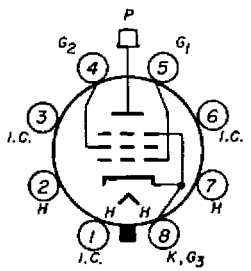
AMPEREX TUBE TYPE 7534

TENTATIVE DATA

The Amperex 7534 is a high transconductance output pentode designed for use as a wide-band amplifier, as a cathode follower, as a series stabilizer in electronic power supplies or as an output tube in class B push-pull circuits.

The 7534 contains two frame grids, one as control grid and one as screen grid. This modern construction makes a transconductance of 25,000 micromhos possible at the unusually low screen-grid current of 4 mA.

This tube is one of the Amperex "Premium Quality 10,000 Hour" tubes.



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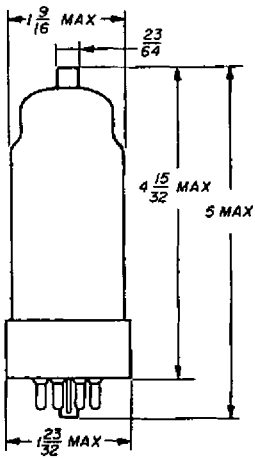
PIN CONNECTION

1- INTERNAL CONNECTION
2- HEATER
3- INTERNAL CONNECTION
4- GRID NO. 2
5- GRID NO. 1
6- INTERNAL CONNECTION
7- HEATER
8- CATHODE, GRID NO. 3

TOP CAP - PLATE



GENERAL CHARACTERISTICS

MECHANICAL

Base	octal
Mounting Position	any
Dimensions	see outline drawing

ELECTRICAL

Heating	parallel supply
Heater Voltage	6.3 volts
Heater Current	1.7 amps

Direct Interelectrode Capacitances

Input	35 μμf
Output	17 μμf
Plate to Grid No. 1	2 μμf max
Transconductance	25,000 micromhos
Amplification Factor, Grid No. 2 to Grid No. 1	6.5
Internal Plate Resistance	10,000 ohms

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Maximum Ratings, Absolute Values

Plate Voltage (Zero Current)	2000 volts max
Plate Voltage	900 volts max
Peak Plate Voltage [1]	6000 volts max
Grid No. 2 Voltage (Zero Current)	550 volts max
Grid No. 2 Voltage	250 volts max
Negative Grid No. 1 Voltage	150 volts max
Plate Dissipation	27.5 watts max
Grid No. 2 Dissipation	5.0 watts max
Grid No. 1 Dissipation	0.1 watts max
Cathode Current	300 mA max
Peak Cathode Current [2]	1.5 amps max
Series Grid Resistor (Automatic Bias)	1 megohm max
Series Grid Resistor (Fixed Bias)	.5 megohm max
Heater-Cathode Voltage (Cathode Pos. with respect to heater)	200 volts max
Heater-Cathode Voltage (Cathode Neg. with respect to Heater)	100 volts max
Cathode-Heater Circuit Resistance	20,000 ohms max
Bulb Temperature	225°C max

Typical Operation

Plate Voltage	250 volts
Grid No. 2 Voltage	150 volts
Negative Grid No. 1 Voltage	15.5 volts
Plate Current	100 mA
Grid No. 2 Current	4 mA
Grid No. 1 Voltage for Plate Current = 1 mA	30 volts

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[1] Maximum pulse duration 18% of a cycle with a maximum of 18 microseconds.

[2] Maximum pulse duration 10% of a cycle with a maximum of 4 milliseconds.

Push-Pull - Class B
(Two Tubes)

Typical Operation

Plate Voltage		300	volts
Grid No. 2 Voltage		150	volts
Negative Grid No. 1 Voltage		17	volts
Load Resistance (Plate to Plate)		1600	ohms
Input Voltage	0	0.245	9 volts rms
Plate Current	2x80	-	2x180 mA
Grid No. 2 Current	2x2.5	-	2x22 mA
Output Power	0	0.05	60 watts
Total Harmonic Distortion			5 %

End of Life [3]

The end of life is reached when one or more of the characteristics given below have changed to the indicated values:

Plate Current	< 60 mA
Transconductance	< 17,500 micromhos
Negative Grid No. 1 Current	>1 μA

Shock and Vibration Resistance

The tube can withstand during short time vibrational forces of 2.5 g at 50 c/s in various directions and impact shocks up to 500 g.

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[3] Conditions of life test are:

Heater Voltage	6.3 volts
Plate Supply Voltage	275 volts
Grid No. 2 Supply Voltage	180 volts
Grid No. 1 Supply Voltage	+ 15 volts
Cathode Resistor	300 ohms
Series Grid Resistor	47,000 ohms
Plate Current	100 mA
Heater-Cathode voltage (Cathode Pos)	220 volts

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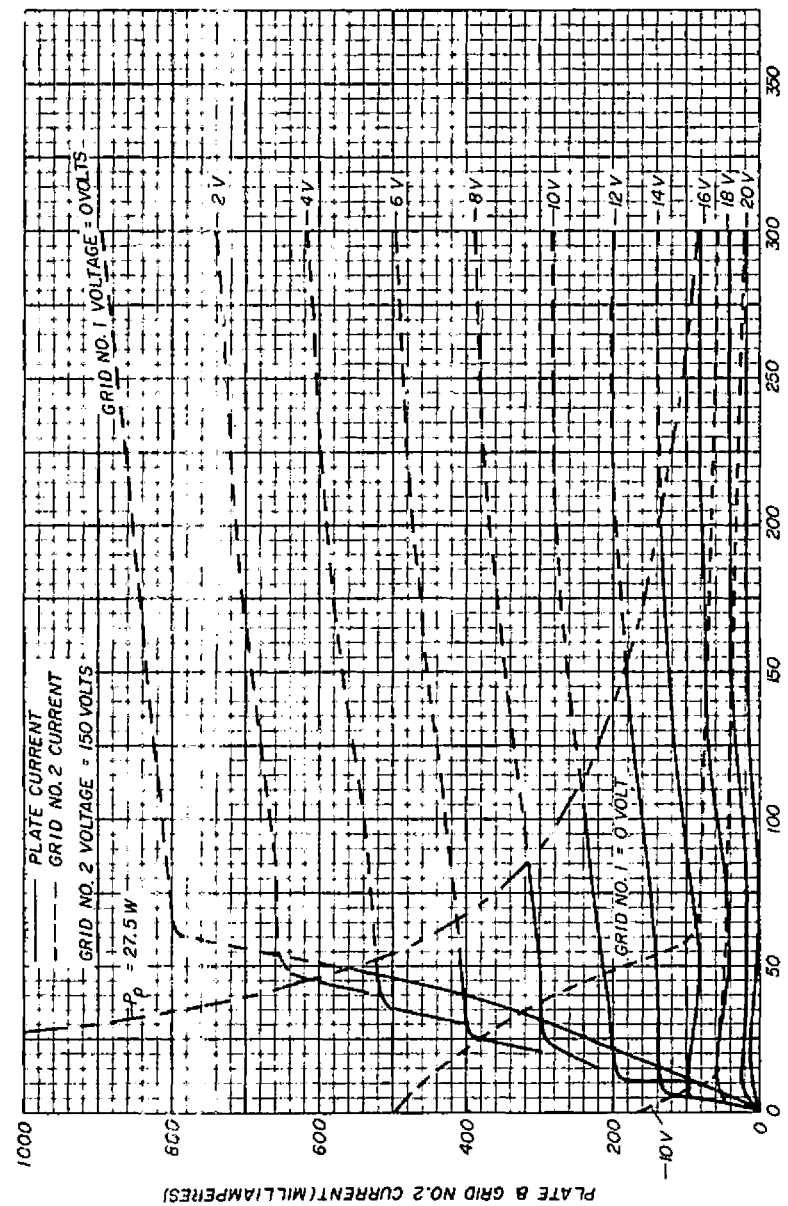
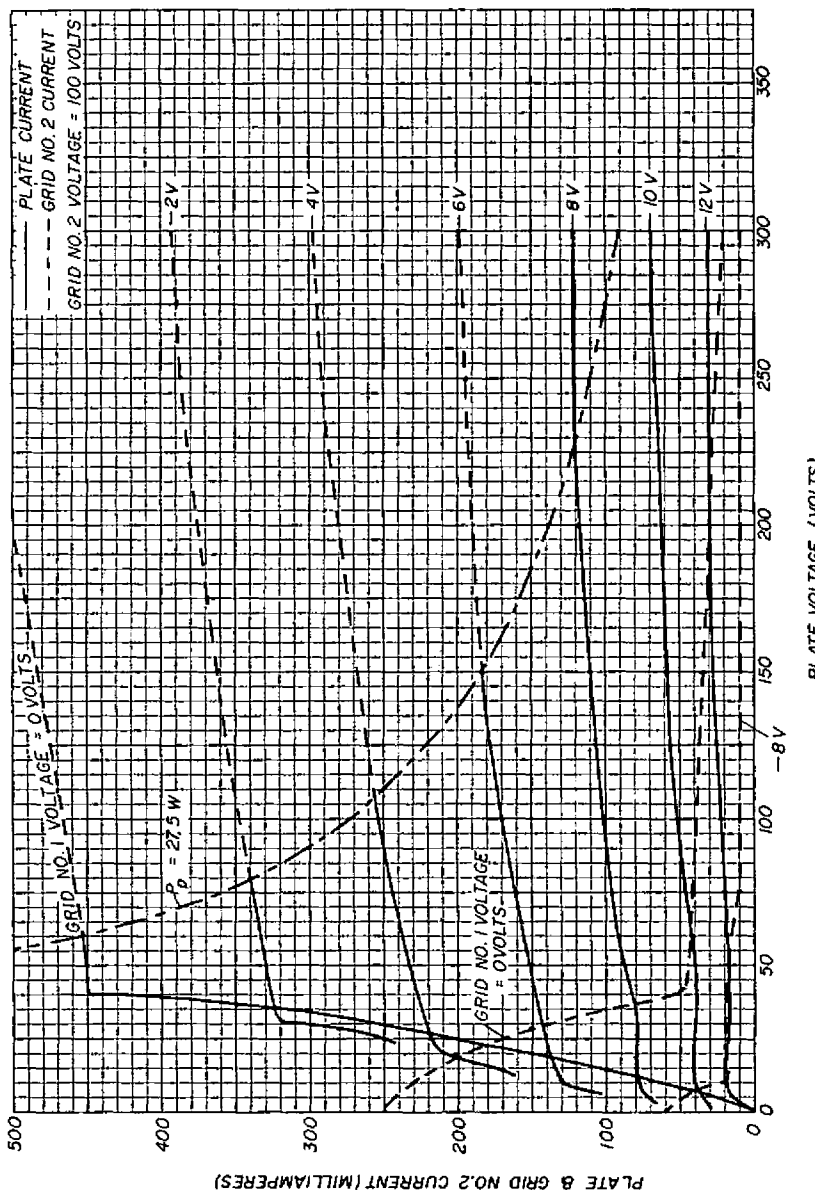


PLATE & GRID NO. 2 CHARACTERISTICS
PLATE CURRENT
GRID NO. 2 CURRENT
GRID NO. 2 VOLTAGE = 150 VOLTS
P_p = 27.5 W
GRID NO. 1 VOLTAGE = 0 VOLTS
2 V
4 V
6 V
8 V
10 V
12 V
14 V
16 V
18 V
20 V
GRID NO. 1 = 0 VOLT
-10 V
PLATE & GRID NO.2 CURRENT (MILLIAMPERES)
1000
800
600
400
200
0
0
50
100
150
200
250
300
350
PLATE VOLTAGE (VOLTS)

PLATE & GRID NO. 2 CHARACTERISTICS



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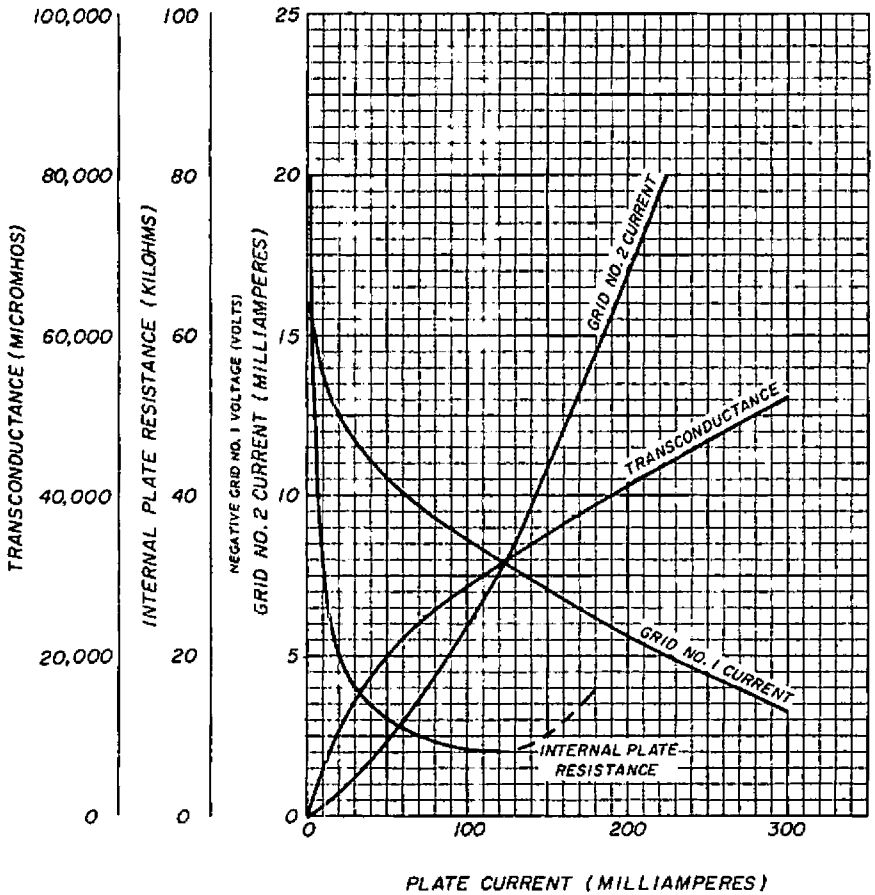
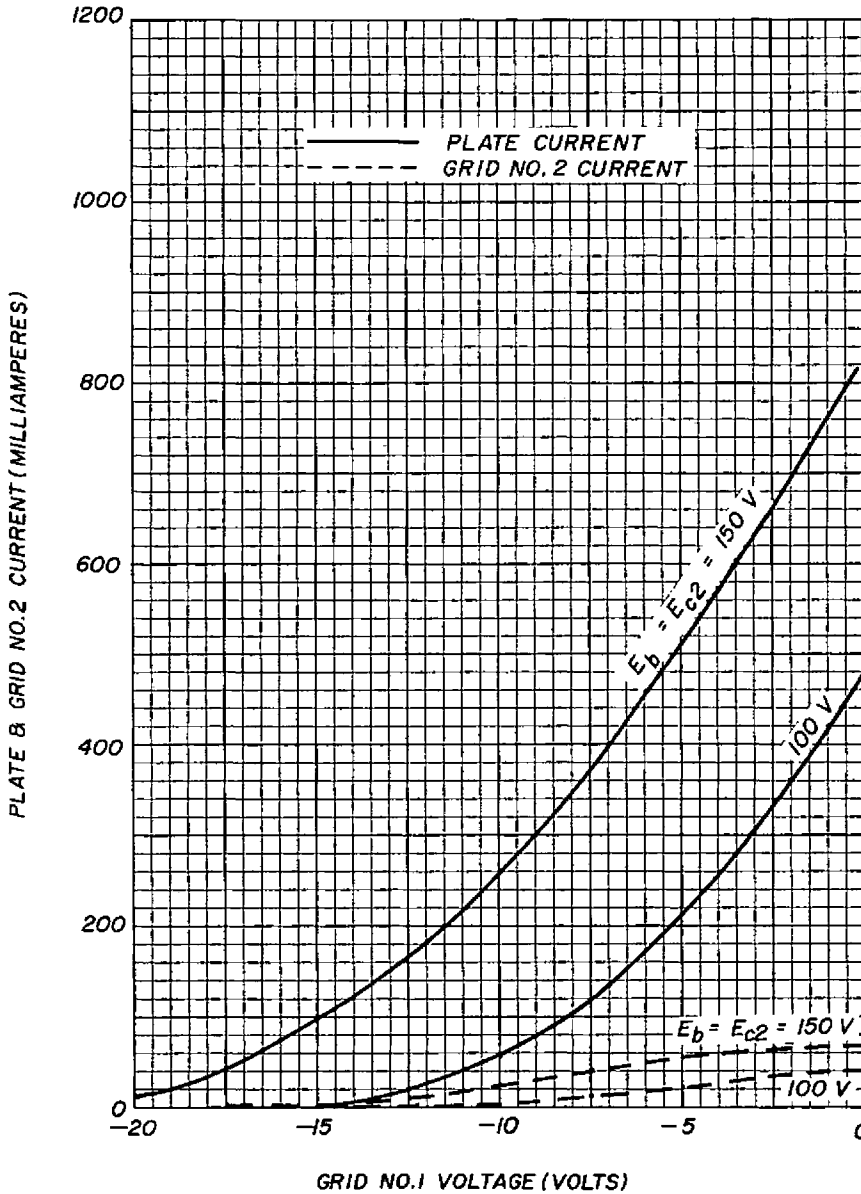
TYPICAL PERFORMANCE CHART



AVERAGE CHARACTERISTICS



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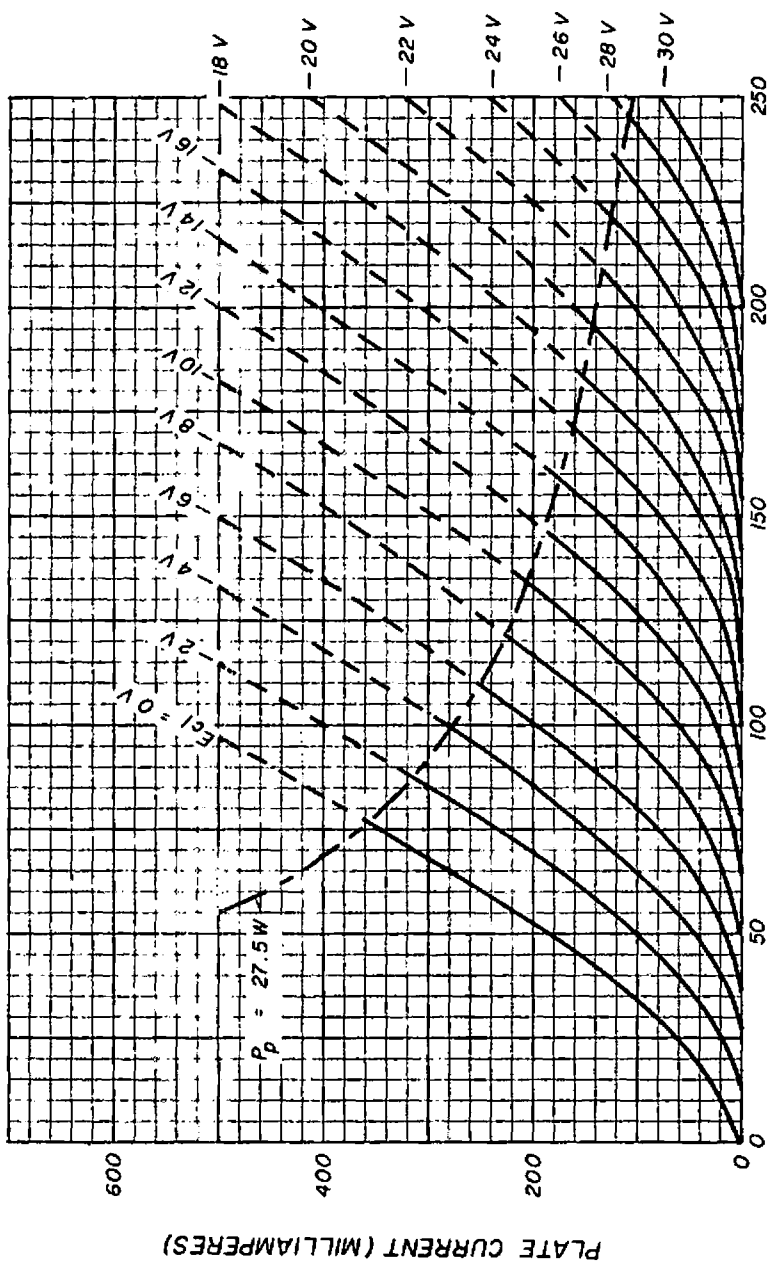
PLATE CHARACTERISTICS
TRIODE CONNECTED
PLATE CURRENT (MILLIAMPERES)
PLATE VOLTAGE (VOLTS)
P_p = 27.5 W
E_{c1} = 0 V
2 V
4 V
6 V
8 V
10 V
12 V
14 V
16 V
18 V
20 V
22 V
24 V
26 V
28 V
30 V
0
50
100
150
200
250
0
200
400
600