

FERRANTI

DOUBLE TRIODE

A double triode with separate cathodes. Designed for use as an R.F. Amplifier or self oscillating Mixer in F.M. and A.M. receivers.

PHYSICAL DETAILS.

Base	...	B9A—Noval.
Max. Overall Length	...	56 mm. ($2\frac{1}{2}$ in.).
Max. Seated Height	...	49 mm. ($1\frac{1}{2}$ in.).
Max. Diameter	...	22.2 mm. ($\frac{7}{8}$ in.).
Mounting Position	...	Any.

BASE CONNECTIONS.

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

HEATER.

Heater Current	...	0.3 amp.
Heater Voltage	...	9.0 volts (approx.).

RATINGS*

Max. Anode Supply Voltage	...	550 volts.
Max. Anode Voltage	...	250 volts.
†Max. Anode Dissipation	...	2.5 watts.
Max. Cathode Current	...	15 mA.
Max. Negative Grid Voltage	...	100 volts.
Max. R_{h-k}	...	20 kΩ
Max. V_{h-k}	...	90 volts.
Max. R_{g-k}	...	1 MΩ

CHARACTERISTICS.*

Anode Voltage	...	100	170	200	volts.
Negative Grid Voltage	...	1.1	1.5	2.1	volts.
Anode Current	...	4.5	10	10	mA.
Amplification Factor	...	50	50	48	
Mutual Conductance	...	4.6	6.2	5.8	mA/V.

TYPICAL OPERATION.

As R.F. Amplifier in F.M. or A.M. receivers.

Anode Supply Voltage	...	100	170	200	volts.
Anode Resistor	...	1.5	1.5	1.3	kΩ
Anode Voltage	...	92	155	160	volts.
Anode Current	...	5.2	8.7	6.0	mA.
Grid Voltage	...	0.85	1.4	2.0	volts.
Cathode Bias Resistor	...	160	160	330	Ω
Mutual Conductance	...	5.2	6.0	4.7	mA/V.
Anode Impedance	...	10	8.4	10.5	kΩ
Equivalent Noise Resistance	...	580	500	650	Ω
Input Resistance (at 100 Mc/s.)	...	5.0	6.0	8.0	kΩ

As a self-oscillating Frequency Changer for F.M./A.M.

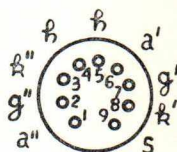
Anode Supply Voltage	...	100	170	200	volts.
Anode Resistor	...	4.7	4.7	8.2	kΩ
‡Grid Resistor	...	1.0	1.0	1.0	MΩ
Oscillator Voltage	...	1.8	2.8	2.8	volts.
Anode Current	...	2.2	4.8	5.8	mA.
Conversion Conductance	...	1.7	2.2	2.3	mA/V.
Anode Impedance	...	20	16	15	kΩ

*Each section, unless otherwise indicated.

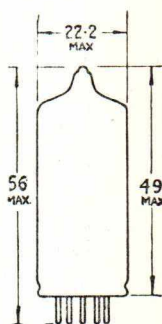
†Max. Total Anode Dissipation ($pa' + pa''$) = 4.5 watts.

‡The presence of i.f. feedback voltage tends to stabilise the performance of the oscillator and hence permits a relatively high value for the grid leak.

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Base
Connections
Underside View
of Base



All dimensions
shown are in
millimetres.



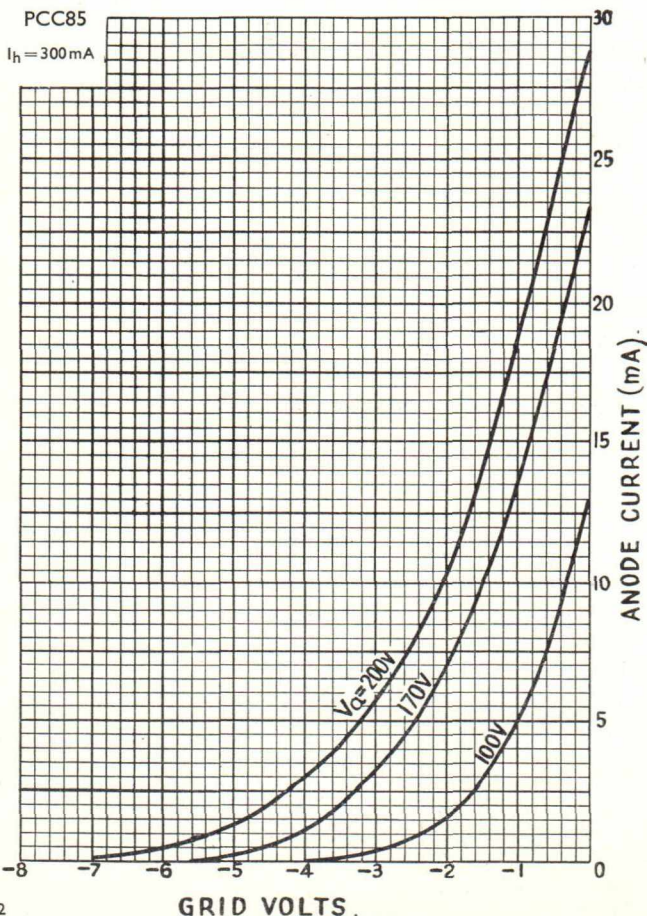


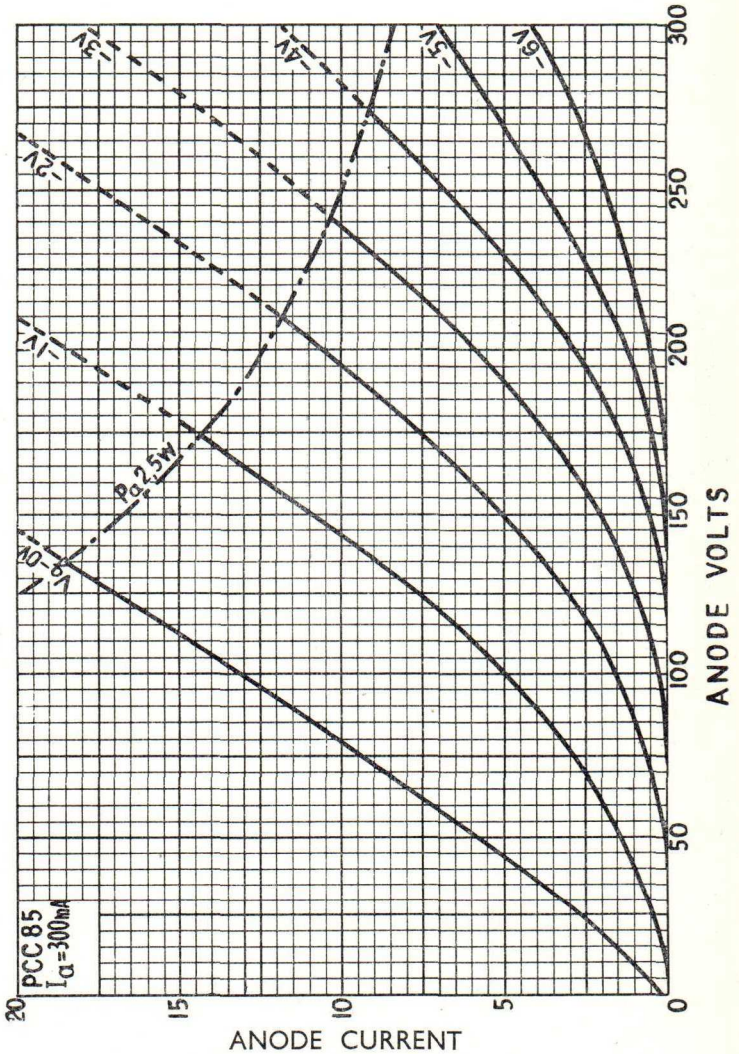
CAPACITANCES.

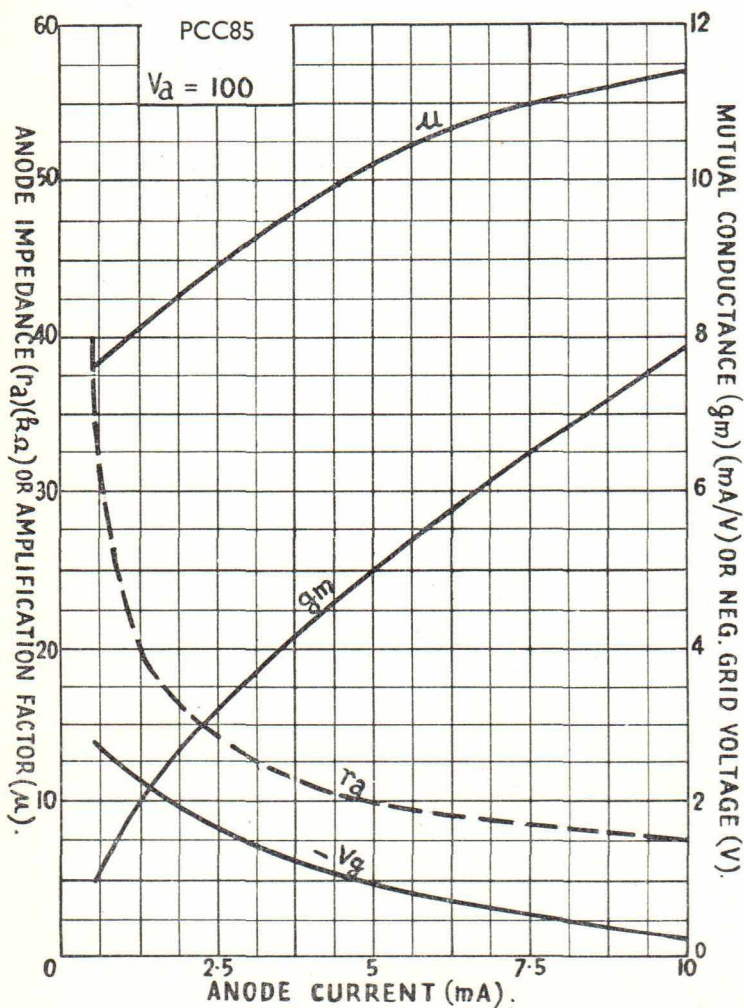
*C _{in}	...	...	...	3.0 pF.
*C _{out}	...	...	...	1.2 pF.
†*C _{out}	...	...	...	1.9 pF.
*C _{a-k}	...	...	...	0.18 pF.
*C _{a-g}	...	...	...	1.5 pF.
C _{a'-a''}	...	...	...	<0.04 pF.
†C _{a'-a''}	...	...	...	<0.008 pF.
C _{g'-g''}	...	...	...	<0.003 pF.
C _{a'-g''} = C _{a''-g'}	...	...	...	<0.008 pF.
C _{a'-k''} = C _{a''-k'}	...	...	...	<0.008 pF.
C _{g'-k''} = C _{g''-k'}	...	...	...	<0.003 pF.

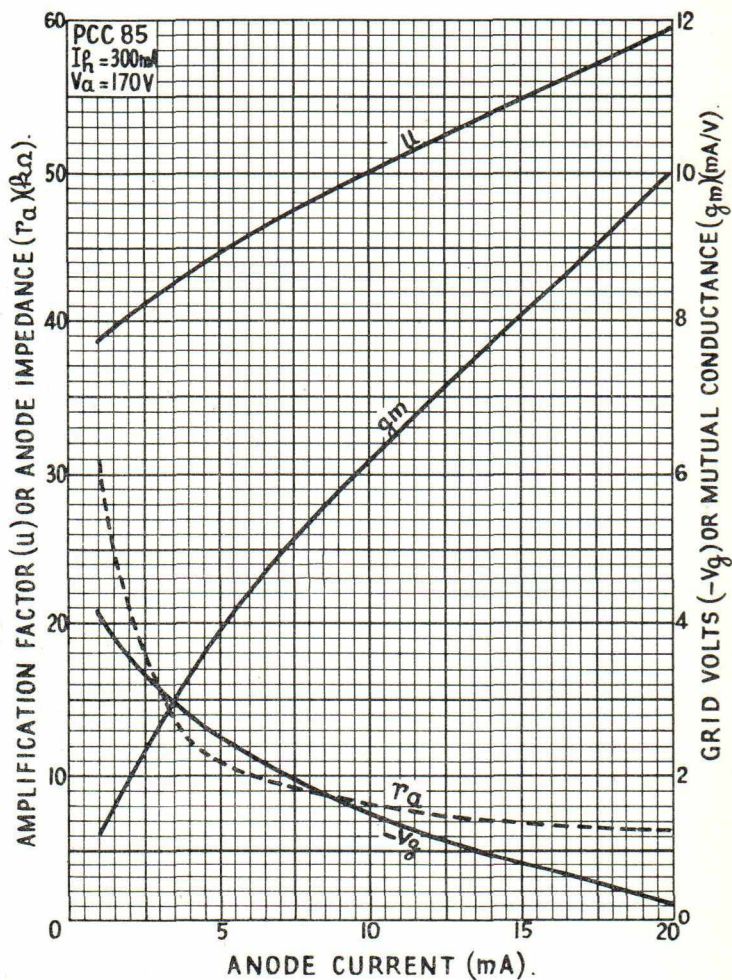
*Each Section.

†Measured with external shield.









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