

SINGLE DIODE R.F. PENTODE

UAF42

Single diode R.F. pentode with 100 mA. heater for use in D.C./A.C. mains-operated equipment. The pentode section is suitable for automatic volume control.

HEATER This valve is suitable for series operation, D.C. or A.C.

I_h	0.1	A
V_h	12.6	V

MOUNTING POSITION

Any

CAPACITANCES

C_{ad-gl}	<0.0015	$\mu\mu F$
C_{ad-ap}	<0.15	$\mu\mu F$
Pentode Section		
C_{a-gl}	<0.002	$\mu\mu F$
C_{out}	5.1	$\mu\mu F$
C_{ln}	4.5	$\mu\mu F$
C_{gl-h}	<0.05	$\mu\mu F$
Diode Section		
C_{ad-k}	3.8	$\mu\mu F$
C_{ad-h}	<0.02	$\mu\mu F$

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

$V_a = V_b$	100	170	200	V
R_{g2}	56	56	76	k Ω
V_{g2}	50	85	85	V
R_k	310	310	310	Ω
V_{g1}	-1.2	-2.0	-2.0	V
I_a	2.8	5.0	5.0	mA
I_{g2}	0.9	1.5	1.5	mA
g_m	1.7	2.0	2.0	mA/V
r_a	0.85	0.9	1.0	M Ω
μ_{gl-g2}	18	18	18	
* V_{g1}	-16	-28	-34	V
R_{eq}	5.8	7.5	7.5	k Ω

* For 100 : 1 reduction in mutual conductance.



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LIMITING VALUES

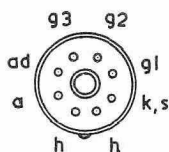
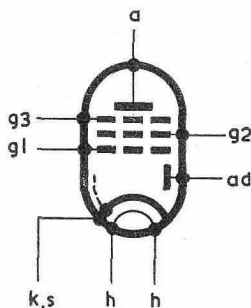
Pentode Section

$V_{a(b)}$ max.	550	V
V_a max.	250	V
p_a max.	2	W
$V_{g2(b)}$ max.	550	V
$V_{g2}(I_a < 2.5 \text{ mA})$ max.	250	V
$V_{g2}(I_a = 5.0 \text{ mA})$ max.	125	V
p_{g2} max.	0.3	W
I_k max.	10	mA
$V_{g1}(I_{g1} = +0.3 \mu\text{A})$ max.	-1.3	V
R_{g1-k} max.	3.0	M Ω
* R_{g3-k} max.	3.0	M Ω
R_{h-k} max.	20	k Ω
V_{h-k} max.	150	V

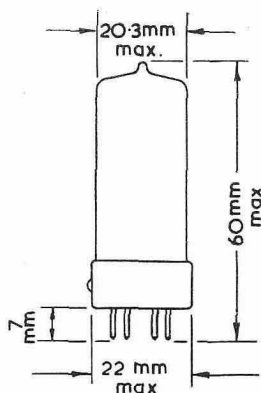
* For $V_{g3(pk)}$ not exceeding +10 V.

Diode Section

$V_{ad(pk)}$ max.	200	V
I_{ad} max.	0.8	mA
V_{ad} max. ($I_{ad} = +0.3 \mu\text{A}$)	-1.3	V
R_{h-k} max.	20	k Ω
V_{h-k} max.	150	V



B8A BASE

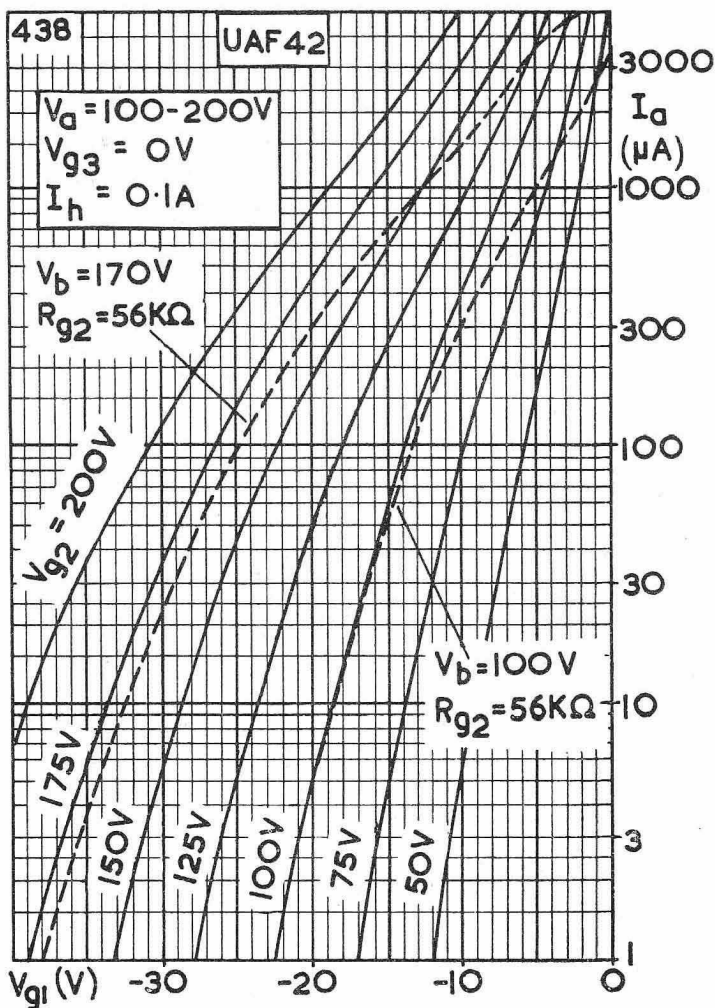


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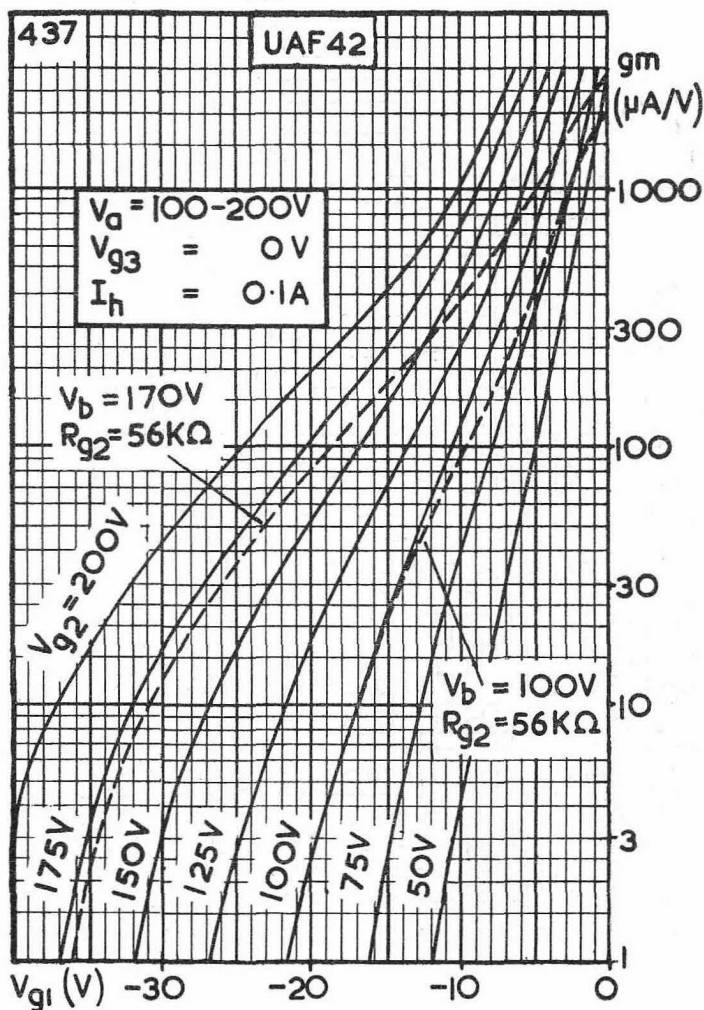


ANODE CURRENT PLOTTED AGAINST CONTROL-GRID VOLTAGE FOR DIFFERENT VALUES OF SCREEN-GRID VOLTAGE

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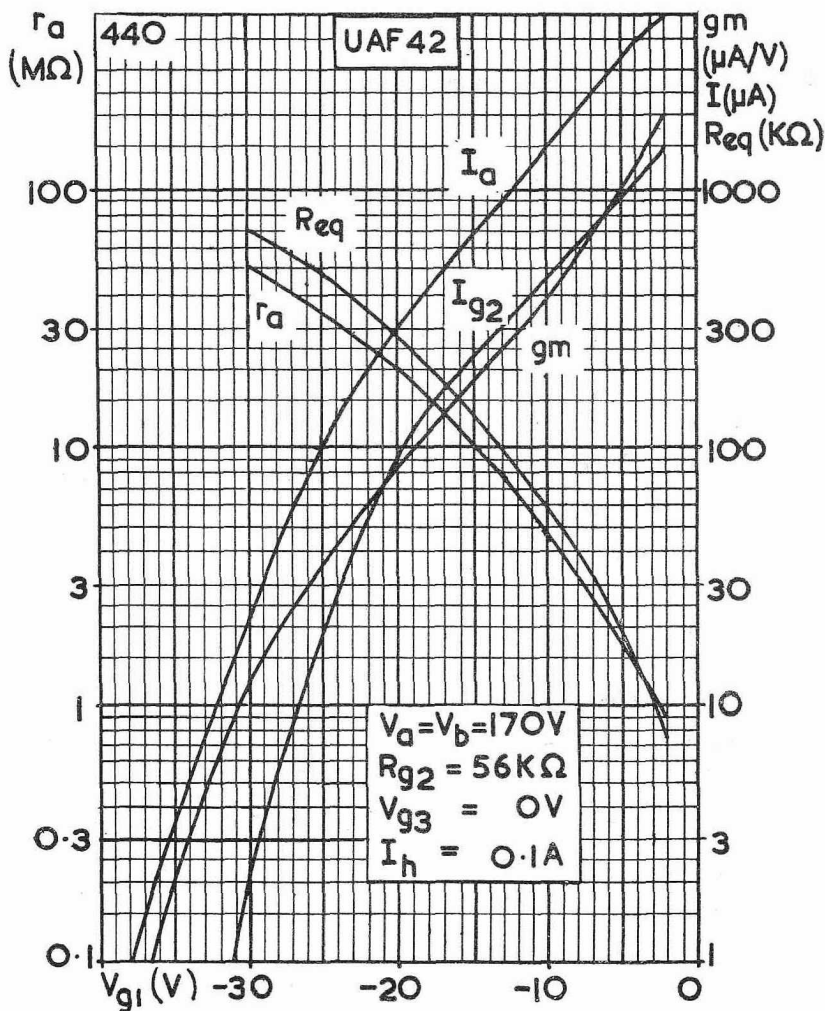


MUTUAL CONDUCTANCE PLOTTED AGAINST CONTROL-GRID VOLTAGE
FOR DIFFERENT VALUES OF SCREEN-GRID VOLTAGE

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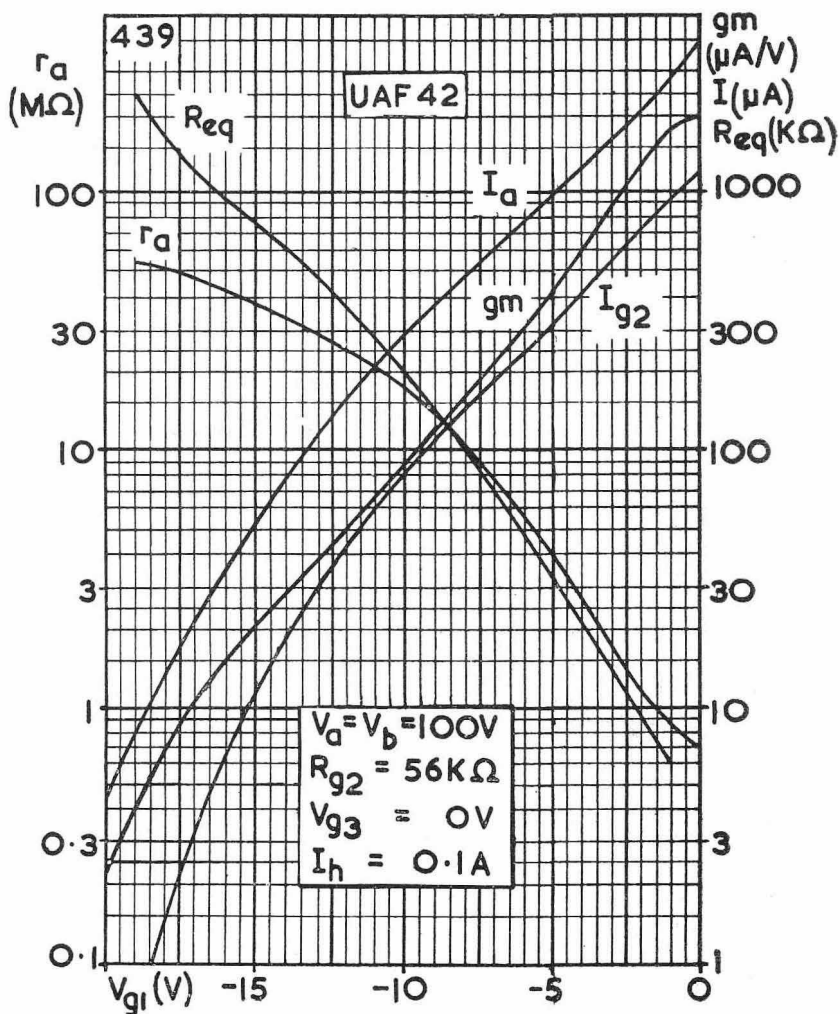
ANODE AND SCREEN-GRID CURRENTS, MUTUAL CONDUCTANCE, INTERNAL RESISTANCE AND EQUIVALENT NOISE RESISTANCE PLOTTED AGAINST CONTROL-GRID VOLTAGES

For $V_b = 170V$ and with a resistance of $56K\Omega$ in series with the screen grid

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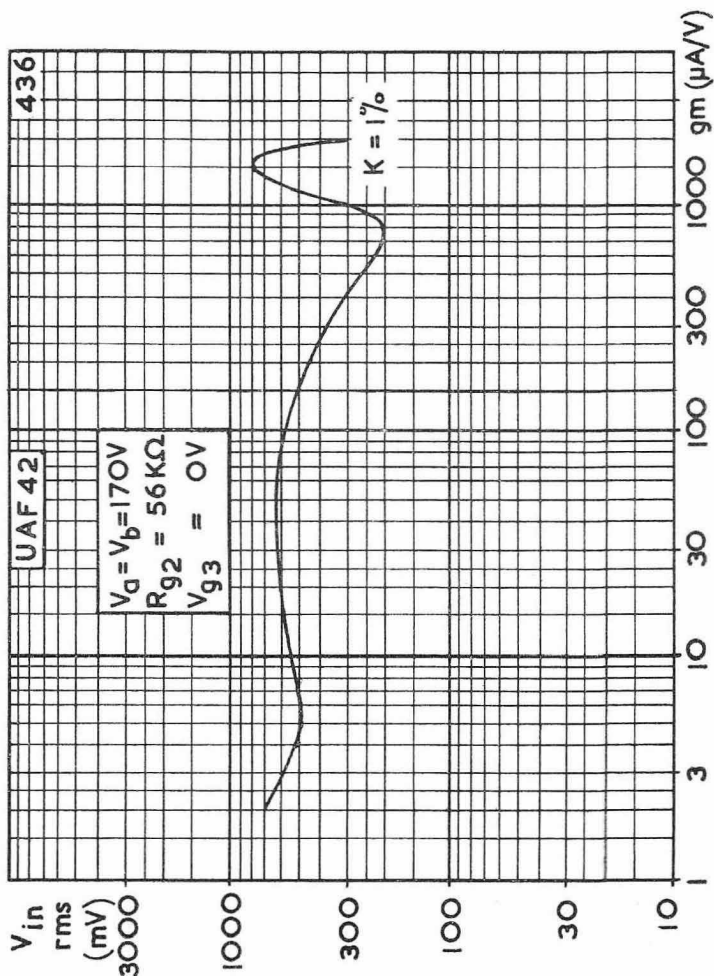
ANODE AND SCREEN-GRID CURRENTS, MUTUAL CONDUCTANCE, INTERNAL RESISTANCE AND EQUIVALENT NOISE RESISTANCE PLOTTED AGAINST CONTROL-GRID VOLTAGE

For $V_b = 100V$ and with a resistance of $56K\Omega$ in series with the screen grid

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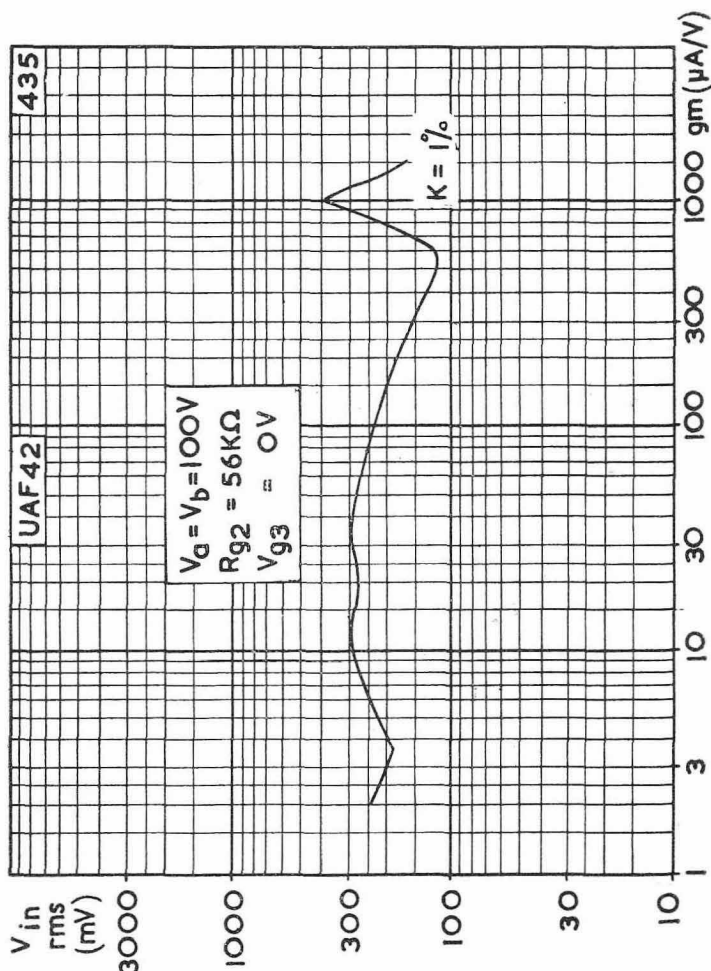


CROSS MODULATION CURVE FOR $V_b=170V$ WITH A RESISTANCE OF $56K\Omega$ IN SERIES WITH THE SCREEN GRID

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CROSS MODULATION CURVE FOR $V_b=100V$ WITH A RESISTANCE OF $56K\Omega$ IN SERIES WITH THE SCREEN GRID