

Vertical-Deflection Amplifier

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

MAXIMUM RATINGS (Design-Maximum Values)

DC Plate Voltage	425	volts
Peak Positive-Pulse Plate Voltage (Absolute-Maximum Value)*	2000 +10	volts
DC Grid-No.3 and Diode-Plate Voltage	-150	volts
DC Grid-No.2 Voltage	330	volts
Peak Negative-Pulse Grid-No.1 Voltage	150	volts
Average Cathode Current	70	mA
Peak Cathode Current	250	mA
Average Diode-Plate (and Grid-No.3) Current	1	mA
Plate Dissipation	10	watts
Grid-No.2 Input	2	watts
Bulb Temperature (At hottest point)	240	°C

MAXIMUM CIRCUIT VALUES

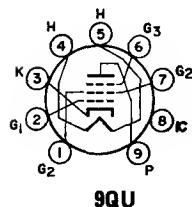
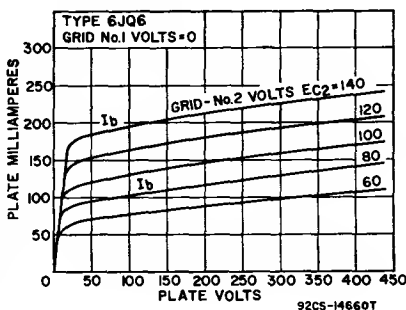
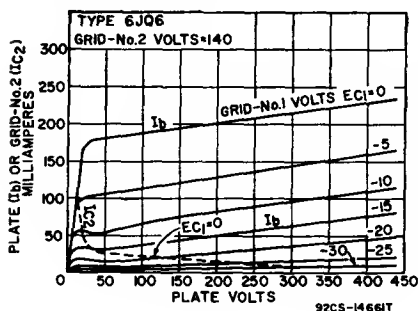
Grid-No.1—Circuit Resistance:

For grid-No.1-resistor-bias operation	2.2	megohms
For cathode-bias operation	2.2	megohms

* Grid No.3 and diode plate connected to cathode, and grid-No.2 connected to plate at socket.

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

* Pulse duration must not exceed 15% of a vertical scanning cycle (2.5 milliseconds).



BEAM POWER TUBE

6JR6

17JR6, 22JR6

Novar type used for horizontal-deflection amplifier service in low B+, black-and-white television receivers. Outlines section, 31B; requires novar 9-contact socket. Types 17JR6 and 22JR6 are identical with type 6JR6 except for heater ratings.

	6JR6	17JR6	22JR6	
Heater Voltage (ac/dc)	6.3	16.8	22	volts
Heater Current	1.6	0.6	0.45	amperes
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			0.7	pF
Grid No.1 to Cathode, Heater, Grid No.2, and Grid No.3			22	pF
Plate to Cathode, Heater, Grid No.2, and Grid No.3			9	pF

Class A₁ Amplifier

CHARACTERISTICS	Triode* Connection	Pentode Connection		
Plate Voltage	125	50	130	volts
Peak Positive-Pulse Plate Voltage#	—	6500	—	volts
Grid-No.3 (Suppressor Grid)	—	Connected to cathode at socket	—	
Grid-No.2 (Screen-Grid) Voltage	125	125	125	volts
Grid-No.1 (Control-Grid) Voltage	-20	—	0	volts
Plate Resistance (Approx.):	—	—	18000	ohms
Transconductance	—	—	7000	μmhos
Plate Current	—	—	470†	mA
Grid-No.2 Current	—	—	32†	mA
Grid-No.1 Voltage for plate current of 1 mA	—	-75	—	volts
Amplification Factor	4.7	—	-32	

Horizontal-Deflection Amplifier

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

MAXIMUM RATINGS (Design-Maximum Ratings)

Plate Supply Voltage	770	volts
Peak Positive-Pulse Plate Voltage#	6500	volts
Peak Negative-Pulse Plate Voltage	1500	volts
Grid-No.3 Voltage*	75	volts
Grid-No.2 Voltage	220	volts
Grid-No.1 Voltage, Negative-bias value	55	volts
Peak Negative-Pulse Grid-No.1 Voltage	330	volts
Peak Cathode Current	950	mA
Average Cathode Current	275	mA
Grid-No.2 Input	3.5	watts
Plate Dissipation*	17	watts
Bulb Temperature (At hottest point)	240	°C

MAXIMUM CIRCUIT VALUES

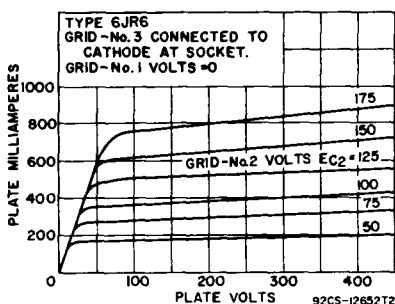
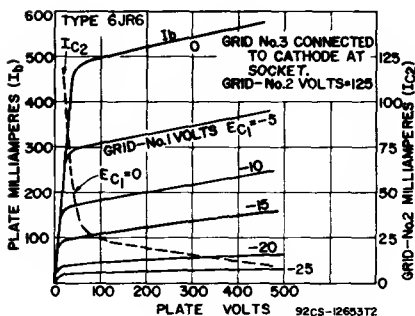
Grid-No.1-Circuit Resistance		
For grid-resistor-bias operation	0.47	megohm
For plate-pulsed operation (horizontal-deflection circuits only)	10	megohms

* Grid No. 2 connected to plate at socket.

Pulse duration must not exceed 15% of one horizontal scanning cycle (10 microseconds).
 ‡ This value can be measured by a method involving a recurrent waveform such that the maximum ratings of the tube will not be exceeded.

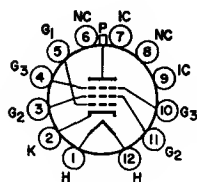
* In this service, a positive value may be applied to grid No.3 to minimize "snivets" interference; a typical value for this voltage is 30 volts.

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



Refer to chart at end of section.

6JS6



12FY

BEAM POWER TUBE

6JS6A

31JS6A

Duodecar types used as horizontal-deflection amplifiers in color and black-and-white television receivers. Outlines section, 16B; requires duodecar 12-contact socket. Type 31JS6A is identical with type 6JS6A except for heater ratings.

	6JS6A	31JS6A	
Heater Voltage (ac/dc)	6.3	31.5	volts
Heater Current	2.25	0.45	amperes
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:			
Grid No.1 to Plate		0.7	pF
Grid No.1 to Cathode, Heater, Grid No.2, and Grid No.3		24	pF
Plate to Cathode, Heater, Grid No.2, and Grid No.3		10	pF

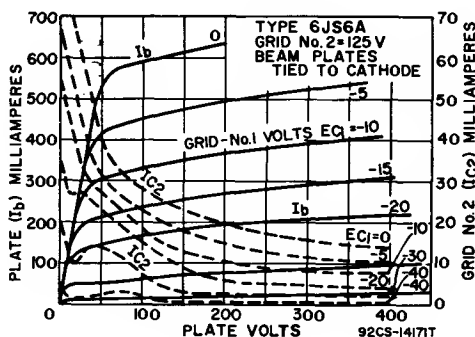
Class A₁ Amplifier

CHARACTERISTICS

	Triode†† Connection		Pentode Connection		
Plate Voltage	125	5000	70	175	volts
Grid No.3 (Suppressor Grid)	—	—	Connected to cathode at socket		
Grid-No.2 (Screen-Grid) Voltage	125	5000	70	175	volts
Grid-No.1 (Control-Grid) Voltage	—25	—	0	—25	volts
Plate Resistance (Approx.)	—	—	—	5600	ohms
Transconductance	—	—	—	11300	μmhos
Plate Current	—	—	570†	125	mA
Grid-No.2 Current	—	—	34†	4.5	mA
Grid-No.1 Voltage (Approx.) for plate current of 1 mA	—	—140	—	—54	volts
Triode Amplification Factor	3	—	—	—	

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

†† Grid No.2 connected to plate.



Horizontal-Deflection Amplifier

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

MAXIMUM RATINGS (Design-Maximum Values)

DC Plate Supply Voltage	990	volts
Peak Positive-Pulse Plate Voltage#	7500	volts
Peak Negative-Pulse Plate Voltage	1100	volts