

TYPICAL OPERATION AND CHARACTERISTICS

Plate Voltage	250	volts
Grid-No.2 Voltage	225	volts
Grid-No.1 Voltage	—15	volts
Peak AF Grid-No.1 Voltage	15	volts
Plate Resistance (Approx.)	42000	ohms
Transconductance	7600	μ mhos
Zero-Signal Plate Current	62	mA
Maximum Signal Plate Current	74	mA
Zero-Signal Grid-No.2 Current	3.2	mA
Maximum-Signal Grid-No.2 Current	16.5	mA
Load Resistance	2500	ohms
Total Harmonic Distortion (Approx.)	15	per cent
Maximum-Signal Power Output	9	watts
Grid-No.1 Voltage (Approx.) for plate current of 500 μ A	—35	volts

MAXIMUM CIRCUIT VALUES

Grid-No.1-Circuit Resistance:		
For fixed-bias operation	0.3	megohm
For cathode-bias operation	1	megohm

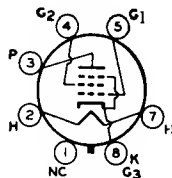
* Grid-No.2 input may reach 7 watts during peak levels of speech and music signals.

Push-Pull Class AB₁ Amplifier**MAXIMUM RATINGS** (Same as for class A₁ amplifier)**TYPICAL OPERATION** (Values are for two tubes)

Plate Voltage	300	400	volts
Grid-No.2 Voltage	250	300	volts
Grid-No.1 Voltage	—21	—34	volts
Peak AF Grid-No.1 Voltage	42	60	volts
Zero-Signal Plate Current	100	56	mA
Maximum-Signal Plate Current	185	175	mA
Zero-Signal Grid-No.2 Current	5.5	3.5	mA
Maximum-Signal Grid-No.2 Current	24	24	mA
Effective Load Resistance (Plate-to-plate)	4000	5000	ohms
Total Harmonic Distortion	2	6	per cent
Maximum-Signal Power Output	28.5	40	watts

7408**BEAM POWER TUBE**

Glass octal type used as output amplifier tube in high-quality sound systems. Outlines section, 13D; requires octal socket.

**7AC**

Heater Voltage (ac/dc)	6.3	volts
Heater Current	0.45	ampere
Heater-Cathode Voltage:		
Peak value	± 200	volts
Average value	100	volts
Direct Interelectrode Capacitances:		
Grid No.1 to Plate	0.7	pF
Grid No.1 to Cathode, Heater, Grid No.2, and Grid No.3	9	pF
Plate to Cathode, Heater, Grid No.2, and Grid No.3	7.5	pF

Class A₁ Amplifier**MAXIMUM RATINGS** (Design-Maximum Values)

Plate Voltage	350	volts
Grid-No.2 (Screen-Grid) Voltage	315	volts
Grid-No.2 Input	2.2	watts
Plate Dissipation	14	watts

TYPICAL OPERATION AND CHARACTERISTICS

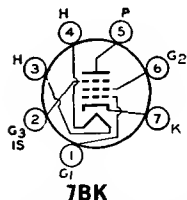
Plate Voltage	60	250	volts
Grid-No.2 Voltage	250	250	volts
Grid-No.1 (Control-Grid) Voltage	0	—12.5	volts
Peak AF Grid-No.1 Voltage	—	12.5	volts
Zero-Signal Plate Current	100*	45	mA
Maximum-Signal Plate Current	—	47	mA
Zero-Signal Grid-No.2 Current	22*	4.5	mA
Maximum-Signal Grid-No.2 Current	—	7	mA
Plate Resistance (Approx.)	—	50000	ohms
Transconductance	—	4100	μ mhos
Load Resistance	—	5000	ohms
Total Harmonic Distortion	—	7	per cent
Maximum-Signal Power Output	—	4.5	watts

MAXIMUM CIRCUIT VALUES

Grid-No.1-Circuit Resistance:

For fixed-bias operation	0.1	megohm
For cathode-bias operation	0.5	megohm

* This value can be measured by a method involving a recurrent waveform such that the maximum ratings of the tube will not be exceeded.



SHARP-CUTOFF PENTODE

7543

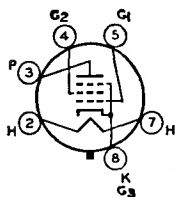
Miniature type used in compact audio equipment. Outlines section, 5C; requires miniature 7-contact socket. This type is identical with miniature type 6AU6A except that it has a controlled hum characteristic.

HUM OUTPUT VOLTAGE

Average Value, (rms, cathode bypassed)	1.2†	millivolts
Average Value (rms, cathode unbypassed)	0.9*	millivolt

† Measured in "true rms" units under the following conditions: heater volts (ac), 6.3; center tap of heater transformer connected to ground; plate and grid-No.2 supply volts, 250; plate load resistor, 0.27 megohm; grid No.3 and internal shield connected to cathode at socket; grid-No.2 resistor, 0.68 megohm; grid-No.1 resistor, 0.1 megohm; cathode resistor, 1000 ohms; grid resistor of following stage, 10 megohms; and stage gain, 340.

* Same conditions as above except that cathode resistor is unbypassed and stage gain is 110.



BEAM POWER TUBE

7581A

Glass octal type used in af power-amplifier applications. Outlines section, 19D; requires octal socket. For typical operation as push-pull class A₁, class AB₁, and class AB₂ amplifier, refer to type 6L6GC. This tube, like other power-handling tubes, should be adequately ventilated. Heater: volts (ac/dc), 6.3; amperes, 0.9; maximum heater-cathode volts, ±200.

Class A₁ Amplifier

MAXIMUM RATINGS (Design-Maximum Values)

Plate Voltage	—
Grid-No.2 (Screen-Grid) Voltage	—
Plate Dissipation	35
Grid-No.2 Input	—

Triode Connection*

450
—
35
—

Pentode Connection

500	volts
450#	volts
35	watts
5	watts

CHARACTERISTICS

Plate Voltage	70
Grid-No.2 Voltage	300
Grid-No.1 Voltage	0
Plate Resistance (Approx.)	—
Transconductance	—
Plate Current	210
Grid-No.2 Current	25

250	volts
250	volts
—14	volts
22500	ohms
6000	μmhos
72	mA
5	mA

MAXIMUM CIRCUIT VALUES

Grid-No.1-Circuit Resistance:

For fixed-bias operation	0.1	megohm
For cathode-bias operation	0.5	megohm

* Grid No.2 connected to plate.

In push-pull circuits where grid No.2 of each tube is connected to a tap on the plate winding of the output transformer, this maximum rating is 500 volts.

^ Applied for short interval (2 seconds) so as not to damage tube.