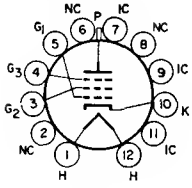


12GH

16KA6

21KA6

BEAM POWER TUBE

Duodecar type used as horizontal-deflection amplifier in television receivers. Outlines section, 16A; requires duodecar 12-contact socket. A separate connection is provided for grid No.3 to minimize "snivets." Type 21KA6 is identical with type 16KA6 except for heater ratings.

	16KA6	21KA6	
Heater Voltage	15.8	21	volts
Heater Current	0.6	0.45	ampere
Heater Warm-up Time	11	11	seconds
Heater-Cathode Voltage:			
Peak value	±200 max	±200 max	volts
Average value	100 max	100 max	volts

Class A_1 Amplifier

CHARACTERISTICS

Plate Voltage	5000	60	60	130	volts
Grid-No.3 (Suppressor-Grid) Voltage	0	0	25	0	volts
Grid-No.2 (Screen-Grid) Voltage	130	130	130	130	volts
Grid-No.1 (Control-Grid) Voltage	—	0	0	—20	volts
Plate Resistance (Approx.)	—	—	—	11000	ohms
Transconductance	—	—	—	9100	μmhos
Plate Current	—	410*	410*	50	mA
Grid-No.3 Current	—	—	2	—	mA
Grid-No.2 Current	—	24*	23*	1.75	mA
Grid-No.1 Voltage (Approx.) for plate current of 1 mA	—66	—	—	—33	volts
Triode Amplification Factor	—	—	—	4.7	

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

Horizontal-Deflection Amplifier

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

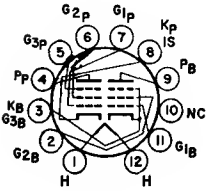
MAXIMUM RATINGS (Design-Maximum Values)

DC Plate Supply Voltage	770	volts
Peak Positive-Pulse Plate Voltage#	6500	volts
Peak Negative-Pulse Plate Voltage	1500	volts
Grid-No.3 Voltage, Positive-hias value	70	volts
Grid-No.2 Voltage	220	volts
Grid-No.1 Voltage, Negative-hias value	55	volts
Peak Negative-Pulse Grid-No.1 Voltage	330	volts
Average Cathode Current	230	mA
Peak Cathode Current	800	mA
Plate Dissipation	18	watts
Grid-No.2 Input	3.5	watts
Bulh Temperature (At hottest point)	220	°C

MAXIMUM CIRCUIT VALUE

Grid-No.1-Circuit Resistance	1	megohm

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



12BT

17AB10
17AB10/
17AX10

PENTODE—BEAM POWER TUBE

Duodecar type used as a combined limiter, discriminator, and audio power-output tube in FM radio and television receivers. Outlines section, 8C; requires duodecar 12-contact socket.

Heater Volts (ac/dc)	16.8	volts
Heater Current	0.45	ampere
Heater Warm-up Time	11	seconds
Heater-Cathode Voltage:		
Peak value	±200 max	volts
Average value	100 max	volts
Direct Interelectrode Capacitances:		
Pentode Unit:		
Grid No.1 to Grid No.3	0.01	pF
Grid No.1 to All Other Electrodes	4.4	pF
Grid No.3 to All Other Electrodes	3.2	pF
Beam Power Unit:		
Grid No.1 to Plate	0.22	pF
Grid No.1 to Cathode, Heater, Grid No.2, and Grid No.3	12	pF
Plate to Cathode, Heater, Grid No.2, and Grid No.3	7.5	pF

Pentode Unit as Class A_1 Amplifier

CHARACTERISTICS

Plate Voltage	135	135	135	volts
Grid-No.3 (Suppressor-Grid) Voltage	4	4	0	volts
Grid-No.2 (Screen-Grid) Supply Voltage	—	280	280	volts
Grid-No.2 Voltage	75	—	—	volts
Grid-No.1 (Control-Grid) Voltage	0	0	0	volts
Grid-No.2 Resistor	—	33	33	kohms
Transconductance, Grid-No.1 to Plate	—	—	360	μmhos
Transconductance, Grid-No.3 to Plate	—	—	700	μmhos
Plate Current	—	5	—	mA
Grid-No.2 Current	4.5	—	—	mA
Grid-No.1 Voltage (Approx.) for plate current of 20 μA	—	—	—4	volts
Grid-No.3 Voltage (Approx.) for plate current of 20 μA	—	—	—4	volts

Beam Power Unit as Class A_1 Amplifier

MAXIMUM RATINGS (Design-Maximum Values)

Plate Voltage	165	volts
Grid-No.2 Voltage	150	volts
Plate Dissipation	6.5	watts
Grid-No.2 Input	1.8	watts
Cathode Current	65	mA

CHARACTERISTICS

Plate Voltage	145	volts
Grid-No.2 Voltage	110	volts
Grid-No.1 Voltage	—6	volts
Peak AF Grid-No.1 Voltage	6	volts
Plate Resistance (Approx.)	30000	ohms
Transconductance	8600	μmhos
Zero-Signal Plate Current	36	mA
Maximum-Signal Plate Current	40	mA
Zero-Signal Grid-No.2 Current	8	mA
Maximum-Signal Grid-No.2 Current	9	mA
Load Resistance	3000	ohms
Total Harmonic Distortion (Approx.)	10	per cent
Maximum-Signal Power Output	2.4	watts

MAXIMUM CIRCUIT VALUES

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

Pentode Unit as Limiter and Discriminator

MAXIMUM RATINGS (Design-Maximum Values)

Plate Supply Voltage	330	volts
Grid-No.2 Supply Voltage	330	volts
Grid-No.1 Voltage, Peak positive value	60	volts
Average Cathode Current	13	mA

17AX3 Refer to type 6AX3.

17AX4GT Refer to chart at end of section.

17AX4GTA Refer to type 6AX4GTB.

17AX10 Refer to type 17AB10.