

MINISTRY OF SUPPLY, D.L.R.D.(A)/R.A.E.

|                                                                                                                                                             |        |      |                       |                                                                                        |                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|------|-----------------------|----------------------------------------------------------------------------------------|-------------------------------------|
| Specification MOSA/CV415<br>Issue 7 Dated 8.11.54<br>To be read in conjunction with B.S.448, B.S.1409 & K1001                                               |        |      |                       | <u>SECURITY</u><br><u>Specification</u> <u>Valve</u><br>UNCLASSIFIED      UNCLASSIFIED |                                     |
| -----> Indicates a change                                                                                                                                   |        |      |                       |                                                                                        |                                     |
| TYPE OF VALVE - Double Tetrode Beam Power Amplifier<br>CATHODE - Indirectly Heated<br>ENVELOPE - Glass, lower portion in metal shell<br>PROTOTYPE - VX.3087 |        |      |                       | <u>MARKING</u><br>See K1001/4<br><br><u>BASE</u><br>B.S.448/B9G                        |                                     |
| <u>RATINGS</u>                                                                                                                                              |        |      | Note                  | <u>CONNECTIONS</u>                                                                     |                                     |
| Heater Voltage                                                                                                                                              | (V)    | 6.3  | A<br>A<br>A<br>A<br>B | Pin                                                                                    | Electrode                           |
| Heater Current                                                                                                                                              | (A)    | 1.6  |                       |                                                                                        |                                     |
| Max. Operating Anode Voltage                                                                                                                                | (V)    | 400  |                       | 1                                                                                      | h                                   |
| Max. Operating Screen Voltage                                                                                                                               | (V)    | 400  |                       | 2                                                                                      | g <sup>1</sup>                      |
| Max. Anode Dissipation (per anode)                                                                                                                          | (W)    | 8.0  |                       | 3                                                                                      | k <sup>1</sup> + s                  |
| Max. Screen Dissipation (total)                                                                                                                             | (W)    | 3.0  |                       | 4                                                                                      | a <sup>1</sup>                      |
| Mutual Conductance                                                                                                                                          | (mA/V) | 3.9  |                       | 5                                                                                      | g <sup>1</sup> 2 + g <sup>m</sup> 2 |
| Max. Operating Frequency                                                                                                                                    | (Mc/s) | 150  |                       | 6                                                                                      | a <sup>m</sup>                      |
|                                                                                                                                                             |        |      |                       | 7                                                                                      | k <sup>m</sup> + s                  |
|                                                                                                                                                             |        |      | 8                     | g <sup>m</sup> 1                                                                       |                                     |
|                                                                                                                                                             |        |      | 9                     | h                                                                                      |                                     |
| <u>CAPACITANCES (pF)</u><br>(per section)                                                                                                                   |        |      |                       | <u>DIMENSIONS</u><br>See K1001/AI/D2, with the following exceptions:-                  |                                     |
| 1. C in                                                                                                                                                     |        | 9.0  |                       | Dimension                                                                              | Min. Max.                           |
| 2. C out                                                                                                                                                    |        | 7.5  |                       |                                                                                        |                                     |
| 3. Ca, g <sup>1</sup>                                                                                                                                       |        | 0.05 |                       |                                                                                        |                                     |
|                                                                                                                                                             |        |      |                       | E (mm)                                                                                 | - 70                                |
|                                                                                                                                                             |        |      |                       | F (mm)                                                                                 | - 41                                |
|                                                                                                                                                             |        |      |                       | Q (mm)                                                                                 | - 45                                |
| The groove on the spigot is optional                                                                                                                        |        |      |                       |                                                                                        |                                     |
| <u>NOTES</u>                                                                                                                                                |        |      |                       |                                                                                        |                                     |
| A. Absolute maximum values.                                                                                                                                 |        |      |                       |                                                                                        |                                     |
| B. Measured at: V <sub>a</sub> = 250V; V <sub>g2</sub> = 135V; I <sub>a</sub> = 30 mA                                                                       |        |      |                       |                                                                                        |                                     |

To be performed in addition to those applicable in K1001

| Test Conditions |                                                                                   |                      |                                   |                                                                 | Test       | Limits                   |       | No. Tested    | Note         |   |
|-----------------|-----------------------------------------------------------------------------------|----------------------|-----------------------------------|-----------------------------------------------------------------|------------|--------------------------|-------|---------------|--------------|---|
|                 |                                                                                   |                      |                                   |                                                                 |            | Min.                     | Max.  |               |              |   |
| a               | See K1001/AlII<br>Measurements to be made<br>in Adaptor Type 125,<br>Ref. 10AD/24 |                      |                                   |                                                                 |            | <u>CAPACITANCES (pF)</u> |       |               |              |   |
|                 | Links to<br>H.P.                                                                  | Links to<br>L.P.     | Links<br>to E                     |                                                                 |            |                          |       |               |              |   |
|                 | 2                                                                                 | 1,3,5,6,7,<br>8,9,10 | 4, TC1,<br>TC2                    | C in'                                                           | -          |                          | 10.25 | 6 per<br>week |              |   |
|                 | 4                                                                                 | 1,3,5,6,7,<br>8,9,10 | 2, TC1,<br>TC2                    | C out'                                                          | -          |                          | 9.5   | 6 per<br>week |              |   |
|                 | 4                                                                                 | 2                    | 1,3,5,6,7,<br>8,9,10,<br>TC1, TC2 | C a',g1'                                                        | -          |                          | 0.06  | T.A.          |              |   |
|                 | 8                                                                                 | 1,2,3,4,<br>5,7,9,10 | 6,TC1<br>TC2                      | C in''                                                          | -          |                          | 10.25 | 6 per<br>week |              |   |
|                 | 6                                                                                 | 1,2,3,4,<br>5,7,9,10 | 8,TC1,<br>TC2                     | C out''                                                         | -          |                          | 9.5   | 6 per<br>week |              |   |
|                 | 6                                                                                 | 8                    | 1,2,3,4,5,<br>7,9,10,<br>TC1,TC2. | C a'',g1''                                                      | -          |                          | 0.06  | T.A.          |              |   |
|                 |                                                                                   |                      |                                   | C in' + C in''                                                  | -          | 20.25                    | T.A.  |               |              |   |
| b               | Vh<br>(V)                                                                         | Va<br>(V)            | Vg2<br>(V)                        | Vg1<br>(V)                                                      | Ia<br>(mA) | Ih (A)                   | 1.44  | 1.76          | 100%<br>or S |   |
|                 | 6.3                                                                               | 0                    | 0                                 | 0                                                               | 0          |                          |       |               |              |   |
| c               | 6.3                                                                               | 250                  | 135                               | -                                                               | 30         | Vg1 (V)                  | -9.8  | -18.2         | 100%         | 1 |
| d               | 6.3                                                                               | 250                  | 135                               | -                                                               | 30         | Ig2 (mA)                 | -     | 5.0           | 100%<br>or S |   |
| e               | 6.3                                                                               | 250                  | 135                               | -                                                               | 30         | gm (mA/V)                | 2.9   | 4.9           | 100%         | 1 |
|                 | Peak Grid Swing = 1V max.                                                         |                      |                                   |                                                                 |            |                          |       |               |              |   |
| f               | 6.3                                                                               | 250                  | 135                               | -                                                               | 30         | Reverse Ig1 (μA)         | -     | 2.0           | 100%         | 1 |
| g               | 6.3                                                                               | 250                  | 135                               | -50                                                             | -          | Ia (mA)                  | -     | 1.0           | 100%         | 1 |
| h               | 6.3                                                                               | 250                  | 250                               | -100V D.C.<br>Plus 100V<br>Peak<br>sinusoidal<br>A.C.(50c.p.s.) | -          | Mean Ia (mA)             | 25    | -             | 100%         | 1 |

NOTES

- Test to be made on each section separately, a bias of -50 volts being applied to the section not under test.

ELECTRONIC VALVE SPECIFICATIONS  
SPECIFICATION MOS(4)/CV.415  
ISSUE 7 DATED 8.11.54  
AMENDMENT No.1.

PAGE 2.

- (1) Clause "c" amend the limits of "-9.8" to "-18.2"  
to read "-12" to "-20".
- (2) Clause "d" amend the maximum limit of "5" to read "2.5".

September, 1960.

R.A.E.

N.33757