

Combined triode and frame-grid, variable- μ pentode for use as a frequency changer and i.f. amplifier at frequencies up to 200Mc/s in television receivers.

HEATER

Suitable for series operation a.c. or d.c.

Ih	300	mA
Vh	8.5	V

CAPACITANCES (shielded)

cap-at	< 25	mpF
cap-gt	< 10	mpF
cgl-at	< 10	mpF
cgl-gt	< 10	mpF

Pentode section

ca-g1	9.0	mpF
ca-g1 max.	12	mpF
cgl-g2	1.6	pF
cin	6.2	pF
cout	3.7	pF

Triode section

ca-g	1.8	pF
cin	3.3	pF
cout	1.7	pF

CHARACTERISTICS

Pentode section

Va	170	V
Vg2	120	V
Ia	10	mA
Ig2	3.0	mA
Vg1	- 1.4	V
gm	11	mA/V
ra	> 350	k Ω
μ g1-g2	55	
Req	1.5	k Ω

Triode section

Va	100	V
Ia	15	mA
Vg	- 3.0	V
gm	9.0	mA/V
μ	20	

OPERATING CONDITIONS AS FREQUENCY CHANGER

Pentode section

Vb	200	200	V
Ra	2.7	4.7	k Ω
Rg2	27	27	k Ω
Rg1	0.1	1.0	M Ω
Ia	10	9.3	mA
Ig2	3.0	2.9	mA
Ig1	8.0	2.3	μ A
Vg1	- 1.4	*	V
Vosc (r.m.s.)	1.6	1.6	V
gc	5.0	4.7	mA/V

* With grid current bias.

OPERATING CONDITIONS AS I. F. AMPLIFIER

Pentode section

Vb	200	200	V
Ra	2.7	4.7	k Ω
Rg2	27	27	k Ω
Rg1	0.1	1.0	M Ω
Ia	10	13	mA
Ig2	3.0	3.9	mA
Vg1	- 1.4	*	V
gm	11	14.5	mA/V
Vg1 for 100 : 1 reduction in gm	- 12		V
Rin (f = 50 Mc/s)	10	10	k Ω

* With grid current bias.

OPERATING CONDITIONS AS OSCILLATOR

Triode section

Va	200	200	V
Ra	8.2	12	k Ω

TRIODE PENTODE

PCF801

Rg	10	10	k Ω
Vosc	4.5	3.3	Vr.m.s.
Ia	16	12	mA
gm	3.7	3.7	mA/V

DESIGN CENTRE RATINGS

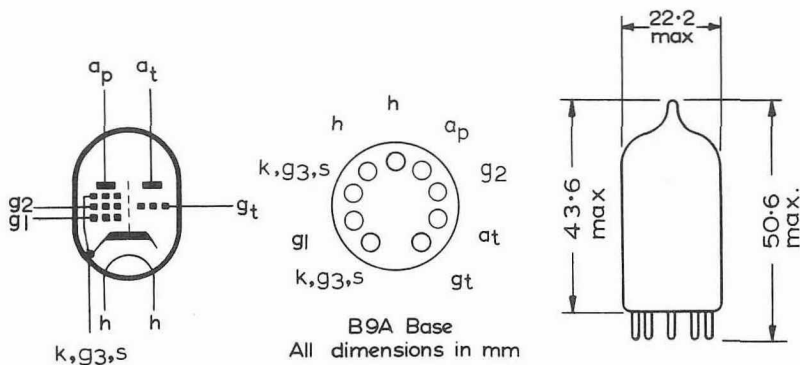
Pentode section

Va(b) max.	550	V
Va max.	250	V
pa max.	2.0	W
Vg2(b) max.	550	V
Vg2 max.	250	V
pg2 max.	see page C4	
Ik max.	18	mA
- Vg1 max.	50	V
Rg1-k max.	1.0	M Ω

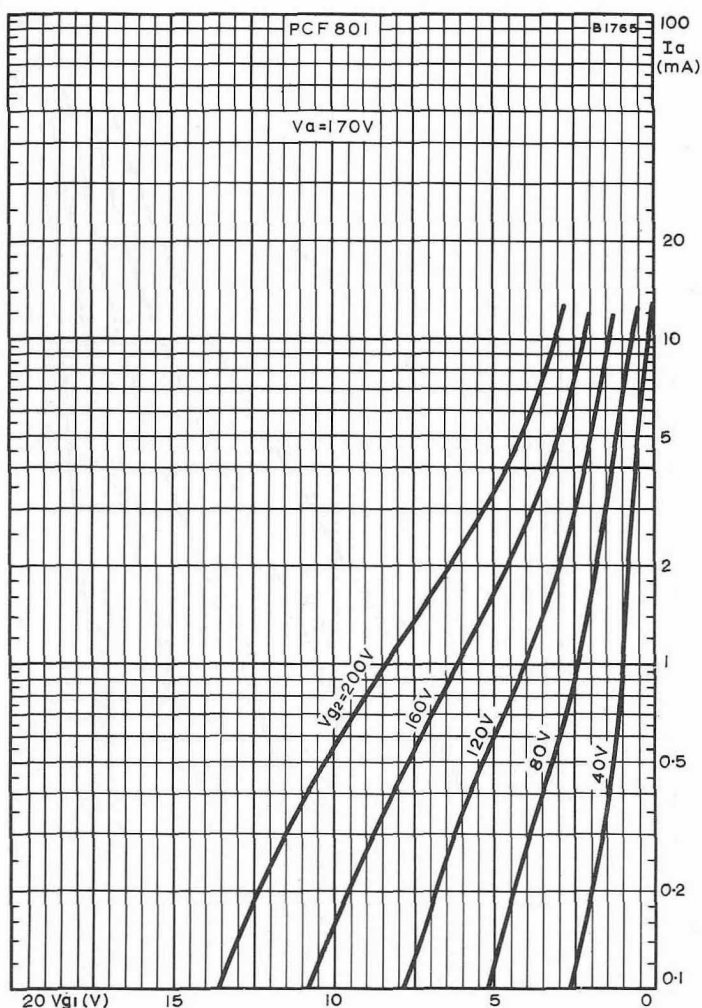
Triode section

Va(b) max.	550	V
pa max.	1.5	W
Ik max.	20	mA
- Vg max.	50	V
Rg-k max.	500	k Ω
* Vh-k max.	100	V

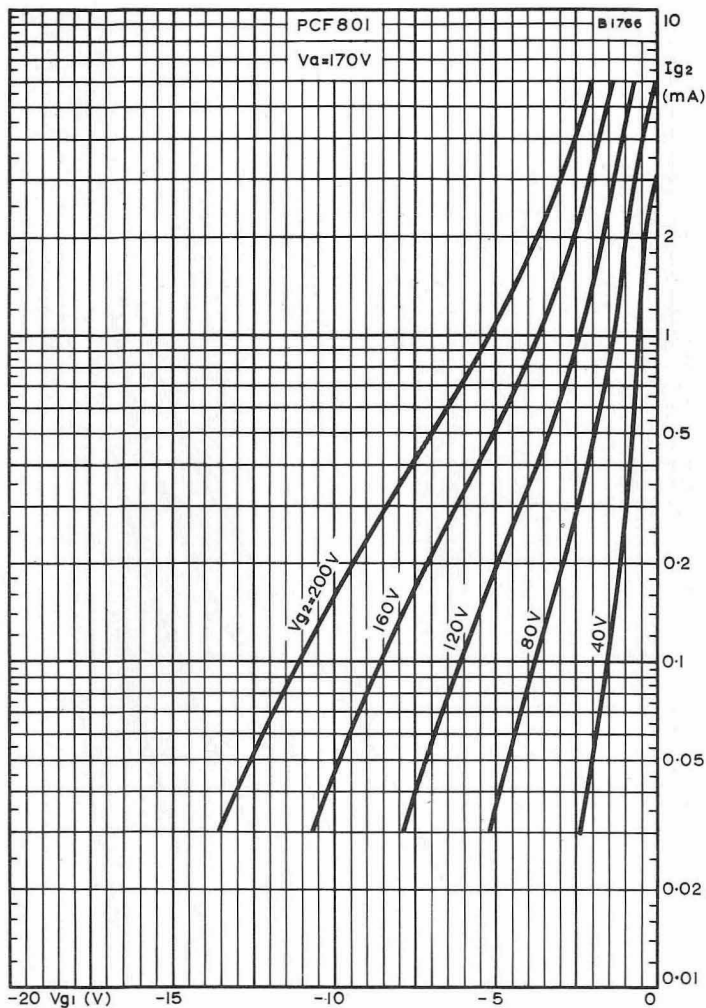
* To fulfil hum requirements on a.m. sound, it will be necessary for Vh-k to be less than 50 Vr.m.s.



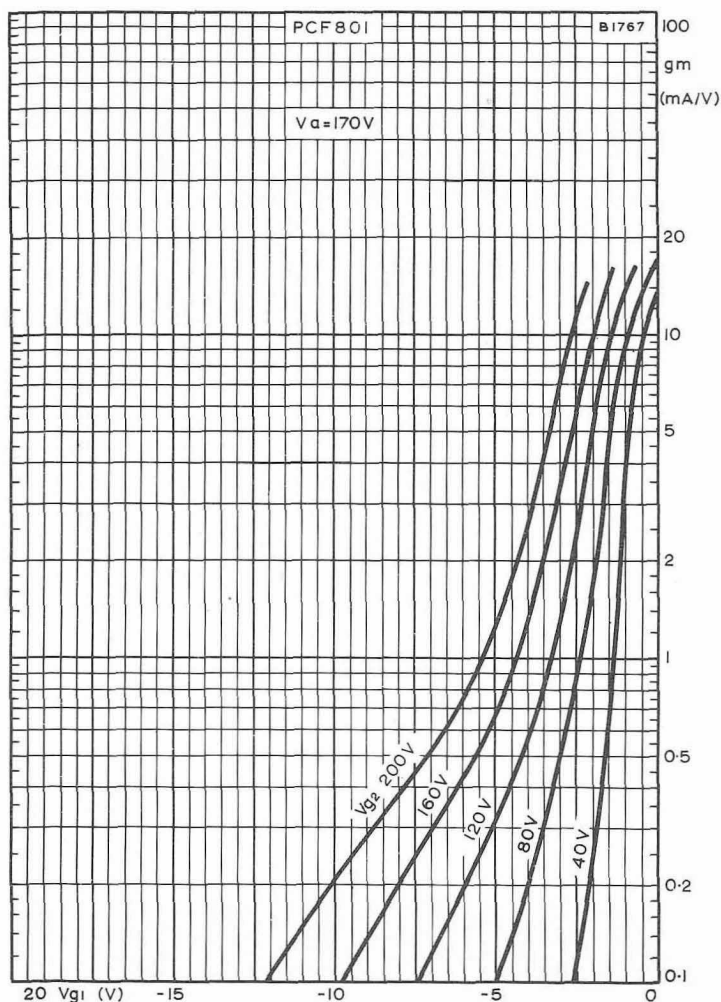




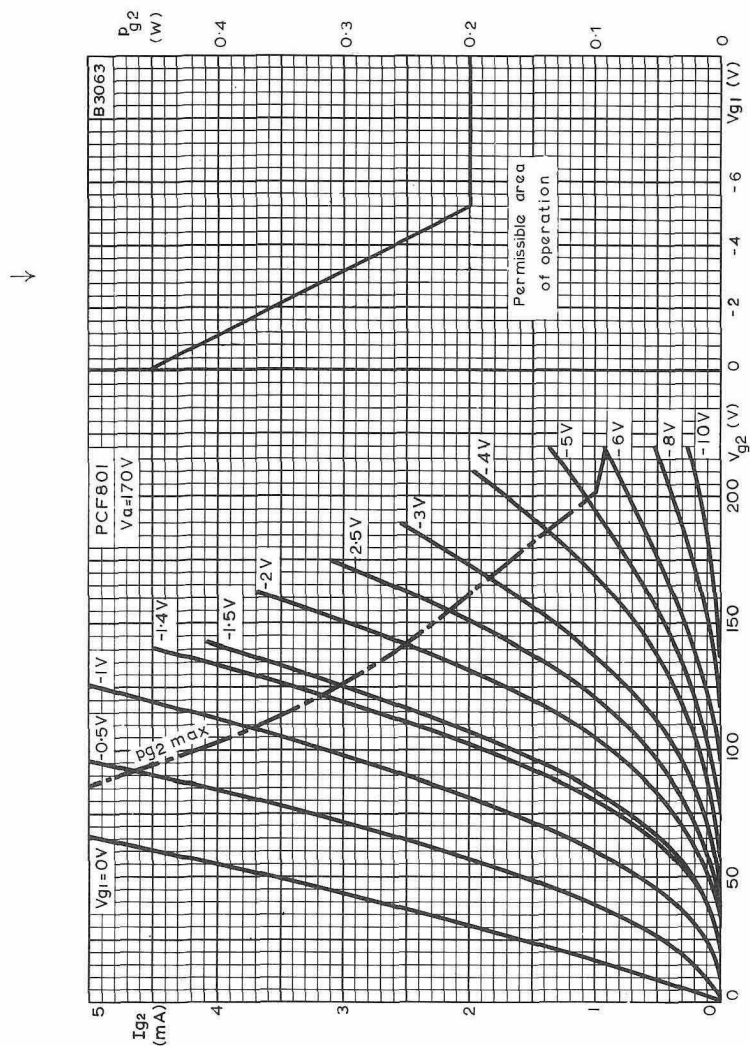
ANODE CURRENT PLOTTED AGAINST CONTROL-GRID VOLTAGE WITH
SCREEN-GRID VOLTAGE AS PARAMETER $V_a = 170V$



SCREEN-GRID CURRENT PLOTTED AGAINST CONTROL-GRID VOLTAGE WITH
SCREEN-GRID VOLTAGE AS PARAMETER $V_a = 170V$

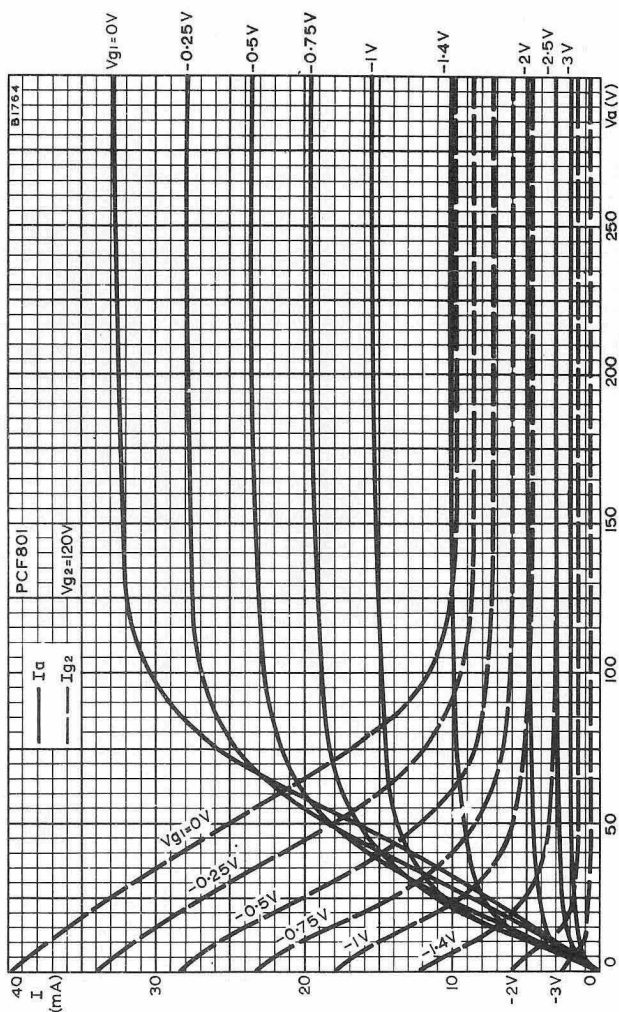


MUTUAL CONDUCTANCE PLOTTED AGAINST CONTROL-GRID VOLTAGE WITH
SCREEN-GRID AS PARAMETER, $V_a = 170V$.

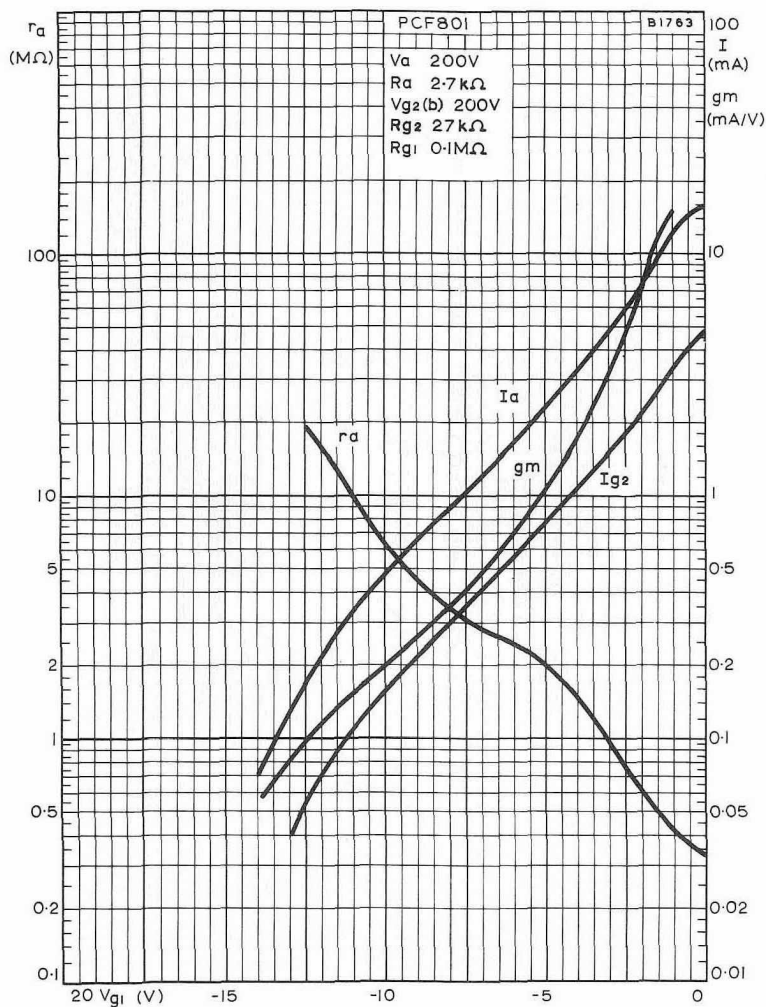


LIMITS OF SCREEN-GRID DISSIPATION

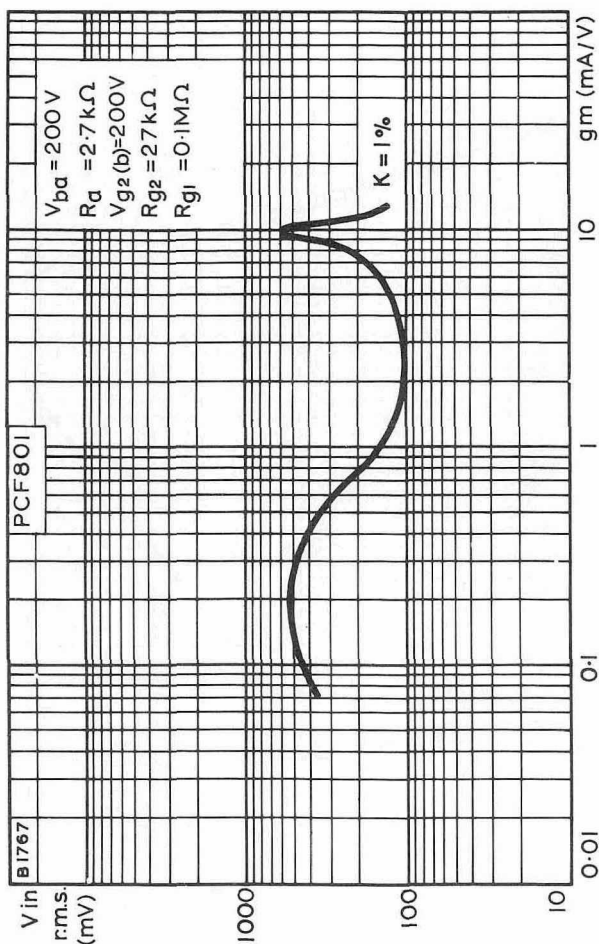
SCREEN-GRID CURRENT PLOTTED AGAINST SCREEN-GRID VOLTAGE WITH
CONTROL-GRID VOLTAGE AS PARAMETER, $V_a = 170V$.



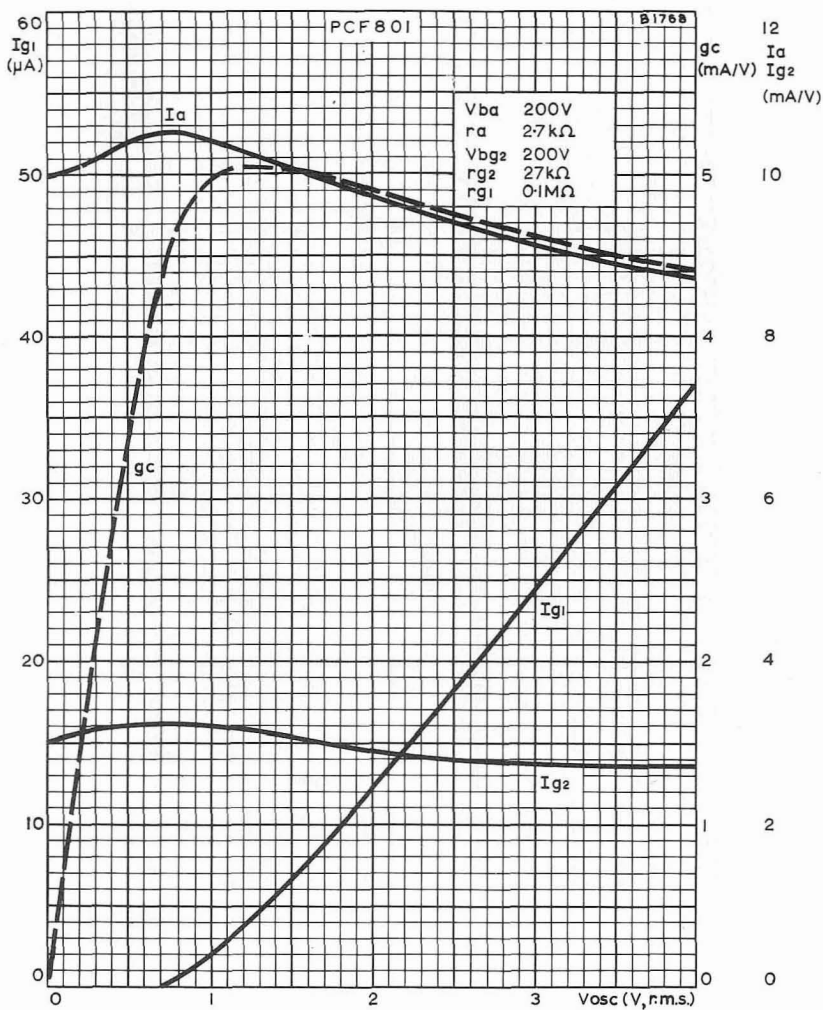
ANODE CURRENT AND SCREEN-GRID CURRENT PLOTTED AGAINST ANODE VOLTAGE WITH CONTROL-GRID VOLTAGE AS PARAMETER ($V_{g2} = 120V$)



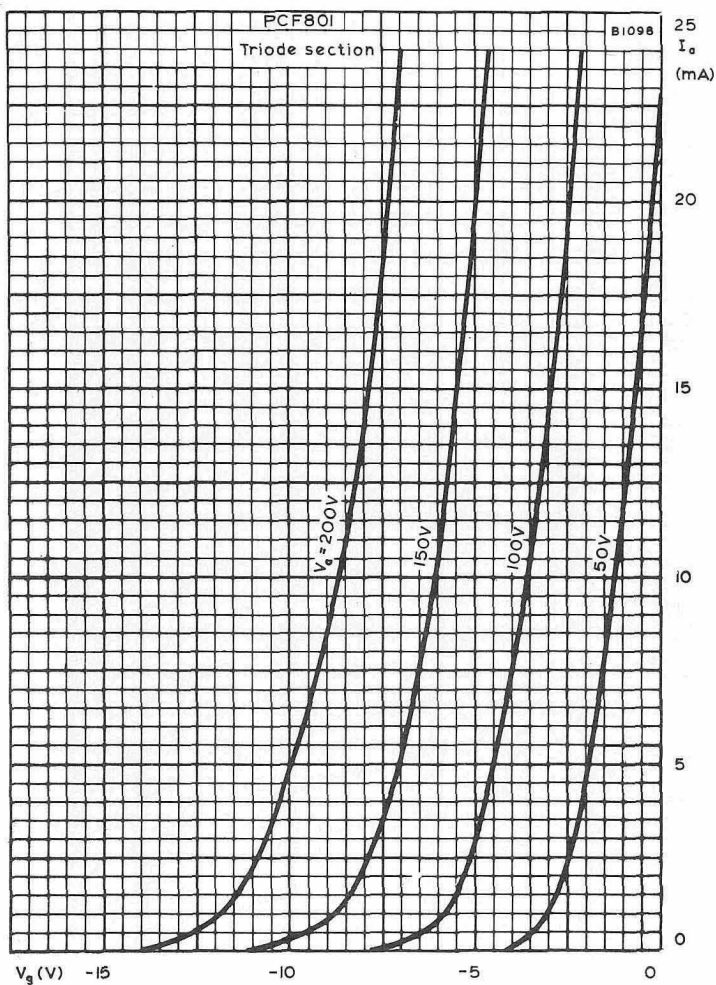
ANODE AND SCREEN-GRID CURRENTS, MUTUAL CONDUCTANCE AND ANODE IMPEDANCE PLOTTED AGAINST CONTROL-GRID VOLTAGE.



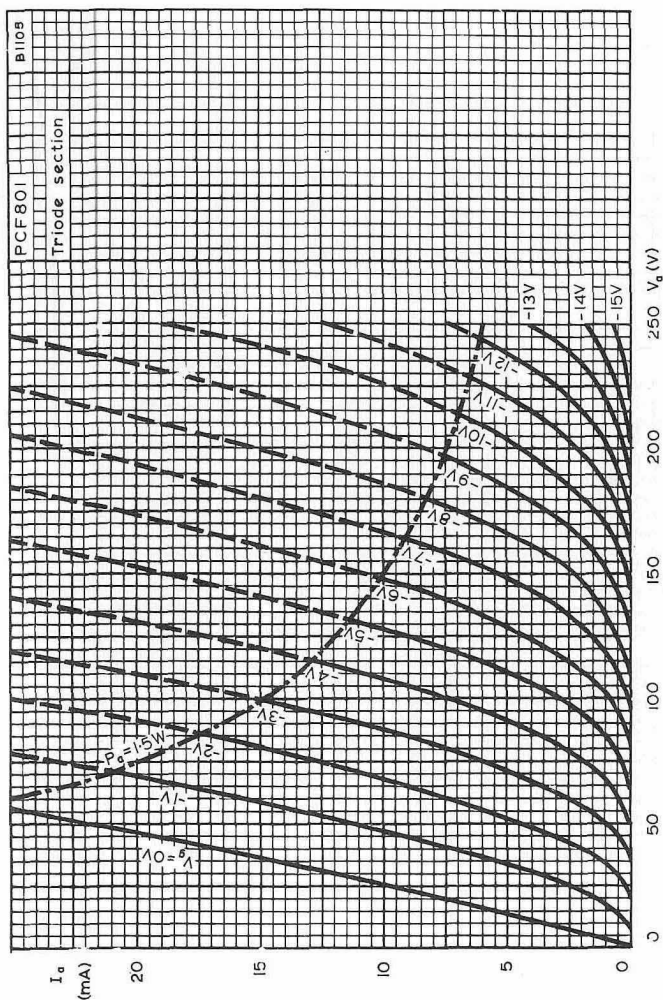
CROSS MODULATION CURVE



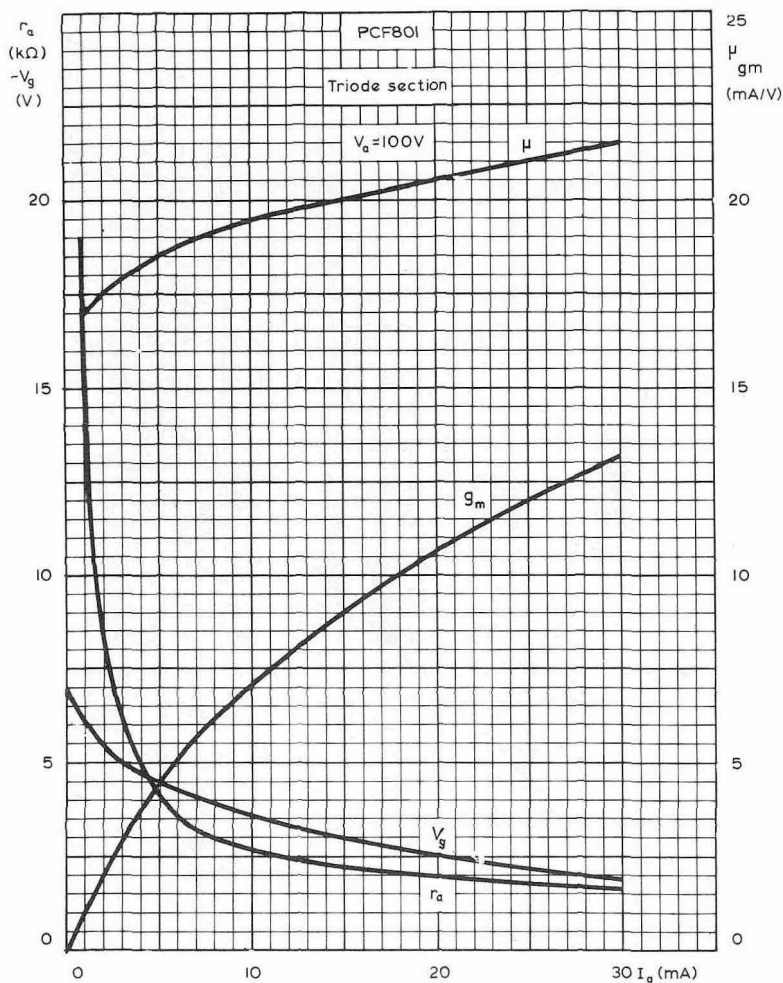
PERFORMANCE CURVES FOR USE AS A FREQUENCY CHANGER.



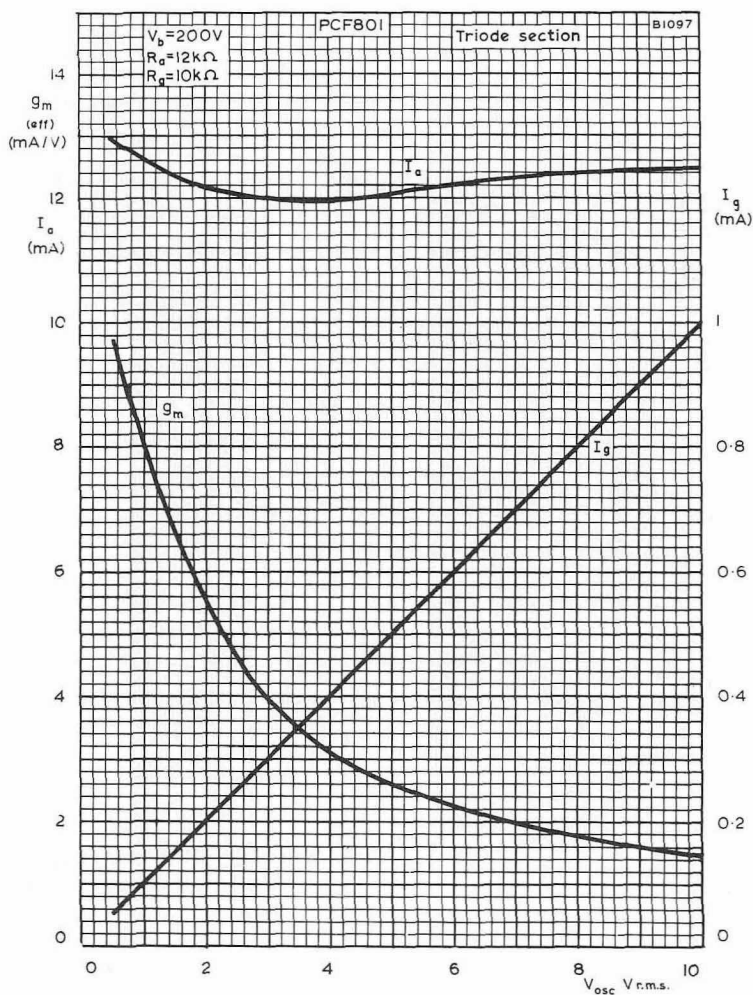
ANODE CURRENT PLOTTED AGAINST GRID VOLTAGE WITH ANODE VOLTAGE AS PARAMETERS. TRIODE SECTION.



ANODE CURRENT PLOTTED AGAINST ANODE VOLTAGE WITH GRID VOLTAGE AS PARAMETERS. TRIODE SECTION.



ANODE IMPEDANCE, MUTUAL CONDUCTANCE, GRID VOLTAGE AND AMPLIFICATION FACTOR PLOTTED AGAINST ANODE CURRENT. $V_a = 100V$, TRIODE SECTION.



PERFORMANCE CURVES FOR USE AS OSCILLATOR, TRIODE SECTION.