

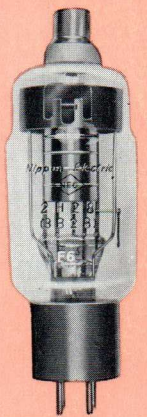
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NEC

NEC
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NEC TRANSMITTING TUBES

CHARACTERISTICS DATA



Nippon Electric Company Ltd.

FOREWORD

For the past twenty five years, Nippon Electric Co., Ltd. has contributed much of its effort in enhancing the status of Electron Tube Industry in Japan to one of the highest level in the world.

A significant attitude which the Nippon Electric has been holding for years passed and years to come is the "Quality First." The NEC Transmitting Tubes have been noted for its Long life, Excellent performance and Good uniformity.

A substantial part of NEC Transmitting Tubes is provided with good interchangeability with American tubes such as R. C. A., G. E., Western Electric and Eimac, while some of them are interchangeable with European tube types like S. T. C., Mullard and Philips. The corresponding types are shown side by side by our own designations.

We are ready to supply these tubes, strictly in accordance with military specifications if the customers so desire upon request.

There are other electron tubes of our manufacture like Microwave Tubes, Cathode Ray Tubes, Receiving, Reliable or Repeater Tubes and Special Purpose Tubes; the catalogs in English covering these tubes are also available from Foreign Trade Division, Nippon Electric Company, Ltd.

T.P.D (1)

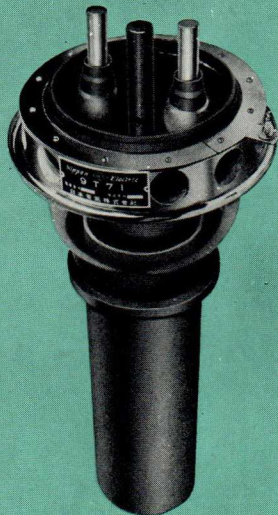
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NB ✓
Ruffin ✓

NEC 9T71

EUROPEAN TYPE —
AMERICAN TYPE 5770



POWER TRIODE (Water Cooled, Grounded-Grid Type)

Filament, Multistrand Thoriated-Tungsten :	
Excitation	Single phase A.C or D.C
Voltage	11 Volts
Current	285 Amperes
Starting Current	570 Amperes
Amplification Factor	39
Direct Interelectrode Capacitances (Approx.):	
Grid to Plate	53 pF
Grid to Filament	89 pF
Plate to Filament	1.2 pF.
Plate Voltage (D.C.)	17,000 Volts max.
Plate Dissipation	50,000 Watts max.

Cooling air flow, 75 l/min for the maximum plate dissipation must be delivered before the application of any voltages.

Air Flow to Filament Seals 0.3 m³/min

NEC 8T92R

EUROPEAN TYPE BR-175
AMERICAN TYPE 892-R



POWER TRIODE (Forced-Air Cooled)

Filament Tungsten, Two-unit Type	
Excitation	1 ϕ A.C., 2 ϕ A.C. or D.C.
Voltage per unit	11 Volts
Current per unit	60 Amperes
Amplification Factor	50
Transconductance (for plate current of 1.0 Amp.)	9,000 μ Mhos
Direct Interelectrode Capacitances (Approx.):	
Grid to Plate	20 pF
Grid to Filament	22 pF
Plate to Filament	1.9 pF
Plate Voltage (D.C.)	12,000 Volts max.
Plate Dissipation	6,000 Watts max.

Note: When a single-phase or D-C supply is used, do not connect the two filament sections in parallel. Doing so will overheat common filament lead (Center tap terminal) and damage the tube.

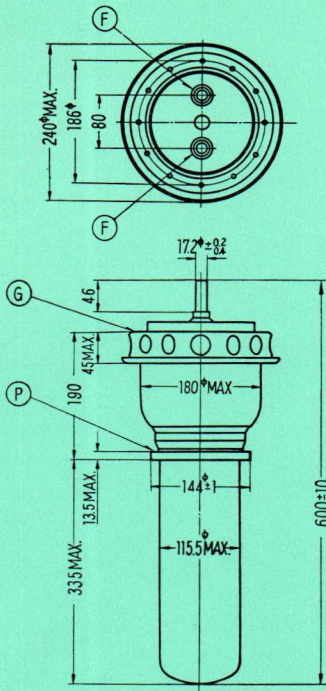
Cooling air flow, 20m³/min for the maximum plate dissipation, must be delivered before the application of any voltages.

Note: The filament terminals are not identical with those of American Type.

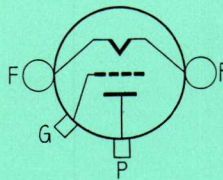
NEC TRANSMITTING TUBE CHARACTERISTIC DATA



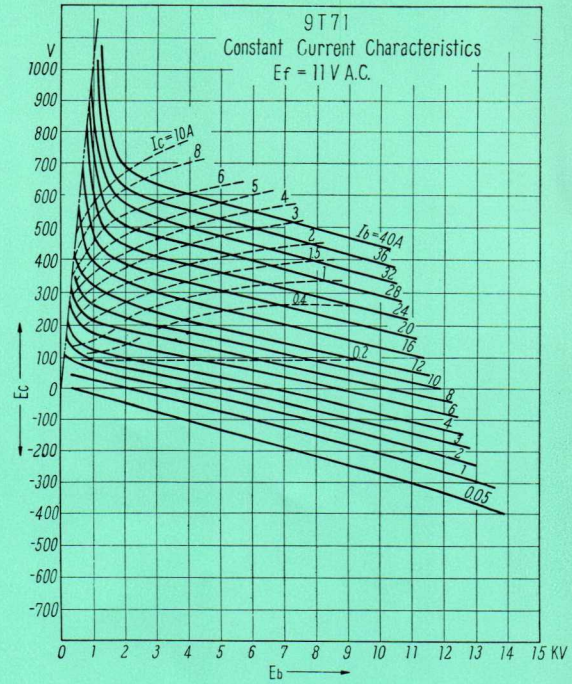
Unit mm



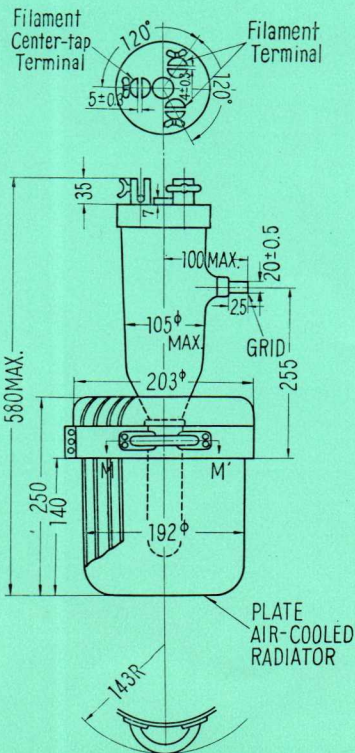
Terminal Connection



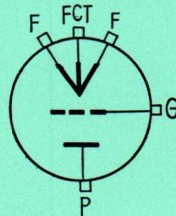
F-Filament
G-Grid-Flange Terminal
P-Water-Cooled Plate Terminal



Unit mm

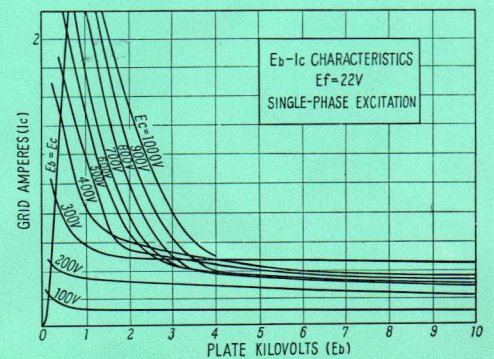
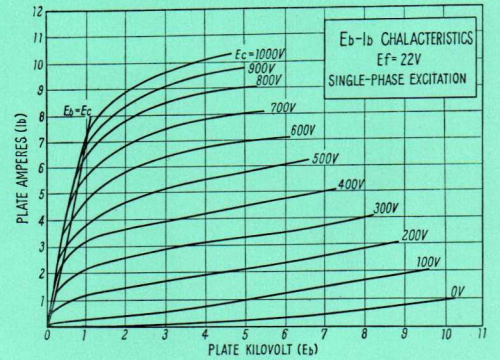


Terminal Connection



TUBE MOUNTING POSITION

VERTICAL: Glass end up
HORIZONTAL: Not advisable



NEC 8T71R

EUROPEAN TYPE —
AMERICAN TYPE 5671



POWER TRIODE (Forced-Air Cooled)

Filament, Multistrand Thoriated Tungsten:	
Excitation	Single Phase A.C or D.C
Voltage	11 Volts
Current	285 Amperes
Starting Current	570 Amperes
Amplification Factor	39
Direct Interelectrode Capacitances (Approx.):	
Grid to Plate	52 pF
Grid to Filament	88 pF
Plate to Filament	1.5 pF
Plate Voltage (D.C)	15,000 Volts max.
Plate Dissipation	25,000 Watts max.

Cooling air flow, 65m³/min for the maximum plate dissipation, must be delivered before the application of any voltages.

Air Flow To Filament Seals 0.3 m³/min

NEC 4F15R

EUROPEAN TYPE QEL-1/150
AMERICAN TYPE 4X150A



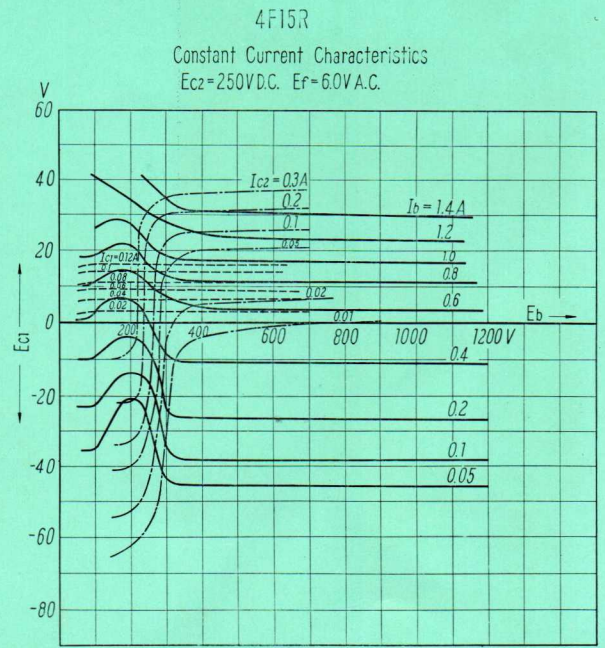
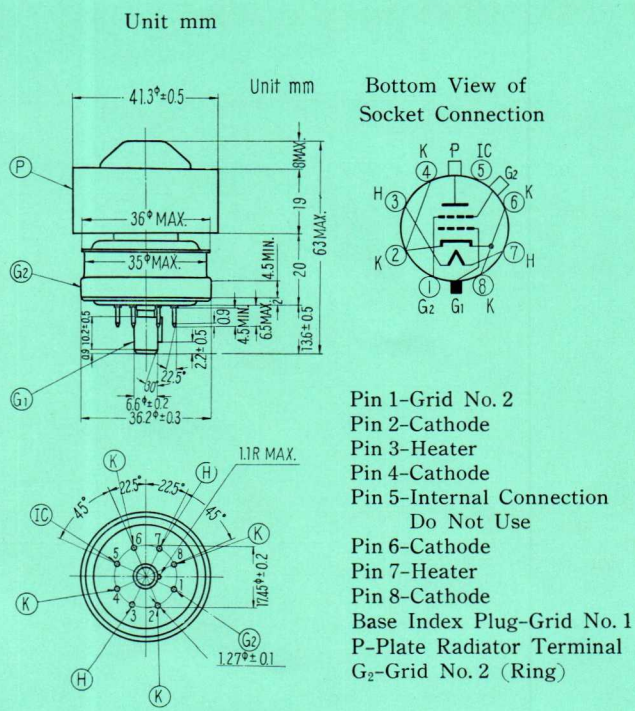
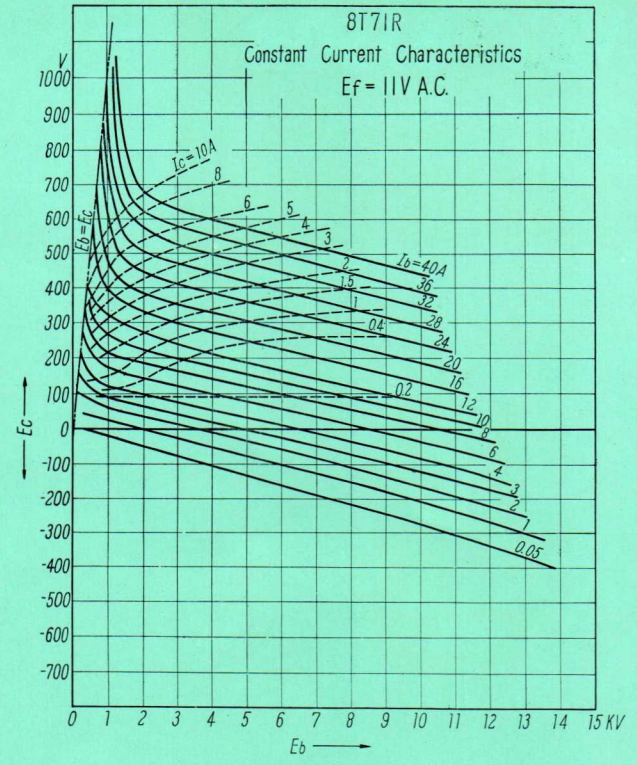
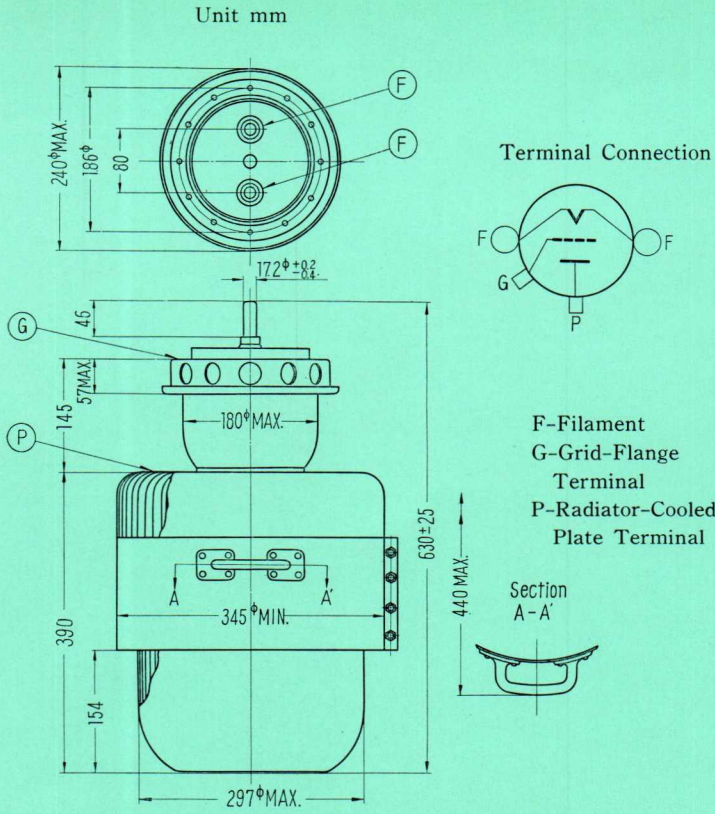
RADIAL BEAM POWER TETRODE (Force-Air Cooled)

USEFUL AT FREQUENCY UP TO 500 Mc

Heater, for Unipotential Cathode:	
Voltage (A.C. or D.C.)	6.0 Volts
Current	2.6 Amperes
Minimum Heating Time	30 sec.
Mu-Factor Grid No.2 to Grid No.1 (for Grid No.2 Volts=300)	5
Direct Interelectrode Capacitances (Approx.):	
Grid No.1 to Plate	0.02 pF
Grid No.1 to cathode, grid No.2 and heater	15.5 pF
Plate to cathode, grid No.2 and heater	4.5 pF
Plate Voltage (D.C)	1250 Volts max.
Plate Dissipation	150 Watts max.
Grid No.2 (Screen) Voltage (D.C)	300 Volts max.
Crid No.2 (Screen) Dissipation	12 Watts max.

Cooling air flow, 0.2 m³/min for the maximum plate dissipation, must be delivered before the application of any voltages.

NEC TRANSMITTING TUBE CHARACTERISTIC DATA



NEC 6F50R

EUROPEAN TYPE QBL-4/800
AMERICAN TYPE 4X500A



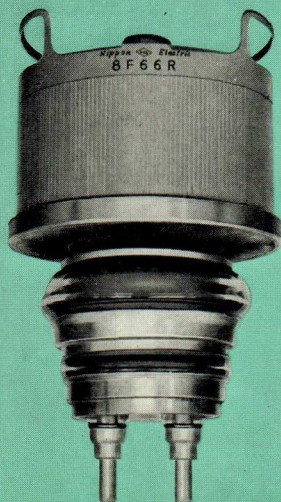
RADIAL BEAM POWER TETRODE (Forced-Air Cooled)

Filament, Thoriated Tungsten :	
Voltage (A.C. or D.C.)	5.0 Volts
Current	13.5 Amperes
Mu-Factor, Grid No.2 to Grid No.1	6.2
Direct Interelectrode Capacitances (Approx.) :	
Grid No.1 to plate	0.05 pF
Input	12.8 pF
Output	5.6 pF
Plate Voltage (D.C)	4000 Volts max.
Plate Dissipation	500 Watts max.
Grid No.2 (Screen) Voltage (D.C)	500 Volts max.
Grid No. 2 (Screen) Dissipation	30 Watts max.

Cooling air flow $1 \text{ m}^3/\text{min}$ for the maximum plate dissipation must be delivered before the application of any voltages.

NEC 8F66R

EUROPEAN TYPE CR192
AMERICAN TYPE 6166

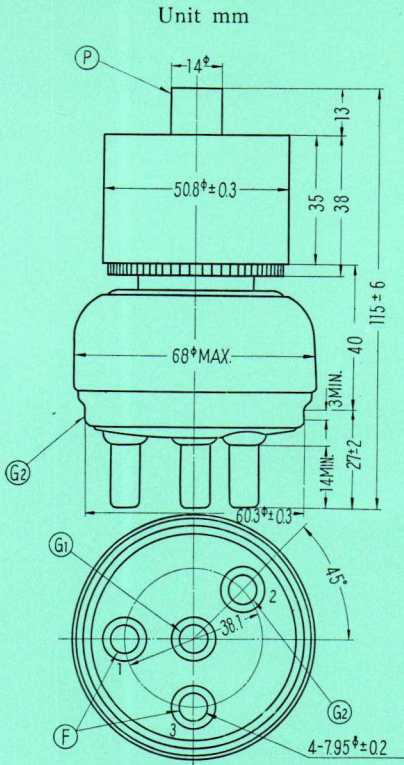


VHF BEAM POWER TETRODE (Forced-Air Cooled)

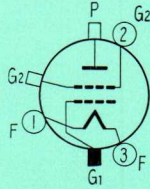
Filament, Thoriated Tungsten :	
Voltage (A.C or D.C)	5 Volts
Current	177 Amperes
Minimum Heating Time	15 sec
Mu-Factor Grid No. 2 to Grid No. 1	10
Direct Interelectrode Capacitances :	
Grid No.1 to Plate	0.6 pF max.
Grid No.1 to Filament	44 pF
Plate to Filament	0.08 pF max.
Grid No.1 to Grid No. 2	60 pF
Grid No. 2 to Plate	23 pF
Plate Voltage (D.C)	6600 Volts max.
Plate Dissipation	10000 Watts max.
Grid No. 2 (Screen) Voltage (D.C)	2000 Volts max.
Grid No. 2 (Screen) Dissipation	400 Watts max.

Cooling air flow, $10 \text{ m}^3/\text{min}$ for the maximum plate dissipation, must be delivered before the application of any voltages.

NEC TRANSMITTING TUBE CHARACTERISTIC DATA

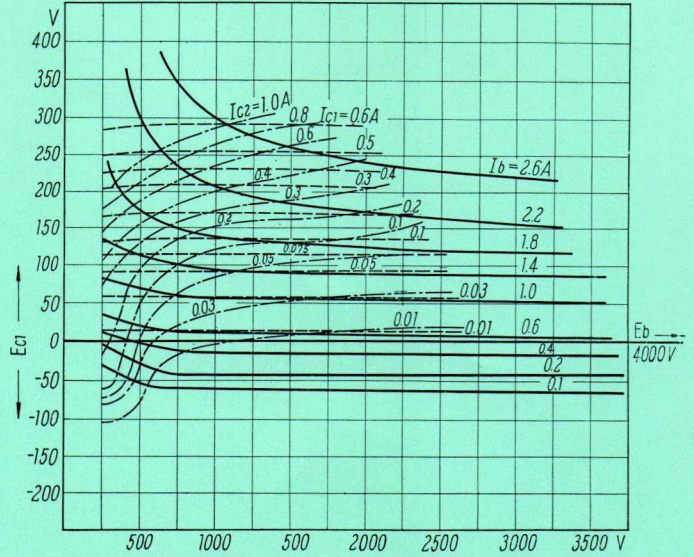


Terminal Connection

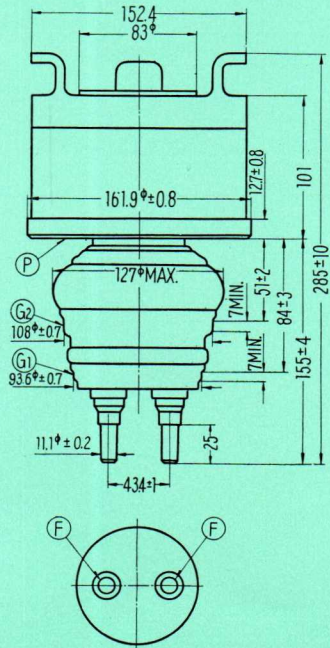


- Pin 1-Filament
- Pin 2-Grid No. 2
- Pin 3-Filament
- P-Plate Radiator Terminal
- G₁-Grid No. 1 (Center Terminal on Filament End of Tube)
- G₂-Grid No. 2 (Ring)

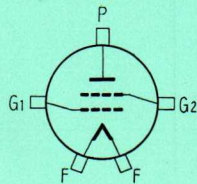
6F50R
Constant Current Characteristics
E_{c2} = 500VDC E_f = 5.0VAC.



Unit mm

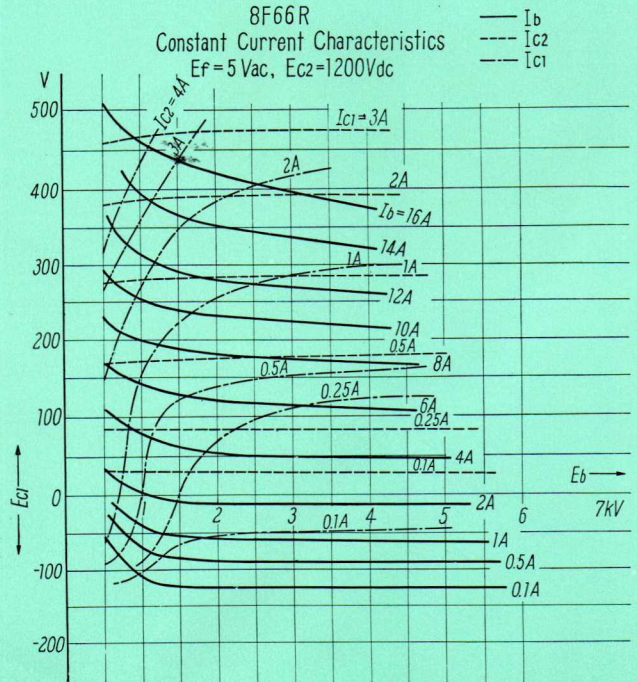


Terminal Connection



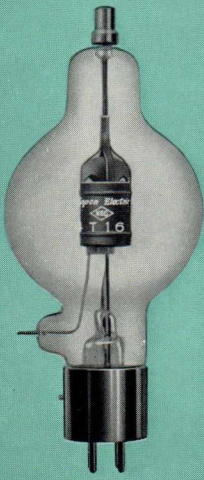
- F-Filament
- G₁-Grid-No. 1 Term. (Adjacent to Fil. Posts)
- G₂-Grid-No. 2 Terminal (Between Grid No. 1 & Grid No. 2 Term)
- P-Plate Terminal (Ring of Radiator)

8F66R
Constant Current Characteristics
E_f = 5 Vac, E_{c2} = 1200Vdc



NEC 4T16

EUROPEAN TYPE —
AMERICAN TYPE 100-TL



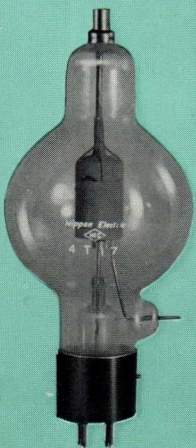
LOW-MU POWER TRIODE

Filament, Thoriated Tungsten :	
Voltage (AC or DC)	5 Volts
Current	6.3 Amperes
Amplification Factor	14
Direct Interelectrode Capacitances (Approx.) :	
Grid to Plate	2 pF
Grid to Filament	2.3 pF
Plate to Filament	0.4 pF
Plate Voltage (D.C)	3000 Volts max.
Plate Dissipation	100 Watts max.

Note : On the tube nomenclature of the American equivalent type is also printed.

NEC 4T17

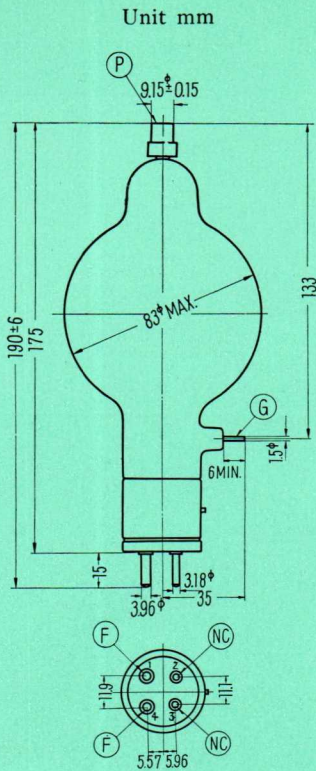
EUROPEAN TYPE TB 3/350
AMERICAN TYPE 100-TH



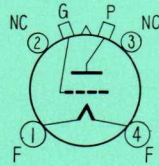
HIGH-MU POWER TRIODE

Filament, Thoriated Tungsten :	
Voltage (AC or DC)	5 Volts
Current	6.3 Amperes
Amplification Factor	38
Direct Interelectrode Capacitances (Approx.) :	
Grid to Plate	2 pF
Grid to Filament	3 pF
Plate to Filament	0.3 pF
Plate Voltage (D.C)	3000 Volts max.
Plate Dissipation	100 Watts max.

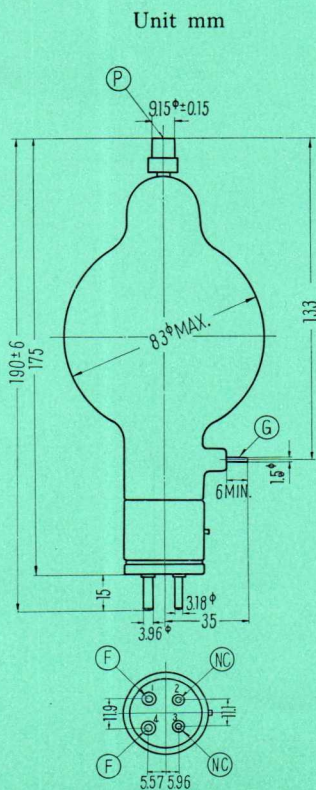
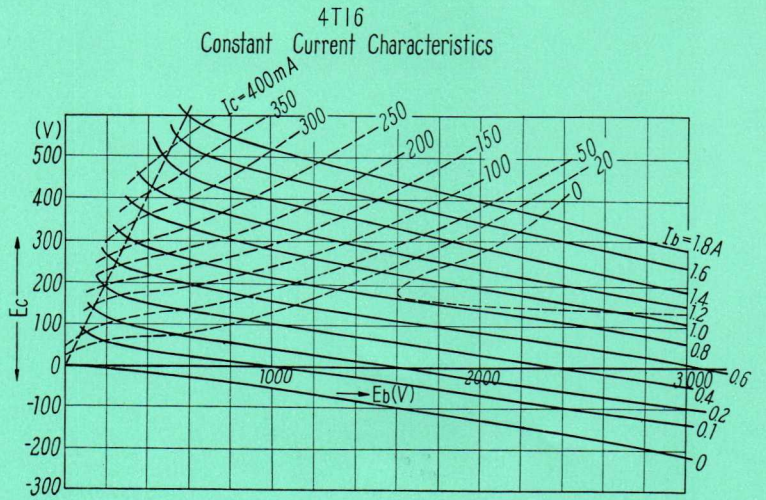
Note : On the tube nomenclature of the American equivalent type is also printed.



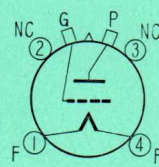
Bottom View of Socket Connection



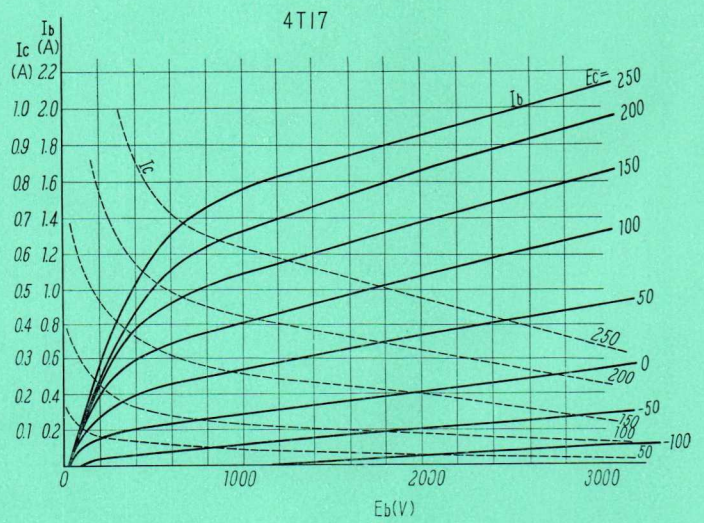
- Pin 1-Filament
- Pin 2-No Connection
- Pin 3-No Connection
- Pin 4-Filament
- Cap-Plate
- Side-Grid



Bottom View of Socket Connection

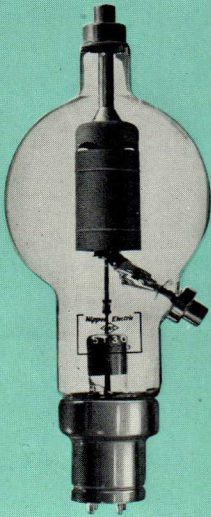


- Pin 1-Filament
- Pin 2-No Connection
- Pin 3-No Connection
- Pin 4-Filament
- Cap-Plate
- Side-Grid



NEC 5T30

EUROPEAN TYPE —
AMERICAN TYPE 450-TL



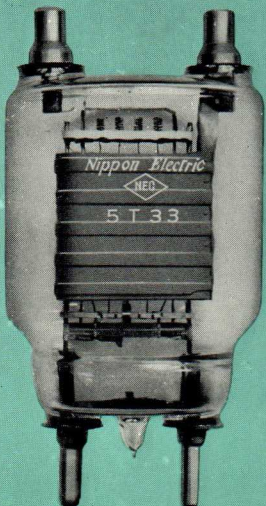
LOW-MU POWER TRIODE

Filament, Thoriated Tungsten :	
Voltage (A.C or D.C)	7.5 Volts
Current	12 Amperes
Amplification Factor	18
Direct Interelectrode Capacitances (Approx.) :	
Grid to Plate	4.5 pF
Grid to Filament	6.8 pF
Plate to Filament	0.8 pF
Plate Voltage (D.C)	6000 Volts max.
Plate Dissipation	450 Watts max.

Note: On the tube nomenclature of the American equivalent type is also printed.

NEC 5T33

EUROPEAN TYPE TY4-350
AMERICAN TYPE 833-A

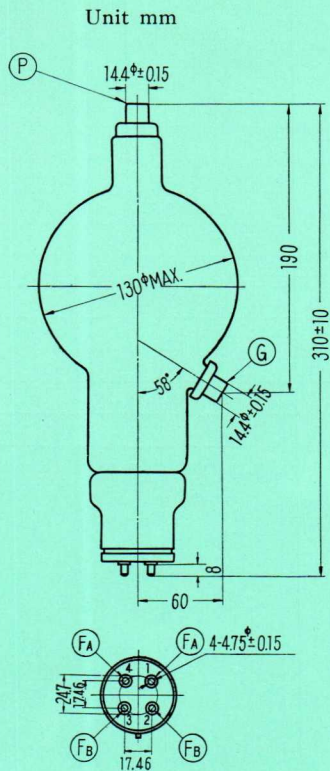


POWER TRIODE

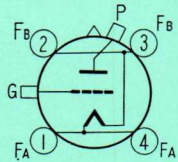
Filament, Thoriated Tungsten :	
Voltage (AC or DC)	10 Volts
Current	10 Amperes
Amplification Factor	35
Direct Interelectrode Capacitances (Approx.) :	
Grid to Plate	6.3 pF
Grid to Filament	12.3 pF
Plate to Filament	8.5 pF
Plate Voltage (D.C)	3000 Volts max.
Plate Dissipation	300 Watts max.

Note: On the tube nomenclature of the American equivalent type is also printed.

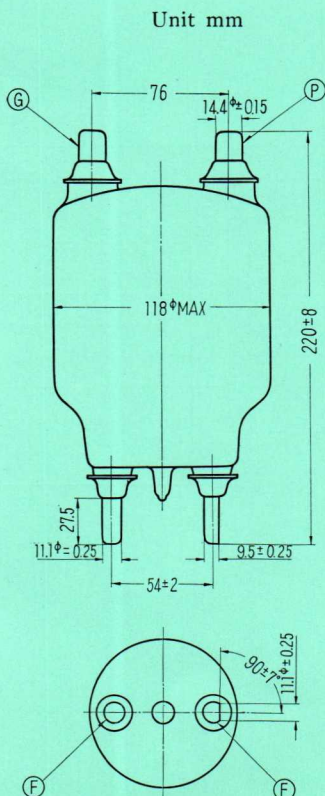
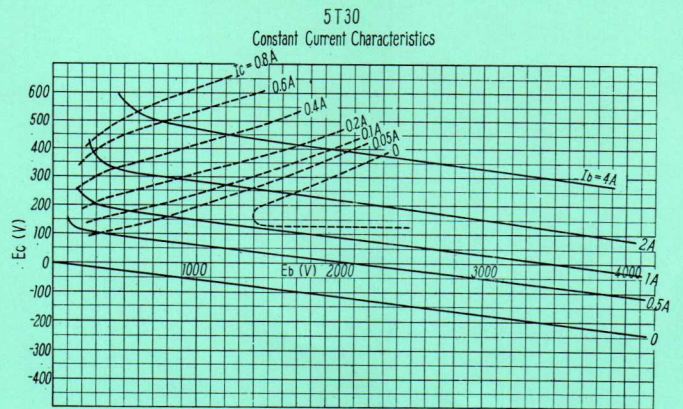
NEC TRANSMITTING TUBE CHARACTERISTIC DATA



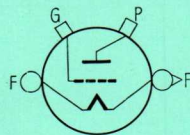
Bottom View of Socket Connection



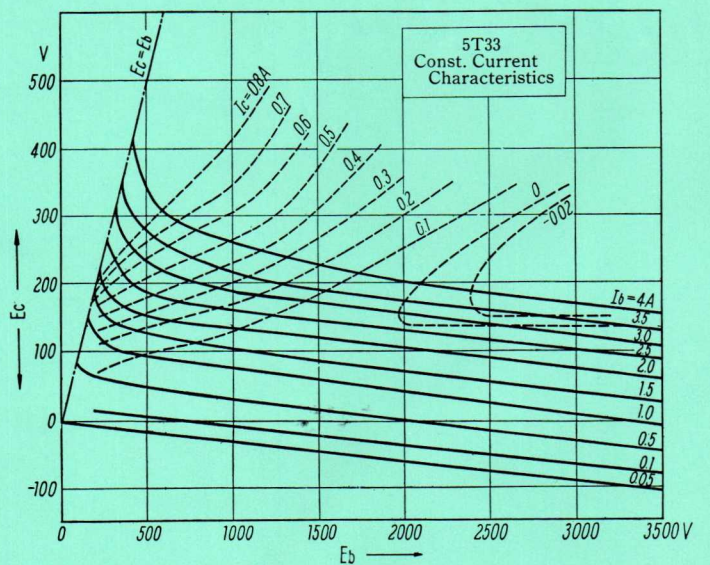
- Pin 1-Filament A
- Pin 2-Filament B
- Pin 3-Filament B
- Pin 4-Filament A
- Cap-Plate
- Side-Grid



Terminal Connection

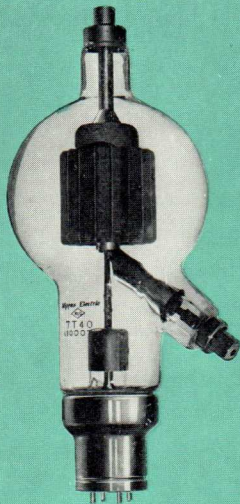


- P-Plate
- G-Grid
- F-Filament



NEC 7T40

EUROPEAN TYPE
AMERICAN TYPE 1000-T



HIGH-MU POWER TRIODE (Forced-Air Cooled)

Filament, Thoriated Tungsten :	
Voltage (A.C. or D.C.)	7.5 Volts
Current	16 Amperes
Amplification Factor	35
Direct Interelectrode Capacitances (Approx.) :	
Grid to Plate	5.1 pF
Grid to Filament	9.3 pF
Plate to Filament	0.5 pF
Plate Voltage (D.C.)	7500 Volts max.
Plate Dissipation	1000 Watts max.

Cooling air flow to Plate terminal, Grid terminal and Filament base, 0.06 m³/min for maximum plate dissipations.

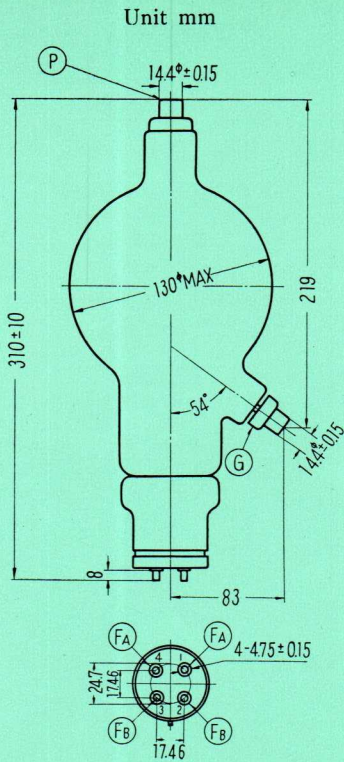
NEC UV-211A

EUROPEAN TYPE 3B/850A
AMERICAN TYPE 211

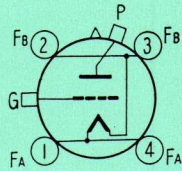


POWER TRIODE

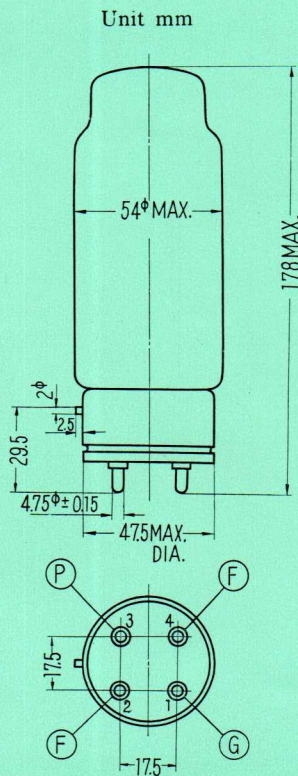
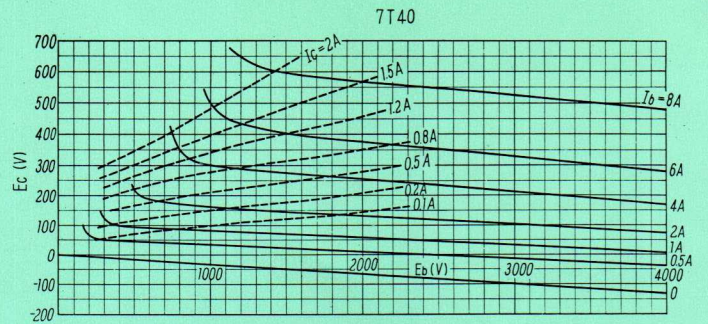
Filament Thoriated Tungsten	
Voltage (A.C. or D.C.)	10 Volts
Current	3.25 Amperes
Transconductance (for plate current of 75 mA.)	3,800 μ Mhos
Amplification Factor	12
Direct Interelectrode Capacitances (Approx.) :	
Grid to Plate	15 pF
Grid to Filament	6 pF
Plate to Filament	5 pF
Plate Voltage (D.C.)	1,250 Volts max.
Plate Dissipation	75 Watts max.



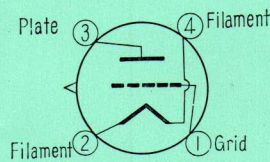
Bottom View of Socket Connection



- Pin 1-Filament A
- Pin 2-Filament B
- Pin 3-Filament B
- Pin 4-Filament A
- Cap-Plate
- Side-Grid

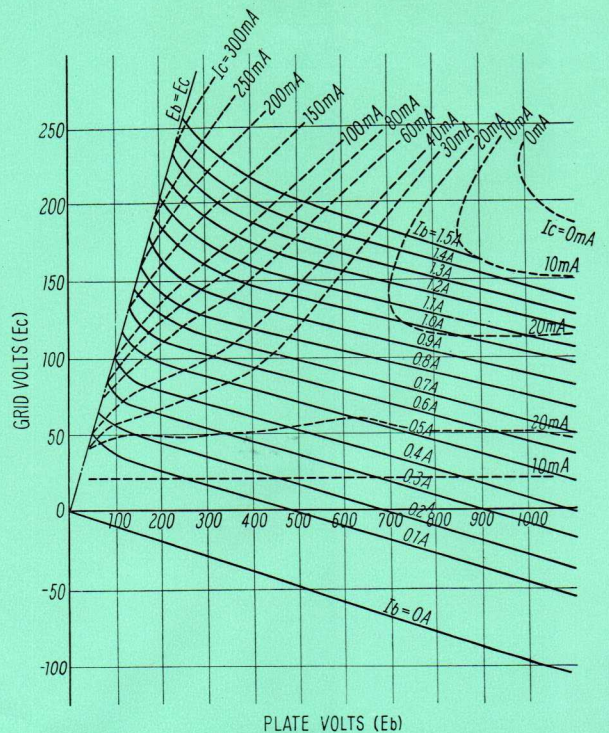


Bottom View of Socket Connections



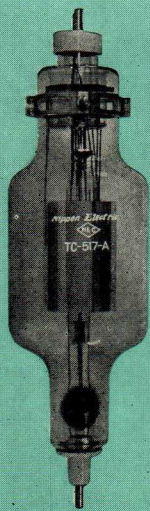
TUBE MOUNTING POSITION

- VERTICAL: Base up or down
- HORIZONTAL: Not advisable



NEC TC-517-A

EUROPEAN TYPE 4251-A
AMERICAN TYPE 251-A



R-F POWER AMPLIFIER, OSCILLATOR

Filament Thoriated Tungsten	
Voltage (A.C. or D.C.)	10 Volts
Current	15 Amperes
Transconductance (for plate current of 240 mA.)	4,000 μ Mhos
Amplification factor	10
Direct Interelectrode Capacitances (Approx.):	
Grid to Plate	8 pF
Grid to Filament	10 pF
Plate to Filament	6 pF
Plate Voltage (D.C.)	3000 Volts max.
Plate Dissipation	600 Volts max.

NEC TC-522-A

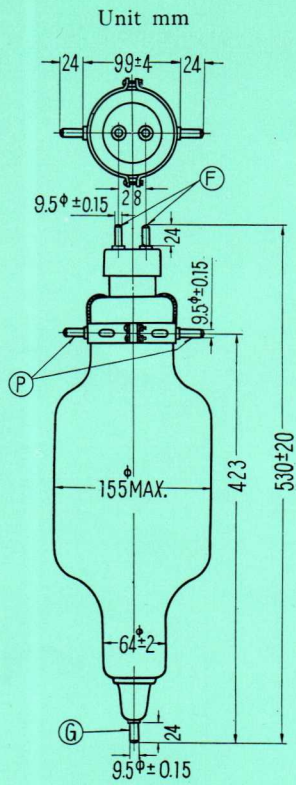
EUROPEAN TYPE 4279-A
AMERICAN TYPE 279-A



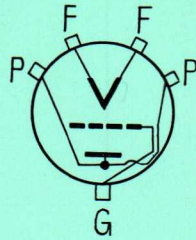
R-F POWER AMPLIFIER, OSCILLATOR

Filament Thoriated Tungsten	
Voltage (A.C. or D.C.)	10 Volts
Current	21 Amperes
Transconductance (for plate current of 400 mA.)	6,000 μ Mhos
Amplification factor	11
Direct Interelectrode Capacitances (Approx.):	
Grid to Plate	22 pF
Grid to Filament	19 pF
Plate to Filament	12 pF
Plate Voltage (D.C.)	3,000 Volts max.
Plate Dissipation	1,000 Watts max.

NEC TRANSMITTING TUBE CHARACTERISTIC DATA

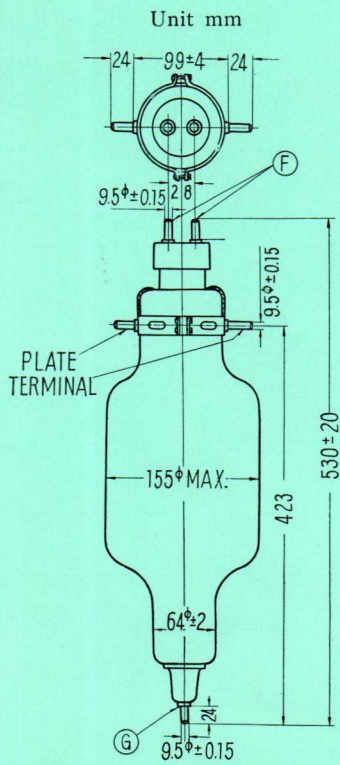
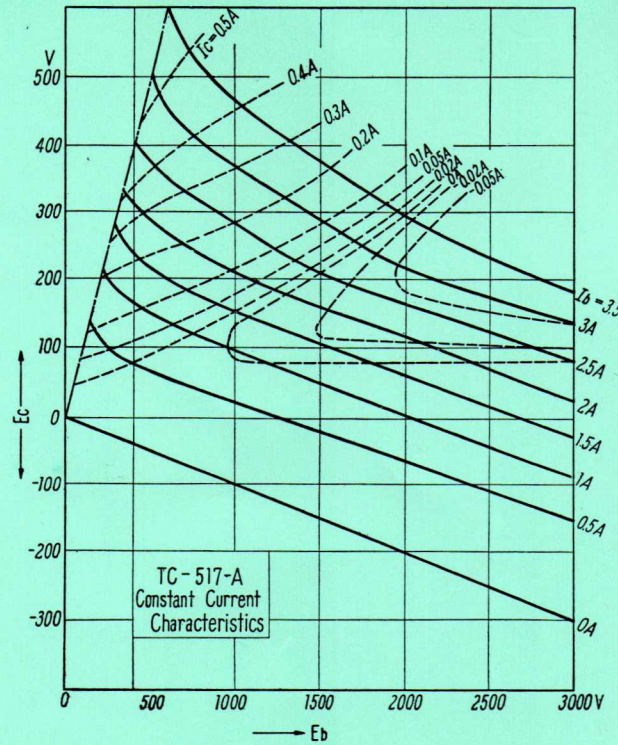


Terminal Connection

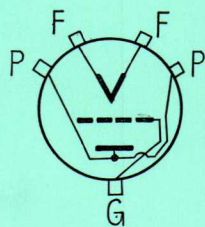


TUBE MOUNTING POSITION

VERTICAL: Filament terminals up
 HORIZONTAL: Not advisable

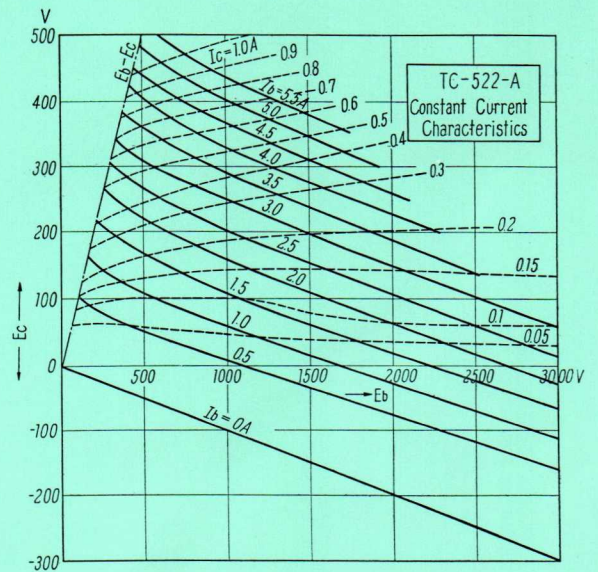


Terminal Connection



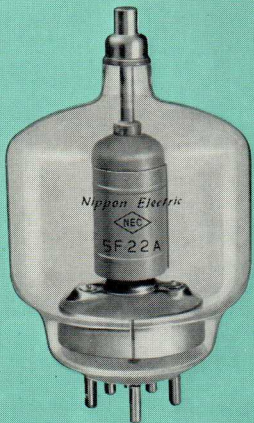
TUBE MOUNTING POSITION

VERTICAL: Filament terminals up
 HORIZONTAL: Not advisable



NEC 5F22A

EUROPEAN TYPE QB3.5/750
AMERICAN TYPE 4-250A



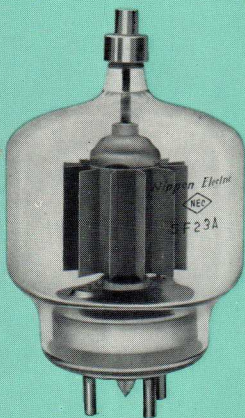
RADIAL BEAM POWER TETRODE (Forced-Air Cooled)

Filament, Thoriated Tungsten :	
Voltage (A.C or D.C)	5 Volts
Current	14 Amperes
Transconductance (for $E_b=2500V$, $E_{c2}=500V$, and $I_b=100mA$)	4,000 μ Mhos
Mu-Factor, Grid No. 2 to Grid No. 1 (for $E_b=0$, $E_{c2}=500V$, and $I_{c2}=70mA$)	5.3
Direct Interelectrode Capacitances :	
Grid No. 1 to Plate	0.14 pF max.
Input (Approx.)	12.6 pF
Output (Approx.)	4.4 pF.
Plate Voltage (D.C)	4000 Volts max.
Plate Dissipation	250 Watts max.
Grid No. 2 (Screen) Voltage (D.C)	600 Volts max.
Grid No. 2 (Screen) Dissipation	35 Watts max.

Cooling air flow, $0.06 \text{ m}^3/\text{min}$ for the maximum plate dissipation, must be delivered before the application of any voltages.

NEC 5F23A

EUROPEAN TYPE ———
AMERICAN TYPE 4-400A

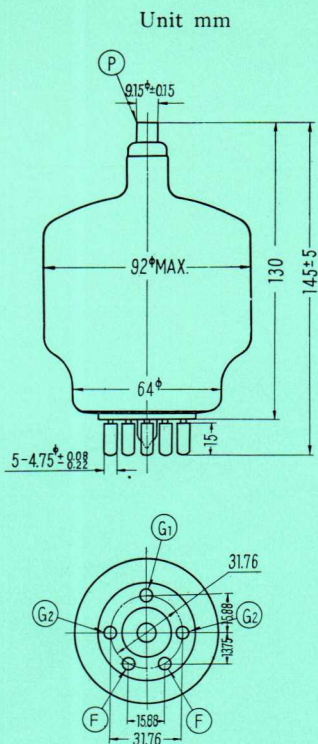


RADIAL BEAM POWER TETRODE (Forced-Air Cooled)

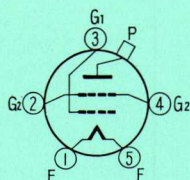
Filament Thoriated Tungsten :	
Voltage (A.C or D.C)	5 Volts
Current	14 Amperes
Transconductance (for $E_b=2500V$, $E_{c2}=500V$, and $I_b=100mA$)	4,000 μ Mhos
Mu Factor Grid No. 2 to Grid No. 1 (for $E_b=0$, $E_{c2}=500V$, and $I_{c2}=70mA$)	5.3
Direct Interelectrode Capacitances :	
Grid No. 1 to Plate	0.17 pF max.
Input (Approx.)	12.6 pF
Output (Approx.)	4.9 pF
Plate Voltage (D.C)	4000 Volts max.
Plate Dissipation	400 Watts max.
Grid No. 2 (Screen) Voltage (D.C)	600 Volts max.
Grid No. 2 (Screen) Dissipation	35 Watts max.

Cooling air flow, $0.4 \text{ m}^3/\text{min}$ for the maximum plate dissipation, must be delivered before the application of any voltages.

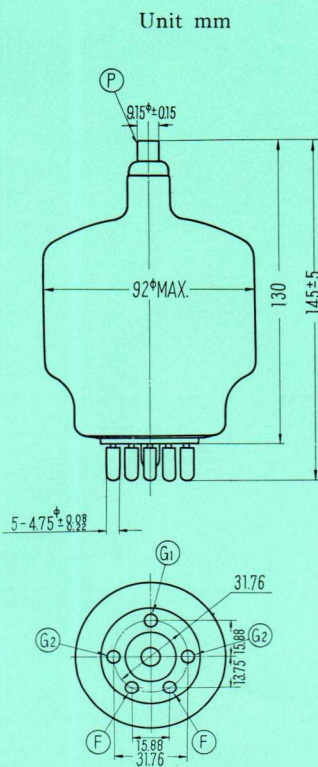
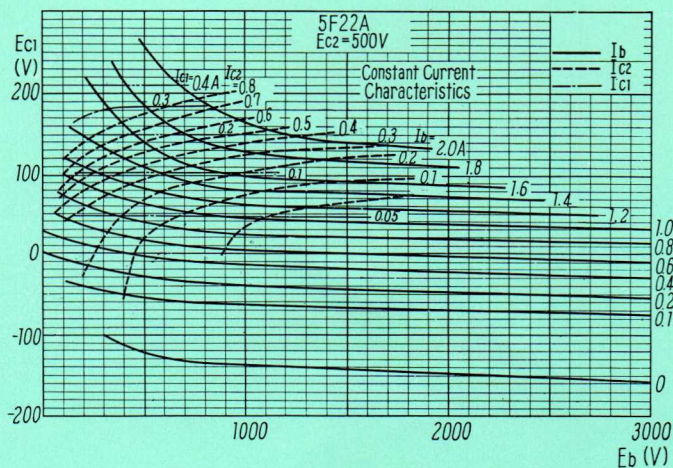
NEC TRANSMITTING TUBE CHARACTERISTIC DATA



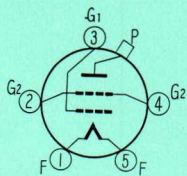
Bottom View of Socket Connection



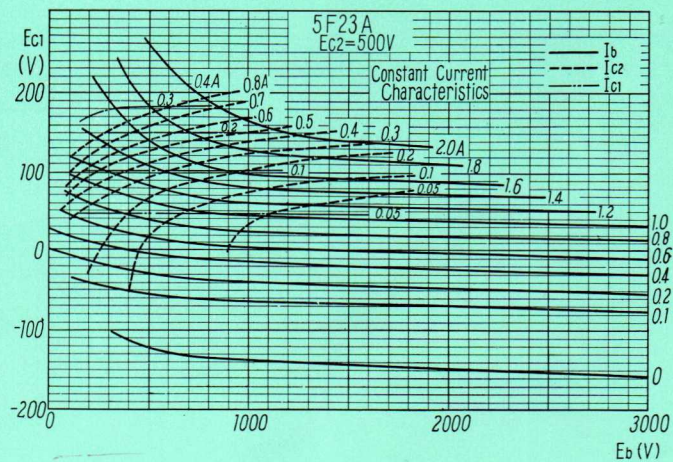
- Pin 1-Filament
- Pin 2-Grid No. 2
- Pin 3-Grid No. 1
- Pin 4-Grid No. 2
- Pin 5-Filament
- Cap-Plate



Bottom View of Socket Connection

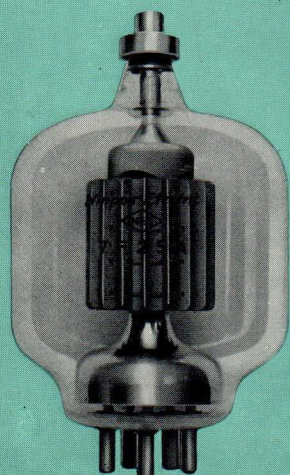


- Pin 1-Filament
- Pin 2-Grid No. 2
- Pin 3-Grid No. 1
- Pin 4-Grid No. 2
- Pin 5-Filament
- Cap-Plate



NEC 7F25A

EUROPEAN TYPE —
AMERICAN TYPE 4-1000A



RADIAL BEAM POWER TETRODE (Forced-Air Cooled)

Filament, Thoriated Tungsten :	
Voltage (A.C. or D.C.)	7.5 Volts
Current	21 Amperes
Mu-Factor Grid No. 2 to Grid No. 1 (for $E_b=0$, $E_{c2}=1000V$, and $I_{c2}=75mA$)	6.9
Transconductance (for $E_b=2500V$, $E_{c2}=500V$, and $I_b=300mA$)	10,000 μ Mhos
Direct Interelectrode Capacitances (Approx.) :	
Grid No. 1 to plate	0.24 pF
Input	27.2 pF
Output	7.6 pF
Plate Voltage (D.C.)	6000 Volts max.
Plate Dissipation	1000 Watts max.
Grid No. 2 (Screen) Voltage (D.C.)	1000 Volts max.
Grid No. 2 (Screen) Dissipation	75 Watts max.

Cooling air flow, 1.25 m³/min for the maximum plate dissipation, must be delivered before the application of any voltages.

NEC 4B13

EUROPEAN TYPE QB 2/250
AMERICAN TYPE 813

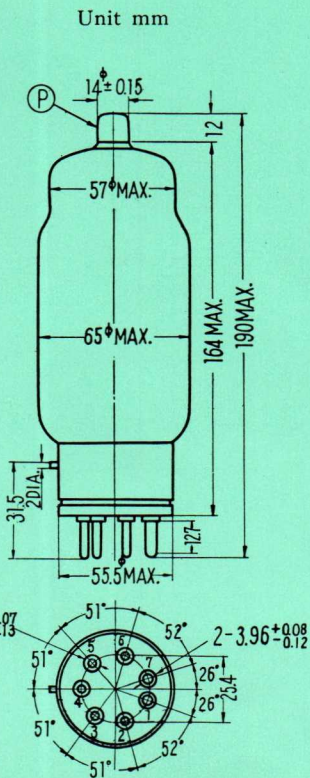
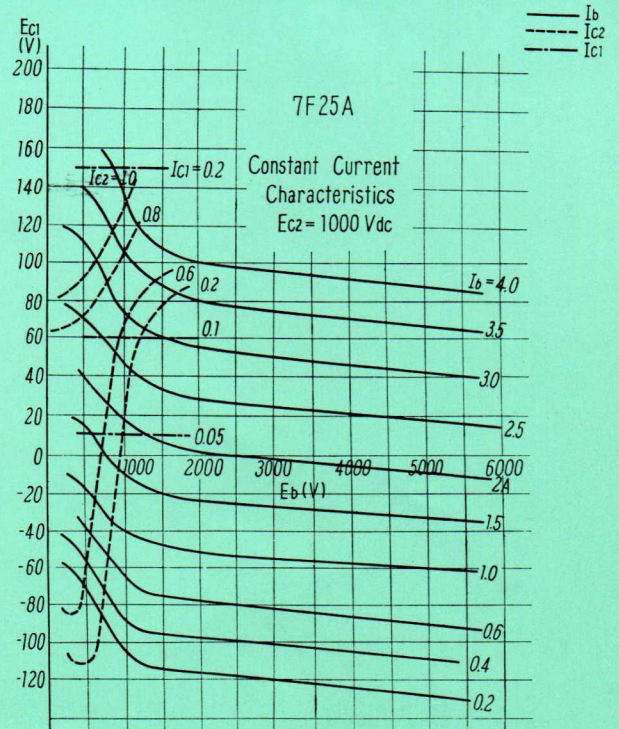
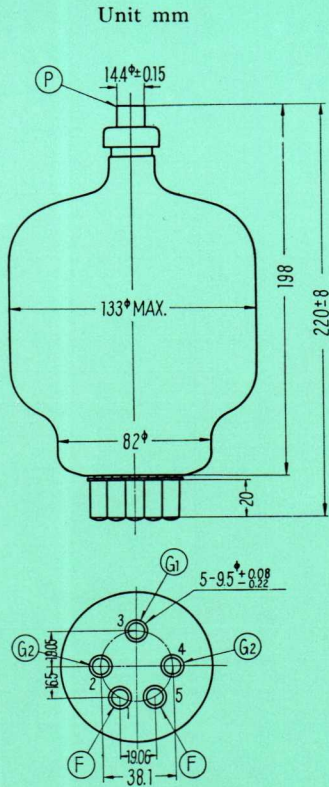


BEAM POWER AMPLIFIER

Filament Thoriated Tungsten :	
Voltage (A.C. or D.C.)	10 Volts
Current	5 Amperes
Transconductance (for plate current of 50 mA.)	3,750 μ Mhos
Mu-Factor, Grid No. 1 to Grid No. 2	8.5
Direct Interelectrode Capacitances (Approx.) :	
Grid No. 1 to Plate (with no external shielding)	0.16 pF
Input	16 pF
Output	13 pF
Plate Voltage (D.C.)	2,000 Volts max.
Grid No. 2 (Screen) Voltage (D.C.)	400 Volts max.
Plate Dissipation	100 Watts max.
Grid No. 2 Dissipation	22 Watts max.

Note : On the tube nomenclature of the American equivalent type is also printed.

NEC TRANSMITTING TUBE CHARACTERISTIC DATA

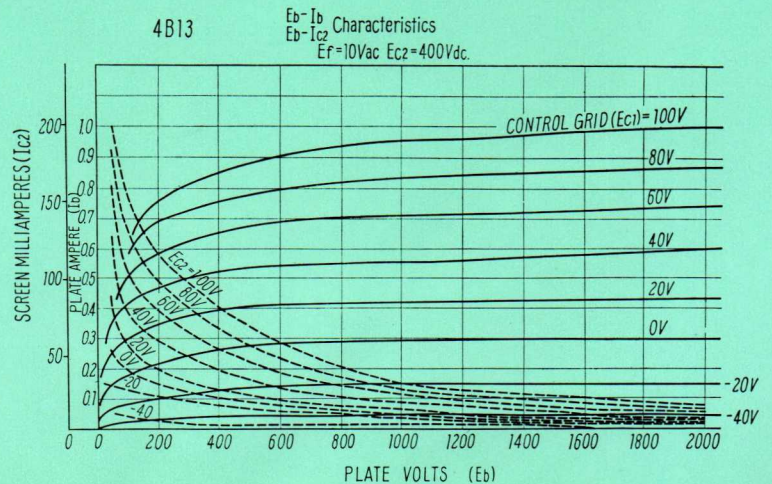


AA' = PLANE OF ELECTRODES

- Pin 1-Filament
- Pin 2-No Connection
- Pin 3-Grid No. 2
- Pin 4-Grid No. 1
- Pin 5-Grid No. 3 Int. Shield
- Pin 6-No Connection
- Pin 7-Filament
- Cap -Plate

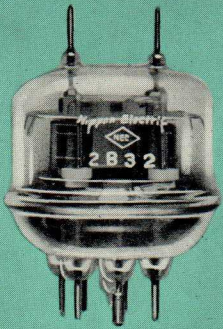
TUBE MOUNTING POSITION

- VERTICAL: Base up or down
- HORIZONTAL: Plane of electrodes vertical (on edge)



NEC 2B32

EUROPEAN TYPE QQE 04/20
AMERICAN TYPE 832 - A



PUSH-PULL R-F BEAM POWER AMPLIFIER

Heater, for Unipotential Cathodes :		
Heater Arrangement	Series	Parallel
Voltage (AC. or DC.)	12.6 Volts	6.3 Volts
Current	0.8 Ampere	1.6 Amperes
Transconductance (Each Unit) (for plate current of 30 mA)	3,500 μ Mhos	
Mu-Factor, Grid-No. 1 to Grid-No. 2	6.5	
Direct Interelectrode Capacitances (Each Unit) :		
Grid-No. 1 to Plate*	0.07 pF max.	
Input (Approx.)	8 pF	
Output (Approx.)	3.8 pF	
Grid-No. 2 to Cathode (including internal grid No.2 by-pass capacitor, Approx.)	65 pF	
* With external shield up to flange seal		
Plate Voltage (D.C.)	750 Volts max.	
Plate Dissipation	15 Watts	
Grid-No. 2 (Screen) Voltage (D.C.)	250 Volts	
Grid-No. 2 Dissipation	5 Watts max.	

Note : On the tube nomenclature of the American equivalent type is also printed.

NEC 2B29

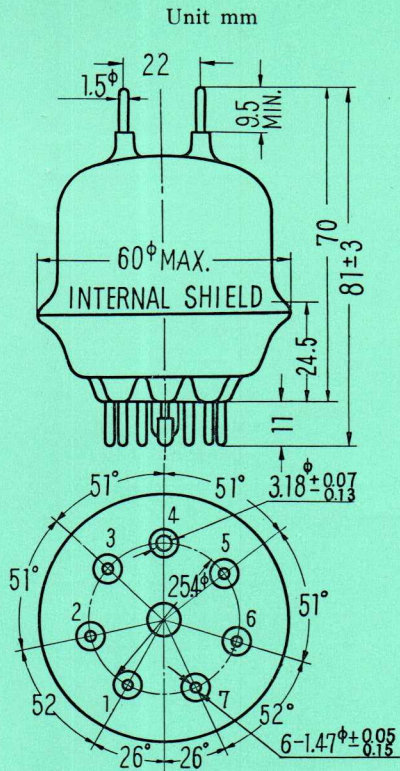
EUROPEAN TYPE C-144
AMERICAN TYPE 829-B



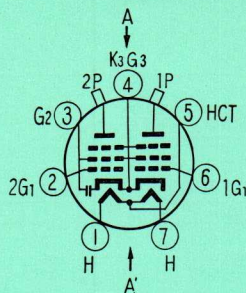
PUSH-PULL R-F BEAM POWER AMPLIFIER

Heater, for Unipotential Cathodes :		
Heater Arrangement	Series	Parallel
Voltage (A.C. or D.C.)	12.6 Volts	6.3 Volts
Current	1.125 Amperes	2.25 Amperes
Transconductance (Each Unit) (for plate current of 60 mA.)	8,500 μ Mhos	
Mu-Factor Grid No. 2 to Grid No. 1	9	
Direct Interelectrode Capacitances (Each Unit) :		
Grid-No. 1 to Plate*	0.12 pF max.	
Input (Approx.)	14.5 pF	
Output (Approx.)	7 pF	
Grid-No. 2 to Cathode (Including internal grid No. 2 by-pass capacitor, Approx.)	65 pF	
* With external shield up to flange seal		
Plate Voltage (D.C.)	750 Volts max.	
Plate Dissipation	30 Watts max. (Natural cooling) 40 Watts max. (Forced Air cooling)	
Grid-No. 2 (Screen) Voltage (D.C.)	225 Volts max.	
Grid-No. 2 Dissipation	7 Watts max.	

Note : On the tube nomenclature of the American equivalent type is also printed.



Bottom View of Socket Connection

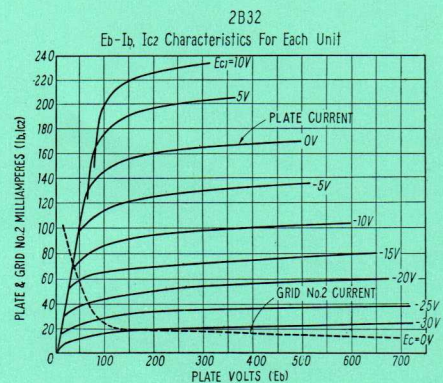
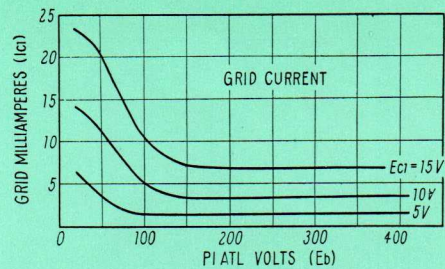


AA' = PLANE OF ELECTRODES OF EACH UNIT IS PARALLEL TO PLANE THROUGH AXIS OF TUBE

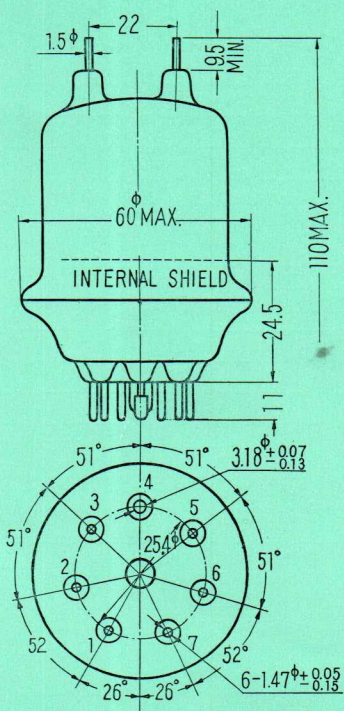
- Pin 1-Heater
- Pin 2-Grid No. 1 of Unit No. 2
- Pin 3-Grid No. 2
- Pin 4-Cathode, Grid No. 3
- Pin 5-Heater Center Tap
- Pin 6-Grid No. 1 of Unit No. 1
- Pin 7-Heater
- 1P, & 2P-Plate Terminals of Units No. 1 and No. 2 respectively

TUBE MOUNTING POSITION

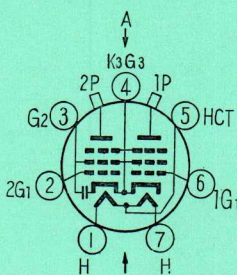
VERTICAL: Plate terminals up or down
 HORIZONTAL: Plane of each Plate in Vertical position (on edge)
 Connections should never be soldered to the tube terminals



Unit mm



Bottom View of Socket Connection

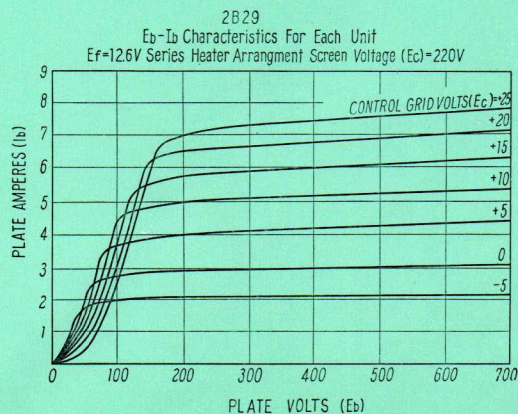
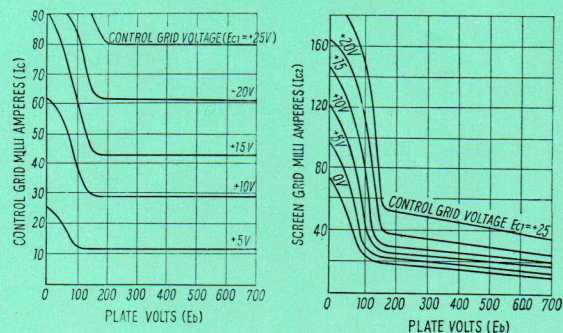


AA' = PLANE OF ELECTRODES OF EACH UNIT IS PARALLEL TO PLANE THROUGH AXIS OF TUBE

- Pin 1-Heater
- Pin 2-Grid No. 1 of Unit No. 2
- Pin 3-Grid No. 2
- Pin 4-Cathode, Grid No. 3
- Pin 5-Heater Center Tap
- Pin 6-Grid No. 1 of Unit No. 1
- Pin 7-Heater
- 1P, & 2P-Plate Terminals of Units No. 1 and No. 2 respectively

TUBE MOUNTING POSITION

VERTICAL: Plate terminals up or down
 HORIZONTAL: Plane of each Plate in vertical position (on edge)
 Connections should never be soldered to the tube terminals



NEC 2B52

EUROPEAN TYPE QQE03/20
AMERICAN TYPE 6 2 5 2



PUSH-PULL R-F BEAM POWER AMPLIFIER

Heater, for Unipotential Cathode:		
Heater Arrangement	Series	Parallel
Voltage (A.C. or D.C.)	12.6	6.3 Volts
Current	0.65	1.3 Amperes
Transconductance Each Unit (for plate current of 20 mA)	3,000 μ Mhos	
Mu-Factor Grid No. 2 to Grid No. 1	8	
Direct Interelectrode Capacitances (Each Unit):		
Grid-No. 1 to Plate*	0.06 pF max.	
Input (Approx.)	6.5 pF	
Output (Approx.)	2.2 pF	
* With external shield up to flange seal		
Plate Voltage (D.C.)	600 Volts max.	
Plate Dissipation	20 Watts max.	
Grid No. 2 (Screen) Voltage (D.C.)	250 Volts max.	
Grid No. 2 (Screen) Dissipation	3 Watts max.	

Note: On the tube nomenclature of the American equivalent type is also printed.

NEC 2B94

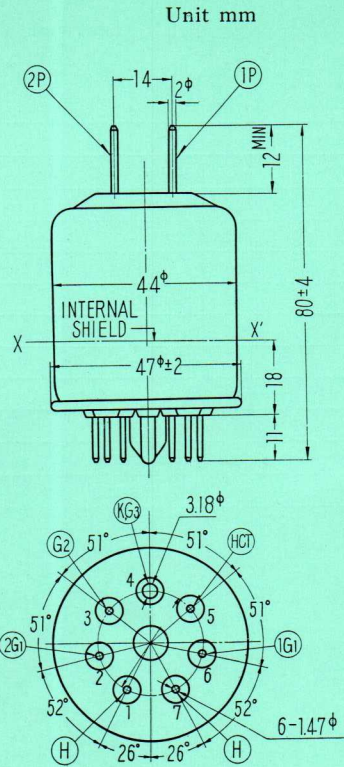
EUROPEAN TYPE QQE06/40
AMERICAN TYPE 5 8 9 4



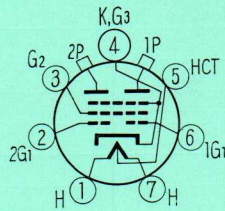
PUSH-PULL R-F BEAM POWER AMPLIFIER

Heater, for Unipotential Cathode:		
Heater Arrangement	Series	Parallel
Voltage (A.C. or D.C.)	12.6	6.3 Volts
Current	0.9	1.8 Amperes
Transconductance (Each Unit) (for plate current of 60 mA)	7,500 μ Mhos	
Mu-Factor Grid No. 2 to Grid No. 1	8.2	
Direct Interelectrode Capacitances (Each Unit):		
Grid-No. 1 to Plate*	0.09 pF max.	
Input (Approx.)	10.5 pF	
Output (Approx.)	3.2 pF	
* With external Shield up to flange seal		
Plate Voltage (D.C.)	600 Volts max.	
Plate Dissipation	40 Watts max.	
Grid-No. 2 (Screen) Voltage (D.C.)	250 Volts max.	
Grid-No. 2 (Screen) Dissipation	7 Watts max.	

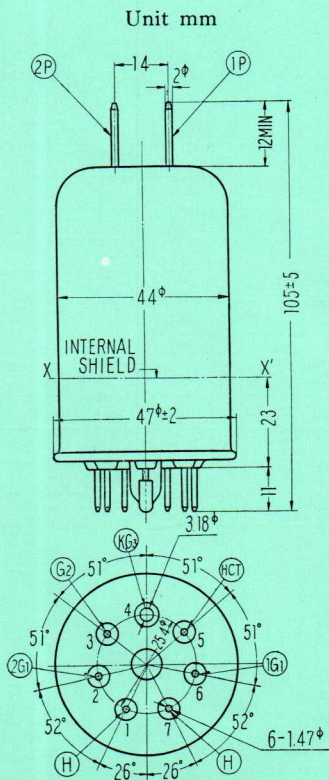
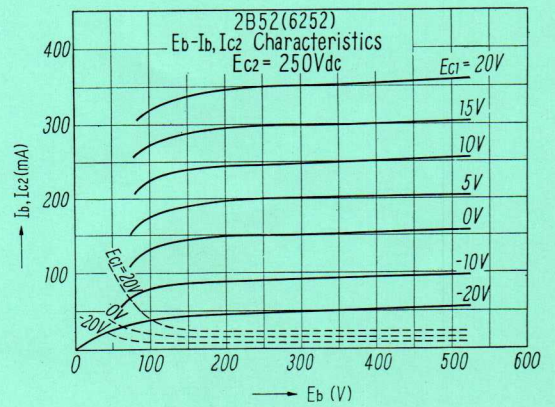
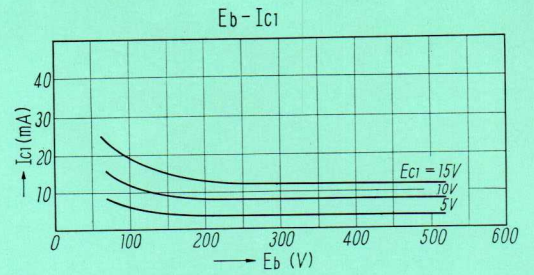
Note: On the tube nomenclature of the American equivalent type is also printed.



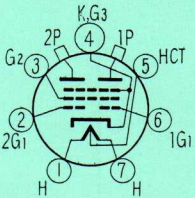
Bottom View of Socket Connection



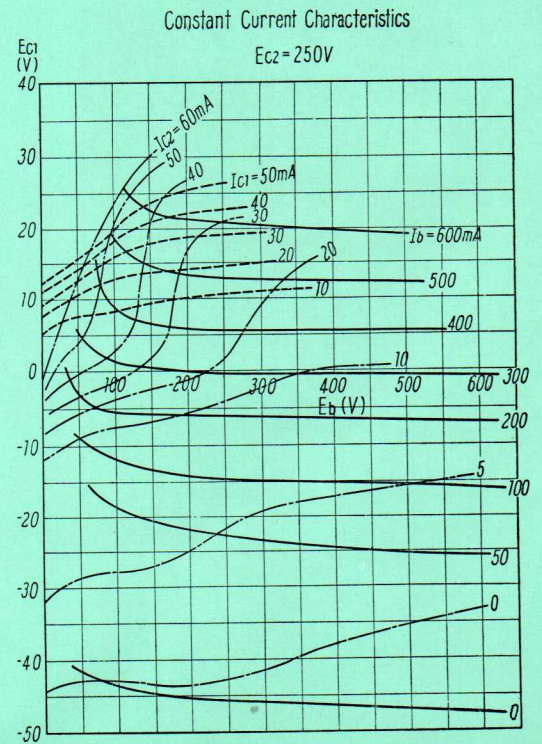
- Pin 1-Heater
- Pin 2-Grid No.1 Unit No.2
- Pin 3-Grid No.2
- Pin 4-Cathode, Grid No.3 Internal Shield
- Pin 5-Heater Center Tap
- Pin 6-Grid No.1 of Unit No.1
- Pin 7-Heater
- 1P, & 2P-Plate of Unit No.1 & No.2



Bottom View of Socket Connection



- Pin 1-Heater
- Pin 2-Grid No.1 of Unit No.2
- Pin 3-Grid No.2
- Pin 4-Cathode Grid No.3 Internal Shield
- Pin 5-Heater Center Tap
- Pin 6-Grid No.1 of Unit No.1
- Pin 7-Heater
- 1P, & 2P-Plate of Unit No.1 & No.2



NEC 2B46

EUROPEAN TYPE QE05/40
AMERICAN TYPE 6146



VHF BEAM POWER AMPLIFIER

Heater, for Unipotential Cathode :	
Voltage (A.C or D.C)	6.3 Volts
Current	1.25 Amperes.
Mu-Factor Grid No. 2 to Grid No.1	4.5
Direct Interelectrode Capacitances :	
Grid No. 1 to Plate	0.22 pF max.
Input (Approx.)	13 pF.
Output (Approx.)	8.5 pF.
Plate Voltage (D.C)	600 Volts max.
Plate Dissipation	20 Watts max.
Grid No. 2 (Screen) Voltage (D.C)	250 Volts max.
Grid No. 2 (Screen) Dissipation	3 Watts max.

NEC 2E26

EUROPEAN TYPE —
AMERICAN TYPE 2E26

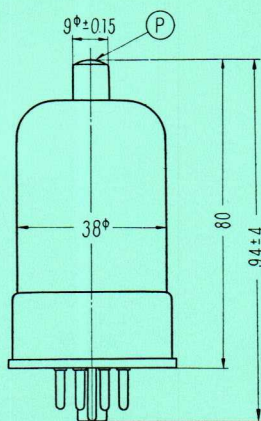


BEAM POWER TETRODE

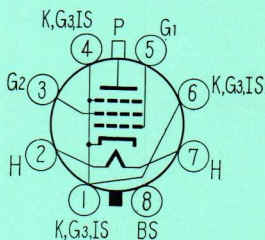
Heater, for Unipotential Cathode :	
Voltage (AC or DC)	6.3 Volts
Current	0.8 Amperes
Mu-Factor Grid No. 2 to Grid No. 1	6.5
Direct Interelectrode Capacitances :	
Grid No. 1 to Plate	0.2 pF max
Input (Approx.)	13 pF
Output (Approx.)	7 pF
Plate Voltage (DC)	500 Volts max.
Plate Dissipation	10 Watts max.
Grid No. 2 (Screen) Voltage (D.C)	200 Volts max.
Grid No. 2 (Screen) Dissipation	2.5 Watts max.



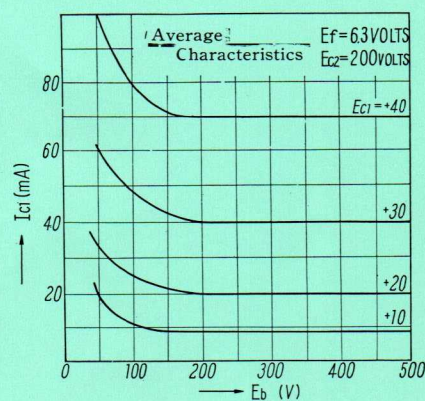
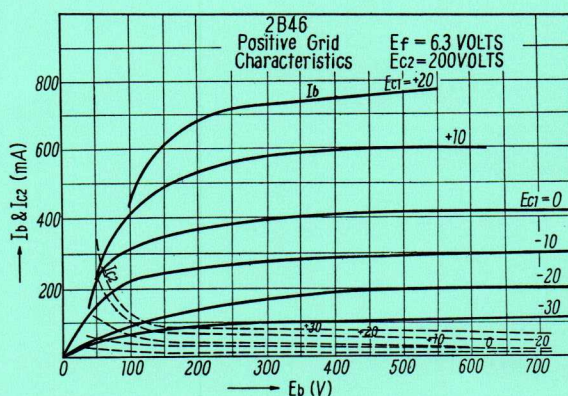
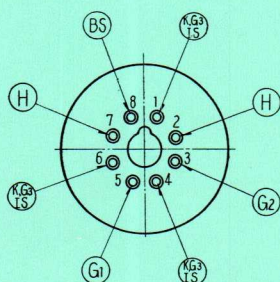
Unit mm



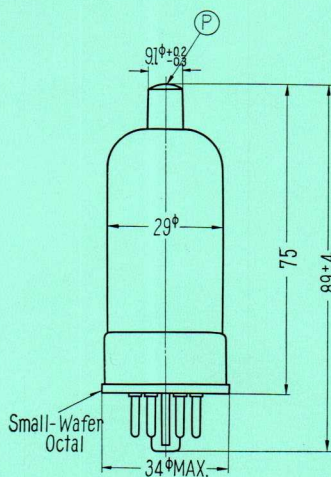
Bottom View of Socket Connection



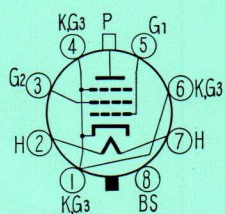
- Pin 1-Cathode, Grid Internal Shield
- Pin 2-Heater
- Pin 3-Grid No.2
- Pin 4-Same as Pin 1
- Pin 5-Grid No.1
- Pin 6-Same as Pin 1
- Pin 7-Heater
- Pin 8-Base Sleeve Cap-Plate



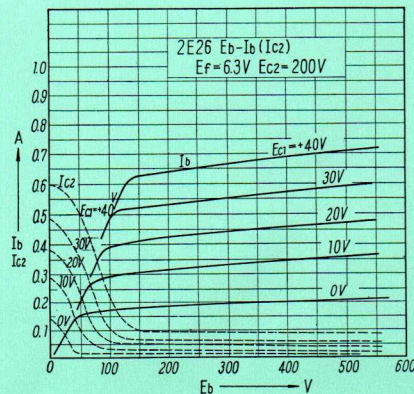
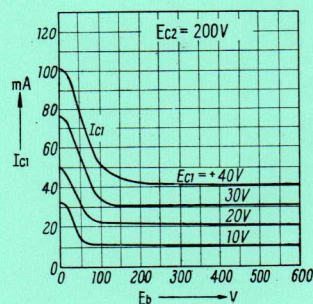
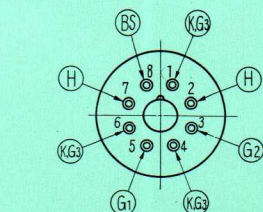
Unit mm



Bottom View of Socket Connection



- Pin 1-Cathode, Grid No. 3 Internal Shield
- Pin 2-Heater
- Pin 3-Grid No. 2
- Pin 4-Same as Pin 1
- Pin 5-Grid No.1
- Pin 6-Same as Pin 1
- Pin 7-Heater
- Pin 8-Base Sleeve Cap-Plate



NEC UY-807

EUROPEAN TYPE QE06/50

AMERICAN TYPE 807



BEAM POWER AMPLIFIER

Heater for Unipotential Cathode :	
Voltage (A.C. or D.C.)	6.3 Volts
Current	0.9 Amperes
Transconductance (Approx.)	6,000 μ Mhos
Mu-Factor, Grid No. 2 to Grid No. 1	8
Direct Interelectrode Capacitance :	
Grid No. 1 to Plate	0.2 pF max.
Input (Approx.)	12 pF
Output (Approx.)	7 pF
Plate Voltage (D.C.)	600 Volts max.
Plate Dissipation	25 Watts max.
Grid No. 2 Screen Voltage (D.C.)	300 Volts max.
Grid No. 2 Dissipation	3.5 Watts max.

NEC 2P22

EUROPEAN TYPE CV-798

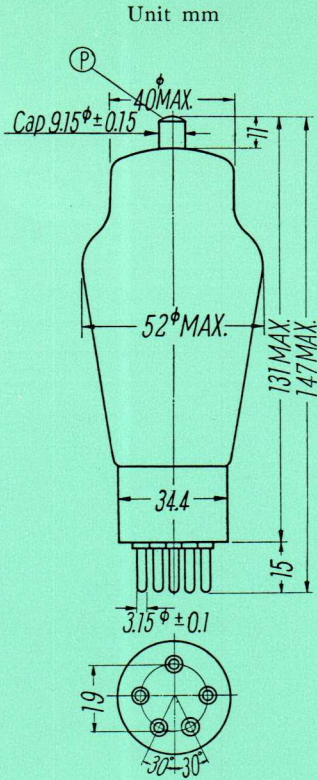
AMERICAN TYPE 2E22



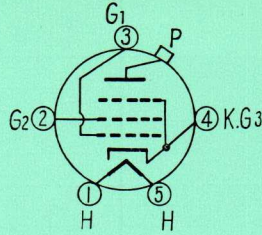
POWER PENTODE

Filament, Coated :	
Voltage (AC or DC)	6.3 Volts
Current	1.5 Amperes.
Heating Time	Less than 2 seconds
Mu-Factor Grid No. 2 to Grid No. 1	9
Direct Interelectrode Capacitances :	
Grid No. 1 to Plate	0.2 pF max.
Input (Approx.)	13 pF
Output (Approx.)	8 pF
Plate Voltage (DC)	750 Volts max.
Plate Dissipation	33 Watts max.
Grid No. 2 (Screen) Voltage (DC)	275 Volts max.
Grid No. 2 (Screen) Dissipation	10 Watts max.

Note : On the tube nomenclature of the American equivalent type is also printed.



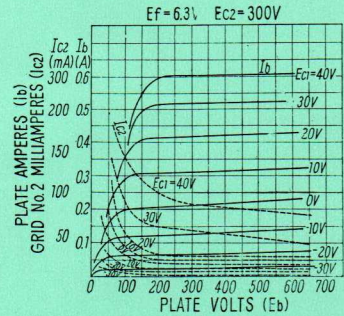
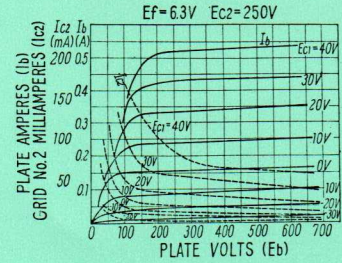
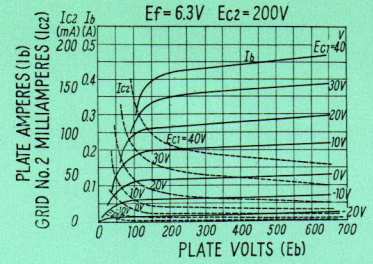
Bottom View of Socket Connection



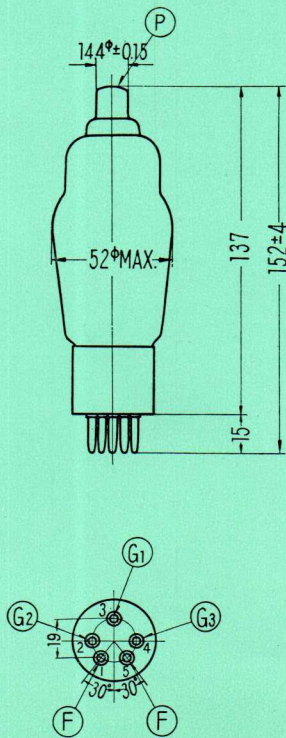
- Cap — Plate
- Pin 1—Heater
- Pin 2—Grid No. 2 (Screen Grid)
- Pin 3—Grid No. 1 (Control Grid)
- Pin 4—Cathode, Grid No. 3
- Pin 5—Heater

TUBE MOUNTING POSITION

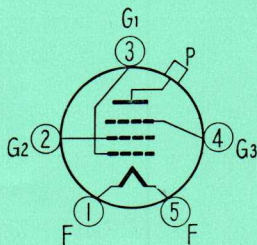
VERTICAL: Base up or down
 HORIZONTAL: Plane of electrodes vertical (on edge)



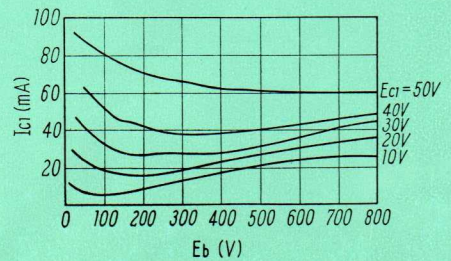
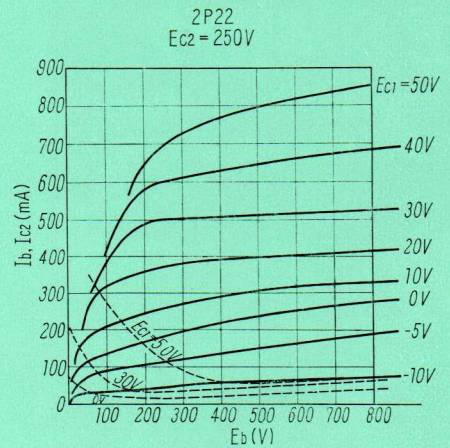
Unit mm



Bottom View of Socket Connection



- Pin 1—Filament
- Pin 2—Grid No. 2
- Pin 3—Grid No. 1
- Pin 4—Grid No. 3
- Pin 5—Filament
- Cap—Plate



NEC 2H66

EUROPEAN TYPE 2V/400A
AMERICAN TYPE 866-A/866



HALF-WAVE MERCURY-VAPOR RECTIFIER

Filament * Oxide coated		
Voltage (A.C.)	2.5 Volts	
Current	5 Amperes	
Tube Voltage Drop (Approx.)	15 Volts	
Peak Inverse Voltage For Supply Freq. up to 150 c/s	2,000 Volts max.	10,000 Volts max.
Peak Plate Current	2 Ampere max.	1 Ampere max.
Average Plate Current	0.5 Ampere max.	0.25 Ampere max.
Condensed Mercury Temp.	25°~60°C #	25°~50°C

* The filament of the 2H66 should be allowed to come up to operating temperature before plate voltage is applied. For average conditions, the delay is approximately 30 seconds.

Operation at $40^{\circ} \pm 5^{\circ}\text{C}$ is recommended.

Note: On the tube nomenclature of the American equivalent type is also printed.

NEC 4H72

EUROPEAN TYPE 4064B
AMERICAN TYPE 872-A/872



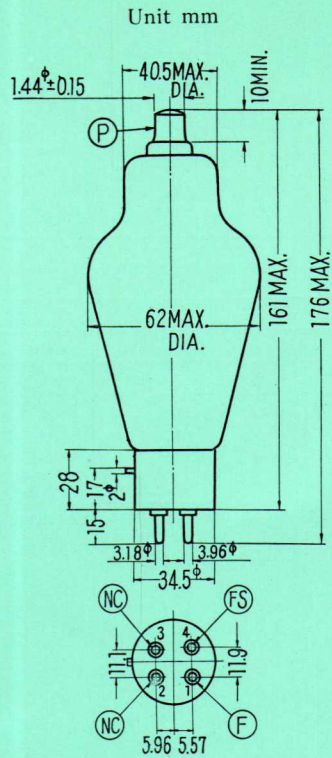
HALF-WAVE MERCURY-VAPOR RECTIFIER

Filament * Oxide coated	
Voltage (A.C.)	5 Volts
Current	7.5 Amperes
Peak Inverse Voltage For Supply Frequency up to 150 c/s Condensed—Mercury Temp. 25° to 55°C#	10,000 Volts max.
Peak Plate Current	5 Amperes max.
Average Plate Current	1.25 Amperes max.
Tube Voltage Drop (Approx.)	10 Volts

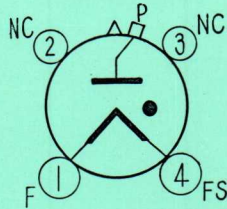
* The filament of the 4H72 should be allowed to come up to operating temperature before plate voltage is applied. For average conditions the delay is approximately 30 seconds.

Operation at $40^{\circ} \pm 5^{\circ}\text{C}$ is recommended.

Note: On the tube nomenclature of the American equivalent type is also printed.



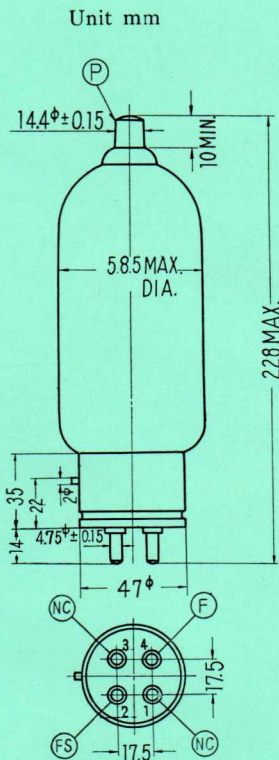
Bottom View of Socket Connection



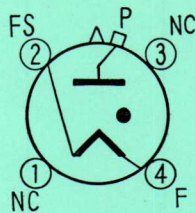
- - Gas-Type Tube
- Pin 1-Filament
- Pin 2-No Connection
- Pin 3-No Connection
- Pin 4-Filament, Cathode shield
- P-Plate

TUBE MOUNTING POSITION

VERTICAL: Base down
HORIZONTAL: No



Bottom View of Socket Connection



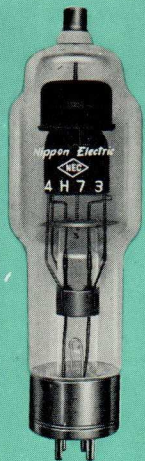
- - Gas-Type Tube
- Pin 1-No Connection
- Pin 2-Filament, Cathode shield
- Pin 3-No Connection
- Pin 4-Filament
- P-Plate

TUBE MOUNTING POSITION

VERTICAL: Base down
HORIZONTAL: No

NEC 4H73

EUROPEAN TYPE —
AMERICAN TYPE 673



HALF-WAVE MERCURY-VAPOR RECTIFIER

The 4H73 is a half wave, mercury-vapor rectifier tube designed to with stand high peak inverse voltage, and to conduct at relatively low applied voltage.

Filament Oxide coated	
Voltage (A.C.)	5 Volts
Current	10 Amperes
Heating Time (Minimum)	30 sec.
Tube Voltage Drop (Approx.)	10 Volts
Peak Inverse Voltage For Supply Frequency up to 150 c/s Condensed—Mercury Temp. 25~55°C*	15,000 Volts max.
Peak Plate Current	6 Amperes max.
Average Plate Current	1.5 Amperes max.

* Operating at $35 \pm 5^\circ\text{C}$ is recommended.

The 4H73 (673) has the same ratings and characteristics as the type 575-A. Mechanically, however, the 4H73 (673) differs from the 575-A in its base, basing Connections, and overall length.

Note: On the tube nomenclature of the American equivalent type is also printed.

NEC 5H69A

EUROPEAN TYPE DCG9/20
AMERICAN TYPE 869-B



HALF-WAVE MERCURY-VAPOR RECTIFIER

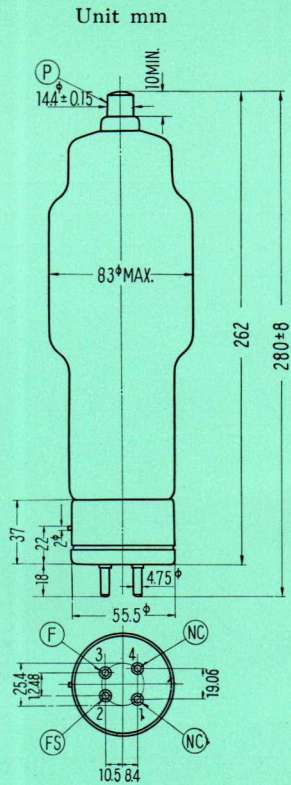
Filament* Oxide coated	
Voltage (A.C.)	5 Volts
Current	19 Amperes
Peak Inverse Voltage For Supply Frequency up to 150 c/s Condensed Mercury Temp. 30°~40° C#	20,000 Volts max.
Peak Plate Current	10 Amperes max.
Average Plate Current	2.5 Amperes max.
Tube Voltage Drop (Approx.)	15 Volts

* The filament of the 5H69A should be allowed to come up to operating temperature before plate voltage is applied.

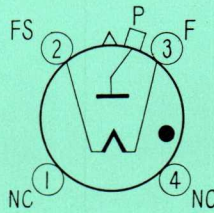
For average conditions, the delay is approximately 1 minute.

Forced ventilation, recommended temperature of condensed mercury $35^\circ\text{C} \pm 5^\circ\text{C}$

Note: On the tube nomenclature of the American equivalent type is also printed.



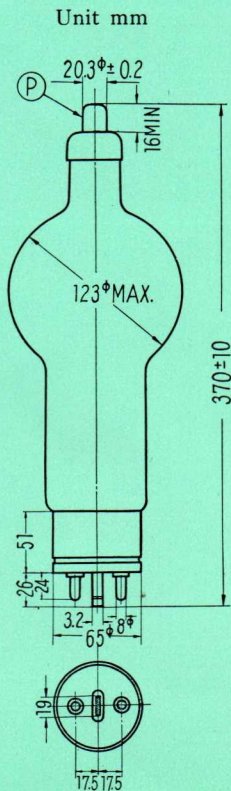
Bottom View of Socket Connection



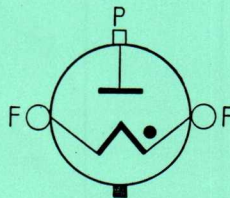
- - Gas-Type Tube
- Pin 1-No Connection
- Pin 2-Filament, Cathode Shield
- Pin 3-Filament
- Pin 4-No Connection
- P-plate

TUBE MOUNTING POSITION

VERTICAL: Base down
HORIZONTAL: No



Bottom View of Socket Connection



- - Gas-Type Tube
- P-Plate
- F-Filament

TUBE MOUNTING POSITION

VERTICAL: Base down
HORIZONTAL: No

NEC 7H57

EUROPEAN TYPE AH-205
AMERICAN TYPE 857-B

HALF-WAVE MERCURY-VAPOR RECTIFIER

Filament* Oxide coated	
Voltage (A.C.)	5 Volts
Current	30 Amperes
Peak Inverse Voltage For Supply Frequency up to 150 c/s Condensed—Mercury Temp. 30°~40°C	20,000 Volts max.
Peak Plate Current	40 Amperes max.
Average Plate Current	10 Amperes max.
Tube Voltage Drop (Approx.)	15 Volts

* The filament of the 7H57 should be allowed to come up to operating temperature before plate voltage is applied.

For average conditions the delay is approximately 1 minute.

Note: On the tube nomenclature of the American equivalent type is also printed.

NEC 2H28

EUROPEAN TYPE DCX4/1000
AMERICAN TYPE 3B28

HALF-WAVE INERT-GAS-FILLED RECTIFIER

The 2H28 (3B28) is an inert-gas-filled, half wave rectifier for use in high voltage rectifier circuits.

Filament Oxide coated		
Voltage (A.C.)	2.5 Volts	
Current	5 Amperes	
Heating Time (Minimum)	5 Sec.	
Tube Voltage Drop (Approx.)	14 Volts	
	Maximum Freq. 500 c/s	Maximum Freq. 150 c/s
Peak Inverse Voltage	5,000 Volts max.	10,000 Volts max.
Peak Plate Current	2 Amperes max.	1 Amperes max.
Average Plate Current	0.5 Amperes max.	0.25 Amperes max.
Ambient Temperature Limits	-55 to +75°C	

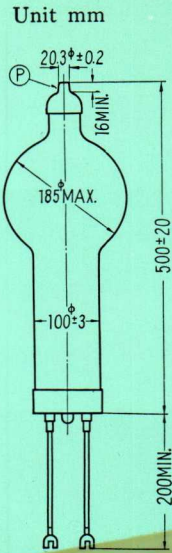
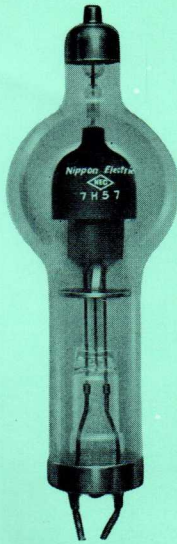
NEC 4H32

EUROPEAN TYPE DCX4/5000
AMERICAN TYPE 4B32

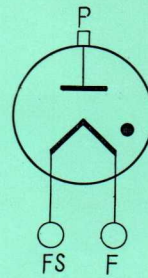
HALF-WAVE INERT-GAS-FILLED RECTIFIER

The 4H32 (4B32) is an inert-gas-filled, half wave rectifier for use in high voltage rectifier circuits.

Filament Oxide coated	
Voltage (A.C.)	5 Volts
Current	7.5 Amperes
Heating Time (Minimum)	30 Sec.
Tube Voltage Drop (Approx.)	10 Volts
Peak Inverse Voltage	10,000 Volts max.
Peak Plate Current	5 Amperes max.
Average Plate Current	1.25 Amperes max.
Maximum Frequency	150 c/s
Ambient Temperature Limits	-55 to +70°C

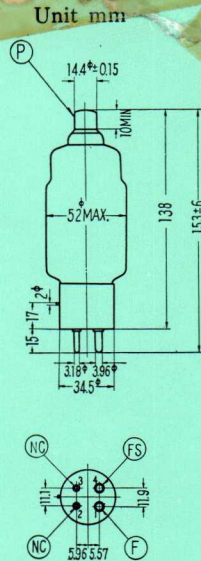
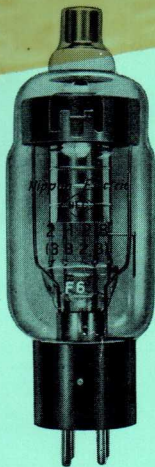


Bottom View of Socket Connection

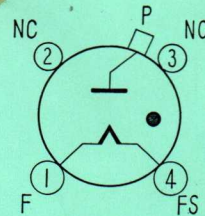


- -Gas-Type Tube
- F-Filament
- FS-Filament, Cathode Shield
- P-Plate

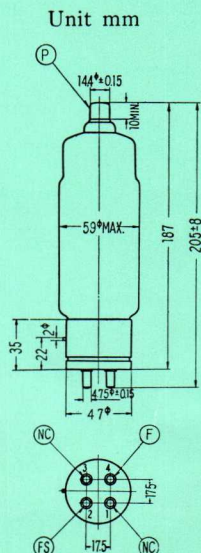
TUBE MOUNTING POSITION
 VERTICAL: Filament base down
 HORIZONTAL: No



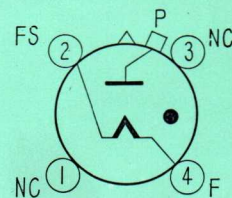
Bottom View of Socket Connection



- -Gas-Type Tube
- Pin 1-Filament
- Pin 2-No Connection
- Pin 3-No Connection
- Pin 4-Filament, Cathode Shield
- P-Plate



Bottom View of Socket Connection



- -Gas-Type Tube
- Pin 1-No Connection
- Pin 2-Filament, Cathode Shield
- Pin 3-No Connection
- Pin 4-Filament
- P-Plate

mi



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