



ELECTRONIC TUBE REFERENCE

8BA11

Voltage - Dual Pentode Triode electronic tube

CONSOLIDATED TECHNICAL DATA

3 SECTIONS

CONSTRUCTION

PENTODE-PENTODE-TRIODE

Compactron heater variant of 6BA11, combining a medium-mu triode with twin pentodes for television vertical-deflection oscillator and sync/AGC circuitry.

GENERAL CHARACTERISTICS

BASE DESIGNATION	12ER	BASE PINS	12
NOMINAL HEATER	8.4 V / 450 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Common cathode	SECTION CONSTRUCTION	Dissimilar

12ER - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1	–	H – Heater	CONNECTED
PIN2	C	P – Plate (Anode)	CONNECTED
PIN3	B	G2 – Screen Grid	CONNECTED
PIN3	C	G2 – Screen Grid	CONNECTED
PIN3	–	IS – Internal Screen	CONNECTED
PIN4	B	G1 – Control Grid	CONNECTED
PIN4	C	G1 – Control Grid	CONNECTED
PIN5	C	G3 – Suppressor Grid	CONNECTED
PIN6	B	P – Plate (Anode)	CONNECTED
PIN7	B	G3 – Suppressor Grid	CONNECTED
PIN8	B	K – Cathode	CONNECTED
PIN8	C	K – Cathode	CONNECTED
PIN8	–	IS – Internal Screen	CONNECTED

TERMINAL	SECTION	ELEMENT	STATUS
PIN9	A	G1 – Control Grid	CONNECTED
PIN10	A	K – Cathode	CONNECTED
PIN11	A	P – Plate (Anode)	CONNECTED
PIN12	–	H – Heater	CONNECTED

SECTION RATINGS

SECTION1 Triode	
TRANSCONDUCTANCE	0.0018 S
AMPLIFICATION FACTOR	18
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM PLATE DISSIPATION	1.5 W
MAXIMUM CATHODE CURRENT	20 mA
<i>Medium-mu triode section; source cross-references 6BA11 for ratings.</i>	

SECTION2 Pentode	
TRANSCONDUCTANCE	0.0017 S
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM SCREEN VOLTAGE	150 V
MAXIMUM PLATE DISSIPATION	1.1 W
MAXIMUM CATHODE CURRENT	12 mA
<i>Representative row for two equivalent pentode plate sections sharing screen/grid-1/cathode; source cross-references 6BA11.</i>	

SECTION3 Pentode	
TRANSCONDUCTANCE	0.0017 S
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM SCREEN VOLTAGE	150 V
MAXIMUM PLATE DISSIPATION	1.1 W
MAXIMUM CATHODE CURRENT	12 mA
<i>Second physical pentode plate section sharing common electrodes; added to align rows with SectionCount.</i>	

Triode plus twin-pentode tube used as a vertical-deflection oscillator and in combined sync/AGC television circuits.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1968 General Electric Co

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1968 GENERAL ELECTRIC CO

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterOrFilamentVoltageNominal	8.4 V	—
HeaterOrFilamentCurrentNominal	450 mA	—
PublishedCrossReference	6BA11	Source states electrical identity except noted heater/mechanical differences

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1975 RCA RC30

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1975 RCA RC30

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage (ac/dc) 6.3	8.4 V	Published in approved 8BA11 target datasheet entry; Section1
Heater Current 0.6	450 mA	Published in approved 8BA11 target datasheet entry; Section1
Heater Warm-up Time 11	11 seconds	Published in approved 8BA11 target datasheet entry; Section1
Plate Voltage	300 V	Published in approved 8BA11 target datasheet entry; Section1
Average Cathode Current	20 mA	Published in approved 8BA11 target datasheet entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Dissipation	1.5 W	Published in approved 8BA11 target datasheet entry; Section1
Plate Voltage	250 V	Published in approved 8BA11 target datasheet entry; Section1
Grid Voltage	-11 V	Published in approved 8BA11 target datasheet entry; Section1
Transconductance	1800 μS	Published in approved 8BA11 target datasheet entry; Section1
Plate Current	5 mA	Published in approved 8BA11 target datasheet entry; Section1
Grid Voltage (Approx.) for plate current of 100 μ A	-18 V	Published in approved 8BA11 target datasheet entry; Section1
For fixed-bias operation	0.25 MΩ	Published in approved 8BA11 target datasheet entry; Section1
For cathode-bias operation	1 MΩ	Published in approved 8BA11 target datasheet entry; Section1
Plate Voltage (Each Unit)	300 V	Published in approved 8BA11 target datasheet entry; Section1
Peak positive value	50 V	Published in approved 8BA11 target datasheet entry; Section1
DC negative value	50 V	Published in approved 8BA11 target datasheet entry; Section1
DC positive value	3 V	Published in approved 8BA11 target datasheet entry; Section1
Grid-No.2 (Screen-Grid) Voltage	150 V	Published in approved 8BA11 target datasheet entry; Section1
Grid-No.1 (Control-Grid) Voltage, Negative bias value	50 V	Published in approved 8BA11 target datasheet entry; Section1
Cathode Current	12 mA	Published in approved 8BA11 target datasheet entry; Section1
Plate Dissipation (Each Unit)	1.1 W	Published in approved 8BA11 target datasheet entry; Section1
Grid-No.2 Input	0.75 W	Published in approved 8BA11 target datasheet entry; Section1
Grid-No.3-Circuit Resistance (Each Unit)	0.5 MΩ	Published in approved 8BA11 target datasheet entry; Section1
Grid-No.1-Circuit Resistance	0.5 MΩ	Published in approved 8BA11 target datasheet entry; Section1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to Plate	2 pF	Published in approved 8BA11 target datasheet entry; Section1
Grid to Cathode and Heater	2 pF	Published in approved 8BA11 target datasheet entry; Section1
Plate to Cathode, Heater, and Internal Shield	1.9 pF	Published in approved 8BA11 target datasheet entry; Section1
Grid No.3 to Plate (Each Unit)	2 pF	Published in approved 8BA11 target datasheet entry; Section1
Grid No.3 to all Other Electrodes (Each Grid)	3.6 pF	Published in approved 8BA11 target datasheet entry; Section1
Grid No.1 to all Other Electrodes)	6 pF	Published in approved 8BA11 target datasheet entry; Section1
Plate to all Other Electrodes (Each Plate)	3 pF	Published in approved 8BA11 target datasheet entry; Section1

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage (Each Unit) 100	100 V	Published in approved 8BA11 target datasheet entry; Section1
Grid-No.3 Voltage (Each Unit) -10	0 V	Published in approved 8BA11 target datasheet entry; Section1
Grid-No.2 Voltage 67.5	67.5 V	Published in approved 8BA11 target datasheet entry; Section1
Plate Current (Each Unit) 0	2.5 mA	Published in approved 8BA11 target datasheet entry; Section1
Grid-No.2 Current 7	4.4 mA	Published in approved 8BA11 target datasheet entry; Section1
Plate Voltage 100	100 V	Published in approved 8BA11 target datasheet entry; Section1
Grid-No.3 Voltage 0	0 V	Published in approved 8BA11 target datasheet entry; Section1
Grid-No.1 Transconductance	1700 μ S	Published in approved 8BA11 target datasheet entry; Section1
Plate Current	2.5 mA	Published in approved 8BA11 target datasheet entry; Section1
100 /iA	3.2 V	Published in approved 8BA11 target datasheet entry; Section1

Section 2 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage (ac/dc) 6.3	8.4 V	Published in approved 8BA11 target datasheet entry; Section2
Heater Current 0.6	450 mA	Published in approved 8BA11 target datasheet entry; Section2
Heater Warm-up Time 11	11 seconds	Published in approved 8BA11 target datasheet entry; Section2
Plate Voltage	300 V	Published in approved 8BA11 target datasheet entry; Section2
Average Cathode Current	20 mA	Published in approved 8BA11 target datasheet entry; Section2
Plate Dissipation	1.5 W	Published in approved 8BA11 target datasheet entry; Section2
Plate Voltage	250 V	Published in approved 8BA11 target datasheet entry; Section2
Grid Voltage	-11 V	Published in approved 8BA11 target datasheet entry; Section2
Transconductance	1800 μS	Published in approved 8BA11 target datasheet entry; Section2
Plate Current	5 mA	Published in approved 8BA11 target datasheet entry; Section2
Grid Voltage (Approx.) for plate current of 100 μ A	-18 V	Published in approved 8BA11 target datasheet entry; Section2
For fixed-bias operation	0.25 MΩ	Published in approved 8BA11 target datasheet entry; Section2
For cathode-bias operation	1 MΩ	Published in approved 8BA11 target datasheet entry; Section2
Plate Voltage (Each Unit)	300 V	Published in approved 8BA11 target datasheet entry; Section2
Peak positive value	50 V	Published in approved 8BA11 target datasheet entry; Section2
DC negative value	50 V	Published in approved 8BA11 target datasheet entry; Section2
DC positive value	3 V	Published in approved 8BA11 target datasheet entry; Section2
Grid-No.2 (Screen-Grid) Voltage	150 V	Published in approved 8BA11 target datasheet entry; Section2

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-No.1 (Control-Grid) Voltage, Negative bias value	50 V	Published in approved 8BA11 target datasheet entry; Section2
Cathode Current	12 mA	Published in approved 8BA11 target datasheet entry; Section2
Plate Dissipation (Each Unit)	1.1 W	Published in approved 8BA11 target datasheet entry; Section2
Grid-No.2 Input	0.75 W	Published in approved 8BA11 target datasheet entry; Section2
Grid-No.3-Circuit Resistance (Each Unit)	0.5 MΩ	Published in approved 8BA11 target datasheet entry; Section2
Grid-No.1-Circuit Resistance	0.5 MΩ	Published in approved 8BA11 target datasheet entry; Section2

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to Plate	2 pF	Published in approved 8BA11 target datasheet entry; Section2
Grid to Cathode and Heater	2 pF	Published in approved 8BA11 target datasheet entry; Section2
Plate to Cathode, Heater, and Internal Shield	1.9 pF	Published in approved 8BA11 target datasheet entry; Section2
Grid No.3 to Plate (Each Unit)	2 pF	Published in approved 8BA11 target datasheet entry; Section2
Grid No.3 to all Other Electrodes (Each Grid)	3.6 pF	Published in approved 8BA11 target datasheet entry; Section2
Grid No.1 to all Other Electrodes)	6 pF	Published in approved 8BA11 target datasheet entry; Section2
Plate to all Other Electrodes (Each Plate)	3 pF	Published in approved 8BA11 target datasheet entry; Section2

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage (Each Unit) 100	100 V	Published in approved 8BA11 target datasheet entry; Section2
Grid-No.3 Voltage (Each Unit) -10	0 V	Published in approved 8BA11 target datasheet entry; Section2
Grid-No.2 Voltage 67.5	67.5 V	Published in approved 8BA11 target datasheet entry; Section2
Plate Current (Each Unit) 0	2.5 mA	Published in approved 8BA11 target datasheet entry; Section2

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-No.2 Current 7	4.4 mA	Published in approved 8BA11 target datasheet entry; Section2
Plate Voltage 100	100 V	Published in approved 8BA11 target datasheet entry; Section2
Grid-No.3 Voltage 0	0 V	Published in approved 8BA11 target datasheet entry; Section2
Grid-No.1 Transconductance	1700 μS	Published in approved 8BA11 target datasheet entry; Section2
Plate Current	2.5 mA	Published in approved 8BA11 target datasheet entry; Section2
100 /iA	3.2 V	Published in approved 8BA11 target datasheet entry; Section2

TUBE TINKER

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