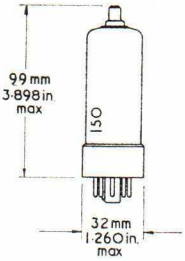
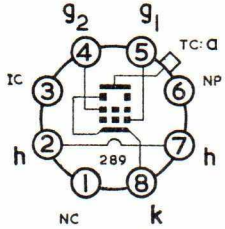


LINE OUTPUT BEAM TETRODE



I.O. Base
CT1 Top cap

GENERAL

This valve is an output beam tetrode primarily intended for use in both stabilised and non-stabilised time base output stages of AC/DC, 405/625 line television receivers with series connected heaters.

Heater Current	I_h	0·3	A
Heater Voltage	V_h	25	V

RATINGS

Maximum Anode Dissipation	$P_{a(max)}$	See rating chart	
Maximum Screen Grid Dissipation	$P_{g2(max)}$	See rating chart	
Maximum Peak Anode Voltage (Pulse positive)	$V_{a(pk)max}$	7*†	kV
Maximum Anode Supply Voltage	$V_{a(b)max}$	550	V
Maximum Anode Voltage	$V_{a(max)}$	250	V
Maximum Peak Screen Grid Voltage (Pulse negative)	$V_{g2(pk)max}$	2*	kV
Maximum Screen Grid Voltage	$V_{g2(max)}$	250	V
Maximum Heater to Cathode Voltage (R.M.S.)	$V_{h-k(r.m.s.)max}$	200‡	V
Maximum Cathode Current	$I_{k(max)}$	200	mA
Maximum Grid to Cathode Resistance	$R_{g1-k(max)}$	3·3**	MΩ

* The pulse ratings are for television line scan where the applied voltage pulse does not exceed 22 per cent of one scanning cycle or 18 μs duration.

** For television line scan applications.

† 7 kV is a design centre rating, the absolute rating of 8·5 kV must not be exceeded.

‡ Measured with respect to the higher potential heater pin.

INTER-ELECTRODE CAPACITANCES

		§	ϕ	‖	
Grid 1 to Earth	C_{in}	18	18·5	20	pF
Anode to Earth	C_{out}	11	12	12	pF
Anode to Grid 1	C_{a-g1}	0·25	0·3	0·3	pF

§ In fully shielded socket without can.

ϕ With holder capacitance balanced out. (Holder as below.)

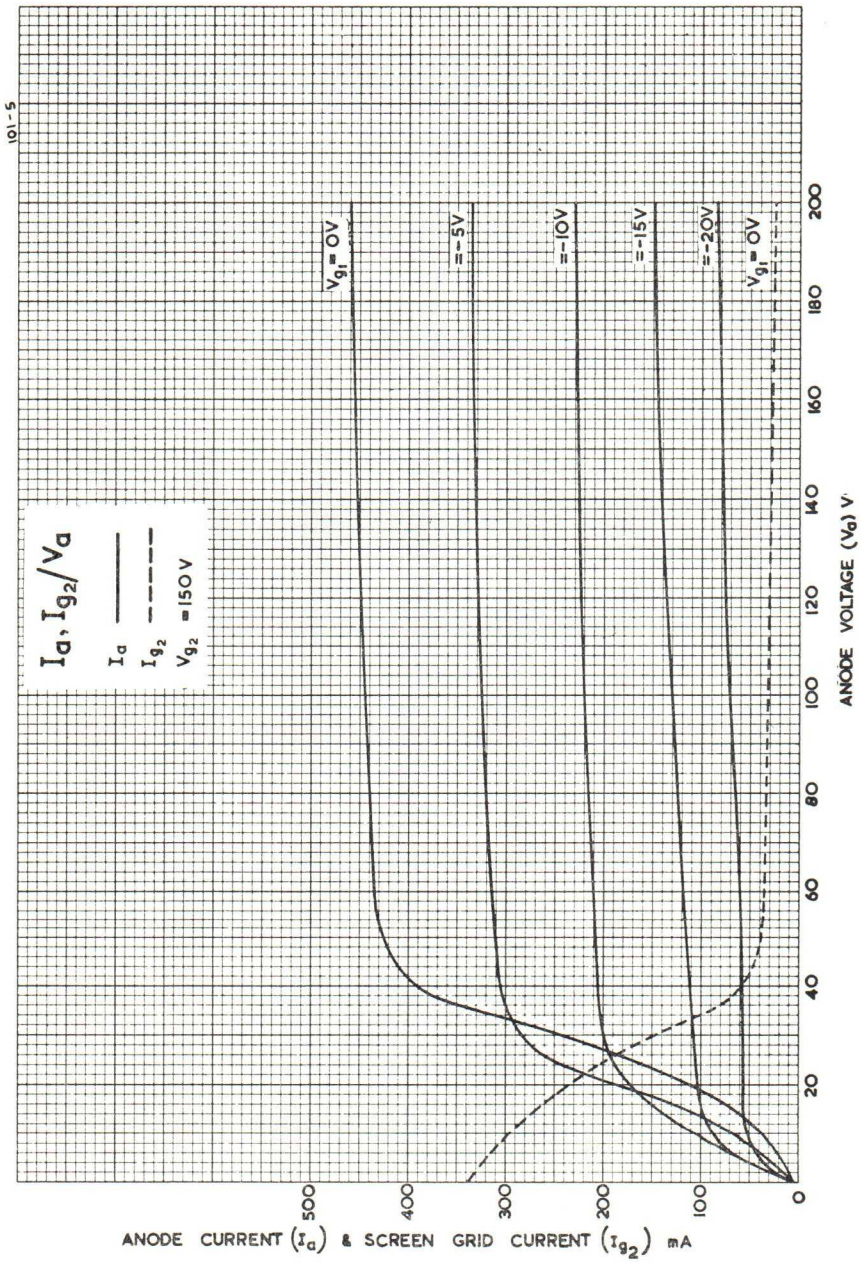
‖ Total capacitance including McMurdo amphenol international octal holder type B8/U. "Earth" denotes the remaining earthy potential electrodes, heater and shields joined to cathode.

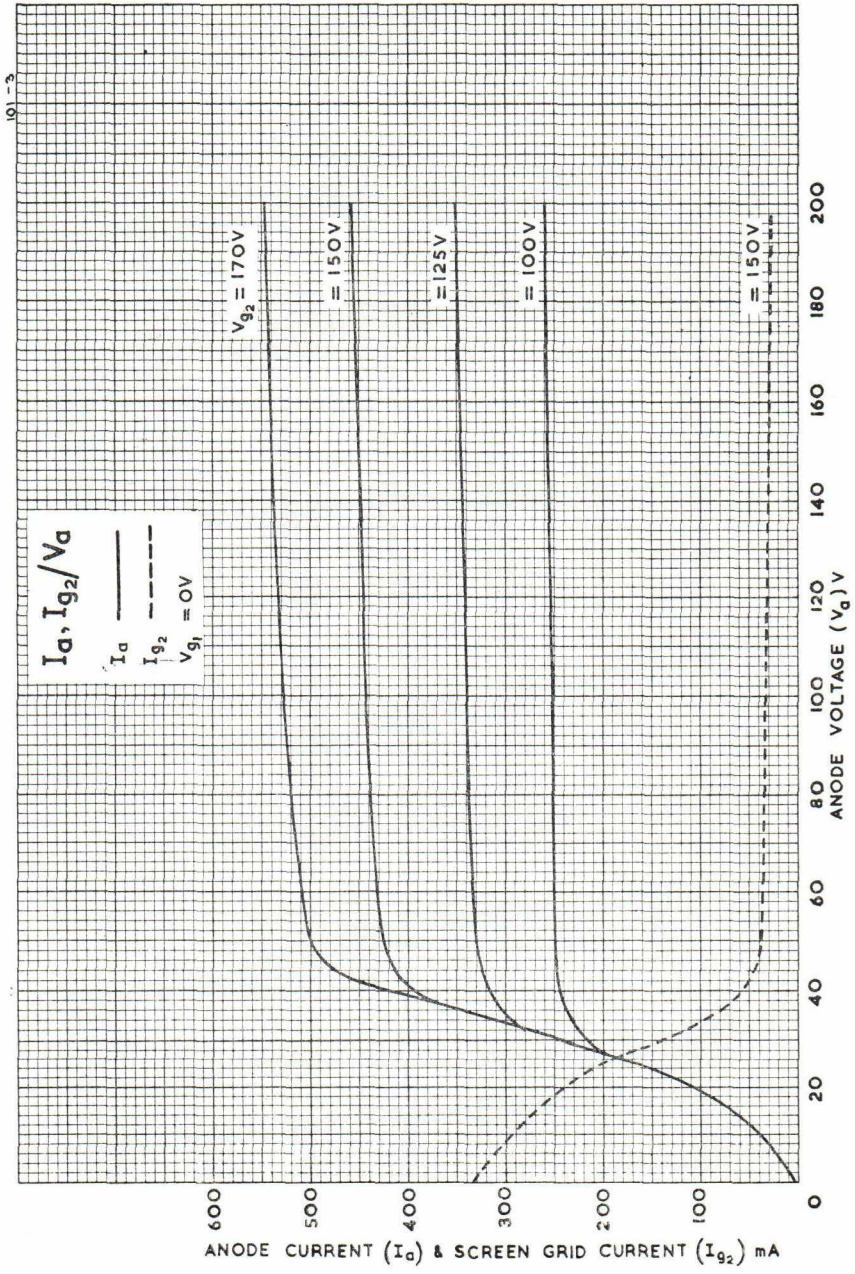
MOUNTING POSITION—Unrestricted

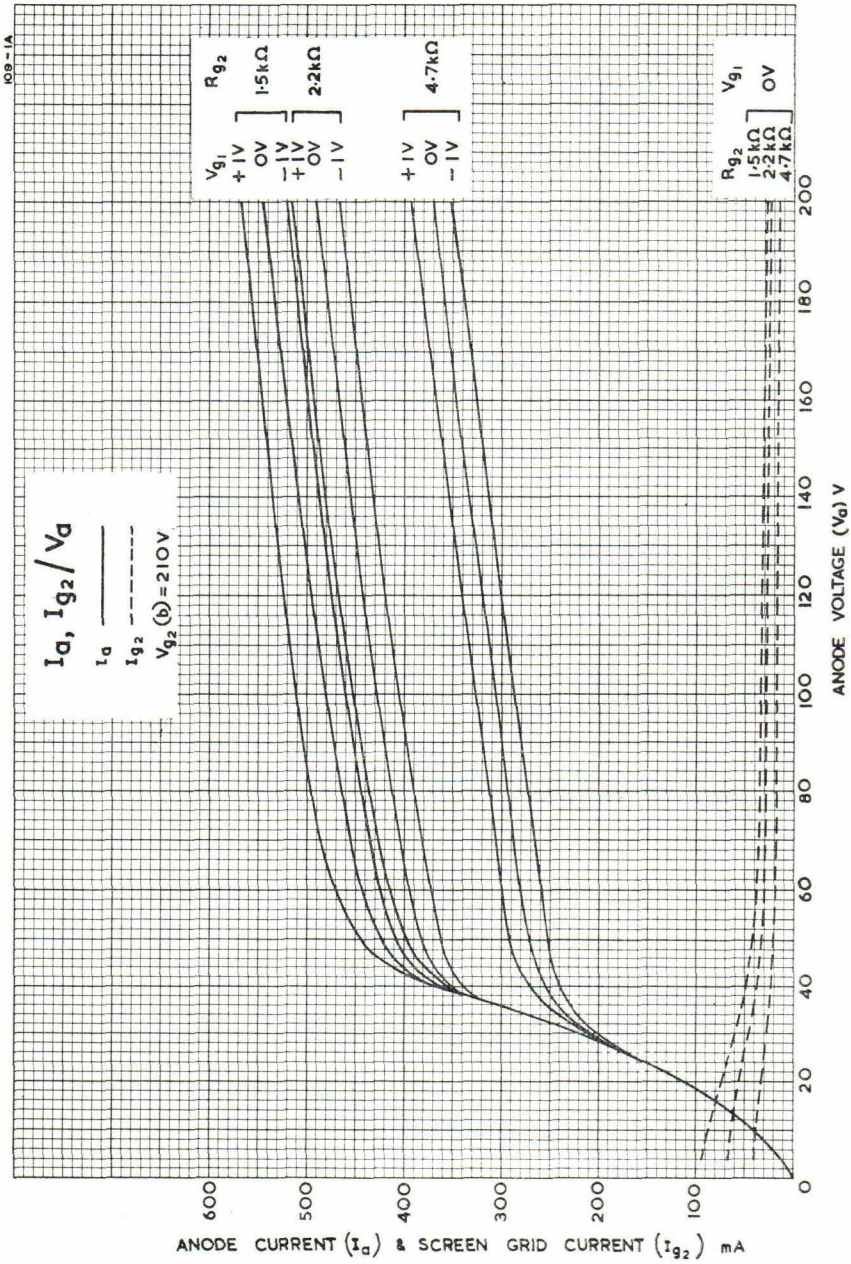
If mounted horizontally it is recommended that pins 4 and 8 should be in a vertical plane.

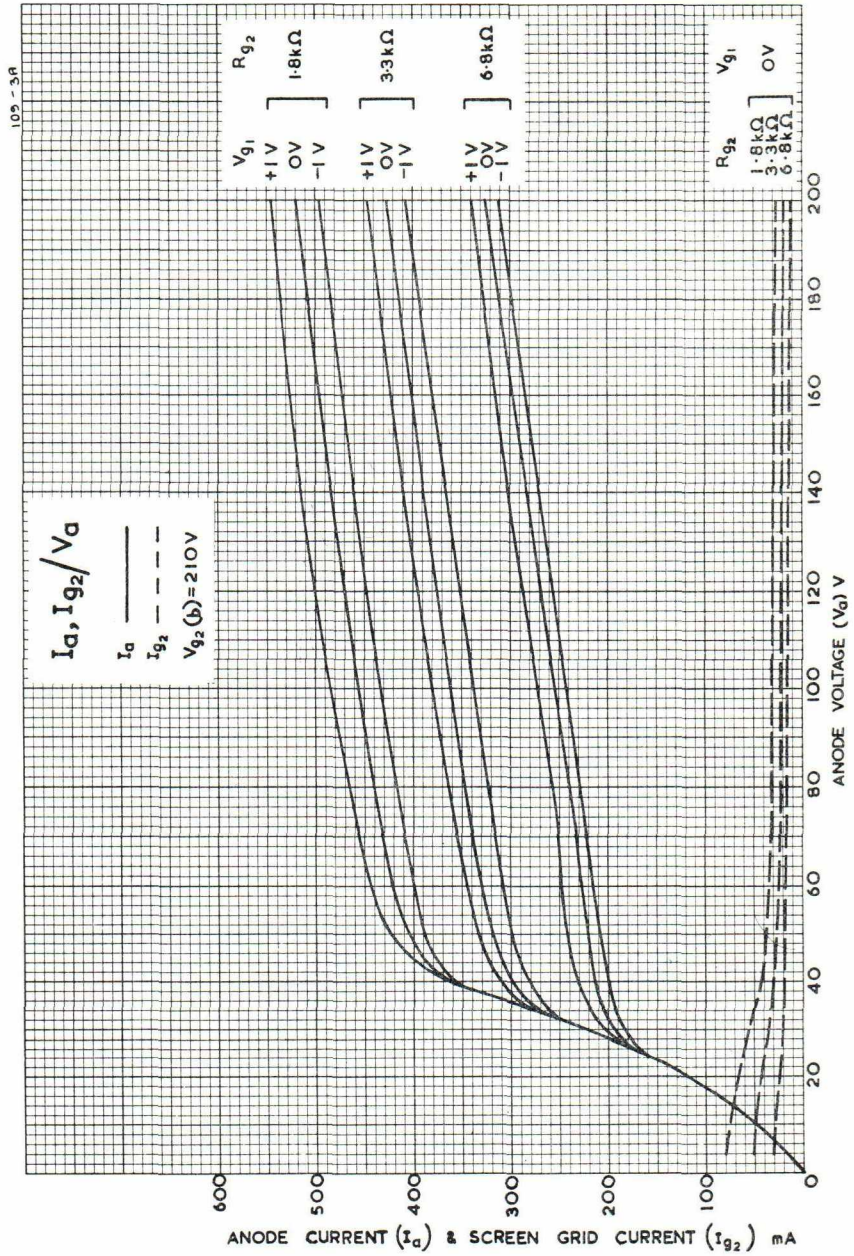
APPROXIMATE WEIGHT

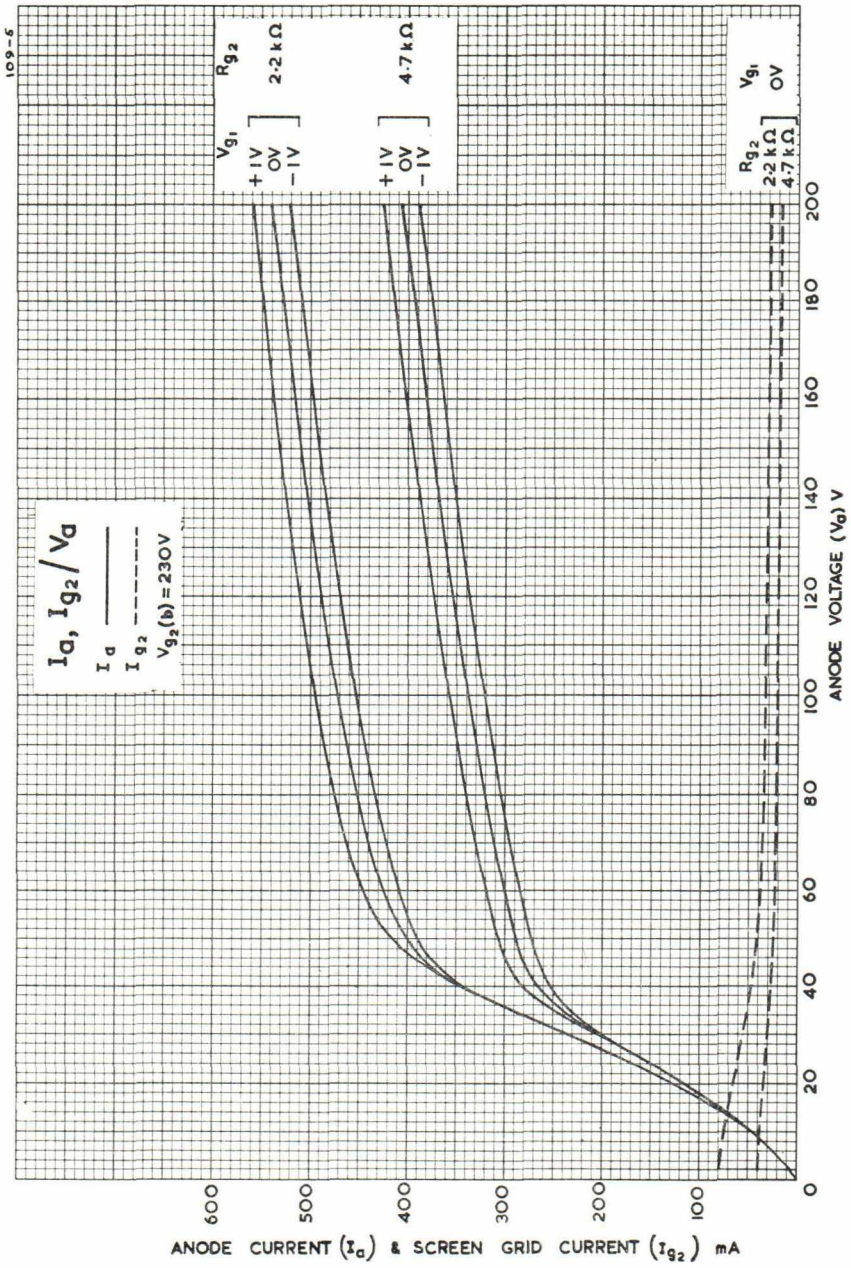
Net	1·5	oz
Packed	4	oz

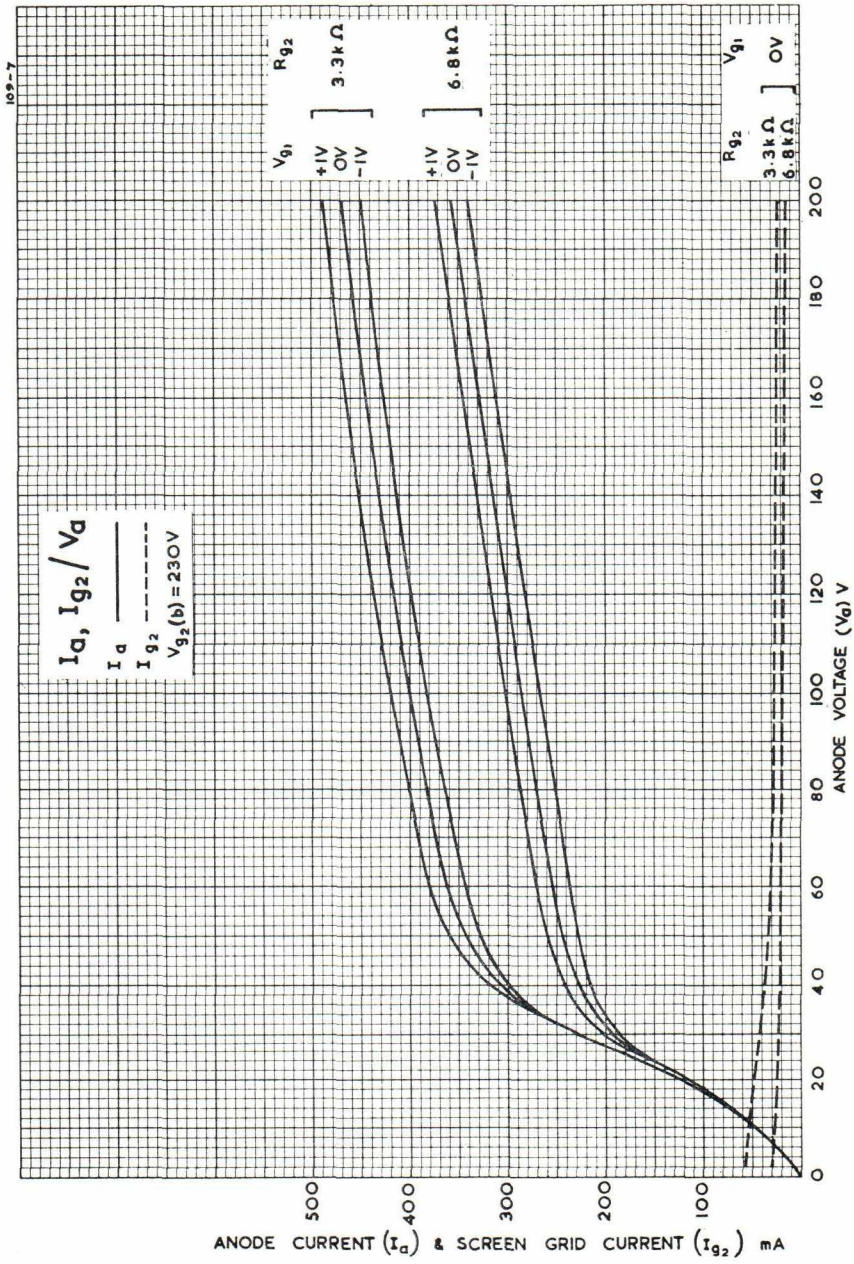

101-5
$I_a, I_{g_2}/V_a$
I_a
I_{g_2}
V_{g_2} = 150 V
V_{g_1} = 0V
= -5V
= -10V
= -15V
= -20V
V_{g_1} = 0V
0
100
200
300
400
500
20
40
60
80
100
120
140
160
180
200
ANODE VOLTAGE (V_a) V
ANODE CURRENT (I_a) & SCREEN GRID CURRENT (I_{g_2}) mA

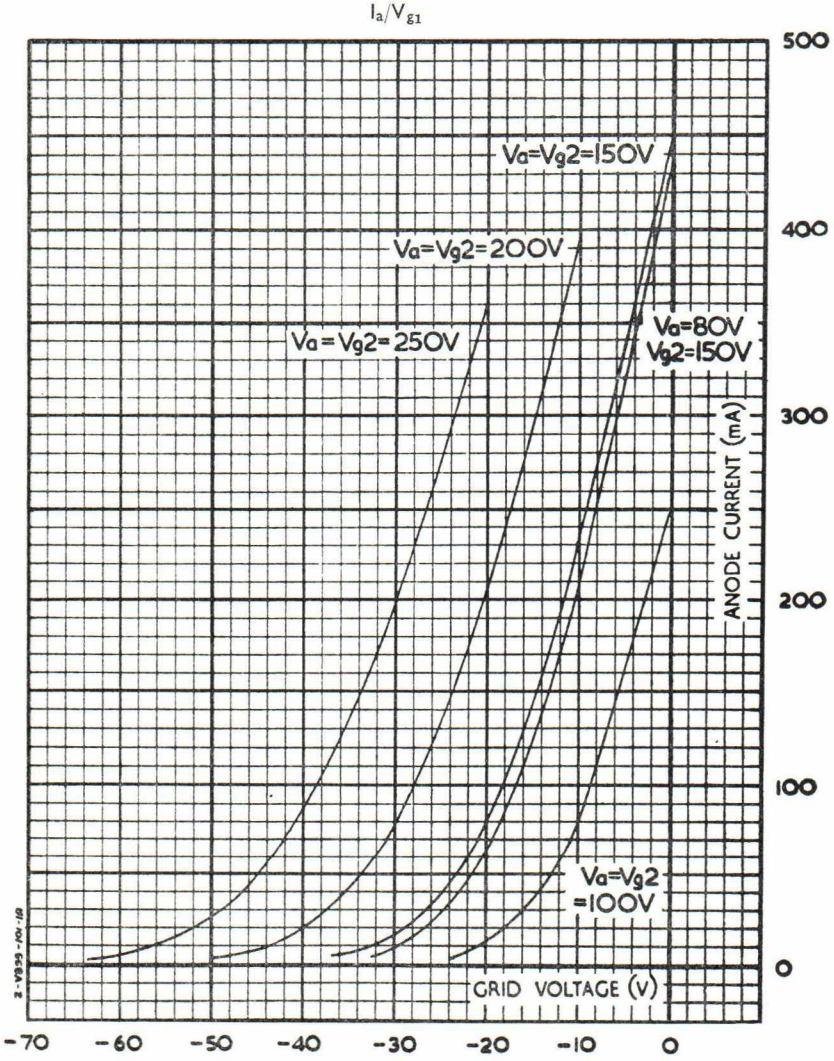

191-3
$I_a, I_{g_2}/V_a$
I_a
I_{g_2}
$V_{g_1} = 0V$
$V_{g_2} = 170V$
$= 150V$
$= 125V$
$= 100V$
$= 150V$
0
20
40
60
80
100
120
140
160
180
200
ANODE VOLTAGE (V_a) V
100
200
300
400
500
600
ANODE CURRENT (I_a) & SCREEN GRID CURRENT (I_{g_2}) mA


109-1A
I_a, I_{g2} / V_a
I_a
I_{g2}
V_{g2} (b) = 210 V
R_{g2}
1·5kΩ
2·2kΩ
4·7kΩ
V_{g1}
+1V
0V
−1V
+1V
0V
−1V
+1V
0V
−1V
V_{g1}
0V
R_{g2}
1·5kΩ
2·2kΩ
4·7kΩ
0
20
40
60
80
100
120
140
160
180
200
ANODE VOLTAGE (V_a) V
600
500
400
300
200
100
ANODE CURRENT (I_a) & SCREEN GRID CURRENT (I_{g2}) mA


105-3A
$I_a, I_{g2}/V_a$
I_a
I_{g2}
$V_{g2}(b)=210V$
R_{g2}
1·8kΩ
3·3kΩ
6·8kΩ
V_{g1}
+1V
0V
-1V
V_{g1}
0V
R_{g2}
1·8kΩ
3·3kΩ
6·8kΩ
0
20
40
60
80
100
120
140
160
180
200
ANODE VOLTAGE (V_a) V
100
200
300
400
500
600
ANODE CURRENT (I_a) & SCREEN GRID CURRENT (I_{g2}) mA


109-6
$I_a, I_{g_2}/V_a$
I_a
I_{g_2}
$V_{g_2(b)} = 230V$
R_{g_2}
2·2 kΩ
4·7 kΩ
V_{g_1}
+1V
0V
−1V
+1V
0V
−1V
V_{g_1}
0V
R_{g_2}
2·2 kΩ
4·7 kΩ
0
20
40
60
80
100
120
140
160
180
200
ANODE VOLTAGE (V_a) V
600
500
400
300
200
100
ANODE CURRENT (I_a) & SCREEN GRID CURRENT (I_{g_2}) mA


109-7
I_a, I_{g2} / V_a
I_a
I_{g2}
$V_{g2}(b) = 230V$
R_{g2}
V_{g1}
3.3kΩ
6.8kΩ
+1V
0V
-1V
+1V
0V
-1V
V_{g1}
0V
R_{g2}
3.3kΩ
6.8kΩ
0
20
40
60
80
100
120
140
160
180
200
ANODE VOLTAGE (V_a) V
500
400
300
200
100
ANODE CURRENT (I_a) & SCREEN GRID CURRENT (I_{g2}) mA


Ia/Vg1
Va=Vg2=150V
Va=Vg2=200V
Va=Vg2=250V
Va=80V
Vg2=150V
Va=Vg2
=100V
ANODE CURRENT (mA)
GRID VOLTAGE (V)
500
400
300
200
100
0
-70
-60
-50
-40
-30
-20
-10
0