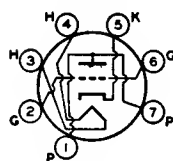


6AN4**HIGH-MU TRIODE**

Miniature type used as mixer or rf amplifier in cathode-drive circuits of uhf television tuners covering the frequency range of 470 to 890 MHz. Outlines section, 5B; requires miniature 7-contact socket.

**7DK**

Heater Voltage (ac/dc)	6.3	volts
Heater Current	0.225	ampere
Heater-Cathode Voltage:		
Peak value	±200 max	volts
Average value	100 max	volts
Direct Interelectrode Capacitances:		
Grid to Plate	1.7°	pF
Grid to Cathode and Heater	3.3°	pF
Plate to Cathode and Heater	1.8°	pF
Heater to Cathode	2.9*	pF
Grid to Cathode	2.6*	pF
Plate to Cathode	0.18*	pF
Cathode to Grid and Heater	5.7*	pF
Plate to Grid and Heater	3.4*	pF

° With external shield connected to cathode.

* With external shield connected to ground.

* With external shield connected to grid.

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

Plate Voltage	300	volts
Cathode Current	30	mA
Plate Dissipation	4	watts

CHARACTERISTICS

Plate-Supply Voltage	200	volts
Cathode-Bias Resistor	100	ohms
Amplification Factor	70	
Transconductance	10000	μmhos
Plate Current	13	mA
Grid Voltage (Approx.) for plate current of 20 μA	—7	volts

MAXIMUM CIRCUIT VALUES

Grid-Circuit Resistance:		
For fixed-bias operation	0.1	megohm
For cathode-bias operation	0.5	megohm

6AN8

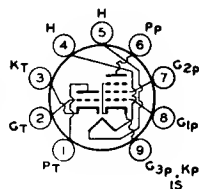
Refer to chart at end of section.

6AN8A

5AN8

**MEDIUM-MU TRIODE—
SHARP-CUTOFF PENTODE**

Miniature type used in color television receiver applications. The pentode unit is used as an intermediate-frequency amplifier, a video amplifier, an agc amplifier, or a reactance tube. The triode unit is used in low-frequency oscillator, sync-separator, sync-clipper, and phase-splitter circuits. Outlines section, 6B; requires miniature 9-contact socket. Type 5AN8 is identical with 6AN8A except for heater ratings.



Heater Voltage (ac/dc)	6AN8 4.7	6AN8A 6.3	volts
Heater Current	0.6	0.45	ampere
Heater Warm-up Time (Average)	11	11	seconds
Heater-Cathode Voltage:			
Peak value	±200 max	±200 max	volts
Average value	100 max	100 max	volts

Direct Interelectrode Capacitances:

Triode Unit:		
Grid to Plate	1.5	pF
Grid to Cathode and Heater	2	pF
Plate to Cathode and Heater	0.26	pF
Pentode Unit:		
Grid No.1 to Plate	0.04 max	pF
Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield	7	pF
Plate to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield	2.4	pF
Triode Grid to Pentode Plate	0.02	pF
Pentode Grid No.1 to Triode Plate	0.02	pF
Pentode Plate to Triode Plate	0.15	pF

Class A₁ Amplifier

MAXIMUM RATINGS (Design-Maximum Values)

	Triode Unit	Pentode Unit	
Plate Voltage	330	330	volts
Grid-No.2 Supply Voltage	—	330	volts
Grid-No.2 (Screen-Grid) Voltage	—	See curve page 98	
Grid-No.1 (Control-Grid) Voltage, Positive-bias value	0	0	volts
Plate Dissipation	2.8	2.3	watts
Grid-No.2 Input:			
For grid-No.2 voltages up to 165 volts	—	0.55	watt
For grid-No.2 voltages between 165 and 330 volts	—	See curve page 98	

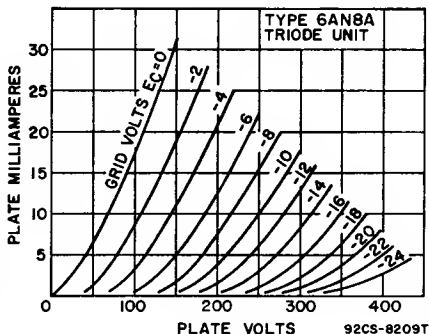
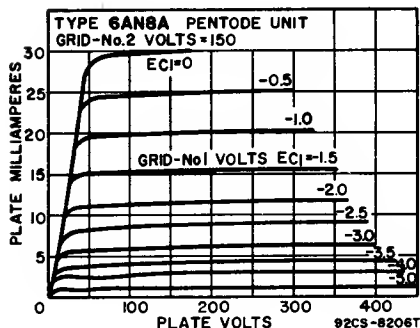
CHARACTERISTICS

Plate Supply Voltage	150	125	volts
Grid-No.2 Supply Voltage	—	125	volts
Grid-No.1 Voltage	—3	—	volts
Cathode-Bias Resistor	—	56	ohms
Amplification Factor	21	—	
Plate Resistance (Approx.)	4700	170000	ohms
Transconductance	4500	7800	μmhos
Plate Current	15	12	mA
Grid-No.2 Current	—	3.8	mA
Grid-No.1 Voltage (Approx.) for plate current of 20 μA	—17	—6	volts
Grid-No.1 Voltage (Approx.) for plate current of 1.6 mA	—	—3	volts

MAXIMUM CIRCUIT VALUES

Grid-No.1-Circuit Resistance:*		
For fixed-bias operation	0.5	0.25 megohm
For cathode-bias operation	1	1 megohm

* If either unit is operating at maximum rated conditions, grid-No.1-circuit resistance for both units should not exceed the stated values.

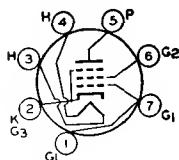


Refer to chart at end of section.

6AQ5

6AQ5A**BEAM POWER TUBE****5AQ5, 12AQ5**

Miniature type used as output amplifier primarily in automobile receivers and in ac-operated receivers and, triode-connected, as a vertical-deflection amplifier in television receivers. Outlines section, 5D; requires miniature 7-contact socket. Within its maximum ratings, the performance of this type is equivalent to that of larger types 6V6 and 6V6GTA. Types 5AQ5 and 12AQ5 are identical with type 6AQ5A except for heater ratings.

**7BZ**

	5AQ5	6AQ5A	12AQ5	
Heater Voltage (ac/dc)	4.7	6.3	12.6	volts
Heater Current	0.6	0.45	0.225	ampere
Heater Warm-up Time (Average)	11	11	—	seconds
Heater-Cathode Voltage:				
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			0.4	pF
Grid No.1 to Cathode, Heater, Grid No.2, and Grid No.3			8	pF
Plate to Cathode, Heater, Grid No.2, and Grid No.3			8.5	pF

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

Plate Voltage	275	volts
Grid-No.2 (Screen-Grid) Voltage	275	volts
Plate Dissipation	12	watts
Grid-No.2 Input	2	watts
Bulb Temperature (At hottest point)	250	°C

CHARACTERISTICS (Triode Connection)

Plate Voltage	250	volts
Grid-No.1 Voltage	—12.5	volts
Amplification Factor	9.5	
Plate Resistance (Approx.)	1970	ohms
Transconductance	4800	μmhos
Plate Current	49.5	mA
Grid-No.1 Voltage (Approx.) for plate current of 0.5 mA	—37	volts

TYPICAL OPERATION

Same as for type 6V6GTA within the limitations of the maximum ratings.

MAXIMUM CIRCUIT VALUES

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

Vertical Deflection Amplifier (Triode Connection)^a

For operation in a 525-line, 30-frame system

MAXIMUM RATINGS (Design-Maximum Values)

DC Plate Voltage	275	volts
Peak Positive-Pulse Plate Voltage [#]	1100	volts
Peak Negative-Pulse Grid-No.1 (Control-Grid) Voltage	275	volts

