

TRIPLE DIODE TRIODE

An indirectly heated triple diode triode. One diode has a separate cathode. Primarily designed for use as A.F. amplifier and demodulator in FM/AM Receivers.

PHYSICAL DETAILS.

Base	B9A. Nova
Max. Overall Length	67.5 mm. (2 $\frac{1}{2}$ in.).
Max. Seated Height	60.5 mm. (2 $\frac{1}{4}$ in.).
Max. Diameter	22.2 mm. ($\frac{7}{8}$ in.).
Mounting Position	Any.

BASE CONNECTIONS

Pin 1—Diode 3 Anode. Pin 6—Diode 1 Anode.
Pin 2—Diode 2 Anode. Pin 7—Triode Cathode.
Pin 3—Diode 2 Cathode. Diode 1 Cathode.
Pin 4—Heater. Diode 3 Cathode, Shield.
Pin 5—Heater. Pin 8—Triode Grid.
Pin 9—Triode Anode.

HEATER.

Heater Voltage	...	...	...	6.3 volts.
Heater Current	...	...	...	0.45 amp.

RATINGS.

TRIODE SECTION.

Max. Anode Supply Voltage	...	550 volts.
Max. Anode Voltage	...	300 volts.
Max. Anode Dissipation	...	1 watt.
Max. Cathode Current	...	5 mA.
Max. R_{g-k}	...	3 MΩ.
Max. R_{h-k}	...	20 kΩ.
Max. V_{h-k}	...	150 volts.
Min. Negative Grid Voltage	...	-3 volts.

DIODE SECTIONS.

Max. P.I.V. (Each Diode) ...	350 volts.
Max. Peak Current Diode 1 ...	6 mA.
Max. Peak Current Diode 2 ...	75 mA.
Max. Peak Current Diode 3 ...	75 mA.
Max. Current Diode 1 ...	1 mA.
Max. Current Diode 2 ...	10 mA.
Max. Current Diode 3 ...	10 mA.

CHARACTERISTICS.

TRIODE SECTIONS.

Anode Voltage	...	...	100	250	volts.
Grid Voltage	...	...	-1	-3	volts.
Anode Current	...	...	0.8	1	mA.
Mutual Conductance	...	...	1.45	1.4	mA/V.
Amplification Factor	...	...	70	70	
Anode Impedance	...	...	48	50	k Ω

DIODE SECTIONS.

Diode 1 Impedance ($V_{a'd} = 10\text{v}$)	5 k Ω
Diode 2 Impedance ($V_{a''d} = 5\text{v}$)	200 Ω
Diode 3 Impedance ($V_{a'''d} = 5\text{v}$)	200 Ω
$r_{a''d}/r_{a'''d}$	0.65 to 1.5

MICROPHONY

This valve can be used without special precautions against microphony in circuits in which the input voltage is not less than 10 mV, for an output of 50 mW. from the output stage at 800 c/s. and higher frequencies.

TYPICAL OPERATION.

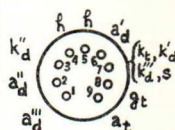
Triode as AF Amplifier with grid current bias.

Anode Supply Voltage	170	200	250	250	vols.
Anode Load Resistor	220	220	100	220	k Ω
Grid Resistor (R_{g-k})	0	0	10	10	M Ω
Cathode Resistor (R_{k1})	0	0	0	0	
Anode Current	0.46	0.56	1.4	0.8	mA.
Stage Gain	51	53	47	55	
Total Distortion (for $V_{out}=3v$ r.m.s.)	0.4	0.3	0.25	0.2	%
Total Distortion (for $V_{out}=8v$ r.m.s.)	1.1	0.9	0.8	0.6	%
Grid Resistor for following valve	680	680	330	680	k Ω

*For operation with grid current biasing R_{g-k} may be increased to 22 M Ω max.

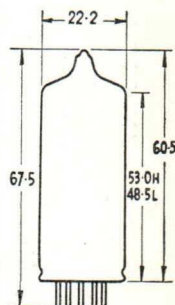
†For grid current of $0.3 \mu\text{A}$.

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Base Connections

Underside View of Base



All dimensions shown are in millimetres (max. unless otherwise stated).



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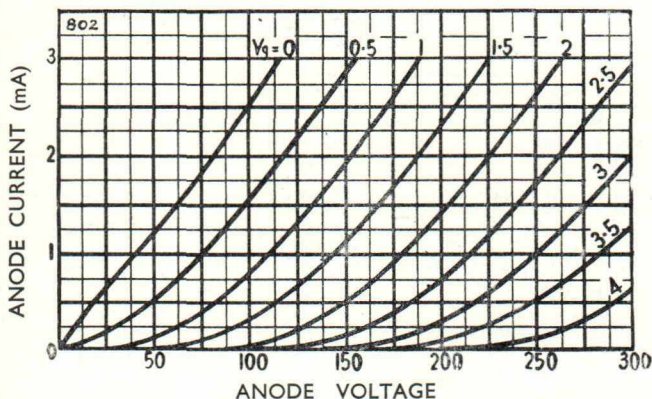
CAPACITANCES.

C_{in}	...	...	...	1.9 pF.
C_{out}	...	...	...	1.4 pF.
C_{a-g}	...	...	...	2.0 pF.
C_{g-h}	...	...	...	<0.04 pF.

TRIODE SECTION.

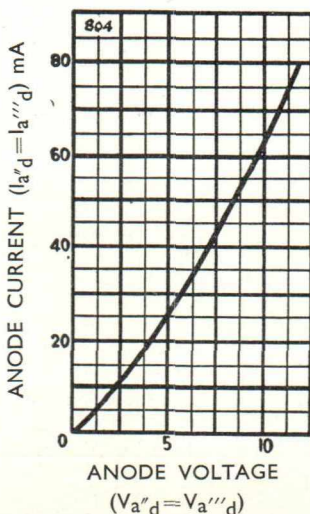
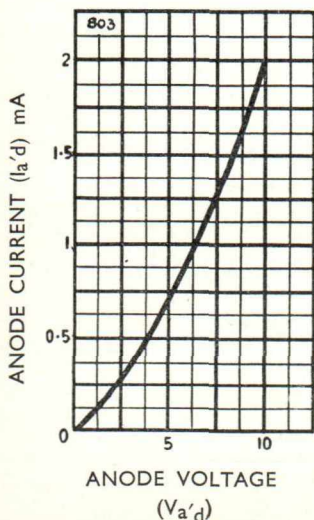
$C_{a'd}-(h+kt, k'd, k''d, s)$	...	0.8 pF.
$C_{a''d}-(h+k'd+kt, k'd, k''d, s)$	...	4.8 pF.
$C_{a''d}-(h+kt, k'd, k''d, s)$	...	4.8 pF.
$C_{k''d-all}$	...	4.9 pF.
$C_{a'd-h}$	...	<0.25 pF.
$C_{a''d-h}$	...	<0.2 pF.
$C_{k''d-h}$	...	2.5 pF.

DIODE SECTION.



DIODE I

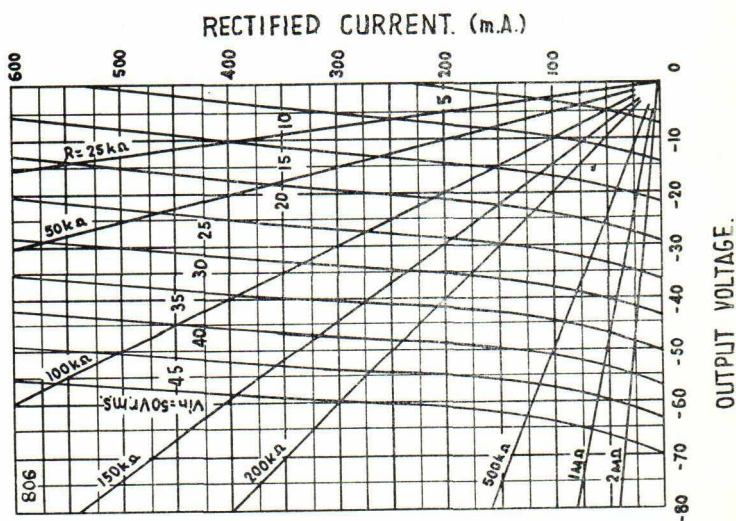
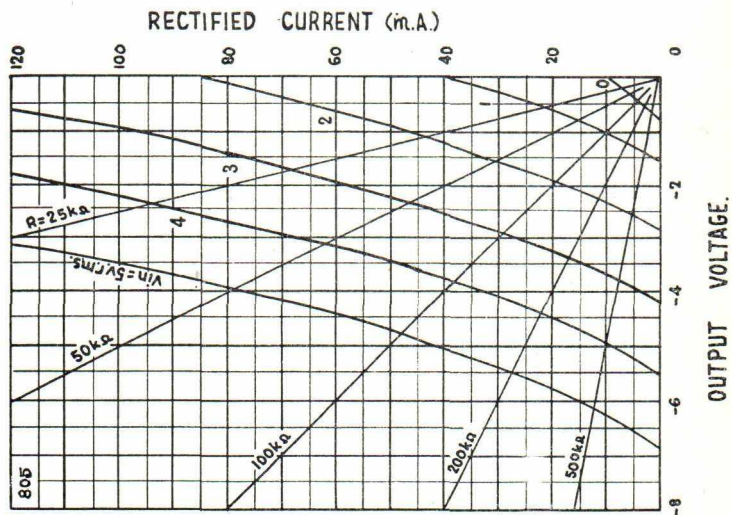
DIODE II - DIODE III





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AVERAGE CHARACTERISTICS FOR DIODE 1



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AVERAGE CHARACTERISTICS DIODE II AND DIODE III

