

Netzröhre für GW-Heizung
indirekt geheizt
Parallelspeisung

DC-AC-Heating
indirectly heated
connected in parallel

TELEFUNKEN

ECF 83

NF-Triode / Pentode
mit getrennten Kathoden

AF-Triode / Pentode
with separate cathodes

Für Autoempfänger For car-radios

Vorläufige technische Daten

Tentative data

U_f	6,3	V
I_f	ca. 400	mA

Meßwerte • Measuring Values

Triode

U_a	60	V
U_g	-3,7	V
I_a	6,5	mA
S	3,6	mA/V
R_i	3	k Ω
μ	11	

Pentode

U_a	60	V
U_{g2}	50	V
U_{g1}	-2,3	V
I_a	3	mA
I_{g2}	1,25	mA
S	1,3	mA/V
R_i	600	k Ω
μ_{g2g1}	10	

Betriebswerte • Typical Operation

Triode: Treiberstufe für Transistor-Gegentakt-Endstufe

Driver-stage for Transistor push-pull output-stage

U_b	60	120	V
R_a	6,5	16	k Ω
R_k	0,63	1,6	k Ω
I_a	6	6	mA
$U_{g\sim}$ (N = 50 mW)	2,7	3,7	V _{eff}
N (k = 10%)	> 50	> 70	mW

Pentode: NF-Verstärker in Widerstandsverstärker-Schaltung

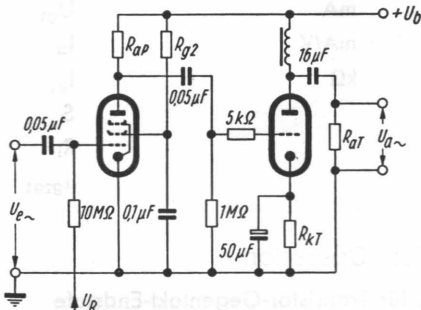
Resistance-coupled amplifier

U_b	60	120	V
R_a	250	200	k Ω
R_{g2}	800	700	k Ω
R_{g1}	10	10	M Ω
$U_{a\sim}$	4	4	V _{eff}
U_R	0 -2	0 -2	V
V	60 32	100 58	



Beide Systeme als NF-Verstärker in Widerstandsverstärker-Schaltung
 The two systems as resistance-coupled amplifier

U_b	60		120		V
R_{aP}	250		200		k Ω
R_{aT}	6,5		16		k Ω
R_{g2}	800		700		k Ω
R_{kT}	0,63		1,6		k Ω
U_R	0	-2	0	-2	V
k (N = 20 mW)	4,5	3	3,8	2,2	%
k (N = 50 mW)	7	5,8	5,2	3,2	%
$V \left(\frac{U_{a\sim}}{U_{e\sim}} \right) N = 20 \text{ mW}$	480	225	800	430	



Die Röhre darf ohne spezielle Maßnahmen gegen Mikrophonie und Brumm in Schaltungen verwendet werden, die für eine Eingangsspannung, $U_{e\sim} \geq 8 \text{ mV}_{\text{eff}}$ bei $f = 1000 \text{ Hz}$ und $U_{g1} \leq -1 \text{ V}$, eine Lautsprecherleistung von 50 mW ergeben.

The tube may be used without any special precautions against microphonics and hum in circuits delivering a power output of 50 mW for an input voltage of $U_{e\sim} \geq 8 \text{ mV}_{\text{rms}}$ at 1000 c/s and $U_{g1} \leq -1 \text{ V}$.

Grenzwerte · Maximum Ratings

Triode

U_{ao}	550	V
U_a	300	V
N_a	1	W
I_k	16	mA
R_g	3	M Ω
U_{fk}	100	V

1) $N_a < 0,2 \text{ W}$

2) U_{g1} nur durch R_{g1} erzeugt
 U_{g1} only produced by R_{g1}

Pentode

U_{ao}	550	V
U_a	300	V
N_a	1	W
U_{g2}	200	V
N_{g2}	0,2	W
I_k	6	mA
R_{g1}	3	M Ω
$R_{g1}^1)$	10	M Ω
$R_{g1}^2)$	22	M Ω
U_{fk}	100	V



Kapazitäten · Capacitances

Triode

C_e	2,7	pF
C_{ga}	2,8	pF
C_a	2,4	pF
C_{gf}	< 0,12	pF

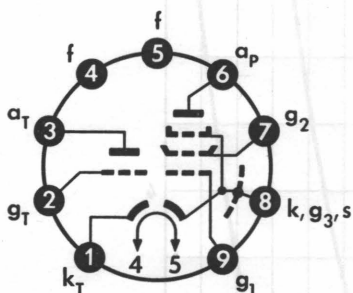
Pentode

C_e	4,1	pF
C_{g1a}	< 0,025	pF
C_a	4,1	pF
C_{g1f}	< 0,01	pF

Zwischen Triode und Pentode Between Triode and Pentode

C_{aTaP}	< 0,1	pF
C_{aTg1P}	< 0,005	pF
C_{gTaP}	< 0,01	pF
C_{gTg1P}	< 0,01	pF

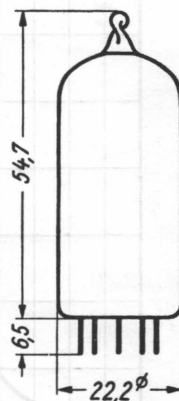
Sockelschaltbild Base connection



Pico 9 (Noval)

max. Abmessungen max. Dimensions

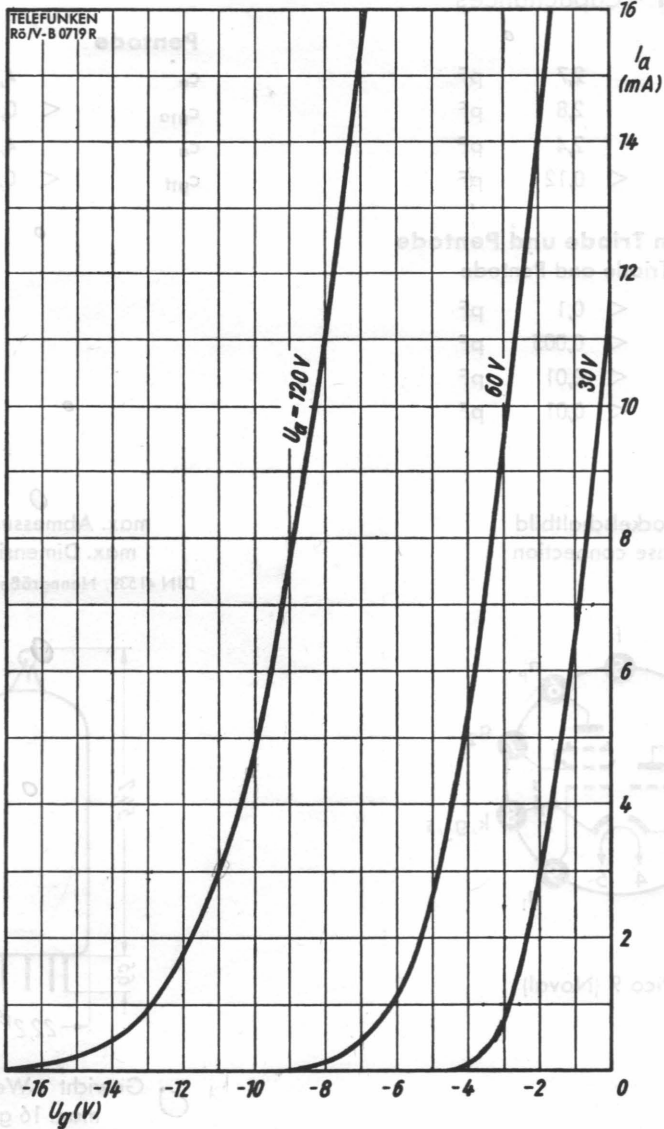
DIN 41539, Nenngröße 45, Form A



Gewicht · Weight
max. 16 g

Wenn notwendig, muß gegen Herausfallen der Röhre aus der Fassung Vorsorge getroffen werden.

Special precaution must be taken to prevent the tube from becoming dislodged.

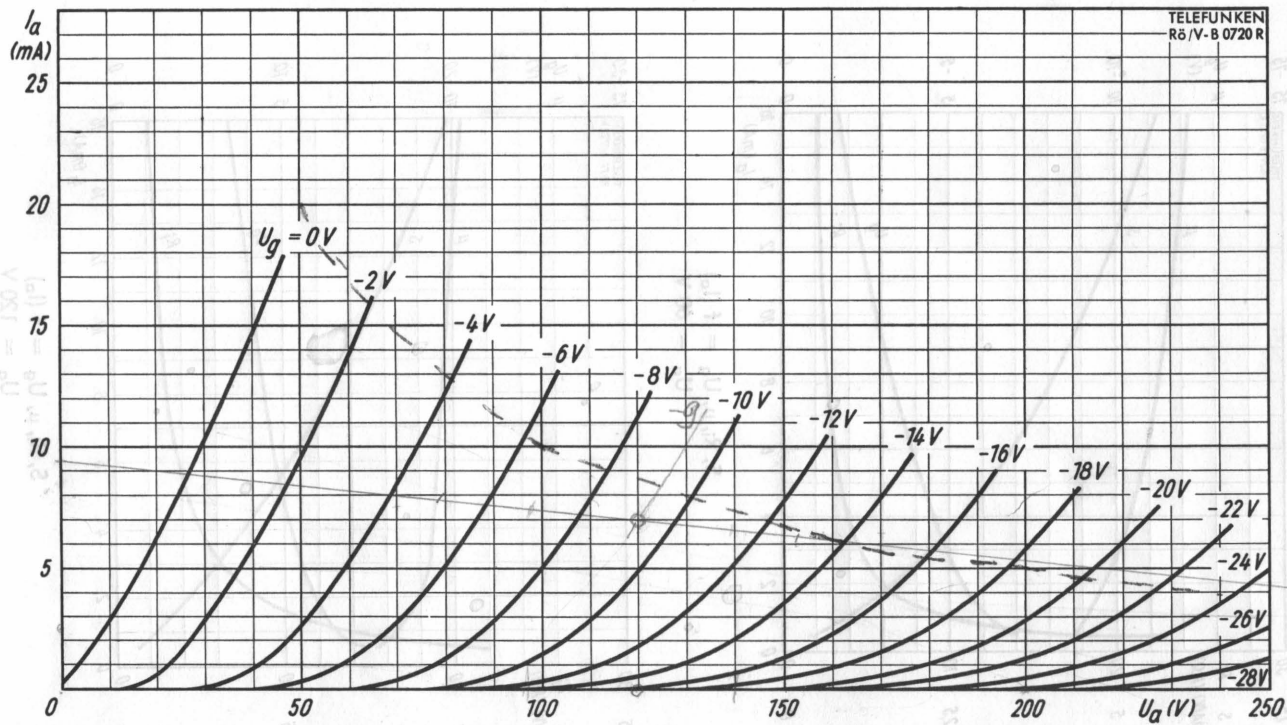


$$I_a = f(U_g)$$

$$U_a = \text{Parameter}$$

Triode





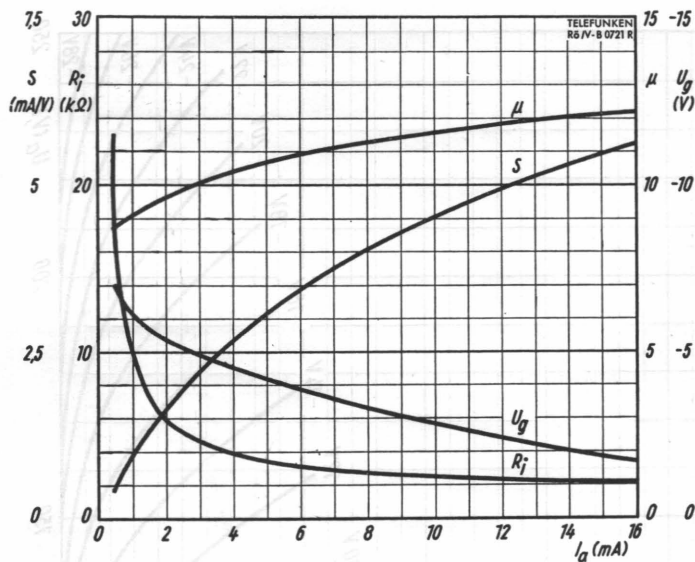
Triode

$$I_a = f(U_a)$$

$$U_g = \text{Parameter}$$

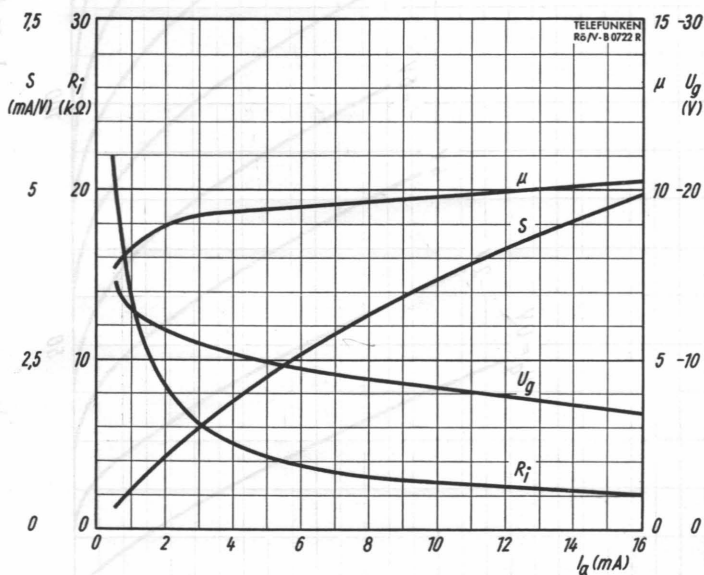
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$$S, R_i, \mu, U_g = f(I_a)$$

$$U_a = 60 \text{ V}$$

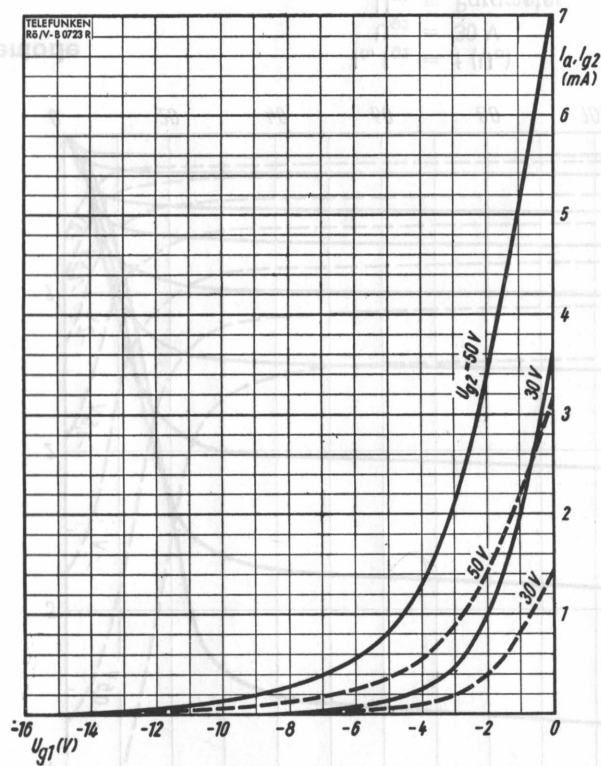


$$S, R_i, \mu, U_g = f(I_a)$$

$$U_a = 120 \text{ V}$$

Triode

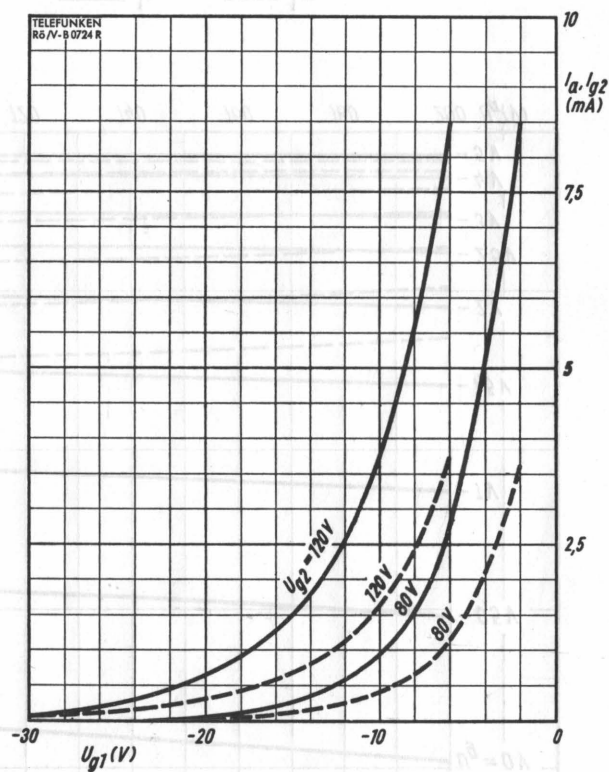




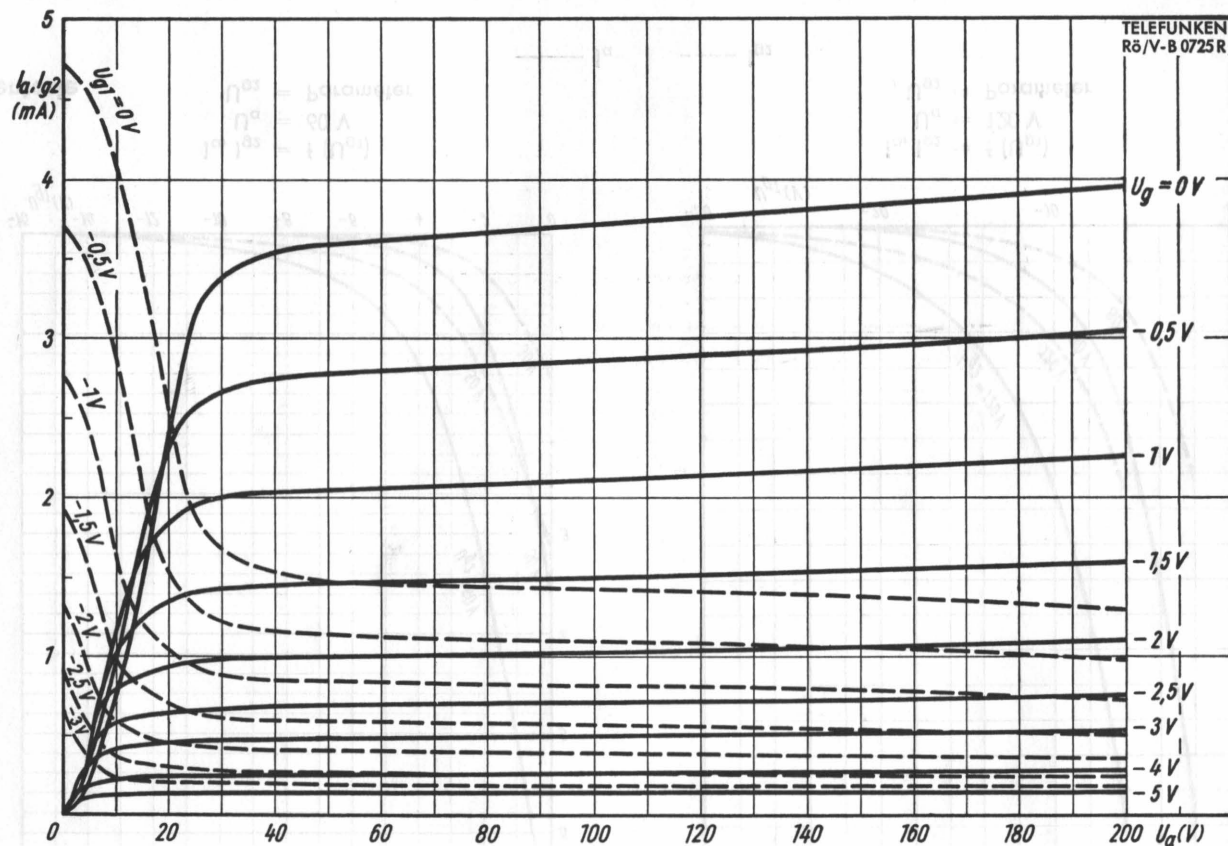
$I_a, I_{g2} = f(U_{g1})$
 $U_a = 60\text{ V}$
 $U_{g2} = \text{Parameter}$

Pentode

— I_a - - - I_{g2}



$I_a, I_{g2} = f(U_{g1})$
 $U_a = 120\text{ V}$
 $U_{g2} = \text{Parameter}$

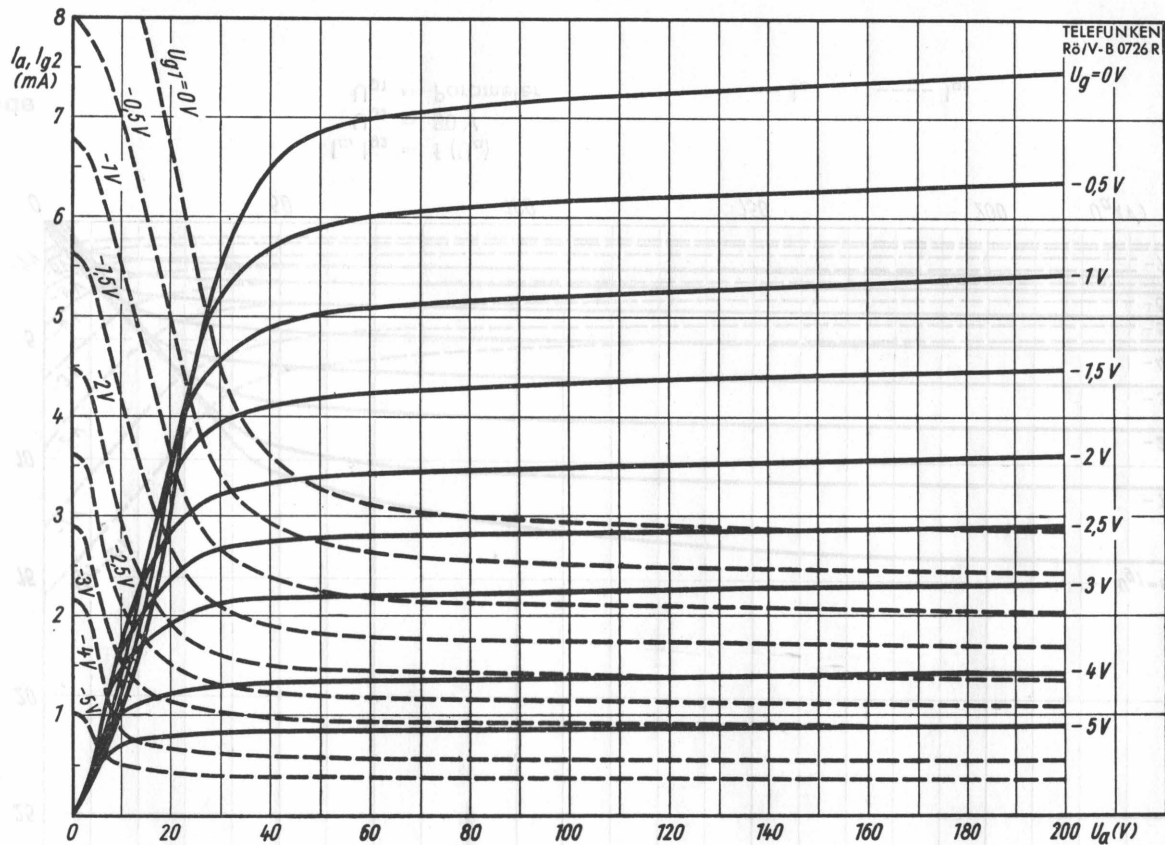


Pentode

$I_a, I_{g2} = f(U_a)$
 $U_{g2} = 30 \text{ V}$
 $U_{g1} = \text{Parameter}$

— I_a ---- I_{g2}





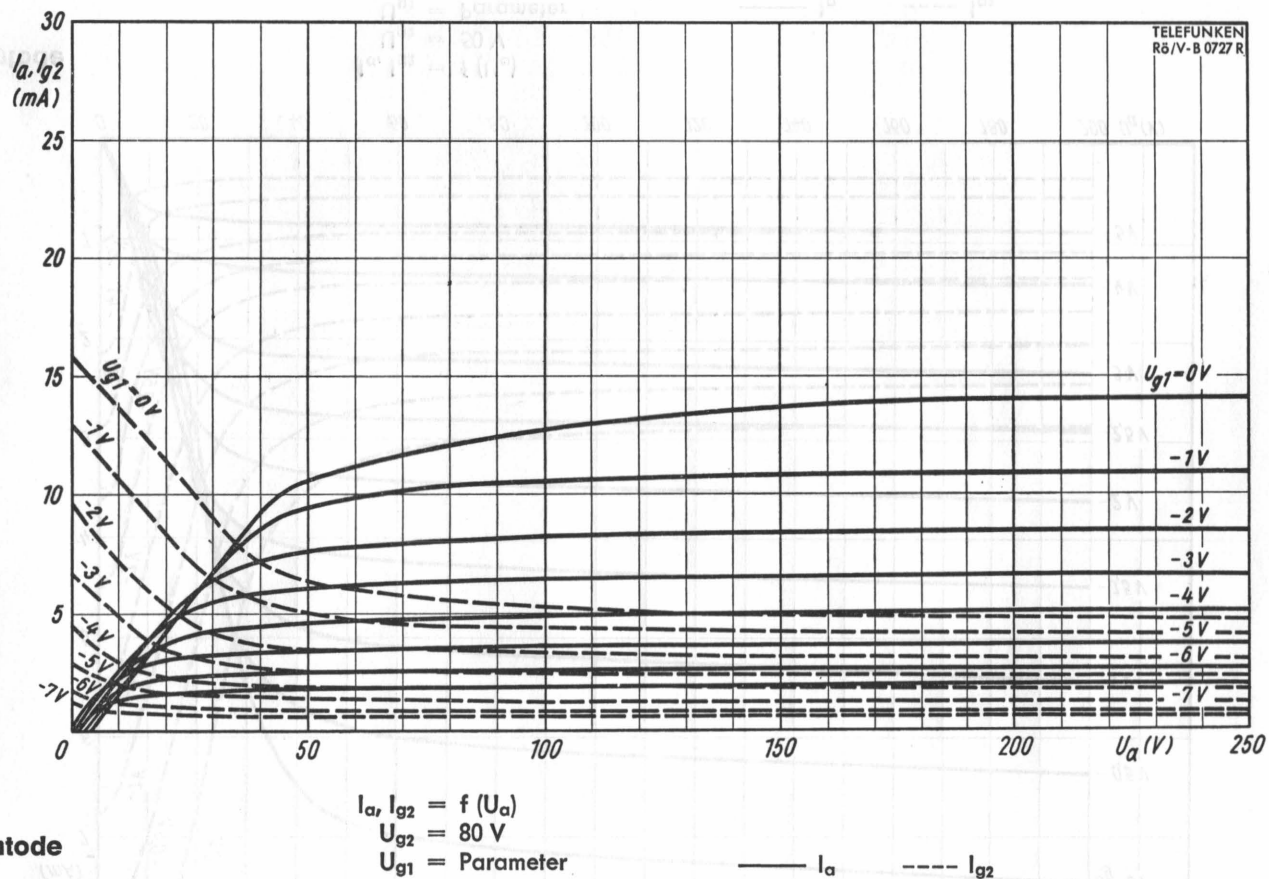
Pentode

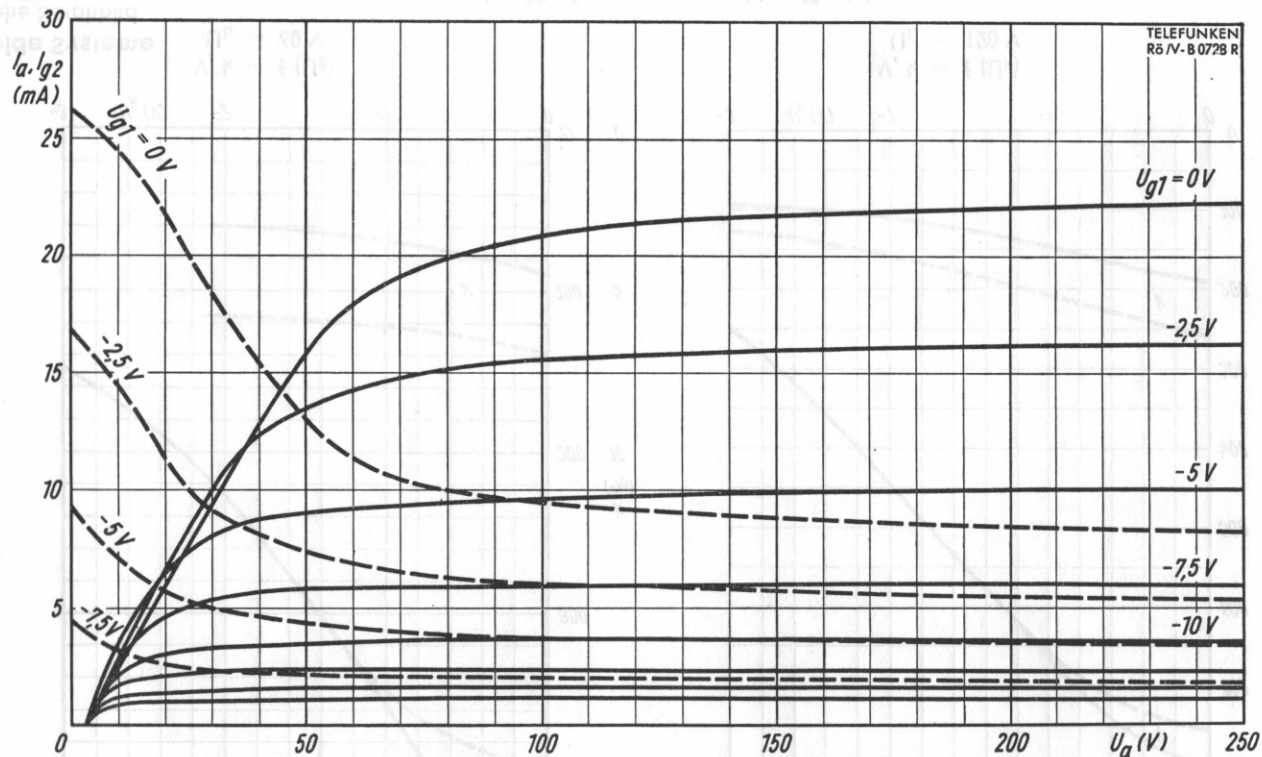
$I_a, I_{g2} = f(U_a)$
 $U_{g2} = 50V$
 $U_{g1} = \text{Parameter}$

— I_a - - - I_{g2}

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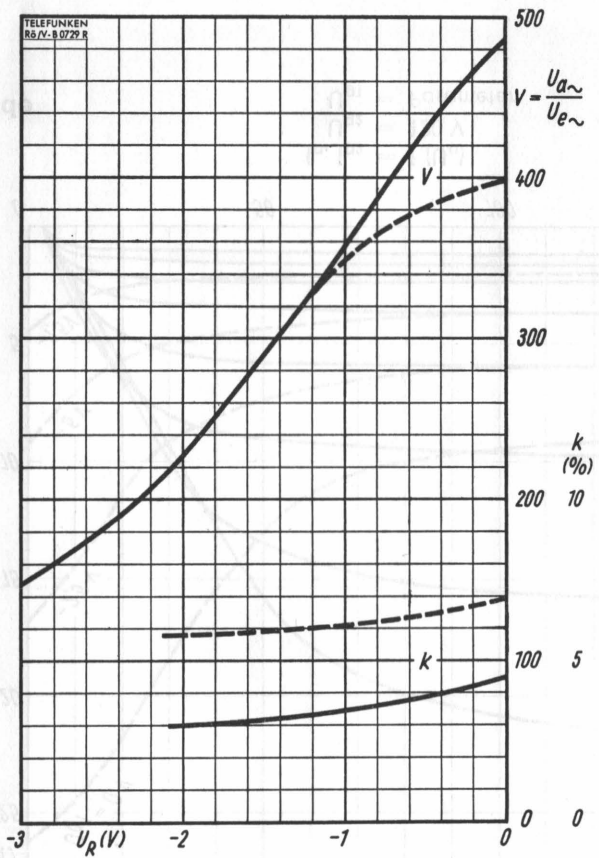


Pentode

$I_a, I_{g2} = f(U_a)$
 $U_{g2} = 120V$
 $U_{g1} = \text{Parameter}$

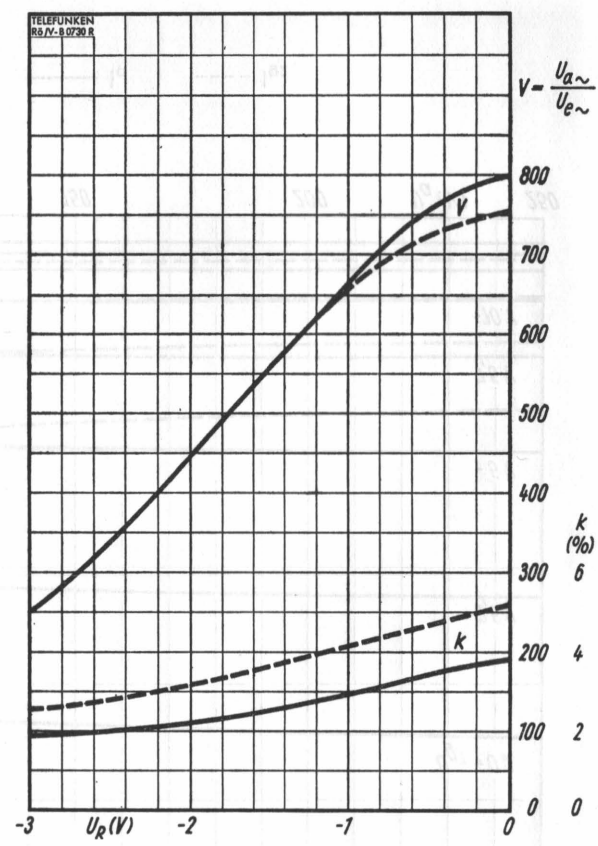
TELEFUNKEN

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Beide Systeme
Siehe Schaltbild
Rückseite Blatt 1

$V, k = f(U_R)$
 $U_b = 60$ V



$V, k = f(U_R)$
 $U_b = 120$ V

— $N = 20$ mW - - - $N = 50$ mW