OUTPUT PENTODE

EL37

25-watt pentode, particularly suitable for use in push-pull combination for outputs up to 69W., or as drivers for large power triode push-pull output stage.

HEATER

V_h	6.3	V
I_h	1.4	A

CAPACITANCES

c_{a-k}	9.0	μμF
c_{g-k}	17.5	μμF
c_{a-g1}	1.0	μμF

OPERATING CONDITIONS AS PENTODE

V_a	250	V
V_{g2}	250	V
V_{g1}	-13.5	V
I_a	100	mA
I_{g2}	13.5	mA
R_k	120	ohms
S_m	11.0	mA/V
r_a	13,500	ohms
μ_{g1-g2}	10	
R_a	2,500	ohms
V_{in}(rms) 50 mW	0.45	V
W_{out} (D_{tot} = 10%)	10.5	W
V_{in}(rms) (start of I_{g1})	10.8	V
D_{tot} (start of I_{g1})	13.5	%
W_{out} (start of I_{g1})	11.5	W

OPERATING CONDITIONS - TWO VALVES IN PUSH-PULL (Self Bias)

V_a	250	325	V
V_{g2}	250	325	V
I_{ao}	2x59	2x77	mA
I_a max.	2x68	2x90	mA
I_{g2o}	2x7.5	2x9.75	mA
I_{g2} max.	2x18	2x30	mA
R_k	130	130	ohms
R_{a-a}	4,000	4,000	ohms
W_{out}	20.0	35.0	W
V_{in}(rms) g1-g1	29.0	43.0	V
D_{tot}	2.25	4.4	%

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OPERATING CONDITIONS - TWO VALVES IN PUSH-PULL (Fixed Bias)

V_a	350	400	V
V_{g2}	350	400	V
$I_{a(o)}$	2x40	2x50	mA
I_a max.sig.	2x118	2x138	mA
$I_{g2(o)}$	2x5	2x6	mA
I_{g2} max.sig.	2x29	2x36	mA
V_{g1}	-31	-36	V
R_{a-a}	3,250	3,250	Ω
W_{out}	46.0	69.0	W
$V_{in(rms)}$ $g1-g1$	43.4	49.0	V
D_{tot}	2.8	2.5	%

OPERATING CONDITIONS AS SINGLE VALVE, TRIODE CONNECTED.

(Grid 2 strapped to anode by 100Ω resistor)

V_a	300	400	V
I_a	50	37.5	mA
V_{g1}	-23	-36	V
S_m	6.5	4.5	mA/V
μ	9	9	-
r_a	1400	2000	Ω

OPERATING CONDITIONS AS PUSH-PULL PAIR, TRIODE CONNECTED

(SELF BIAS)

V_b	350	435	V
V_a	320	400	V
$I_{a+g2(o)}$	2x56	2x70	mA
$I_{a+g2(max.sig.)}$	2x64	2x80	mA
W_{a+g2}	2x18	2x28	W
R_k	245	245	Ω
R_{a-a}	4000	4000	Ω
V_{in}	2x21.5	2x27.2	V.rms
W_{out}	12.5	20.6	W
D_{tot}	4.1	4.3	%

LIMITING VALUES - PENTODE CONNECTED

$V_{a(b)max.}$	800	V
V_a max.	400	V
$V_{g2(b)max.}$	800	V
V_{g2} max.	400	V
$V_{g1max.(I_{g1}=0.3\mu A)}$	-1.3	V
V_{h-k} max.	75	V
R_{h-k} max.	5000	Ω

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R_{g1-k} max. (cathode bias)	0.5	MΩ
R_{g1-k} max. (fixed bias)	0.1	MΩ
w_a max.	25	W
w_{g2} max.	6	W
I_k max.	125	mA

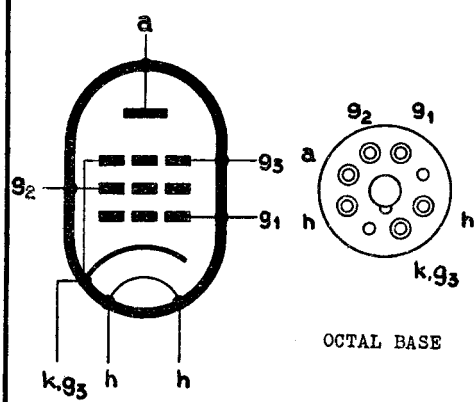
LIMITING VALUES - TRIODE CONNECTED (NORMAL APPLICATIONS)

V_{a+g2} max.	400	V
w_{a+g2} max.	28	W

LIMITING VALUES - TRIODE CONNECTED (IN CATHODE-COUPLED PUSH-PULL DRIVER STAGE FOR LARGE POWER TRIODES)

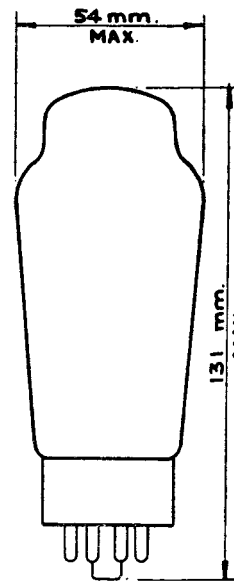
V_{a+g2} max.	500	V
w_{a+g2} max.	12.5	W

ARRANGEMENT OF ELECTRODES AND BASE CONNECTIONS



OCTAL BASE

DIMENSIONS



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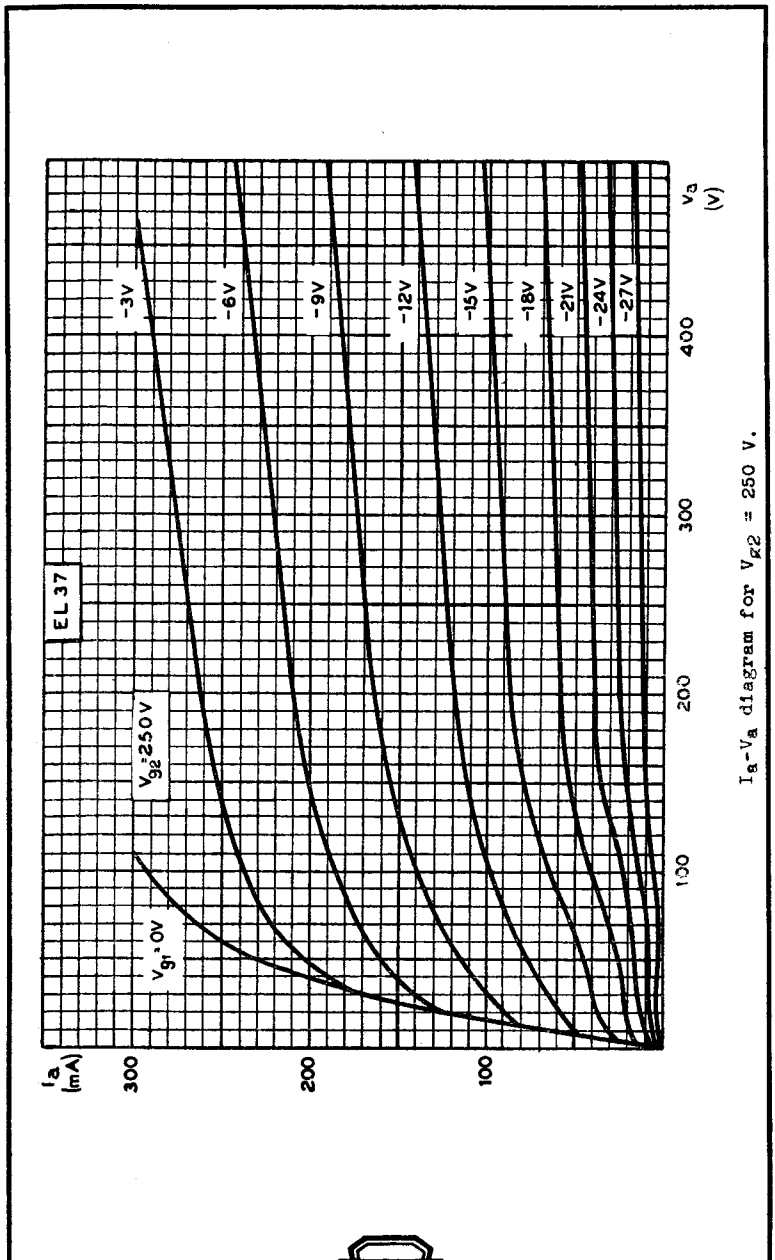

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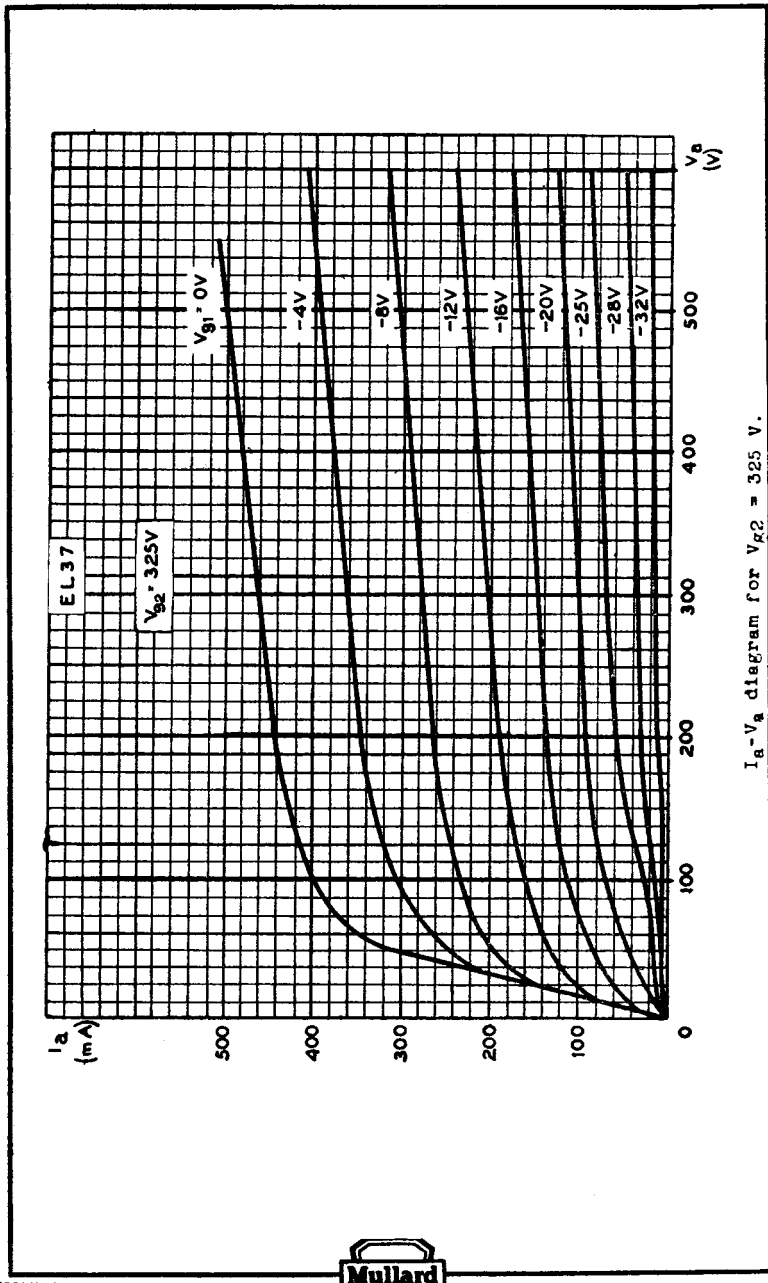

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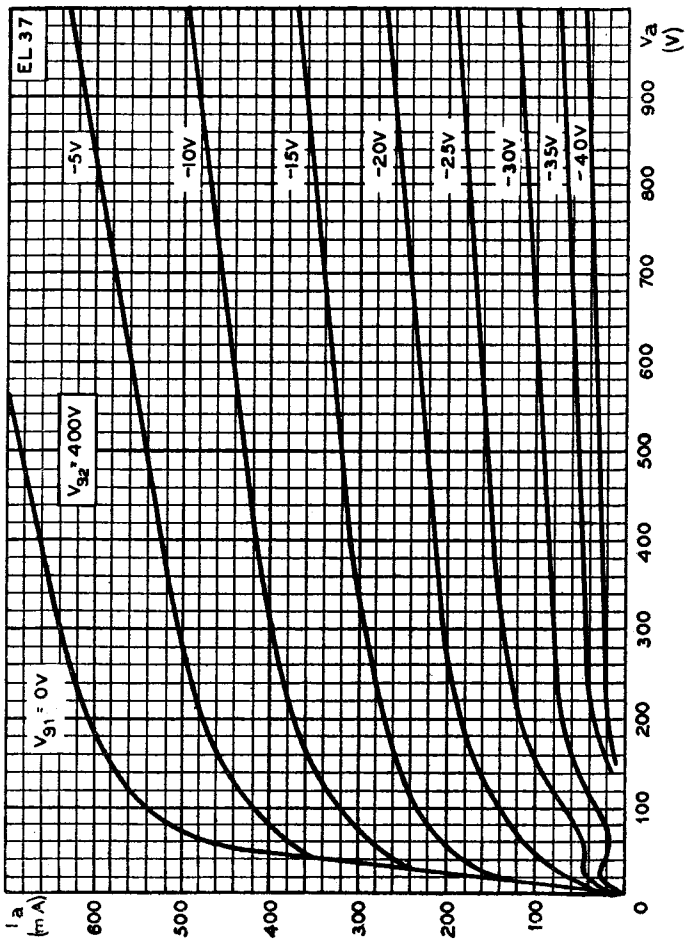

I_a-V_a diagram for V_{g2} = 400 V.

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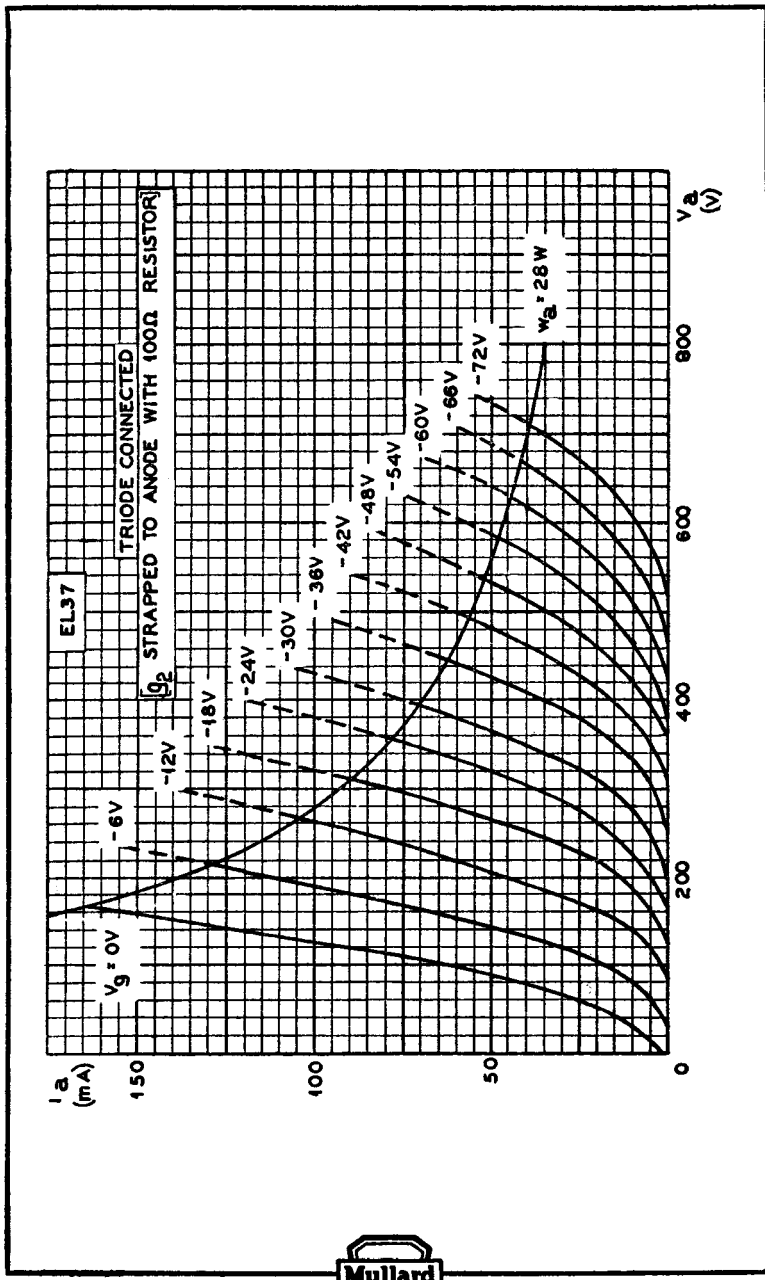

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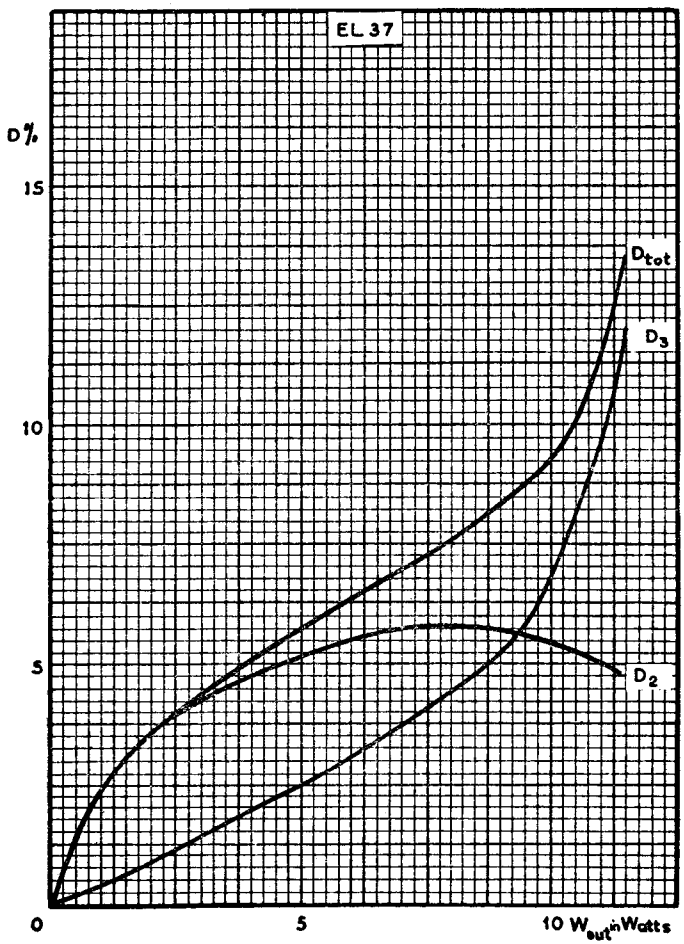

Distortion curve for single valve at $V_a = V_{g2} = 250$ V.

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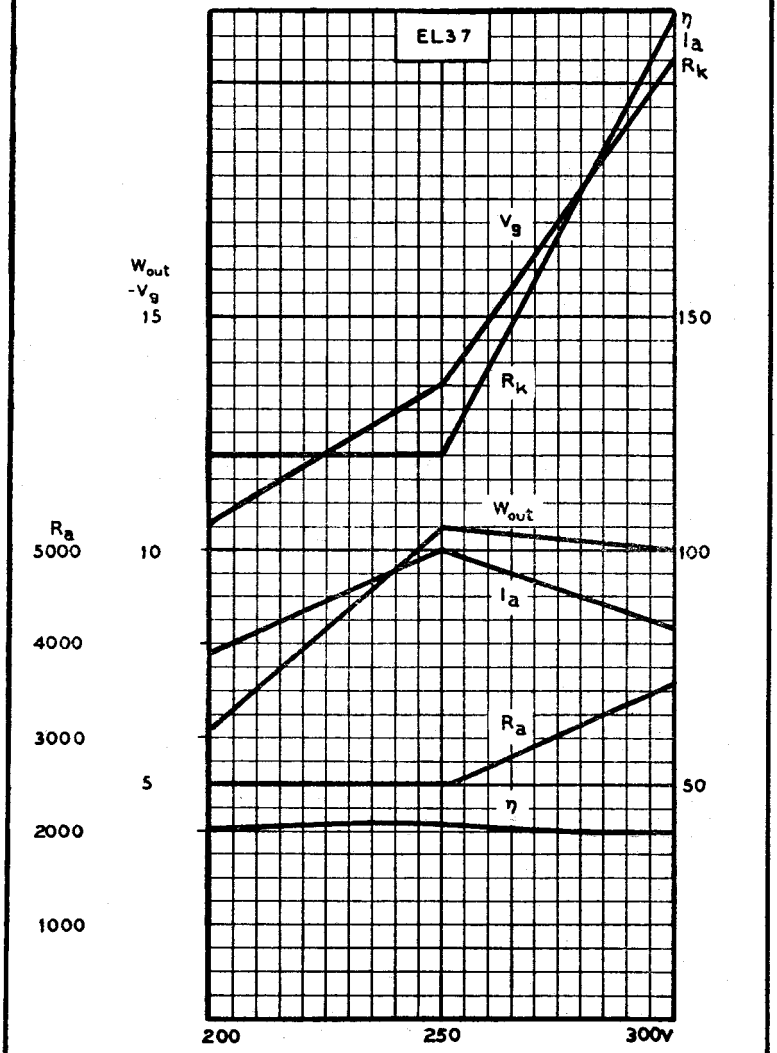

Operating conditions between 200 and 300 V. (single valve).

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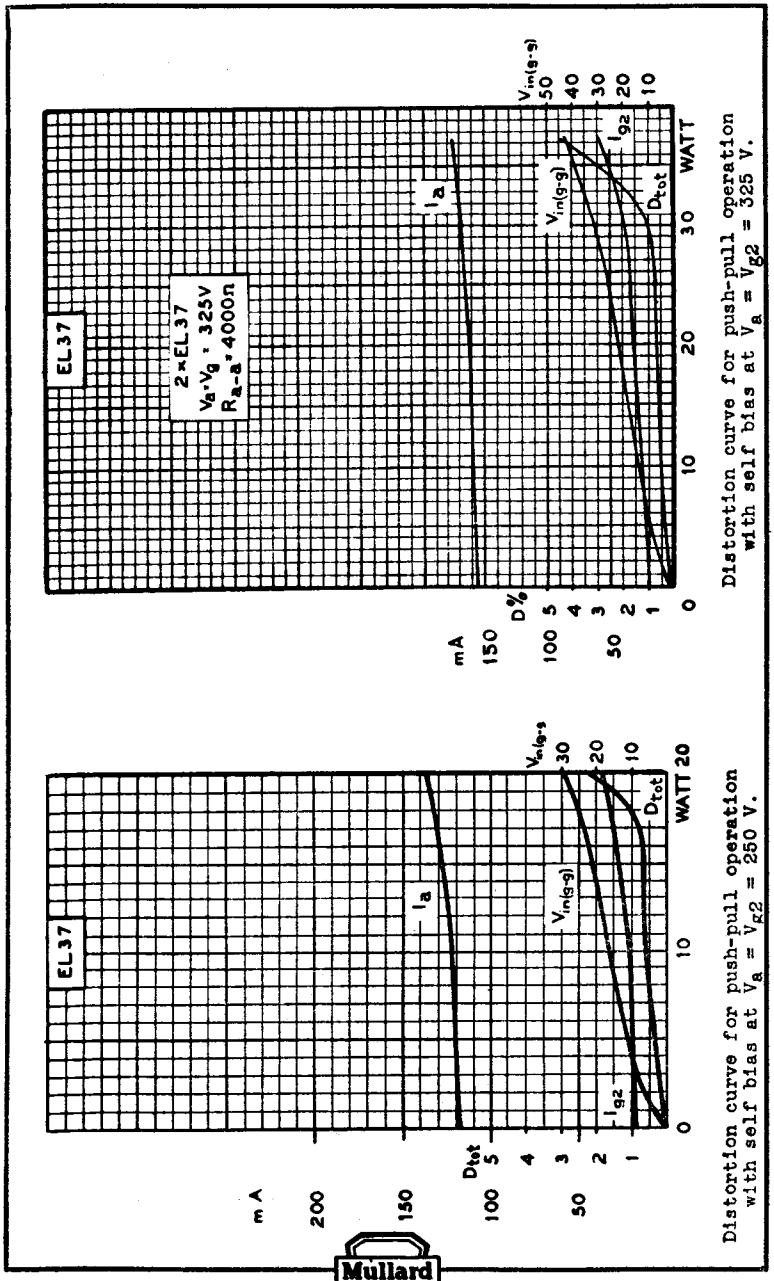

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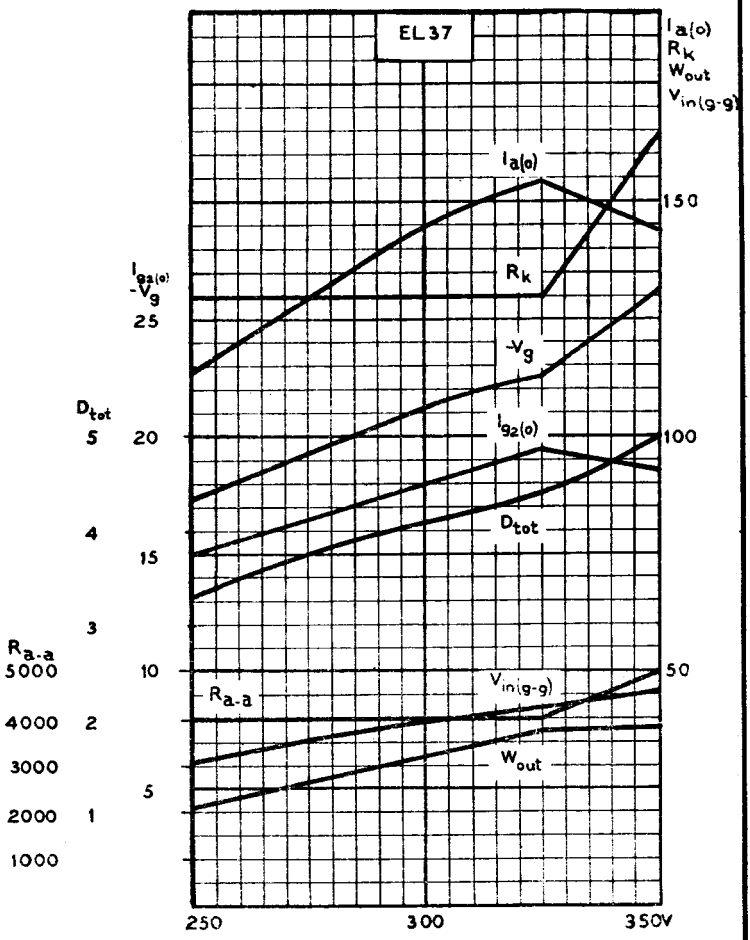

Self bias push-pull operating conditions between 250 and 350 V.

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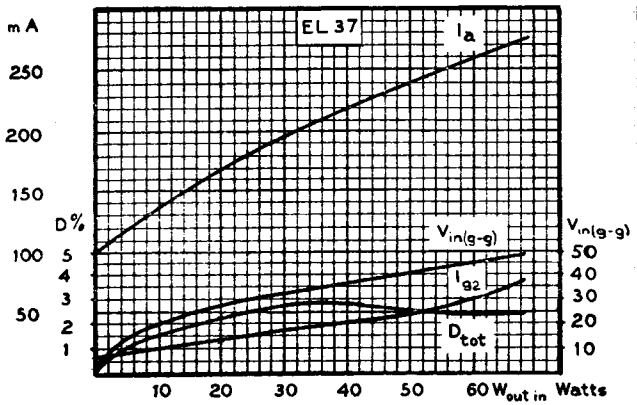
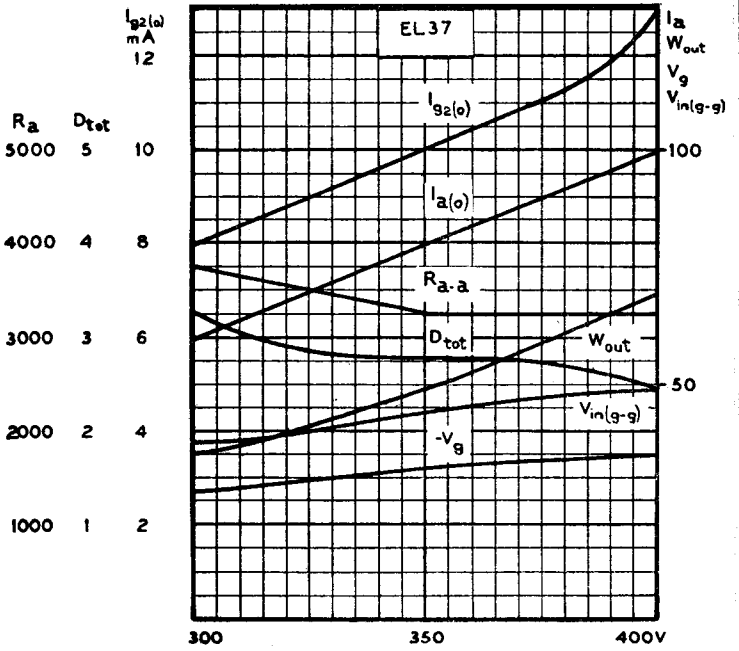


Distortion curve for push-pull operation with fixed bias at $V_a = V_{g2} = 400$ V.



Fixed bias push-pull operating conditions between 300 and 400 V.