

MAXIMUM CIRCUIT VALUE

Grid-No.1-Circuit Resistance 1 megohm

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

** Grid No.2 tied to plate.

Horizontal-Deflection Amplifier

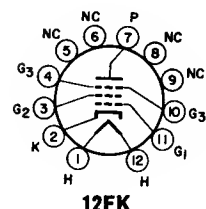
For operation in a 525-line, 30-frame system

MAXIMUM RATINGS (Design-Maximum Values)

DC Plate Supply Voltage	770	volts
Peak Positive-Pulse Plate Voltage*	6500	volts
Peak Negative-Pulse Plate Voltage	1500	volts
DC Grid-No.3 Voltage	70	volts
DC Grid-No.2 Voltage	220	volts
DC Grid-No.1 Voltage, Negative-bias value	55	volts
Peak Negative-Pulse Grid-No.1 Voltage	330	volts
Average Cathode Current	175	mA
Peak Cathode Current	550	mA
Plate Dissipation**	17.5	watts
Grid-No.2 Input	8.5	watts
Bulb Temperature (At hottest point)	220	°C

Pulse duration must not exceed 15% of a horizontal scanning cycle (10 microseconds).

A bias resistor or other means is required to protect the tube in absence of excitation.



12FN

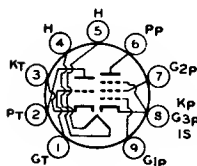
BEAM POWER TUBE

6JN6

12JN6, 17JN6

Duodeca type used as horizontal-amplifier tube in color and black-and-white television receivers. Outlines section, 15A; requires duodeca 12-contact socket. This type is electrically identical with type 6JM6 except that it has a slightly lower grid-No.1-to-plate capacitance. Types 12JN6 and 17JN6 are identical with type 6JN6 except for heater ratings.

	6JN6	12JN6	17JN6	
Heater Voltage (ac/dc)	6.3	12.6	16.8	volts
Heater Current	1.2	0.6	0.45	amperes
Heater Warm-up Time (Average)	—	11	11	seconds
Direct Interelectrode Capacitances:				
Grid No.1 to Plate			0.34	pF
Grid No.1 to Cathode, Heater, Grid No.2, and Grid No.3			16	pF
Plate to Cathode, Heater, Grid No.2, and Grid No.3			7	pF



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

6JN8

19JN8

Miniature type used as FM converter and rf amplifier in radio receivers. Outlines section, 6B; requires miniature 9-contact socket. Type 19JN8 is identical with type 6JN8 except for heater ratings.

	6JN8	19JN8	
Heater Voltage (ac/dc)	6.3	18.9	volts
Heater Current	0.45	0.15	ampere
Heater Warm-up Time (Average)	11	—	seconds
Heater-Cathode Voltage:			
Peak value	±200 max	±200 max	volts
Average value	100 max	100 max	volts
Direct Interelectrode Capacitances:*			
Pentode Unit:			
Grid No.1 to Plate		0.01	pF
Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield		5.5	pF
Plate to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield		3.4	pF

Triode Unit:

Grid to Plate	1.7	pF
Grid to Cathode, Heater, Pentode Cathode, Grid No.3, and Internal Shield	3.2	pF
Plate to Cathode, Heater, Pentode Cathode, Grid No.3, and Internal Shield	2.2	pF

² With external shield connected to cathode of unit under test.

Class A₁ Amplifier

MAXIMUM RATINGS (Design-Maximum Values)

	Triode Unit	Pentode Unit	
Plate Voltage	300	300	volts
Grid-No.2 (Screen-Grid) Supply Voltage	—	300	volts
Grid-No.2 Voltage	—	See curve page 98	
Grid-No.1 (Control-Grid) Voltage, Positive-bias value	0	0	volts
Plate Dissipation	2.5	2.5	watts
Grid-No.2 Input:			
For grid-No.2 voltages up to 150 volts	—	0.55	watt
For grid-No.2 voltages between 150 and 300 volts	—	See curve page 98	

CHARACTERISTICS

Plate Voltage	125	125	volts
Grid-No.2 Voltage	—	125	volts
Grid-No.1 Voltage	—1	—1	volt
Amplification Factor	46	—	
Plate Resistance (Approx.)	5400	20000	ohms
Transconductance	8500	7500	μmhos
Plate Current	13.5	12	mA
Grid-No.2 Current	—	4	mA
Grid-No.1 Voltage (Approx.) for plate current of 10 μA	—8	—8	volts

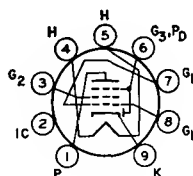
MAXIMUM CIRCUIT VALUES

Grid-No.1-Circuit Resistance:			
For fixed-bias operation	2.2	2.2	megohms
For cathode-bias operation	2.2	2.2	megohms

6JQ6

12JQ6, 17JQ6,
25JQ6BEAM POWER TUBE
with integral diode

Miniature type featuring integral diode, internally connected to grid No.3, used in feedback-stabilized vertical-deflection-amplifier applications in color and black-and-white television receivers. Outlines section, 6G; requires miniature 9-contact socket. Types 12JQ6, 17JQ6, and 25JQ6 are identical with type 6JQ6 except for heater ratings.



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	6JQ6	12JQ6	17JQ6	25JQ6	
Heater Voltage (ac/dc)	6.3	12.6	16.8	25.2	volts
Heater Current	1.2	0.6	0.45	0.3	amperes
Heater Warm-up Time (Average)	—	11	11	11	seconds
Heater-Cathode Voltage:					
Peak value	±200 max	±200 max	±200 max	±200 max	volts
Average value	100 max	100 max	100 max	100 max	volts
Direct Interelectrode Capacitances:					
Grid No.1 to Plate	—	—	—	0.32	pF
Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, and Diode Plate	—	—	—	13	pF
Plate to Cathode, Heater, Grid No.2, Grid No.3, and Diode Plate	—	—	—	6	pF

Class A₁ Amplifier

CHARACTERISTICS

Plate Voltage	40	140	volts
Grid-No.3 (Suppressor-Grid) Voltage	0	0	volts
Grid-No.2 (Screen-Grid) Voltage	120	140	volts
Grid-No.1 (Control-Grid) Voltage	0	—18	volts
Triode Amplification Factor*	—	6.5	
Plate Resistance (Approx.)	—	10500	ohms
Transconductance	—	4200	μmhos
Plate Current	150#	35	mA
Grid-No.2 Current	20#	2.5	mA
Grid-No.1 Voltage for plate current of 1 mA	—	—37	volts
Instantaneous Diode-Plate-to-Cathode Voltage Drop for Instantaneous Diode-Plate Current of 2 mA	—	5	volts