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.

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.

Type to be Replaced	Similar RCA Type	Type to be Replaced	Similar RCA Type
CE-1V(A-D)	930, 1P40	CE-13	868
CE-2(A-D)	917, 919	CE-13V	917
2B22	559	G-15F	927
2C38	2C39-A	HV-18	806
2E25	2E24	FV-20	8000
2E30	5618	T-20	1623
3B27	836	TV-20	810
3B28	866-A	TZ-20	809
3C21	838	PJ-21	5556
3C24	1623	CE-22(A-D)	1P41
3-25A3	809	PJ-22	917
3-50A4	811-A	X-22	1616
3-75A3	8005	KU-23	806
3-250A4	806	RK-23	802
3-450A4	833-A	RK-23A	802
3-1000A2	8000	24-G	808
3-1000A4	810	HY-25	809
3X2500A3	5762/7C24	25T	809
4C21	211	RK-27	806
4C22	8005	FG-27A	5559
4X150G	4X150A	HY-30Z	809
CE5(A-D)	927	CE-31V	919
5C24	8000	FG-33	5728/FG-67
5D24	4-250A/5D22	35T	811-A
6D22	4X500A	35TG	808
WT-6	6L6	CE-36(A-D)	927
7C20	5762/7C24	RK-36	806
7C25	5762/7C24	RK-37	808
7C27	5762/7C24	RK-38	806
HV-12	806	HY-40	812-A
RK-12	809	T-40	812-A

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.

Type to be Replaced	Similar RCA Type	Type to be Replaced	Similar RCA Type
TZ-40	811-A	R64AV	925
HY-40Z	811-A	HY-69	1624
RK-41	807	V-70-D	8005
RK-46	804	R71A	930, 1P40
RK-87	814	R71AV	925
RK-48A	813	71D	929
SR-50	917	FP-85	8020
HY-51A	830-B	FP-85A	8020
HY-51B	830-B	R85A	928
HY-51Z	838	CE-91R	1P37
RK-51	830-B	HF-100	8005
SR-51	926	100R	8020
RK-52	811-A	100TH	810
53AWB	927	100TL	8000
SR-53	917	111-H	812-A
HK-54	808	ZB-120	838
54-XH	3AP1-A	F123A	806
T-55	8005	HF-125	8005
HY-57	812-A	T-125	810
R-58A	927	F-127A	810
58AWB	927	F-128A	851
59D	929	HF-130	835
CE-60	917	HF-140	211
HF-60	8005	143D	2X2-A
HY-60	807	GL-146	805
SK-60	868	AB-150	845
T-60	8005	TW-150	810
R61BV	929	150P	803
RK-63	806	150T	806
SK-63	918	152TH	806
RK-64	807	152TL	806

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.

Type to be Replaced	Similar RCA Type	Type to be Replaced	Similar RCA Type
GL-152	805	250TL	806
HK-154	808	HF-250	8000
T-155	806	WE-251A	851
C-200	810	WE-252A	842
HF-200	8000	HK-253	217-C
T-200	806	HK-254	810
C-201	805	WE-254B	865
C-202	805	WE-255B	869-B
HD-203A	805	HF-258B	866-A
HD-203C	805	WE-259A	24-A
HF-203H	8003	260A	860
WE-205D	10-Y	HF-261A	835
WE-205E	10-Y	WE-264A	864
WT-210-0007	6L6	WE-264B, C	864
WT-210-0067	3C23	266B	857-B
211B	211	WE-266C	857-B
211C	835	WE-267B	872-A
HD-211C	805	WE-268A	801-A
211E	835	WE-271A	843
212E	849	WE-274A	5R4-GY
WE-214E	217-C	WE-281A	46
WE-217A	80	T-282A	8000
WE-220C	892	WE-284B	845
Z-225	866-A	WE-284D	845
WE-231D	864	WE-287A	5557
WE-241B	833-A	WE-298A	862-A
WE-242C	211	300	806
T-249B	866-A	WE-301A	83
WE-249A	866-A	T-303C	8000
WE-249B	866-A	UE-303U	8000
250TH	810	UE-304A	204-A

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.

Type to be Replaced	Similar RCA Type	Type to be Replaced	Similar RCA Type
WE-304B	6AK5	F-363A	892
CE-306	676	F-367A	673
WE-307A	807	F-369B	869-B
UE-310	801-A	F-376A	835
WE-310A	6C6	WE-393A	3C23
UE-311CH	8000	WE-394A	627
UE-311T	8003	WE-395A	5823
UE-311CT	8003	FJ-405	935
WE-312A	828	WL-450	833-A
315A	673	WL-460	806
319A	872-A	WL-463	806
321A	673	UE-468	8000
323B	3C23	WL-468	810
WE-339A	807	WL-471	8003
WE-341AA	891-R	WL-473	5762/7C24
F-342A	858	WL-481	8013-A
343A	858	RH-507	1949
WE-348A	1620	DRJ-524	864
C-350	807	GL-546	5696
WE-350B	807	578	8020
353A	872-A	NL-615	5558
HK-354C	806	WL-632A	5560
HK-354D	806	WL-632B	5560
HK-354E	806	678	5563
HK-354F	806	NL-710	676
ML-356	5771	NL-714	5557
WE-356A	808	WL-734	917
WE-357A	833-A	WL-739	927
F-357A	857-B	WL-741	923
WE-359A	1C21	T-756	809
WE-361A	835	UE-812H	8005

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.

Type to be Replaced	Similar RCA Type	Type to be Replaced	Similar RCA Type
T-814	806	5667	889R-A
T-822	806	5668	892
825	1623	5669	892-R
C-849A	833-A	5685/C6J	676
C-849H	833-A	5686	5763
F-857A	857-B	5695	816
861-A	861	5720/FG-33	5728/FG-67
863	892	5725	6AS6
866-B	866-A	5736	5726/7C24
C-872	872-A	5788	5555
UE-911CH	835	5891	5671
UE-942	842	5913	5770
NL-1005	5551	5934	579-B
1603	1620, 5879	5959	6130/3C45
1816-P4A	10FP4-A	6140/423A	5651
1847	5527	6155	4D21/4-125A
1851	6AC7	6156	4-250A/5D22
2501-A3	3AP1-A	6333	392
2501-C3	908-A	6336	6080
5514	811-A	6346	5551
5516	2E24	6347	5552
5591	6AK5	6348	5553
5604	889R-A	6394	6082
5606	392	6445	892-R
5654	6AK5	6446	892
5658	880	6447	892-R
5663	5696	6626	6073
5666	889-A	6627	6074
		AX9911	6130/3C45

RCA QUICK-SELECTION GUIDE

To Tubes for Communications, Industry, and Military Uses

VACUUM POWER TUBES

Type	Cathode Volts	Maximum Dimensions Inches		Amplification Factor	Max. Plate Ratings▲	
		Length	Diam.		DC Volts	Dissipation Watts
TRIODES (AIR-COOLED)						
3C33	12.6	3 11/16	2⅜	11b	±2000	15
10-Y	7.5	5⅜	2 1/16	8	450	15
801-A	7.5	5⅜	2 1/16	8	600	20
805	10	8½	2 5/16	variable	1500	125
808	7.5	6 1/16	2 13/16	47	2000†	75†
809	6.3	6 9/16	2 7/16	50	1000†	30†
810	10	8¾	2¼*	36	2500†	175†
811-A	6.3	6 21/32	2 7/16	160	1500†	65†
812-A	6.3	6 21/32	2 7/16	29	1500†	65†
826	7.5	3 11/16	2⅜	31	1000†	55†
830-B	10	6 11/16	2 1/16	25	1000	60
833-A	10	8 13/16	4 15/32	35	3300†	350†
834	7.5	6⅜	2 11/16	10.5	1250	50†
838	10	7⅞	2 5/16	variable	1250	100
845	10	7⅞	2 5/16	5.3	1250	100
851	11	17⅝	6½	20.5	2500	750
1626	12.6	4⅛	1 9/16	5	250	5
5556	4.5	4½	1⅝	8.5	350	10
8000	10	8¾	2¼*	16.5	2500†	175†
8005	10	6 11/16	2 7/16	20	1500†	85†
8012-A	6.3	3 11/16	1 3/16*	18	1000	40
8025-A	6.3	4 11/16	1 7/64*	18	1000†	30†

†For Intermittent Commercial and Amateur Service.

▲Absolute values for Continuous Commercial Service, unless otherwise specified. b Per Unit. *Maximum Radius.

VACUUM POWER TUBES (cont'd)

Type	Cathode Volts	Maximum Dimensions Inches		Amplification Factor	Max. Plate Ratings▲	
		Length	Diam.		DC Volts	Dissipation Watts
TRIODES (WATER-COOLED)						
9C21	19.5	24½	9½	40	17000	40000
207	22	20¼	6½*	20	15000	10000
862-A	33	60⅜	10*	45	20000	100000
880	12.6	11⅜	7	20	10500	20000
889-A	11	10 11/16	3⅜	21	8500	5000
891	11#	20⅜	6½*	8.5	12000	6000
892	11#	20⅜	6½*	50	15000	10000
893-A	20#	26¼	6⅜*	34.5	20000	20000
898-A	33#	60⅜	10*	45	20000	100000
5770	11	24½	9½	41	17000	50000
5771	7.5	11 5/16	7	20	12500	22500
6383	6.3	4 9/32	1¾	27	1500	600
6949	7.5	39¼	10 1/16	61	20000	400000
TRIODES (FORCED-AIR-COOLED)						
2C39-A	6.3	2¼	1 17/64	100	1000	100
4C33	5	4⅞	2 1/16	25	13000‡	250‡
9C22	19.5	25	17	41	17000	20000
9C25	6	17⅜	14¼	32	11500	17500
833-A	10	8 13/16	4 19/32	35	4000	450
889R-A	11	11⅞	5½*	21	8500	5000
891-R	11#	22	6½*	8.5	10000	4000
892-R	11#	22	6½*	50	12500	4000
893A-R	20#	28	8 13/16*	34.5	20000	20000
5588	6.3	3 13/32	1¾	16	1000	200
5592	11	17⅜	14¼	32	11500	17500
5604-A	11	13¾	5½*	20	12500	10000
5671	11	25	16 15/16	39	15000	25000
5713	3.3	4⅞	2 1/16	25	1500	250
5762/7C24	12.6	7⅛	4 11/16	29	6200	3000
5786	11	9⅜	2 15/16	32	3000	600
5946	6.3	3 13/32	1¾	27	7500¶	250
6161	6.3	3 13/32	1¾	27	1600	250
TETRODES (AIR-COOLED)						
860	10	8¾	4¼*	1100	3000	100
861	11	17 7/32	6⅜*	2400	3500	400
865	7.5	5¾	2 1/16	750	750	15

*Maximum Radius. #Per Section.
▲Absolute values for Continuous Commercial Service, unless otherwise specified.
‡Pulsed Oscillator Operation—Class C Plate Modulated.
¶Peak Positive-Pulse Plate-Supply Volts.

VACUUM POWER TUBES (cont'd)

Type	Cathode Volts	Maximum Dimensions Inches		Transconductance*	Max. Plate Ratings▲	
		Length	Diam.	Micromhos	DC Volts	Dissipation Watts
TETRODES (WATER-COOLED)						
8D21	3.2	12 9/32	5 1/4	5§b	6000	6000
TETRODES (FORCED-AIR-COOLED)						
6166	5	11 5/8	6 13/32	10§	6600	10000
BEAM POWER TUBES (FORCED-AIR-COOLED)						
4-65A	6	4 3/8	2 3/8	5 §	3000	65
4-125A/4D21	5	5 11/16	2 1/4	6.2§	3000	125
4-250A/5D22	5	6 3/4	3 9/16	5.1§	4000	250
4-1000A	7.5	9 5/8	5 1/4	7 §	6000	1000
4X150A	6	2 15/32	1 5/8	5 §	1250	150
4X150D	Same as 4X150A but has 26.5-volt heater.					
4X500A	5	4 3/8	2 9/16	6.2§	4000	500
827-R	7.5	6 3/16	4 21/32	16 §	3500	800
6155/4-125A	5	5 3/32	2 1/16	6.2§	3000	125
6156/4-250A	5	5 29/32	3 1/16	5.1§	4000	250
6181	120	7 1/16	5 1/32	8 §	2000	2000
6816	6.3	2	1 1/4	16 §	1000	115
6884	Same as 6816 but has 26.5-volt heater.					
7034/4X150A	6	2 15/32	1 5/8	5 §	• •	250
7035/4X150D	Same as 7034/4X150A but has 26.5 volt heater.					
BEAM POWER TUBES AND PENTODES (AIR-COOLED)						
2E24	6.3	3 21/32	1 5/16	3200	700¶	18.5¶
2E26	6.3	3 21/32	1 5/16	3500	700¶	18.5¶
3E29	Similar to type 829-B but for pulsed operation.					

*Maximum Radius.
▲Absolute values for Continuous Commercial Service.
†For Intermittent Commercial and Amateur Service.
§Grid-Screen Mu-Factor. ¶For Intermittent Mobile Service.
• • Max. DC plate volts, 2000 for frequencies up to 150 mc.
Max DC plate volts, 1250 for frequencies of 150 mc to 500 mc.

VACUUM POWER TUBES *(cont'd)*

BEAM POWER TUBES AND PENTODES (AIR-COOLED) *(cont'd)*

Type	Cathode Volts	Maximum Dimensions Inches		Transconductance	Max. Plate Ratings▲	
		Length	Diam.	Micromhos	DC Volts	Dissipation Watts
4E27/8001	5	6 3/16	2 11/16	2800	4000	75
6893	Same as 2E26 but has 12.6-volt heater.					
4E27A/5-125B	5	6 3/16	2 3/4	2150	4000	125
802	6.3	5 3/4	2 1/16	2250	600†	13†
803	10	9 1/4	2 9/16	4000	2000	125
804	7.5	7 11/16	2 1/16	3250	1500†	50†
807	6.3	5 1/4	2 1/16	6000	750†	30†
813	10	7 1/2	2 9/16	3750	2250†	125†
814	10	7 11/16	2 1/16	3300	1500†	65†
815	6.3/12.6	4 5/16	2 3/8	4000	500†	25†
828	10	7 11/16	2 1/16	2700	1500†	80†
829-B	6.3/12.6	4 5/16	2 3/8	8500	750†	45†
832-A	6.3/12.6	3 5/16	2 3/8	3500	750†	15†
837	12.6	5 1/4	2 1/16	3400	500	12
1613	6.3	3 1/4	1 5/16	2500	350	10
1614	6.3	4 5/16	1 5/8	6050	450†	25†
1619	2.5	4 5/16	1 5/8	4500	400	15
1624	2.5	5 1/4	2 1/16	4000	600	25
1625	12.6	5 1/4	2 1/16	6000	750†	30†
5618	3.0/6.0	2 5/8	3/4	3600	300†	5†
5763	6	2 5/8	1/2	7000	300	12
5894	6.3/12.6	4 5/16	1 15/16	8.2§	600	40
6146	6.3	3 13/16	1 23/32	4.5§	750†	25†
6159	Same as 6146 but has 26.5-volt heater.					
6293	See Technical Bulletin					
6417	12.6	2 5/8	1/2	Refer to 5763		
6524	6.3	3 5/16	1 13/16	4500	600	25
6850	Same as 6524 but has 12.6-volt heater.					
6883	Same as 6146 but has 12.6-volt heater.					

BEAM POWER TUBES AND PENTODES (Water-Cooled)

6448	1.35/2.70	7 23/32	11 3/8	6§	7000	26000
6806	1.35/2.70	7 23/32	11 3/8	8.2§	9000	36000

▲Absolute values for Continuous Commercial Service.
†For Intermittent Commercial and Amateur Service.
§Grid-Screen Mu-Factor.

GLOW-DISCHARGE (COLD-CATHODE) TUBES

Type	Maximum Dimensions Inches Length	Diam.	Operating Volts	Operating Current DC Ma. Min.	Max.
VOLTAGE-REGULATOR TYPES					
OA2	2⅜	¾	151	5	30
OA3	4⅛	1 5/16	75	5	40
OB2	2⅜	¾	108	5	30
OC3	4⅛	1 5/16	108	5	40
OD3	4⅛	1 5/16	153	5	40
991	1 5/16	⅜	59	0.4	2
5651*	2⅛	¾	87	1.5	3.5
6073	2⅜	¾	151	5	30
6074	2⅜	¾	108	5	30

Type	Dimensions Inches Length	Diam.	Max. Ratings Peak Anode Volts	Peak Cathode Ma.	Av. Cathode Ma.
RELAY TYPES					
OA4-G	4⅛	1 5/16	225	100	25
1C21	2½	1 5/16	180	100	25
5823	2⅛	¾	200	100	25

RECTIFIERS

Type	Cathode Volts	Maximum Dimensions Inches Length	Diam.	Max. Plate or Anode Ratings Peak Inv. Volts	Amp. Av.
VACUUM TYPES					
2X2-A	2.5	4 17/32	1 5/16	12500	0.0075
5R4-GY	5	5 5/16	2 1/16	2800	0.175
217-C	10	8½	2 5/16	7500	0.150
579-B	2.5	7 1/16	2 1/16	20000	0.025
836	2.5	6 5/16	2 1/16	5000	0.25
878	2.5	7½	1 13/16	20000	0.005
1616	2.5	6 13/16	2 1/16	6000	0.13
5825	1.6	5 21/32	2 1/16	60000	0.002
8013-A	2.5	6 1/16	2 1/16	40000	0.020
8020	5	8	2 1/16	40000	0.100

*Voltage-reference type.

RECTIFIERS (cont'd)

Type	Cathode Volts	Maximum Dimensions Inches Length	Diam.	Max. Plate or Anode Ratings Peak Inv. Volts	Av. Amp
MERCURY-VAPOR TYPES					
575-A	5	11 1/16	3 3/8	15000	1.5
673	5	11 3/8	3 13/16	15000	1.5
816	2.5	4 11/16	1 9/16	7500	0.125
857-B	5	19 3/8	7 1/8	22000	10
866-A	2.5	6 9/16	2 7/16	10000	0.25
869-B	5	14 7/16	5 1/8	20000	2.5
872-A	5	8 1/2	2 9/16	10000	1.25
5558	5	7	3	5000	2.5
5561	5	11 1/4	3 13/16	3000	6.4
6894	5	10 17/32	2 5/8	20000	1.8
6895	5	10 1 7/32	2 5/8	20000	1.8
8008	5	8 3/4	2 9/16	10000	1.25
GAS TYPES					
3B25	2.5	6 5/16	2 1/16	4500	0.5
3B28	2.5	6 5/8	2 1/16	10000	0.25

THYRATRONS

TRIODES					
C1K/6014	2.5	4 1/4	1 9/16	1250	1.0
C3J/5632	2.5	6	1 9/16	1250	2.5
C3J-A/5684	2.5	6	1 9/16	1250	2.5
C6J/5C21	2.5	9 1/2	2 1/32	1250	6.4
C6J-A/5685	2.5	9 1/2	2 1/32	1250	6.4
C16J/5665	2.5	11 1/4	2 11/16	1250	18
3C23	2.5	6 1/8	2 1/16	1250	1.5
627	2.5	7	2 7/16	2500	0.64
629	2.5	4 1/4	1 9/16	350	0.04
676	5	11 1/4	3 13/16	2500	6.4
677	5	11 1/4	3 13/16	10000	4.0
884	6.3	4 1/2	1 9/16	350	0.075
885	2.5	4 7/16	1 9/16	350	0.075
5557	2.5	6 1/2	2 7/16	5000	0.5
5559	5	7 1/4	3	1000	2.5
5563-A	5	10 17/32	2 1/8	15000	1.6
5728/FG-67	5	7	3	1000	2.5
6130/3C45 *	6.3	5 5/16	1 9/16	3000	0.045
TETRODES					
632-B	5.0	8 5/16	1 1/4 *	1500	2.5
2D21	6.3	2 1/8	3/4	1300	0.1
3D22-A	6.3	4 1/2	2 1/2	1500	0.8
105	5	11 1/4	2 13/16 *	2500	6.4

* For operation up to 50000 ft.
*Maximum Radius.

THYRATRONS (cont'd)

Type	Cathode Volts	Maximum Dimensions Inches		Max. Plate or Anode Ratings	
		Length	Diam.	Peak Inv. Volts	Av. Amp.
TETRODES (cont'd)					
172	5	10¾	2½*	2000	6.4
502-A	6.3	2⅝	1⅝	1300	0.1
672-A	5	8¼	2⅝	2500	3.2
2050	6.3	4½	1⅝	1300	0.1
5560	5	7 15/16	2¼*	1000	2.5
5696	6.3	1¾	¾	500	0.025
6012	6.3	3⅜	1 23/32	1300	0.5

IGNITRONS

Type	Maximum Dimensions Inches			Max. Anode Ratings††		Max. Anode Rating*†	
	Size	Approx. Length	Radius	KVA Demand	Corresponding Av. Anode Amp.	Peak Inv. Volts	Av. Amp.
5550	(A)	10	1⅝	300	12.1	.....	.....
5551-A	(B)	13½	2⅜	600	30.2	.....	.....
5552-A	(C)	14½	3⅝	1200	75.6	.....	.....
5553-B	(D)	20	4 11/16	2400	192.	.....	.....
5554		17½	3 13/16	.....	.....	2100	75
5555		18½	4 9/16	.....	.....	2100	150
5822-A		14½	3⅝	.....	.....	1500¶	56¶

PHOTOTUBES

Type	Maximum Dimensions Inches		Max. Anode-Supply Volts	Luminous Sensitivity Microamp. Per Lumen	Spectral Response
	Length	Diam.			
GAS TYPES					
1P29	4⅛	1⅛	100	40	S-3
1P37	4⅛	1⅛	100	135	S-4
1P40	Same as 930 except for non-hygroscopic base.				
1P41	2 1/16	13/16	90	90	S-1
868	4⅛	1⅛	100	90	S-1
918	4⅛	4⅛	90	150	S-1

*Maximum Radius. ††For welder-control service.
*†For power rectification.
¶For frequency-changer resistance-welding service.

PHOTOTUBES (cont'd)

Type	Maximum Dimensions Inches Length	Diam.	Max. Anode-Supply Volts	Luminous Sensitivity Microamp. Per Lumen	Spectral Response
GAS TYPES (cont'd)					
920¶	4	1 3/16	90	100	S-1
921	1 23/32	29/32	90	135	S-1
923	3 9/16	1 3/16	90	135	S-1
924	2 5/16	13/16	90	90	S-1
927	2 13/32	11/16	90	125	S-1
928	3 9/16	1 3/16	90	65	S-1
930	3 1/16	1 9/32	90	135	S-1
5581	3 1/16	1 9/32	100	135	S-4
5582	1 23/32	29/32	100	120	S-4
5583	2 13/32	11/16	100	135	S-4
5584¶	4	1 3/16	100	120	S-4
6405/1640	4 7/16	1 1/8	90	135	S-1
6953	3 1/16	1 9/32	90	135	S-1
VACUUM TYPES					
1P39	Same as 929 except for non-hygroscopic base.				
1P42	1 13/32	1/4	180	37	S-9
917	4 7/16	1 1/8	500	20	S-1
919	4 7/16	1 1/8	500	20	S-1
922	1 23/32	29/32	500	20	S-1
925	2 5/8	1 9/32	250	20	S-1
926	1 23/32	29/32	500	6.5	S-3
929	3 1/16	1 9/32	250	45	S-4
934	2 13/32	11/16	250	30	S-4
935	4 1/4	1 9/32	250	35	S-5
5652*	2 1/8	1 9/32	250	45	S-4
5653	3 1/16	1 9/32	250	45	S-4
6570	4 7/16	1 1/8	500	30	S-1

MULTIPLIER PHOTOTUBES

Type	Maximum Dimensions Inches Length	Diam.	Max. Anode-Supply Volts	Luminous Sensitivity Amp/Lumen	Spectral Response
1P21	3 11/16	1 5/16	1250	80 •	S-4
1P22	3 11/16	1 5/16	1250	0.6 •	S-8
1P28	3 11/16	1 5/16	1250	50 •	S-5
931-A	3 11/16	1 5/16	1250	24 •	S-4
2020	5 13/16	2 5/16	1500	6 • •	S-11
5819	5 13/16	2 5/16	1250	25 •	S-11
6199	4 9/16	1 5/16	1250	27 •	S-11

¶Twin type. *Twin type; each unit has a composition anode-cathode. • With supply volts = 1000. • • With supply volts = 1250.

MULTIPLIER PHOTOTUBES *(cont'd)*

Type	Max. Dimensions Inches Length	Diam.	Max. Anode-Supply Volts	Luminous Sensitivity Amp/Lumen	Spectral Response
6217	5 1/16	2 5/16	1250	24 •	S-10
6323▶	3 11/16	1 5/16	1250	35 •	S-4
6328	3 1/2	1 5/16	1250	35 •	S-4
6342	5 13/16	2 5/16	1500	7.5 • •	S-11
6372	7 3/4	2 5/16	1200	20	S-11
6472▶	2 3/4°	1 3/16	1250	35 •	S-4
6655	5 13/16	2 5/16	1250	25 •	S-11
6810	7 1/2	2 5/8	2300	750 ♦	S-11
6903	6 9/16	2 5/16	1250	24 •	S-13

PHOTOCONDUCTIVE CELLS

Type	Maximum Dimensions Inches Overall Length	Width	Depth	Max. Polarizing Volts	Luminous Sensitivity Amp/Lumen	Spectral Response
6694-A	1/2	1/8	1/8	150	1¶	S-12

CATHODE-RAY TUBES‡

Type	Max. Overall Length Inches	Min. Screen Diam. Inches	Max. Final Electrode Volts	Deflection Factor Volts DC/In† DJ1-DJ2††	DJ3-DJ4*
OSCILLOGRAPH TYPES:					
Medium Persistence, Electrostatic Focus:					
1EP1	4 1/16	1 5/16	1500	210-310	240-350
2AP1-A	7 1/2	1 1/4	1000	184-276	157-235
2BP1	7 13/16	1 1/4	2500	115-155	74-100
3AP1-A	11 3/8	2 1/2	1500	61-91	59-89
3BP1-A	10 1/4	2 1/4	2000	80-120	59-89
3JP1●	10 1/4	2 1/4	4000	85-115	63-85
3KP1	11 1/4	2 1/4	2500	50-68	38-52
3MP1	8 1/4	2 1/4	2500	115-145	110-140

‡All have 6.3-v heaters except: the 3AP1-A and 914-A which have 2.5-v heaters; and the 7NP4 and 7WP4 which have 6.6-v heaters. †Per KV of final electrode volts. ††Deflecting electrodes nearer the face. *Deflecting electrodes nearer the base. ▶For headlight dimming device. °Excluding flexible leads. • With Supply Volts = 1000. • • With Supply Volts = 1250. ♦With Supply Volts = 2000. ¶With polarizing volts = 90 and ambient temp. = 25°C. ●Post-deflection accelerator type.

CATHODE-RAY TUBES‡ *(cont'd)*

Type	Max. Over-all Length Inches	Min. Screen Diam. Inches	Max. Final Electrode Volts	Volts DC/In† Deflection Factor	
				DJ_1-DJ_2††	DJ_3-DJ_4*
OSCILLOGRAPH TYPES *(cont'd)*					
Medium Persistence, Electrostatic Focus: *(cont'd)*					
3RP1	9⅛	2¾	2500	73-99	52-70
3RP1-A	Same as type 3RP1, except has flat face.				
3WP1	11⅜	3 1/16	2500	41.5-50.5	28.5-35
5ABP1◉	17⅛	4 5/16	6000	27-36	18-24
5ADP1	16 13/16	4½	6000	27-33	20-25
5BP1-A	17⅛	4½	2000	35-49	32-45
5CP1-A◉	17⅛	4½	4000	39-53	33-45
5UP1	15¼	4½	2500	28-39	23-31
7CP1	13 13/16	6½	8000	**	**
7VP1	14⅞	6	4000	31-41	25-34
902-A	7⅞	1¾	600	183-277	160-235
914-A	20 7/16	8¼	7000	38-54	30-44
Extremely Short Persistence:					
5FP15-A§	11½	4¼	8000	Mag. focus & deflec.	
Short Persistence:					
1EP11	Same as type 1EP1, except for phosphor.				
2BP11	Same as type 2BP1, except for phosphor.				
3KP4	Same as type 3KP1, except for phosphor.				
3KP11	Same as type 3KP1, except for phosphor.				
3RP4	Same as type 3RP1, except for phosphor.				
3WP11	Same as type 3WP1, except for phosphor.				
5ABP4	Same as type 5ABP1, except for phosphor.				
5ABP11	Same as type 5ABP1, 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.				
Medium-Long Persistence:					
5CP12	Same as type 5CP1-A, except for phosphor.				
5FP14	Same as type 5FP7-A, except for phosphor.				
5FP14-A	Same as type 3WP1, except for phosphor.				
7MP14	Same as type 7MP7, except for phosphor.				
Long Persistence:					
1EP2	Same as 1EP1, except for phosphor.				
3FP7-A♦	10¼	2¾	4000	106-144	77-104
3JP7	Same as type 3JP1, except for phosphor.				

‡All have 6.3-v heaters except: the 3AP1-A and 914-A which have 2.5-v heaters; and the 7NP4 and 7WP4 which have 6.6-v heaters. †Per KV of final electrode volts. ††Deflecting electrodes nearer the face. *Deflecting electrodes nearer the base. ◉Post-deflection accelerator type. **Magnetic deflection. ♦Electrostatic focus. §High resolution type.

CATHODE-RAY TUBES‡ (cont'd)

Type	Max. Over-all Length Inches	Min. Screen Diam. Inches	Max. Final Elec-trode Volts	Deflection Factor Volts DC/In†	
				DJ_1-DJ_2††	DJ_3-DJ_4*
Long Persistence: (cont'd)					
3KP7	Same as type 3KP1, except for phosphor.				
3WP2	Same as type 3WP1, except for phosphor.				
5ABP7	Same as type 5ABP1, except for phosphor.				
5AHP7	11⅜	4¼	10000	Elec. focus, mag. defl.	
5AHP7-A	Same as 5AHP7, but has aluminized screen.				
5CP7-A	Same as type 5CP1-A, except for phosphor.				
5FP7-A	11½	4¼	8000	Mag. focus & deflec.	
5UP7	Same as type 5UP1, except for phosphor.				
7BP7-A	13⅝	6	8000	Mag. focus & deflec.	
7MP7	13⅛	6	8000	Mag. focus & deflec.	
10KP7	18	9	10000	Mag. focus & deflec.	
12DP7-A	20⅛	10	10000	Mag. focus & deflec.	
12DP7-B	Same as 12DP7-A, but has filterglass facepl'e.				
16ADP7	22	14⅜	14000	Mag. focus & deflec.	

Type	Max. Over-all Length Inches	Min. Screen Diam. Inches	Max. Final Elec-trode Volts	Max. Focus-ing Elec-trode Volts	Deflec-tion Angle Approx. Degrees
FLYING-SPOT TYPES:					
5AUP24#	12⅞	4¼	27000	6000	50
5WP15	11 13/16	4¼	27000	6000	50
5ZP16	14¾	4¼	27000	7000	40
TRANSCRIBER KINESCOPE:					
5WP11	11 13/16	4¼	27000	6000	50
VIEW-FINDER KINESCOPES:					
5AYP4#	11 15/16	4¼	10000	1500	53
5FP4-A	11½	4¼	8000	§	53
PROJECTION KINESCOPES (For Theater Television):					
5AZP4#	12 9/16	4½	40000	9000	50
7NP4★#	20⅛	5x3¾	80000	20000	35
7WP4▲#	20 1/16	5x3¾	80000	20000	35
MONITOR KINESCOPES:					
7CP4	13 13/16	6½	8000	2400	57
7QP4	13¼	6	10000	§	52
7TP4#	13½	6	12000	2000	50
10SP4#	17	9⅛	14000	2700	50

‡All have 6.3-v heaters except: the 3AP1-A and 914-A which have 2.5-v heaters; and the 7NP4 and 7WP4 which have 6.6-v heaters. #Aluminized. †, ††, *See preceding page. ■Projection-throw distance=60 ft. ▲Projection-throw distance=80 ft. §Magnetic focus.

RCA QUICK-SELECTION GUIDE

CAMERA TUBES

ICONOSCOPES:

1850-A—For pick-up from motion-picture film or slides. Utilizes electrostatic focus and magnetic deflection. Has high ratio of signal to noise but relatively low sensitivity. Response covers entire visible spectrum.

IMAGE ORTHICONS:

5820 For both outdoor and studio pickup. Has exceptional sensitivity combined with spectral response approaching that of the eye. Very stable in performance at all incident light levels on the object ranging from bright sunlight to a deep shadow. Utilizes magnetic focus and deflection.

6474/1854 For use in color cameras utilizing the method of simultaneous pickup of the studio or outdoor scene to be televised. Has exceptional sensitivity combined with spectral response approaching that of the eye. Utilizes magnetic focus and deflection.

6849 For use in industrial and scientific research television applications involving extremely low light levels. In a standard TV system can produce signal information with illumination on the photocathode as low as 0.00001 foot-candle.

VIDICONS:

6198 For use in industrial TV applications. Features small size and simplicity. Employs as its light-sensitive element a photoconductive layer having spectral response approaching that of the eye. Has very good sensitivity. Utilizes magnetic focus and deflection.

6198-A—Like the 6198 but features a structure without a side-tip and thus allows the use of a longer deflecting yoke.

6326 Similar to 6198 but intended primarily for use in compact TV cameras for either film or limited-motion live pickup.

6326-A—Like the 6326 but features a structure without a side-tip and thus allows the use of a longer deflecting yoke.

MONOSCOPES:

2F21 A 5" type with Indian-head test pattern for supplying signal to test video performance of TV receivers and transmitters. Utilizes electrostatic focus and magnetic deflection.

1699 Custom-built type like the 2F21 except that its pattern is individually styled to customer requirements.

STORAGE TUBES

6499 Radechon. Useful in digital or analogue information-processing systems.

6571 Computer type. For use primarily in binary-digital systems.

STORAGE TUBES *(cont'd)*

6866 Direct-view display type. For applications where a bright, non-flickering display of stored information is desired.

6896/1855 Graphechon. For use in data-processing applications where signal information must be transformed continuously from one time base to another.

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 0.001 mm of mercury (0.1 micron).

1950 Ionization Type. Similar to type 1949, but soft-glass construction.

"SPECIAL RED" TUBES

Designed and manufactured for critical industrial applications where 10000-hour life, rigid construction, extreme uniformity and exceptional stability are paramount.

5690 Full-Wave Vacuum Rectifier. Features two separate diode units of the indirectly-heated-cathode type. Max. peak inverse plate volts, 1120; max. peak plate current per plate, 375 ma.; max. dc output current per plate, 75 ma.

5691 High-Mu Twin Triode similar to type 6SL7-GT.

5692 Medium-Mu Twin Triode similar to type 6SN7-GT.

5693 Sharp-Cutoff Pentode similar to type 6SL7.

TYPES FOR SPECIAL APPLICATIONS

ACORNS

6F4 Oscillator Triode. Heater-cathode type. For frequencies up to 1200 Mc.

6L4 UHF Oscillator Triode. Heater-cathode type. For frequencies up to 1200 Mc.

954 Detector Amplifier Pentode. Heater-cathode type. For frequencies up to 430 Mc.

955 Medium-Mu Triode. Heater-cathode type. For frequencies up to 600 Mc.

TYPES FOR SPECIAL APPLICATIONS *(cont'd)*

ACORNS *(cont'd)*

956 Remote-Cutoff Pentode. Remote cutoff, heater-cathode type. For frequencies up to 430 Mc.

957 Medium-Mu Triode. Filament volts, 1.25. Amplification factor, 13.5.

958-A—Medium-Mu. Filament volts, 1.25. For oscillator and r-f amplifier service.

959 Sharp-Cutoff Pentode. Filament volts, 1.25 for r-f amplifier and detector service.

9004 UHF Diode. Heater-cathode type. For u-h-f service as a rectifier, detector or measuring device. Resonant frequency, about 850 Mc.

9005 UHF Diode. Heater-cathode type. For u-h-f service as a rectifier, detector or measuring device. Resonant frequency, about 1500 Mc.

MINIATURES

3A4 Power Pentode. Filament volts, 1.4/2.8. A-F power output of 700 milliwatts.

3A5 Medium-Mu 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 UHF Amplifier Triode. Cathode-drive amplifier. For frequencies up to 500 Mc.

12AY7—Medium-Mu Twin Triode. 9-pin Miniature Type. For use in the first stages of high-gain audio-frequency amplifiers, where reduction of microphonics, leakage noise, and hum are primary considerations.

26A6 Remote-Cutoff Pentode. Remote-cutoff, heater-cathode type. Useful in aircraft receivers operating directly from 12-cell storage batteries.

26C6 Twin-Diode—Medium-Mu 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.

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.

MINIATURES (cont'd)

9001 Sharp-Cutoff Pentode. A sharp cut-off pentode for use as an r-f amplifier or detector in u-h-f service.

9002 UHF Triode. Useful as a u-h-f detector, amplifier and oscillator.

9003 Remote-Cutoff Pentode. Remote cutoff type useful as a mixer or as an r-f or i-f amplifier in u-h-f services.

9006 UHF 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

2C40 Lighthouse Triode. A high frequency amplifier and oscillator for use up to 3000 Mc. Plate dissipation, 6.5 watts max., mu = 36, gm = 4800 micromhos.

2C43 Lighthouse Triode. Has the same design features as the 2C40 except for a plate dissipation of 12 watts max., mu = 48, and gm = 8000 micromhos.

6AG7-Y—Power Pentode. Similar to type 6AG7 except for micanol base.

6AS7-G—Low-Mu Twin Triode. Heater-cathode type. Has high perveance, a mu of 2, and an ac plate resistance of 280 ohms. For use as a regulator tube in dc power supplies, and in projection television booster scanning applications.

6SJ7-Y—Triple-Grid Detector Amplifier. Same as type 6SJ7 except for micanol base.

12A6 Beam Power Tube. Metal type. Designed particularly for aircraft applications. Heater volts, 12.6. Max. plate volts, 250.

12L8GT—Twin-Power Pentode. Heater volts, 12.6. Max. plate volts, 180. Plate dissipation per plate, 2.5 watts. Similar to type 1644.

12SW7—Twin-Diode—Medium-Mu Triode. Heater-cathode type. Useful in aircraft receivers.

12SX7-GT—Medium-Mu Twin Triode. Heater-cathode type. Useful in aircraft receivers.

12SY7—Pentagrid Converter. Single-ended metal type. Useful in aircraft receivers.

26A7-GT—Twin Beam Power Tube. Heater volts, 26.5. Max. plate volts, 50. For 12-cell battery service.

1609 Amplifier Pentode. For low-microphonic applications. Filament volts, 1.1. Max. plate volts, 135.

1612 Pentagrid Amplifier. For low-microphonic applications. Heater volts, 6.3. Max. plate volts, 250. Similar to type 6L7.

TYPES FOR SPECIAL APPLICATIONS *(cont'd)*

METAL, GT, AND OTHER GLASS TYPES *(cont'd)*

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 application 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 Tube. 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 beater. Max. plate dissipation, 16 watts.

1632 Beam Power Tube. Metal type. Similar to type 25L6 except for 12.6-volt heater, and plate voltage and dissipation ratings.

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.

5642 Diode. Subminiature type with flexible leads for TV high-voltage rectifier applications. Heater volts 1.25. Peak inverse plate voltage 10,000.

5687 Medium-Mu Twin Triode. For general purpose amplifier applications. Heater volts 6.3 and 12.6 for parallel and series operation.

5881 Beam Power Amplifier. For audio-frequency power amplifier applications. Heater volts, 6.3. In push-pull AB1 service, max. power output, 26.5 watts.

5890 Low-current beam pentode of the remote-cutoff type intended particularly for the regulation of high-voltage dc power supplies.

6026 Oscillator Triode. Subminiature type intended for transmitting service in radiosonde applications at 400 Mc.

6080 Low-Mu Twin Triode. Similar to type 6AS7-G in characteristics, but is smaller in size. Intended for applications critical as to shock and vibration, and requiring reduced susceptibility to electrolysis.

6082 Same as 6080 but has 26.5-volt heater. Intended for use in aircraft receivers.

UHF "PENCIL" TUBES

5675 Medium-Mu Triode. For use in cathode-drive circuits at frequencies up to 3000 Mc. As a local oscillator, it is capable of giving a power output of 474 milliwatts at 1700 Mc.

5794 Fixed-Tuned Oscillator Triode. Intended for transmitting service in radiosonde application at 1680 Mc.

5876 High-Mu Triode. General purpose type. For use in cathode-drive circuits as an r-f amplifier, i-f amplifier, or mixer tube up to 1000 Mc; as a frequency multiplier up to 1500 Mc; and as an oscillator up to 17 Mc. Delivers useful output of 5 watts at 500 Mc as an unmodulated Class C r-f amplifier, and 750 milliwatts as an oscillator at 1700 Mc.

5876-A—Like the 5786 but designed for military and critical industrial application.

5893 Medium-Mu Triode. Designed for use in cathode-drive circuits as a plate-pulsed oscillator at 3300 Mc and as a cw oscillator, rf power amplifier, and frequency doubler up to 1000 Mc.

6173 UHF Diode. For use in pulse detection and pulse-power-measuring service. May be operated at frequencies as high as 3300 Mc.

6263 Medium-Mu Triode. For use in cathode-drive, rf power amplifiers and oscillators in mobile transmitters operating up to 60000 feet without pressurized chambers. Under ICAS conditions, gives a useful power output of about 10 watts at 500 Mc. in unmodulated class C service with a plate input of only 14 watts.

6263-A—Like the 6263 but designed for military and critical industrial application.

6264 Like the 6263 but has a mu of 40. For frequency-amplifier service.

6264-A—Like the 6264 but designed for military and critical industrial application.

6562 Fixed-Tuned Oscillator Triode. Like the 5794 but the cathode is externally connected to one of the heater leads.

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 frequency-divider circuits in computers. Separate terminal for each cathode, and a mid-tapped heater for 6.3-volt or 12.6-volt operation.

TYPES FOR ELECTRONIC-COMPUTER AND OTHER "ON-OFF" CONTROL APPLICATIONS (cont'd)

5964 Medium-Mu Twin Triode. 7-pin miniature type intended for frequency-divider circuits in computers.

5965 Medium-Mu Triode. 9-pin miniature type. Balance of cutoff bias between the two units is closely controlled.

6197 Sharp-cutoff Power Pentode. 9-pin miniature type with a transconductance of 11000 micromhos. For frequency-divider and pulse amplifier service.

6211 Same as 5963 except that balance of cutoff bias between the two units is closely controlled.

6350 Medium-Mu Twin Triode. 9-pin miniature type particularly intended for high-speed digital type equipment.

6887 Twin Diode. 7-pin miniature type: Specifically intended for use in switching circuits of compact, medium-speed computers.

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.

KLYSTRONS

2K26 Single-resonator, reflex type oscillator for operation in the frequency range from 6250 to 7060 megacycles. It has a useful power output of about 100 milliwatts.

TRAVELING-WAVE TUBES

6861 Low noise, low-level type intended especially for the input stage of microwave receivers, such as radar, operating in the range of 2700 to 3500 Mc. Has a noise figure of 6.5 db and a gain of approximately 25 db. The rf-input and rf-output transducers are permanently set during manufacture.

MAGNETRONS

4J50 Internal resonant-circuit type with an integral magnet. Intended for pulsed-oscillator service, such as radar, at a fixed frequency of 9375±30 Mc. Will give a peak power output of 240 kilowatts when operated at 23000 peak anode volts.

4J52 Internal resonant-circuit type with magnet attached. Intended for pulsed-oscillator service at a fixed frequency of 9375 Mc. Will give a peak power output of 80 killowatts when operated at 15000 peak anode volts.

6521 Internal resonant-circuit type with an integral magnet. Designed and conservatively rated for long, reliable performance as a pulsed oscillator at a fixed frequency of 5400 Mc in weather radar equipment.

RCA PREFERRED TUBE TYPES

For New Equipment Design

The list of Preferred Tube Types is presented to assist equipment manufacturers in formulating their plans for future production of electronic equipment. It is based on a careful survey of the needs of the engineering and manufacturing fields.

By using Preferred Tube Types, electronic-equipment manufacturers can reduce manufacturing costs for the following reasons:

1. LOWER INITIAL COST OF TUBES
2. UNIFORM TUBE QUALITY FROM LONGER PRODUCTION RUNS
3. STANDARDIZATION ON FEWER COMPONENTS
4. BETTER TUBE AVAILABILITY
5. CUSTOMER SATISFACTION

This list is subject to change resulting from technological advances in tube design and application. Such changes will be incorporated in revised issues of this list, which will be available on request.

INDUSTRIAL TV TYPES

3RP4	View-Finder Kinescope
5AYP4	View-Finder Kinescope
5AZP4	Projection Kinescope
7WP4	Projection Kinescope
6198-A	Vidicon

BROADCAST CAMERA & TV STUDIO TYPES

5AYP4	View-Finder Kinescope
7TP4	Monitor Kinescope
10SP4	Monitor Kinescope
5820	Image Orthicon
6474/1854	Image Orthicon
6326-A	Vidicon

RCA PREFERRED TUBE TYPES

TYPES FOR AM AND FM BROADCAST RECEIVER APPLICATIONS

RECTIFIERS and DIODE DETECTORS	CONVERTERS	AMPLIFIERS, OSCILLATORS, MIXERS					OUTPUT AMPLIFIERS
		Triodes		Pentodes			
		Twin	With Diodes	Sharp Cutoff	Remote Cutoff	With Diode	
5Y3-GT 6AL5	1R5 6BE6 6X8	6CG7	6AV6	1U4 6AU6	1T4 6BA6	1U5	3V4 6AQ5 6L6-GB 6V6-GT
12X4 35W4	12BE6	12AX7	12AV6		12BA6		35C5 50C5

TYPES FOR TELEVISION RECEIVER APPLICATIONS

DETECTORS		RECTIFIERS			HV REGULATOR
Sound	Video	High-Voltage	Low-Voltage	Damper Types	
3DT6 6DT6	6AM8-A	1B3-GT 1V2** 3A3**	5U4-GB	6AU4-GTA 6AX4-GT 12AX4-GTA	6BK4**

* For UHF Oscillator Service.

** For Color TV only.

TYPES FOR TELEVISION RECEIVER APPLICATIONS

TUNER TUBES		AMPLIFIERS				DEFLECTION OSCILLATORS & CONTROL TYPES
RF Amplifiers	Oscillators, Mixers	IF	Video	Audio	Deflection	
3BC5 6BC5 6BC8 6BZ7	2AF4-A* 6AF4-A* 5CG8 6CG8-A 5U8 6U8-A	6AM8-A 3AU6 6AU6 3BZ6 6BZ6 3CB6 6CB6	6AW8-A 12BY7-A	5AQ5 6AQ5 6AV6 12CU5	6CB5-A** 6CD6-GA 6CM7 6DQ6-A 12DQ6-A 6W6-GT 12W6-GT	6BY6 6CG7 6CM7

SMALL TYPES FOR INDUSTRIAL AND COMMUNICATION SERVICES

HOME ENTERTAINMENT TYPES OF SPECIAL INTEREST*	VACUUM TYPES FOR CRITICAL APPLICATIONS	TYPES FOR REGULATOR SERVICE	GLOW-DISCHARGE TRIODE	COMPUTER TYPES
6AK6 6AV6 6BH6 6BJ6 6CG7 6L6-GB 12AX7†	1620 5879 "Special Red" Types 5690 5692 5691 5693	0A2 0B2 5651 6080	5823	5915 5965† 5963† 6197 5964 6211† 6350†

* Also see types for AM, FM & TV Receivers.

† Tapped heater, for 6.3-volt or 12.6-volt operation.

VACUUM TYPES FOR RF AND AF POWER APPLICATIONS

TYPE	CLASS	FILAMENT OR HEATER (H) VOLTS	MAXIMUM INPUT POWER vs FREQUENCY *Values shown are Unmodulated Class C Ratings for Continuous Commercial Service (CCS)*									UNITS
			7.5	25	75	110	175	220	450	900	1200	Mc
5763*	Beam	6.3 (H)	15	15	14	13	12	—	—	—	—	watts
6417*	Beam	12.6 (H)	15	15	14	13	12	—	—	—	—	watts
2E24*	Beam	6.3	30	30	30	30	20	—	—	—	—	watts
2E26*	Beam	6.3 (H)	30	30	30	30	20	—	—	—	—	watts
6893*	Beam	12.6 (H)	30	30	30	30	20	—	—	—	—	watts
832-A*	Beam¶	6.3/12.6 (H)	36	36	36	36	36	34	—	—	—	watts
807*	Beam	6.3 (H)	60	60	51	37	—	—	—	—	—	watts
6146*	Beam	6.3 (H)	67.5	67.5	63	56	45	—	—	—	—	watts
6883*	Beam	12.6 (H)	67.5	67.5	63	56	45	—	—	—	—	watts
829-B*	Beam¶	6.3/12.6 (H)	120	120	120	120	120	114	—	—	—	watts
812-A*	Triode	6.3	175	175	130	—	—	—	—	—	—	watts
811-A*	Triode	6.3	175	175	130	—	—	—	—	—	—	watts
6816	Beam	6.3 (H)	180	180	180	180	180	180	180	180	180	watts
4X150A	Beam	6.0	250	250	250	250	250	250	250	—	—	watts
813*	Beam	10.0	360	360	240	140	—	—	—	—	—	watts
6161	Triode	6.3 (H)	400	400	400	400	400	400	400	400	320	watts
833-A*	Triode	10.0	1.8	1.75	1.2	—	—	—	—	—	—	kw
6181	Beam	117	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	—	kw

¶ Twin Type—Input values per tube for push-pull operation.
* Type may be operated at higher ratings in Intermittent Commercial and Amateur Service (ICAS) as given in published data for each type.

VACUUM TYPES FOR RF AND AF POWER APPLICATIONS *(Cont'd)*

TYPE	CLASS	FILAMENT OR HEATER (H) VOLTS	MAXIMUM INPUT POWER vs FREQUENCY *Values shown are Unmodulated Class C Ratings for Continuous Commercial Service (CCS)*									UNITS
			7.5	25	75	110	175	220	450	900	1200	Mc
5762/7C24	Triode	12.6	8.7	8.7	7.6‡	7.3‡	5.5‡	4.5‡	—	—	—	kw
6166	Tetrode	5.0	18	18	17.6†	17.2†	16.5†	16.2†	—	—	—	kw
6806	Beam	1.35	60	60	60	60	60	60	60§	60§	—	kw
5771	Triode	7.5	60	60	—	—	—	—	—	—	—	kw
5671	Triode	11	100	80	—	—	—	—	—	—	—	kw
5770	Triode	11	150	135	—	—	—	—	—	—	—	kw

‡ The CCS maximum rated input power for VHF Television Service is 6.5 kw.
† The CCS maximum rated input power for VHF Television Service is 22 kw.
§ The CCS maximum rated input power for UHF Television Service is 70 kw.

VACUUM TYPES FOR PULSED POWER APPLICATIONS

TYPE	CLASS	APPLICATION	PEAK PLATE AMPERES	PULSE LENGTH μsec	DUTY FACTOR	PLATE-SUPPLY VOLTS
6293	Beam	Pulse Modulator	3.0	30	0.003	2000
			1.4	200	0.02	3500
5946	Triode	Plate-Pulsed Oscillator	4.5	5	0.01	7500*
3E29	Beam**	Pulse Modulator	10.0	12	0.001	5000
			2.25	240	0.02	5000

* Peak Pulse value. ** Values are per tube with both units in parallel.

THYRATRONS

2D21	5560
3D22-A	5563-A
672-A	5696
2050	6012

IGNITRONS

5551-A
5552-A
5553-B
5822-A

RECTIFIERS‡

2X2-A	816
3B28	857-B
5R4-GY	866-A
673	869-B
8008	

‡ For additional vacuum-type rectifiers, see listing of types for Receiver Applications.

CATHODE-RAY OSCILLOGRAPH TYPES

P1 SCREEN	P2 SCREEN	P7 SCREEN	P11 SCREEN	P14 SCREEN	P16 SCREEN
1EP1	1EP2		1EP11		
2BP1			2BP11		
3JP1*		3JP7*			
			3KP11		
3RP1					
5ABP1*		5ABP7*	5ABP11*		
		5AHP7			
		5FP7-A		5FP14-A	
5UP1		5UP7	5UP11		
			5WP11†		
					5ZP16‡
		7MP7		7MP14	
		10KP7			
		12DP7-A			
		16ADP7			

† Transcriber Type.
‡ Flying-Spot Type.
* Post-Deflection Accelerator Type.

PHOTOTUBES

SINGLE-UNIT TYPES		MULTIPLIER TYPES	
S1 Response	S4 Response	S4 Response	S11 Response
1P40	1P39	931-A	6199
921			6810-A
922			
927			

STORAGE TUBES

6866	Display Storage Type

PREMIUM TUBES

For Critical Military and Commercial Applications

Type	Prototype	Description	Class
0A2-WA*	0A2	Voltage Regulator	7-Pin Min.
0B2-WA*	0B2	Voltage Regulator	7-Pin Min.
2D21-W*	2D21	Thyratron	7-Pin Min.
6AC7-W*	6AC7	Sharp-Cutoff Pentode	Metal-Octal 8-Pin
6J4-WA*	6J4	High-Mu Triode	7-Pin Min.
12AT7-WA	12AT7	High-Mu Twin Triode	9-Pin Min.
5636	.....	Sharp-Cutoff Pentode	Subminiature (Flexible Leads)
5636-A	.....	Sharp-Cutoff Pentode	Subminiature (Flexible Leads)
5654	6AK5	Sharp-Cutoff Pentode	7-Pin Min.
5654/6AK5-W*	6AK5	Sharp-Cutoff Pentode	7-Pin Min.
5654/6AK5-W/6096*	6AK5	Sharp-Cutoff Pentode	7-Pin Min.
5670	2C51	Medium-Mu Twin Triode	9-Pin Min.
5686	.....	Beam Power Tube	9-Pin Min.
5718	.....	Medium-Mu Triode	Subminiature (Flexible Leads)
5718-A*	5718	Medium-Mu Triode	Subminiature (Flexible Leads)
5719	.....	High-Mu Triode	Subminiature (Flexible Leads)
5719-A*	5719	High-Mu Triode	Subminiature (Flexible Leads)
5725	6AS6	Twin Diode	7-Pin Min.
5726	6AL5	Twin Diode	7-Pin Min.
5726/6AL5-W*	6AL5	Twin Diode	7-Pin Min.
5726/6AL5-W/6097*	6AL5	Twin Diode	7-Pin Min.
5727/2D21-W*	2D21	Thyratron	7-Pin Min.
5749	6BA6	Sharp-Cutoff Pentode	7-Pin Min.
5750	6BE6	Pentagrid Amplifier	7-Pin Min.
5751	12AX7	High-Mu Twin Triode	9-Pin Min.
5751-WA*	12AX7	High-Mu Twin Triode	9-Pin Min.
5814-A	12AU7	Medium-Mu Twin Triode	9-Pin Min.
5814-WA*	12AU7	Medium-Mu Twin Triode	9-Pin Min.
5840	.....	Sharp-Cutoff Pentode	Subminiature (Flexible Leads)
5840-A*	5840	Sharp-Cutoff Pentode	Subminiature (Flexible Leads)

*Types manufactured to conform to a particular military specification.

PREMIUM TUBES (cont'd)

For Critical Military and Commercial Applications

Type	Prototype	Description	Class
6005	6AQ5	Beam Power Tube	7-Pin Min.
6072	12AY7	Medium-Mu Twin Triode	9-Pin Min.
6073	0A2	Voltage Regulator	7-Pin Min.
6074	0B2	Voltage Regulator	7-Pin Min.
6080-WA*	6AS7-G	Low-Mu Twin Power Triode	Glass-Octal 8-Pin
6101	6J6	Medium-Mu Twin Triode	7-Pin Min.
6101/6J6-WA*	6J6	Medium-Mu Twin Triode	7-Pin Min.
6136	.....	Sharp-Cutoff Pentode	7-Pin Min.
6186/ 6AG5-WA*	6AG5	Sharp-Cutoff Pentode	7-Pin Min.
6189/ 12AU7-WA*	12AU7	Medium-Mu Twin Triode	9-Pin Min.
6201	12AT7	High-Mu Twin Triode	9-Pin Min.
6205*	.....	Sharp-Cutoff Pentode	Subminiature (Flexible Leads)

*Types manufactured to conform to a particular military specification.

TRANSISTOR INTERCHANGEABILITY DIRECTORY

For keys to symbols, see page 63.

Type To Be Replaced				Class of Service	Replace by RCA Type*	Similar RCA Type†
Mfr. Prefix	Basic Designation	Mfr.	Description			
	2N27	WE	GNG	AF Amp		2N104
	2N28	WE	GNG	AF Amp		2N104
	2N34	GT	GPA	AF Amp		2N109
	2N34	RCA*	GPA	AF Amp		2N109
	2N34	S	GPA	AF Amp		2N109
	2N34	TEC	GPA	AF Amp		2N109
	2N34A	RCA*	GPA	AF Amp		2N109
	2N36	CBS	GPA	General Purpose		2N109
	2N36	GT	GPA	General Purpose		2N109
	2N37	CBS	GPA	General Purpose		2N109
	2N37	GT	GPA	General Purpose		2N109
	2N37	TEC	GPA	General Purpose		2N109
	2N38	CBS	GPA	AF Amp		2N109
	2N38	GT	GPA	AF Amp		2N109
	2N38	TEC	GPA	AF Amp		2N109
	2N38A	CBS	GPA	AF Amp		2N109
	2N38A	GT	GPA	AF Amp		2N109
	2N41	RCA*	GPA	AF Amp		2N77
	2N43	GE	GPA	AF Amp		2N109
	2N43	GT	GPA	AF Amp		2N109
	2N43	TEC	GPA	AF Amp		2N109
	2N43A	GE	GPA	AF Amp		2N206
	2N43A	TEC	GPA	AF Amp		2N206
	2N44	GE	GPA	AF Amp		2N109
	2N44	GT	GPA	AF Amp		2N109
	2N44	TEC	GPA	AF Amp		2N109
	2N44A	GE	GPA	AF Amp		2N109
	2N45	GE	GPA	AF Amp		2N109
	2N45	GT	GPA	AF Amp		2N109
	2N45	TEC	GPF	AF Amp		2N109
	2N46	RCA*	GPA	AF Amp		2N77
	2N47	P	GPA	AF Amp		2N77
	2N48	P	GPA	AF Amp		2N77
	2N49	P	GPA	AF Amp		2N77
	2N54	WL	GPA	AF Amp		2N109

Type To Be Replaced				Class of Service	Replace by RCA Type*	Similar RCA Type†
Mfr. Prefix	Basic Designation	Mfr.	Description			
	2N55	WL	GPA	AF Amp		2N109
	2N56	WL	GPA	AF Amp		2N109
	2N62	P	GPA	General Purpose		2N109
	2N63	GTC	GPA	AF Amp		2N109
	2N63	RK	GPA	AF Amp		2N109
	2N63	TEC	GPA	AF Amp		2N109
	2N64	GT	GPA	AF Amp		2N109
	2N64	RK	GPA	AF Amp		2N109
	2N64	TEC	GPA	AF Amp		2N109
	2N65	GT	GPA	AF Amp		2N109
	2N76	GE	GPA	AF Amp		2N104
	2N76	TEC	GPA	AF Amp		2N104
	2N77	RCA	GPA	AF Amp	2N77	
	2N78	GE	GNG	IF-RF Amp		2N139
	2N79	RCA*	GPA	AF Amp		2N206
	2N85	TEC	GPA	AF Amp		2N109
	2N86	TEC	GPA	AF Amp		2N109
	2N87	TEC	GPA	AF Amp		2N109
	2N88	TEC	GPA	AF Amp		2N105
	2N89	TEC	GPA	AF Amp		2N105
	2N90	TEC	GPA	AF Amp		2N105
	2N94	S	GNA	Switching		2N139
	2N94A	S	GNA	Switching		2N139
	2N104	RCA	GPA	AF Amp	2N104	
	2N105	RCA	GPA	AF Amp	2N105	
	2N106	RK	GPA	AF Amp		2N104
	2N109	GT	GPA	AF Amp	2N109	
	2N109	RCA	GPA	AF Amp	2N109	
	2N111	CC	GPA	IF Amp		2N139
	2N111	GT	GPA	IF Amp		2N139
	2N111	RK	GPA	IF Amp		2N139
	2N111A	RK	GPA	IF Amp		2N139
	2N112	CC	GPA	IF Amp		2N139
	2N112	GT	GPA	IF Amp		2N139
	2N112	RK	GPA	IF Amp		2N139
	2N112A	RK	GPA	IF Amp		2N139
	2N113	CC	GPA	IF Amp Switching	2N139	2N269
	2N113	GT	GPA	IF Amp, Switching	2N139	2N269
	2N113	RK	GPA	IF Amp, Switching	2N139	2N269
	2N114	GT	GPA	Converter	2N140	

Transistor Interchangeability Directory (cont'd)

Type To Be Replaced				Class of Service	Replace by RCA Type*	Similar RCA Type†
Mfr. Prefix	Basic Designation	Mfr.	Description			
	2N114	RK	GPA	Converter	2N140	
	2N116	CBS	GPA	AF Amp		2N175
	2N123	GE	GPA	Switching		2N269
	2N128	P	GPS	4 Mc Amp		2N247
	2N129	P	GPS	455 Kc Amp		2N247
	2N130	GT	GPA	AF Amp		2N105
	2N130	RK	GPA	AF Amp		2N105
	2N131	GTC	GPA	AF Amp		2N105
	2N131	RK	GPA	AF Amp		2N105
	2N132	GT	GPA	AF Amp		2N105
	2N132	RK	GPA	AF Amp		2N105
	2N133	GT	GPA	AF Amp		2N175
	2N133	RK	GPA	AF Amp		2N175
	2N135	GE	GPA	IF-RF Amp		2N139
	2N136	GE	GPA	IF-RF Amp	2N139	
	2N137	GE	GPA	IF-RF Amp	2N140	
	2N138	RK	GPA	AF Amp		2N109
	2N139	RCA	GPA	IF Amp	2N139	
	2N140	RCA	GPA	Converter	2N140	
	2N145	TI	GNG	455 Kc Amp		2N139
	2N146	TI	GNG	455 Kc Amp		2N139
	2N147	TI	GNG	455 Kc Amp		2N139
	2N155	CBS	GPA	AF Amp		2N301
	2N158	CBS	GPA	AF Power Amp		2N301A
	2N167	GE	GNG	Switching		2N269
	2N168	GE	GNG	IF Amp		2N139
	2N168A	GE	GNG	Converter		2N140
	2N169	GE	GNG	IF Amp		2N139
	2N169A	GE	GNG	IF Amp		2N139
	2N172	TI	GNG	455 Kc Converter		2N140
	2N175	RCA	GPA	AF Amp	2N175	
	2N176	M	GPA	AF Power Amp		2N301
	2N180	CBS	GPA	General Purpose		2N109
	2N181	CBS	GPA	General Purpose		2N270
	2N182	CBS	GNA	Switching		2N269
	2N183	CBS	GNA	Switching		2N269
	2N184	CBS	GNA	Switching		2N269
	2N185	TI	GPA	AF Amp		2N109
	2N186	GE	GPA	AF Amp		2N109
	2N186A	GE	GPA	AF Amp		2N270

Transistor Interchangeability Directory (cont'd)

Type To Be Replaced				Class of Service	Replace by RCA Type*	Similar RCA Type†
Mfr. Prefix	Basic Designation	Mfr.	Description			
	2N187	GE	GPA	AF Amp		2N209
	2N187A	GE	GPA	AF Amp		2N170
	2N188	GE	GPA	AF Amp		2N109
	2N188A	GE	GPA	AF Amp		2N270
	2N189	GE	GPA	AF Amp		2N109
	2N190	GE	GPA	AF Amp		2N109
	2N191	GE	GPA	AF Amp		2N109
	2N192	GE	GPA	AF Amp		2N109
	2N194	S	GNA	Converter		2N140
	2N195	TEC	GPA	AF Amp		2N109
	2N196	TEC	GPA	AF Amp		2N109
	2N197	TEC	GPA	AF Amp		2N109
	2N198	TEC	GPA	AF Amp		2N109
	2N199	TEC	GPA	AF Amp		2N109
	2N200	TEC	GPA	AF Amp		2N206
	2N204	TEC	GPA	General Purpose		2N206
	2N205	TEC	GPA	General Purpose		2N206
	2N206	RCA	GPA	AF Amp	2N206	
	2N207	P	GPA	AF Amp		2N105
	2N207A	P	GPA	AF Amp		2N105
	2N207B	P	GPA	AF Amp		2N105
	2N217	RCA	GPA	AF Amp	2N217	2N109
	2N218	RCA	GPA	IF Amp	2N218	
	2N219	RCA	GPA	Converter	2N219	
	2N220	RCA	GPA	AF Amp	2N220	
	2N223	P	GPA	AF Amp		2N270
	2N224	P	GPA	AF Amp		2N270
	2N225	P	GPA	AF Amp		2N270
	2N226	P	GPA	AF Amp		2N270
	2N227	P	GPA	AF Amp		2N270
	2N231	P	GPS	455 Kc Amp		2N139
	2N232	P	GPS	455 Kc Amp		2N139
	2N237	NA	GPA	AF Amp		2N175
	2N238	TI	GPA	AF Amp		2N109
	2N241	G E	GPA	AF Amp		2N109
	2N241A	GE	GPA	AF Amp		2N109
	2N242	S	GPA	AF Amp		2N301
	2N247	RCA	GPD	RF Amp	2N247	
	2N248	TI	GPG	RF Amp		2N247
	2N249	TI	GPA	AF Amp		2N270

Type To Be Replaced				Class of Service	Replace by RCA Type*	Similar RCA Type†
Mfr. Prefix	Basic Designation	Mfr.	Description			
	2N252	TI	GPA	Converter		2N140
	2N253	TI	GNG	455 Kc Amp		2N139
	2N254	TI	GNG	455 Kc Amp		2N139
	2N267	RCA*	GPD	RF Amp		2N247
	2N269	RCA	GPA	Switching	2N269	
	2N270	RCA	GPA	AF Amp	2N270	
	2N301	RCA	GPA	AF Power Amp	2N301	
	2N301A	RCA	GPA	AF Power Amp	2N301A	
	2N311	M	GPA	Switching		2N269
GT	14	GT	GPA	AF Amp		2N109
GT	14H	GT	GPA	AF Amp		2N105
GT	20	GT	GPA	AF Amp		2N109
GT	20H	GT	GPA	AF Amp		2N105
T	34A	NU	GPA	AF Amp		2N77
T	34B	NU	GPA	AF Amp		2N77
T	34C	NU	GPA	AF Amp		2N77
T	34D	NU	GPA	AF Amp		2N109
T	34E	NU	GPA	AF Amp		2N109
T	34F	NU	GPA	AF Amp		2N109
GT	38	GT	GPA	AF Amp		2N77
OC	65	A	GPA	AF Amp		2N105
OC	66	A	GPA	AF Amp		2N105
OC	70	A	GPA	AF Amp		2N77
OC	71	A	GPA	AF Amp		2N77
ZJ	71	GE	GNG	RF Amp		2N247
OC	72	A	GPA	AF Amp		2N109
ZJ	72	GE	GNG	VHF Amp		2N247
ZJ	73	GE	GNG	RF Amp		2N247
GT	81	GT	GPA	AF Amp		2N109
GT	81H	GT	GPA	AF Amp		2N105
GT	109	GT	GPA	AF Amp	2N109	
GT	122	GT	GPA	Switching		2N269
DR	126	TS	GPA	AF Amp		2N105
DR	128	TS	GPA	AF Amp		2N105
TS	161	TS	GPA	AF Amp		2N109
TS	162	TS	GPA	General Purpose		2N104
TS	163	TS	GPA	AF Amp		2N104
TS	164	TS	GPA	AF Amp		2N104
TS	165	TS	GPA	AF Amp		2N109
TS	166	TS	GPA	AF Amp		2N175

Transistor Interchangeability Directory (cont'd)

Type To Be Replaced				Class of Service	Replace by RCA Type*	Similar RCA Type†
Mfr. Prefix	Basic Designation	Mfr.	Description			
TS	176	TS	GPA	AF Power Amp		2N301
	206	TI	GNG	AF Amp		2N77
	207	TI	GNG	AF Amp		2N77
	208	TI	GNG	AF Amp		2N77
	222	TI	GNG	IF Amp		2N139
GT	222	GT	GPA	General Purpose		2N104
	223	TI	GNG	Converter		2N140
	225	TI	GNG	IF Amp		2N139
	228	TI	GNG	Converter		2N140
GT	269	GT	GPA	Switching		2N269
	300	TI	GPA	AF Amp		2N109
	301	TI	GPA	AF Amp		2N109
	302	TI	GPA	AF Amp		2N109
	310	TI	GPA	AF Amp		2N109
	350	TI	GPA	AF Amp		2N109
	352	TI	GPA	AF Amp		2N109
	353	TI	GPA	AF Amp		2N109
CK	721	RK	GPA	AF Amp		2N104
CK	722	RK	GPA	AF Amp		2N104
CK	725	RK	GPA	AF Amp		2N104
CK	727	RK	GPA	AF Amp		2N104
CK	751	RK	GPA	AF Amp		2N109
CK	759	RK	GPA	RF Amp		2N139
GT	759	GT	GPA	Switching		2N139
CK	760	RK	GPA	RF Amp		2N139
GT	760	GT	GPA	455 Kc Amp		2N139
CK	761	RK	GPA	RF Amp, Switching	2N139	
GT	761	GT	GPA	455 Kc Amp	2N139	
CK	762	RK	GPA	Converter	2N140	
GT	762	GT	GPA	Converter	2N140	
CK	766	RK	GPA	RF Amp		2N140
CK	766A	RK	GPA	RF Amp		2N140
	830	TI	GNG	455 Kc Converter		2N140
	1032	CC	GPA	AF Amp		2N109
	1033	CC	GPA	AF Amp		2N109
	1034	CC	GPA	AF Amp		2N109
	1035	CC	GPA	AF Amp		2N109
	1036	CC	GPA	AF Amp		2N109
	1320	CC	GPA	AF Amp		2N109
	1330	CC	GPA	AF Amp		2N109

Transistor Interchangeability Directory (cont'd)

Type To Be Replaced				Class of Service	Replace by RCA Type*	Similar RCA Type†
Mfr. Prefix	Basic Designation	Mfr.	Description			
	1340	CC	GPA	AF Amp		2N109
	1350	CC	GPA	AF Amp		2N109
	1360	CC	GPA	AF Amp		2N109
	1390	CC	GPA	IF-RF Amp		2N139
	1400	CC	GPA	IF-RF Amp		2N139
	1410	CC	GPA	IF-RF Amp		2N139
	A01	P	GPS	AF Amp		2N247
	CQ1	NA	GPA	AF Amp		2N109
	GFT20	N	GPA	AF Amp		2N109
	HA1	CBS	GPA	AF Amp		2N77
	HA1	NA	GPA	AF Amp		2N77
	HA2	CBS	GPA	AF Amp		2N77
	HA3	CBS	GPA	AF Amp		2N77
	HA8	CBS	GPA	AF Amp		2N105
	HA9	CBS	GPA	AF Amp		2N105
	HA10	CBS	GPA	AF Amp		2N105
	HS3	NA	GPA	Switching		2N269
	HS4	NA	GPA	Switching		2N269
	J1	NA	GPA	AF Amp		2N109
	J2	NA	GPA	AF Amp		2N109
	J3	NA	GPA	AF Amp		2N109
	JP1	NA	GPA	AF Amp		2N109
	L5108	P	GPS	RF Amp		2N247
	L5121	P	GPS	Switching		2N247
	L5122	P	GPS	Switching		2N247
	OC32	N	GPA	AF Amp		2N109
	OC33	N	GPA	AF Amp		2N109
	OC34	N	GPA	AF Amp		2N109
	SB100	P	GPS	IF Amp Oscillator		2N247
	SB100	SPR	GPS	IF Amp Oscillator		2N247

KEY TO SYMBOLS IN COLUMN 3

A = Amperex	M = Motorola	RR = Radio Recepter
B = Bendix	MAL = Mallory	S = Sylvania
CBS = CBS-Hytron	MH = Minneapolis-Honeywell	SPR = Sprague
CC = Clevite Corporation	N = Nucleonics	SS = Scientific Specialties
DEL = Delco	NA = National Aircraft	TEC = Transitron
GE = General Electric	NU = National Union	TI = Texas Instruments
GPC = Germanium Products	P = Philco	TS = Tung-Sol
GT = General Transistor	RCA = Radio Corporation of America	WE = Western Electric
HA = Hughes Aircraft	RK = Raytheon	WL = Westinghouse

KEY TO SYMBOLS IN COLUMN 4

GC = Germanium, Point-Contact Type	SNA = Silicon, n-p-n, Alloy-Junction Type
GNA = Germanium, n-p-n, Alloy-Junction Type	SNG = Silicon, n-p-n, Grown-Junction Type
GNG = Germanium, n-p-n, Grown-Junction Type	SPA = Silicon, p-n-p, Alloy-Junction Type
GPA = Germanium, p-n-p, Alloy-Junction Type	SPG = Silicon, p-n-p, Grown-Junction Type
GPD = Germanium, p-n-p, "Drift" Type	SU = Silicon, Unijunction Type
GPG = Germanium, p-n-p, Grown-Junction Type	SD = Semiconductor Diode
GPS = Germanium, p-n-p, Surface-Barrier Type	

* RCA types shown in this column are direct replacements under all circumstances for corresponding types to be replaced.

† RCA types shown in this column 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 type data or write to Commercial Engineering, RCA, Somerville, New Jersey.

RCA TRANSISTOR DATA CHART
GERMANIUM P-N-P ALLOY JUNCTION TYPES

Type	Typical Application	Transistor Characteristics							Transistor Dimensions		Type
		DC Collector Volts	DC Emitter Ma	Current Transfer Ratio @ 1Kc	Alpha Cut-off Freq. Mc	Power Gain db	Noise Factor db	Freq. for Unity Power Ampli. Mc	Max. Case Length Inches	Max. Case Diameter Inches	
2N77	Class A AF Amplifier	−4	.7	55	.7	44.1	6.5	1.7	.405‡	.24	2N77
2N104	Class A AF Amplifier	−6	1	44	.7	41	6.5	1.6	.495	.26	2N104
2N105	Class A AF Amplifier	−4	.7	55	.75	42	7.5	2.6	.255‡	.135	2N105
2N109	P-P Class B AF Amplifier	−9*	−2▲	75■	....	33§	Pwr. Output	160 mw.	.495	.26	2N109
2N139	Class A 455-Kc IF Ampl.	−9	1	48	6.7	37.8	4.5	14	.495	.26	2N139
2N140	540-1640-Kc Converter	−9	.6	75	10	32°°	....	16.5	.495	.26	2N140
2N175	Class A Low-Noise AF Ampl.	−4	.5	65	.85	43	6△	2.06	.495	.26	2N175
2N206	Class A AF Amplifier	−5	1	47	.78	46	9	....	.405‡	.24	2N206
2N215	Class A AF Amplifier	−6	1	44	.7	41	6.5	1.6	.455‡	.24	2N215
2N217	P-P Class B AF Amplifier	−9*	−2▲	75■	....	33§	Pwr. Output	160 mw.	.405‡	.24	2N217
2N218	Class A 455-Kc IF Ampl.	−9	1	48	6.7	37.8	4.5	14	.405‡	.24	2N218
2N219	540-1640-Kc Converter	−9	.6	75	10	32°°	....	16.5	.405‡	.24	2N219
2N220	Class A Low-Noise AF Ampl.	−4	.5	65	.85	43	6△	2.06	.405‡	.24	2N220
2N247⊠	Class A RF Amplifier	−9	1	60	30	45□	8	132	.375‡	.36	2N247
2N269	Switching Applications	Max. DC Collector Ma., −12 DC Base-to-Emitter Volts, −.35 Max. DC Base Ma., −.4, DC Collector-to-Emitter Volts, −.15							.405‡	.24	2N269

RCA TRANSISTOR DATA CHART—Germanium P-N-P Alloy Junction Types—(cont'd)

Type	Typical Application	Transistor Characteristics							Transistor Dimensions		Type
		DC Collector Volts	DC Emitter Ma	Current Transfer Ratio @ 1Kc	Alpha Cut-off Freq. Mc	Power Gain db	Noise Factor db	Freq. for Unity Power Ampli. Mc	Max. Case Length Inches	Max. Case Diameter Inches	
2N270	P-P Class B AF Amplifier	−12*	−2▲	70■	....	32§	Pwr. Output	500 mw.	.375‡	.36	2N270
2N274⊠	Class A RF Amplifier	−9	1	60	30	45□	8	132	.405‡	.24	2N274
2N301	P-P Class B AF Amplifier	−14.4*	−50▲	70■	....	30§	Pwr. Output	12 w	.475	.87°	2N301
2N301-A	Like 2N301 but has a peak collector-to-base voltage rating of −60 volts										2N301A
2N370⊠	RF Amplifier	−12	1	0.984Ø		See Note 1		132	.375	.36	2N370
2N371⊠	RF Oscillator	−12	1	0.973Ø	....	....	....	132	.375	.36	2N371
2N372⊠	Mixer	−12	1	0.984Ø		See Note 2		132	.375	.36	2N372
2N384⊠	VHF Applications	−12ŏ	1.5ŏ	See Note 3	100ŏ	30ŏ	....	250ŏ	.250	.36	2N384
		−12#	1.5#	See Note 4	100#	15#	....	250#	.250	.36	
2N398	H-V Switching Applications	Collector-to-Base and Collector-to-Emitter Voltage Rating — 105 max. volts Collector Current Rating — 100 max. ma Transistor Dissip. at 25°C, 50 max. mw							.250	.36	2N398
2N404	Switching Applications	Like 2N269 but has smaller metal case and has leads arranged to conform to RETMA Standard RS-188 for automation requirements.							.250	.36	2N404

RCA TRANSISTOR DATA CHART—Germanium P-N-P Alloy Junction Types—(cont'd)

Type	Typical Application	Transistor Characteristics							Transistor Dimensions		Type
		DC Collector Volts	DC Emitter Ma	Current Transfer Ratio @ 1Kc	Alpha Cut-off Freq. Mc	Power Gain db	Noise Factor db	Freq. for Unity Power Amplif. Mc	Max. Case Length Inches	Max. Case Diameter Inches	
2N405	Class A AF Driver	−6	1	35	....	43	....	....	.495	.26	2N405
2N406	Class A AF Driver	−6	1	35	....	43	....	....	.405‡	.24	2N406
2N407	Class A & B AF Amplifier	−9*	−2▲	65	....	33§	Pwr. Output	160 mw.	.495	.26	2N407
2N408	Class A & B AF Amplifier	−9*	−2▲	65	....	33§	Pwr. Output	16 mw.	.405‡	.24	2N408
2N409	Class A 455-Kc IF Ampl.	−9	1	48	6.7	37.8	4.5	14	.495	.26	2N409
2N410	Class A 455-KC IF Ampl.	−9	1	48	6.7	37.8	4.5	14	.405‡	.24	2N410
2N411	540-1640-Kc Converter	−9	.6	75	10	32	....	16.5	.495	.26	2N411
2N412	540-1640-Kc Converter	−9	.6	75	10	32	....	16.5	.405‡	.24	2N412

⊠ "Drift" Type
△ Maximum
§ Two transistors
* Supply voltage
‡ Has flexible leads
° Maximum dimensions of mounting flange, length 1.562", width 1.031"
□ Measured at 1.5 Mc in a single-tuned unilateralized circuit matched to the generator and load impedance for maximum transfer of power (Transformer insertion losses not included)
* Frequency at which the current transfer ratio for the common-base circuit drops to .707 of its value at 1 Kc.
■ Large-signal dc current transfer ratio
▲ Zero-signal dc collector current
**Conversion gain

NOTE 1—Output resistance at 20 Mc, 11000 ohms
Input resistance at 20 Mc, 80 ohms
NOTE 2—Output resistance at 455 Kc, 25000 ohms
Input resistance at 20 Mc, 80 ohms
NOTE 3—Output resistance at 10.7 Mc, 15000 ohms
Input resistance at 10.7 Mc, 350 ohms
NOTE 4—Output resistance at 50 Mc, 5000 ohms
Input resistance at 50 Mc, 30 ohms

ð at 10.7 Mc
at 50 Mc

RCA SEMICONDUCTOR DIODES

- **Germanium Point-Contact Types**
- **Sealed-in-Glass Construction**
- **Low Shunt And Series Capacitonces**

TYPE	DESCRIPTION	MAXIMUM RATINGS			CHARACTERISTICS (at Ambient Temperature = 25°C)		Max. Bulb Length	Max. Bulb Diam.
		Peak Inverse Volts	Peak Forward Ma	Average Forward Ma	Minimum Forward Ma at dc volts = 1	Maximum Average Inverse Current at stated dc volts		
1N34-A	General-Purpose Type	60	150	50	5	30 μa at −10VDC 500 μa at −50VDC	.875	.25‡
1N38-A	Large-Signal Type	100	150	50	4	5 μa at −3VDC 500 μa at −100VDC	Dimensions similar to 1N34-A.	
1N54-A	High-Back Resistance Type	50	150	50	5	7 μa at −10VDC 100 μa at −50VDC	Dimensions similar to 1N34-A.	
1N58-A	Large-Signal Type	100	150	50	4	600 μa at −100VDC	Dimensions similar to 1N34-A.	

RCA RADIO BATTERIES

Radio-Engineered for Extra Listening Hours

RCA Type	Volts			Replaces		NEDA • Type No.	Max. Overall Dimensions		
	A	B	C	Eveready	Burgess		L	W. or Dia.	Ht.
(For socket and terminal information see pages 71-73)									
INDUSTRIAL AND SPECIAL-PURPOSE BATTERIES									
VS006C	1½	—	—	61GN	61GN	914	—	2⅜	6⅝₆
VS006S	1½	—	—	61GN	61GN	905	—	2⅜	6⅝
VS028	—	—	4½	781	5360	714	2⅜	1¹³⁄₁₆	2⅞
VS029	—	—	7½ ◉	773	5540	713	3⅜	1³⁄₁₆	2¹⁵⁄₁₆
VS030	—	—	3, 4½	771	2370P1	718	3¹⁵⁄₁₆	1⅜	2⅜
VS031	—	—	22½ ◊	768	5156P1	721	4	2½	3
VS039	6	—	—	1461	S461	907	10⅜	2⅜	7⅛
VS040S	6	—	—	510S	F4BP	915	2¹¹⁄₁₆	2¹¹⁄₁₆	4⅝₆
VS083	—	15	—	411	U10	208	1¹⁄₃₂	⅛	1⅞₆
VS084	—	22½	—	412	U15	215	1¹⁄₃₂	⅛	2
VS085	—	30	—	413	U20	210	1¹⁄₃₂	⅛	2⅛₆
VS093	—	300	—	493	U200	722	2⅛	2¹⁄₁₆	3⅛
VS100	3	—	—	W352	F2BP	701	2⅛	1⅜	4⅝₆
VS101	1½	—	—	W354	2FBP	700	2⅛	1⅜	4⅝₆
VS102	—	22½	—	763	4156	710	3⅛	2½	2⅛
VS103	6	—	—	706	4F4H	902	8⁵⁄₁₆	2¹¹⁄₁₆	6⅝₆
VS106	1½	—	—	735	4FH	900	2¹¹⁄₁₆	2¹¹⁄₁₆	4⅝₆
VS112	—	22½, 45	—	W376	530B	709	4½	2½	5⅞₆
VS114	—	22½, 45	—	W350	Z30NX	711	3	1⅞	4¹⁵⁄₁₆
VS126	—	22½, 45	—	W365F	2308SC	723	8⅛	3¼	7⁹⁄₁₆
VS127	—	22½, 45	—	W363F	10308SC	716	8	4	7⅛
VS127W▶	—	22½, 45	—	—	10308SC	724	8	4	7⅜
VS130	—	—	4½ **	761T	2370ST	712	3¹⁵⁄₁₆	1⅜	3
VS131	—	—	22½ §	778	5156SC	708	4½	2½	3⅝₆
VS132	9	—	—	—	D6BP	909	4¹⁄₁₆	2¹¹⁄₁₆	3
VS133	4½	—	—	703	532	706	2⅜	1³⁄₁₆	2½
VS134	3	—	—	750	422	704	1⁷⁄₁₆	¾	2⅝₆
VS136	3	—	—	W356	2F2H	703	2¹¹⁄₁₆	2¹¹⁄₁₆	4⅝₆
VS138	3	—	—	W357	4F2H	901	3⅞	2¹¹⁄₁₆	5⅜
VS139	7½	—	—	715	4F5H	903	7¼	4	6⅝₆
VS140	9	—	—	716	4F6H	904	8½	4⅛₆	6⅞₆
VS142	4½	—	—	751	432	705	2	⅜	2⅝
VS157	—	22½, 45	—	W364F	21308SC	715	8⅛	4⅝	7¹¹⁄₁₆
VS317	6	—	—	731	TWI	—	5⁷⁄₁₆	2⅞	1¹⁄₁₆

• National Electronic Distributors Association. ▶Wax Coated.
◉Other voltage taps: 1½, 3, 4½, 6. ◊Other voltage taps: 3, 4½, 16½.
**Other voltage taps: 1½, 3.
§Other voltage taps: 3, 4½, 6, 9, 10½, 16½.

RCA Type	Volts		Replaces		NEDA • Type No.	Max. Overall Dimensions		
	A	B	Eveready	Burgess		L	W. or Dia.	Ht.
(For socket and terminal information see pages 71-73)								
PORTABLE "A" TYPES								
VS002	4½	—	746	G3	7	4	1⅜	4 11/16
VS004	1½	—	742	4F	4	2⅝	2⅜	4 1/16
VS005	1½	—	—	4FL	12	3 13/16	1⅜	5⅞
VS009	6	—	744	F4P1	6	2⅝	2⅜	4¼
VS010	6	—	718	2F4	1	3⅜	2 13/16	5½
VS011	6	—	747	2F4L	16	3⅜	1 1/16	10¼
VS035	1½	—	935	1	14	—	1	1 15/16
VS036	1½	—	950	2R	13	—	1 5/16	2⅜
VS065	7½	—	717	C5	9	2⅛	2	3 1/16
VS067	4½	—	736	F3	3	4	1⅜	4⅛
VS068	6	—	724	Z4	2	1 3/16	1 3/16	2⅜
VS069	1½	—	720	2D	18	2 5/16	1 5/16	2⅜
VS070	1½	—	960P	BR	23	—	1 5/16	4 1/16
VS072	4½	—	726	D3	19	3 13/16	1 5/16	2 15/16
VS129	7½	—	713	B5	8	4 1/16	1 5/16	3
VS141	1½	—	W353	2F	11	2 5/16	1 5/16	4⅛
VS236	1½	—	964	21R	20	—	1⅜	4 3/16
VS315	7.5	—	707	—	—	2 5/16	2 1/32	2 11/16
PORTABLE "B" TYPES								
VS012	—	45	484	B30	207	4⅛	2⅝	5 5/16
VS013	—	45	482	M30	202	3 9/16	1 15/16	5½
VS014	—	45	W359	A30	206	3 1/16	2¼	4 9/16
VS015	—	22½, 45	738	Z30	205	3	2¼	4
VS016	—	67½	467	XX45	200	2¼	1⅜	3¾
VS055	—	45	455	XX30	201	2 11/16	1	3 11/16
VS082	—	67½	457	K45	203	2 13/16	1⅜	2½

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RCA Type	Volts		Replaces		NEDA • Type No.	Max. Overall Dimensions		
	A	B	Eveready	Burgess		L	W. or Dia.	Ht.
(For socket and terminal information see pages 71-73)								
PORTABLE "B" TYPES (cont'd)								
VS086	—	45	415	U30	213	1 1/16	5/16	3 9/16
VS090	—	90	490	N60	204	3 11/16	1 3/16	3 1/4
VS215	—	67½	—	P45M	211M	1 29/32	1	5 7/16
VS216	—	67½	—	P45M	211M	1 15/16	1 1/32	5 9/16
VS217	—	75	437	XX50	212	1 15/16	1 3/16	6 3/4
VS218	—	67½	477	P45	211P	1 29/32	1	5 7/16
VS219	—	90	479	P60	214	1 31/32	1 1/32	7 15/32
VS316	—	90	495	—	216	1 13/16	1 15/32	7 9/16
VS318	—	67.5	416	—	—	1 21/64	63/64	3 1/2
FARM "A-B" AND "B" TYPES								
VS019	7½, 9	90	753	F6A60	401	9 3/16	2 3/4	4 1/2
VS038	7½	63	W367	G5A42	408	8 3/4	2 3/4	4 1/16
VS043	1½	90	—	5DA60	409	5 1/2	2 11/16	7 1/4
VS046	6	75	—	G4B50	422	12 3/4	2 3/4	4 1/2
VS047	9	90	752	G6B60	400	13 3/4	2 3/4	4 5/16
VS050	6, 7½	75	755	T5Z50	403	8 9/16	2 7/16	3 11/16
VS052	1½	61½	—	4GA41	423	9 3/4	2 11/16	3 7/16
VS053	1½	63	W366	4GA42	407	9 3/4	2	4 3/4
VS054	1½	90	W369	6TA60	410	10	2 9/16	4 15/16
VS057W	7½, 9	90	756	T6Z60	405	8 11/16	2 5/16	3 3/4
VS058	9	90	757	F6A60P	406	9 1/2	2 3/4	4 1/2
VS059	9	90	756P	T6Z60P	428	8 11/16	2 5/16	3 3/4
VS060	7½	75	—	T5Z50P	431	8 9/16	2 7/16	3 11/16
VS064	1½	90	729	4TZ60	425	7 3/4	2 5/16	3 5/8
FARM "A-B" AND "B" TYPES								
VS022	1½	90	759	17GD60	413	15 3/4	4 3/4	6 15/16
VS026	—	22½, 45	W365P	230BP1	717	8 1/16	3 5/16	7 1/16
VS045	1½	90	—	18GD60	426	12 5/16	5 5/16	6 15/16
VS119	7½, 9	90	—	S6D60	415	8 3/4	4 1/2	13 3/8
FLASHLIGHT AND LANTERN TYPES								
VS034	1½	—	915	Z	15	—	9/16	2
VS035	1½	—	935	1	14	—	1	1 11/16
VS036	1½	—	950	2	13	—	1 5/16	2 5/16
VS040C	6	—	510F	F4H	908	2 11/16	2 11/16	4 5/16
VS040S	6	—	510S	F4BP	915	2 11/16	2 11/16	4 5/16
VS073	1½	—	—	N	910	—	7/16	1 5/16
VS074	1½	—	912	7	24	—	7/16	1 3/16
VS138	3	—	W357	4F2H	901	3 3/4	2 11/16	5 3/8
VS317	6	—	731	TWI	—	5 7/16	2 3/8	13/16

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TRANSISTOR APPLICATION TYPES

RCA Type	Volts	Replaces		NEDA Type No.	Max. Overall Dimensions		
		Eveready	Burgess		L	W. or Dia.	Ht.
S300	9	226	—	1600	—	31/32	1 31/32
VS301	3, 6, 9	—	D6P1	1601	8	1 9/16	2 1/4
VS304	9, 13.5	239	XX9	1900	1 3/8	1 1/8	2 3/8
VS305	9	246	2N6	1602	1 3/8	1 3/8	2 1/4
VS306	9	276	D6	1603	2 9/16	2 1/32	3 3/32
VS307	5.5	—	—	1402	—	31/32	1 9/32
VS308	4	—	—	1302	—	51/32	1 1/16
VS309	9	—	—	1606	—	35/64	1 25/32
VS310	5.5	—	—	1401	—	35/64	1 1/4
VS311	4	—	—	1301	—	35/64	1 1/32
VS312	8.4	—	—	—	1 1/32	19/32	2
VS313	1.4	—	—	—	—	35/64	1 31/32
VS314	9	—	—	—	1	1	1 15/16
VS400	4	E233	—	—	—	1 1/32	1 31/32

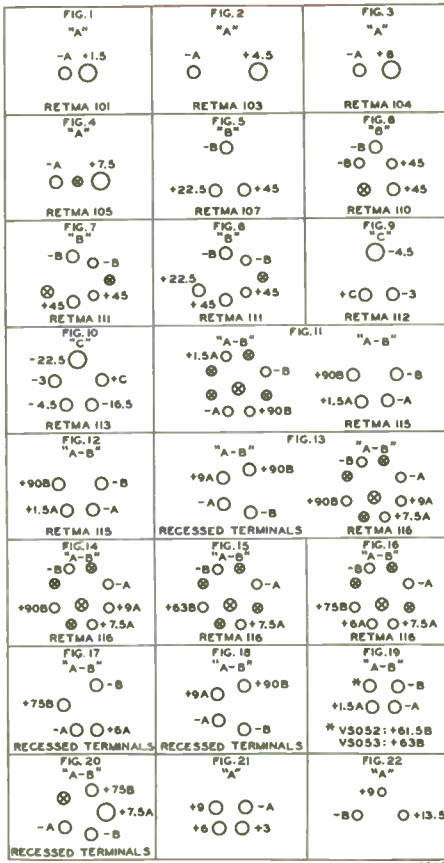
TERMINAL GUIDE FOR RCA BATTERIES

Battery Type	Terminals	Battery Type	Terminals
VS002	Fig. 2	VS084	Flashlight
VS004	Fig. 1	VS085	Flashlight
VS005	Fig. 1	VS086	2 Snap
VS006C	2 Fahnestock Clips	VS090	2 Snap
VS006S	2 Screw	VS093	2 Flush-Pin Jack
VS009	Fig. 3	VS100	2 Screw
VS010	Fig. 3	VS101	2 Screw
VS011	Fig. 3	VS102	2 Screw
VS012	Fig. 7	VS103	2 Screw
VS013	Fig. 6	VS106	2 Screw
VS014	Fig. 7	VS112	3 Screw
VS015	Fig. 8	VS114	3 Screw
VS016	2 Snap	VS119	Fig. 13
VS019	Fig. 14	VS126	3 Fahnestock Clips
VS022	Fig. 12	VS127	3 Fahnestock Clips
VS026	Fig. 5	VS127W	3 Fahnestock Clips
VS028	2 Screw	VS129	Fig. 4
VS029	5 Screw, 1 Pigtail	VS130	4 Screw
VS030	Fig. 9	VS131	8 Fahnestock Clips
VS031	Fig. 10	VS133	2 Flat-Spring

TERMINAL GUIDE FOR RCA BATTERIES *(cont'd)*

Battery Type	Terminals
VS034	Flashlight
VS035	Flashlight
VS036	Flashlight
VS038	Fig. 15
VS039	2 Screw
VS040C	2 Coil-Spring
VS040S	2 Screw
VS043	Fig. 12
VS045	Fig. 11
VS046	Fig. 17
VS047	Fig. 18
VS050	Fig. 16
VS052	Fig. 19
VS053	Fig. 19
VS054	Fig. 12
VS055	2 Snap
VS057W	Fig. 14
VS058	Fig. 18
VS059	Fig. 18
VS060	Fig. 20
VS064	Fig. 12
VS065	Fig. 4
VS067	Fig. 2
VS068	Flashlight
VS069	Fig. 1
VS070	Fig. 1
VS072	Fig. 2
VS073	Flashlight
VS074	Flashlight
VS082	2 Snap
VS083	Flashlight
VS134	2 Flat-Spring
VS136	2 Screw
VS138	2 Fahnestock Clips
VS139	2 Screw
VS140	2 Screw
VS141	Fig. 1
VS142	2 Flat-Spring
VS157	3 Fahnestock Clips
VS215	2 Snap
VS216	2 Snap
VS217	2 Snap
VS218	2 Snap
VS219	2 Snap
VS236	2 Snap Flashlight
VS300	2 Snap
VS301	Fig. 21
VS304	Fig. 22
VS305	2 Snap
VS306	2 Snap
VS307	2 Snap
VS308	2 Snap
VS309	2 Snap
VS310	2 Snap
VS311	2 Snap
VS312	2 Snap
VS313	Flashlight
VS314	2 Snap
VS315	2 Snap
VS316	2 Snap
VS317	2 Screw
VS318	2 Snap
VS400	Flashlight

TERMINAL PATTERNS FOR RCA BATTERIES



92CM-6792RI

RCA RECEIVING TUBE CHART

Miniature, Metal, GT, and other Receiving Types

(For Footnotes and Base Diagrams, See Pages 112-124)

Type	Name	Tube Dimensions and Socket Connections: Dimen.	Socket Connections: S. C.	Cathode Type and Rating: C. T.	Cathode Type and Rating: Volts	Cathode Type and Rating: Amp.	Use	Plate Supply Volts	Grid Bias	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Transconductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts
00-A	Detector Triode	D12a	4D	D.C. F	5.0	0.25	Grid-Leak Detector	45	Grid Return to (−) Filament			1.5	30000	666	20	—	—
01-A	Detector & Amplifier	D12a	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 DC Starting Volts, [illegible]					Max. Peak Plate Current, 500 ma Max. DC Output Current, 75 ma				
0Z4 0Z4-G	Full-Wave Gas Rectifier	B2 B1a	4R 4R †	Cold	—	—	Rectifier	Starting Supply Voltage per Plate, 300 min. peak volts Peak Plate Current, [illegible] max ma. DC Output Current, 75 max.; 30 min. ma DC Output Voltage, 300 min. volts.									
1A3	HF Diode	B0	6AP	H	1.4	0.15	Detector Rectifier	Max. Peak Inverse Volts, 330 Max. Peak Plate Ma., 5					Max. DC Output Ma., 0.5 Max. Peak Heater-Cathode Volts, 140				
1A4-P	Remote-Cutoff Pentode	D8	4M	D.C. F	2.0	0.06	Amplifier	For other characteristics, refer to Type 1D5 GP									
1A5-GT	Power Amplifier Pentode	C2b	4X	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 ◇	D8	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 max. volts, 2.3 ma Oscillator Grid (◇1) Resistor ∞, Conversion Transcond., 300 micromhos.			
1A7-GT	Pentagrid Converter ◇	C3	7Z#	D.C. F	1.4	0.05	Converter	90	0	45♣	0.7	0.6	600000	Anode Grid (◇2) 90 max. volts, 1.2 ma. Oscillator Grid (◇1) Resistor, 0.2 meg. Conversion Transconductance, 250 micromhos.			
1AC5	Power Pentode	A	8CP	F	1.25	0.04	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	2000000 1700000 1500000	440 500 750		8000 12000 25000	0.005 0.015 0.050
1AD5	Sharp-Cutoff Pentode	A	8CP	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		—	—
1AX2	Half-Wave Rectifier	B8a	8Y	F	1.4	0.65	Pulsed-Rectifier in TV Receivers	Max. Peak Inverse Plate Volts, 25000 Max. Peak Plate Ma., 11					Max. Average Plate Ma., 1				
1B3-GT	Half-Wave Rectifier	D8	3C	F	1.25	0.2	Pulsed-Rectifier in Sweeping Systems of TV Receivers	Max. Peak Inverse Plate Volts, 30000 Max. Peak Plate Ma., 17					Max Average Plate Ma., 2 Max. Frequency of Supply Voltage, 300 Kc				

1B4-P	RF Amplifier Pentode	D9	6M	D.C. F	2.0	0.06	Amplifier	For other characteristics, refer to Type 1E5-GP.										
1B5 25S	Duplex-Diode Triode	D6	6M	D.C. F	2.0	0.06	Triode Unit as Amplifier	For other characteristics, refer to Type 1H6 G.										
1B7-GT	Pentagrid Converter o	C3	7Z4	D.C. F	1.4	0.10	Converter	90	0	45♣	1.3	1.5	350000	Anode Grid (e 2): 90 max. volts, 1.8 ma. Oscillator Grid (e 1) Resistor, 0.2 meg. Conversion Transcond., 350 micromhos.				
1C5-GT	Power Amplifier Pentode	C2b	6X	D.C. F	1.4	0.10	Class A Amplifier	83	− 7.0	83	1.6	7.0	110000	1500	—	9000	0.20	
								90	− 7.5	90	1.6	7.5	115000	1550		8000	0.24	
1C6	Pentagrid Converter o	D9	6L	D.C. F	2.0	0.12	Converter	For other characteristics, refer to Type 1C7-G.										
1C7-G	Pentagrid Converter o	D8	7Z	D.C. F	2.0	0.12	Converter	135	− 3.0	67.5	2.5	1.3	600000	Anode-Grid (e 2): 180♣ max. volts, 4.0 ma. Oscillator-Grid (e 1) Resistor∞, Conversion Transcond., 325 micromhos.				
								180	− 3.0	67.5	2.0	1.3	700500					
1D5-GP	Remote-Cutoff Pentode	D9	6V	D.C. F	2.0	0.06	Class A Amplifier	90	− 3.0	67.5	0.9	2.2	600000	— 720	—	—	—	—
								180	max.	67.5	0.8	2.3	1.0M	750	—	—	—	—
1D5-GT	Remote-Cutoff Tetrode	D8	6N	D.C. F	2.0	0.06	Class A Amplifier	180	− 3.0	67.5	0.7	2.2	800000	650	—	—	—	—
1D7-G	Pentagrid Converter o	D8	7Z	D.C. F	2.0	0.06	Converter	For other characteristics, refer to Type 1A6.										
1D8-GT	Diode-Triode-Power Pentode	C2b	8A8	D.C. F	1.4	0.10	Pentode Unit as Class A Amplifier	45	− 4.5	45	0.3	1.6	300000	650		20000	0.035	
								90	− 9.0	90	1.0	5.0	200000	925		12000	0.200	
							Triode Unit as Class A Amplifier	45	0	—	0.3	1.2	77000	325	25	—	—	—
								90	0	—	1.1	4.3	43500	575	25	—	—	—
1DN5	Diode-Remote-Cutoff Pentode	B0	6BW	F	1.4	0.5	Triode Unit as Class A Amplifier	67.5	0	67.5	0.55	2.1	600000	630	—	—	—	—
1E5-GP	RF Amplifier Pentode	D6	5Y	D.C. F	2.0	0.06	Class A Amplifier	90	− 3.0	67.5	0.7	1.6	1.0M	600	—	—	—	—
								180	− 3.0	67.5	0.6	1.7	1.3M	650	—	—	—	—
1E7-GT	Twin-Pentode Power Amplifier	C2b	8C	D.C. F	2.0	0.24	Class A Amplifier	135	− 7.5	135	—	—	—	Power Output is for one tube at stated plate-to-plate load.		24000	0.575	
1E8	Pentagrid Converter▲	A	8EN	F	1.25	0.04	Converter	30	0	30	0.8	0.3	340000	Oscillator Grid (e 1) Resistor, 0.1 meg. Conversion Transcond., 150 micromhos				
								45	0	45	1.1	0.6	400000					
								67.5	0	67.5	1.5	1.0	400000					
1F4	Power Amplifier Pentode	D12a	6A	D.C. F	2.0	0.12	Amplifier	For other characteristics, refer to Type 1F5-G.										
1F5-G	Power Amplifier Pentode	D11b	6K	D.C. F	2.0	0.12	Class A Amplifier	90	− 3.0	90	1.1	4.0	240000	1400	—	20000	0.11	
								135	− 4.5	135	2.4	8.0	200000	1700	—	16000	0.31	
1F6	Duplex-Diode Pentode	D9	6W	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	7AF	D.C. F	2.0	0.06	Pentode Unit as RF Amplifier	180	− 1.5	67.5	0.7	2.2	1.0M	650	—	—	—	—
							Pentode Unit as AF Amplifier	135■	− 2.0	Screen Supply, 135 volts applied through 0.8 megohm resistor Grid Resistor,** 1.0 megohm Voltage Gain, 46.								

Discontinued types are shown in light face.

Type	Name	Tube Dimensions and Socket Connections: Dimen.	Tube Dimensions and Socket Connections: S. C.	Cathode Type and Rating: C. T.	Cathode Type and Rating: Volts	Cathode Type and Rating: Amp.	Use (Values to right give operating conditions and characteristics for indicated typical use)	Plate Supply Volts	Grid Bias as Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Transconductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts
1G3-GT/ 1B3-GT	Half-Wave Rectifier	C10	3C	F	1.25	0.2	Pulsed-Rectifier in TV Receivers	Max. Peak Inverse Plate Volts, 26000 (Abs.) Max. Peak Plate Ma., 50									Max. Average Plate Ma., 0.5
							HV Rectifier in RF Power Supplies	Max. Peak Inverse Plate Volts, 33000 (Abs.) Max. Peak Plate Ma., 30									Max. Average Plate Ma., 1.0 Frequency Range of Supply Voltage, 1.5 to 100 Kc
1G4 GT	Medium-Mu Triode	C2b	9S	D.C. F	1.4	0.05	Class A Amplifier	90	− 6.0	—	—	2.3	10700	825	8.8	—	—
								90	− 6.0	90	2.5	8.5	133000	1500	—	8500	0.25
								135	−13.5	135	2.5	8.7	160000	1550		9000	0.55
1G5-G	Power Amplifier Pentode	D11b	5X	D.C. F	2.0	0.12	Class A Amplifier	Power Output is for one tube at stated plate-to-plate load.								12000	0.350
1G6 GT	Twin-Triode Amplifier	C2b	7AB	D.C. F	1.4	0.10	Class B Amplifier	90	0	—	—	—	—	—	—	—	—
1H4 G	Detector★ Amplifier	D3	5S	D.C. F	2.0	0.06	Class A Amplifier	90	− 4.5	—	—	2.5	11000	850	9.3	—	—
								135	− 9.0			3.0	10300	900	9.3		
								180	−13.5			3.1	10300	900	9.3		
							Class B Amplifier	157.5	−15.0	—	—	1.0◆	—	—	—	8000	2.11
1H5-GT	Diode High-Mu Triode	C3	5ZM	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	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	D11b	5K	D.C. F	2.0	0.12	Class A Amplifier	135	−16.5	135	2.0	7.0	105000	950	—	13500	0.45
1J6-G 1J6-GT	Twin-Triode Amplifiers	C11	7AR	D.C. F	2.0	0.24	Class B Amplifier	Power Output is for one tube at stated plate-to-plate load								10000	2.1
								135	0	—	—	—	—	—	—	10000	1.9
								135	− 3.0								
1L4	RF Amplifier Pentode	B8	6AR	D.C. F	1.4	0.05	Class A Amplifier	90	0	67.5	1.2	2.9	600000	925	—	—	—
								90	0	90	2.0	4.5	260000	1025			
1L6	Pentagrid Converter o	—	7DC	D.C. F	1.4	0.05	Converter	90	0	45	0.6	0.5	650000	Anode-Grid (◆2): 90 max. volts, 1.2 ma Oscillator Grid (◆1) Resistor, 0.2 meg. Conversion Transcond., 300 micromhos.			
1LA4	Power Amplifier Pentode	B5	5AD	D.C. F	1.4	0.05	Amplifier	For other characteristics, refer to Type 1A5-GT.									
1LA6	Pentagrid Converter o	B5	7AK	D.C. F	1.4	0.05	Converter	90	0	45◆	0.6	0.55	750000	Anode-Grid (◆2): 90 max. volts, 1.2 ma. Oscillator Grid (◆1) Resistor, 0.2 meg. Conversion Transcond., 250 micromhos.			
1LB4	Power Amplifier Pentode	B5	5AD	D.C. F	1.4	0.05	Class A Amplifier	For other characteristics, refer to Pentode Unit of Type 1D8-GT.									
1LC6	Sharp-Cutoff Pentode	B6	7AQ	D.C. F	1.4	0.05	Class A Amplifier	45	0	45	0.35	1.10	700000	750	—	—	—
								90	0	45	0.30	1.15	1.0	775			

1LC6	Pentagrid Converter a	B6	7AK	D.C. F	1.4	0.05	Converter
1LD5	Diode-Pentode	B5	6AJ	D.C. F	1.4	0.05	Pentode Unit as Class A Amplifier
1LE3	Medium-Mu Triode	B5	9AA	D.C. F	1.4	0.05	Class A Amplifier
1LG5	Remote-Cutoff Pentode	B6	7AQ	D.C. F	1.4	0.05	Class A Amplifier
1LH4	Diode High-Mu Triode	B6	6AQ	D.C. F	1.4	0.05	Triode Unit as Class A Amplifier
1LN5	Sharp-Cutoff Pentode	B5	7AQ	D.C. F	1.4	0.05	Class A Amplifier
1NS-GT	Sharp-Cutoff Pentode	C1	8V6	D.C. F	1.4	0.05	Class A Amplifier
1N6-G	Diode—Power Amplifier Pentode	D1	7AB6	D.C. F	1.4	0.05	Pentode Unit as Class A Amplifier
1P5 GT	Remote-Cutoff Pentode	C3	8V6	D.C. F	1.4	0.05	Class A Amplifier
1Q5-GT	Beam Power Tube	C3b	8AT	D.C. F	1.4	0.1	Class A Amplifier
1R5	Pentagrid Converter	B6	7AF	D.C. F	1.4	0.05	Converter
1S4	Power Amplifier Pentode	B6	7AV	D.C. F	1.4	0.1	Class A Amplifier
1S5	Diode-Pentode	B6	6AU	D.C. F	1.4	0.05	Pentode Unit as AF Amplifier
1T4	Remote-Cutoff Pentode	B6	6AB	D.C. F	1.4	0.05	Class A Amplifier
1T5-GT	Beam Power Tube	C2b	8X	D.C. F	1.4	0.05	Class A Amplifier
1T6	Diode-Pentode	A	8D4	F	1.25	0.04	Pentode Unit as Class A Amplifier
1U4	Sharp-Cutoff Pentode	B6	6AR	D.C. F	1.4	0.05	Class A Amplifier
1U5	Diode-Pentode	B7	6BW	D.C. F	1.4	0.05	Pentode Unit as Class A Amplifier
1-v	Half-Wave Rectifier	B8	4G	H	6.3	0.3	With Capacitive Input Filter
1V2	Half-Wave Rectifier	B8a	9U	F	0.625	0.3	Pulsed Rectifier
1X2-A	Half-Wave Rectifier	B4	9V	F	1.25	0.2	Pulsed Rectifier in Scanning Systems of TV Receivers

45	0	35	0.75	0.70	300000	Anode Grid (+2) Voltage, 45 max.					
90	0	35	0.70	0.75	650000	Oscillator Grid (+1) Resistor, 0.2 meg					
						Conversion Transcond., 225 micromhos					

Plate Supply, 90 v applied through 1 meg resistor. Screen Supply, 90 v applied through 3.6 meg resistor. Grid Bias, 0 v. Grid Resistor, 10 megohms. Voltage Gain, 101 approx.

90	1	0	7	4.5	11200	1300	14.5	–	–
90	1	3	–	1.4	19000	760	14.5	–	–
90	7	0	45	0.4	1.7	1.03	800	–	–
90	1	1.6	90	0.9	3.7	900000	1150	–	–

For other characteristics, refer to Type 1H5 GT

90	0	90	0.35	1.6	1.15	800	–	–	–
90	0	90	0.3	1.2	1.5	750	–	–	–
90	4.5	90	0.7	3.4	300000	800	–	24000	0.1
90	0	90	0.7	2.3	800000	750	–	–	–
90	4.5	90	1.3	9.5	90000	2400	–	8000	0.27
45	0	45	1.9	0.7	600000	Grid (+1) Resistor, 100000 ohms			
90	0	67.5	3.2	1.6	600000	Conversion Transcond., 300 umhos.			
45	– 4.5	45	0.8	3.8	100000	1250	–	8000	0.065
90	– 7.0	67.5	1.4	7.4	100000	1575	–	8000	0.27

Plate Supply, 90 v applied through 1 meg resistor. Screen Supply, 90 v applied through 3.1 meg resistor. Grid Bias, 0 volts. Grid Resistor, 10 megohms. Voltage Gain, 66 approx.

45	0	45	0.7	1.7	350000	700	–	–	–
90	0	67.5	1.4	3.5	500000	900	–	–	–
90	0.0	90	0.8	6.5	250000	1150	–	14000	0.17
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	–	–	–
90	0	90	0.50	1.0	1.05	900	–	–	–

Plate Supply, 90 volts applied through 1 meg resistor. Screen Supply, 90 volts applied through 3.1 meg resistor. Grid Bias, 0 volts. Grid Resistor, 10 megohms. Voltage Gain, 66 approx.

Max. AC Plate Volts (RMS), 325 — Min. Total Effective Plate-Supply Impedance: Up to 117 volts, 0 ohms; at 150 volts, 30 ohms; at 325 volts, 75 ohms.
Max. DC Output Ma., 45
Max. Peak Inverse Plate Volts, 7500 — Max. Average Plate Ma., 0.5
Max. Peak Plate Ma., 10

Max. Peak Inverse Plate Volts, 18000 — Max. Average Plate Ma., 1
Max. Peak Plate Ma., 10

Discontinued types are shown in light face.

Type	Name	Tube Dimensions and Socket Connections: Bulb	Tube Dimensions and Socket Connections: Outline	Cathode Type and Rating: Base	Cathode Type and Rating: Volts	Cathode Type and Rating: Amp.	Use (Values in 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	Transconductance (field-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts
1X2-B	Half-Wave Rectifier	B4	9Y	P	1.25	0.2	Pulsed-Rectifier in Scanning Systems of TV Receivers	Max. Peak Inverse Plate Volts, 22000 (Absolute Value) Max. Peak Plate Ma., 45								Max. Average Plate Ma., 0.5	
2A3	Power Amplifier Triode	C3	4D	P	2.5	2.5	Class A Amplifier	250	−45.0	—	—	60.0	800	5250	4.2	2500	3.5
							Push-Pull Class AB1 Amplifier	300 300	Cath. Bias, 780 ohms◆ −62 volts, fixed bias			80.0◆ 80.0◆	—	—	—	5000 3000	10.0† 15.0†
2A4-G	Glow-Discharge Triode	D3	B8	D.C. P	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	D1h	8B	H	2.5	1.75	Amplifier	For other characteristics, refer to Type 6P6-G.									
2A6	Duplex-Diode High-Mu Triode	D8	8G	H	2.5	0.8	Triode Unit as Amplifier	For other characteristics, refer to Type 6BQ7.									
2A7	Pentagrid Converter ●	D8	7C	H	2.5	0.8	Converter	For other characteristics, refer to Type 6A8.									
2AF4-A	Medium-Mu Triode	B8	7DK	H●	2.35	0.6	Class A Amplifier	80 100	Cath. Bias Res., 150 ohms			16 20	2270 2130	6600 7500	15 16	—	—
							Oscillator at 950 Mc.	100	Grid Bias Volts, −4 Grid Res., 10000 ohms			22	Grid Current (Approx.), 400 μamp. Useful Power Output, 160 milliwatts				
2B7	Duplex-Diode Pentode	D8	7D	H	2.5	0.8	Pentode Unit as Amplifier	For other characteristics, refer to Type 6B8-G.									
2BN4	Medium-Mu Triode	B8	7EQ	H●	2.3	0.6	Class A Amplifier	150	Cath. Bias	—	—	9	6300	6800	43	Cath. Bias Res., 220 ohms	
2E5	Electron-Ray Tube	D6	8R	H	2.5	0.8	Visual Indicator	For other characteristics, refer to Type 6E5.									
3A2	Half-Wave Rectifier	B4	9DT	H	3.15	0.22	Pulsed-Rectifier in Scanning Systems of TV Receivers	Max. Peak Inverse Plate Volts, 18000 Max. Peak Plate Ma., 80								Max. Average Plate Ma., 1.5	
3A3	Half-Wave Rectifier	D2	9EZ	H	3.15	0.22	Pulsed-Rectifier in Scanning Systems of TV Receivers	Max. Peak Inverse Plate Volts, 30000 Max. Peak Plate Ma., 80								Max. Average Plate Ma., 1.5	
3A8-GT	Diode-Triode RF Amplifier Pentode	C8	8A8	D.C. P	1.4 2.8	0.1 0.05	Triode Unit as Class A Amplifier	90	0	—	—	0.2	200000	325	65	—	—
							Pentode Unit as Class A Amplifier	90	0	90	0.5	1.5	800000	750	—	—	—
3AF4-A	Medium-Mu Triode	A1	7DK	H●	3.2	0.45	Class A Amplifier	100	Cathode Bias Res., 150 ohms			16 20	2270 2130	6600 7500	15 16	—	—
							Oscillator at 950 Mc.	100	Grid Bias Volts, −4 Grid Res., 10000 ohms			22	Grid Current (Approx.), 400 μamp. Useful Power Output, 160 milliwatts				

3AL5	Twin Diode	A1	6BT	Me	3.15	0.6	Detector Rectifier	Max. Peak Inverse Volts, 330 Max. Peak Plate Ma. per Plate, 54					Max. DC Output Ma. per Plate, 9 Max. Peak Heater-Cathode Volts, 330						
3AU6	Sharp-Cutoff Pentode	88	7BK	Me	3.15	0.6	Class A Amplifier	100	Cath Bias	100	2.1	5.0	500000	3900	Cath. Bias Res., 150 ohms				
								250	Bias	150	4.3	10.6	1.0§	5200	Cath. Bias Res., 68 ohms				
3AV6	Twin Diode High-Mu Triode	88	7BT	Me	3.15	0.6	Triode Unit as Class A Amplifier	100	– 1.0	—	—	0.5	80000	1250	100	—	—		
								250	– 2.0	—	—	1.7	62500	1600	100	—	—		
3B2	Half-Wave Rectifier	E1a	8GH	H	3.15	0.27	Pulsed Rectifier in TV Service	Max DC Inverse Plate Volts, 25000 Max. Peak Plate Ma. 80 Max Average Plate Ma., 1.1					Max. Total DC and Peak Inverse Peake Volts, 35000 (Absolute)						
3BC5	Sharp-Cutoff Pentode	81	7BD	Me	3.15	0.6	Class A Amplifier	250	Cath. Bias	150	2.1	7.5	800000	5700	Cath. Bias Res., 180 ohms				
3BN6	Beam Tube	B1	7DF	Me	3.15	8.6	Limiter and Discriminator Service	Max. DC Plate Volts, 300 Max. Grid No. 2 Volts, 100 Max. Peak Heater Cathode Volts, 90					Max. Positive Peak Grid-No. 1 Volts, 55 Max. Cathode Ma., 11.5						
3BU8	Sharp-Cutoff Twin Pentode	B3	9FQ	Me	3.15	0.6	Class A Amplifier With Both Sections Operating	100	:	67.5	6.5	—	Grid-No. 3 Volts, each section, – 10						
								100	:	67.5	3.3	2.2	Grid-No. 3 Volts, each section, 0						
								‡Grid current adjusted for 100 microamperes DC											
3BY6	Pentagrid Amplifier	88	7CH	Me	3.15	0.6	Sync Separator and Sync Clipper	10	0	25	3.5	1.4	Grid No. 3 Volts, 0						
3BZ6	Semiremote-Cutoff Pentode	88	7CM	Me	6.3	0.3	Class A Amplifier	200	Cath Bias	150	2.6	11	0.6§	6100	Cath. Bias Res., 180 ohms				
3CB6	Sharp-Cutoff Pentode	88	7CM	Me	3.15	0.6	Class A Amplifier	200	Cath Bias	150	2.8	9.5	600000	6200	Cath. Bias Res., 180 ohms				
3CF6	Sharp-Cutoff Pentode	88	7CM	Me	3.15	0.6	Class A Amplifier	200	– 0.5	150	2.8	9.5	600000	6200	Cath. Bias Res., 180 ohms				
3CS6	Pentagrid Amplifier	88	7CH	Me	3.15	0.6	Sync Separator and Sync Clipper	10		30	4.5	2	Grid No. 3 Volts, 0 Grid No. 1 Volts, 0						
							Class A Amplifier	100	– 1	30	5.5	0.8	700000	—	Grid-No. 3 Volts, – 1 Transcond., 1500 μmhos				
								100	0	30	1.3	1	1§	1100	Grid-No. 3 Volts, 0 Transcond., 0 μmhos				
3DT6	Sharp-Cutoff Pentode	88	7CM	Me	3.15	0.6	Class A Amplifier	150	Cath Bias	100	2.1	1.1	150000	615	Cath Bias Res., 560 ohms				
							FM Detector	250	Cath Bias	100	5.5	0.22	Grid No. 3 Volts, – 6; Cath. Resistor, 560 ohms Plate Load Resistor, 270000 ohms						
3LF4	Beam Power Tube	B5	8BA	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	88	7BA	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 Tube	C8b	7AP	D.C. F	1.4 2.8	0.1 0.05	Class A Amplifier	110	– 6.6	110	1.4	10.0	100000	2200	—	—	8000	0.40	
								110	– 6.6	110	1.1	8.5	110000	2000	—	—	8000	0.33	
3S4	Power Amplifier Pentode	88	7BA	D.C. F	1.4 2.8	0.1 0.05	Class A Amplifier	90	– 7	67.5	1.4	7.4	100000	1575	—	—	8000	0.27	
								90	– 7	67.5	1.1	6.1	100000	1425	—	—	8000	0.235	

Discontinued types are shown in light face.

Type	Name	Tube Dimensions and Socket Connections: Dimen.	Tube Dimensions and Socket Connections: S. C.	Cathode Type and Rating: C. T.	Cathode Type and Rating: Volts	Cathode Type and Rating: Amp.	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	Transconductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts
3V4	Power Amplifier Pentode	—	6BA	D.C. ◆	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
4AU6	Sharp-Cutoff Pentode	B0	7BK	Ha	4.0	0.45	Class A Amplifier	100 250	Cath. Bias	100 150	2.1 4.3	5 10.6	500000 1.0	3000 5200	— —	Cath. Bias Res., 150 ohms Cath. Bias Res., 68 ohms	
4BC8	Medium-Mu Twin-Triode	B8a	9AJ	Ha	4.0	0.6	Each Unit as Class A Amplifier	150	Cath. Res., 220 ohms			10		6200	35		
4BQ7-A	Medium-Mu Twin-Triode	B9a	9AJ	Ha	4.2	0.6	Each Unit as Class A Amplifier	150	Cathode Bias Res., 220 ohms			9.0	6100	6400	39	Cutoff Volts, −10	
4BS8	Medium-Mu Twin Triode	B9a	9AJ	Ha	4.2	0.6	Cascode Amplifier	250	−1			16		10000	—		
							Each Unit as Class A Amplifier	150	Cath. Bias			10	5400	7200	36	Cath. Bias Res., 220 ohms	
4BZ7	Medium-Mu Twin-Triode	B2a	9AJ	Ha	4.2	0.6	Each Unit as Class A Amplifier	150	Cathode Bias Res., 220 ohms			10	5600	6800	38	Cutoff Volts, −11	
4CB6	Sharp-Cutoff Pentode	B8	7CM	Ha	4.2	0.45	Class A Amplifier	200	Cath. Bias	150	2.8	9.5	600000	6200	Cath. Bias Res., 180 ohms		
4DT6	Sharp-Cutoff Pentode	B8	7CM	Ha	4.2	0.45	Class A Amplifier	150	Cath. Bias	100	2.1	1.1	150000	515	Cath. Bias Res., 560 ohms		
							FM Detector	250	Cath. Bias	100	5.5	0.22	Grid No. 3 Volts, 6 Plate Load Resistor, 270000		Cath. Bias Res., 560 ohms		
5AM8	Diode—Sharp-Cutoff Pentode	B8a	9CV	Ha	4.7	0.6	Diode Unit	Max. DC Plate Ma., 5					Max. Peak Heater Cathode Volts, ±200 DC Volts Not to Exceed ±100				
							Pentode Unit as Class A Amplifier	200	Cath. Bias	150	2.7	11.5		7000	Cath. Bias Res., 120 ohms		
5AN8	Medium-Mu Triode—Sharp-Cutoff Pentode	B8a	9DA	Ha	4.7	0.6	Triode Unit as Class A Amplifier	200	−6			13	5750	3300	19		
							Pentode Unit as Class A Amplifier	200	Cath. Bias	150	2.8	9.5	300000	6200	Cath. Bias Res., 180 ohms		
5AQ5	Beam Power Tube	B1	7BZ	Ha	4.7	0.6	Single Tube Class A Amplifier	180	−8.5	180	3.0	29.0	58000	3700	—	5500	2.0
								250	−12.5	250	4.5	45.0	52000	4100	—	5000	4.5
							Push-Pull Class AB1 Amplifier	250	−15	250	5.0◆	70◆	60000		—	10000	10†
5AS4 5AS4-A	Full-Wave Rectifiers	53a 06	5TJ	H	4.7	3.0	With Capacitive Input Filter	Max. AC Volts per Plate (RMS), 350 Max. Peak Inverse Volts, 1550					Max. DC Output Ma., 300 Max. Peak Plate Ma., 1000			Min. Total Effect. Supply Imped. per Plate, 97 ohms	
							With Inductive Input Filter	Max. AC Volts per Plate (RMS), 350 Max. Peak Inverse Volts, 1550					Max. DC Output Ma., 225 Max. Peak Plate Ma., 1000			Min. Value of Input Choke, 10 henries	

6AS8	Diode—Sharp-Cutoff Pentode	9Bn	9DS	MO	4.7	0.6	Diode Unit	Max. Peak Inverse Plate Volts, 330 Max. Peak Plate Ma., 50								Max. Average Plate Ma., 5.0	
							Pentode Unit as Class A Amplifier	200	Cath. Bias	150	3.0	9.5	300000	6700	Cath. Bias Res., 180 ohms	
6AT8	Triode—Pentode Converter	9Bn	9DW	MO	4.7	0.45	Triode Unit as 250-Mc. Oscillator	150	Grid Resistor, 2700 ohms Grid Current, 3.6 Ma						Plate Current, 13 Ma. Power Output (Approx.), 0.5 Watt		
							Pentode Unit as Mixer	150	Grd-No. 2 Volts, 150 Mixer Grid-No. 1 Supply Volts, -3.5 Plate Current, 6.2 Ma				One Volts at Mixer Grid-No. 1 (R=2), 2.6 Mixer Grd-No. 1 Resistor, 120000 ohms Conversion Transconductance, 2100 umhos			
6AV8	Medium-Mu Triode Sharp-Cutoff Pentode	9Bn	9DE	MO	4.7	0.6	Triode Unit as Class A Amplifier	200	-6	—	—	13	5750	3300	10	—	—
							Pentode Unit as Class A Amplifier	200	Cath. Bias	150	2.8	9.5	300000	6200	—	Cath. Bias Res., 180 ohms	
6AZ4	Full-Wave Rectifier	C2a	8T	F	5.0	2.0	For ratings and characteristics, refer to Type 5Y3 GT										
6BK7-A	Medium-Mu Twin Triode	9Bn	9AJ	MO	4.7	0.6	Each Unit as Class A Amplifier	150	Cath. Bias Res., 56 ohms			18	4000	9300	43	Cutoff Volts, -11	
6BQ7-A	Medium-Mu Twin Triode	9Bn	9AJ	MO	4.7	0.45	Each Unit as Class A Amplifier	150	Cath. Bias Res., 220 ohms			9	6100	6400	39	Cutoff Volts, -10	
6BR8	Medium-Mu Triode Sharp-Cutoff Pentode	9Bn	9FA	MO	4.7	0.6	Triode Unit as Class A Amplifier	150	Cath. Bias	—	—	18	5000	8500	40	Cath. Bias Res., 56 ohms	
							Pentode Unit as Class A Amplifier	250	Cath. Bias	110	3.5	10	400000	5200	—	Cath. Bias Res., 68 ohms	
							Triode Unit as 250-Mc. Oscillator	150	Grid Resistor, 2700 ohms Grid Current, 3.6 Ma.						Plate Current, 13 Ma. Power Output (Approx.), 0.5 watt		
6CG8	Triode-Pentode Converter	9Bn	9DF	MO	4.7	0.6	Pentode Unit as Mixer	150	Conversion Transconductance, 2100 umhos Grd No. 2 Volts, 150 Mixer Grd No. 1 Supply Volts, -3.5						Plate Current, 6.2 Ma. One Volts at Mixer Grid No. 1 (RMS), 2.6 Mixer Grd No. 1 Resistor, 120000 ohms		
							Triode Unit as Class A Amplifier	100	Cath. Bias	—	—	8.5	6900	5800	40	Cath. Bias Res., 100 ohms	
							Pentode Unit as Class A Amplifier	250	Cath. Bias	150	1.6	7.7	750000	4600	—	Cath. Bias Res., 200 ohms	
6CQ8	Medium-Mu Triode Sharp-Cutoff Tetrode	9Bn	9GE	MO	4.7	0.6	Triode Unit as Class A Amplifier	125	Cath. Bias	—	—	15	5000	8000	40	Cath. Bias Res., 56 ohms	
							Tetrode Unit as Class A Amplifier	125	-1	125	4.2	12	140000	5800	—	—	—
6CZ5	Beam Power Tube	9J	9HN	MO	4.7	0.6	Vertical Deflection Amplifier in TV Receiver	Max. DC Plate Volts, 315 Max. Peak Cathode Ma., 140					Max. Peak Positive Pulse Plate Volts, 2200 (Abs.) Max. Plate Dissipation, 10 watts				
							Class A Amplifier	250	-14	250	4.6	46	73000	4800	—	5000	5.4
							Push-Pull Class AB1 Amplifier	350	-22.5	280	3	46	—	—	—	7500	21.5
6J6	Medium-Mu Twin-Triode	9n	7BF	MO	4.7	6.6	Each Unit as Class A Amplifier	100	Cath. Res., 220 ohms, both units			0.5	7100	5300	38	—	—
							Push-Pull Class C Amplifier	150	-10	Cath. Res., 220 ohms, both units		30	Grid Current, 16 Ma. Driving Power, 0.35 Watt			—	3.5

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	Transconductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts
		Diagram	E. C.	C. T.	Volts	Amps.											
5T4	Full-Wave Rectifier	D7	5T	F	5.0	2.0	With Capacitive Input Filter	Max.	AC Volts per Plate (RMS), 450			Max.	DC Output Ma., 225		Min.	Total Effect. Supply Imped. per Plate, 150 ohms	
							With Inductive Input Filter	Max.	AC Volts per Plate (RMS), 550			Max.	DC Output Ma., 275		Min.	Value of Input Choke, 2 henries	
								Max.	Peak Inverse Volts, 1550			Max.	Peak Plate Ma., 675				
5T8	Triple Diode High-Mu Triode	D8a	9E	He	4.7	0.6	Triode Unit as Class A Amplifier	100	1			0.8		1300	70		
								250	−3			1	58000	1200	70		
5U4-G	Full-Wave Rectifier	E2	5T	F	5.0	3.0	With Capacitive Input Filter	Max.	AC Volts per Plate (RMS), 450			Max.	DC Output Ma., 225		Min.	Total Effect. Supply Imped. per Plate, 170 ohms	
								Max.	Peak Inverse Volts, 1550			Max.	Peak Plate Ma., 675				
							With Inductive Input Filter	Max.	AC Volts per Plate (RMS), 550			Max.	DC Output Ma., 225		Min.	Value of Input Choke, 10 henries	
								Max.	Peak Inverse Volts, 1550			Max.	Peak Plate Ma., 675				
5U4-GB	Full-Wave Rectifier	D12b	5T	H	5.0	3.0	With Capacitive Input Filter	Max.	AC Volts per Plate (RMS), 550			Max.	DC Output Ma., 300		Min.	Total Effect. Supply Imped. per Plate, 97 ohms	
								Max.	Peak Inverse Volts, 1550			Max.	Peak Plate Ma., 1000				
							With Inductive Input Filter	Max.	AC Volts per Plate (RMS), 550			Max.	DC Output Ma., 275		Min.	Value of Input Choke, 10 henries	
								Max.	Peak Inverse Volts, 1550			Max.	Peak Plate Ma., 1000				
5U8	Triode—Pentode Converter	8Da	9AE	Ha	4.7	0.6	Triode Unit as Class A Amplifier	150	Cath. Bias			18	5000	8500	40	Cath. Res., 56 ohms	
							Pentode Unit as Class A Amplifier	250	Cath. Bias	110	3.5	10	40000	3200		Cath. Res., 68 ohms	
5V4-G	Full-Wave Rectifier	D11b	5U	H	5.0	2.0	With Capacitive Input Filter	Max.	AC Volts per Plate (RMS), 375			Max.	DC Output Ma., 175		Min.	Total Effect. Supply Imped. per Plate, 100 ohms	
								Max.	Peak Inverse Volts, 1400			Max.	Peak Plate Ma., 525				
							With Inductive Input Filter	Max.	AC Volts per Plate (RMS), 500			Max.	DC Output Ma., 175		Min.	Value of Input Choke, 4 henries	
								Max.	Peak Inverse Volts, 1400			Max.	Peak Plate Ma., 525				
5W4	Full-Wave Rectifiers	C2	5T	F	5.0	1.5	With Capacitive Input Filter	Max.	AC Volts per Plate (RMS), 350			Max.	DC Output Ma., 100		Min.	Total Effect. Supply Imped. per Plate, 50 ohms	
5W4-GT		C5	5T					Max.	Peak Inverse Volts, 1400			Max.	Peak Plate Ma., 300				
							With Inductive Input Filter	Max.	AC Volts per Plate (RMS), 500			Max.	DC Output Ma., 100		Min.	Value of Input Choke, 6 henries	
								Max.	Peak Inverse Volts, 1400			Max.	Peak Plate Ma., 300				
5X4-G	Full-Wave Rectifier	E2	5Q	F	5.0	3.0	For other ratings, refer to Type 5U4-G.										
5X8	Triode—Pentode Converter	8Da	9AK	He	4.7	0.6	Triode Unit as 250-Mc. Oscillator	150	Grid Resistor, 2700 ohms Grid Current, 3.6 Ma.				Plate Current, 13 Ma.				
													Power Output (Approx.), 0.5 Watt				
							Pentode Unit as Mixer	150	Grid No. 2 Volts, 150 Mixer Grid No. 1 Supply Volts, −3.5 Plate Current, 6.2 Ma.				Osc. Volts at Mixer Grid No. 1 (RMS), 2.6 Mixer Grid No. 1 Resistor, 120000 ohms Conversion Transconductance, 2100 μmhos			
5Y3-G	Full-Wave Rectifiers	D11b	5T	F	5.0	2.0	With Capacitive Input Filter	Max.	AC Volts per Plate (RMS), 350			Max.	DC Output Ma., 125		Min.	Total Effect. Supply Imped. per Plate, 50 ohms	
5Y3-GT		C6	5T	F	5.0	2.0		Max.	Peak Inverse Volts, 1400			Max.	Peak Plate Ma., 400				
							With Inductive Input Filter	Max.	AC Volts per Plate (RMS), 500			Max.	DC Output Ma., 125		Min.	Value of Input Choke, 10 henries	
								Max.	Peak Inverse Volts, 1400			Max.	Peak Plate Ma., 400				

5Y4-G 5Y4-GT	Full-Wave Rectifier	D11b	8Q	F	5.0	2.0	For other ratings, refer to Type 5Y3-GT.											
5Z3	Full-Wave Rectifier	D3	4C	F	5.0	3.0	For other ratings, refer to Type 5U4-G.											
5Z4	Full-Wave Rectifier	C2	4L	H	5.0	2.0	With Capacitive-Input Filter	Max. AC Volts per Plate (RMS), 350 Max. Peak Inverse Volts, 1400				Max. DC Output Ma., 125 Max. Peak Plate Ma., 375			Min. Total Effect. Supply Imped. per Plate, 50 ohms			
							With Inductive-Input Filter	Max. AC Volts per Plate (RMS), 500 Max. Peak Inverse Volts, 1400				Max. DC Output Ma., 125 Max. Peak Plate Ma., 375			Min. Value of Input Choke, 5 henries			
6A3	Power Amplifier Triode	D3	4D	F	6.3	1.0	Amplifier	For other characteristics, refer to Type 6B4-G.										
6A4/LA	Power Amplifier Pentode	D12a	9B	F	6.3	0.3	Class A Amplifier	100 180	−6.5 −12.0	100 180	1.6 3.9	9.0 22.0	8250 45500	1200 2200	—	—	11000 8000	0.31 1.40
6A6	Twin-Triode Amplifier	D12a	7B	M	6.3	0.8	Amplifier	For other characteristics, refer to Type 6N7-GT										
6A7 6A7S	Pentagrid Converters a	D9	7C	M	6.3	0.3	Converter	For other characteristics, refer to Type 6A8.										
6A8 6A8-G 6A8-GT	Pentagrid Converters a	C1 D8 C3	8A 8A; 8A-g	M	6.3	0.3	Converter	100 250	−1.5 −3.0	50 100	1.3 2.7	1.1 3.3	600000 360000	Anode-Grid (e2): 250 k max. v 4.0 ma. Oscillator-Grid (e1) Res. o Conversion Transcond., 550 μmhos.					
6AB4	High-Mu Triode	B8	5CE	M	6.3	0.15	Class A Amplifier	100 250	Cath. Res., 270 ohms Cath. Res., 200 ohms		3.7 10.0		15000 10000	4000 5500	60 60	— — — —	— — — —	
6AB5/ 6N5	Electron-Ray Tube Indicator Type	D4	6R	H	6.3	0.15	Visual Indicator Type	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	8M	H	6.3	0.65	Class A Amplifier	300	−3.0	200	3.2	12.5	700000	5000	— —	— —	— —	— —
							Class B Amplifier	250	0	— —	— —	5.0◆	—	— —	— —	— —	10000	8.0†
6AC5-GT	High-Mu Power Amplifier Triode	C2b	9Q;	M	6.3	0.4	Resistance-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	8M	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	B8b	7AB	M	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 Pentode	D11b	8AV	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 6B8-G as Push-Pull Class AB1 Amplifier	375	Cath. Bias	250	6.7◆	41.0◆	Cathode-Bias Resistor, 470 ohms◆				16000	9.0†

Unconfirmed types are shown in light face.

Type	Name	Tube Dimensions and Socket Connections: Bottom.	Tube Dimensions and Socket Connections: S. C.	Cathode Type and Rating: C. T.	Cathode Type and Rating: Volts	Cathode Type and Rating: Amp.	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	Transconductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts
6AE5-GT	Amplifier Triode	O5	6Q†	H	6.3	0.3	Class A Amplifier	95	−15.0	——	——	7.0	3500	1200	4.2	——	——
6AE6-G	Twin-Plate Control Tube	D3	7AM	H	6.3	0.15	Remote Cutoff Triode	250	− 1.5	——	——	6.5	25000	1000	25	——	——
								250	−35.0	——	——	0.01	——	——	——	——	——
							Remote Cutoff Triode	250	− 1.5	——	——	4.5	35000	950	33	——	——
								250	− 9.5	——	——	0.01	——	——	——	——	——
							Class A Amp. ‡‡	250	−13.5	——	——	10.0	4850	3000	14	——	——
6AE7-GT	Twin-Input Triode Amplifier	C2b	7AX	H	6.3	0.5	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
6AF4 6AF4-A	Medium-Mu Triode-Hexode	A1 B8	7DK	H	6.3	0.225	Class A Amplifier	100	Cathode Bias Res.. 150 ohms			16 20	2270 2130	6600 7500	15 16	—— ——	—— ——
							Oscillator at 950 Mc	100	Grid Bias Volts, −4 Grid Res., 10000 ohms			22	Grid Current (Approx.), 400 μamp Useful Power Output, 160 milliwatts				
6AF6-G	Electron-Ray Tube Twin Indicator Type	B8c	7AG	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	B8	7BD	H	6.3	0.3	As Pentode	100	Cath. Bias	100	1.4	4.5	600000	4500	Cath. Bias Res., 180 ohms		
							Class A Amplifier	250	Cath. Bias	250	2.0	6.5	800000	5000	Cath. Bias Res., 180 ohms		
							As Triode‡	100	Cath. Bias	——	——	7.0	8000	5700	Cath. Bias Res., 330 ohms		
							Class A Amplifier	250		——	——	5.5	10000	3800	Cath. Bias Res., 820 ohms		
6AG7	Power Pentode	C2	8V	H	6.3	0.65	Class A Amplifier 4-Mc Bandwidth Video Circuit	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.				
6AH4-GT	Medium-Mu Triode	C2b	8EL	H	6.3	0.75	Vertical Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 500 Max DC Cathode Ma., 60					Max. Peak Positive-Pulse Plate Volts, 2000 Max. Plate Dissipation, 7.5 watts				
6AH6	Sharp-Cutoff Pentode	B8	7BK	H	6.3	0.45	Class A Amplifier	300	Cath Bias	150	2.5	10.0	500000	9000	Cath. Res., 150 ohms		
6AK5	Sharp-Cutoff Pentode	A1	7BD	H	6.3	0.175	Class A Amplifier	120 180	Cath. Bias	120 120	2.5 2.4	7.5 7.7	300000 500000	5000 5100	Cath. Res., 180 ohms		
6AK6	Power Amplifier Pentode	B9	7BK	H	6.3	0.15	Class A Amplifier	180	− 9.0	180	2.5	15	200000	2300	——	10000	1.1
6AL5	Twin Diode	A1	6BT	H	6.3	0.3	Detector Rectifier	Max. Peak Inverse Volts, 330 Max. Peak Plate Ma. per Plate, 54					Max. DC Output Ma. per Plate, 9 Max. Peak Heater-Cathode Volts, 330				

	Electron-Ray Tube Indicator Type						Visual Indicator	Target Voltage, 315 volts Grid Voltage = 0 volts Cathode Bias Res., 3300 ohms approx.				Grid Voltage for Pattern Cutoff, −7 volts approx. Deflecting-Electrodes—No. 1, No. 2 and No. 3 Voltage = 0			
6AL7-GT	Electron-Ray Tube	C6b	8CH	H	6.3	0.15	Visual Indicator	Target Voltage, 315 volts Grid Voltage = 0 volts Cathode Bias Res., 3300 ohms approx.				Grid Voltage for Pattern Cutoff, −7 volts approx. Deflecting-Electrodes—No. 1, No. 2 and No. 3 Voltage = 0			
6AM4	High-Mu Triode	A9b	8BX	H	6.3	0.225	Class A Amplifier	150	Cath. Bias	—	—	7.5	9500	9000	85	Cath. Bias Res., 100 ohms
6AM8 6AM8-A	Diode—Sharp-Cutoff Pentodes	D8a	8CY	H He	6.3	0.45	Diode Unit	Max. DC Plate Ma., 5					Max. Peak Heater-Cathode Volts, ±200 DC Volts Not to Exceed, +100			
							Pentode Unit as Class A Amplifier	200	Cath. Bias	150	2.7	11.5	—	7000	Cath. Bias Res., 120 ohms
6AN4	High-Mu Triode	A1	7DK	H	6.3	0.225	Class A Amplifier	200	Cath. Bias	—	—	13	—	10000	70	Cath. Bias Res., 100 ohms
							Mixer Service	125	Cath. Bias Res., 270 ohms			7	Conversion Transcond., 2300 micromhos Oscillator Injection Volts (RMS), 1.4			
6AN8	Triode—Sharp-Cutoff Pentode	D8a	9DA	H	6.3	0.45	Triode Unit as Class A Amplifier	200	− 6	—	—	13.0	5750	3300	19	—
							Pentode Unit as Class A Amplifier	200	Cath. Bias	150	2.8	9.5	300000	6200	—	Cath. Res., 180 ohms
6AQ5 6AQ5-A	Beam Power Tubes	B1	7BZ	H He	6.3	0.45	Single Tube Class A Amplifier	180 250	− 8.5 −12.5	180 250	3.0 4.5	29.0 45.0	58000 52000	3700 4100	—	5500 5000	2.0 4.5
							Push-Pull Class AB1 Amplifier	250	−15.0	250	5.0◆	70.0◆	60000	—	—	10000	10.0†
6AQ6	Twin-Diode High-Mu Triode	B9	7BT	H	6.3	0.15	Triode Unit as Class A Amplifier	100 250	− 1.0 − 3.0	—	—	0.8 1.0	61000 58000	1150 1200	70 70	—	—
6AQ7-GT	Twin-Diode High-Mu Triode	C8b	8CK	H	6.3	0.3	Triode Unit as Class A Amplifier	250	− 2	—	—	2.3	44000	1600	70	—	—
6AR5	Power Pentode	B1	9CC	H	6.3	0.4	Class A Amplifier	250 250	−16.5 −18	250 250	5.7 5.5	34.0 32.0	65000 68000	2400 2300	—	7000 7600	3.2 3.4
6AS5	Beam Power Tube	B1	7DV	H	6.3	0.8	Class A Amplifier	150	− 8.5	110	2.0	35	—	5600	—	4500	2.2
6AS8	Diode—Sharp-Cutoff Pentode	D8a	8DB	H	6.3	0.45	Diode Unit	Max. Peak Inverse Plate Volts, 330 Max. Peak Plate Ma., 50					Max. Average Plate Ma., 5.0			
							Pentode Unit as Class A Amplifier	200	Cath. Bias	150	3.0	9.5	300000	6700	—	Cath. Res., 180 ohms
6AT6	Twin-Diode High-Mu Triode	B6	7BT	H	6.3	0.3	Triode Unit as Class A Amplifier	100 250	− 1.0 − 3.0	—	—	0.8 1.0	54000 58000	1300 1200	76 70	—	—
6AT8 6AT8-A	Triode—Pentode Converters	D8a	9DW	H He	6.3	0.45	Triode Unit as 250-Mc. Oscillator	150	Grid Resistor, 2700 ohms Grid Current, 3.6 Ma.				Plate Current, 13 ma. Power Output (Approx.), 0.5 watt			
							Pentode Unit as Mixer‡	150	Grid-No. 2 Volts, 150 Mixer Grid-No. 1 Supply Volts, −3.5 Plate Current, 8.2 Ma.				Osc. Volts at Mixer Grid-No. 1 (RMS), 2.0 Mixer Grid-No. 1 Resistor, 130000 ohms Conversion Transconductance, 2100 μmhos			
6AU4-GT	Half-Wave Rectifier	C10b	4CG	H	6.3	1.8	Television Damper Service	Max. Peak Inverse Plate Volts, 4500 (Absolute) Max. Peak Plate Ma., 1050					Max. Average Plate Ma., 175 Max. Plate Dissipation 6.0 watts				
6AU4-GTA	Half-Wave Rectifier	C10b	4CG	H	6.3	1.8	Television Damper Service	Max. Peak Inverse Plate Volts, 4500 (Absolute) Max. Peak Plate Ma., 1150					Max. Average Plate Ma., 190 Max. Plate Dissipation, 6.0 Watts				

Discontinued types are shown in light face.

Type	Name	Tube Dimensions and Socket Connections: Diagram	Tube Dimensions and Socket Connections: S. C.	Cathode Type and Rating: C. T.	Cathode Type and Rating: Volts	Cathode Type and Rating: Amp.	Use	Plate Supply Volts	Grid Bias ☆ Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Transconductance (Grid-plate) μ mhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts
6AU5-GT	Beam Power Tube	C2b	6CK	H	6.3	1.25	Horizontal Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 550 Max. DC Cathode Ma., 110					Max. Peak Positive-Pulse Plate Volts, 5500 Absolute Max. Plate Dissipation, 10 watts				
6AU6	Sharp-Cutoff Pentode	B8	7BK	H	6.3	0.3	Class A Amplifier	100 250	Cath. Bias	100 150	2.1 4.3	5.0 10.6	500000 1.05	3900 5200	Cath. Bias Res., 150 ohms Cath. Bias Res., 68 ohms		
6AU7	Medium-Mu Twin-Triode	B8a	9A	H	3.15 6.3	0.6 0.3	Triode Unit as Class A Amplifier	100 250	0 – 8.5	— —	— —	13 10.5	6300 7950	3500 2200	22 17.5	— —	— —
6AU8	Triode—Sharp-Cutoff Pentode	B3	9DX	Ha	6.3	0.6	Triode Unit as Class A Amplifier	150	Cath. Res., 150 ohms			9	8200	4900	40	—	—
							Pentode Unit as Class A Amplifier	200	Cath. Bias	—	3.4	15	150000	7000	Cath. Bias Res., 82 ohms		
6AV5-GA 6AV5-GT	Beam Power Tubes	D1a C2b	6CK	H	6.3	1.2	Horizontal Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 550 Max. DC Cathode Ma., 110					Max. Peak Positive-Pulse Plate Volts, 5500 Max. Plate Dissipation, 11 watts				
6AV6	Twin-Diode High-Mu Triode	B8	7BT	H	6.3	0.3	Triode Unit as Class A Amplifier	100 250	1.0 – 2.0	— —	— —	0.5 1.2	80000 62500	1250 1600	100 100	— —	— —
6AW8	High-Mu Triode—Sharp-Cutoff Pentode	B3	9DX	Ha	6.3	0.6	Triode Unit as Class A Amplifier	200	– 2	—	—	4	17500	4000	70	—	—
							Pentode Unit as Class A Amplifier	200	Cath. Bias	140	3.5	13	400000	9000	Cath. Res., 180 ohms		
6AW8-A	High-Mu Triode—Sharp-Cutoff Pentode	B3	9DX	Ha	6.3	0.6	Triode Unit as Class A Amplifier	250	– 2	—	—	4	17500	4000	70	—	—
							Pentode Unit as Class A Amplifier••	300	Cath. Bias	150	3.5	13	400000	9000	Cath. Bias Res., 180 ohms		
								•• Features a plate current characteristic with a controlled knee. Max. Plate Dissipation, 3.25 watts									
6AX4-GT	Half-Wave Rectifier	C2b	6CG	H	6.3	1.2	Television Damper Service	Max. Peak Inverse Plate Volts, 4400 Max. Peak Plate Ma., 750 Max. DC Plate Ma., 125					Max. Peak Heater-Cathode Volts: [illegible] – 4400•• ••DC component must not exceed 900 volts.				
6AX5-GT	Full-Wave Rectifier	C3b	9S	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., 80 Max. Peak Plate Ma., 375		Max. Total Effec. Supply Impedance per Plate, 10Ω Min. Value of Input Choke, 10 henries		
							With Inductive Input Filter	Max. AC Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1250					Max. DC Output Ma., 125 Max. Peak Plate Ma., 375				
6AZ8	Medium-Mu Triode—Sharp-Cutoff Pentode	B8a	9ED	H	6.3	0.45	Triode Unit as Class A Amplifier	200	– 6	—	—	13	5750	3300	19	—	—
							Pentode Unit as Class A Amplifier	200	Cath. Bias	150	3	9.5	300000	6000	Cath. Res., 180 ohms		

6B4-G	Power Amplifier Triode	G7	35	F	6.3	1.0	Class A Amplifier	250	45.0			60.0	800	5250	4.2	2500	3.20
							Push Pull Class AB1 Amplifier	325	Cath. Bias, 850 ohms ◆			80.0◆				5000	10.01
								325	68 volts, fixed bias			80.0◆				3000	15.01
6B5	Directly-heated Power Amplifier Pentode	D12a	6A8	M	6.3	0.8	Class A Amplifier	For other characteristics, refer to Type 6N6-G										
6B6-G	Twin-Diode High-Mu Triode	D8	7V7	M	6.3	0.3	Triode Unit as Amplifier	For other characteristics, refer to Type 6SQ7										
6B7 6B7S	Twin-Diode Remote-Cutoff Pentode	D9	7D	M	6.3	0.3	Pentode Unit as Amplifier	Input Triode Output Triode	Plate Volts, 300 max. Grid Volts, 0. Plate Ma., 8. AF Signal Volts (Peak), 21 Plate Volts, 300 max. Plate Ma., 45. Plate Res., 24000 ohms. Load Resistance, 7000 ohms. Power Output, 4 watts								
6B8	Twin-Diode Pentode	C1	8K	M	6.3	0.4	Pentode Unit as Amplifier	For other characteristics, refer to Type 12C8										
6B8 G	Twin-Diode Remote-Cutoff Pentode	D8	8E1	M	6.3	0.3	Pentode Unit as RF Amplifier	100	− 3.0	100	1.7	5.8	300000	950				
								250	− 3.0	125	2.3	9.0	600000	1125				
							Pentode Unit as AF Amplifier	90 m. Cath. Bias, 3500 ohms Screen Resistor 300 m. Cath. Bias, 1600 ohms Screen Resistor					1.1 meg. Grid Resistor, Gain per stage = 35 1.2 meg. 0.5 megohm. Gain per stage = 70			
6BA6	Remote-Cutoff Pentode	B9	7BK	M	6.3	0.3	Class A Amplifier	100	Cath. Bias	100	4.4	10.8	250000	4300	Cath. Bias Res., 68 ohms			
								250	Bias	100	8.2	11.0	1.0†	6400	Cath. Bias Res., 68 ohms			
6BA7	Pentagrid Converter ▲	B3	8C7	M	6.3	0.3	Converter	100	1.0	100	10.2	3.6	500000	Grid No. 1 Resistor, 20000 ohms Conversion Transcond., 950 micromhos				
								250	1.0	100	10.0	3.8	1.0†					
6BA8-A	Medium-Mu Triode Sharp-Cutoff Pentode	B3	9D2	M9	6.3	0.6	Triode Unit as Class A Amplifier	200	8			8	4700	2700	18			
							Pentode Unit as Class A Amplifier	200	Cath. Bias	150	3.5	13	400000	9000		Cath. Bias Res., 180 ohms		
6BC4	Medium-Mu Triode	A1b	9DR	M	6.3	0.225	Class A Amplifier	150	Cath. Bias			14.5	4800	10000	48	Cath. Res., 100 ohms		
6BC5	Sharp-Cutoff Pentode	B9	7BD	M	6.3	0.3	Class A Amplifier	250	Cath. Bias	150	2.1	7.5	800000	5700	Cath. Bias Res., 180 ohms			
6BC7	Triple Diode	B9b	8AX	M	6.3	0.45	DR. Detector in Cabs 11	Each Diode	Max. Peak Inverse Plate Volts, 300 Max. Peak Plate Ma., 54						Max. Average Plate Ma., 12			
6BC8	Medium-Mu Twin-Triode	B9b	9AJ	M	6.3	0.4	Each Unit as Class A Amplifier	150	Cath. Res., 220 ohms			10		6200	35			
6BD4	Sharp-cutoff Beam Triode	E9	8FU	M	6.3	0.6	Voltage Control	Max. DC Plate Volts, 20000 Max. Unregulated DC Supply Volts, 40000						Max. DC Plate Ma., 1.5 Max. Plate Dissipation, 20.0 watts				
6BD4-A	Sharp-cutoff Beam Triode	E9	8FU	M	6.3	0.6	Voltage Control	Max. DC Plate Volts, 27000 Max. Unregulated DC Supply Volts, 55000						Max. DC Plate Ma., 1.5 Max. Plate Dissipation, 25.0 watts				
6BD6	Remote-Cutoff Pentode	B9	7BK	M	6.3	0.3	Class A Amplifier	100	1	100	5.0	13.0	150000	2550				
								250	3	100	3.0	9.0	800000	2000				
6BE6	Pentagrid Converter ▲	B9	7CH	M	6.3	0.3	Converter	100	1.5	100	7.0	2.6	400000	Grid No. 1 Resistor, 20000 ohms Conversion Transcond., 475 micromhos				
								250	1.5	100	6.8	2.9	1.0†					
6BF5	Beam Power Tube	B1	7BZ	M	6.3	1.2	Class A Amplifier Vertical Deflection Amplifier in TV Receivers	110	7.5	110	4.0	30.0	12000	7500		2500	1.9
								Max. DC Plate Volts, 250 Max. DC Cathode Ma., 40						Absolute Max. Peak Positive-Pulse Plate Volts, 900 Max. Plate Dissipation, 5 watts				

Discontinued types are shown in light face.

Type	Name	Tube Dimensions and Socket Connections: Diagram	Tube Dimensions and Socket Connections: E.C.	Cathode Type and Rating: C.T.	Cathode Type and Rating: Volts	Cathode Type and Rating: Amp.	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	Transconductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts
6BF6	Twin-Diode Triode	B8	7BT	H	6.3	0.3	Triode Unit as Class A Amplifier	250	− 9.0			9.5	8500	1900	16		Power Output, 300 milliwatts
6BG6-G 6BG6-GA	Beam Power Tubes	F1 E	5BT	H	6.3	0.9	Horizontal Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 700 Max. DC Plate Ma., 110					Max. Peak Positive-Pulse Plate Volts, 6600 (Abs.) Max. Plate Dissipation, 20 watts				
6BH6	Sharp-Cutoff Pentode	B0	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§	3400 4600	—	—	—
6BH8	Triode Sharp-Cutoff Pentode	B3	9DX	H●	6.3	0.6	Triode Unit as Class A Amplifier	150	− 5			9.5	5150	3300	17	—	—
							Pentode Unit as Class A Amplifier	200	Cath. Bias 125		3.4	15	150000	7000	Cath. Bias Res., 82 ohms		
6BJ6	Remote-Cutoff Pentode	B0	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§	3650 3600	—	—	—
6BK4	Sharp-Cutoff Beam Triode	E2z	9GC	H	6.3	0.2	Voltage-Control	Max. DC Plate Volts, 25000 Max. Unregulated DC Supply Volts, 55000					Max. DC Plate Ma., 1.5 Max. Plate Dissipation, 25 Watts				
6BK5	Beam Power Tube	B3	9BQ	H	6.3	1.2	Class A Amplifier	250	− 5	250	3.5	35	100000	8500	—	6500	3.5
6BK7-A 6BK7-B	Medium-Mu Twin Triodes	B8a	9AJ	H H●	6.3	0.45	Each Unit as Class A Amplifier	150	Cathode Bias Res., 56 ohms			18	4600	9300	43	Cutoff Volts, −11	
6BL4	Half-Wave Rectifier	D4a	6GB	H	6.3	3.0	Television Damper Service	Max. Peak Inverse Plate Volts, 4500 (Abs.) Max. Peak Plate Ma., 1200 Max. DC Plate Ma., 200					Max. Peak Heater-Cathode Volts: −4500* (Abs.) +300 *DC component not to exceed −900 volts				
6BL7-GT	Medium-Mu Twin Triode	C2b	9BD	H	6.3	1.5	Vertical Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 500 Max. DC Cathode Ma. (Each Unit), 60					Max. Peak Positive-Pulse Plate Volts, 1800 Max. Plate Dissipation (Each Unit), 10 watts				
6BN4	Medium-Mu Triode	B0	7EG	H	6.3	0.2	Class A Amplifier	150	Cathode Bias Res., 150 ohms			9	6300	6800	43	—	—
6BN6	Beam Pentode	B1	7DF	H	6.3	0.3	Limiter and Discriminator Service	Max. DC Plate Volts, 300 Max. Positive-Peak Grid-No. 1 Volts, 55 Max. Cathode Ma., 11.5					Max. Grid-No. 2 Volts, 100 Max. Peak Heater-Cathode Volts, 90				
6BN8	Twin-Diode High-Mu Triode	B3	9ER	H●	6.3	0.6	Triode Unit as Class A Amplifier	100 250	− 1 − 3	—	—	1.5 1.6	21000 28000	3500 2500	75 70	—	—
6BQ6-GT	Beam Power Tube	C1b	8AM	H	6.3	1.2	Horizontal Deflection Amplifier	Max. DC Plate Volts, 550 Max. DC Cathode Ma., 110					Max. Peak Positive-Pulse Plate Volts, 5500 (Abs.) Max. Plate Dissipation, 11 watts				
6BQ6-GTB/6CU6	Beam Power Tube	C1b	8AM	H	6.3	1.2	Horizontal Deflection Amplifier	Max. DC Plate Volts, 600 Max. DC Cathode Ma., 112.5					Max. Peak Positive-Pulse Plate Volts, 6000 (Abs.) Max. Plate Dissipation, 11 Watts				

6BQ7	Medium-Mu Twin Triode	9Bs	9AJ	H	6.3	0.4	Each Unit as Class A Amplifier	150	Cathode Bias Res., 220 ohms			9.0	5800	6000	35	Cutoff Volts, −10
6BQ7-A	Medium-Mu Twin Triode	9Bs	9AJ	H	6.3	0.4	Each Unit as Class A Amplifier	150	Cathode Bias Res., 220 ohms			9.0	6100	6400	39	Cutoff Volts, −10
6BR8	Medium-Mu Triode Sharp-Cutoff Pentode	9Bs	9FA	H	6.3	0.4	Triode Unit as Class A Amplifier	150	Cath. Bias	—	—	18	5000	8500	40	Cath. Bias Res., 56 ohms
							Pentode Unit as Class A Amplifier	250	Cath. Bias	110	3.5	10	400000	5200	—	Cath. Bias Res., 68 ohms
							Cascode Amplifier	250	— 1	—	—	16	—	10000	—	—
6BS8	Medium-Mu Twin Triode	9Bs	9AJ	H	6.3	0.4	Each Unit as Class A Amplifier	150	Cath. Bias	—	—	10	5000	7200	36	Cath. Bias Res., 220 ohms
6BU8	Sharp-Cutoff Twin Pentode	B9	9FG	H	6.3	0.3	Class A Amplifier With Both Sections Operating	100	:	67.5	6.5	—	Grid-No. 3 volts, each section, −10			
								100	:	67.5	3.3	2.2	Grid-No. 3 volts, each section, 0			
								:Grid current adjusted for 100 microamperes DC.								
6BX7-GT	Medium-Mu Twin Triodes	C2b	9BD	H	6.3	1.5	Vertical Deflection Oscillator	Max. DC Plate Volts, 500 Max. Plate Dissipation: 10 watts either plate; 12 watts both plates						Max. DC Cathode Ma., 180		
							Vertical Deflection Amplifier	Max. DC Plate Volts, 500 Max. DC Cathode Ma., 180				Max. Peak Positive Pulse Plate Volts, 2000 (Abs.) Max. Plate Dissipation: 10 watts either plate; 12 watts both plates.				
6BY5-GA	Full-Wave Rectifier	C11a	9CN	H	6.3	1.6	Television Damper Service	Max. Peak Inverse Plate Volts, 3000 (Abs.) Max. Peak Plate Ma., 525 Max. DC Plate Ma., 175						Peak Heater-Cathode Volts: ÷100 Max., −450 Max.		
6BY6	Pentagrid Amplifier	B7	7CM	H	6.3	0.3	Sync Separator and Sync Clipper	10	0	25	3.5	1.4	Grid-No. 3 Volts, 0			
6BZ6	Semiremote-Cutoff Pentode	B9	7CM	H	6.3	0.3	Class A Amplifier	200	Cath. Bias	150	2.6	11	0.64	6100	Cath. Bias Res., 180 ohms	
6BZ7	Medium-Mu Twin Triode	B9a	9AJ	H	6.3	0.4	Each Unit as Class A Amplifier	150	Cathode Bias Res., 220 ohms			10	5600	6800	38	Cutoff Volts, −11
6C4	HF Power Triode	B8	8BG	H	6.3	0.15	Class A Amplifier	100	0	—	—	11.8	6250	3100	19.5	— —
								250	−8.5	—	—	10.5	7700	2200	17	— —
							Class C Amplifier	300	−27.0	—	—	25.0	Grid Current, 7 ma. Driving Power, 0.35 watt			5.5
								250	−8.0	—	—	8.0	10000	2000	20	— —
6C5	Medium-Mu Triodes	B2	8Q	H	6.3	0.3	Class A Amplifier	90▼	Cath. Bias, 6400 ohms.			Grid Resistor,** 0.25 megohm				Gain per stage = 11
6C5-GT		C3	8Q	H	6.3	0.3		300▼	Cath. Bias, 5300 ohms.							Gain per stage = 13
							Bias Detector	250	−17.0 approx. Plate current to be adjusted to 0.2 milliampere with no signal.							
6C6	Sharp-Cutoff Pentode	C12a	8F	H	6.3	0.3	Amplifier Detector	For other characteristics, refer to Type 6J7								
6C7	Twin-Diode Triode	D8	7G	H	6.3	0.3	Triode Unit as Class A Amplifier	250	−9.0	—	—	4.5	16000	1250	20	— —
6C8-G	Twin-Triode Amplifier	D8	8G	H	6.3	0.3	Each Unit as Amplifier	250	−4.5	—	—	3.2	22500	1600	36	— —
6CB5 6CB5-A	Beam Power Tubes	E8a E8	9GD	H	6.3	2.5	Horizontal Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 700 Max. DC Plate Ma., 200						Max. Peak Positive-Pulse Plate Volts, 6800 (Abs.) Max. Plate Dissipation, 23 Watts		

Discontinued types are shown in light face.

Type	Name	Tube Dimensions and Socket Connections: Bulb	Tube Dimensions and Socket Connections: Base	Cathode Type and Rating: C.T.	Cathode Type and Rating: Volts	Cathode Type and Rating: Amp.	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	Transconductance (Gmk-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts
6CB6	Sharp-Cutoff Pentode	S9	7CM	M	6.3	0.3	Class A Amplifier	200	Cath. Bias	150	2.8	9.5	600000	6200	Cath. Bias Res., 180 ohms		
6CD6-G 6CD6-GA	Beam Power Tubes	T1 T2	8BT	M	6.3	2.5	Horizontal Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 700 Max. DC Plate Ma., 170					Max. Peak Positive-Pulse Plate Volts, 6000 Max. Plate Dissipation, 15 watts				
6CF6	Sharp-Cutoff Pentode	S9	7CM	M	6.3	0.3	Class A Amplifier	200	− 6.5	150	2.8	9.5	600000	6200	Cath. Bias Res., 180 ohms		
6CG7	Medium-Mu Twin-Triode	S3	9AJ	Ho	6.3	0.6	Horizontal Deflection Oscillator in TV Receivers	Max. DC Plate Volts, 300 Max. Peak Neg.-Pulse Grid Volts, 600					Max. Peak Cathode Ma., 300 Max. DC Cathode Ma., 20		Dissipation Watts either plate, 3.5; both plates, 5.		
							Vertical Deflection Oscillator in TV Receivers	Max. DC Plate Volts, 300 Max. Peak Neg.-Pulse Grid Volts, 400					Max. Peak Cathode Ma., 70 Max. DC Cathode Ma., 20		Dissipation Watts either plate, 3.5; both plates, 5.		
6CG8 6CG8-A	Triode Pentode Converter	S9a	9GF	M Ho	6.3	0.45	Triode Unit as 250-Mc. Oscillator	150	Grid Resistor, 2700 ohms Grid Current, 3.6 ma.				Plate Current, 13 ma. Power Output (Approx.), 0.5 watt				
							Pentode Unit as Mixer✓	150	Grid-No. 2 Volts, 150 Mixer Grid-No. 1 Supply Volts, −3.5 Conversion Transcond., 2100 μmhos				Plate Current, 6.2 ma. Mixer Grid-No. 1 Resistor, 120000 ohms Osc. Volts at Mixer Grid-No. 1 (RMS), 2.6				
							Triode Unit as Class A Amplifier	100	Cath. Bias	—	—	8.5	6900	5800	40	Cath. Bias Res., 100 ohms	
							Pentode Unit as Class A Amplifier	250	Cath. Bias	150	1.6	7.7	750000	4600	—	Cath. Bias Res., 200 ohms	
6CH8	Medium-Mu Triode Sharp-Cutoff Pentode	S9a	9FT	M	6.3	0.45	Triode Unit as Class A Amplifier	200	− 6	—	—	13	5750	3300	19	—	—
							Pentode Unit as Class A Amplifier	200	Cath. Bias	150	2.8	9.5	300000	6200	—	Cath. Bias Res., 120 ohms	
6CL6	Power Pentode	S3	9BV	M	6.3	0.65	Class A Amplifier 4-Mc. Bandwidth Video Circuit	300	− 2	300	7.0	30.0	Load Resistor, 3900 ohms Peak-to-Peak Grid-No. 1 Signal Volts, 3 Peak-to-Peak Output Volts, 132 approx				
6CM7	Dual Triode With Dissimilar Units	S3	9ES	Ho	6.3	0.6	Vertical Deflection Oscillator in TV Receivers	Unit No. 1: Max. DC Plate Volts, 500 Max. Peak Neg.-Pulse Grid Volts, 200					Max. Peak Cathode Ma., 70 Max. DC Cathode Ma., 15		Max. Plate Dissipation Watts, 1.25		
							Vertical Deflection Amplifier in TV Receivers	Unit No. 2: Max. DC Plate Volts, 500 Max. Peak Positive-Pulse Plate Volts, 2200 (Abs.)							Max. Peak Neg.-Pulse Grid Volts, 200 Max. Peak Cathode Ma., 70		
6CN7	Twin Diode High-Mu Triode	S9a	9EN	H	●3.15 6.3	0.6 0.3	Triode Unit as Class A Amplifier	100 250	− 1 − 3	— —	— —	0.8 1	54000 58000	1300 1200	70 70	— —	— —

6CQ8	Medium-Mu Triode Sharp-Cutoff Tetrode	8Bn	9GE	Ho	6.3	0.45	Triode Unit as Class A Amplifier	125	Cath Bias	—	—	15	5000	8000	40	Cath. Bias Res., 56 ohms		
							Tetrode Unit as Class A Amplifier	125	−1	125	4.2	12	140000	5800	—	—	—	
6CS6	Pentagrid Amplifier	8B	7CM	N	6.3	0.3	Sync Separator and Sync Clipper	10	—	30	4.5	2	Grid-No. 3 Volts, 0 Grid-No. 1 Volts, 0					
							Class A Amplifier	100	−1	30	5.5	0.8	700000	—	Grid-No. 3 Volts, −1 Transcond., 1500 μmhos Grid-No. 3 Volts, 0 Transcond., 0 μmhos			
								100	0	30	1.3	1	1¼	1100				
6CU5	Beam Power Tube	B1	7CV	N	6.3	1.2	Class A Amplifier	120	−8	110	4	49	10000	7500	—	2500	2.3	
6CU8	Medium-Mu Triode Sharp-Cutoff Pentode	8Bn	9CH	Ho	6.3	0.45	Triode Unit as Class A Amplifier	200	−6	—	—	13	5750	3300	19	—	—	
							Pentode Unit as Class A Amplifier	200	Cath Bias	150	2.8	9.5	300000	6200	—	Cath. Bias Res., 180 ohms		
6CZ5	Beam Power Tube	B3	9HN	N	6.3	0.45	Vertical Deflection Amplifier	Max. DC Plate Volts, 315 Max. Peak Cathode Ma., 140					Max. Peak Positive-Pulse Plate Volts, 2200 (Abs.) Max. Plate Dissipation, 10 watts					
							Class A Amplifier	250	−14	250	4.6	46	73000	4800	—	5000	5.4	
							Push-Pull Class AB1 Amplifier	350	−23.5	280	3	46	—	—	—	7500	21.5	
6D6	Remote-Cutoff Pentode	D1Bn	8F	N	6.3	0.3	Amplifier Mixer	For other characteristics, refer to Type 6U7-G.										
6D7	Sharp-Cutoff Pentode	D1Bn	7H	N	6.3	0.3	Amplifier Detector	For other characteristics, refer to Type 6J7.										
6D8-G	Pentagrid Converter	D8	8A1	N	6.3	0.15	Converter	135	−3.0	67.5	1.7	1.5	600000	Anode-Grid (#2): 250 max. volts, 4.3 ma. Oscillator-Grid (#1) Resistor ∞. Conversion Transcond., 550 micromhos.				
								250	−3.0	100	2.6	3.5	400000					
6DC6	Semiremote-Cutoff Pentode	B8	7CM	N	6.3	0.3	Class A Amplifier	200	Cath Bias	150	3.0	9.0	500000	5500	Cath. Bias Res., 180 ohms			
6DE6	Sharp-Cutoff Pentode	B8	7CM	N	6.3	0.3	Class A Amplifier	300	Cath. Bias	150	2.8	9.5	0.6‡	6200	Cath. Bias Res., 180 ohms			
6DG6-GT	Beam Power Tube	C2b	7S	N	6.3	1.2	Class A Amplifier	110	−7.5	110	4	49	13000	8000	—	2000	2.1	
								300	Cath. Bias	125	2.2	46	28000	8000	Cath Bias Res., 180 ohms	4000	3.8	
6DQ5	Beam Power Tube	D11	8JC	N	6.3	2.5	Horizontal Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 900 Max. DC Cathode Ma., 285					Max. Peak Positive-Pulse Plate Volts, 7000 (Abs.) Max. Plate Dissipation, 24 watts					
6DQ6-A	Beam Power Tube	B8	6AM	N	6.3	1.2	Horizontal Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 700 Max. DC Cathode Ma., 140					Max. Peak Positive-Pulse Plate Volts, 6000 (Abs.) Max. Plate Dissipation, 15 watts					
6DS5	Beam Power Tube	B1	7BZ	N	6.3	0.8	Class A Amplifier	200	−7.5	200	3	35	28000	6000	—	6000	3	
								250	−8.5	200	3	29	28000	5000	—	6000	3.8	

Discontinued types are shown in light face.

Type	Name	Tube Dimensions and Socket Connections: Bulb	Tube Dimensions and Socket Connections: S. C.	Cathode Type and Rating: C. T.	Cathode Type and Rating: Volts	Cathode Type and Rating: Amp.	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	Transconductance (Grid-plate)	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts
6DT6	Sharp-Cutoff Pentode	B8	7CM	H	6.3	0.3	Class A Amplifier	150	Cath. Bias	100	2.1	1.1	150000	515	Cath. Bias Res., 560 ohms		
							FM Detector	250	Cath. Bias	100	5.5	0.22	Grid-No. 3 Volts, −6; Cath. Res., 560 ohms; Plate Load Resistor, 270000 ohms				
6DT8	High-Mu Twin Triodes	B8a	8DE	H	6.3	0.3	Class A Amplifier	100	Cath. Bias Res., 270 ohms			3.7	15000	4000	60	—	—
								250	Cath. Bias Res., 200 ohms			10	10900	5500	60	—	—
6E5	Electron-Ray Tube	D4	6R	H	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	D12a	7B	H	6.3	0.6	Push-Pull Class A Amplifier	180	−20.0	—	—	—	Power Output is for one tube at stated plate-to-plate load.			15000	0.75
								250	−27.5	—	—	—				14000	1.60
6E7	Remote-Cutoff Pentode	D13a	7H	H	6.3	0.3	Amplifier	For other characteristics, refer to Type 6U7-G.									
6F5 6F5-GT	High-Mu Triodes	C1	5M	H	6.3	0.3	Class A Amplifier	100	− 1.0	—	—	0.4	85000	1150	100	—	—
		C2b	5M1					250	− 2.0	—	—	0.9	66000	1500	100	—	—
								90 ★	Cath. Bias, 8800 ohms.			Grid Resistor, *0.5 megohm.			Gain per stage = 43		
								300 ★	Cath. Bias, 3200 ohms.						Gain per stage = 63		
6F6	Power Pentodes	C2	7B	H	6.3	0.7	Pentode Class A Amplifier	250	−16.5	250	6.5	34.0	80000	2500	—	7000	3.2
								285	−20.0	285	7.0	38.0	78000	2550		7000	4.8
6F6-G 6F6-GT		D11b	7S1				Triode Class A Amplifier	250	−20.0	—	—	31.0	2600	2600	6.8	4000	0.85
							Pentode Push-Pull Class A Amplifier	315	Cath. Bias	285	12.0◆	62.0◆	Cath. Bias Resistor, 320 ohms◆			10000	10.5†
								315	−24.0	285	12.0◆	62.0◆	—	—	—	10000	11.0†
		C10	7S1				Pentode Push-Pull Class AB_1 Amplifier	375	Cath. Bias	250	8.0◆	54.0◆	Cath. Bias Resistor, 340 ohms◆			10000	19.0†
								375	−26.0	250	5.0◆	34.0◆	—	—	—	10000	18.5†
							Triode Push-Pull, Class AB_1 Amplifier	350	Cath. Bias	—	—	50.0◆	Cath. Bias Resistor, 730 ohms◆			10000	9.0†
								350	−38.0	—	—	48.0◆	—	—	—	6000	13.0†
6F7	Triode—Remote-Cutoff Pentode	D8	7E	H	6.3	0.3	Triode Unit in Class A Amplifier	100	− 3.0 min.	—	—	3.5	16000	500	8	—	—
							Pentode Unit as Class A Amplifier	100	− 3.0 min.	100	1.6	6.3	2900000	1050	—	—	—
								250		100	1.5	6.3	850000	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	8G	H	6.3	0.6	Each Unit as Amplifier	For other characteristics, refer to Type 6J5.									

6G6-G	Power Amplifier Pentode	B8	7S	M	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	——	——	11.9	4750	2000	9.5	12000	0.25
6H6 **6H6-GT**	Twin Diodes	A1a C3	7Q 7Q;;	M	6.3	0.3	Voltage Doubler Half-Wave Rectifier	Max. AC Supply Volts per Plate (RMS), 150 — Max. DC Output Ma., 8. min. Min. Total Effect. Plate-Supply Imped. per Plate: half-wave, 30 ohms; full-wave, 15 ohms. Max. AC Plate Volts (RMS), 150 — Min. Total Effective Plate-Supply Impedance: up Max. DC Output Ma., 8 per Plate — to 117 volts, 15 ohms: at 150 volts, 40 ohms.									
6J8 **6J8-GT**	Medium-Mu Triodes	B2 C3	8Q 8Q8	M	6.3	0.3	Class A Amplifier	90 250	0 − 8.0	——	——	10.0 9.0	6700 7700	3000 2600	20 20	——	——
6J6	Medium-Mu Twin Triode	B8	7BF	M	6.3	0.45	Each Unit as Class A Amplifier	100	Cathode Resistor, for both units, 50 ohms			8.5	7100	5300	38	——	——
							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.			——	3.5
6J7 **6J7-G** **6J7-GT**	Sharp-cutoff Pentodes	C1 D8 C3	7R 7R11 7R8	M	6.3	0.3	Pentode Class A RF Amplifier	100 250	− 3.0 − 3.0	100 100	0.5 0.5	2.0 2.0	1.06 1.0 +.1	1185 1225	——	——	——
							Pentode Class A AF Amplifier	90 × 300 ×	Cath. Bias, 2600 ohms. Screen Resistor = 1.2 meg. Grid Resistor,** Gain per stage = 85 Cath. Bias, 1200 ohms. Screen Resistor = 1.2 meg. (0.5 megohm. Gain per stage = 140							
							Pentode Bias Detector	250	− 4.3	100	Cathode Current 0.43 ma.	——	Plate Resistor, 500000 ohms. Grid Resistor,** 250000 ohms				
6J8-G	Triode-Heptode Converter	D8	8H	M	6.3	0.3	Triode-Heptode Class A Amplifier	100 250	− 5.3 − 8.0	——	——	5.3 6.5	11000 10500	1800 1900	20 20	——	——
							Triode Unit as Oscillator	100 250	Triode-Grid Resistor, 50000 ohms			4.0 5.8	Triode-Grid & Heptode-Grid Current, 0.3 ma. Triode-Grid & Heptode-Grid Current, 0.4 ma.				
							Heptode Unit as Mixer	100 250	− 3.0 − 3.0	100 100	3.0 3.0	1.4 1.3	900000 4.0M	Conversion Transcond., 200 micromhos. Conversion Transcond., 290 micromhos.			
6K5 GT	High-Mu Triode	C3	9S	M	6.3	0.3	Class A Amplifier	100 250	− 1.5 − 3.0	——	——	0.35 1.1	78000 50000	900 1400	70 70	——	——
6K6-GT	Power Pentode	C2b	7S;	M	6.3	0.4	Single-Tube Class A Amplifier	100 250 315	− 7.0 −18.0 −21.0	100 250 250	1.0 5.5 4.0	9.0 32.0 25.5	104000 90000 110000	1500 2300 2100	——	12000 7000 9000	0.35 3.40 4.50
							Push-Pull Class A Amplifier	285 285	−25.5 Cath. Bias	285 285	9.0Ω 9.0Ω	55.0Ω 55.0Ω	Cath. Bias Resistor, 400 ohms Ω			12000 12000	10.51 9.81
6K7 **6K7 G** **6K7-GT**	Remote-cutoff Pentodes	C1 D8 C3	7R 7R; 7R8	M	6.3	0.3	Class A Amplifier	100 250	− 1.0 − 3.0	100 125	2.7 2.6	9.5 10.5	150000 600000	1650 1650	——	——	——
							Triode in Superheterodyne	250	−10.0	100	——	——	Oscillator Peak Volts = 7.0				
6K8 **6K8-G** **6K8-GT**	Triode-Hexode Converters	C1 D8 C3	8K 8K; 8K8	M	6.3	0.3	Triode Unit as Oscillator	100	Triode-Grid Resistor, 50000 ohms			3.8	Triode-Grid & Hexode-Grid Current, 0.15 ma.				
							Hexode Unit as Mixer	100 250	− 3.0 − 3.0	100 100	0.2 0.2	2.3 2.5	600000 600000	Conversion Transcond., 325 micromhos. Conversion Transcond., 350 micromhos.			
6L5-G	Medium-Mu Triode	D3	9Q;	M	6.3	0.15	Class A Amplifier	135 250	− 5.0 − 9.0	——	——	3.5 8.0	11300 9000	1500 1900	17 17	——	——

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 n Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Transconductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts
		Dimen.	S. C.	C. T.	Volts	Amp.											
6L6 6L6-G 6L6-GB	Beam Power Tubes	D7 E2 D6	7AC 7AC‡ 7AC	H	6.3	0.9	Single-Tube Class A Amplifier	250 250	−14.0 Cath. Bias	250 250	5.0 5.4	72.0 75.0	— Cath. Bias Resistor, 170 ohms.	—	—	2500 2500	6.5 6.5
							Push-Pull Class A Amplifier	270 270	−17.5 Cath. Bias	270 270	11.0♠ 11.0♠	134.0♠ 134.0♠	— Cath. Bias Resistor, 125 ohms.♠	—	—	5000 5000	17.5† 18.5†
							Push-Pull Class AB1 Amplifier	360 360	−22.5 Cath. Bias	270 270	5.0♠ 5.0♠	88.0♠ 88.0♠	— Cath. Bias Resistor, 250 ohms.♠	—	—	6600 9000	26.5† 24.5†
							Push-Pull Class AB2 Amplifier	360 360	−18.0 −22.5	225 270	3.5♠ 5.0♠	78.0♠ 88.0♠	—	—	—	6000 3800	31.0† 47.0†
							Single Triode□ Class A Amplifier	250 250	−20.0 Cath. Bias	—	—	40.0 40.0	1700 Cath. Bias Resistor, 490 ohms.	4700	8.0	5000 6000	1.4 1.3
6L7 6L7-G	Pentagrid Mixers▲	C1 D8	7T 7T‡	H	6.3	0.3	Mixer in Superheterodyne	250	−3.0	100	7.1	2.4	Oscillator Grid (No. 3) Bias, −10 volts. Grid-No. 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	Direct-Coupled Power Triode	D11b	7AU	H	6.3	0.8	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
6N7 6N7-GT	High-Mu Twin Power Triodes	C2 C2b	8B 8B‡	H	6.3	0.8	Class A Amplifier (as Driver)*	250 294	−5.0 −6.0	—	—	6.0 7.0	11300 11000	3100 3200	35 35	20000 or more	exceeds 0.4
							Class B Amplifier	300	0	—	—	Power Output is for one tube at stated plate-to-plate load				8000	10.0
6P5-GT	Medium-Mu Triode	C2b	6Q‡	H	6.3	0.3	Amplifier Detector	For other characteristics, refer to Type 76.									
6P7-G	Triode-Pentode	D8	7U	H	6.3	0.3	Amplifier and Converter	For other characteristics, refer to Type 6F7.									
6Q7 6Q7-G 6Q7-GT	Twin-Diode High-Mu Triodes	C1 D8 C3	7V 7V‡ 7V2	H	6.3	0.3	Triode Unit as Class A Amplifier	100 250	−1.0 −3.0	—	—	0.8 1.1	58000 58000	1200 1200	70 70	—	—
								90▼ 300▼	Cath. Bias, 7600 ohms. Cath. Bias, 3000 ohms.	Grid Resistor,** 0.5 megohm						Gain per stage = 32 Gain per stage = 45	
6R7 6R7-G 6R7-GT	Twin-Diode Medium-Mu Triodes	C1 D8 C2b	7V 7V‡ 7V‡	H	6.3	0.3	Triode Unit as Class A Amplifier	250	−9.0	—	—	9.5	8500	1900	18	—	—
								90▼ 300▼	Cath. Bias, 5400 ohms. Cath. Bias, 5000 ohms.	Grid Resistor,** 0.22 megohm						Gain per stage = 11 Gain per stage = 12	
6S4 6S4-A	Medium-Mu Triode	S3	6AC	H Ha	6.3	0.6	Vertical Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 500 Max. DC Cathode Ma., 30					Max. Peak Positive-Pulse Plate Volts, 2000 Max. Plate Dissipation, 7.5 watts				

6S7 6S7-G	Remote-Cutoff Pentodes	G1 D6	7R 7R‡	H	6.3	0.15	Class A Amplifier	125 250	— 3.0 — 3.0	67.5 100	0.9 2.0	3.7 8.5	1.0§ 1.0§	1350 1750	—	—	—
6S8-GT	Triple-Diode Triode	C8a	8C8	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 6SA7-GT	Pentagrid Converters	B2 C3	8R 8AD	H	6.3	0.3	Mixer	100 250	Self-Excited	100 100	8.5 8.5	3.3 3.5	500000 1.0§	Grid-No. 1 Resistor, 20000 ohms. Conversion Transcond., 450 micromhos.			
6SB7-Y	Pentagrid Converter‡	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-No. 1 Resistor, 20000 ohms Conversion Transcond., 950 micromhos			
6SC7	Twin-Triode Amplifier	B2	8S	H	6.3	0.3	Each Unit as Amplifier	250	— 2.0	—	—	2.0	53000	1325	70	—	—
6SF5 6SF5-GT	High-Mu Triodes	B2 C3b	8AB 8AB‡	H	6.3	0.3	Class A Amplifier	100 250	— 1.0 — 2.0	—	—	0.4 0.9	85000 66000	1150 1500	100 100	—	—
								90 Ω 300 Ω	Cath. Bias, 8000 ohms. Cath. Bias, 3200 ohms.	Grid Resistor,** 0.5 megohm.				Gain per stage = 43 Gain per stage = 63			
6SF7	Diode-Remote-Cutoff Pentode	B2	7AZ	H	6.3	0.3	Pentode Unit as Class A Amplifier	100 250	— 1.0 — 1.0	100 100	4.3 4.1	13.5 13.9	200000 700000	1975 2050	—	—	—
6SG7	Remote-Cutoff Pentode	B2	8BK	H	6.3	0.3	Class A Amplifier	100 250 250	— 1.0 — 1.0 — 3.5	100 125 150	3.2 4.4 3.4	8.2 11.8 9.2	250000 900000 1.0+§	4100 4700 4000	—	—	—
6SH7	Sharp-Cutoff Pentode	B2	8BK	H	6.3	0.3	Class A Amplifier	100 250	— 1.0 — 1.0	100 150	2.1 4.1	5.3 10.8	350000 900000	4000 4900	—	—	—
6SJ7 6SJ7-GT	Sharp-Cutoff Pentodes	B2 C3	8M 8M‡	H	6.3	0.3	Class A Amplifier	100 250	— 3.0 — 3.0	100 100	0.9 0.8	2.9 3.0	700000 1.0+§	1575 1650	—	—	—
								90 Ω 300 Ω	Cath. Bias, 1700 ohms. Cath. Bias, 360 ohms.	Grid Resistor,** 0.5 megohm.				Gain per stage = 93 Gain per stage = 167			
6SK7 6SK7-GT	Remote-Cutoff Pentodes	B2 C3	8N 8N‡	H	6.3	0.3	Class A Amplifier	100 250	— 1.0 — 3.0	100 100	4.0 2.6	13.0 9.2	1200000 800000	2350 2000	—	—	—
6SL7-GT	High-Mu Twin Triode	C3b	8BD	H	6.3	0.3	Each Unit as Class A Amplifier	250	— 2.0	—	—	2.2	44000	1600	70	—	—
6SN7-GT 6SN7-GTA 6SN7-GTB	Medium-Mu Twin Triodes	C3b	8BD	H H H0	6.3	0.6	Each Unit as Class A Amplifier	90 250	0 — 8.0	—	—	10.0 9.0	6700 7700	3000 3600	20 20	—	—
							Vertical Deflection Amplifier in TV Receivers ◆	Max. DC Plate Volts, 450 Max. Peak Cathode Ma., 70				Max. Peak Positive Pulse Plate Volts, 1550 Max. Plate Dissipation: 5 watts either plate; 7.5 watts both plates.					
6SQ7 6SQ7-GT	Twin-Diode High-Mu Triodes	B2 C3	9Q 9Q‡	H	6.3	0.3	Triode Unit as Class A Amplifier	100 250	— 1.0 — 2.0	—	—	0.5 1.1	110000 85000	925 1175	100 100	—	—
								90 Ω 300 Ω	Cath. Bias, 11000 ohms. Cath. Bias, 3900 ohms.	Grid Resistor,** 0.5 megohm.				Gain per stage = 40 Gain per stage = 53			
6SR7	Duplex-Diode Triode	B2	9Q	H	6.3	0.3	Triode Unit as Class A Amplifier	250	— 9.0	—	—	9.5	8500	1900	16	100Ω	0.3

Discontinued types are shown in light face.

Type	Name	Tube Dimensions and Socket Connections: Bulb.	Tube Dimensions and Socket Connections: S. C.	Cathode Type and Rating: C. T.	Cathode Type and Rating: Volts	Cathode Type and Rating: Amp.	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	Transconductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts
6SS7	Remote-Cutoff Pentode	S2	S9I	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	S2	8Q	H	6.3	0.15	Triode Unit as Amplifier	For other characteristics, refer to Type 6SR7.									
6SZ7	Twin-Diode High-Mu Triode	S2	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	——	——
6T4	Medium-Mu Triode	A1	7DK	H	6.3	0.225	Oscillator in UHF TV Receivers	Max. DC Plate Volts, 200 Max. DC Cathode Ma., 30						Max. Grid Ma., 8 Max. Plate Dissipation, 3.5 watts			
							Class A Amplifier	80	Cath. Bias	——	——	18	——	7000	13	Cath. Bias Res., 150 ohms	
6T7-G	Twin-Diode High-Mu Triode	D8	7V‡	H	6.3	0.15	Triode Unit as Class A Amplifier	135	− 1.5	——	——	0.9	65000	1000	65	——	——
								250	− 3.0	——	——	1.2	62000	1050	65	——	——
								90 = 360 =	Cath. Bias, 8300 ohms. Cath. Bias, 4580 ohms.			Grid Resistor,** 0.5 megohm.				Gain per stage = 30 Gain per stage = 40	
6T8	Triple-Diode High-Mu Triode	B8a	9E	H	6.3	0.45	Triode Unit as Class A Amplifier	100	− 1	——	——	0.8	54000	1300	70	——	——
								250	− 3	——	——	1.0	58000	1200	70	——	——
6U5	Electron-Ray Tube	D4	9H	H	6.3	0.3	Visual Indicator	Plate & Target Supply = 200 volts. Triode Plate Resistor = 1.0 meg. Target Current = 3.0 ma. Grid Bias, −18.5 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	D13	7R‡	H	6.3	0.3	Class A Amplifier	100	− 3.0	100	2.2	8.0	250000	1500	——	——	——
								250	− 3.0	100	2.0	8.2	800000	1600	——	——	——
							Mixer in Superhet service	100	−10.0	100	——	——	Oscillator Peak Volts = 7.0				
								250	−10.0	100	——						
6U8 6U8-A	Triode—Remote-Cutoff Pentodes	B8a	9AE	H H⊕	6.3	0.45	Triode Unit as Class A Amplifier	150	Cath. Bias	——	——	18	5000	8500	40	Cath. Res., 56 ohms	
							Pentode Unit as Class A Amplifier	250	Cath. Bias	110	3.5	10	40000	5200	——	Cath. Res., 68 ohms	
6V3-A	Half-Wave Rectifier	S4a	9BD	H	6.3	1.75	Television Damper Service	Max. Peak Inverse Plate Volts, 6000 (Abs.) Max. Peak Plate Ma., 800 Max. DC Plate Ma., 135					Max. Peak Heater-Cathode Volts (−6750 (Abs.) *DC component not to exceed −750 volts				
6V6 6V6-GT	Beam Power Tubes	C2 C2b	7AC 7AC‡	H	6.3	0.45	Single-Tube Class A Amplifier	180	− 8.5	180	3.0	29.0	50000	3700	——	5500	2.0
								250	−12.5	250	4.5	45.0	50000	4100	——	5000	4.5
								315	−16.0	225	2.2	34.0	80000	3750	——	8500	5.5
							Push-Pull Class AB, Amplifier	250	−15.0	250	5.0◆	70.0◆	60000	3750	——	10000	10.0†
								285	−19.0	285	4.0◆	70.0◆	70000	3600	——	8000	14.0†
6V7-G	Duplex-Diode Triode	D8	7V‡	H	6.3	0.3	Triode Unit as Amplifier	For other characteristics, refer to Type 85.									

6W4-GT	Half-Wave Rectifier	C8h	4C0	H	6.3	1.2	With Capacitive-Input Filter	Max. AC Plate Volts (RMS), 350 Max. Peak Inverse Volts 35000, 1250					Max. DC Output Ma., 125 Max. Peak Plate Ma., 600			Min. Total Effect. Supply Imped. per Plate, 145 ohms							
6W6-GT	Beam Power Amplifier	C8h	7AC‡	H	6.3	1.2	Vertical Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 300 Max. Plate Dissipation, 7.5 watts					Max. Peak Positive-Pulse Plate Volts, 1200 Max. Peak Negative-Pulse Grid Volts, 250										
6W7-G	Sharp-Cutoff Pentode	D8	7R‡	H	6.3	0.15	Class A Amplifier	250	−3.0	100	0.5	2.0	1.5§	1225	——	——	——						
6X4	Full-Wave Rectifier	S1	8B8	H	6.3	0.6	With Capacitive-Input Filter	Max. AC Volts per Plate (RMS), 325 Max. Peak Inverse Volts, 1250					Max. DC Output Ma., 70 Max. Peak Plate Ma., 210			Total Effect. Supply Imped. per Plate, 570 ohms							
							With Inductive-Input Filter	Max. AC Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1250					Max. DC Output Ma., 70 Max. Peak Plate Ma., 210			Min. Value of Input Choke, 10 henries							
6X5 **6X5-GT**	Full-Wave Rectifiers	C2 C2h	6S 6S‡	H	6.3	0.6	With Capacitive-Input Filter	Max. AC Volts per Plate (RMS), 325 Max. Peak Inverse Volts, 1250					Max. DC Output Ma., 70 Max. Peak Plate Ma., 210			Min. Total Effect. Supply Imped. per Plate, 570 ohms							
							With Inductive-Input Filter	Max. AC Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1250					Max. DC Output Ma., 70 Max. Peak Plate Ma., 210			Min. Value of Input Choke, 10 henries							
6X8	Triode-Pentode Converter	S8h	8AK	H	6.3	0.45	Triode Unit as 250-Mc. Oscillator	150	Grid Resistor, 2700 ohms Grid Current, 3.6 ma.				Plate Current, 13 ma. Power Output (Approx.), 0.5 watt										
							Pentode Unit as Mixer‡	150	Grid-No. 2 Volts, 150 Mixer Grid-No. 1 Supply Volts, −3.5 Plate Current, 6.2 ma.				Osc. Volts at Mixer Grid No. 1 (RMS), 2.8 Mixer Grid-No. 1 Resistor, 120000 ohms Conversion Transconductance, 2100 micromhos							
6Y5	Full-Wave Rectifier	D6	6J	H	6.3	0.8	With Capacitive-Input Filter	Max. AC Volts per Plate (RMS), 350 Max. DC Output Ma., 50															
6Y6-G	Beam Power Tube	D1h	7AC‡	H	6.3	1.25	Single-Tube Class A Amplifier	135	−13.5	135	3.5	58.0	9300	7000	——	3000	3.6
								200	−14.0	135	7.2	61.0	18300	7100	——	3000	5.0
6Y7-G	Twin-Triode Amplifier	D3	9B‡	H	6.3	0.6	Class B Amplifier	For other characteristics, refer to Type 79.															
6Z5	Full-Wave Rectifier	D6	6K	H	6.3 12.6	0.8 0.4	With Capacitive-Input Filter	Max. AC Volts per Plate (RMS), 230 Max. DC Output Ma., 60															
6Z7-G	Twin-Triode Amplifier	D3	9B‡	H	6.3	0.3	Class B Amplifier	135 180	0 0	——	——	Power Output in for one tube at stated plate-to-plate load.				9000 12000	2.5 4.2
6ZY5-G	Full-Wave Rectifier	D3	6B‡	H	6.3	0.3	With Capacitive-Input Filter	Max. AC Volts per Plate (RMS), 325 Max. Peak Inverse Volts, 1250					Max. DC Output Ma., 40 Max. Peak Plate Ma., 120			Min. Total Effect. Supply Imped. per Plate, 225 ohms							
							With Inductive-Input Filter	Max. AC Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1250					Max. DC Output Ma., 40 Max. Peak Plate Ma., 120			Min. Value of Input Choke, 13.5 henries							
7A4	Medium-Mu Triode	S5	6AC	H	6.3	0.3	Amplifier	For other characteristics, refer to Type 6J5.															
7A5	Beam Power Tube	C8h	9AA	H	6.3	0.75	Class A Amplifier	110	−7.5	110	3.0	40.0	16000	5000	——	2500	1.5
								135	−9.0	135	3.3	44.0	17000	6000	——	2700	2.2
7A6	Twin Diode	S6	7AJ	H	6.3	0.15	Detector Rectifier	Maximum AC Voltage per Plate . . . . . 150 Volts, RMS Maximum DC Output Current per plate . . . . . 8 Milliamperes															
7A7	Remote-Cutoff Pentode	S6	8V	H	6.3	0.3	Class A Amplifier	For other characteristics, refer to Type 6SK7.															
7A8	Octode Converter	S5	8U	H	6.3	0.15	Converter	100 250	−3.0 −3.0	75 100	2.7 3.3	1.8 3.0	650000 700000	Anode-Grid (# 1): 250 μμf.; max. volts, 4.2 ma. Oscillator-Grid (# 1) Resistor, 50000 ohms. Conversion Transcond., 550 micromhos.									

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‡Terminal types are shown in light face.

Type	Name	Tube Dimensions and Socket Connections: Outline	Tube Dimensions and Socket Connections: S. C.	Cathode Type and Rating: C. T.	Cathode Type and Rating: Volts	Cathode Type and Rating: Amp.	Use	Plate Supply Volts	Grid Bias	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Transconductance (Grid-plate) micromhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts
7AD7	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		
7AF7	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., 600 ohms	
7AG7	Sharp-Cutoff Pentode	B5	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		
7AH7	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		
7AU7	Medium-Mu Twin-Triode	B9a	9A	H	3.5	0.6	Each Unit as Class A Amplifier	100	0			13.0	6300	3580	22		
					7.0	0.3		250	−8.5			10.5	7950	2200	17.5		
7B4	High-Mu Triode	B5	8AC	H	6.3	0.3	Amplifier	For other characteristics, refer to Type 6SF5.									
7B5	Power Amplifier Pentode	C2a	8AE	H	6.3	0.4	Class A Amplifier	For other characteristics, refer to Type 6K6-GT.									
7B6	Twin-Diode High-Mu Triode	B5	8W	H	6.3	0.3	Triode Unit as Amplifier	For other characteristics, refer to Type 6SQ7.									
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 Tube	C2a	6AA	H	6.3	0.45	Class A Amplifier	For other characteristics, refer to Type 6V6-GT.									
7C6	Twin-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	− 3.0	100	0.4	1.0	1.25	1225			
								250	− 3.0	100	0.5	2.0	2.05	1300			
7E6	Twin-Diode Triode	B5	8W	H	6.3	0.3	Triode Unit as Amplifier	For other characteristics, refer to Type 6R7.									
7E7	Twin-Diode Pentode	B5	8AE	H	6.3	0.3	Pentode Unit as Class A Amplifier	100	Cath. Bias	100	2.7	10.0	150000	1600	Cath. Res., 880 ohms		
								250		100	1.6	7.5	700000	1300	Cath. Res., 330 ohms		
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	B8b	8GW	H	6.3	0.3	Each Unit as Class A Amplifier	250	Cathode-Bias Res., 500 ohms			6.0		33	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			

7H7	Sharp-Cutoff Pentode	B8	8V	M	6.3	0.3	Class A Amplifier	100	— 1.5	100	2.6	7.5	350000	4000		
								250	Cath Bias	150	3.2	10.0	800000	4000	Cath. Bias Res., 180 ohms	
7J7	Triode-Heptode Converter	B8	8BL	M	6.3	0.3	Triode Unit as Oscillator	100	Triode-Grid Resistor, 50000 ohms			3.2	Triode-Grid & Heptode-Grid Current, 0.3 ma.			
								250				5.0	Triode-Grid & Heptode-Grid Current, 0.4 ma.			
							Heptode Unit as Mixer	100	— 3.0	100	2.6	1.5	500000	Conversion Transcond., 280 μmhos.		
								250	— 3.0	100	2.8	1.4	1.5§	Conversion Transcond., 290 μmhos.		
7K7	Twin-Diode-High-Mu Triode	B8	8BF	M	6.3	0.3	Triode Unit as Class A Amplifier	250	— 2	—	—	2.3	44000	1600	70	—
7L7	RF Amplifier Pentode	B8	8V	M	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	1.0§	3100	—	—
7N7	Twin-Triode Amplifier	C2a	8AC	M	6.3	0.6	Each Unit as Class A Amplifier	For other characteristics, refer to Type 6SN7-GT								
7Q7	Pentagrid Converter▲	B8	8AL	M	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	1.0§	Conversion Transcond., 550 μmhos.		
7R7	Twin-Diode Pentode	B8	8AE	M	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	1.0§	3200	—	—
7S7	Triode-Heptode Converter	B8	8BL	M	6.3	0.3	Triode Unit as Oscillator	100	Triode-Grid Resistor, 50000 ohms			3.0	Triode-Grid & Heptode-Grid Current, 0.3 ma.			
								250				5.0	Triode-Grid & Heptode-Grid Current, 0.4 ma.			
							Heptode Unit as Mixer	100	— 2.0	100	3.0	1.9	500000	Conversion Transcond., 500 μmhos.		
								250	— 2.0	100	3.0	1.8	1.25§	Conversion Transcond., 525 μmhos.		
7V7	RF Amplifier Pentode	B8	8V	M	6.3	0.45	Class A Amplifier	300	—	150	3.9	10.0	300000	5800	Cath. Bias Res., 160 ohms	
7W7	RF Amplifier Pentode	B8	8BJ	M	6.3	0.45	Class A Amplifier	For other characteristics, refer to Type 7V7.								
7X7	Twin Diode-High-Mu Triode	C2a	8B2	M	6.3	0.3	Triode Unit as Class A Amplifier	100	0	—	—	1.7	85000	1000	85	—
								250	— 1.0	—	—	1.9	67000	1500	100	—
7Y4	Full-Wave Rectifier	B8	8AB	M	6.3	0.5	With Capacitive-Input Filter	Max. AC Volts per Plate (RMS), 325				Max. DC Output Ma., 70		Min. Total Effect. Supply		
								Max. Peak Inverse Volts, 1250				Max. Peak Plate Ma., 180		Imped. per Plate, 150 ohms.		
							With Inductive-Input Filter	Max. AC Volts per Plate (RMS), 450				Max. DC Output Ma., 70		Min. Value of Input Choke, 10 henries		
								Max. Peak Inverse Volts, 1250				Max. Peak Plate Ma., 180				
7Z4	Full-Wave Rectifier	C2a	8AB	M	6.3	0.9	With Capacitive-Input Filter	Max. AC Volts per Plate (RMS), 325				Max. DC Output Ma., 100		Min. Total Effec. Supply		
								Max. Peak Inverse Volts, 1250				Max. Peak Plate Ma., 300		Imped. per Plate, 75 ohms		
							With Inductive-Input Filter	Max. AC Volts per Plate (RMS), 450				Max. DC Output Ma., 100		Min. Value of Input Choke, 6 henries		
								Max. Peak Inverse Volts, 1250				Max. Peak Plate Ma., 300				
8AW8-A	High-Mu Triode Sharp-Cutoff Pentode	B3	9DX	H6	8.4	0.45	Triode Unit as Class A Amplifier	200	— 2	—	—	4	17500	4000	70	—
							Pentode Unit as Class A Amplifier	200	Cath. Bias	150	3.5	13	400000	9000	Cath. Bias Res., 180 ohms	
—	—	—	—	—	—	—	Horizontal Deflection Oscillator	Max. DC Plate Volts, 300				Max. Peak Cathode Ma., 300		Dissipation watts either plate, 3.5; both plates, 5		
								Max. Peak Neg.-Pulse Volts, 400				Max. DC Cathode Ma., 20				
8CG7	Medium-Mu Twin Triode	B3	9AJ	H6	8.4	0.45	Vertical Deflection Oscillator	Max. DC Plate Volts, 300				Max. Peak Cathode Ma., 70		Dissipation watts either plate, 3.5; both plates, 5		
								Max. Peak Neg.-Pulse Grid Volts, 400				Max. DC Cathode Ma., 20				

Discontinued types are shown in light face.

Type	Name	Tube Dimensions and Socket Connections: Diagram	Tube Dimensions and Socket Connections: S. C.	Cathode Type and Rating: C. T.	Cathode Type and Rating: Volts	Cathode Type and Rating: Amp.	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	Transconductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts
8CM7	Dual Triode With Dissimilar Units	B3	9ES	H●	8.4	0.45	Vertical Deflection Oscillator in TV Receivers	Unit No. 1: Max. DC Plate Volts, 500 Max. Peak Neg.-Pulse Grid Volts, 200 Max. Peak Cathode Ma., 70 Max. DC Cathode Ma., 15 Max. Plate Dissipation watts, 1.25									
							Vertical Deflection Amplifier in TV Receivers	Unit No. 2: Max. DC Plate Volts, 500 Max. Peak Positive-Pulse Plate Volts, 2200 (Abs.) Max. Peak Neg.-Pulse Grid Volts, 200 Max. Peak Cathode Ma., 70								
10●	Power Amplifier Triode	E3	4D	F	7.5	1.25	Class A Amplifier	250 425	−32.0 −40.0	——	——	16.0 18.0	3150 5000	1550 1600	8.0 8.0	11000 10200	0.9 1.6
10DE7	Dual Triode With Dissimilar Units	B3	9HF	H●	10.0	0.6	Vertical Deflection Oscillator in TV Receivers	Unit No. 1: Max. Peak Neg.-Pulse Grid Volts, 300 Max. DC Plate Volts, 330 Max. Peak Cathode Ma., 22 Max. Plate Dissipation watts, 1.5									
							Vertical Deflection Amplifier in TV Receivers	Unit No. 2: Max. DC Plate Volts, 275 Max. Peak Positive-Pulse Plate Volts, 1000 (Abs.) Max. Peak Neg.-Pulse Grid Volts, 250 Max. Peak Cathode Ma., 50 Max. Plate Dissipation watts, 7								
11 **12**	Detector★ Amplifier Triode	D2a D12	4F 4D	D.C. F	1.1	0.25	Class A Amplifier	90 135	−4.5 −10.5	——	——	2.5 3.0	13500 15000	425 440	6.6 6.6	——	——
12A5	Power Amplifier Pentode	D6	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	D6	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 AC Plate Voltage 125 Volts, RMS Maximum DC Output Current 30 Milliamperes								
12A8-GT	Pentagrid Converter ○	C3	8A●	H	12.6	0.15	Converter	For other characteristics, refer to Type 6A8.									
12AB5	Beam Power Tube	B3	9EU	H	10.0 to 15.9	0.2 approx.	Single-Tube Class A Amplifier	250	Cath. Bias	200	1.6	33.5	Cath. Bias Res., 270 ohms			6000	3.3
							Push-Pull Class AB1 Amplifier	250	−15.0	250	5.0◆	70.0◆	60000	3750	——	10000	10.0†
12AD6	Pentagrid Converter○	B6	7CM	H	10.0 to 15.9	0.15 approx.	Converter	12.6	Self-excited	12.6	1.5	0.45	1§	Grid-No. 1 Resistor, 33000 ohms Conversion Transcond., 260 micromhos			
12AE6	Twin Diode Medium-Mu Triode○	B6	7BT	H	10.0 to 15.9	0.15 approx.	Triode Unit as Class A Amplifier	12.6	0	——	——	0.75	15000	1050	15	——	——
12AF6	Sharp-Cutoff Pentode○	B6	7BK	H	10.0 to 15.9	0.15 approx.	Class A Amplifier	12.6	Grid-No. 1 Supply Volts, 0	12.6	0.3	0.8	300000	1250	Grid-No. 1 Volts for transcond. of 40 micromhos, −2.7		

12AH7-GT	Twin Triode	C8a	9BK	H	12.6	0.15	Each Unit as Class A Amplifier	100 180	– 3.6 – 8.5	—	—	—	3.7 7.6	10300 8400	1550 1900	16 16	—	—
12AJ6	Twin Diode Medium-Mu Triode◇	D8	7BT	H	10.0 to 15.0	0.15 approx.	Triode Unit as Class A Amplifier	12.6	0	—	—	—	0.75	45000	1200	55	—	—
12AL8	Twin-Diode	A1	6BT	H	12.6	0.15	Detector Rectifier	For other characteristics, refer to Type 6AL5.										
12AQ5	Beam Power Tube	B1	7BZ	H	12.6	0.225	Amplifier	For other characteristics, refer to Type 6V6.										
12AT6	Twin-Diode High-Mu Triode	D8	7BT	H	12.6	0.15	Triode Unit as Class A Amplifier	For other characteristics, refer to Type 6AT6.										
12AT7	High-Mu Twin Triode	D8a	9A	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	—	—
12AU6	Sharp-Cutoff Pentode	D8	7BK	H	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6AU6.										
12AU7 **12AU7-A**	Medium-Mu Twin Triodes	D8a	9A	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 3200	20 17.5	—	—
12AV6	Twin-Diode High-Mu Triode	D8	7BT	H	12.6	0.15	Triode Unit as Class A Amplifier	For other characteristics, refer to Type 6AV6.										
12AV7	Medium-Mu Twin Triode	D8a	9A	H	6.3 12.6	0.45 0.225	Each Unit as Class A Amplifier	150	Cathode Bias Res., 56 ohms				18	48000	8500	41	Cutoff Volts, –12	
12AW6	Sharp-Cutoff Pentode	D8	7CM	H	12.6	0.15	As Pentode Class A Amplifier As Triode Class A Amplifier	For other characteristics, refer to Type 6AG5.										
12AX4-GT **12AX4-GTA**	Half-Wave Rectifiers	C1b	4CG	H Hb	12.6	0.6	Television Damper Service	Max. Peak Inverse Plate Volts, 4000 Max. Peak Plate Ma., 600 Max DC Plate Ma., 125					Max. Peak Heater-Cathode Volts: (–4000** / +100 **DC component must not exceed 900 volts					
12AX7	High-Mu Twin Triode	D8a	9A	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	—	—
12AZ7	High-Mu Twin-Triode	D8a	9A	H	6.3 12.6	0.45 0.225	Each Unit as Class A Amplifier	100 250	Cath. Bias Res., 270 ohms Cath. Bias Res., 200 ohms			3.7 10.0	15000 10900	4000 5500	60 60	—	—
12B4-A	Low-Mu Triode	B3	9AG	Hb	6.3 12.6	0.6 0.3	Vertical Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 550 Max. Peak Positive-Pulse Plate Volts, 1000 (Abs.) Max. Peak Dissipation, 5.5 Watts					Max. Peak Neg.-Pulse Grid Volts, 250 Max. Peak Cathode Ma., 105 Max. Average Cathode Ma., 30					
12B8-GT	Triode- Pentode	C10a	8T	H	12.6	0.3	Triode Unit as Class A Amplifier	90	0	—	—	2.8	37000	2400	90	—	—
							Pentode Unit as Class A Amplifier	90	– 3.0	90	2.0	7.0	200000	1800	—	—	—
12BA6	Remote-Cutoff Pentode	B6	7BK	H	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6BA6.										
12BA7	Pentagrid Converter▲	B9	8CT	H	12.6	0.15	Converter	For other characteristics, refer to Type 6BA7.										

Discontinued types are shown in light face.

Type	Name	Tube Dimensions and Socket Connections: Diam.	: B. E.	Cathode Type and Rating: C. T.	: Volts	: Amp.	Use (Values in right give operating conditions and characteristics for indicated typical use)	Plate Supply Volts	Grid Bias ① Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Transconductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts
12BD6	Remote-Cutoff Pentode	B0	7BK	H	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6BD6.									
12BE6	Pentagrid Converter◇	B0	7CH	H	12.6	0.15	Converter	For other characteristics, refer to Type 6BE6.									
12BF6	Twin-Diode Triode	B0	7BT	H	12.6	0.15	Triode Unit as Class A Amplifier	250	− 9.0	—	—	9.5	8500	1900	16	Power Output, 300 milliwatts	
12BH7 **12BH7-A**	Medium-Mu Twin Triodes	B3	9A	H He	6.3 12.6	0.6 0.3	Vertical Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 450 Max DC Plate Ma., 20					Absolute Max. Peak Positive-Pulse Plate Volts, 1500 Max. Plate Dissipation (Each Unit), 3.5 watts				
12BL6	Sharp-Cutoff Pentode◇	B0	7BK	H	10.0 to 15.9	0.15 approx.	Class A Amplifier	12.6	Grid No. 1 Supply Volts, 0	12.6	0.5	1.35	500000	1350	Grid-No. 1 and Grid-No. 3 Volts for transcond. of 10 micromhos, −5		
12BQ6-GTB/ 12CU6	Beam Power Tube	C11	6AM	He	12.6	0.6	Horizontal Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 600 Max. DC Cathode Ma., 112.5					Max. Peak Positive-Pulse Plate Volts, 6000 (Abs.) Max. Plate Dissipation, 11 Watts				
12BR7	Twin Diode High-Mu Triode	B0a	9CF	H	6.3 12.6	0.45 0.225	Triode Unit as Class A Amplifier	100 250	Cath. Bias Cath. Bias	— —	— —	3.7 10	15000 10900	4000 5500	60 60	Cath. Bias Res., 270 ohms Cath. Bias Res., 200 ohms	
12BV7	Sharp-Cutoff Pentode	B3	9BF	H	6.3 12.6	0.6 0.3	Class A Amplifier	250 250	Cath. Bias − 8	150 180	6 —	27 0.5 ⌘	85000 ⌘ Minimum Plate Current	13000 —	Cath. Bias Res., 68 ohms —		
12BY7 **12BY7-A**	Sharp-Cutoff Pentodes	B3	9BF	H He	6.3 12.6	0.6 0.3	Class A Amplifier	250	Cath. Bias	150	6	25	110000	12000	Cath. Res., 68 ohms		
12BZ7	High-Mu Twin Triode	B3	9A	H	6.3 12.6	0.6 0.3	Each Unit as Class A Amplifier	250	− 2	—	—	2.5	31800	3200	100	—	—
12C8	Twin-Diode Pentode	C1	8E	H	12.6	0.15	Pentode Unit as RF Amplifier	250	− 3.0	125	2.3	10.0	600000	1325	—	—	—
12CA5	Beam Power Tube	B1	7CV	He	12.6	0.6	Pentode Unit as AF Amplifier	90 ⌘ 300 ⌘	Cath. Bias, 3500 ohms. Screen Resistor = 1.1 meg. Grid Resistor, ⌘ / Cath. Bias, 1600 ohms. Screen Resistor = 1.2 meg. / 0.5 megohm.							Gain per stage = 55 Gain per stage = 79	
12CA5	Beam Power Tube	B1	7CV	He	12.6	0.6	Class A Amplifier	110 125	− 4 − 4.5	110 125	3.5 4.0	32 37	16000 15000	6100 9200	— —	3500 4500	1.1 1.5
12CR6	Diode Remote-Cutoff Pentode	B0	7EA	H	12.6	0.15	Pentode Unit as Class A Amplifier	250	− 2	100	2.6	9.6	800000	2200	Grid-No. 1 Volts for transcond. of 10 micromhos, −32		
12CU5	Beam Power Tube	B1	7CV	He	12.6	0.6	Class A Amplifier	120	− 8	110	4	49	10000	7500	—	2500	2.3

12DQ6-A	Beam Power Tube	C8	6AM	Mo	12.6	0.6	Horizontal Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 700 Max. DC Cathode Ma., 140						Max. Peak Positive-Pulse Plate Volts, 6000 (Abs.) Max. Plate Dissipation, 15 watts				
12DT8	High-Mu Twin Triodes	B9a	9DE	N	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6DT8.										
12F5-GT	High-Mu Triode	C8b	8M	N	12.6	0.15	Amplifier	For other characteristics, refer to Type 6SF5.										
12F8	Twin Diode Remote-Cutoff Pentode	B9a	9FM	N	10.0 to 15.9	0.15 approx.	Pentode Unit as Class A Amplifier	12.6	0	12.6	0.38	1	330000	1000	Grid-No. 1 Volts for transcond of 10 micromhos, −5			
							Detector Rectifier											
12H6	Twin-Diode	A1a	7Q	N	12.6	0.15		For other ratings, refer to Type 6H6.										
12J5-GT	Medium-Mu Triode	C2	9Q	N	12.6	0.15	Amplifier	For other characteristics, refer to Type 6J5.										
12J7-GT	Sharp-Cutoff Pentode	C2	7R	N	12.6	0.15	Amplifier	For other characteristics, refer to Type 6J7.										
12K5	Power Tetrode	B1	7EK	N	10.0 to 15.9	0.4 approx.	Class A Amplifier	12.6	12.6	−0.5		40	480		Grid-No. 1 Ma., 75 Transcond., Grid-No. 2 to Plate, 15000 μmhos			
12K7-GT	Remote-Cutoff Pentode	C3	7R	N	12.6	0.15	Amplifier	For other characteristics, refer to Type 6K7.										
12K8	Triode-Hexode Converter	C1	8A	N	12.6	0.15	Oscillator Mixer	For other characteristics, refer to Type 6K8.										
12L6-GT	Beam Power Tube	C2b	7AC	Mo	12.6	0.6	Class A Amplifier	110 200	−7.5 △	110 125	4.0 2.2	49 46	13000 28000	8000 8000	— —	2000 4000	2.1 3.8	
12Q7-GT	Twin-Diode High-Mu Triode	C3	7V	N	12.6	0.15	Triode Unit as Amplifier	For other characteristics, refer to Type 6Q7.										
12R5	Beam Power Tube	B1	7CV	Mo	12.6	0.6	Vertical Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 150 Max. Peak Cathode Ma., 155 Max. Plate Dissipation, 4.5 watts						Max. Peak Neg.-Pulse Grid No. 1 Volts, 150 Max. Grid No. 2 Volts, 150 Max. Peak Positive-Pulse Plate Volts, 1500 (Abs.)				
12S8-GT	Triode-Diode-High-Mu Triode	C8a	8CB	N	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 12SA7-GT	Pentagrid Converters	B2 C2b	8R 8AD	N	12.6	0.15	Mixer	For other characteristics, refer to Type 6SA7.										
12SC7	Twin-Triode Amplifier	B2	8S	N	12.6	0.15	Each Unit as Class A Amplifier	For other characteristics, refer to Type 6SC7.										
12SF5 12SF5-GT	High-Mu Triode	B2 C2b	6A8 6A8	N	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6SF5.										
12SF7	Diode-Remote-Cutoff Pentode	B2	7AZ	N	12.6	0.15	Pentode Unit as Amplifier	For other characteristics, refer to Type 6SF7.										
12SG7	Remote-Cutoff Pentode	B2	8BK	N	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6SG7.										
12SH7	Sharp-Cutoff Pentode	B2	8BK	N	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6SH7.										

Discontinued types are shown in light face.

Type	Name	Tube Dimensions and Socket Connections: Diagram	Tube Dimensions and Socket Connections: S. C.	Cathode Type and Rating: C. T.	Cathode Type and Rating: Volts	Cathode Type and Rating: Amp.	Use (Values to right give operating conditions and characteristics for indicated typical use)	Plate Supply Volts	Grid Bias -n Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Transconductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts
12SJ7 12SJ7-GT	Sharp-Cutoff Pentodes	B7 C3	8N 8AG	H	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6SJ7.									
12SK7 **12SK7-GT**	Remote-Cutoff Pentodes	B7 C3	8N 8AG	H	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6SK7.									
12SL7-GT	Twin-Triode Amplifier	C2b	8BD	H	12.6	0.15	Each Unit as Amplifier	For other characteristics, refer to Type 6SL7-GT.									
12SN7-GT	Twin-Triode Amplifier	C2b	8BD	H	12.6	0.3	Each Unit as Amplifier	For other characteristics, refer to Type 6J5.									
12SQ7 **12SQ7-GT**	Twin-Diode High-Mu Triode	B2 C2	8Q 8GA	H	12.6	0.15	Triode Unit as Amplifier	For other characteristics, refer to Type 6SQ7.									
12SR7 12SR7-GT	Duplex-Diode Triode	B2 C2b	8Q 8GA	H	12.6	0.15	Triode Unit as Amplifier	For other characteristics, refer to Type 6SR7.									
12V6-GT	Beam Power Amplifier	C2b	7AC	H	12.6	0.225	Amplifier	For other characteristics, refer to Type 6V6.									
12W6-GT	Beam Power Tube	C2b	7AB	H	12.6	0.6	Vertical Deflection Amplifier in TV Receivers	Triode Connection: Max. DC Plate Volts, 300 Max. DC Cathode Ma., 40					Absolute Max. Peak Positive-Pulse Plate Volts, 1200 Max. Plate Dissipation, 7.5 Watts				
12X4	Full-Wave Rectifier	B1	5BS	H	12.6	0.225	Rectifier	For other characteristics, refer to Type 6X4.									
12Z3	Half-Wave Rectifier	D6	4G	H	12.6	0.3	With Capacitive-Input Filter	Max. AC Plate Volts (RMS), 935 Max. DC 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.				
14A4	Medium-Mu Triode	B8	5AC	H	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6J5.									
14A5	Beam Power Tube	B8	5AA	H	12.6	0.15	Class A Amplifier	250	−12.5	250	3.5	30	70000	3000	——	7500	2.8
14A7	Remote-Cutoff Pentode	B8	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	——	——	——
14AF7	Medium-Mu Twin Triode	B8	8AC	H	12.6	0.15	Each Unit as Class A Amplifier	For other characteristics, refer to Type 7AF7.									
14B6	Duplex-Diode High-Mu Triode	B8	8W	H	12.6	0.15	Triode Unit as Class A Amplifier	For other characteristics, refer to Type 6SQ7.									
14B8	Pentagrid Converter®	B8	8X	H	12.6	0.15	Converter	For other characteristics, refer to Type 6A8.									

14C5	Beam Power Tube	C2a	6AA	H	12.6	0.225	Class A Amplifier
14C7	Sharp-Cutoff Pentode	B5	9V	H	12.6	0.15	Class A Amplifier
14E6	Twin-Diode Triode	B5	9W	H	12.6	0.15	Triode Unit as Class A Amplifier
14E7	Twin-Diode-Remote-Cutoff Pentode	B6	9AE	H	12.6	0.15	Pentode Unit as Class A Amplifier
14F7	Twin-Triode Amplifier	B5	9AC	H	12.6	0.15	Each Unit as Class A Amplifier
14F8	Medium-Mu Twin Triode	B8a	9BW	H	12.6	0.15	Each Unit as Class A Amplifier
14H7	Remote-Cutoff Pentode	B6	9V	H	12.6	0.15	Class A Amplifier
14J7	Triode-Heptode Converter	B5	9BA	H	12.6	0.15	Converter
14N7	Twin-Triode Amplifier	C2a	9AC	H	12.6	0.3	Each Unit as Class A Amplifier
14Q7	Pentagrid Converter▲	B5	9AL	H	12.6	0.15	Converter
14R7	Twin-Diode Pentode	B5	9AE	H	12.6	0.15	Pentode Unit as Class A Amplifier
15	RF Amplifier Pentode	D9	9F	D.C. H	2.0	0.22	Class A Amplifier
17AX4-GT	Half-Wave Rectifier	C2b	4CQ	H0	16.8	0.45	Television Damper Service
17BQ6-GTB	Beam Power Tube	C11	6AM6	H0	16.8	0.45	Horizontal Deflection Amplifier
17DQ6-A	Beam Power Tube	D8	6AM	H0	16.8	0.45	Horizontal Deflection Amplifier
19	Twin-Triode Amplifier	D5	6C	D.C. F	2.0	0.26	Amplifier
19AU4	Half-Wave Rectifier	C14b	4CQ	H0	18.9	0.3	Television Damper Service
19BG6-G 19BG6-GA	Beam Power Tubes	F1 E	8BT	H	18.9	0.3	Horizontal Deflection Amplifier in TV Receivers
19J6	Medium-Mu Twin Triode	B9	7BF	H	18.9	0.15	Each Unit as Class A Amplifier
19T8	Triode-Diode-High-Mu Triode	B8a	9E	H	18.9	0.15	Triode Unit as Class A Amplifier

Discontinued types are shown in light face.

180	−8.5	180	3.6	20.0	50000	3700	——	3500	1
315	−13	225	2.2	34.0	77000	3750	——	8500	5.5

For other characteristics, refer to Type 6BJ7.

For other characteristics, refer to Type 6SR7.

100	Cath.	100	2.7	10.0	150000	1600	Cath. Res., 80 ohms
250	Bias	100	1.6	7.5	700000	1300	Cath. Res., 330 ohms

For other characteristics, refer to Type 6SL7-GT.

250	Cathode-Bias Res., 500 ohms	6.0	- - -	3300	48	- - - - - -

For other characteristics, refer to Type 7H7.

For other characteristics, refer to Type 7J7.

For other characteristics, refer to Type 6J5.

For other characteristics, refer to Type 6SA7.

For other characteristics, refer to Type 7R7.

67.5	−1.5	67.5	0.3	1.85	630000	710	——	——
135	−1.5	67.5	0.3	1.85	800000	750	——	——

Max. Peak Inverse Plate Volts, 4400
Max. Peak Plate Ma., 750
Max. DC Plate Ma., 125
Max. Peak Hester-Cathode Volts: 4000** / 300
**DC component must not exceed 900 volts

Max. DC Plate Volts, 600
Max. DC Cathode Ma., 112.5
Max. Peak Positive-Pulse Plate Volts, 6000 (Abs.)
Max. Plate Dissipation, 11 watts

Max. DC Plate Volts, 700
Max. DC Cathode Ma., 140
Max. Peak Positive-Pulse Plate Volts, 6000 (Abs.)
Max. Plate Dissipation, 15 watts

For other characteristics, refer to Type 1J6-G.

Max. Peak Inverse Plate Volts, 4500
Max. Peak Plate Ma., 1050
Max. Peak Hester-Cathode Volts: 4500** / 300
Max. DC Plate Ma., 175
**DC component must not exceed 900 volts

Max. DC Plate Volts, 700
Max. DC Plate Current, 110 ma.
Max. Peak Positive-Pulse Plate Volts, 6600 (Abs.)
Max. Plate Dissipation, 20 watts

100	Cathode-Bias Res., 50 ohms	8.5	7100	5300	38	- - - - - -

For other characteristics, refer to Type 6T8.

Type	Name	Tube Dimensions and Socket Connections: Dimen.	S. C.	Cathode Type and Rating: C. T.	Volts	Amp.	Use	Plate Supply Volts	Grid Bias ■ Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Transconductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts
19X8	Triode-Pentode Converter	B8a	9AK	H	18.9	0.15	For characteristics, refer to Type 6X8.										
20	Power Amplifier Triode	O1	4D	D.C. F	3.3	0.132	Class A Amplifier	90	−16.5	—	—	3.0	5000	415	3.3	9600	0.045
								135	−22.5			6.5	6300	525	3.3	6500	0.110
22	RF Amplifier Tetrode	E1	4K	D.C. F	3.3	0.132	Screen-Grid RF Amplifier	135	− 1.5	45	0.6*	1.7	725000	375	—	—	—
								135	− 1.5	67.5	1.3*	3.7	325000	500	—	—	—
24-A	RF Amplifier Tetrode	E1	5E	H	2.5	1.75	Screen-Grid RF Amplifier	180	− 3.0	90	1.7*	4.0	400000	1000	—	—	—
								250	− 3.0	90	1.7*	4.0	600000	1050	—	—	—
							Bias Detector	250	− 3.0 approx.	20 to 45	—	Plate current to be adjusted to 0.1 milliampere with no signal.					
25A6 25A6-GT	Power Amplifier Pentodes	C2 C3	7S 7S1	H	25.0	0.3	Class A Amplifier	95	−15.0	95	4.0	20.0	43000	2000	—	4500	0.9
								160	−18.0	120	6.5	33.0	42000	2375	—	5000	2.2
25A7-GT	Rectifier Pentode	C3	4F	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. AC Plate Volts (RMS), 117 Max. Peak Inverse Volts, 350				Max. DC Output Ma., 75 Max. Peak Plate Ma., 450			Min. Total Effect. Supply Impedance, 15 ohms.		
25AC5-GT	High-Mu Power Amplifier Triode	C3	4Q	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
25AX4-GT	Half-Wave Rectifier	C2b	4CG	H	25	0.3	Television Damper Service	Max. Peak Inverse Plate Volts, 4400 Max. Peak Plate Ma., 750 Max. DC Plate Ma., 125				Max. Peak Heater-Cathode Volts:				− 4400 + 300	
25B5	Direct-Coupled Power Amplifier	D16	8D	H	25.0	0.3	Amplifier	For other characteristics, refer to Type 25N6-G.									
25B6-G	Power Amplifier Pentode	D11b	7S1	H	25.0	0.3	Class A Amplifier	105	−16.0	105	2.0	48.0	15500	4800	—	1700	2.4
								200	−23.0	135	1.8	62.0	18000	5000	—	2500	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	—	—	—
25BQ6-GT 25B Q6-GTB/ 25CU6	Beam Power Tubes	G11	8AM	H	25.0	0.3	Horizontal Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 600 Max. DC Cathode Ma., 112.5				Absolute Max. Peak Positive-Pulse Plate Volts, 6000 Max. Plate Dissipation, 11 Watts					

25C6-GA 25CD6-GB	Beam Power Tube	D11b	7AC1	H	25.0	0.3	Class A Amplifier	For other characteristics, refer to Type 6Y6-G.										
25CD6-GA 25CD6-GB	Beam Power Tubes	F1 EA	8BT	H0 H0	25	0.6	Horizontal Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 700 Max. DC Plate Ma., 170					Max. Peak Positive-Pulse Plate Volts, 6000 (Abs.) Max. Plate Dissipation, 13 Watts					
25L6	Beam Power Tube	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	8000 9500	— —	3000 3000	2.1 4.3
25L6-GT	Beam Power Tube	C2b	7AC1	H	25.0	0.3	Amplifier	For other characteristics, refer to Type 50L6-GT.										
25N6-G	Power-Coupled Power Amplifier	D9	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), 79.7; Plate Ma., 5.8.										3.8
25W4-GT	Half-Wave Rectifier	C2b	4CQ	H	25.0	0.3	With Capacitive Input Filter	Max. AC Plate Volts (RMS), 350 Max. Peak Inverse Volts, 2000 ea. 1250					Max. DC Output Ma., 125 Max. Peak Plate Ma., 600		Min. Total Effect. Supply Imped. per Plate, 145 ohms			
25Y5	Rectifier-Doubler	D6	6E	H	25.0	0.3	Half-Wave Rectifier Rectifier-Doubler	Max. AC Volts per Plate (RMS), 235 Max. DC Output Ma. per Plate, 75					Min. Total Effective Plate-Supply Impedance per Plate, 0 ohms.					
25Z5	Rectifier-Doubler	D6	6E	H	25.0	0.3		For other ratings, refer to Type 25Z6.										
25Z6 25Z6-GT	Vacuum Rectifier-Doubler	C2 C2b	7Q 7Q1	H	25.0	0.3	Voltage Doubler Half-Wave Rectifier	Max. AC Volts per Plate (RMS), 117 Max. DC Output Ma., 75 Max. AC Volts per Plate (RMS), 235 Max. DC Output Ma. per Plate, 75					Min. Total Effective Plate-Supply Impedance: Half-Wave, 30 ohms; Full-Wave, 15 ohms. Min. Total Effect. Supply Imped. per Plate: Up to 117 volts, 15 ohms; at 150 volts, 40 ohms; at 235 volts, 100 ohms.					
26	Amplifier Triode	D11b	6D	F	1.5	1.05	Class A Amplifier	90 180	−7.0 −14.5	— —	— —	2.9 6.2	8000 7300	825 1150	8.3 8.3	— —	— —	
27	Detector-Amplifier Triode	D6	6A	H	2.5	1.75	Class A Amplifier	135 250	−9.0 −21.0	— —	— —	4.3 5.2	9000 9250	1000 975	9.0 9.0	— —	— —	
							Bias Detector	250	−30.0 approx.	—	—	Plate current to be adjusted to 0.2 milliampere with no signal.						
30	Medium-Mu Triode	D5	6D	D.C. F	2.0	0.06	Amplifier	For other characteristics, refer to Type 1H4-G.										
31	Power Amplifier Triode	D5	6D	D.C. F	2.0	0.13	Class A Amplifier	135 180	−22.5 −30.0	— —	— —	8.0 12.3	4100 3600	925 1050	3.8 3.8	7000 5700	0.185 0.375	
32	RF Amplifier Tetrode	E1	4K	D.C. F	2.0	0.06	Screen-Grid RF Amplifier	135 180	−3.0 −3.0	67.5 67.5	0.4 0.4	1.7 1.7	950000 1.0+M	640 650	— —	— —	— —	
							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	C2	8Z	H	32.5	0.3	Amplifier Unit as Class A Amplifier	90 90	−5.0 −7.0	90 90	3.0 2.0	38.0 27.0	15000 17000	6000 4800	— —	2600 2800	0.8 3.0	
							Half-Wave Rectifier	Maximum AC Plate Voltage 125 Volts, RMS Maximum DC Output Current 60 Milliamperes.										
33	Power Amplifier Pentode	D11b	9K	D.C. F	2.0	0.26	Class A Amplifier	180	−18.0	180	5.0	22.0	35000	1700	—	6000	1.5	
34	Remote-Cutoff Pentode	E1	4S	D.C. F	2.0	0.06	Screen-Grid RF Amplifier	135 180	−3.0 min.	67.5 67.5	1.0 1.0	2.8 2.8	600000 1.0+	600 620	— —	— —	— —	
35	Remote-Cutoff Tetrode	E1	8E	H	2.5	1.75	Screen-Grid RF Amplifier	180 250	−3.0 min.	90 90	2.5* 2.5*	6.3 6.5	300000 400000	1020 1050	— —	— —	— —	

Discontinued types are shown in light face.

Type	Name	Tube Dimensions and Socket Connections — Diagram	Tube Dimensions and Socket Connections — E.C.	Cathode Type and Rating — E.T.	Cathode Type and Rating — Volts	Cathode Type and Rating — Amps.	Use	Plate Supply Volts	Grid Bias ⊖ Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Transconductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts
35A5	Beam Power Tube	C2a	6AA	H	35.0	0.15	Single-Tube Class A Amplifier	For other characteristics, refer to Type 35L6-GT.									
35B5	Beam Power Tube	B1	7BZ	H	35.0	0.15	Class A Amplifier	For other characteristics, refer to Type 35C5.									
35C5	Beam Power Tube	B1	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 Tube	C3b	7AG	H	35.0	0.15	Single-Tube Class AB Amplifier	110 200	− 7.5 − 15	110 125	3.0 2.0	40.0 43.0	14000 34000	5800 6100	—— ——	2500 5000	1.5 3.0
35W4	Half-Wave Rectifier Heater Tap for Pilot	B1	8BQ	H	35.0	0.15	With Capacitive-Input Filter	Max AC Plate Volts (RMS), 117. Min. Total Effect. Plate-Supply Impedance, 15 ohms. Max. DC Output Ma.: With Pilot and No Shunt Res., 60; With Pilot and Shunt Res., 90; Without Pilot, 100.									
35Y4	Half-Wave Rectifier Heater Tap for Pilot	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.									
35Z4-GT	Half-Wave Rectifier	C3b	5AA	H	35.0	0.15	With Capacitive-Input Filter	Max. AC Plate Volts (RMS), 235 Max. DC 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	C3b	6AD	H	35.0	0.15	With Capacitive-Input Filter	Max. AC Plate Volts (RMS), 235. Min. Total Effect. Plate-Supply Imped.: Up to 117 volts, 15 ohms; at 235 volts, 100 ohms. Max. DC Output Ma.: With Pilot and No Shunt Res., 60; With Pilot and Shunt Res., 90; Without Pilot, 100.									
36	RF Amplifier Tetrode	D8	6E	H	6.3	0.3	Screen-Grid RF Amplifier	100 250	− 1.5 − 3.0	55 90	—— 1.7*	1.8 3.2	350000 560000	850 1080	—— ——	—— ——	—— ——
							Bias Detector	100 250	− 5.0 − 8.0	55 90	—— ——	Grid-bias values are approximate. Plate current to be adjusted to 0.1 milliampere with no signal.					
37	Detector-Amplifier Triode	D8	6A	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	—— ——	—— ——	Grid-bias values are approximate. Plate current to be adjusted to 0.2 milliampere with no signal.					
38	Power Amplifier Pentode	D8	6F	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	0.37 2.50
39/44	Remote-Cutoff Pentode	D8	6F	H	6.3	0.3	Class A Amplifier	90 250	− 3.0† min.	90 90	1.6 1.4	5.6 5.8	400000 1.0†	1000 1050	—— ——	—— ——	—— ——
40	Medium-Mu Triode	D12a	6D	D.C.	5.0	0.25	Class A Amplifier	135‡ 180‡	− 1.5 − 3.0	—— ——	—— ——	0.2 0.2	150000 150000	200 200	30 30	—— ——	—— ——
41	Power Amplifier Pentode	D8	6B	H	6.3	0.4	Amplifier	For other characteristics, refer to Type 6K6-GT.									

42	Power Amplifier Pentode	D12a	6B	H	6.3	0.7	Amplifier	For other characteristics, refer to Type 6F6.G								
43	Power Amplifier Pentode	D12a	6B	H	25.0	0.3	Amplifier	For other characteristics, refer to Type 25A6.								
45	Power Amplifier Triode	D12a	4D	F	2.5	1.5	Class A Amplifier	180	−31.5	—	—	31.0	1650	2125	3.5	2700	0.82
								275	−56.0	—	—	36.0	1700	2050	3.5	4600	2.00
							Push-Pull Class AB1 Amplifier	275	Cath. Bias, 775 ohms◆			36.0◆	—	—	—	5050	12.0†
								275	−68.0 volts, fixed bias			28.0◆				3200	18.0†
45Z3	Half-Wave Rectifier	B0	5AB	H	45.0	0.075	Half-Wave Rectifier	Max. AC Plate Volts (RMS), 117 Max. DC Output Ma., 65 Min. Total Effect. Plate-Supply Imped., 15 ohms. Max. Peak Inverse Volts, 350 Max. Peak Plate Ma., 390								
45Z5-GT	Half-Wave Rectifier Heater Tap for Pilot	C2b	6AD	H	45.0	0.15	With Capacitive-Input Filter	For other ratings, refer to Type 35Z5-GT.								
		Pilot Between Pins 2 and 3														
46	Dual-Grid Power Amplifier	E3	5C	F	2.5	1.75	Class A Amplifier	250	−33.0	—	—	22.0	2380	2350	5.6	6400	1.25
							Class B Amplifier◆	300	0	—	—	8.0◆	—	—	—	5200	16.0†
								400	0	—	—	12.0◆	—	—	—	5800	20.0†
47	Power Amplifier Pentode	E3	6B	F	2.5	1.75	Class A Amplifier	250	−16.5	250	6.0	31.0	60000	2500	—	7000	2.7
48	Power Amplifier Tetrode	E3	6A	D.C. H	30.0	0.4	Tetrode Class A Amplifier	96	−19.0	96	9.0	52.0	—	3800	—	1500	2.0
								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	5.0†
49	Dual-Grid Power Amplifier	D12a	8C	D.C. F	2.0	0.12	Class A1 Amplifier□	135	−20.0	—	—	6.0	4175	1125	4.7	11000	0.47
							Class B Amplifier◆	180	0	—	—	4.0◆	—	—	—	12000	3.5†
50	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
50A5	Beam Power Tube	C2a	6AA	H	50.0	0.15	Class A Amplifier	For other characteristics, refer to Type 50L6-GT.								
50B5	Beam Power Tube	B1	7BZ	H	50.0	0.15	Class A Amplifier	For other characteristics, refer to Type 50C5.								
50C5	Beam Power Tube	B1	7CV	H	50.0	0.15	Class A Amplifier	110	−7.5	110	4.0	49.0	10000	7500	—	2500	1.9
50C6-G	Beam Power Tube	D11b	7AC	H	50.0	0.15	Single-Tube Class A Amplifier	135	−13.5	135	3.5	58.0	9300	7000	—	2800	3.8
								200	−14.0	135	2.2	61.0	10300	7100	—	2600	6.0
50L6-GT	Beam Power Tube	C2b	7AC	H	50.0	0.15	Single-Tube Class A Amplifier	100	−7.5	110	4.0	49.0	13000	8000	—	2000	2.1
								200	−13.5	125	2.2	46.0	28000	8000	—	4000	3.8
80X6	Rectifier-Doubler	Base C2a	Cap. 7BR	H	50.0	0.15	Rectifier-Doubler	Max. AC Volts per Plate (RMS), 117 Min. Total Effective Plate-Supply Impedance: Max. DC Output Ma., 75 Half-Wave, 30 ohms; Full-Wave, 15 ohms.								
							Half-Wave Rectifier	Max. AC 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. DC Output Ma. per Plate, 75								
50Y6-GT	Rectifier-Doubler	C2b	7Q	H	50.0	0.15	Rectifier-Doubler	For other ratings, refer to Type 25Z6.								

Discontinued types are shown in light face.

RCA Type	Name	Tube Dimensions and Socket Connections: Outline	Tube Dimensions and Socket Connections: S. C.	Cathode Type and Rating: C. T.	Cathode Type and Rating: Volts	Cathode Type and Rating: Amp.	Use (Values to right give operating conditions and characteristics for indicated typical use)	Plate Supply Volts	Grid Bias ① Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Transconductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts
50Y7-GT	Rectifier-Doubler Heater Tap for Pilot	G2b	8AN	H	50.0	0.15	Voltage Doubler	Max. AC Volts per Plate (RMS), 117 Max. DC Output ma., 65					Min. Total Effective Plate-Supply Impedance per Plate, 15 ohms				
		Pilot Between Pins 6 and 7					Half-Wave Rectifier	Max. AC Volts per Plate (RMS), 235 Max. DC Output ma. per Plate, 65					Min. Total Effec. Plate-Supply Imped. per Plate: Up to 117 volts, 15 ohms; at 150 volts, 40 ohms; at 235 volts, 100 ohms				
50Z7-G	Rectifier-Doubler Heater Tap for Pilot	D3	8AB	H	50.0	0.15	Voltage Doubler	Max. AC Volts per Plate (RMS), 117 Max. DC Output Ma., 65					Min. Total Effective Plate-Supply Impedance: 15 ohms.				
		Pilot Between Pins 6 and 7					Half-Wave Rectifier	Max. AC Volts per Plate (RMS), 235 Max. DC Output Ma. per Plate, 65					Min. Total Effective Plate-Supply Impedance per Plate: Up to 117 volts, 15 ohms; at 235 volts, 100 ohms.				
53	Twin-Triode Amplifier	D12a	7B	H	2.5	2.0	Amplifier	For other characteristics, refer to Type 6N7-GT.									
55	Duplex-Diode Triode	D8	6Q	H	2.5	1.0	Triode Unit as Amplifier	For other characteristics, refer to Type 85.									
56	Medium-Mu Triode★	D5	5A	H	2.5	1.0	Amplifier Detector	For other characteristics, refer to Type 76.									
57	Sharp-Cutoff Pentode	D12a	8F	H	2.5	1.0	Amplifier Detector	For other characteristics, refer to Type 6J7.									
58	Remote-Cutoff Pentode	D12a	8F	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	0	——	——	20.0◆	——	——	——	4600	15.0†
								400	0	——	——	26.0◆	——	——	——	6000	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. AC Plate Volts (RMS), 117 Max. Peak Inverse Volts, 350				Max. DC Output Ma., 70 Max. Peak Plate Ma., 420			Min. Total Effect. Plate-Supply Imped., 15 ohms		
71-A	Power Amplifier Triode	D12a	4D	F	5.0	0.25	Class A Amplifier	90	−16.5	——	——	10.0	2170	1400	3.0	3000	0.125
								180	−40.5			20.0	1750	1700	3.0	4800	0.790
75	Twin-Diode High-Mu Triode	D9	6Q	H	6.3	0.3	Amplifier	For other characteristics, refer to Type 6SQ7.									
76	Detector Amplifier Triode★	D8	5A	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	6F	M	6.3	0.3	Class A Amplifier	100	− 1.5	60	0.4	1.7	600000	1100	——	——	——
								250	− 3.0	100	0.5	3.3	1.0+§	1250			
							Bias Detector	250	− 1.95	50	Cathode current 0.65 ma.		——	Plate Resistor, 250000 ohms. Grid Resistor,** 250000 ohms.			
78	Remote-Cutoff Pentode	D6	6F	M	6.3	0.3	Amplifier Mixer	For other characteristics, refer to Type 6K7.									
79	Twin-Triode Amplifier	D9	6H	M	6.3	0.6	Class B Amplifier	180	0	——	——	Power Output is for one tube at stated plate-to-plate load.			7000	5.5	
								250	0						14000	8.0	
80	Full-Wave Rectifier	D12a	4C	F	5.0	2.0	With Capacitive-Input Filter	Max. AC Volts per Plate (RMS), 350 Max. Peak Inverse Volts, 1400				Max. DC Output Ma., 125 Max. Peak Plate Ma., 375		Min. Total Effect. Supply Imped. per Plate, 50 ohms			
							With Inductive-Input Filter	Max. AC Volts per Plate (RMS), 500 Max. Peak Inverse Volts, 1400				Max. DC Output Ma., 125 Max. Peak Plate Ma., 375		Min. Value of Input Choke, 10 henries			
81	Half-Wave Rectifier	F1a	4B	F	7.5	1.25	With Capacitive-Input Filter	Max. AC Plate Volts (RMS), 700 Max. Peak Inverse Volts, 2000						Max. DC Output Ma., 85 Max. Peak Plate Ma., 300			
82	Full-Wave Rectifier	D12a	4C	F	2.5	3.0	With Capacitive-Input Filter	Max. AC Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1550				Max. DC Output Ma., 115 Max. Peak Plate Ma., 600		Min. Total Effect. Supply Imped. per Plate, 50 ohms.			
							With Inductive-Input Filter	Max. AC Output per Plate (RMS), 350 Max. Peak Inverse Volts, 1550				Max. DC 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. AC Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1550				Max. DC Output Ma., 225 Max. Peak Plate Ma., 1000		Min. Total Effect. Supply Imped. per Plate, 50 ohms.			
							With Inductive-Input Filter	Max. AC Volts per Plate (RMS), 350 Max. Peak Inverse Volts, 1550				Max. DC Output Ma., 225 Max. Peak Plate Ma., 1000		Min. Value of Input Choke, 3 henries			
83-v	Full-Wave Rectifier	D12a	4AD	M	5.0	2.0	For other ratings, refer to Type 5V4-G.										
84/6Z4	Full-Wave Rectifier	D6	5D	M	6.3	0.5	With Capacitive-Input Filter	Max. AC Volts per Plate (RMS), 325 Max. Peak Inverse Volts, 1250				Max. DC Output Ma., 60 Max. Peak Plate Ma., 180		Min. Total Effect. Supply Imped. per Plate, 150 ohms.			
							With Inductive-Input Filter	Max. AC Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1250				Max. DC Output Ma., 60 Max. Peak Plate Ma., 180		Min. Value of Input Choke, 10 henries			
85	Twin-Diode Triode	D9	8G	M	6.3	0.3	Triode Units	135	−10.5	——	——	3.7	11000	250	8.3	25000	0.075
							Class A Amplifier	250	−20.0			8.0	7500	1100	8.3	20000	0.350
89	Triple-Grid Power Amplifier	D8	6F	M	6.3	0.4	As Triode* Class A Amplifier	160	−20.0	——	——	17.0	3300	1425	4.7	7000	0.30
								250	−31.0			32.0	2600	1800	4.7	5500	0.90
							As Pentode** Class A Amplifier	100	−10.0	100	1.6	9.5	104000	1200	——	10700	0.33
								250	−25.0	250	5.0	32.0	70000	1800	——	6750	3.40
							As Triode Class B Amplifier	180	0	——	——	6.0◆	——	——	——	11600 9400	2.50† 3.50†
117L7/ M7-GT	Rectifier-Beam Power Tube	C10	6AO	M	117	0.09	Amplifier Units as Class A Amplifier	105	− 5.3	103	4.0	43.0	17000	5300	——	4000	0.85
							Half-Wave Rectifier	Max. AC Plate Volts (RMS), 117 Max. Peak Inverse Volts, 350				Max. DC Output Ma., 75 Max. Peak Plate Ma., 450		Min. Total Effect. Plate-Supply Imped., 15 ohms.			
117N7-GT	Rectifier-Beam Power Tube	C10	8AV	M	117	0.09	Amplifier Units as Class A Amplifier	100	− 6.0	100	5.0	51.0	16000	7000	——	3000	1.2
							Half-Wave Rectifier	Max. AC Plate Volts (RMS), 117 Max. Peak Inverse Volts, 350				Max. DC Output Ma., 75 Max. Peak Plate Ma., 450		Min. Total Effect. Plate-Supply Impedance, 15 ohms.			

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	Transconductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts
		Diam.	S. C.	C. T.	Volts	Amp.											
117P7-GT	Rectifier-Beam Power Tube	C16	8AV	H	117	0.09	Amplifier Unit as Class A Amplifier	For other characteristics, refer to Type 117L7/M7-GT.									
							Half-Wave Rectifier	For other ratings, refer to Type 117L7/M7-GT.									
117Z3	Half-Wave Rectifier	B1a	4CB	H	117	0.04	With Capacitive-Input Filter	Max. AC Plate Volts (RMS), 117 Max. Peak Inverse Volts, 330		Max. DC Output Ma., 90 Max. Peak Plate Ma., 540			Min. Total Effect. Plate-Supply Imped., 20 ohms				
117Z4-GT	Half-Wave Rectifier	C8	8AA	H	117.0	0.04	With Capacitive-Input Filter	Max. AC Plate Volts (RMS), 117 Max. Peak Inverse Volts, 330		Max. DC Output ma., 90 Max. Peak Plate ma., 540			Min. Total Effect. Plate-Supply Imped., 30 ohms				
117Z6-GT	Rectifier-Doubler	C8b	7Q1	H	117	0.075	Voltage Doubler	Max. AC Volts per Plate (RMS), 117 Max. DC Output Ma., 60		Min. Total Effective Plate-Supply Impedance per Plate: Half-Wave, 30 ohms; Full-Wave, 15 ohms.							
							Half-Wave Rectifier	Max. AC Volts per Plate (RMS), 235 Max. DC Output Ma. per Plate, 60		Min. Total Effect. Supply Imped. per Plate: Up to 117 volts, 15 ohms; at 150 volts, 40 ohms; at 235 volts, 100 ohms.							

KEY TO TUBE DIMENSIONS

Symbol	Maximum Overall Length	Maximum Overall Diameter
A	1 3/4"	3/4"
A1	1 3/4"	3/4"
A1a	1 3/4"	1 1/16"
A1b	1 1/4"	3/4"
B0	2 1/8"	3/4"
B0a	2 3/16"	3/4"
B0b	2 9/16"	1 1/16"
B0c	2 1/16"	1 1/16"
B1	2 1/8"	3/4"
B1a	2 1/8"	1 1/16"
B2	2 1/8"	1 1/16"
B3	2 1/8"	3/4"
B4	2 11/16"	3/4"
B4a	3 1/16"	3/4"
B5	2 15/16"	1 1/16"
B5a	2 15/16"	3/4"
B5b	2 1/8"	1 1/16"
C0	3"	1 1/16"
C0a	3 1/16"	1 1/16"
C1	3 1/16"	1 1/16"
C2	3 1/16"	1 1/16"
C2a	3 3/16"	1 1/16"
C2b	3 3/16"	1 1/16"
C3	3 3/16"	1 1/16"
C4	3 1/16"	1 1/16"
C5	3 1/16"	1 1/16"
C6	3 3/16"	1 1/16"
C9a	3 1/16"	1 1/16"
C10	3 1/16"	1 1/16"
C10a	3 1/16"	1 1/16"
C10b	3 1/16"	1 1/16"
C11	3 1/16"	1 1/16"
C11a	3 1/16"	1 1/16"
D1	4"	1 1/16"
D1a	4"	1 1/16"
D2	4 1/16"	1 1/16"
D2a	4 1/16"	1 1/16"
D3	4 1/16"	1 1/16"
D4	4 1/16"	1 1/16"
D5	4 1/16"	1 1/16"
D6	4 1/16"	1 1/16"
D7	4 1/16"	1 1/16"
D8	4 1/16"	1 1/16"
D9	4 1/16"	1 1/16"
D10	4 1/16"	1 1/16"
D11	4 1/16"	1 1/16"
D11a	4 1/16"	1 1/16"
D11b	4 1/16"	1 1/16"
D12	4 11/16"	1 1/16"
D12a	4 11/16"	1 1/16"
D12b	4 1/16"	1 1/16"
D13	4 1/16"	1 1/16"
D13a	4 11/16"	1 1/16"
E	5"	1 1/16"
E0	5"	1 1/16"
E0a	5 1/16"	1 1/16"
E0b	5 1/16"	2 1/16"
E1	5 1/16"	1 1/16"
E1a	5 1/16"	1 1/16"
E2	5 1/16"	1 1/16"
E2a	5 1/16"	1 1/16"
E3	5 1/16"	2 1/16"
E3a	5 1/16"	2 1/16"
F1	5 11/16"	2 1/16"
F1a	6 1/16"	2 1/16"
G1	8"	2 1/16"

LEGEND FOR BASE AND ENVELOPE CONNECTION DIAGRAMS

Bottom Views

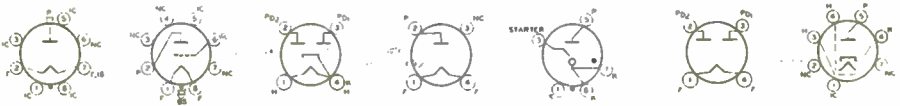
Subscripts B, D, HP, HX, P, T, and TR indicate, respectively, beam unit, diode unit, heptode unit, hexode unit, pentode unit, triode unit, and tetrode unit in multi unit types.

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

G = Grid
H = Heater
H_L = Heater Tap for Panel Lamp
H_M = Heater Mid-Tap
HS = Heater Shield

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



★ 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 ½ (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, 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, except that base sleeve is connected to Pin No. 1.

▦ With tube mounted horizontally and pins No. 4 and No. 6 in a vertical plane (pin No. 4 on top), deflecting electrode No. 1 controls left-hand section of pattern, deflecting electrode No. 2 controls top right-hand section of pattern, deflecting electrode No. 3 controls bottom section of pattern.

+ Each unit.

● Heater has controlled warm-up time for series-string operation.

Value is for both units operating at the specified conditions.

‡‡ This diagram is like the one having the same designation, except that Pin No. 1 is connected to internal shield.

✣ Grids # 2 and # 3 tied to plate.

ᴬᴬ Both grids connected together; likewise both cathodes.

⁂ This diagram is like the one having the same designation, except that the base sleeve is connected to Pin No. 1.

♥ Applied through plate resistor of 100000 ohms. Maximum.

✖ Applied through plate resistor of 250000 ohms. Megohms.

☐ Grid # 2 tied to plate. 30000 ohms.

°° Applied through plate resistor of 190000 ohms. Grids # 1 and # 2 tied together.

◥ 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.

Note 1: Subscript 1 on class of amplifier service (as AB_1) indicates that grid current does not flow during any part of input cycle.

Note 2: Subscript 2 on class of amplifier service (as AB_2) indicates that grid current flows during some part of the input cycle.

♦ For television damper service.

△ Cathode-bias resistor, 180 ohms.

❁ Superseded by 10-Y. See Power and Gas Tubes Booklet PG-101A.

✓ With separate excitation and triode unit grounded.

⊙ For use in automobile receivers which use transistors in the output stage; with tube and transistor electrode voltages supplied directly from a 12.6-volt storage battery.


4CG


4D

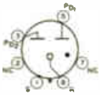

4E


4F


4G


4K


4M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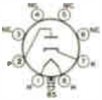
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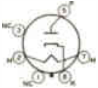
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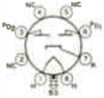
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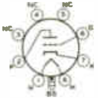
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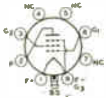
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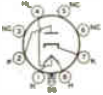
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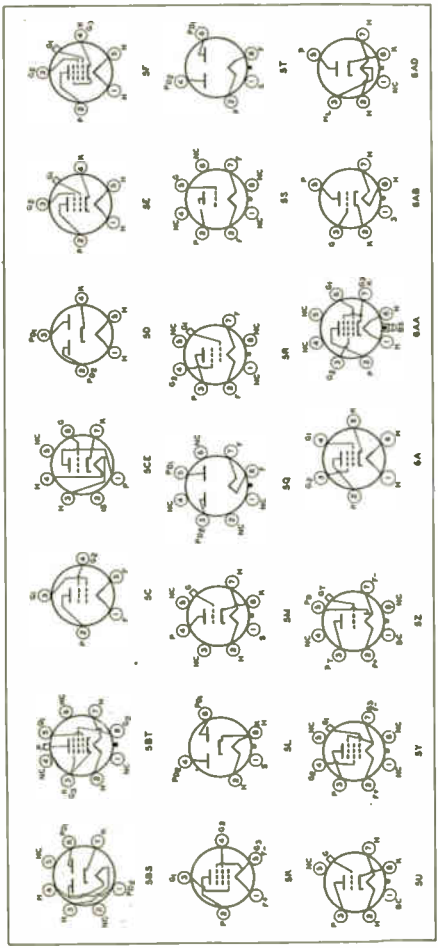
5AM


5AP


5B


5BO


5BQ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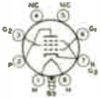
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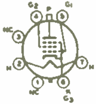
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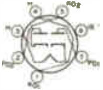
6AU


6AX


6B


6BA


6BG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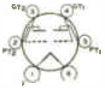
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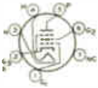
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6D


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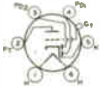
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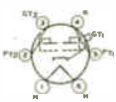

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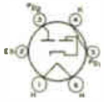

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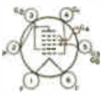

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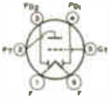

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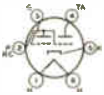

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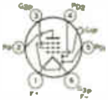

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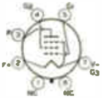

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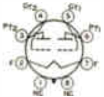

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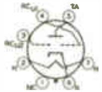

7AG

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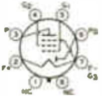

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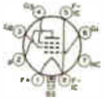

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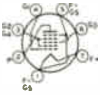
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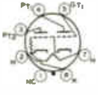
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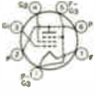
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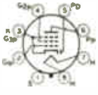
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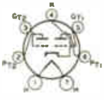
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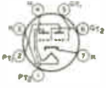
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7C


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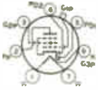
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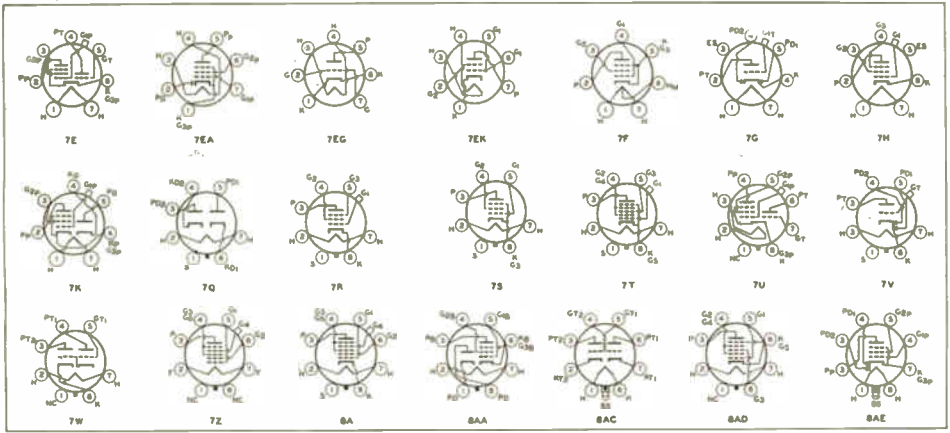
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8A
8AA
8AC
8AD
8AE


8AJ


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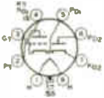
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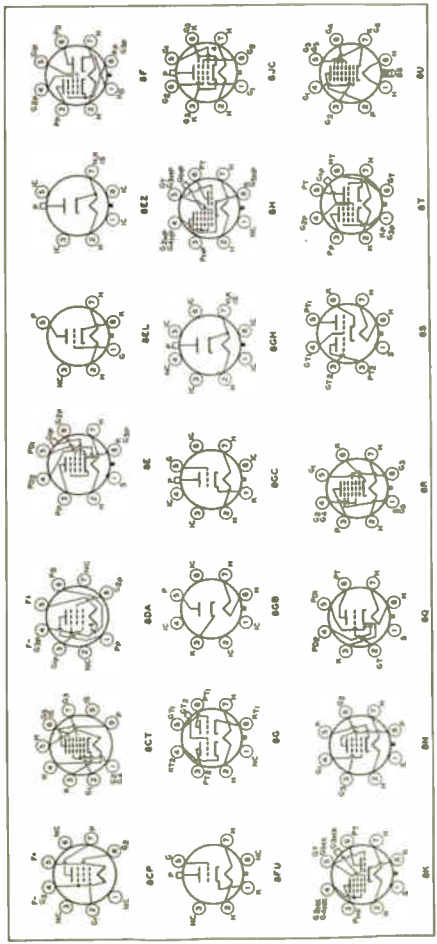
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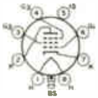
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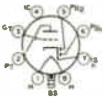
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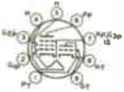
8X


8Y


8Z


9A


9AC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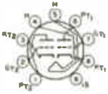
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9AX

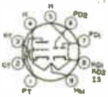

9BD


9BF


9BO


9BV


9BX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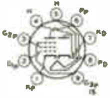
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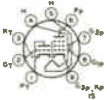
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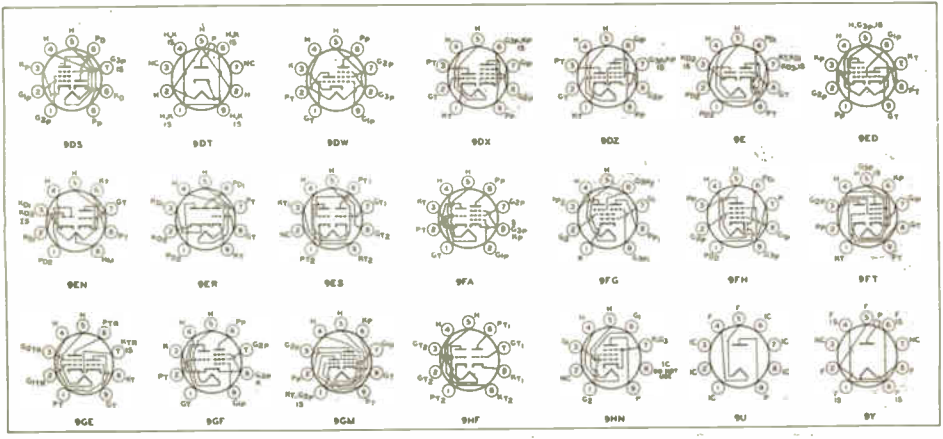
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9GM
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9HN
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9Y

RCA PICTURE TUBE CHARACTERISTICS CHART

Type	Envelope	Aluminized Screen (Asterisk (*) denotes Monochrome type)	Faceplate	External Conductive Coating: Max.	External Conductive Coating: Min.	Focusing Method	Deflection Method	Approx. Deflection Angle Degrees: Diag.	Approx. Deflection Angle Degrees: Horiz.	Approx. Deflection Angle Degrees: Vert.	Maximum Dimensions Inches: Overall Length	Maximum Dimensions Inches: Envelope Dia. or Diagonal	Maximum Dimensions Inches: Width	Maximum Dimensions Inches: Height	Neck Length Inches	Minimum Screen Size Inches
Black-and-White Types																
5TP4	C	Yes	CL	500	100	E	M	—	50	—	$12\frac{1}{8}$	$5\frac{1}{8}$	—	—	$7\frac{1}{2}$	$4\frac{1}{2}$ Dia.
7DP4	C	No	CL	1500	400	E	M	—	50	—	$14\frac{5}{16}$	$7\frac{1}{16}$	—	—	$8\frac{1}{8}$	6 Dia.
7JP4	C	No	CL	None	None	E	M	—	—	—	$14\frac{7}{8}$	$7\frac{1}{8}$	—	—	—	6 Dia.
8DP4	G	No	FG	350	250	E	M	90	85	68	$10\frac{3}{8}$	$8\frac{1}{2}$	$7\frac{15}{16}$	$6\frac{1}{4}$	$6\frac{1}{2}$	$7\frac{5}{16}$ x $5\frac{1}{2}$
9AP4	C	No	CL	None	None	E	M	—	40	—	$21\frac{3}{8}$	$9\frac{1}{4}$	—	—	10	$7\frac{7}{8}$ Dia.
10BP4	C	No	Same as 10BP4-A, except has clear glass faceplate.													
10BP4-A	C	No	FG	2500	500	M	M	—	52	—	18	$10\frac{5}{8}$	—	—	$8\frac{5}{16}$	$9\frac{1}{4}$ Dia.
10FP4-A	C	*Yes	FG	2500	500	M	M	—	50	—	18	$10\frac{3}{8}$	—	—	$8\frac{5}{16}$	$9\frac{1}{16}$ Dia.
12AP4	C	No	CL	None	None	E	M	—	40	—	$25\frac{3}{8}$	$12\frac{5}{16}$	—	—	$9\frac{5}{16}$	$10\frac{3}{4}$ Dia.
12KP4-A	C	*Yes	FG	2500	500	M	M	—	54	—	18	$12\frac{5}{16}$	—	—	$7\frac{1}{8}$	$11\frac{1}{8}$ Dia.
12LP4	C	No	Same as 12LP4-A, except has clear glass faceplate													
12LP4-A	C	No	FG	2000	750	M	M	—	57	—	$10\frac{1}{8}$	$12\frac{5}{16}$	—	—	$8\frac{1}{2}$	11 Dia.
14ATP4	G	*Yes	FG	1000	500	E	M	90	85	68	$13\frac{1}{2}$	$14\frac{1}{8}$	$13\frac{1}{16}$	$10\frac{11}{16}$	$5\frac{1}{2}$	$12\frac{1}{16}$ x $9\frac{1}{2}$
14EP4/ 14CP4/ 14BP4	G	No	FG	2000	750	M	M	70	65	50	$16\frac{7}{8}$	$13\frac{15}{16}$	$12\frac{21}{32}$	$9\frac{27}{32}$	$7\frac{1}{16}$	$11\frac{1}{2}$ x $8\frac{1}{8}$
14HP4	G	No	FG	2000	750	E	M	70	65	50	$17\frac{5}{16}$	$13\frac{15}{16}$	$12\frac{21}{32}$	$9\frac{27}{32}$	$7\frac{1}{2}$	$11\frac{1}{2}$ x $8\frac{1}{8}$

Data for these types continued on next page.

Data for these types continued from preceding page.

High Voltage Terminal	Bottom	Maximum Ratings							Typical Operating Conditions in Grid-Bias Service					Type
		Final High-Voltage Electrode (Filter*) Volts	Focusing Electrode Volts	Grid-No. 1 Volts	Grid-No. 1 Volts	Peak Heater-Cathode Volts			Final High-Voltage Electrode (Filter*) Volts	Grid-No. 2 Volts	Focusing Electrode Volts	Grid-No. 1 Volts For Visual Extinction of Focused Raster	P-M Ion-Trap Magnet Min. Gauss	
						Heater Negative	After Warm-up	Heater Positive						
														Black-and-White Types
Cavity Cap	B	27000	6000	350	−150	410	175	10	27000	200	4320 to 5400	−57 to −93	None	5TP4*
Cavity Cap	B	8000	2400	410	−125	410	150	150	6000	250	1215 to 1645	−22 to −58	—	7DP4
Base Pin	C	6000	2000	—	−200	410	125	125	6000	—	1620 to 2400	−67 to −165	None	7JP4
Cavity Cap	J	8000	+500 −500	300	−100	—	180	180	6000 8000	150 200	+15 to +315 +60 to +360	−13 to −35 −17 to −46	31 36	8DP4
Medium Cap	D	7000	2000	300	−125	—	—	—	7000	250	1190 to 1790	−15 to −55	None	9AP4
Ratings and typical operating conditions are same as for type 10BP4-A.														10BP4
Cavity Cap	E	12000	—	410	−125	410	150	150	8000 to 12000	250		−22 to −58	—	10BP4-A
Cavity Cap	E	12000	—	410	−125	410	140	140	8000 to 12000	250	—	−22 to −58	None	10FP4-A
Medium Cap	D	7000	2000	300	−125	—	—	—	7000	250	1190 to 1790	−15 to −55	None	12AP4
Cavity Cap	E	12000	—	410	−125	410	140	140	9000 to 12000	250	—	−22 to −58	None	12KP4-A
Ratings and typical operating conditions are same as for type 12LP4-A.														12JP4
Cavity Cap	E	12000	—	410	−125	410	150	150	9000 to 12000	250	—	−22 to −58	—	12LP4-A
Cavity Cap	H	14000	+1000 −500	500	−140	—	180	180	10000 14000	300 400	0 to +400 0 to +400	−25 to −69 −31 to −90	None	14ATP4
Cavity Cap	E	14000	—	410	−125	410	150	150	12000 14000	300 300	—	−28 to −72 −28 to −72	29 31	14EP4/ 14CP4/ 14BP4
Cavity Cap	H	14000	+500 −500	500	−125	410	180	180	12000 14000	300 300	−50 to +265 −55 to +310	−28 to −72 −28 to −72	29 31	14HP4

RCA PICTURE TUBE CHARACTERISTICS CHART (Cont'd)

Type	Envelope	Aluminized Screen Asterisk (*) denotes "Silverama" type	Faceplate◊	External Conductive Coating		Focusing Method	Deflection Method	Approx. Deflection Angle Degrees			Maximum Dimensions Inches				Neck Length Inches	Minimum Screen Size Inches
				Max. μμf	Min. μμf			Diag.	Horiz.	Vert.	Overall Length	Envelope Dia. or Diagonal	Width	Height		
14QP4-A	G	*Yes	FG	1000	900	E	M	70	65	50	$16\frac{17}{32}$	$13\frac{13}{16}$	$12\frac{11}{16}$	$9\frac{7}{8}$	$6\frac{3}{8}$	$11\frac{1}{2} \times 8\frac{5}{8}$
14RP4	G	No	FG	1200	800	E	M	90	85	68	$14\frac{1}{2}$	$14\frac{1}{8}$	$13\frac{3}{16}$	$10\frac{11}{16}$	$6\frac{1}{2}$	$12\frac{3}{16} \times 9\frac{1}{2}$
14RP4-A	G	*Yes	Same as 14RP4, except has aluminized screen.													
16AP4	Ⓜ	No	Same as 16AP4-A, except has clear glass faceplate.													
16AP4-A	Ⓜ	No	FG	None	None	M	M	–	53	–	$22\frac{3}{16}$	16	–	–	$7\frac{9}{16}$	$14\frac{3}{8}$ Dia.
16DP4-A	Ⓖ	No	FG	None	None	M	M	–	60	—	21	16	—	–	$7\frac{3}{8}$	$14\frac{1}{2}$ Dia.
16GP4	Ⓜ	No	Same as 16GP4-B, except has Filterglass faceplate.													
16GP4-A	Ⓜ	No	Same as 16GP4-B, except has clear glass faceplate													
16GP4-B	Ⓜ	No	FFG	None	None	M	M	--	70	--	$17\frac{11}{16}$	16	—		$6\frac{7}{8}$	$14\frac{3}{8}$ Dia.
16GP4-C	Ⓜ	No	Same as 16GP4-B, except has frosted clear glass faceplate.													
16LP4-A	Ⓖ	No	FG	2000	750	M	M	-	52	--	$22\frac{5}{8}$	16	-	-	$7\frac{3}{8}$	$14\frac{1}{2}$ Dia.
16RP4/ 16KP4	G	No	FG	1500	750	M	M	70	65	50	$19\frac{1}{8}$	$16\frac{1}{4}$	$14\frac{7}{8}$	$11\frac{5}{8}$	$7\frac{1}{2}$	$13\frac{1}{2} \times 10\frac{1}{8}$
16RP4-A/ 16KP4-A	G	*Yes	Same as 16RP4/16KP4, except has aluminized screen.													
16TP4	G	No	FG	2000	750	M	M	70	65	50	$18\frac{1}{2}$	$16\frac{5}{16}$	$14\frac{13}{16}$	$11\frac{11}{16}$	$6\frac{7}{8}$	$13\frac{1}{2} \times 10\frac{1}{8}$
16WP4-A	G	No	FG	1500	750	M	M	--	70	—	$18\frac{1}{8}$	16	--	–	$7\frac{5}{16}$	$14\frac{1}{2}$ Dia.
17AVP4/ 17ATP4	G	No	FG	1500	1200	E	M	90	85	68	16	$16\frac{2}{3}$	$15\frac{23}{32}$	$12\frac{13}{32}$	$6\frac{5}{8}$	$14\frac{5}{16} \times 11\frac{1}{8}$

Data for these types continued on next page.

Data for these types continued from preceding page.

High-Voltage Terminal	Base	Maximum Ratings: Peak High-Voltage Electrode (Ebm*) Volts	Peak Heater-Cathode Volts: Heating Time—5s*	Peak Heater-Cathode Volts: After Warm-Up	Peak Heater-Cathode Volts: H(+)	Typical Operating Conditions in Grid-Pulse Service: Peak High-Voltage Electrode (Ebm*) Volts	Grid No. 2 Volts	Grid No. 1 Volts	Grid No. 1 Volts For Short Collector-Current Pulses	P-M Non-Trap Magnet Min. Gauss	Type
Black-and-White Types (Cont'd)											
Cavity Cap	H	11000	+1000 −500	500	−100	410	180	180	9000	250	−50 to +250	−25 to −64	27	**14QP4-A**
Cavity Cap	H	14000	+500 −500	400	−110	—	180	180	10000 14000	300 300	−50 to +350 +70 to +470	−26 to −70 −26 to −70	36 43	**14RP4**
Ratings and typical operating conditions are same as for type 14RP4														**14RP4-A**
Ratings and typical operating conditions are same as for type 16AP4-A.														16AP4
Metal-Shell Lip	F	14000	—	410	−125	410	150	150	9000 12000	300 300	—	−28 to −72 −28 to −72	25 29	**16AP4-A**
Cavity Cap	F	15000	—	410	−125	410	125	125	9000 to 15000	250	—	−22 to −58	—	**16DP4-A**
Ratings and typical operating conditions are same as for type 16GP4-B.														16GP4
Ratings and typical operating conditions are same as for type 16GP4-B.														16GP4-A
Metal-Shell Lip	F	14000	—	410	−125	410	180	180	12000 14000	300 300	—	−28 to −72 −28 to −72	29 31	**16GP4-B**
Ratings and typical operating conditions are same as for type 16GP4-B.														16GP4-C
Cavity Cap	E	14000	—	410	−125	410	125	125	12000 to 14000	300	—	−28 to −72	—	**16LP4-A**
Cavity Cap	A	16000	—	410	−125	410	150	150	12000 14000	300 300	— —	−28 to −72 −28 to −72	29 31	**16RP4/ 16KP4**
Ratings and typical operating conditions are same as for type 16RP4/16KP4.														**16RP4-A/ 16KP4-A**
Cavity Cap	E	14000	—	410	−125	410	150	150	12000 14000	300 300	— —	−28 to −72 −28 to −72	29 31	**16TP4**
Cavity Cap	E	16000	—	410	−125	410	125	125	12000 to 16000	250	—	−22 to −58	—	**16WP4-A**
Cavity Cap	H	16000	+1000 −500*	500	−140	410	180	180	14000 16000	300 300	−55 to +310 −65 to +350	−28 to −72 −28 to −72	31 33	**17AVP4/ 17ATP4**

RCA PICTURE TUBE CHARACTERISTICS CHART (Cont'd)

Type	Envelope	Aluminized Screen Asterisk (*) denotes "Silverama" type	Faceplate◆	External Conductive Coating		Focusing Method	Deflection Method	Approx. Deflection Angle Degrees			Maximum Dimensions Inches				Neck Length Inches	Minimum Screen Size Inches
				Max. μμf	Min. μμf			Diag.	Horiz.	Vert.	Overall Length	Envelope Dia. or Diagonal	Width	Height		
Black-and-White Types (Cont'd)																
17AVP4-A/ 17ATP4-A	G	*Yes	Same as 17AVP4/17ATP4 except has aluminized screen.													
17BJP4	G	*Yes	FG	1500	1200	E	M	90	85	68	15	16 3/4	15 39/64	12 13/32	5 1/8	14 5/16 x 11 1/4
17BP4-A	G	No	FG	1500	750	M	M	70	65	50	19 9/16	16 3/4	15 39/64	12 15/32	7 1/8	14 5/16 x 11 1/8
17BP4-B	G	*Yes	Same as 17BP4-A, except has aluminized screen.													
17BVP4	G	*Yes	FG	1500	1000	E	M	110	105	87	13 9/16	16 11/16	15 3/4	12 7/8	6 1/8	14 3/4 x 11 11/16
17BZP4	G	*Yes	FG	1500	1000	E	M	110	105	87	12 15/16	16 11/16	15 3/4	12 7/8	5 7/16	14 3/4 x 11 11/16
17CDP4	G	*Yes	Same as 17BZP4, except has 450-ma./8.4-volt heater.													
17CP4	M	No	FFG	None	None	M	M	70	66	50	19	17	16 1/16	12 3/8	7 5/16	14 1/4 x 11
17CP4-A	M	No	Same as 17CP4, except has Filterglass faceplate.													
17GP4	M	No	FFG	None	None	E	M	70	66	50	19 3/16	17	16 1/16	12 3/8	7 1/4	14 3/8 x 11
17HP4/ 17RP4	G	No	FG	1500	750	E	M	70	65	50	19 9/16	16 3/4	15 39/64	12 15/32	7 1/8	14 5/16 x 11 1/8
17HP4-B/ 17RP4-C	G	*Yes	FG	1500	750	E	M	70	65	50	19 9/16	16 3/4	15 39/64	12 15/32	7 1/8	14 5/16 x 11 1/8
17JP4	G	No	FG	750	500	M	M	70	65	50	19 9/16	16 3/4	15 39/64	12 15/32	7 1/8	14 5/16 x 11 1/8
17LP4/ 17VP4	G	No	FG**	1500	750	E	M	70	65	50	19 9/16	16 3/4	15 39/64	12 15/32	7 1/8	14 1/8 x 10 3/4

Data for these types continued on next page.

High-Voltage Terminal	Base	Maximum Ratings							Typical Operating Conditions in Grid-Bias Service				P M Init-Trig Magnet MA. Gauss	Type
		Final High-Voltage Electrode (Ultor*) Volts	Focusing Electrode Volts	Grid No. 2 Volts	Grid No. 1 Volts	Peak Heater-Cathode Volts			Final High-Voltage Electrode (Ultor*) Volts	Grid No. 2 Volts	Focusing Electrode Volts	Grid No. 1 Volts for Visual Extinction of Focused Raster		
						H(−) During Warm-Up	H(−) After Warm-Up	H(+)						
Black-and-White Types (Cont'd)														
Ratings and typical operating conditions are same as for type 17AVP4 17ATP4.														**17AVP4-A/ 17ATP4-A**
Cavity Cap	H	16000	+1000 −500	500	−140	410	180	180	16000	300	−50 to +350	−28 to −72	None	17BJP4
Cavity Cap	A	16000	—	410	−140	410	150	150	12000 14000	300 300	— —	−28 to −72 −28 to −72	29 31	**17BP4-A**
Ratings and typical operating conditions are same as for type 17BP4-A.														**17BP4-B**
Cavity Cap	L	16000	+1000 −500	500	−140	410	180	180	14000	300	−50 to +350	−35 to −72	33	**17BVP4**
Cavity Cap	K	16000	+1000 −500	500	−140	—	180	180	14000 16000	300 400	0 to +400 0 to +400	−28 to −72 −36 to −94	None	**17BZP4**
Ratings (other than heater) and typical operating conditions are same as for type 17BZP4														**17CDP4**
Metal-Shell Lip	F	16000	—	410	−125	410	180	180	12000 14000	300 300	— —	−28 to −72 −28 to −72	29 31	**17CP4**
Ratings and typical operating conditions are same as for type 17CP4.														17CP4-A
Metal-Shell Lip	G	16000	5000	500	−125	410	180	180	12000 14000	300 300	2040 to 2760 2380 to 3220	−28 to −72 −28 to −72	29 31	**17GP4**
Cavity Cap	H	16000	+1000 −500▲	500	−140	410	180	180	14000 16000	300 300	−55 to +300 −65 to +350	−28 to −72 −28 to −72	31 33	**17HP4/ 17RP4**
Cavity Cap	H	16000	+1000 −500▲	500	−140	410	180	180	14000 16000	300 300	−55 to +300 −65 to +350	−28 to −72 −28 to −72	31 33	**17HP4-B/ 17RP4-C**
Cavity Cap	A	16000	—	400	−140	410	150	150	14000 16000	300 300	— —	−28 to −72 −28 to −72	31 33	17JP4
Cavity Cap	H	16000	+1000 −500▲	500	−140	410	180	180	14000 16000	300 300	−55 to +300 −65 to +350	−28 to −72 −28 to −72	31 33	**17LP4/ 17VP4**

RCA PICTURE TUBE CHARACTERISTICS CHART (Cont'd)

Type	Envelope	Aluminized Screen Asterisk (*) denotes "Ultrascan" type	Faceplate●	External Conductive Coating Max. μμf	External Conductive Coating Min. μμf	Focusing Method	Deflection Method	Approx. Deflection Angle Degrees Diag.	Horiz.	Vert.	Maximum Dimensions Inches Overall Length	Envelope Dia. or Diagonal	Width	Height	Neck Length Inches	Minimum Screen Size Inches
Black-and-White Types (Cont'd)																
17LP4-A/ 17VP4-B	G	*Yes	FG●●	1500	750	E	M	70	65	50	19 9/16	16 7/8	15 45/64	12 11/32	7 1/2	14 1/4 x 10 3/4
17QP4	G	No	FG●●	1500	750	M	M	70	65	50	19 9/16	16 7/8	15 45/64	12 11/32	7 1/2	14 1/4 x 10 3/4
17QP4-A	G	*Yes	FG●●	1500	750	M	M	70	65	50	19 9/16	16 7/8	15 45/64	12 11/32	7 1/2	14 1/4 x 10 3/4
17TP4	M	No	FFG	None	None	E	M	70	66	50	19 5/16	17	16 1/8	12 3/4	7 1/2	14 3/4 x 10 11/16
19AP4	Ⓜ	No	Same as 19AP4-B, except has clear glass faceplate													
19AP4-A	Ⓜ	No	Same as 19AP4-B, except has Filterglass faceplate													
19AP4-B	Ⓜ	No	FFG	None	None	M	M		66		22	18 1/2			7 1/4	17 1/4 Dia.
19AP4-D	Ⓜ	No	Same as 19AP4-B, except has frosted clear glass faceplate													
20CP4	G	No	FG	None	None	M	M	70	66	50	21 13/16	20 7/16	18 3/4	15 1/4	7 3/8	17 x 12 3/4
20DP4-A/ 20CP4-A	G	No	FG	1500	500	M	M	70	66	50	21 3/8	20 3/8	18 11/16	15 1/16	7 1/16	17 x 12 7/8
20DP4-C/ 20CP4-D	G	*Yes	FG	1500	500	M	M	70	66	50	21 3/8	20 3/8	18 13/16	15 1/16	7 5/8	17 x 12 7/8
20HP4-A/ 20MP4	G	No	FG	1500	500	E	M	70	66	50	22 1/8	20 3/16	18 11/16	15 1/16	7 1/2	17 x 12 7/8
20HP4-D	G	*Yes	FG	1500	750	E	M	70	66	50	22 1/4	20 3/32	18 13/16	15 1/16	7 1/2	17 x 12 3/4
21ACP4-A/ 21BSP4	G	*Yes	FG	2500	2000	M	M	90	85	68	20 3/4	21 1/2	20 3/4	16 1/2	7 1/2	19 1/8 x 15 1/8

Data for these types continued on next page.

Data for these types continued from preceding page.

High-Voltage Terminal	Bulb	Maximum Ratings							Typical Operating Conditions in Grid-Bias Service					Type
		Final High-Voltage Electrode (Filter*) Volts	Focusing Electrode Volts	Grid No. 2 Volts	Grid No. 1 Volts	Final Accelerator Volts			Final High-Voltage Electrode (Filter*) Volts	Grid No. 2 Volts	Focusing Electrode Volts	Grid-No. 1 Volts For Visual Extinction of Focused Raster	P-M Ion-Trap Magnet Min. Gauss	
						Negative		Positive						
						During Warm-Up	After Warm-Up							
Black-and-White Types (Cont'd)														
Cavity Cap	H	16000	+1000 −500*	500	−140	410	180	180	14000 16000	300 300	−55 to +300 −65 to +350	−28 to −72 −28 to −72	31 33	17LP4-A/ 17VP4-B
Cavity Cap	A	16000	—	410	−125	410	150	150	12000 14000	300 300	— —	−28 to −72 −28 to −72	29 31	17QP4
Cavity Cap	A	18000	—	500	−125	410	150	150	12000 14000	300 300	— —	−28 to −72 −28 to −72	29 31	17QP4-A
Metal-Shell Lip	G	16000	+1000 −500*	500	−125	410	180	180	14000 16000	300 300	−55 to +300 −65 to +350	−28 to −72 −28 to −72	31 33	17TP4
Ratings and typical operating conditions are same as for type 19AP4-B.														19AP4
Ratings and typical operating conditions are same as for type 19AP4-B.														19AP4-A
Metal-Shell Lip	F	16000	—	410	−125	410	150	150	12000 14000	300 300	— —	−28 to −72 −28 to −72	29 31	19AP4-B
Ratings and typical operating conditions are same as for type 19AP4-B														19AP4-D
Cavity Cap	F	18000	—	410	−125	410	150	150	14000 16000	300 300	— —	−28 to −72 −28 to −72	31 33	20CP4
Cavity Cap	A	18000	—	410	−125	410	180	180	14000 16000	300 300	— —	−28 to −72 −28 to −72	31 33	20DP4-A/ 20CP4-A
Cavity Cap	A	18000	—	410	−125	410	180	180	14000 16000	300 300	— —	−28 to −72 −28 to −72	31 33	20DP4-C/ 20CP4-D
Cavity Cap	H	16000	+1000 −500*	500	−125	410	180	180	14000 16000	300 300	−55 to +300 −65 to +350	−28 to −72 −28 to −72	31 33	20HP4-A/ 20MP4
Cavity Cap	H	16000	+1000 −500*	500	−125	410	180	180	14000 16000	300 300	−55 to +300 −65 to +350	−28 to −72 −28 to −72	31 33	20HP4-D
Cavity Cap	A	20000	—	500	−140	410	180	180	16000 18000	300 400	— —	−28 to −72 −37 to −96	33 33	21ACP4-A/ 21BSP4

Type	Envelope	Aluminized Screen Available (*) Glass Conductive Coating Type	Faceplate	External Conductive Coating Min. Anode Contact Area (sq. in.)	Min. Coating Thickness (mils)	Focusing Method	Deflection Method	Approx. Deflection Angle Degrees Diag.	Horiz.	Vert.	Maximum Dimensions Inches Overall Length	Overall Length Min. or Required	Width	Height	Neck Length Inches	Minimum Screen Size Inches
Black-and-White Types (Cont'd)																
21ALP4	G	No		Same as 21ALP4-A except does not have aluminized screen.												
21ALP4-A	G	*Yes	FG	750	500	E	M	90	85	68	20 3/8	21 1/2	20 3/8	16 1/2	7 1/2	19 1/16 x 15 1/16
21ALP4-B	G	*Yes	FG	750	500	E	M	90	85	68	20 3/8	21 1/2	20 3/8	16 1/2	7 1/2	19 1/16 x 15 1/16
21AMP4-A	G	*Yes	FG	2500	2000	M	M	90	85	68	20 3/8	21 1/2	20 3/8	16 1/2	7 1/2	19 1/16 x 15 1/16
21AP4	M	No	FFG	None	None	M	M	70	66	50	22 5/8	21	19 27/32	15 7/16	7 1/2	18 1/2 x 13 11/16
21ATP4	G	*Yes	FG	1500	1200	E	M	90	85	68	20 5/16	21 1/2	20 5/16	16 1/2	7 1/2	19 1/16 x 15 1/16
21ATP4-A	G	*Yes	FG	1500	1200	E	M	90	85	68	20 3/8	21 1/2	20 3/8	16 1/2	7 1/2	19 1/16 x 15 1/16
21AVP4/ 21AUP4	G	No	FG	2500	2000	E	M	72	67	53	23 15/16	21 1/2	20 5/8	16 1/2	7 1/2	19 1/16 x 15 1/16
21AVP4-B/ 21AUP4-B/ 21AVP4-A/ 21AUP4-A	G	*Yes	FG	2500	2000	E	M	72	67	53	23 15/16	21 1/2	20 3/8	16 1/2	7 1/2	19 1/16 x 15 1/16
21AWP4	G	*Yes	FG	2500	2000	M	M	72	67	53	23 15/16	21 1/2	20 5/8	16 1/2	7 1/2	19 1/16 x 15 1/16
21BTP4	G	*Yes	FG	2500	2000	E	M	90	85	68	20 3/8	21 1/2	20 5/8	16 1/2	7 1/2	19 1/16 x 15 1/16
21CBP4-A	G	*Yes	FG	2500	2000	E	M	90	85	66	18 3/4	21 1/2	20 3/8	16 1/2	5 1/2	19 1/16 x 15 1/16
21CEP4	G	*Yes	FG	2500	2000	E	M	110	105	87	14 3/4	21	20 3/8	16 1/2	5 7/16	19 1/16 x 15 1/16

Data for these types continued on next page.

Data for these types continued from preceding page.

High-Voltage Terminal	Bulb	Maximum Ratings: Peak High-Voltage Electrode (Filter*) Volts	Focusing Electrode Volts	Grid-No. 2 Volts	Grid-No. 1 Volts	Peak Heater-Cathode Volts: H(−) During Warm-Up	Peak Heater-Cathode Volts: H(−) After Warm-Up	Peak Heater-Cathode Volts: H(+)	Typical Operating Conditions in Grid-Drive Service: Peak High-Voltage Electrode (Filter*) Volts	Grid-No. 2 Volts	Focusing Electrode Volts	Grid-No. 1 Volts For Visual Extinction of Focused Raster	P M Ion-Trap Magnet Min. Gauss	Type
Black-and-White Types (Cont'd)														
Ratings and typical operating conditions are same as for type 21ALP4-A.														21ALP4
Cavity Cap	H	18000	+1000 −500▲	500	−140	410	180	180	18000 18000	300 400	−65 to +350 −75 to +400	−28 to −72 −37 to −96	33 35	21ALP4-A
Cavity Cap	H	20000	+1000 −500▲	500	−140	410	180	180	18000 18000	300 400	−65 to +350 −75 to +400	−28 to −72 −37 to −96	33 35	21ALP4-B
Cavity Cap	A	18000	—	500	−140	410	180	180	18000 18000	300 400	— —	−28 to −72 −37 to −96	33 35	21AMP4-A
Metal-Shell Lip	P	18000	—	500	−125	410	180	180	14000 16000	300 300	— —	−28 to −72 −28 to −72	31 33	21AP4
Ratings and typical operating conditions are same as for type 21ALP4-A														21ATP4
Ratings and typical operating conditions are same as for type 21ALP4-B.														21ATP4-A
Cavity Cap	H	18000	+1000 −500▲	500	−140	410	180	180	18000 18000	300 400	−65 to +350 −75 to +400	−28 to −72 −37 to −96	33 35	21AVP4/ 21AUP4
Cavity Cap	H	20000	+1000 −500▲	500	−140	410	180	180	18000 18000	300 400	−65 to +350 −75 to +400	−28 to −72 −37 to −96	33 35	21AVP4-B/ 21AUP4-B/ 21AVP4-A/ 21AUP4-A
Cavity Cap	A	18000	—	500	−140	410	180	180	18000 18000	300 400	— —	−28 to −72 −37 to −96	33 35	21AWP4
Ratings and typical operating conditions are same as for type 21ALP4-B.														21BTP4
Cavity Cap	H	20000	+1000 −500	500	−140	410	180	180	16000	300	0 to +450	−28 to −72	None	21CBP4-A
Cavity Cap	K	18000	+1000 −500	500	−140	—	180	180	14000 16000	300 400	0 to +400 0 to +400	−28 to −72 −36 to −94	None	21CEP4

RCA PICTURE TUBE CHARACTERISTICS CHART (Cont'd)

Type	Envelope	Aluminized Screen Asterisk (*) denotes "Silverama" type	Faceplate	External Conductive Coating		Focusing Method	Deflection Method	Approx. Deflection Angle Degrees			Maximum Dimensions Inches				Neck Length Inches	Minimum Screen Size Inches
				Max. µµf	Min. µµf			Diag	Horiz	Vert	Overall Length	Envelope Dia. or Diagonal	Width	Height		
Black-and-White Types (Cont'd)																
21DFP4	G	*Yes	FG	2500	1700	E	M	110	105	87	14 3/4	21 1/2	20 3/8	16 1/8	5 3/16	19 1/16 x 15 1/16
21EP4	G	No	Same as 21EP4-A, except has no external conductive coating.													
21EP4-A	G	No	FG**	750	500	M	M	70	65	50	23 3/8	21 11/32	20 3/8	15 11/16	7 13/32	19 1/8 x 13 7/8
21EP4-B	G	*Yes	Same as 21EP4-A, except has aluminized screen.													
21FP4-A	G	No	FG**	750	500	E	M	70	65	50	23 3/8	21 11/32	20 3/8	15 11/16	7 13/32	19 1/8 x 13 7/8
21FP4-C	G	*Yes	Same as 21FP4-A, except has aluminized screen.													
21MP4	M	No	FFG	None	None	E	M	70	66	50	22 5/8	21	19 27/32	15 5/16	7 1/2	18 1/4 x 13 11/16
21YP4	G	No	FG	750	500	E	M	70	65	50	23 13/32	21 11/32	20 1/4	15 11/16	7 1/2	19 1/16 x 14 3/16
21YP4-A	G	*Yes	Same as 21YP4, except has aluminized screen.													
21ZP4-A	G	No	FG	750	500	M	M	70	65	50	23 13/32	21 11/32	20 3/8	15 11/16	7 1/2	19 1/16 x 14 3/16
21ZP4-B	G	*Yes	Same as 21ZP4-A, except has aluminized screen.													
24AEP4	G	*Yes	FG	2500	2000	E	M	90	85	68	19 1/2	24 1/4	22 13/16	18 5/16	5 1/2	21 7/16 x 16 7/8
24AHP4	G	*Yes	FG	2500	2000	E	M	110	105	87	16 3/16	24 1/4	22 13/16	18 5/16	5 7/16	21 7/16 x 16 7/8
24CP4-A	G	*Yes	FG	2500	2000	M	M	90	85	68	21 1/2	24 1/4	22 13/16	18 5/16	7 1/2	21 7/16 x 16 7/8
24DP4-A/ 24YP4	G	*Yes	FG	2500	2000	E	M	90	85	68	21 1/2	24 1/4	22 13/16	18 5/16	7 1/2	21 7/16 x 16 7/8

Data for these types continued on next page.

High Voltage Terminal	Bulb	Maximum Ratings							Typical Operating Conditions in Gold-Bulse Service					Type
		Peak Anode Voltage (Blocking) (Filter*) Volts	Focusing Electrode Volts	Gold-No. 7 Volts	Gold-No. 1 Volts	Peak Heater-Cathode Volts			Peak Anode Voltage (Blocking) (Filter*) Volts	Gold-No. 7 Volts	Focusing Electrode Volts	Gold-No. 1 Volts Per Shoot Collection of Focused Beams	P-M Ion-Trap Required Min. Gauss	
						Heating Warm-Up*	After Warm-Up	H(+)						
Black-and-White Types (Cont'd)														
Ratings and typical operating conditions are same as for type 21CEP4														**21DFP4**
Cavity Cap	F	Ratings and typical operating conditions are same as for type 21EP4-A												21EP4
Cavity Cap	A	18000	—	500	−125	410	180	180	14000 16000	500 500	— —	−28 to −72 −28 to −72	31 33	**21EP4-A**
Ratings and typical operating conditions are same as for type 21EP4-A														**21EP4-B**
Cavity Cap	H	18000	+1000 −500•	500	−125	410	180	180	14000 16000	500 500	−55 to +300 −65 to +350	−28 to −72 −28 to −72	31 33	**21FP4-A**
Ratings and typical operating conditions are same as for type 21FP4-A														**21FP4-C**
Metal-Shell Lip	G	16000	+1000 −500•	500	−125	410	180	180	14000 16000	300 500	−55 to +300 −65 to +350	−28 to −72 −28 to −72	31 33	**21MP4**
Cavity Cap	H	18000	+1000 −500•	500	−140	410	180	180	16000 18000	300 300	−65 to +350 −70 to +395	−28 to −72 −28 to −72	33 35	**21YP4**
Ratings and typical operating conditions are same as for type 21YP4.														**21YP4-A**
Cavity Cap	A	18000	—	500	−140	410	180	180	16000 18000	500 500	— —	−28 to −72 −28 to −72	33 35	**21ZP4-A**
Ratings and typical operating conditions are same as for type 21ZP4-A.														**21ZP4-B**
Cavity Cap	H	20000	+1000 −500	500	−140	410	180	180	18000	300	−50 to +350	−28 to −72	None	**24AEP4**
Cavity Cap	K	20000	+1000 −500	500	−140	410	180	180	14000 16000	300 400	−50 to +350 −50 to +350	−28 to −72 −28 to −94	None	**24AMP4**
Cavity Cap	A	20000	—	500	−140	410	180	180	16000 18000	300 400	— —	−28 to −72 −37 to −96	33 35	**24CP4-A**
Cavity Cap	H	20000	+1000 −500•	500	−140	410	180	180	16000 18000	300 400	−65 to +350 −75 to +400	−28 to −72 −37 to −96	33 35	**24DP4-A/ 24YP4**

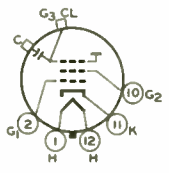
RCA PICTURE TUBE CHARACTERISTICS CHART (Cont'd)

RCA Type	Envelope	Aluminized Screen Asterisk (*) denotes "Silverama" type	Faceplate◆	External Conductive Coating		Focusing Method	Deflection Method	Approx. Deflection Angle Degrees			Maximum Dimensions Inches				Neck Length Inches	Minimum Screen Size Inches
				Max. µµf	Min. µµf			Diag.	Horiz.	Vert.	Overall Length	Envelope Dia. or Diagonal	Width	Height		
Black-and-White Types (Cont'd)																
24VP4-A	🄶	* Yes	FG	2500	2000	M	M	90	85	68	21 1/2	24 1/8	22 13/16	18 5/16	7 1/2	21 5/16 x 16 3/4
27MP4	🄼	* Yes	FFG	None	None	M	M	90	85	69	22 3/8	27 1/8	25 3/8	20 1/8	7 1/8	23 3/8 x 18 1/2
Color Types																
15GP22••	Ⓖ	Yes	CL	3000	1500	E	M	—	45	35	26 1/2	14 29/32	—	—	10 3/8	11 1/2 x 8 5/8
21AXP22	Ⓜ	Yes	FG	None	None	E	M	—	70	55	25 3/16	20 11/16†	—	—	9 11/16	19 5/16 x 15 1/4
21AXP22-A	Ⓜ	Yes	FG	None	None	E	M	—	70	55	25 3/16	20 11/16†	—	—	9 11/16	19 5/16 x 15 1/4

Data for these types continued on next page.

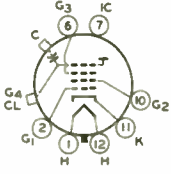
Data for these types continued from preceding page.

High-Voltage Terminal	Bas-ing	Maximum Ratings							Typical Operating Conditions in Grid-Drive Service				P M Ion-Trap Magnet Min. Gausses	Type
		Final High-Voltage Electrode (Ultor^) Volts	Focusing Electrode Volts	Grid-No. 2 Volts	Grid-No. 1 Volts	Peak Heater-Cathode Volts			Final High-Voltage Electrode (Ultor^) Volts	Grid-No. 2 Volts	Focusing Electrode Volts	Grid-No. 1 Volts For Visual Extinction of Focused Raster		
						H(−) During Warm-Up*	H(−) After Warm-Up	H(+)						
														Black-and-White Types (Cont'd)
Cavity Cap	A	22000	—	600	−165	410	180	180	16000 20000	300 400	— —	−28 to −72 −37 to −96	33 37	**24VP4-A**
Metal-Shell Lip	F	18000	—	500	−125	410	180	180	16000 16000	300 400	— —	−28 to −72 −37 to −96	33 33	**27MP4**
														Color Types
Metal Flange	M	20000	5000	500*	−200*	410	180	180	For additional data, refer to technical bulletin available on request.				None	**15GP22**
Metal-Shell Lip	N	25000	6000	800*	−400*	410	180	180	For additional data, refer to technical bulletin available on request.				None	**21AXP22**
Metal Shell	O	25000	6000	800*	−400*	410	180	180	For additional data, refer to technical bulletin available on request.				None	**21AXP22-A**



A

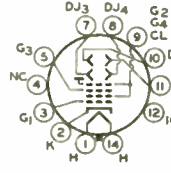
ULTOR = G_3 + CL



B

ULTOR = G_4 + CL

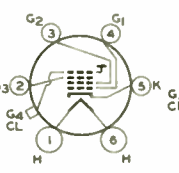
FOCUSING ELECTRODE = G_3



C

ULTOR = G_2 + G_4 + CL

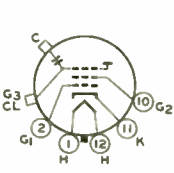
FOCUSING ELECTRODE = G_3



D

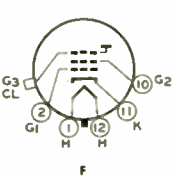
ULTOR = G_4 + CL

FOCUSING ELECTRODE = G_3



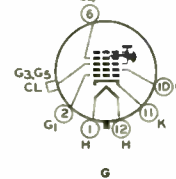
E

ULTOR = G_3 + CL



F

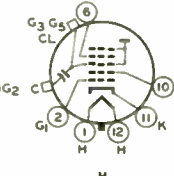
ULTOR = G_3 + CL



G

ULTOR = G_2 + G_5 + CL

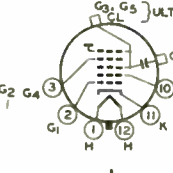
FOCUSING ELECTRODE = G_4



H

ULTOR = G_3 + G_5 + CL

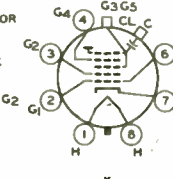
FOCUSING ELECTRODE = G_4



J

ULTOR = G_3 + G_5 + CL

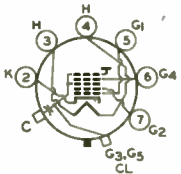
FOCUSING ELECTRODE = G_4



K

ULTOR = G_3 + G_5 + CL

FOCUSING ELECTRODE = G_4



L

ULTOR = $G_3 + G_5 + CL$

FOCUSING ELECTRODE = G_4

M

ULTOR = $G_5 + G_6 + CL$

FOCUSING ELECTRODE = G_3

N

ULTOR = $G_4 + G_5 + CL$

FOCUSING ELECTRODE = G_3

O

ULTOR = $G_4 + G_5 + CL + R$

FOCUSING ELECTRODE = G_3

JANUARY 1958

WED. 1

New Year's Day

THURS. 2

FRI. 3

SAT. 4 DAD

JANUARY 1958

SUN. 5

MON. 6

TUES. 7

WED. 8

THURS. 9

FRI. 10

SAT. 11

NORTH AMERICA

Lambert Azimuthal
Equal-Area Projection

Scale of Miles

200 0 200 400 600 800

Capitals of Countries .... ●

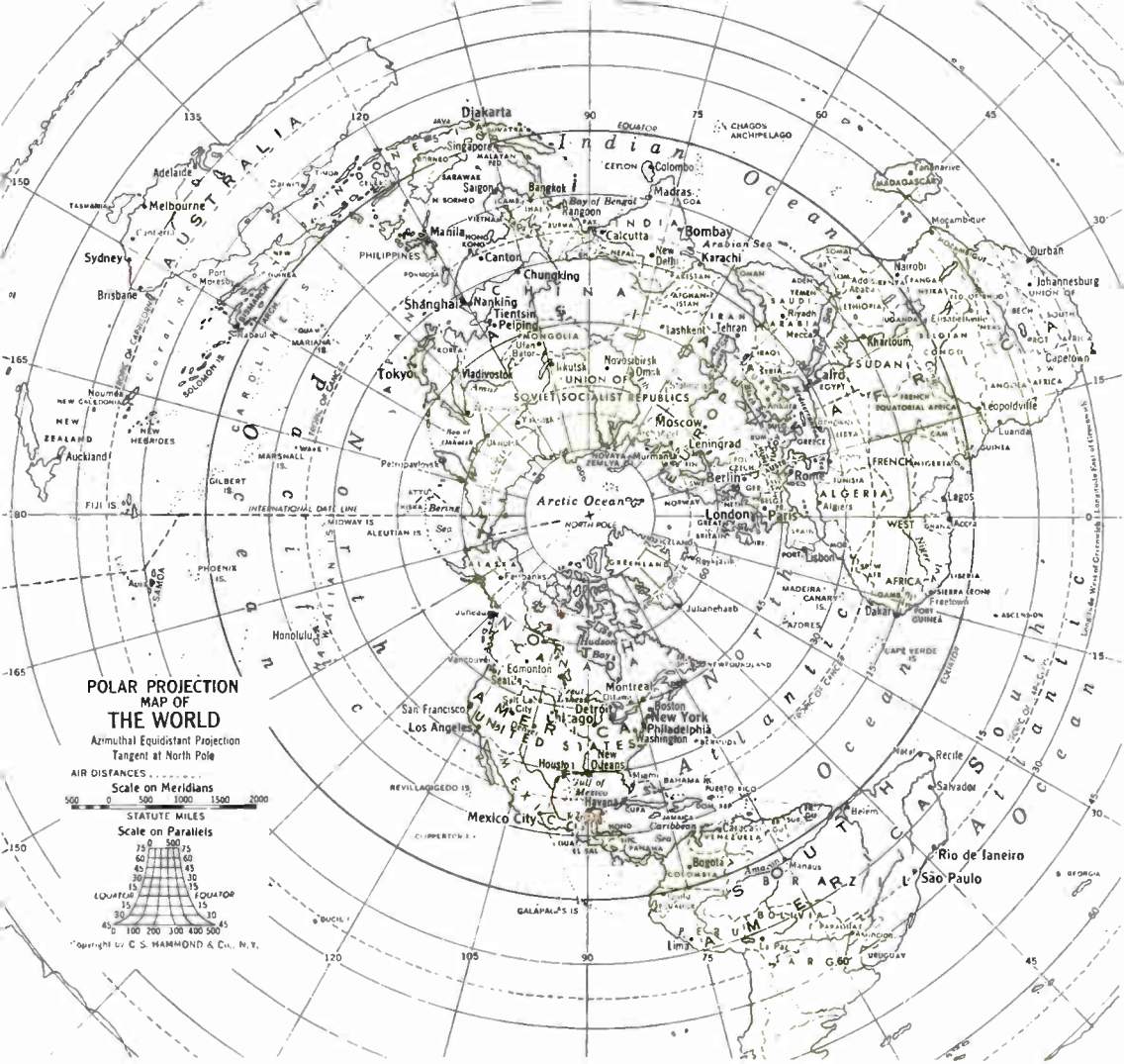

NEVADA
UTAH
ARIZONA
NEW MEXICO
WESTERN
UNITED STATES


Moose Jaw
Swift Current
Regina
104
Weyburn
Brandon
Winnipeg
Portage la Prairie
Emerson
96
St. Boniface
Kenora
Rainy Lake
Steep Rock Lake
Lake of the Woods
International Falls
Scobey
Plentywood
Wolf Point
Glasgow
Sidney
Glendive
Miles City
Crookston
Bemidji
Moorhead
Hibbing
Virginia
Grand Rapids
Duluth
Brainerd
Fergus Falls
St. Cloud
Willmar
Minneapolis
Sisseton
Mobridge
Aberdeen
Watertown
Faith
SOUTH DAKOTA
Pierre
Huron
Brookings
Mitchell
Sioux Falls
Yankton
New Ulm
Mankato
Rochester
Fairmont
Austin
Mason City
Sheridan
Gillette
Belle Fourche
Lead
Rapid City
Hot Springs
Newcastle
Winner
Vermillion
Cherokee
Fort Dodge
Waterloo
Ames
Cedar Rapids
Des Moines
Council Bluffs
Creston
Ottumwa
Casper
Douglas
Torrington
Rawlins
Laramie
Cheyenne
Atchison
Colby
Concordia
Leavenworth
Goodland
Hays
Manhattan
Topeka
Salina
Scott City
Great Bend
Hutchinson
Emporia
Dodge City
Wichita
Pittsburg
Pratt
Winfield
Coffeyville
Hugoton
Liberal
Arkansas City
Ponca City
Bartlesville
Fayetteville
Raton
Guymon
Alva
Enid
Tulsa
Taos
Clayton
Muskogee
Fort Smith
Santa Fe
Las Vegas
Canadian
Borger
Pampa
Amarillo
Oklahoma City
Elk City
Chickasha
Shawnee
Norman
McAlester
Hot Springs
Tucumcari
Albuquerque
Lawton
Ada
Duncan
Hugo
Red
Ardmore
Plainview
Vernon
Clovis
Wichita Falls
Sherman
Paris
Texarkana
Hope
Roswell
Truth or Consequences
Alamogordo
Lubbock
Denton
Dallas
Lamesa
Snyder
Abilene
Fort Worth
Tyler
Longview
Las Cruces
Carlsbad
Carlsbad Caverns Nat'l Park
Hobbs
Midland
Big Spring
Corsicana
Nacogdoches
Lufkin
El Paso
Odessa
San Angelo
Temple
Waco
Brownwood
Pecos
104
96


Portage la Prairie
Brandon
Winnipeg
Lake Winnipeg
Kenora
St. Boniface
Lake of the Woods
Emerson
Red
Lac Seul
L. Nipigon
Geraldton
Nipigon
A
N
Rainy Lake
Port Arthur
Fort William
International Falls
Red Lake Falls
Crookston
Bemidji
Hibbing
Virginia
Moorhead
Grand Rapids
Duluth
Brainerd
Superior
N. DAKOTA
Mobridge
Sisseton
Fergus Falls
St. Cloud
Aberdeen
Willmar
WISCONSIN
Watertown
Minneapolis
S. DAKOTA
Pierre
Huron
Brookings
New Ulm
Mankato
Mitchell
Sioux Falls
Fairmont
Rochester
Winner
Missouri
Yankton
Mason City
Cherokee
Fort Dodge
Sioux City
Waterloo
IOWA
Cedar Rapids
Clinton
Rockford
Aurora
Joliet
Des Moines
Ames
Davenport
Moline
Rock Island
Galesburg
La Salle
Peoria
Council Bluffs
Creston
Ottumwa
Burlington
Bloomington
Champaign
Danville
Springfield
Decatur
Indianapolis
Terre Haute
ILLINOIS
Alton
St. Louis
Evansville
Concordia
Atchison
Hays
Manhattan
Topeka
Salina
Lawrence
KANSAS
Great Bend
Hutchinson
Emporia
Pratt
Wichita
Winfield
Parsons
Pittsburg
MISSOURI
Arkansas City
Coffeyville
Alva
Ponca City
Bartlesville
Enid
Stillwater
Tulsa
Fayetteville
Blytheville
Elk City
Oklahoma City
Muskogee
Jonesboro
Chickasha
Shawnee
ARKANSAS
Norman
McAlester
Fort Smith
Conway
OKLAHOMA
Lawton
Duncan
Ada
Little Rock
N. Little Rock
Hot Springs
Ardmore
Hugo
Nat'l Park
Pine Bluff
Tupelo
Clarksdale
Gadsden
Vernon
Red
Hope
Greenwood
Columbus
Birmingham
Wichita Falls
Sherman
Paris
Denton
Texarkana
El Dorado
Camden
Greenville
Starkville
Tuscaloosa
Bessemer
TEXAS
Fort Worth
Dallas
MISS.
ALABAMA


NORTHEASTERN
UNITED STATES
Polyconic Projection
Scale of Miles
100 50 0 100 200
Capitals of Countries
State Capitals
Copyright by C. S. HAMMOND & Co., N. Y.
80
72
48
40
32
Atlantic
Ocean
C A N A D A
St. Lawrence
Quebec
Montreal
Ottawa
Toronto
Hamilton
Kitchener
Owen Sound
Oshawa
Kingston
Sarnia
Windsor
Detroit
L. Huron
Georgian Bay
L. Ontario
Lake Erie
L. Nipissing
L. Abitibi
Cochrane
Timmins
Rouyn
Sudbury
North Bay
Pembroke
Peterborough
Sherbrooke
Levis
Thetford Mines
Trois Rivieres
Shawinigan Falls
La Tuque
Rimouski
Fredericton
Edmundston
M A I N E
Caribou
Houlton
Millinocket
Eastport
Bangor
Rumford
Augusta
Lewiston
Bath
Portland
Sanford
Berlin
Portsmouth
Manchester
Lowell
Boston
Concord
Keene
VT.
N.H.
MASS.
Burlington
Montpelier
Barre
Rutland
Lake Champlain
Plattsburgh
ADIRONDACK MTS.
Watertown
Oswego
Rome
Utica
Rochester
Syracuse
Schenectady
Auburn
Albany
Troy
Springfield
Worcester
Fall River
New Bedford
Hartford
CONN.
New Haven
Bridgeport
LONG ISLAND
NEW YORK
New York
Jersey City
Newark
Buffalo
Niagara Falls
Jamestown
Ithaca
Binghamton
Elmira
Poughkeepsie
Scranton
Wilkes-Barre
Williamsport
PENNSYLVANIA
Erie
Meadville
Sharon
Youngstown
Pittsburgh
Johnstown
Harrisburg
Reading
Philadelphia
Trenton
Camden
Cumberland
Wilmington
N. J.
Dover
Atlantic City
Baltimore
Annapolis
MD.
DEL.
Salisbury
Washington
Alexandria
Shenandoah Nat'l Park
Charlottesville
VIRGINIA
Richmond
Newport News
Norfolk
Portsmouth
Petersburg
Lynchburg
Lexington
Staunton
Roanoke
Danville
Martinsville
Elizabeth City
W. VIRGINIA
Charleston
Huntington
Beckley
Bluefield
Parkersburg
Clarksburg
Fairmont
Wheeling
O H I O
Cleveland
Lorain
Akron
Mansfield
Canton
Newark
Zanesville
Columbus
Cincinnati
Portsmouth
Ohio
Ashland
Lexington
Richmond
Pikeville
K Y
Kingsport
Bristol
Johnson City
Knoxville
Great Smoky Mts. Nat'l Park
NORTH CAROLINA
Winston-Salem
Greensboro
High Point
Durham
Raleigh
Rocky Mount
Charlotte
Asheville
Fayetteville
Kinston
Lumberton
Wilmington
C. Fear
C. Hatteras
SOUTH CAROLINA
Spartanburg
Greenville
Anderson
Camden
Florence
Columbia
Orangeburg
Charleston
Hampton
GEORGIA
Atlanta
Augusta
Athens
La Grange
Macon
Dublin
Port Huron
Bay City
London
Sandusky
Toledo


SOUTHEASTERN
UNITED STATES
Polyconic Projection
Scale of Miles
100 50 0 100 200
Capitals of Countries
State Capitals
Copyright by C.S. HAMMOND & Co., N.Y.
104 Longitude West of Greenwich
Cheyenne
Denver
Colorado Springs
Pueblo
Trinidad
Las Animas
Garden City
Dodge City
Liberal
Hays
Colby
Goodland
Concordia
Manhattan
Atchison
Topeka
Lawrence
Kansas City
Great Bend
Hutchinson
Emporia
Wichita
Pratt
Winfield
Pittsburg
Parsons
Arkansas City
Alva
Enid
Ponca City
Bartlesville
Tulsa
Fayetteville
Stillwater
Oklahoma City
Muskogee
Shawnee
Elk City
Chickasha
Norman
Fort Smith
McAlester
Amarillo
Borger
Pampa
Canadian
Albuquerque
Santa Fe
Las Vegas
Raton
Clayton
Tucumcari
Roswell
Carlsbad
Alamogordo
Plainview
Lawton
Duncan
Ada
Ardmore
Hot Springs
Little Rock
Pine Bluff
Hope
Texarkana
Paris
Hugo
Vernon
Wichita Falls
Red
Lubbock
Sherman
Denton
Hobbs
Lamesa
Snyder
Sweetwater
Midland
Big Spring
Abilene
Fort Worth
Dallas
Longview
Tyler
Corsicana
Waco
Brownwood
Nacogdoches
Lufkin
Temple
Bryan
Conroe
Beaumont
Austin
Brazos
Odessa
San Angelo
Pecos
Fort Stockton
Alpine
Presidio
Big Bend Nat'l Park
Ciudad Juárez
El Paso
Chihuahua
Mexico
Kerrville
Del Rio
New Braunfels
Houston
Eagle Pass
Uvalde
San Antonio
Bay City
Victoria
Rio Grande
Crystal City
Beeville
Nuevo Laredo
Laredo
Kingsville
McAllen
Matamoros
Gulf
Cloudcroft
Las Cruces
Rio Grande
Albuquerque
Amarillo
Oklahoma City
Dallas
Houston
San Antonio
Austin
Fort Worth
Wichita
Kansas City
Des Moines
Omaha
Council Bluffs
Cedar Rapids
Iowa
Wyoming


POLAR PROJECTION
MAP OF
THE WORLD
Azimuthal Equidistant Projection
Tangent at North Pole
AIR DISTANCES
Scale on Meridians
500 0 500 1000 1500 2000
STATUTE MILES
Scale on Parallels
EQUATOR
EQUATOR
0 100 200 300 400 500
Copyright by C. S. HAMMOND & Co., N.Y.
Arctic Ocean
NORTH POLE
Indian Ocean
Pacific Ocean
Atlantic Ocean
AUSTRALIA
CHINA
INDIA
UNION OF SOVIET SOCIALIST REPUBLICS
UNITED STATES
CANADA
Djakarta
Singapore
Colombo
Madras
Bangkok
Rangoon
Calcutta
Bombay
Karachi
New Delhi
Manila
Canton
Chungking
Shanghai
Nanking
Tientsin
Peiping
Tokyo
Vladivostok
Irkutsk
Novosibirsk
Omsk
Tashkent
Tehran
Moscow
Leningrad
Berlin
Rome
Paris
London
Lisbon
Algiers
Cairo
Khartoum
Nairobi
Mombasa
Durban
Johannesburg
Capetown
Leopoldville
Luanda
Lagos
Dakar
Freetown
Recife
Salvador
Rio de Janeiro
Sao Paulo
Buenos Aires
Lima
Bogota
Caracas
Havana
Mexico City
New Orleans
Houston
Miami
Philadelphia
New York
Boston
Montreal
Detroit
Chicago
San Francisco
Los Angeles
Seattle
Edmonton
Vancouver
Honolulu
Sydney
Melbourne
Adelaide
Brisbane
Auckland
Fiji Is.
Samoa
Phoenix Is.
Gilbert Is.
Marshall Is.
Aleutian Is.
Midway Is.
Hawaiian Is.
Galapagos Is.
Easter Is.
Azores
Madeira
Canary Is.
Cape Verde Is.
Ascension
Greenland
Iceland
Spitsbergen
Novaya Zemlya
Franz Josef Land
Severnaya Zemlya
New Siberian Is.
Wrangel Is.
Kamchatka
Sakhalin
Japan
Philippines
Borneo
Sumatra
Java
Celebes
New Guinea
Solomon Is.
New Caledonia
New Hebrides
New Zealand
Tasmania
Ceylon
Laccadive Is.
Chagos Archipelago
Madagascar
Mozambique
Arabian Sea
Bay of Bengal
Persian Gulf
Red Sea
Mediterranean Sea
Black Sea
Caspian Sea
Aral Sea
Hudson Bay
Gulf of Mexico
Caribbean Sea
Panama Canal
Amazon
Orinoco
Andes
Rocky Mts.
Himalayas
Alps
Sahara
Arabia
Iran
Afghanistan
Baluchistan
Tibet
Mongolia
Manchuria
Korea
Siberia
Alaska
Yukon
Greenland
Labrador
Newfoundland
Hudson Bay
Great Lakes
Mississippi
Missouri
Colorado
Columbia
Yellowstone
Grand Canyon
Niagara Falls
Panama
Venezuela
Colombia
Peru
Chile
Argentina
Paraguay
Uruguay
Brazil
Amazon
Orinoco
Andes
Rocky Mts.
Himalayas
Alps
Sahara
Arabia
Iran
Afghanistan
Baluchistan
Tibet
Mongolia
Manchuria
Korea
Siberia
Alaska
Yukon
Greenland
Labrador
Newfoundland
Hudson Bay
Great Lakes
Mississippi
Missouri
Colorado
Columbia
Yellowstone
Grand Canyon
Niagara Falls
Panama
Venezuela
Colombia
Peru
Chile
Argentina
Paraguay
Uruguay
Brazil

MEXICO, CENTRAL AMERICA
AND THE WEST INDIES
Atlantic
Ocean
Caribbean Sea
Pacific
Ocean
Gulf of Mexico
ALABAMA
KENTUCKY
NORTH CAROLINA
SOUTH CAROLINA
GEORGIA
Birmingham
Atlanta
Dallas
Houston
Montgomery
Baton Rouge
Guadalajara
Tampico
Veracruz
Havana
Miami
Charleston
Louisville
Lexington
Richmond
Nashville
Knoxville
Charlotte
Greensboro
Raleigh
Columbia
Augusta
Savannah
Jacksonville
Tallahassee
Mobile
New Orleans
Memphis
Little Rock
Shreveport
Fort Worth
El Paso
Monterrey
Chihuahua
Mazatlan
Guadalajara
Merida
Campeche
Tuxtla Gutierrez
Oaxaca
Acapulco
Puebla
Mexico City
Tampico
Veracruz
Trinidad
Port of Spain
Caracas
Maracaibo
Barranquilla
Cartagena
Medellin
Bogota
Cali
Quito
Guayaquil
Panama
Panama Canal
Kingston
Port au Prince
Santo Domingo
San Juan
Puerto Rico
Virgin Islands
Boa Vista
Georgetown
GUIANA
VENEZUELA
COLOMBIA
BRAZIL
PERU
ECUADOR
Scale of Miles
Projection
Capitals of Countries


SOUTH AMERICA
Lambert Azimuthal
Equal-Area Projection
Scale of Miles
200 0 200 400 600 800
Capitals of Countries
Copyright C.S. HAMMOND & Co., N.Y.
Caribbean Sea
Atlantic Ocean
Pacific Ocean
COLOMBIA
ECUADOR
PERU
BRAZIL
BOLIVIA
PARAGUAY
CHILE
ARGENTINA
Caracas
Bogotá
Quito
Lima
La Paz
Asunción
Montevideo
Buenos Aires
Santiago
Rio de Janeiro
São Paulo
Belém
Manaus
Salvador (Bahia)
Fortaleza
Recife
Belo Horizonte
Pôrto Alegre
Curitiba
Georgetown
Paramaribo
Cayenne
Macapá
Iquitos
Cuzco
Arequipa
Antofagasta
Valparaiso
Concepción
Tucumán
Córdoba
Rosario
Santa Fe
La Plata
Mar del Plata
Bahía Blanca
Neuquén
Viedma
Pto. Madryn
Comodoro Rivadavia
San Julián
Rio Gallegos
Ushuaia
Punta Arenas
TIERRA DEL FUEGO
FALKLAND IS. (Br.)
Longitude West of Greenwich
90 80 70 60 50 40 30 20


EUROPE
Lambert Azimuthal Equal-Area Projection
Scale of Miles
100 50 0 100 200 300
Capitals of Countries
Copyright by C. S. HAMMOND & Co., N.Y.
Atlantic Ocean
Mediterranean Sea
North Sea
Baltic Sea
Bay of Biscay
English Channel
IRELAND
GREAT BRITAIN
SCOTLAND
ENGLAND
WALES
FRANCE
SPAIN
PORTUGAL
MOROCCO
ALGERIA
TUNISIA
ITALY
GERMANY
DENMARK
NORWAY
SWEDEN
FINLAND
SWITZERLAND
AUSTRIA
HUNGARY
POLAND
BELGIUM
NETHERLANDS
LUXEMBOURG
CZECHOSLOVAKIA
YUGOSLAVIA
GREECE
ALBANIA
MALTA
CORSICA
SARDINIA
MINORCA
MAJORCA
BALEARIC IS.
ELBA
MONACO
VATICAN CITY
SICILY
Faeroe Is. (Den.)
Thorshavn
Shetland Is.
Lerwick
Orkney Is.
Kirkwall
Hebrides
Moray Firth
Inverness
Aberdeen
Dundee
Glasgow
Edinburgh
Belfast
Dublin
Galway
Limerick
Cork
Liverpool
Leeds
Hull
Sheffield
Newcastle
Carlisle
Manchester
Irish Sea
Birmingham
Bristol
London
Cardiff
Swansea
Plymouth
Southampton
Portsmouth
Cherbourg
Le Havre
Rouen
Amiens
Lille
Dieppe
Versailles
Paris
Orléans
Rennes
Brest
St. Nazaire
Nantes
La Rochelle
Bordeaux
Limoges
Tours
Dijon
Nancy
Strasbourg
Metz
Mulhouse
Besançon
Bourges
Vichy
Clermont-Ferrand
Geneva
Lyon
Grenoble
Marseille
Nice
Toulon
Montpellier
Nîmes
Toulouse
Carcassonne
Pau
Biarritz
Bilbao
Burgos
Santander
San Sebastian
Gijon
La Coruña
Oviedo
Leon
Valladolid
Oporto
Coimbra
Salamanca
Zamora
Lisbon
Tagus
Madrid
Guadalajara
Toledo
Badajoz
Cordoba
Sevilla
Cadiz
Gibraltar (Br.)
Malaga
Granada
Almeria
Murcia
Cartagena
Alicante
Valencia
Tarragona
Barcelona
Zaragoza
Huesca
Andorra
Pamplona
Bilbao
Ajaccio
Sassari
Cagliari
Palermo
Messina
Naples
Rome
Florence
Genoa
Leghorn
Milan
Turin
Venice
Trieste
Bologna
Ancona
Pisa
Arezzo
Perugia
Foggia
Taranto
Brindisi
Bari
Catanzaro
Reggio
Tyrrhenian Sea
Munich
Augsburg
Stuttgart
Karlsruhe
Nürnberg
Frankfurt
Mannheim
Cologne
Düsseldorf
Essen
Dortmund
Hannover
Bremen
Hamburg
Kiel
Lübeck
Berlin
Leipzig
Dresden
Chemnitz
Rotterdam
Amsterdam
The Hague
Utrecht
Arnhem
Groningen
Antwerp
Ghent
Brussels
Liège
Namur
Charleroi
Luxembourg
Zürich
Bern
Basel
Geneva
Lausanne
Innsbruck
Salzburg
Graz
Linz
Vienna
Budapest
Prague
Brno
Ostrava
Pilsen
Warsaw
Lodz
Cracow
Poznan
Gdynia
Danzig
Katowice
Lwow
Kiev
Odessa
Kharkov
Moscow
Leningrad
Minsk
Riga
Vilna
Kaunas
Tallinn
Helsinki
Turku
Tampere
Oulu
Stockholm
Gothenburg
Malmö
Uppsala
Sundsvall
Gävle
Oslo
Bergen
Stavanger
Trondheim
Narvik
Tromsö
Hammerfest
Kristiansand
Drammen
Haugesund
Ålesund
Sognefjord
Hardangerfjord
Trondheimsfjord
Copenhagen
Aarhus
Aalborg
Esbjerg
Odense
Kristiansand
Lindesnes
Skagerrak
Kattegat
Belgrade
Sarajevo
Zagreb
Split
Dubrovnik
Skopje
Sofia
Plovdiv
Varna
Bucharest
Constanta
Ploesti
Craiova
Timisoara
Cluj
Iasi
Galati
Braila
Athens
Piraeus
Salonika
Patras
Volos
Larissa
Crete
Rhodes
Cyprus
Nicosia
Famagusta
Limassol
Paphos
Beirut
Damascus
Haifa
Tel Aviv
Jerusalem
Amman
Aqaba
Suez
Port Said
Alexandria
Cairo
Tripoli
Benghazi
Tobruk
Sousse
Bizerte
Tunis
Sfax
Gabès
Constantine
Algiers
Philippeville
Bône
Oran
Mostaganem
Tlemcen
Biskra
Fez
Meknès
Rabat
Casablanca
Tangier
Ceuta
Melilla
Port Lyautey
Gibraltar
Strait of Gibraltar
Longitude West of Greenwich 0 Longitude East of Greenwich
20
10
0
10


Arctic Circle
Tornio
Oulu
FINLAND
Gulf of Bothnia
Umeå
Vaasa
Kuopio
Tampere
Pori
Turku
Helsinki
Hanko
Gulf of Finland
Gävle
Uppsala
Stockholm
ESTONIA
Tallinn
Riga
Liepaja
LATVIA
Klaipeda
LITHUANIA
Kaunas
Kaliningrad
Gdansk
Olsztyn
Warsaw
Poznan
Lodz
Katowice
Krakow
Lvov
Ostrava
Bratislava
Budapest
Miskolc
Debrecen
Cluj
Szeged
Subotica
Timisoara
Ploesti
Braila
Belgrade
Craiova
Bucharest
Sarajevo
Sofia
Rel. Burgas
Skopje
Plovdiv
Stara Zagora
Istanbul
Kavala
Saloniki
Bursa
Izmir
Athens
Piraeus
Kalamai
Corinth
Patras
Ionian Sea
Crete
Candia
RHODES
Cyprus
Nicosia
Larnaca
Lebanon
Beirut
Damascus
Homs
Aleppo
Adana
Antakya
Euphrates
SYRIA
IRAQ
Konya
Afyon
Smyrna
Turkey
Black Sea
Sea of Azov
Kerch
Krasnodar
Novorossisk
Tuapse
Sochi
Sukhumi
Batumi
Yalta
Sevastopol
Simferopol
Crimea
Odessa
Kishinev
Nikolaev
Zhdanov
Taganrog
Rostov
Kharkov
Kiev
Poltava
Dnepropetrovsk
Zaporozhe
Voroshilovgrad
Stalino
Stalingrad
Kursk
Orel
Voronezh
Tula
Tambov
Saratov
Penza
Ulyanovsk
Kazan
Gorki
Ivanovo
Kostroma
Kirov
Moscow
Smolensk
Minsk
Gomel
Bryansk
Kalinin
Yaroslavl
Shcherbakov
Rybinsk Res.
Leningrad
Onega
Petrozavodsk
Kandalaksha
Murmansk
Archangel
White Sea
Northern Dvina
UNION OF SOCIALIST REPUBLICS
POLAND
SOVIET
HUNGARY
RUMANIA
YUGOSLAVIA
CZECHOSLOVAKIA
SCOTLAND
Arctic Circle
20
30
40
50
60


North
Atlantic
Ocean
South
Atlantic
Ocean
SAHARA
FRENCH WEST AFRICA
AFRICA
BELGIAN CONGO
FRENCH EQUATORIAL AFRICA
SUDAN
EGYPT
LIBYA
ALGERIA
FRANCE
SPAIN
PORTUGAL
MOROCCO
Bay of Biscay
Gibraltar
Mediterranean Sea
Red Sea
Dakar
Freetown
Monrovia
Abidjan
Accra
Bamako
Kayes
Timbuctoo
Gao
Agades
Niamey
Zinder
Sokoto
Kano
Ouagadougou
Ibadan
Benin
Lagos
Kumasi
Tabou
Conakry
Bathurst
St. Louis
Port-Etienne
Casablanca
Rabat
Fez
Tangier
Oran
Algiers
Tunis
Sfax
Tripoli
Sirte
Benghazi
Derna
Alexandria
Cairo
Asyut
Aswan
Khartoum
Omdurman
Wadi Halfa
Fasher
El Obeid
Abéché
Fort Lamy
Fort Archambault
Bangui
Buta
Yaoundé
Douala
Libreville
Port-Gentil
Brazzaville
Pointe-Noire
Cabinda
Leopoldville
Stanleyville
Albertville
Luanda
Benguela
Nova Lisboa
Elisabethville
Malange
Mossamedes
Usaka
Salisbury
Broken Hill
Lusaka
Swakopmund
Walvis Bay
Windhoek
Lüderitz
Port Nolloth
Kimberley
Johannesburg
Pretoria
Bloemfontein
Capetown
Port Elizabeth
East London
Durban
Lourenço Marques
Beira
Tananarive
Budapest
Odessa
Bucharest
Belgrade
Sofia
Istanbul
Ankara
Smyrna
Athens
Salonika
Marseille
Lyon
Milan
Rome
Naples
Palermo
Barcelona
Madrid
Bilbao
Oporto
Lisbon
Sevilla
Valencia
Bordeaux
La Coruña
Valladolid
Corsica
Sardinia
Sicily
Malta
Crete
Cyprus
Israel
Libya
Egypt
Sudan
Nigeria
Gold Coast
Ghana
Togoland
Dahomey
Cameroon
Gabon
Angola
Nyasaland
Rhodesia
Tanganyika
Uganda
Kenya
Somaliland
Abyssinia
Eritrea
Arabia
Red Sea
Suez Canal
Nile
Sahara
Tropic of Cancer
Tropic of Capricorn
Equator
Canary Is.
Azores
Madeira
Cape Verde Is.
Portuguese Guinea
Sierra Leone
Liberia
Ascension I.
St. Helena I.
Tristan da Cunha
Longitude West of Greenwich
15
30
45
0
-15
-30


AFRICA
AND
SOUTHWESTERN ASIA
Mercator Projection
Equatorial Scale in Miles
500 0 500 1000
Capitals of Countries
Longitude East of Greenwich
45 60 75 90
Indian Ocean
Arabian Sea
Bay of Bengal
UNION OF SOVIET SOCIALIST REPUBLICS
Rostov
Astrakhan
Grozny
Tbilisi
Baku
Yerevan
Krasnovodsk
Tashkent
Samarkand
Frunze
Alma-Ata
Tihwa
Hami
Aralsk
Kutaisi
Sochi
Hotien
Aleppo
Mosul
Tabriz
Meshed
Tehran
Kabul
Herat
Damascus
Baghdad
Isfahan
Birjand
Kerman
Peshawar
Amritsar
Lhasa
Jerusalem
Basra
Abadan
Quetta
Lahore
Gartok
Multan
Delhi
Lucknow
Kuwait
Al Kuwait
Dhahran
Gwadar
New Delhi
Agra
Kanpur
Karachi
Hyderabad
Banaras
Dacca
Riyadh
Masqat
Ahmadabad
Calcutta
Mecca
Jidda
Surat
Nagpur
Poona
Bombay
Cuttack
Aden
Mukalla
Socotra
Mysore
Bangalore
Madras
Pondichery
Djibouti
Laccadive Is.
Calicut
Madurai
Trivandrum
Ceylon
Colombo
Kandy
Nicobar Is.
Addis Ababa
Hargeisa
Obbia
Maldive Is.
Kutaradja
Sumatra
Indonesia
Mogadiscio
Equator
Nairobi
Mombasa
Zanzibar
Dar es Salaam
Seychelles
Amirante Is.
Aldabra Is.
Chagos Archipelago
Diego Garcia
Comoro Is.
Diego-Suarez
Mozambique
Beira
Tananarive
Morondava
Mananjary
Fianarantsoa
Mauritius
Rodrigues I.
Reunion
Tulear
Inhambane
Fort-Dauphin
Lourenço Marques
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THE FAR EAST
Mercator Projection
Equatorial Scale in Miles
500 0 500 1000
Capitals of Countries
Copyright by C.S. HAMMOND & Co., N.Y.
ARCTIC CIRCLE
UNION OF SOVIET SOCIALIST REPUBLICS
Markovo
Anadyr
Gizhiga
Okhotsk
Magadan
Yakutsk
Aldan
Sea of Okhotsk
Bering Sea
KOMANDORSKIE IS.
ATTU (U.S.)
KISKA (U.S.)
Petropavlovsk
PARAMUSHIR
KURIL IS.
SAKHALIN
Yuzhno-Sakhalinsk
Khabarovsk
Komsomolsk
Nikolaevsk
Skovorodino
Lena
Yenisei
Angara
L. Baikal
Irkutsk
Ulan Ude
Chita
Sretensk
Kyzyl
Ulan Bator
Kobdo
MONGOLIA
Tsitsihar
Harbine
Manchuria
Changchun
Mukden
Vladivostok
Japan
HONSHU
HOKKAIDO
Sapporo
Sendai
Tokyo
Nagoya
Osaka
Kyoto
Pacific Ocean
Hami
Kweisui
Peiping
Tientsin
Sian
Tsinan
Lanchow
Pyongyang
KOREA
Yellow Sea
Seoul
Inchon
Nanking
Shanghai
Hangchow
Wuchow
Chengtu
Chungking
Changsha
Kunming
Amoy
Canton
Hanoi
Haiphong
Hue
Vientiane
Chamdo
Lhasa
Mandalay
Rangoon
Bangkok
Saigon
Phnom-Penh
Gulf of Siam
Andaman Is. (India)
George Town
Penang
Medan
Singapore
Padang
Palembang
Djakarta
Bandung
Surabaja
Java
Sumatra
Borneo
Celebes
Flores
Timor
Arafura Sea
Aru Is.
Banda Sea
Halmahera
Davao
Mindanao
Sulu Sea
Palawan
Manila
Luzon
Philippines
Taiwan (Formosa)
Taipei
Okinawa
Ryukyu Is.
Hong Kong (Br.)
Macao (Port.)
Amoy
Swatow
Hainan
Haiphong
Gulf of Tonkin
China Sea
Bonin Is. (U.S. Adm.)
Iwo Jima (U.S. Adm.)
Marcus I. (U.S. Adm.)
Mariana Is. (U.S. Trust)
Guam (U.S.)
Eniwetok
Truk
Yap
Palau Is.
Caroline Is.
Terr. of the Pacific Is. (U.S. Trust)
Kwajalein
Ponape
Kusaie
Jaluit
Wake I. (U.S.)
Bikini
Marshall Is.
Majuro
Tarawa
Equator
Tropic of Cancer
Tropic of Capricorn
Bismarck Arch. (Austr.)
New Ireland
New Guinea
Netherlands New Guinea
Dutch New Guinea
Papua
Australian New Britain
Solomon Is.
Gilbert Is. (Br.)
Ellice Is. (Br.)
Sta. Cruz Is. (Br.)
Espiritu Santo
New Hebrides (Br.-Fr.)
Fiji Is. (Br.)
Loyalty Is. (Fr.)
New Caledonia (Fr.)
Norfolk I. (Austr.)
Coral Sea
Holland
Arafura Sea
Torres Str.
Port Moresby
Guadalcanal
Cairns
Townsville
Mackay
Noumea
Rockhampton
Bundaberg
Brisbane
Australia
Northern Territory
Western Australia
South Australia
Queensland
New South Wales
Victoria
Alice Spgs.
Charleville
Wyndham
Broome
Onslow
Darwin
Derby
Waters
Normanton
Geraldton
Perth
Fremantle
Kalgoorlie
Wiluna
Coolie
Dedari
Great Australian Bight
Albany
Adelaide
Broken Hill
Sydney
Canberra
Melbourne
Geelong
Bass Str.
Tasmania
Launceston
Hobart
Tasman Sea
Newcastle
Armidale
Gundagai
Lake Eyre
Indian Ocean
New Zealand
Auckland
Napier
Wellington
North I.
South I.
Christchurch
Invercargill
Dunedin
Longitude East from Greenwich
90 105 120 135 150 165

1957

JANUARY

SUN.	MON.	TUE.	WED.	THU.	FRI.	SAT.
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

FEBRUARY

SUN.	MON.	TUE.	WED.	THU.	FRI.	SAT.
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

MARCH

SUN	MON.	TUE.	WED.	THU	FRI.	SAT.
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24/31	25	26	27	28	29	30

APRIL

SUN.	MON	TUE.	WED	THU.	FRI	SAT
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

MAY

SUN.	MON.	TUE.	WED.	THU.	FRI.	SAT.
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

JUNE

SUN.	MON.	TUE	WED	THU	FRI	SAT
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23/30	24	25	26	27	28	29

JULY

SUN.	MON	TUE	WED	THU.	FRI.	SAT
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

AUGUST

SUN.	MON.	TUE	WED.	THU	FRI.	SAT
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

SEPTEMBER

SUN.	MON.	TUE.	WED.	THU.	FRI.	SAT.
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

OCTOBER

SUN.	MON.	TUE.	WED.	THU.	FRI.	SAT.
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

NOVEMBER

SUN.	MON	TUE.	WED	THU.	FRI.	SAT.
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

DECEMBER

SUN.	MON	TUE	WED.	THU.	FRI.	SAT.
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

1958

JANUARY

SUN.	MON.	TUE.	WED.	THU.	FRI.	SAT.
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

FEBRUARY

SUN.	MON.	TUE.	WED.	THU.	FRI.	SAT.
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	

MARCH

SUN.	MON.	TUE.	WED.	THU.	FRI.	SAT.
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23/30	24/31	25	26	27	28	29

APRIL

SUN.	MON.	TUE.	WED.	THU.	FRI.	SAT.
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

MAY

SUN.	MON.	TUE.	WED.	THU.	FRI.	SAT.
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

JUNE

SUN.	MON.	TUE.	WED.	THU.	FRI.	SAT.
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

JULY

SUN.	MON.	TUE.	WED.	THU.	FRI.	SAT.
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

AUGUST

SUN.	MON.	TUE.	WED.	THU.	FRI.	SAT.
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24/31	25	26	27	28	29	30

SEPTEMBER

SUN.	MON.	TUE.	WED.	THU.	FRI.	SAT.
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

OCTOBER

SUN.	MON.	TUE.	WED.	THU.	FRI.	SAT.
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

NOVEMBER

SUN.	MON.	TUE.	WED.	THU.	FRI.	SAT.
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23/30	24	25	26	27	28	29

DECEMBER

SUN.	MON.	TUE.	WED.	THU.	FRI.	SAT.
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			