ELECTRON TUBE DATA SHEET

WESTERN ELECTRIC 421A* ELECTRON TUBE

DESCRIPTION

The 5998/421A* is a double triode having separate indirectly heated cathodes. It is intended for use as a series tube in regulated rectifier circuits.

CHARACTERISTICS

Heater Voltage		6.3 volts
Plate Current per Section	E_{bb} = 110 volts;	125 milliamperes
Transconductance per Section	R_k = 65 ohms	20000 micromhos

FILE: GENERAL PURPOSE SECTION
Issue 2, 10-53

GENERAL CHARACTERISTICS

ELECTRICAL DATA

Heater Voltage	6.3 volts
Heater Current	2.4 amperes

MECHANICAL DATA

Cathode	Coated Unipotential
Bulb	ST 16
Base	Medium 8-pin octal
Mounting Position	Any
Dimensions and Pin Connections	See Outline drawing page 4

MAXIMUM RATINGS, Design-Center Values (Each Triode)

Plate Voltage	250 volts
Plate Dissipation	13 watts
Cathode Current	125 milliamperes
Heater-Cathode Voltage[1]	150 volts
Bulb Temperature[1]	200°Centigrade
Maximum Grid Circuit Resistance for Cathode Bias	0.1 megohm

OPERATING CONDITIONS AND CHARACTERISTICS (Each Triode)

Plate Supply Voltage	110	110 volts
Cathode Bias Resistance	90	65 ohms
Plate Current	100	125 milliamperes
Amplification Factor	5.9	6.1
Plate Resistance	330	305 ohms
Transconductance	18000	20000 micromhos

Note 1: For optimum life expectancy the heater-cathode voltage should not exceed 90 volts and forced-air cooling should be provided. The air flow should be sufficient to keep the bulb temperature below 150°C.

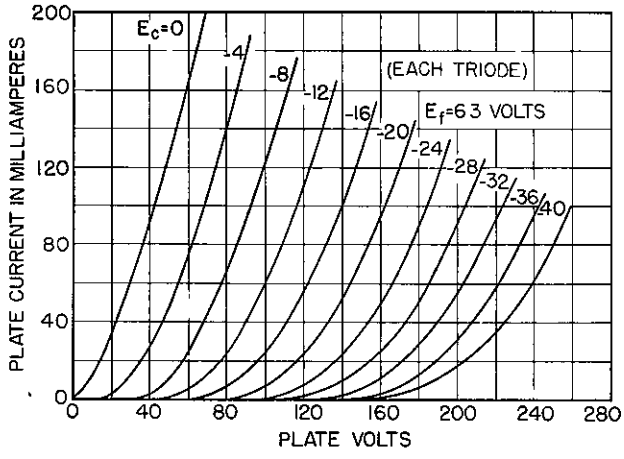
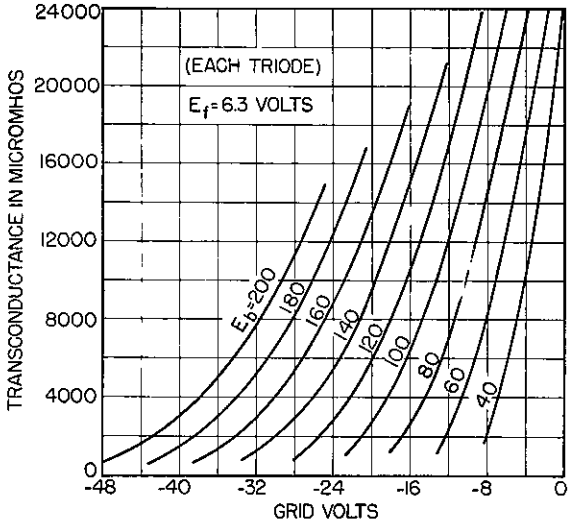


PLATE CURRENT IN MILLIAMPERES
PLATE VOLTS
(EACH TRIODE)
E_f=6.3 VOLTS
E_c=0
-4
-8
-12
-16
-20
-24
-28
-32
-36
-40
0
40
80
120
160
200
240
280


TRANSCONDUCTANCE IN MICROMHOS
GRID VOLTS
(EACH TRIODE)
E_f=6.3 VOLTS
E_b=200
180
160
140
120
100
80
60
40
-48
-40
-32
-24
-16
-8
0

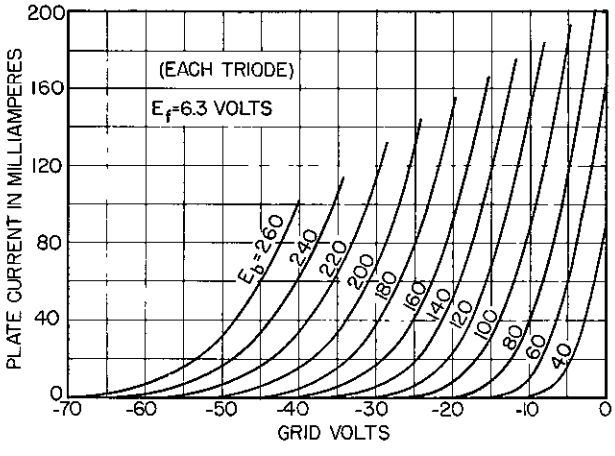


PLATE CURRENT IN MILLIAMPERES
GRID VOLTS
(EACH TRIODE)
E_f=6.3 VOLTS
E_b=260
240
220
200
180
160
140
120
100
80
60
40
-70
-60
-50
-40
-30
-20
-10
0

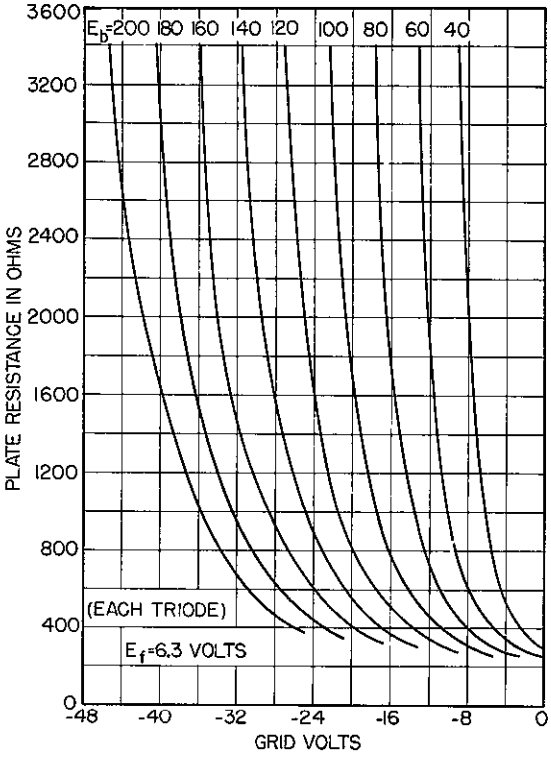
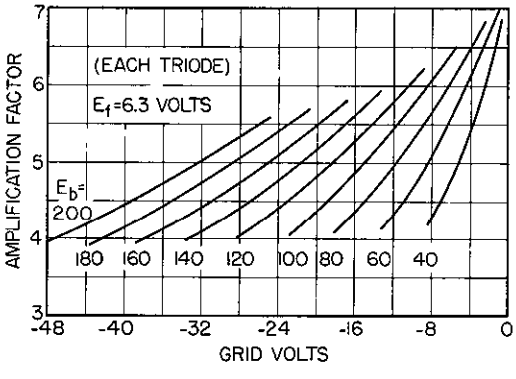
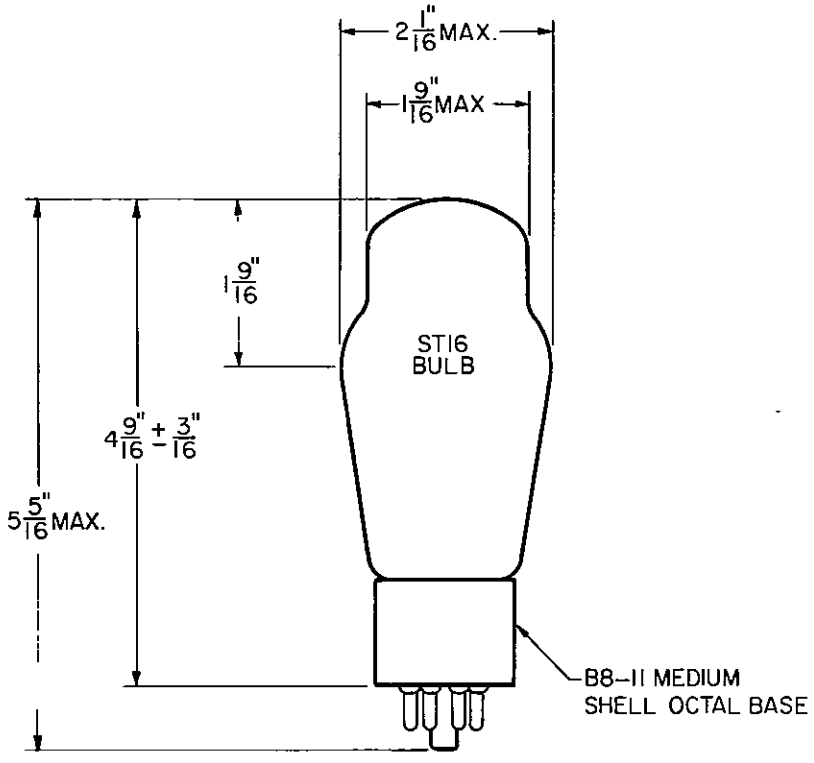
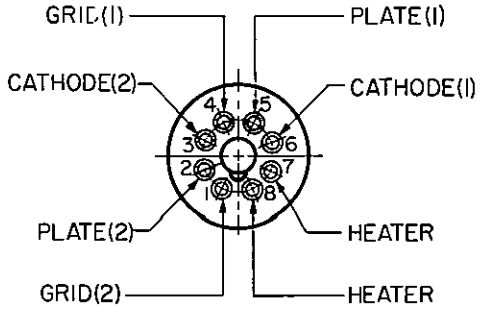


PLATE RESISTANCE IN OHMS
GRID VOLTS
E_b=200 180 160 140 120 100 80 60 40
(EACH TRIODE)
E_f=6.3 VOLTS
-48
-40
-32
-24
-16
-8
0


AMPLIFICATION FACTOR
GRID VOLTS
(EACH TRIODE)
E_f=6.3 VOLTS
E_b=
200
180 160 140 120 100 80 60 40
-48
-40
-32
-24
-16
-8
0





A development of Bell Telephone Laboratories, the research laboratories of the American Telephone and Telegraph Company and the Western Electric Company