

Cathode-Bias Resistor	
Amplification Factor	100
Plate Resistance (Approx.)	37000
Transconductance	2700
Plate Current	2
Grid-No.2 Current	—
Grid Voltage (Approx.) for plate current of 20 μ A ..	—5
Grid-No.1 Voltage (Approx.) for plate current of 100 μ A	—

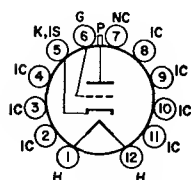
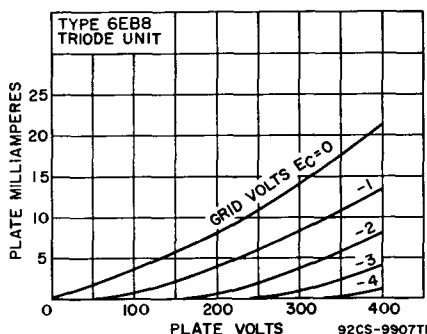
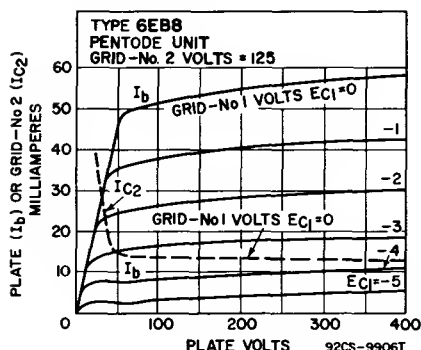
Triode Unit	Pentode Unit	
—	68	ohms
—	—	ohms
—	75000	μ hos
—	12500	mA
—	25	mA
—	7	volts
—	—	volts
—	—9	volts
0.5	0.25	megohm
1	1	megohm

MAXIMUM CIRCUIT VALUES

Grid-No.1-Circuit Resistance:

For fixed-bias operation

For cathode-bias operation



12FA

volts; + not recommended, -450.

BEAM TRIODE

6EH4

Duodec type used for the shunt regulation of low-current, high-voltage power supplies in color television receivers. Outlines section, 16E; requires duodec 12-contact socket. For high-voltage and X-ray safety considerations, refer to type 1G3GT/1B3GT. Heater: volts (ac/dc), 6.3; amperes, 0.2; maximum heater-cathode

Shunt Voltage-Regulator Service

MAXIMUM RATINGS (Design-Maximum Values)

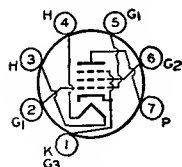
Plate Voltage	27000	volts
Unregulated Plate-Supply Voltage	60000	volts
DC Grid Voltage	—135	volts
Peak Grid Voltage#	—440	volts
Average DC Plate Current	1.6	mA
Plate Dissipation	30	watts

MAXIMUM CIRCUIT VALUE

Grid-Circuit Resistance:

For use with "Flyback Transformer" high-voltage supply 3 megohms

Peak value for duration of 20 seconds maximum during equipment warm-up.



7CV

POWER PENTODE

6EH5

25EH5, 50EH5

Miniature type used in the audio output stage of radio and television receivers and in phonographs. Outlines section, 5D; requires miniature 7-contact socket. Types 25EH5 and 50EH5 are identical with type 6EH5 except for heater ratings.

Heater Voltage (ac/dc)	6EH5	25EH5	50EH5	
Heater Current	6.3	25	50	volts
Heater-Cathode Voltage:	1.2	0.3	0.15	ampere
Peak value	±200 max	±200 max	±200 max	volts
Average value	100 max	100 max	100 max	volts
Direct Interelectrode Capacitances (Approx.):				
Grid No.1 to Plate			0.65	pF
Grid No.1 to Cathode, Heater, Grid No.2, and Grid No.3			17	pF
Plate to Cathode, Heater, Grid No.2, and Grid No.3			9	pF

Class A₁ Amplifier

MAXIMUM RATINGS (Design-Maximum Values)

Plate Voltage	150	volts
Grid-No.2 (Screen-Grid) Voltage	130	volts
Plate Dissipation	5.5	watts
Grid-No.2 Input	2	watts
Bulb Temperature (at hottest point)	220	°C

TYPICAL OPERATION

Plate Supply Voltage	110	volts
Grid-No.2 Supply Voltage	115	volts
Cathode-Bias Resistor	62	ohms
Peak AF Grid-No.1 Voltage	3	volts
Zero-Signal Plate Current	42	mA
Maximum-Signal Plate Current	42	mA
Zero-Signal Grid-No.2 Current	11.5	mA
Maximum-Signal Grid-No.2 Current	14.5	mA
Plate Resistance (Approx.)	11000	ohms
Transconductance	14600	μmhos
Load Resistance	3000	ohms
Total Harmonic Distortion	7	per cent
Maximum-Signal Power Output	1.4	watts

MAXIMUM CIRCUIT VALUES

Grid-No.1-Circuit Resistance:		
For fixed-bias operation	0.1	megohm
For cathode-bias operation	0.5	megohm

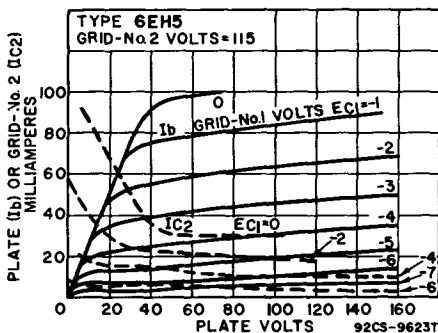
Push-Pull Class AB₁ Audio-Frequency Power AmplifierMAXIMUM RATINGS (Same as for Class A₁ audio-frequency power amplifier)

TYPICAL OPERATION (Values are for two tubes)

Plate Supply Voltage	140	volts
Grid-No.2 Supply Voltage	120	volts
Cathode-Bias Resistor	68	ohms
Peak AF Grid-No.1 Voltage	9.4	volts
Zero-Signal Plate Current	47	mA
Maximum-Signal Plate Current	51	mA
Zero-Signal Grid-No.2 Current	11	mA
Maximum-Signal Grid-No.2 Current	17.7	mA
Effective Load Resistance (Plate-to-plate)	6000	ohms
Total Harmonic Distortion	5	per cent
Maximum-Signal Power Output	3.8	watts

MAXIMUM CIRCUIT VALUES

Grid-No.1-Circuit Resistance:		
For fixed-bias operation	0.1	megohm
For cathode-bias operation	0.5	megohm

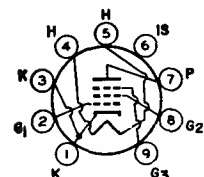


Refer to chart at end of section.

6EH7

SEMIREMOTE-CUTOFF
PENTODE6EH7/
EF183

3EH7/XF183, 4EH7



9AQ

Miniature types used as if-amplifier tubes in color and black-and-white television receivers. Outlines section, 6C; requires miniature 9-contact socket. Types 3EH7/XF183 and 4EH7 are identical with type 6EH7/EF183 except for heater ratings.

	3EH7/XF183	4EH7	6EH7/EF183	
Heater Voltage (ac/dc)	3.4	4.4	6.3	volts
Heater Current	0.6	0.45	0.3	ampere
Peak Heater-Cathode Voltage	±150 max	±150 max	±150 max	volts
Direct Inter-electrode Capacitances:				
Grid No.1 to Plate			0.005 max	pF
Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield			9	pF
Plate to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield			3	pF

Class A₁ Amplifier

MAXIMUM RATINGS (Design-Center Values)

Plate Supply Voltage	550	volts
Plate Voltage	250	volts
Grid-No.3 (Suppressor-Grid) Voltage, Positive value	0	volts
Grid-No.2 (Screen-Grid) Supply Voltage	550	volts
Grid-No.2 Voltage	250	volts
Cathode Current	20	mA
Plate Dissipation	2.5	watts
Grid-No.2 Input	0.65	watt

CHARACTERISTICS

Plate Voltage	200	volts
Grid No.3	Connected to cathode at socket	
Grid-No.2 Voltage	90	volts
Grid-No.1 Voltage	-2	volts
Plate Resistance (Approx.)	0.5	megohm
Transconductance	12500	μmhos
Plate Current	12	mA
Grid-No.2 Current	4.5	mA

TYPICAL OPERATION

Plate Voltage	200	200	200	200	volts
Grid No.3	Connected to cathode at socket				
Grid-No.2 Supply Voltage	200	200	200	200	volts
Grid-No.2 Series Resistor	22000	22000	22000	22000	ohms
Grid-No.1 Voltage	-19.5	-9.5	-6.5	-2	volts
Transconductance	125	625	1250	12500	μmhos
RMS Grid-No.1 Voltage, for cross-modulation factor of 0.01	450	160	100	—	mV

MAXIMUM CIRCUIT VALUE

Grid-No.1-Circuit Resistance	1	megohm
------------------------------	---	--------

Refer to chart at end of section.

6EH8

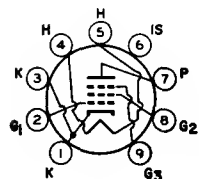
Refer to chart at end of section.

6EJ7

SHARP-CUTOFF PENTODE

6EJ7/
EF184

3EJ7/XF184, 4EJ7



9AQ

Miniature types used as if-amplifier tubes in color and black-and-white television receivers. Outlines section, 6C; requires miniature 9-contact socket. Types 3EJ7/XF184 and 4EJ7 are identical with type 6EJ7/EF184 except for heater ratings.