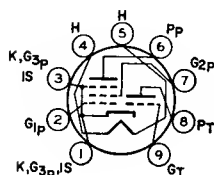
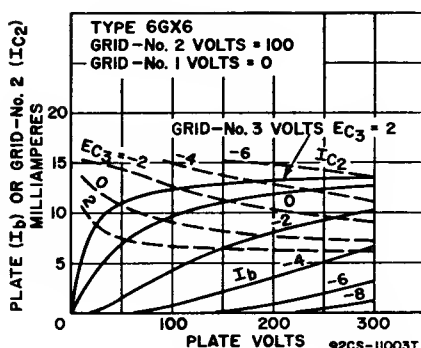
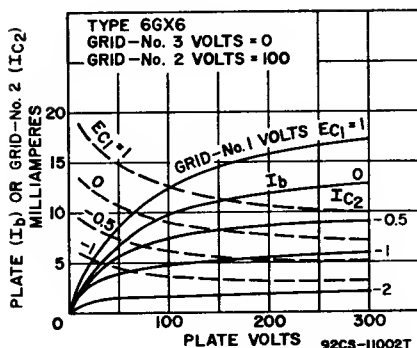


MAXIMUM CIRCUIT VALUES

Grid-No.3-Circuit Resistance	0.68	megohm
Grid-No.1-Circuit Resistance:		
For fixed-bias operation	0.22	megohm
For cathode-bias operation	0.47	megohm



9QA

MEDIUM-MU TRIODE—
SHARP-CUTOFF PENTODE

6GX7

Miniature type used as combined oscillator-mixer tube in vhf tuner circuits of color and black-and-white television receivers. Outlines section, 6B; requires miniature 9-contact socket.

Heater Voltage (ac/dc)	6.3	volts
Heater Current	0.4	ampere
Heater-Cathode Voltage:		
Peak value	±200 max	volts
Average value	100 max	volts
Direct Interelectrode Capacitances:**		
Triode Unit:		
Grid to Plate	1.2	pF
Grid to Cathode, Heater, Pentode Cathode, Grid No.3, and Internal Shield	2.3	pF
Plate to Cathode, Heater, Pentode Cathode, Grid No.3, and Internal Shield	1.9	pF
Pentode Unit:		
Grid No.1 to Plate	0.005	pF
Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield	5.4	pF
Plate to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield	3.3	pF
Grid No.1 to Grid No.2	1.6	pF

** With external shield connected to cathode.

Class A₁ Amplifier

MAXIMUM RATINGS (Design-Maximum Values)

	Triode Unit	Pentode Unit	
Plate Voltage	275	275	volts
Grid-No.2 (Screen-Grid) Supply Voltage	—	275	volts
Grid-No.2 Voltage	—	See curve page 98	
Grid-No.1 (Control-Grid) Voltage:			
Positive-bias value	0	0	
Negative-bias value	40	40	volts
Cathode Current	20	20	mA
Plate Dissipation	1.5	2.2	watts
Grid-No.2 Input:			
For grid-No.2 voltages up to 137.5 volts	—	0.45	watts
For grid-No.2 voltages between 137.5 and 275 volts	—	See curve page 98	

CHARACTERISTICS

	Triode Unit	Pentode Unit	
Plate Voltage	100	125	volts
Grid-No.2 Voltage	—	90	volts
Grid-No.1 Voltage	—	—1	volt
Grid-No.1-Circuit Resistance	0.1	0.1	megohm
Amplification Factor	40	—	
Plate Resistance	—	4700	ohms
Transconductance	8700	8500	μ mhos
Plate Current	12.5	8.5	mA
Grid-No.2 Current	—	2.8	mA
Grid-No.1 Voltage for plate current of 20 μ A	—6	—2.5	volts

MAXIMUM CIRCUIT VALUES

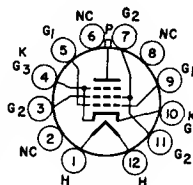
	Triode Unit	Pentode Unit	
Grid-No.1-Circuit Resistance:	0.5	0.25	megohm
For fixed-bias operation	1	0.5	megohm
For cathode-bias operation			

6GY5

16GY5, 21GY5

BEAM POWER TUBE

Duodecar type used as horizontal-deflection amplifier in television receivers. Outlines section, 16A; requires duodecar 12-contact socket. Types 16GY5 and 21GY5 are identical with type 6GY5 except for heater ratings.

**12DR**

	6GY5	16GY5	21GY5	
Heater Voltage (ac/dc)	6.3	15.8	21	volts
Heater Current	1.5	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

Class A₁ Amplifier**CHARACTERISTICS**

	Pentode Connection	Triode† Connection	
Plate Voltage	5000	60	130
Grid-No.2 (Screen-Grid) Voltage	130	130	130
Grid-No.1 (Control-Grid) Voltage	—	0	—20
Amplification Factor	—	—	4.7
Plate Resistance (Approx.)	—	—	11000
Transconductance	—	—	9100
Plate Current	—	410**	50
Grid-No.2 Current	—	24**	1.75
Grid-No.1 Voltage (Approx.) for plate current of 1 μ A	—66	—	—33

** 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 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.2 Voltage	220	volts
DC Grid-No.1 Voltage	—55	volts
Peak Negative-Pulse Grid-No.1 Voltage	330	volts
Peak Cathode Current	800	mA
Average Cathode Current	230	mA
Plate Dissipation††	18	watts
Grid-No.2 Input	3.5	watts
Bulb Temperature (At hottest point)	220	°C

MAXIMUM CIRCUIT VALUE

Grid-No.1-Circuit Resistance	1	megohm
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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.