

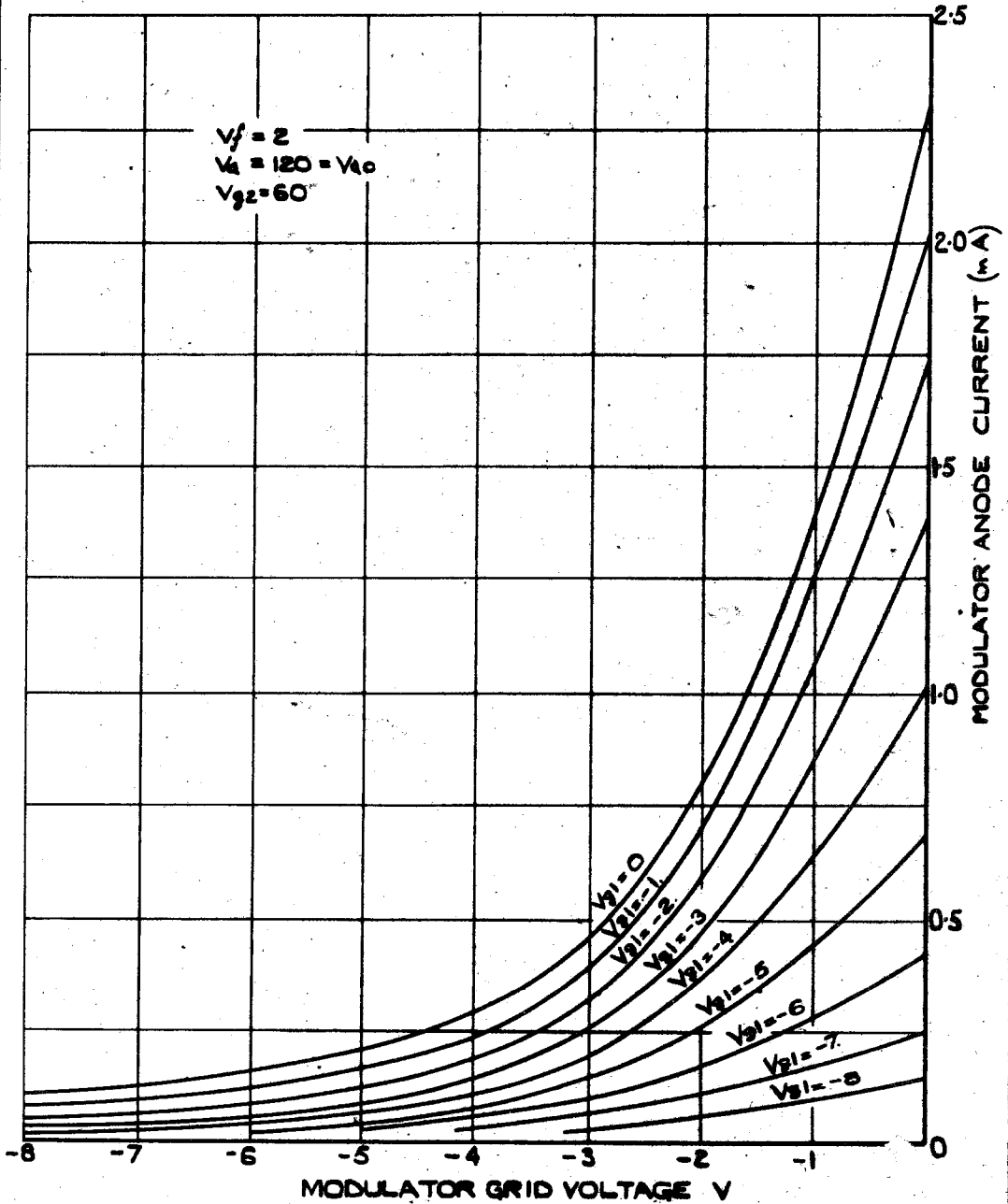
|                                                                                             |                                    |                              |
|---------------------------------------------------------------------------------------------|------------------------------------|------------------------------|
| Specification MAP/CV1043 Issue 5<br>Dated 20.1.49.<br>To be read in conjunction with K1001. | <u>SECURITY</u>                    |                              |
|                                                                                             | <u>Specification</u><br>RESTRICTED | <u>Valve</u><br>UNCLASSIFIED |

→ Indicates a change

| <u>TYPE OF VALVE</u> - Variable - mu Penta-grid frequency changer. |                       |                                                                 | <u>MARKING</u><br>See K1001/4                                                                                                                                                                                                                      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |      |           |        |                       |     |                      |        |                       |    |               |   |               |   |             |   |       |
|--------------------------------------------------------------------|-----------------------|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|-----------|--------|-----------------------|-----|----------------------|--------|-----------------------|----|---------------|---|---------------|---|-------------|---|-------|
| <u>CATHODE</u> - Directly Heated.                                  |                       |                                                                 | <u>PACKING</u><br>See K1005                                                                                                                                                                                                                        |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |      |           |        |                       |     |                      |        |                       |    |               |   |               |   |             |   |       |
| <u>ENVELOPE</u> - Glass - Metallised.                              |                       |                                                                 |                                                                                                                                                                                                                                                    |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |      |           |        |                       |     |                      |        |                       |    |               |   |               |   |             |   |       |
| <u>PROTOTYPE</u> - 210PG                                           |                       |                                                                 | <u>BASE</u><br>B7                                                                                                                                                                                                                                  |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |      |           |        |                       |     |                      |        |                       |    |               |   |               |   |             |   |       |
| <u>RATING</u>                                                      |                       | Note                                                            |                                                                                                                                                                                                                                                    |     | <table border="1"> <thead> <tr> <th>Pin</th> <th>Electrode</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Oscillator Anode (G2)</td> </tr> <tr> <td>2</td> <td>Oscillator Grid (G1)</td> </tr> <tr> <td>3</td> <td>Screen Grids (G3, G5)</td> </tr> <tr> <td>4</td> <td>Filament - ve</td> </tr> <tr> <td>5</td> <td>Filament + ve</td> </tr> <tr> <td>6</td> <td>Metallising</td> </tr> <tr> <td>7</td> <td>Anode</td> </tr> <tr> <td>T.C.</td> <td>Control Grid (G4)</td> </tr> </tbody> </table> |      | Pin  | Electrode | 1      | Oscillator Anode (G2) | 2   | Oscillator Grid (G1) | 3      | Screen Grids (G3, G5) | 4  | Filament - ve | 5 | Filament + ve | 6 | Metallising | 7 | Anode |
| Pin                                                                | Electrode             |                                                                 |                                                                                                                                                                                                                                                    |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |      |           |        |                       |     |                      |        |                       |    |               |   |               |   |             |   |       |
| 1                                                                  | Oscillator Anode (G2) |                                                                 |                                                                                                                                                                                                                                                    |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |      |           |        |                       |     |                      |        |                       |    |               |   |               |   |             |   |       |
| 2                                                                  | Oscillator Grid (G1)  |                                                                 |                                                                                                                                                                                                                                                    |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |      |           |        |                       |     |                      |        |                       |    |               |   |               |   |             |   |       |
| 3                                                                  | Screen Grids (G3, G5) |                                                                 |                                                                                                                                                                                                                                                    |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |      |           |        |                       |     |                      |        |                       |    |               |   |               |   |             |   |       |
| 4                                                                  | Filament - ve         |                                                                 |                                                                                                                                                                                                                                                    |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |      |           |        |                       |     |                      |        |                       |    |               |   |               |   |             |   |       |
| 5                                                                  | Filament + ve         |                                                                 |                                                                                                                                                                                                                                                    |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |      |           |        |                       |     |                      |        |                       |    |               |   |               |   |             |   |       |
| 6                                                                  | Metallising           |                                                                 |                                                                                                                                                                                                                                                    |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |      |           |        |                       |     |                      |        |                       |    |               |   |               |   |             |   |       |
| 7                                                                  | Anode                 |                                                                 |                                                                                                                                                                                                                                                    |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |      |           |        |                       |     |                      |        |                       |    |               |   |               |   |             |   |       |
| T.C.                                                               | Control Grid (G4)     |                                                                 |                                                                                                                                                                                                                                                    |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |      |           |        |                       |     |                      |        |                       |    |               |   |               |   |             |   |       |
| Filament Voltage (V)                                               | 2.0                   | A<br>A                                                          | <u>TOP CAP</u><br>See K1001/AI/D5.4.                                                                                                                                                                                                               |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |      |           |        |                       |     |                      |        |                       |    |               |   |               |   |             |   |       |
| Filament Current (A)                                               | 0.1                   |                                                                 |                                                                                                                                                                                                                                                    |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |      |           |        |                       |     |                      |        |                       |    |               |   |               |   |             |   |       |
| Max. Anode Voltage (V)                                             | 150                   |                                                                 | <u>DIMENSIONS</u><br>See K1001/AI/D1                                                                                                                                                                                                               |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |      |           |        |                       |     |                      |        |                       |    |               |   |               |   |             |   |       |
| Max. Screen Voltage (V)                                            | 80                    |                                                                 |                                                                                                                                                                                                                                                    |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |      |           |        |                       |     |                      |        |                       |    |               |   |               |   |             |   |       |
| Max. Oscillator Anode Voltage (V)                                  | 150                   |                                                                 | <table border="1"> <thead> <tr> <th>Dimension</th> <th>Min.</th> <th>Max.</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>{ mm }</td> <td>-</td> <td>135</td> </tr> <tr> <td>B</td> <td>{ mm }</td> <td>-</td> <td>46</td> </tr> </tbody> </table> |     | Dimension                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Min. | Max. | A         | { mm } | -                     | 135 | B                    | { mm } | -                     | 46 |               |   |               |   |             |   |       |
| Dimension                                                          | Min.                  |                                                                 |                                                                                                                                                                                                                                                    |     | Max.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |      |      |           |        |                       |     |                      |        |                       |    |               |   |               |   |             |   |       |
| A                                                                  | { mm }                |                                                                 | -                                                                                                                                                                                                                                                  | 135 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |      |           |        |                       |     |                      |        |                       |    |               |   |               |   |             |   |       |
| B                                                                  | { mm }                |                                                                 | -                                                                                                                                                                                                                                                  | 46  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |      |           |        |                       |     |                      |        |                       |    |               |   |               |   |             |   |       |
| Conversion Conductance (mA/V)                                      | 0.45                  | <u>NOTE</u><br>A:- $V_a = 120$ , $V_{g2} = 40$ , $V_{g1} = 0$ . |                                                                                                                                                                                                                                                    |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |      |           |        |                       |     |                      |        |                       |    |               |   |               |   |             |   |       |
| Average Space Current (mA)                                         | 2.0                   |                                                                 |                                                                                                                                                                                                                                                    |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |      |           |        |                       |     |                      |        |                       |    |               |   |               |   |             |   |       |
| Heterodyne Voltage (RMS)                                           | 5                     |                                                                 |                                                                                                                                                                                                                                                    |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |      |           |        |                       |     |                      |        |                       |    |               |   |               |   |             |   |       |
| Max. Operating Frequency (Mc/s)                                    | 18.5                  |                                                                 |                                                                                                                                                                                                                                                    |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |      |           |        |                       |     |                      |        |                       |    |               |   |               |   |             |   |       |

To be performed in addition to those applicable in K1001.

|   | Test Conditions |     |     |       |                 |     | Test                      | Limits |      | No. Tested   |
|---|-----------------|-----|-----|-------|-----------------|-----|---------------------------|--------|------|--------------|
|   | Vf              | Va  | Vg2 | Vg3g5 | Vg4             | Vg1 |                           | Min.   | Max. |              |
| a | 2.0             | 0   | 0   | 0     | 0               | 0   | If (A)                    | 0.08   | 0.12 | 100%<br>or S |
| b | 2.0             | 120 | 120 | 60    | 0               | 0   | Ia (mA)                   | 1.8    | 2.8  | 100%         |
| c | 2.0             | 120 | 120 | 60    | 0<br>to<br>-0.5 | 0   | Ia change (mA)            | 0.35   | -    | 100%         |
| d | 2.0             | 120 | 120 | 60    | 0               | 0   | Ig2 (mA)                  | 1.5    | 2.5  | 100%         |
| e | 2.0             | 120 | 120 | 60    | 0               | -8  | Ia (mA)                   | -      | 0.3  | 100%         |
| f | 2.0             | 120 | 120 | 60    | -8              | 0   | Ia (mA)                   | -      | 0.3  | 100%         |
| g | 2.0             | 120 | 120 | 60    | -1              | 0   | Reverse<br>Ig4 ( $\mu$ A) | -      | 1.0  | 100%         |



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