OUTPUT PENTODE FOR LINE DEFLECTION AND A.F. OUTPUT PENTODE

Output pentode intended for use as horizontal deflection amplifier in small screen television receivers and as A.F. power amplifier.

<table>
<thead>
<tr>
<th>QUICK REFERENCE DATA</th>
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<tbody>
<tr>
<td>Anode peak voltage</td>
</tr>
<tr>
<td>Cathode current</td>
</tr>
<tr>
<td>Output power, class B two tubes</td>
</tr>
</tbody>
</table>

HEATING: Indirect by A.C. or D.C.; parallel supply

Heater voltage

Heater current

$V_f$ 6.3 V

$I_f$ 1.05 A

DIMENSIONS AND CONNECTIONS

Base: Noval

Dimensions in mm

[Diagram of the tube and base connections]
CAPACITANCES
Anode to all except grid No. 1  \( C_{a(g1)} \)  6 pF
Grid No. 1 to all except anode  \( C_{g1(a)} \)  14 pF
Anode to grid No. 1  \( C_{ag1} \) max. 0.8 pF
Anode to cathode  \( C_{ak} \) max. 0.1 pF
Grid No. 1 to heater  \( C_{g1f} \) max. 0.2 pF

TYPICAL CHARACTERISTICS

A)
Anode voltage  \( V_a \)  170 V
Grid No. 3 voltage  \( V_{g3} \)  0 V
Grid No. 2 voltage  \( V_{g2} \)  170 V
Grid No. 1 voltage  \( V_{g1} \)  -24 V
Anode current  \( I_a \)  45 mA
Grid No. 2 current  \( I_{g2} \)  2.4 mA
Transconductance  \( S \)  6.3 mA/V
Internal resistance  \( R_i \)  11 k\( \Omega \)
Amplification factor  \( \mu_{g2g1} \)  5.0

B) (Measured under pulse conditions)
Anode voltage  \( V_a \)  40 V
Grid No. 3 voltage  \( V_{g3} \)  0 V
Grid No. 2 supply voltage  \( V_{bg2} \)  190 V
Grid No. 2 series resistor  \( R_{g2} \)  4.7 k\( \Omega \)
Grid No. 1 voltage  \( V_{g1} \)  0 V
Anode current  \( I_a \)  180 mA
Grid No. 2 current  \( I_{g2} \)  18 mA
OPERATING CONDITIONS

Stabilized circuits (D.C. feedback)

**Cut-off voltage**

The minimum required cut-off voltage \((-V_{g1})\) during flyback is 120 V at \(V_a = 6000\) V, \(V_{g2} = 190\) V, and \(Z_{g1} = 1 \, k\Omega\) at line-frequency.

**Supply-voltage**: See page 5

Minimum required value of the screen grid voltage and of the anode voltage, when the tube is used in a line output stage.

The graphs refer to nominal mains voltage provided the specified values of \(I_a\) at \(V_a\) min, will be available throughout life of the tube at supply voltage values 10% below nominal.

In order to prevent Barkhausen interferences and less of stabilisation, care should be taken that the anode voltage never drops below the specified \(V_a\) min during the scanning period.

**OPERATING CHARACTERISTICS**

as class B push-pull A.F. power amplifier, two tubes.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value 1</th>
<th>Value 2</th>
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<tbody>
<tr>
<td>Anode voltage</td>
<td>(V_a)</td>
<td>170</td>
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<tr>
<td>Grid No. 3 voltage</td>
<td>(V_{g3})</td>
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<tr>
<td>Grid No. 2 supply voltage</td>
<td>(V_{bg2})</td>
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<td>Common Grid No. 2 series resistor</td>
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<td>Grid No. 1 voltage</td>
<td>(V_{g1})</td>
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<td>Load resistance</td>
<td>(R_{aa})</td>
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<td>Grid No. 1 driving voltage</td>
<td>(V_i)</td>
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<tr>
<td>Anode current</td>
<td>(I_a)</td>
<td>2x25</td>
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<tr>
<td>Grid No. 2 current</td>
<td>(I_{g2})</td>
<td>2x1.5</td>
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<td>Output power</td>
<td>(W_0)</td>
<td>0</td>
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<tr>
<td>Distortion</td>
<td>(d_{tot})</td>
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</table>
LIMITING VALUES (Design centre rating system)

Anode voltage
\[ V_{a0} \text{ max. } 550 \text{ V} \]
\[ V_a \text{ max. } 250 \text{ V} \]

Anode voltage, peak
\[ V_{ap} \text{ max. } 7 \text{ kV} \]
\[ -V_{ap} \text{ max. } 7 \text{ kV} \]

Anode dissipation
\[ W_a \]

Grid No.2 dissipation
\[ W_{g2} \]

Anode + grid No.2 dissipation
\[ W_a + W_{g2} \]

Grid No.2 voltage
\[ V_{g2o} \text{ max. } 550 \text{ V} \]
\[ V_{g2} \text{ max. } 250 \text{ V} \]

Cathode current
\[ I_k \text{ max. } 180 \text{ mA} \]

Cathode to heater voltage
\[ V_{kf} \text{ max. } 100 \text{ V} \]

Grid No.1 resistor
\[ R_{g1} \text{ max. } 0.5 \text{ MΩ} \]

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1) Maximum pulse duration 22% of a cycle but maximum 18 μs.

2) During the heating-up of the cathode \( W_{g2} = \text{max. } 6 \text{ W} \).
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