

Refer to chart at end of section.
For replacement use type 13Z10/13J10.

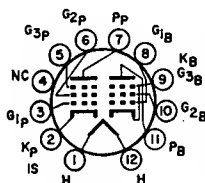
13J10

Refer to type 6JZ8.

13JZ8

BEAM POWER TUBE— SHARP-CUTOFF PENTODE

13V10



12EZ

Duodecar type used as combined FM detector and audio-frequency output amplifier in television receivers. The beam power unit is used in af output stages and the pentode unit as an FM detector. Outlines section, 8C; requires duodecar 12-contact socket. Heater: volts (ac/dc), 13.2; amperes, 0.45; average warm-up time, 11 seconds; maximum heater-cathode volts, ± 200 peak, 100 average.

Beam Power Unit as Class A₁ Amplifier

MAXIMUM RATINGS (Design-Maximum Values)

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

TYPICAL OPERATION

Plate Voltage	145	volts
Grid-No.2 Voltage	125	volts
Grid-No.1 (Control-Grid) Voltage	—6	volts
Peak AF Grid-No.1 Voltage	6	volts
Zero-Signal Plate Current	34	mA
Maximum-Signal Plate Current	36	mA
Zero-Signal Grid-No.2 Current	2.2	mA
Maximum-Signal Grid-No.2 Current	5.5	mA
Plate Resistance (Approx.)	0.058	megohm
Transconductance	6400	μ mhos
Load Resistance	3000	ohms
Total Harmonic Distortion (Approx.)	7	per cent
Maximum-Signal Power Output	1.5	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 Class A₁ Amplifier

CHARACTERISTICS

Plate Supply Voltage	150	volts
Grid-No.3 (Suppressor-Grid) Voltage	0	volts
Grid-No.2 (Screen-Grid) Supply Voltage	100	volts
Cathode-Bias Resistor	560	ohms
Plate Resistance (Approx.)	0.15	megohm
Transconductance, Grid No.1 to Plate	1000	μ mhos
Transconductance, Grid No.3 to Plate	400	μ mhos
Plate Current	1.3	mA
Grid-No.2 Current	2	mA
Grid-No.1 Voltage (Approx.) for plate current of 10 μ A	—4.5	volts
Grid-No.3 Voltage (Approx.) for plate current of 10 μ A	—4.5	volts

Pentode Unit as FM Detector

MAXIMUM RATINGS (Design-Maximum Values)

Plate Voltage	330	volts
Grid-No.3 Voltage	28	volts
Grid-No.2 Supply Voltage	330	volts
Grid-No.2 Voltage	See curve page 300	
Grid-No.1 (Control-Grid) Voltage, Positive-bias value	0	volts
Plate Dissipation	1.7	watts
Grid-No.2 Input:		
For grid-No.2 voltages up to 165 volts	1.1	watts
For grid-No.2 voltages between 165 and 330 volts	See curve page 300	

Refer to chart at end of section.

13Z10

Refer to type 6Z10/6J10.

13Z10/13J10