

DOUBLE DIODE PENTODE

EBF80

Double diode variable- μ pentode. The pentode section is suitable for use as an R.F., I.F., or A.F. amplifier.

HEATER

Suitable for series or parallel operation, A.C. or D.C.

V_h	6.3	V
I_h	0.3	A

MOUNTING POSITION

Any

CAPACITANCES

$C_{a'd-g1}$	< 0.0008	$\mu\mu F$
$C_{a''d-g1}$	< 0.001	$\mu\mu F$
$C_{a'd-a}$	< 0.2	$\mu\mu F$
$C_{a''d-a}$	< 0.05	$\mu\mu F$
Pentode Section		
C_{a-g1}	< 0.0025	$\mu\mu F$
C_{out}	4.9	$\mu\mu F$
C_{in}	4.2	$\mu\mu F$
C_{g1-h}	< 0.07	$\mu\mu F$
Diode Sections		
$C_{a'd-k}$	2.2	$\mu\mu F$
$C_{a''d-k}$	2.35	$\mu\mu F$
$C_{a'd-a''d}$	< 0.35	$\mu\mu F$
$C_{a'd-h}$	< 0.02	$\mu\mu F$
$C_{a''d-h}$	< 0.005	$\mu\mu F$

OPERATING CONDITIONS AS R.F. OR I.F. AMPLIFIER

$V_a = V_b$	250	V
R_{g2}	95	k Ω
V_{g2}	85	V
V_{g3}	0	V
R_k	300	Ω
I_a	5.0	mA
I_{g2}	1.75	mA
V_{g1}	-2.0	V
g_m	2.2	mA/V
r_a	1.4	M Ω
μ_{g1-g2}	18	
R_{eq}	6.8	k Ω
V_{g1} for 100 : 1 reduction in g_m	-41.5	V

OPERATING CONDITIONS AS RESISTANCE COUPLED A.F. AMPLIFIER

V_b (V)	R_a (k Ω)	I_a (mA)	R_{g2} (M Ω)	I_{g2} (mA)	R_k (k Ω)	R_{g1} (M Ω)	$\frac{V_{out}}{V_{in}}$	V_{out}^* (V _{r.m.s.})	R_{g1}^{**} (k Ω)
250	220	0.75	0.82	0.25	1.8	1.0	110	19	680
250	100	1.5	0.39	0.5	1.0	1.0	80	18	330
250	220	0.71	1.0	0.22	0	10	160	19	680
250	100	1.4	0.47	0.45	0	10	110	19	330

* $D_{tot} = 5\%$

**Grid resistor of following valve



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OPERATING CONDITIONS AS TRIODE CONNECTED RESISTANCE ← COUPLED A.F. AMPLIFIER

g_2 connected to a, g_3 connected to k.

V_b (V)	R_a (k Ω)	I_a (mA)	R_k (Ω)	R_{g1} (M Ω)	$\frac{V_{out}}{V_{in}}$	D_{tot}^* (%)	R_{g1}^{**} (k Ω)
250	100	2.08	820	1.0	14	2.5	330
250	47	4.1	560	1.0	13	2.0	150
250	100	2.16	0	10	15	3.1	330
250	47	4.5	0	10	15	2.7	150

* $V_{out} = 5 V_{(r.m.s.)}$.

**Grid resistor of following valve.

LIMITING VALUES

Pentode Section

$V_{a(b)}$ max.	550	V
V_a max.	300	V
p_a max.	1.5	W
$V_{g2(b)}$ max.	550	V
V_{g2} max. ($I_a < 2.5$ mA)	300	V
V_{g2} max. ($I_a = 5$ mA)	125	V
p_{g2} max.	0.3	W
I_k max.	10	mA
V_{g1} max. ($I_{g1} = +0.3 \mu A$)	-1.3	V
* R_{g1-k} max.	3.0	M Ω
R_{h-k} max.	20	k Ω
V_{h-k} max.	100	V

* R_{g1-k} max. = 22 M Ω if grid current biasing is employed.

Diode Sections (each section)

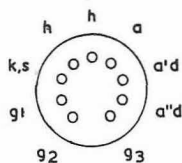
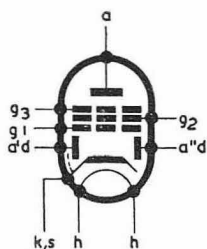
P.I.V.	350	V
$I_{a.d}$ max.	0.8	mA
$i_{a.d(p.k)}$ max.	5.0	mA
R_{h-k} max.	20	k Ω
V_{h-k} max.	100	V

This valve can be used without special precautions against microphony if the input voltage, V_{in} , is not less than 25 mV for an output of 50 mV from the output valve.

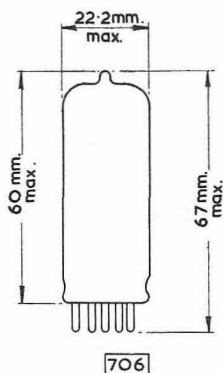
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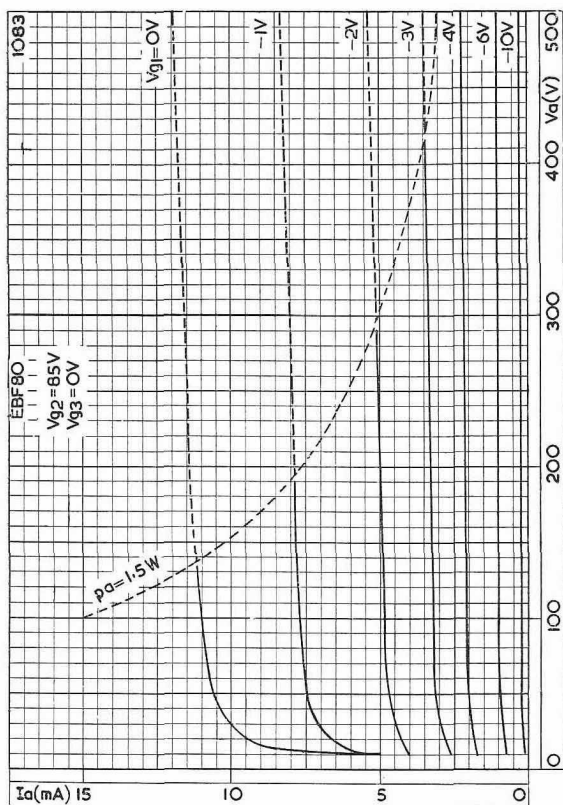
B9A (Noval) BASE



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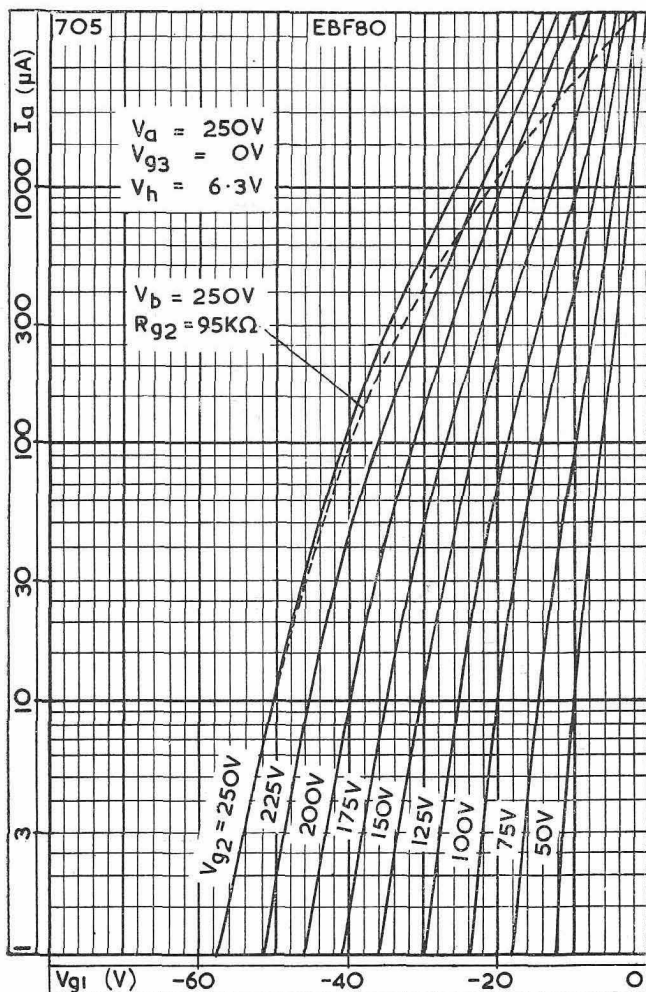


ANODE CURRENT PLOTTED AGAINST ANODE VOLTAGE WITH
CONTROL-GRID VOLTAGE AS PARAMETER

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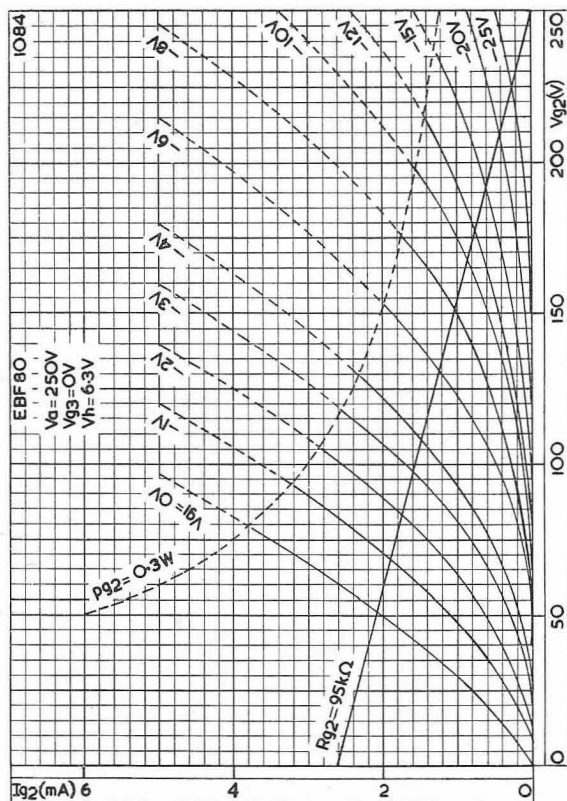


ANODE CURRENT PLOTTED AGAINST CONTROL-GRID VOLTAGE WITH SCREEN-GRID VOLTAGE AS PARAMETER

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DOUBLE DIODE PENTODE

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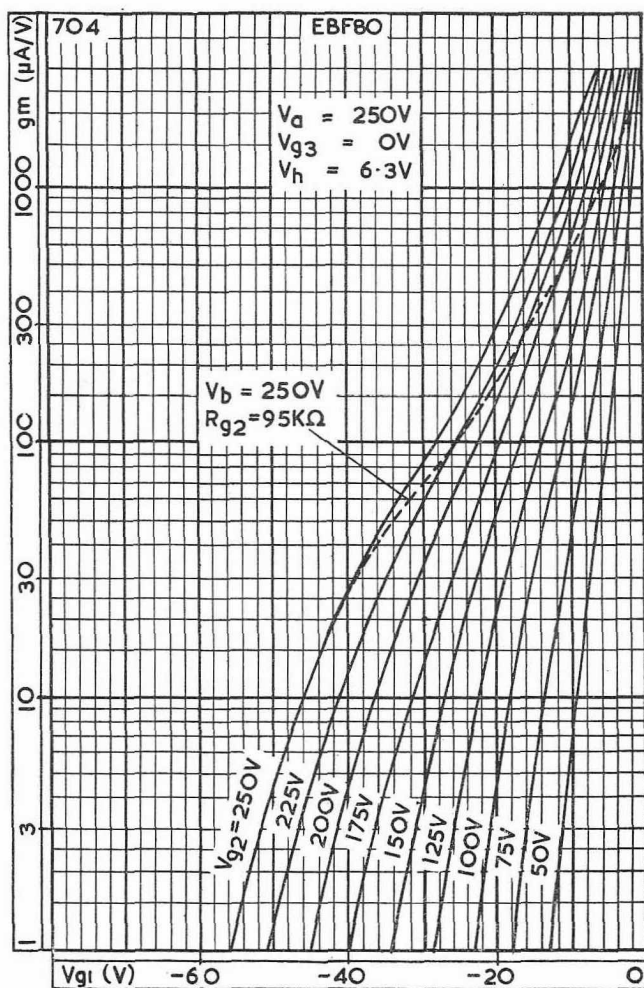


SCREEN-GRID CURRENT PLOTTED AGAINST SCREEN-GRID VOLTAGE
 WITH CONTROL-GRID VOLTAGE AS PARAMETER

DOUBLE DIODE PENTODE

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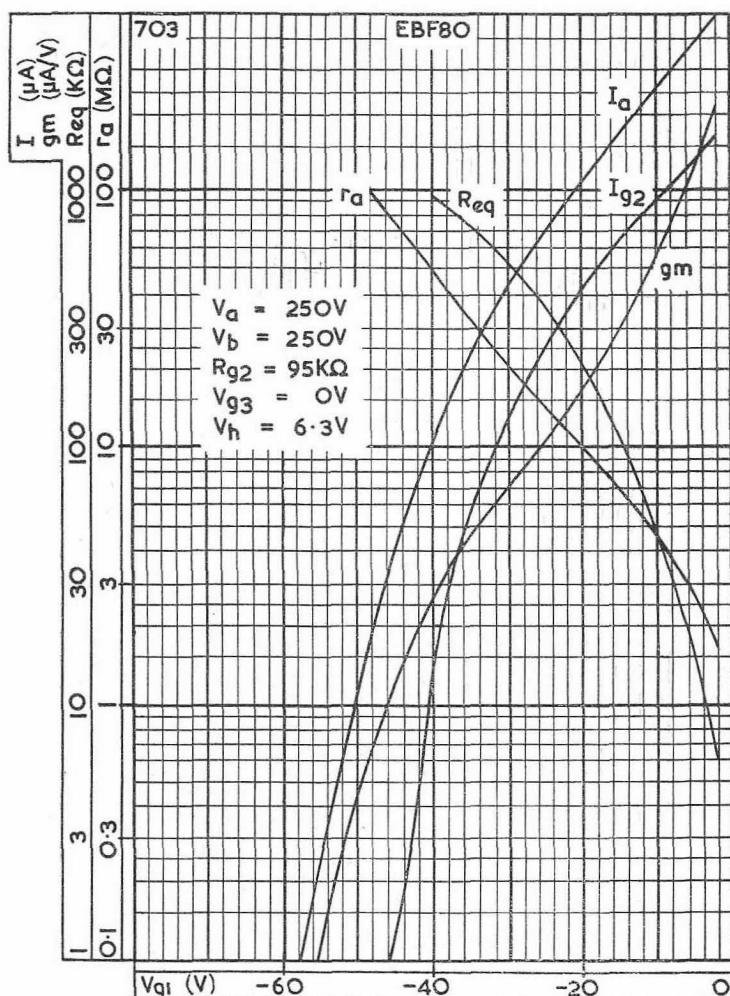


MUTUAL CONDUCTANCE PLOTTED AGAINST CONTROL-GRID VOLTAGE
WITH SCREEN-GRID VOLTAGE AS PARAMETER

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DOUBLE DIODE PENTODE

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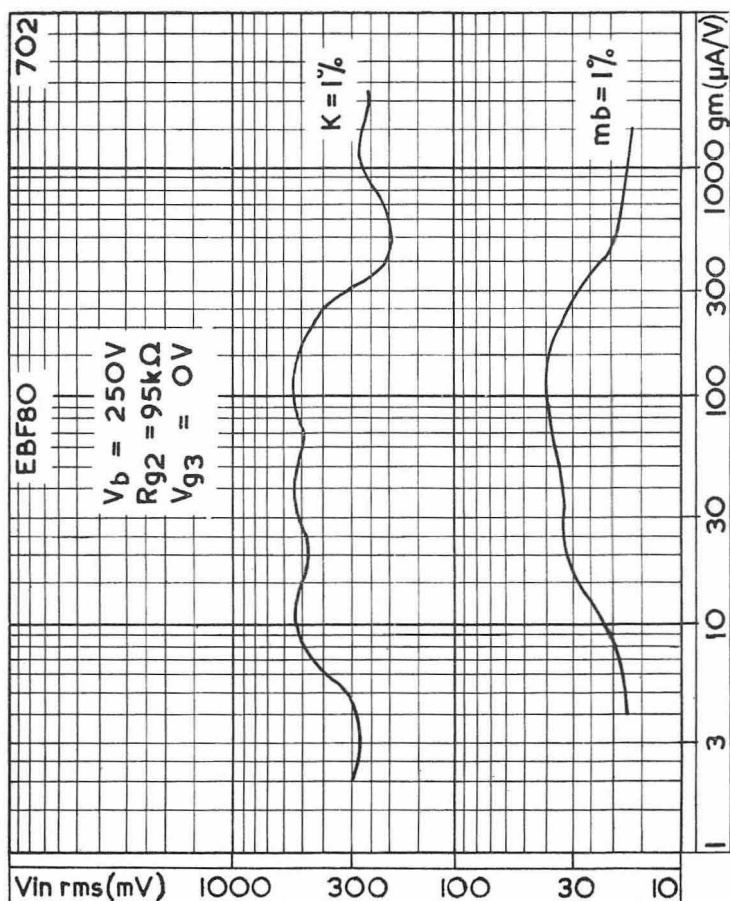
ANODE CURRENT, SCREEN-GRID CURRENT, MUTUAL CONDUCTANCE, ANODE RESISTANCE AND EQUIVALENT NOISE RESISTANCE PLOTTED AGAINST CONTROL-GRID VOLTAGE



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CROSS MODULATION AND MODULATION HUM CURVES

