



# Triode Type DET 18

(OSCILLATOR AND HF AMPLIFIER)

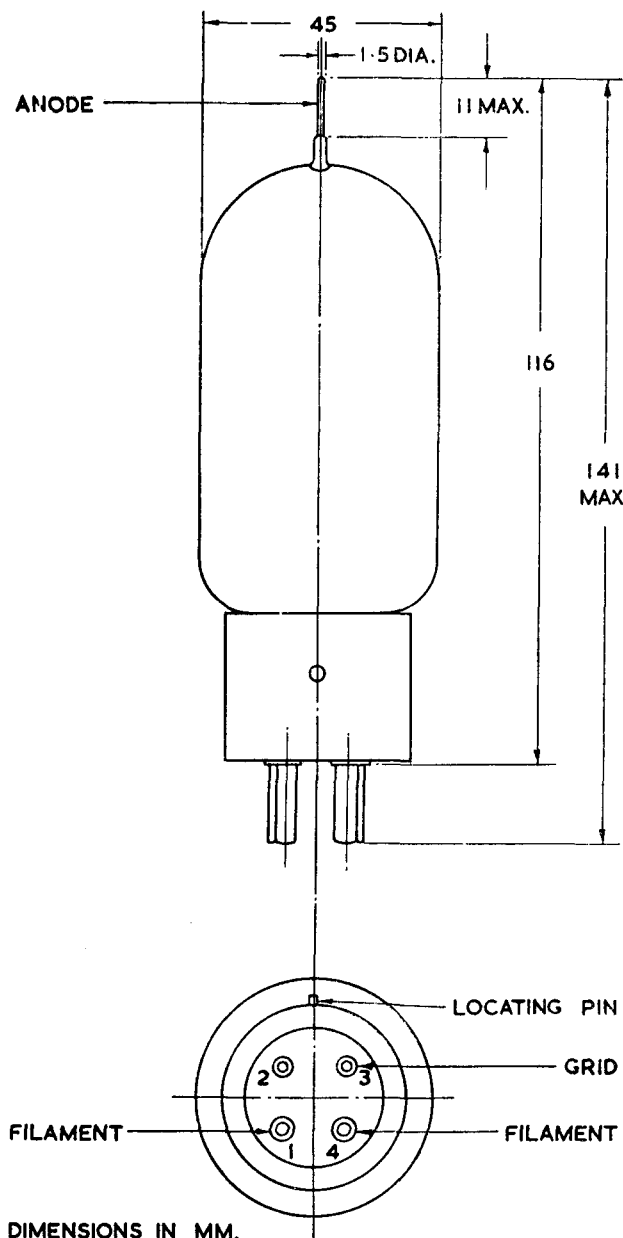
**General.** A transmitting triode fitted with a thoriated tungsten filament, suitable for use as an oscillator or high-frequency amplifier at frequencies up to 120 Mc/s.

**Mounting.** The valve must be mounted vertically. Connections should be made to the anode lead by means of a suitable clip. On no account should attempt be made to solder the lead itself.

## APPROXIMATE DATA

|                    |                        |           |
|--------------------|------------------------|-----------|
| $V_f$              | 5                      | V         |
| $I_f$              | 4                      | A         |
| $V_{a(max)}$       | 2                      | kV        |
| $P_{a(max)}$       | 50                     | W         |
| $P_{gl(max)}$      | 35                     | mA        |
| $I_{e(pk)* (max)}$ | 2                      | A         |
| $I^*_{(a+gl)}$     | 0.9                    | A         |
| $\mu$              | taken at $V_a$ 1,000 V | 32.5      |
| $g_m$              | $I_a$ 35 mA            | 2.55 mA/V |
| $g_m$              | taken at $V_a$ 700 V   | 4.4 mA/V  |
|                    | $I_a$ 500 mA           |           |
| $f$                | 100                    | Mc/s      |
| $C_{a-gl}$         | 1.7                    | pF        |
| $C_{a-k}$          | 0.17                   | pF        |
| $C_{gl-k}$         | 4.6                    | pF        |

\*No attempt must be made to measure this figure statically.



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## Typical Operation

### (1) HF POWER AMPLIFIER AND OSCILLATOR. CLASS C TELEGRAPHY

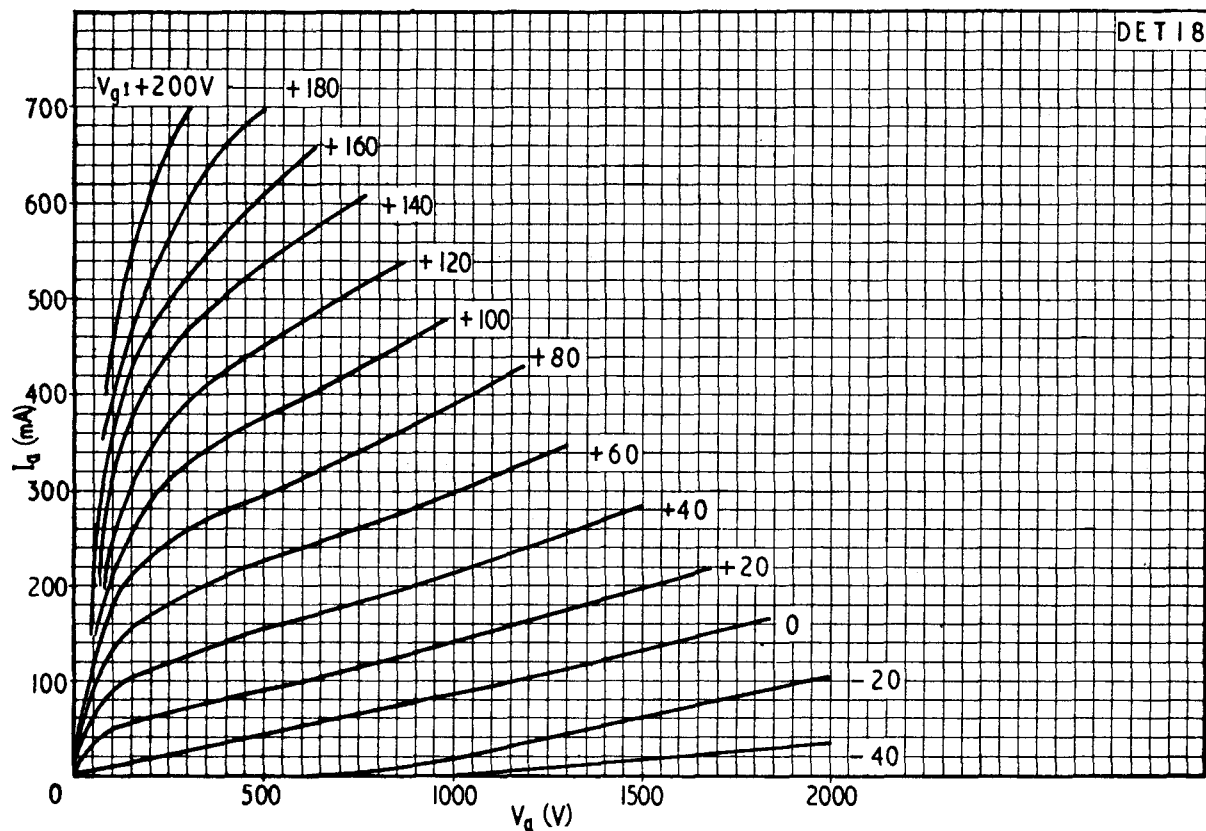
(Unmodulated, one valve, key down conditions)

|              |     |       |       |       |          |
|--------------|-----|-------|-------|-------|----------|
| $V_a$        |     | 1,500 | 1,000 | 750   | V        |
| $I_a$        |     | 85    | 110   | 120   | mA       |
| $V_{g1}$     |     | -170  | -180  | -160  | V        |
| $I_{g1}$     | (a) | 35    | 35    | 35    | mA       |
| $P_{dr}$     | (a) | 12    | 13    | 11    | W        |
| $Z_a$        |     | 9,000 | 4,200 | 2,400 | $\Omega$ |
| $P_{out}$    |     | 77    | 63    | 45    | W        |
| $V_{g1(pk)}$ |     | 320   | 360   | 330   | V        |

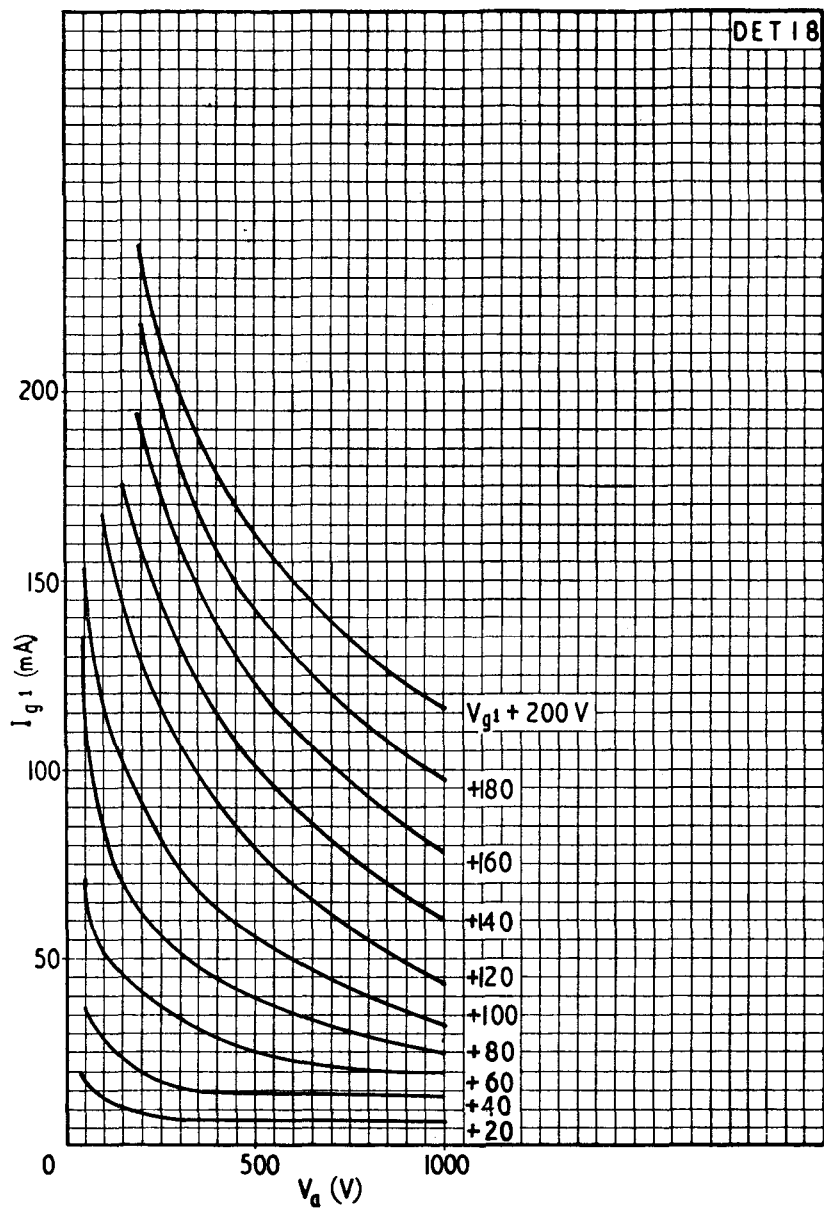
At frequencies above 75 Mc/s it is recommended that two valves are used in push-pull. At 100 Mc/s an output of 100 watts can be obtained from a pair of valves.

#### NOTES

(a) Subject to wide variation.



DET 18





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