



# Tetrode Type TT 10

(RF AMPLIFIER)

**General.** A beam transmitting tetrode fitted with a thoriated filament. It has a continuous anode dissipation rating of 100 W.

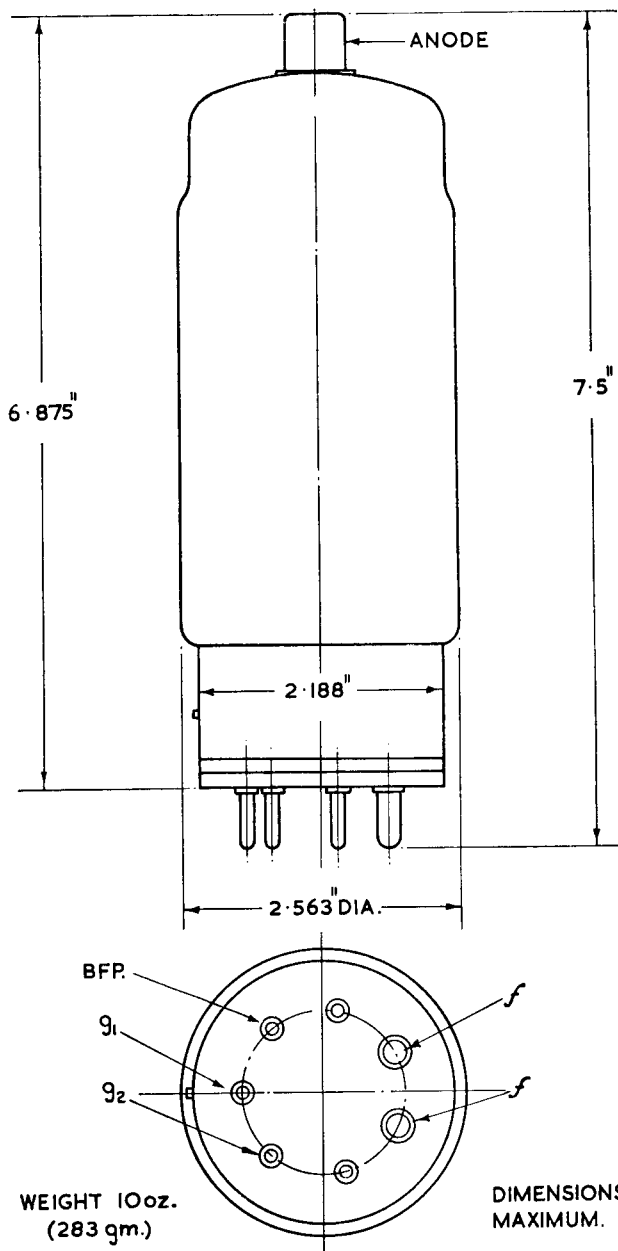
The valve employs the moulded glass dish type stem, a construction which permits very short leads with resulting low lead inductance. Neutralising is unnecessary on adequately shielded circuits.

This special construction enables the TT 10 to be operated at maximum ratings down to 10 metres. At lower wavelengths the maximum permissible anode voltage and input must be reduced to the following percentage of the quoted figures:

10 metres	100%
6.6 metres	87%
5 metres	75%

## APPROXIMATE DATA

$V_f$	10.0	V
$I_f$	5.0	A
$g_m$	3.75	mA/V
} taken at $V_a$ 2,000 V, {		
} $V_{g2}$ 400 V, $I_a$ 50 mA {		
$C_{a-g1}$	0.2	pF
$C_{in}$	16.3	pF
$C_{out}$	14.0	pF



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**(1) HF POWER AMPLIFIER AND OSCILLATOR. CLASS C TELEGRAPHY**  
(Unmodulated, one valve, key down conditions.)

Maximum permissible ratings

V <sub>a</sub>	2,000	V
I <sub>a</sub>	180	mA
V <sub>g1</sub>	-300	V
I <sub>g1</sub>	25	mA
V <sub>g2</sub>	400	V
P <sub>a</sub>	360	W
P <sub>g2</sub>	22	W
P <sub>a</sub>	100	W

**Typical Operation**

V <sub>a</sub>	1,250	1,500	2,000	V
I <sub>a</sub>	180	180	180	mA
V <sub>g1</sub>	-60	-70	-90	V
I <sub>g1</sub>	7	6	3	mA
V <sub>g2</sub>	300	300	400	V
I <sub>g2</sub>	23	20	15	mA
R <sub>g1</sub>	8,500	11,700	30,000	Ω
V <sub>g1(pk)</sub>	145	150	160	V
P <sub>dr</sub>	1	0.8	0.5	W
P <sub>out</sub>	155	190	260	W

**(2) HF POWER AMPLIFIER. CLASS C**  
(Grid-modulated, one valve, carrier conditions, permissible modulation 100%.)

Maximum permissible ratings

V <sub>a</sub>	2,000	V
I <sub>a</sub>	100	mA
V <sub>g1</sub>	-200	V
V <sub>g2</sub>	400	V
P <sub>a</sub>	150	W
P <sub>g2</sub>	15	W
P <sub>a</sub>	100	W

**Typical Operation**

V <sub>a</sub>	1,500	2,000	V
I <sub>a</sub>	70	75	mA
V <sub>g1</sub>	-140	-120	V
V <sub>g2</sub>	400	400	V
I <sub>g2</sub>	3	3	mA
V <sub>g2(pk)</sub>	145	120	V
V <sub>mod(pk)</sub>	60	60	V
P <sub>dr</sub> (approx.) (a)	2	2	W
P <sub>out</sub>	40	50	W

**(3) HF POWER AMPLIFIER. CLASS C**

(Anode-modulated, one valve, carrier conditions, permissible modulation 100%.)

Maximum permissible ratings

V <sub>a</sub>	1,600	V
I <sub>a</sub>	150	mA
V <sub>g1</sub>	-300	V
I <sub>g1</sub>	25	mA
V <sub>g2</sub>	400	V
P <sub>a</sub>	240	W
P <sub>g2</sub>	15	W
P <sub>a</sub>	67	W

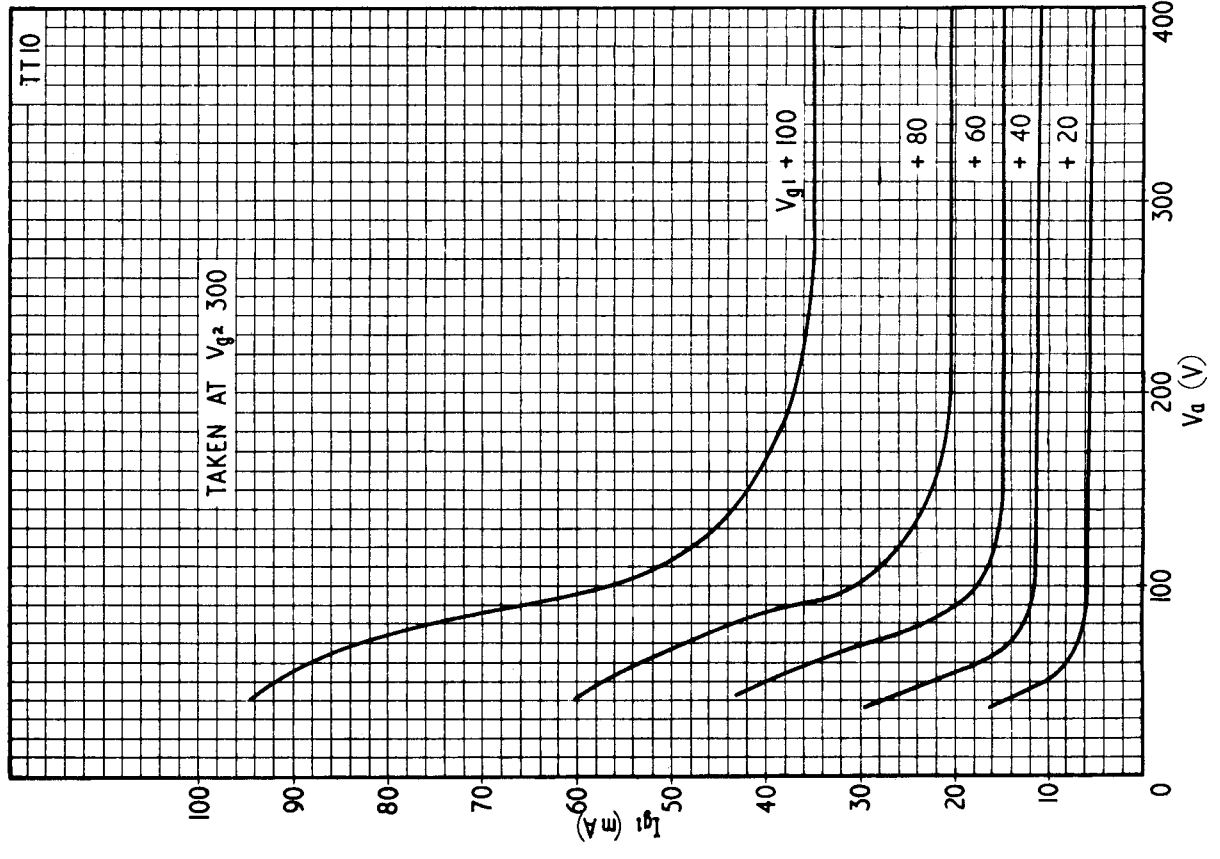
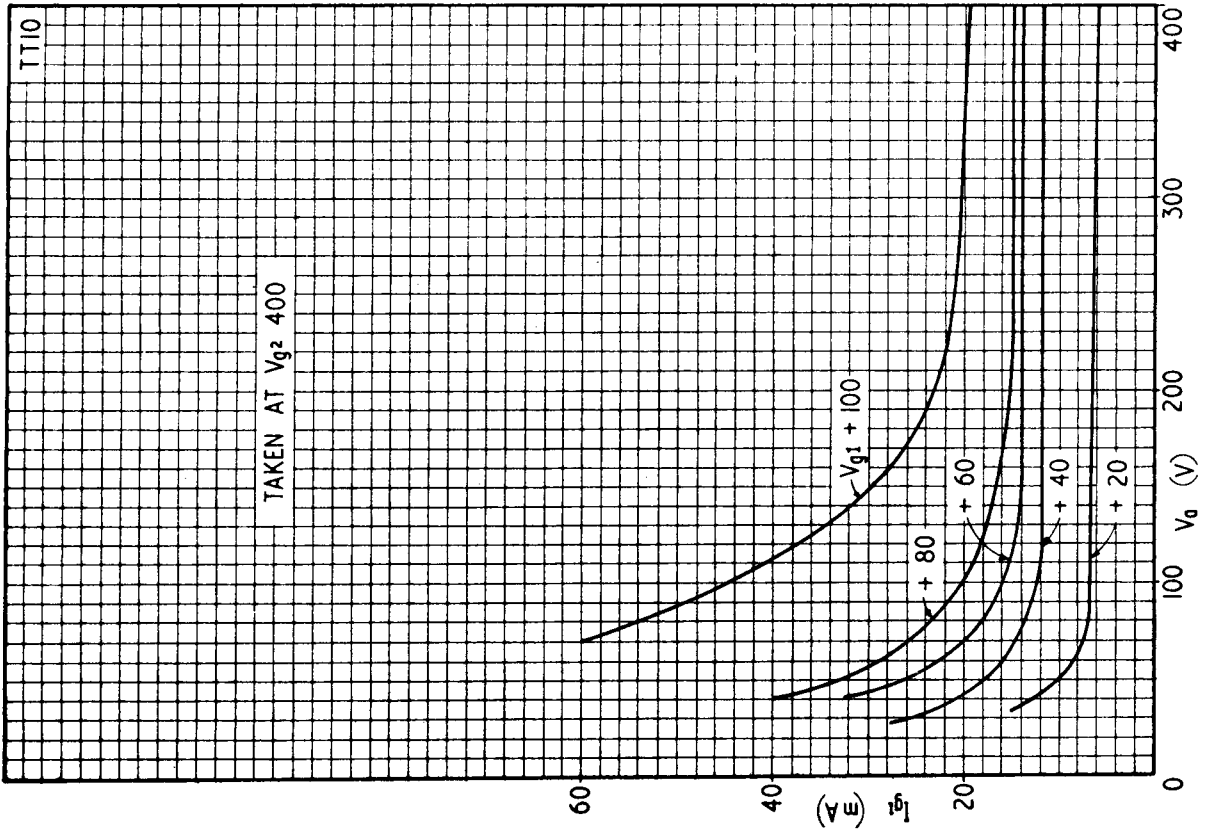
**Typical Operation**

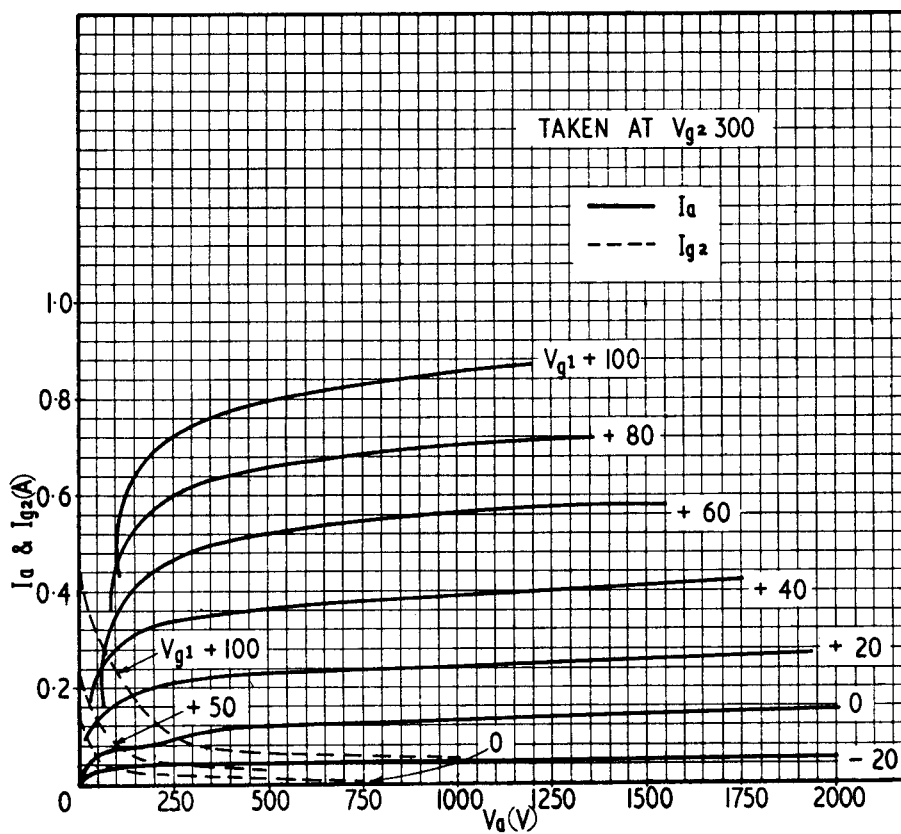
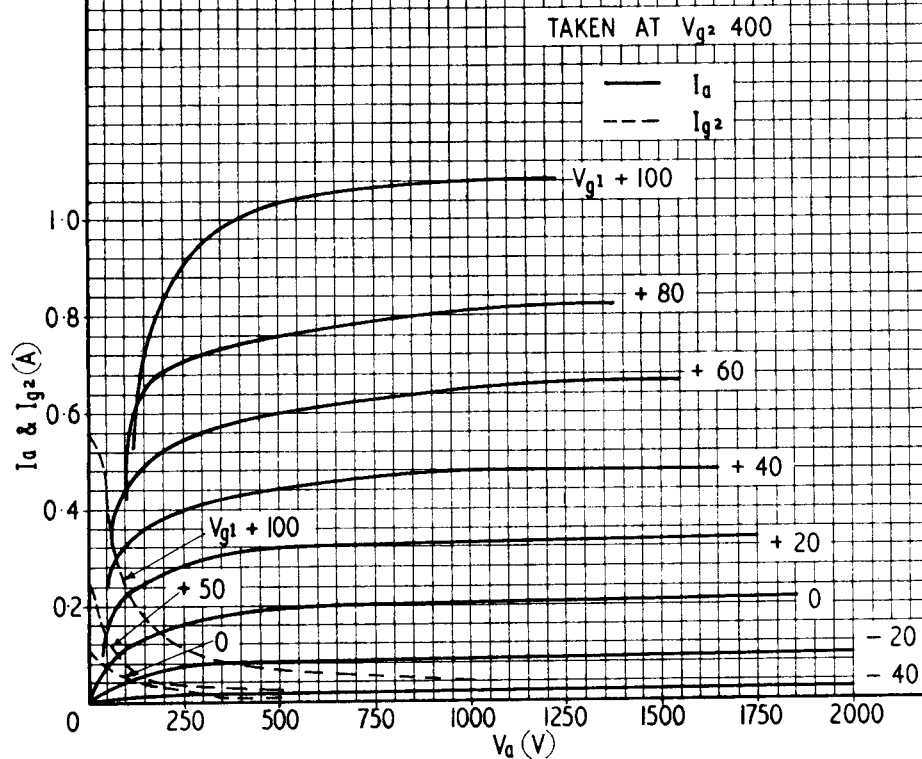
V <sub>a</sub>	1,250	1,600	V
I <sub>a</sub>	150	150	mA
V <sub>g1</sub> (b)	-120	-130	V
I <sub>g1</sub>	4	6	mA
V <sub>g2</sub>	400	400	V
I <sub>g2</sub>	16	20	mA
R <sub>g1</sub>	30,000	21,600	Ω
V <sub>g1(pk)</sub>	195	210	V
P <sub>dr</sub>	0.7	1.2	W
P <sub>out</sub>	135	175	W

<b>(4) HF POWER AMPLIFIER. CLASS B TELEPHONY</b>			<b>Typical Operation</b>		
				1,500	2,000
<i>(One valve, carrier conditions, permissible modulation 100%.)</i>			$V_a$		V
<i>Maximum permissible ratings</i>			$I_a$	100	75 mA
$V_a$	2,000	V	$V_{g1}$	-60	-75 V
$I_a$	100	mA	$I_{g1}$	Negligible	Negligible
$V_{g2}$	400	V	$V_{g2}$	400	400 V
$P_a$	150	W	$I_{g2}$	4	3 mA
$P_{g2}$	15	W	$V_{g1(pk)}$	70	80 V
$P_a$	100	W	$P_{dr}$ (approx.) (a)	2	2 W
			$P_{out}$	50	50 W

#### NOTES

- (a) At crest of audio cycle with 100% modulation.
- (b) Obtained by grid resistance of value shown or by combination of grid resistance either with fixed supply or cathode resistance. Total effective grid circuit resistance should not exceed 30,000  $\Omega$ .











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