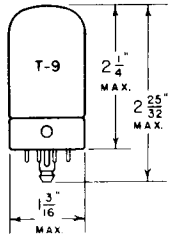
TUNG-SOL



PENTAGRID CONVERTER

COATED FILAMENT

1.4 VOLTS 0.05 AMPERE
DC

GLASS BULB

7AK

BOTTOM VIEW

LOCKING-IN 8 PIN BASE

THE TUNG-SOL 1LA6 IS A LOW VOLTAGE, LOW CURRENT DRAIN, BATTERY TYPE PENTAGRID CONVERTER. IT IS DESIGNED FOR SERVICE AS AN OSCILLATOR AND MIXER IN SUPERHETERODYNE RECEIVERS WHICH REQUIRE ONLY 90 VOLTS OF "B" BATTERY AND A SINGLE DRY CELL "A" BATTERY. ITS ELECTRICAL CHARACTERISTICS ARE SIMILAR TO THOSE OF THE 1A7G.

RATINGS

MAXIMUM FILAMENT VOLTAGE		
DRY BATTERY OPERATION — VOLTAGE MUST NEVER EXCEED	1.6	VOLTS
AC — DC POWER LINE OPERATION — DESIGN CENTER	1.3	VOLTS
MAXIMUM PLATE (P) VOLTAGE	90	VOLTS
MAXIMUM SCREEN (Gs) SUPPLY VOLTAGE	90	VOLTS
MAXIMUM SCREEN VOLTAGE[A]	55	VOLTS
MAXIMUM OSCILLATOR ANODE (Ga) VOLTAGE	90	VOLTS
MAXIMUM TOTAL CATHODE CURRENT-ZERO SIGNAL	3	MA.

[A] OBTAINED BY USING A PROPERLY BY-PASSED VOLTAGE DROPPING RESISTOR OF 45000 TO 75000 OHMS IN SERIES WITH A "B" SUPPLY VOLTAGE.

FOR "INTERPRETATION OF RATINGS" REFER TO FRONT OF BOOK.

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PLATE
1102-2
SEPT. 17
1941

TUNG-SOL

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

CONVERTER SERVICE

PLATE (P) VOLTAGE	90	VOLTS
SCREEN (G_S) VOLTAGE[A]	45	VOLTS
CONTROL GRID (G) VOLTAGE[B]	0	VOLTS
OSCILLATOR ANODE (G_A) VOLTAGE	90	VOLTS
OSCILLATOR GRID (G_O) RESISTOR	200 000	OHMS
PLATE CURRENT	0.55	MA.
SCREEN CURRENT	0.6	MA.
OSCILLATOR ANODE CURRENT	1.2	MA.
OSCILLATOR GRID CURRENT	0.035	MA.
TOTAL CATHODE CURRENT	2.4	MA.
PLATE RESISTANCE	0.75	MEGOHM
CONVERSION TRANSCONDUCTANCE FOR CONTROL GRID (G) VOLTAGE = 0 V.	250	μMHOS
CONVERSION TRANSCONDUCTANCE APPROX. FOR CONTROL GRID VOLTAGE = −3 V.	10	μMHOS

DIRECT INTERELECTRODE CAPACITANCES[S]

CONTROL GRID (G) TO MIXER PLATE (P)	0.4	μμf
CONTROL GRID (G) TO OSCILLATOR ANODE (G_A)	0.3	μμf
CONTROL GRID (G) TO OSCILLATOR GRID (G_O)	0.15	μμf
OSCILLATOR GRID (G_O) TO OSCILLATOR ANODE (G_A)	0.6	μμf
RF INPUT: CONTROL GRID (G) TO ALL OTHER ELECTRODES	7.7	μμf
OSCILLATOR INPUT: OSCILLATOR GRID (G_O) TO ALL OTHER ELECTRODES EXCEPT OSCILLATOR ANODE (G_A)	2.9	μμf
OSCILLATOR OUTPUT: OSCILLATOR ANODE (G_A) TO ALL OTHER ELECTRODES EXCEPT OSCILLATOR GRID (G_O)	3.3	μμf
MIXER OUTPUT: MIXER PLATE (P) TO ALL OTHER ELECTRODES	8.0	μμf

[A] OBTAINED PREFERABLY BY USING A PROPERLY BY-PASSED VOLTAGE DROPPING RESISTOR OF 45000 TO 75000 OHMS IN SERIES WITH A "B" SUPPLY VOLTAGE.

[B] A RESISTANCE OF AT LEAST 1 MEGOHM SHOULD BE IN GRID RETURN TO NEGATIVE FILAMENT TERMINAL (PIN #8).

[S] WITH EXTERNAL SHIELD CONNECTED TO NEGATIVE FILAMENT TERMINAL.

NOTE: THE TRANSCONDUCTANCE OF THE OSCILLATOR SECTION (NOT OSCILLATING) IS APPROXIMATELY 550 μMHOS, THE AMPLIFICATION FACTOR IS 40, AND THE OSCILLATOR ANODE CURRENT IS 2.2 MA. CONDITIONS: PLATE VOLTAGE = 90 VOLTS, OSCILLATOR ANODE VOLTAGE = 90 VOLTS, SCREEN VOLTAGE = 45 VOLTS, AND THE GRID VOLTAGE = 0 VOLTS.

PLATE 1103-1