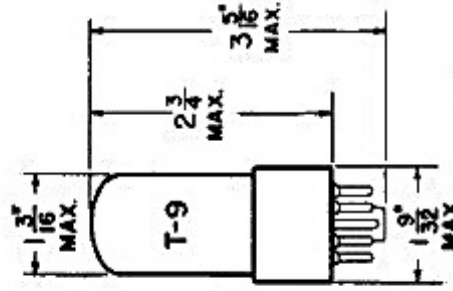


TUNG-SOL

PENTODE



GLASS BULB *

INTERMEDIATE SHELL
7 PIN OCTAL 67-233
WITH BARRIERS
OR

INTERMEDIATE SHELL
8 PIN OCTAL 68-102
WITH BARRIERS
OR

INTERMEDIATE SHELL
7 PIN OCTAL 67-238

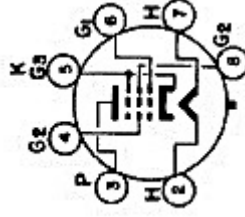
COATED UNIPOTENTIAL CATHODE

HEATER

6.3 VOLTS 0.80 AMP.

AC OR DC

ANY MOUNTING POSITION



BOTTOM VIEW

THE 7591 IS A BEAM POWER PENTODE DESIGNED FOR USE AS AN AUDIO FREQUENCY POWER OUTPUT TUBE. IT HAS HIGH POWER SENSITIVITY AND HIGH EFFICIENCY AND IS ESPECIALLY DESIGNED FOR APPLICATIONS WHERE HIGH POWER OUTPUT IS REQUIRED.

DIRECT INTERELECTRODE CAPACITANCES

GRID TO PLATE

INPUT: G1 TO (HK+G2+G3)

OUTPUT: P TO (HK+G2+G3)

.25	$\mu\mu\text{f}$
10.0	$\mu\mu\text{f}$
5.0	$\mu\mu\text{f}$

RATINGS

INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM

HEATER VOLTAGE

MAXIMUM PLATE VOLTAGE

MAXIMUM SCREEN VOLTAGE

MAXIMUM PLATE DISSIPATION

MAXIMUM SCREEN DISSIPATION^A

MAXIMUM CATHODE CURRENT

MAXIMUM GRID #1 CIRCUIT RESISTANCE:

WITH FIXED BIAS

WITH CATHODE BIAS

MAXIMUM HEATER-CATHODE VOLTAGE:

HEATER NEGATIVE WITH RESPECT TO CATHODE

TOTAL DC AND PEAK

HEATER POSITIVE WITH RESPECT TO CATHODE

DC

TOTAL DC AND PEAK

6.3	VOLTS
550	VOLTS
440	VOLTS
19.0	WATTS
3.3	WATTS
85	MA.
0.3	MEGOHMS
1.0	MEGOHMS
200	VOLTS
100	VOLTS
200	VOLTS

* INDICATES AN ADDITION.

CONTINUED ON FOLLOWING PAGE

TUNG-SOL

CONTINUED FROM PRECEDING PAGE

TYPICAL OPERATION**CLASS A₁ AMPLIFIER**

HEATER VOLTAGE	6.3	VOLTS
HEATER CURRENT	0.80	AMP.
PLATE VOLTAGE	300	VOLTS
SCREEN VOLTAGE	300	VOLTS
GRID #1 VOLTAGE	-10	VOLTS
PEAK AF GRID VOLTAGE	10.0	VOLTS
PLATE CURR (ZERO SIGNAL)	60	MA.
PLATE CURR (MAX. SIGNAL)	75	MA.
SCREEN CURR (ZERO SIGNAL)	8.0	MA.
SCREEN CURR (MAX. SIGNAL)	15.0	MA.
TRANSCONDUCTANCE	10 200	μMHOS
PLATE RESISTANCE	29 000	OHMS
TRIODE AMPLIFICATION FACTOR	16.8	
LOAD RESISTANCE	3000	OHMS
POWER OUTPUT	11	WATTS
TOTAL HARMONIC DISTORTION	13	PERCENT

PUSH-PULL CLASS AB₁ - PENTODE CONNECTION**VALUES FOR TWO TUBES**

	FIXED BIAS		CATHODE BIAS	
PLATE SUPPLY VOLTAGE	300	350	400	450
SCREEN SUPPLY VOLTAGE	300	350	350	400
GRID #1 VOLTAGE	-12.5	-15.5	-16.0	-16.5
COMMON CATHODE RESISTOR				-21
PEAK AF GRID TO GRID VOLTAGE	25	31	32	33
ZERO SIGNAL PLATE CURRENT	96	92	85	77
MAX. SIGNAL PLATE CURRENT	116	130	143	153
ZERO SIGNAL SCREEN CURRENT	12.6	13.0	11.0	9.6
MAX. SIGNAL SCREEN CURRENT	26.0	28.6	27.0	27.0
EFFECTIVE LOAD, PLATE TO PLATE	6600	6600	6600	6600
TOTAL HARMONIC DISTORTION	2.5	2.0	1.5	1.5
MAXIMUM SIGNAL POWER OUTPUT	23	30	37	43
			43	45
			28	28
			22	22
			9000	9000
			2.0	2.0
			28	28

PUSH-PULL CLASS AB₁ - ULTRA-LINEAR^B**OPERATION****VALUES FOR TWO TUBES**

	FIXED BIAS		CATHODE BIAS	
PLATE SUPPLY VOLTAGE	400	400	425	425
GRID #1 VOLTAGE	-20.5	-20.5	185	185
CATHODE RESISTOR (COMMON TO TWO TUBES)	41	41	42	42
PEAK AF GRID TO GRID VOLTAGE	80	80	88	88
ZERO SIGNAL PLATE CURRENT	138	138	104	104
MAXIMUM SIGNAL PLATE CURRENT	11.5	11.5	13.0	13.0
ZERO SIGNAL SCREEN CURRENT	26.4	26.4	17.5	17.5
MAXIMUM SIGNAL SCREEN CURRENT	6600	6600	6600	6600
EFFECTIVE LOAD, PLATE TO PLATE	1.0	1.0	2.0	2.0
TOTAL HARMONIC DISTORTION	32	32	26	26
MAXIMUM SIGNAL POWER OUTPUT				

A. SCREEN DISIPATION MAY BE PERMITTED TO REACH 6 WATTS DURING THE PERIODS OF MAXIMUM INPUT OF SPEECH AND MUSIC SIGNALS. FOR EFFICIENT OPERATION OF THE SCREEN, THE TWO SCREEN CONNECTIONS, PINS 4 AND 8 SHOULD BE EXTERNALLY TIED TOGETHER.

B. SCREEN TAPPED AT 40% OF PRIMARY TURNS.