

# Ferranti

## TRIODE HEPTODE

An indirectly heated triode heptode for use with series or parallel heater connection on AC. or DC. mains. Primarily designed for use as a synchronising pulse separator and time base oscillator.

### PHYSICAL DETAILS.

|                      |     |     |     |                               |
|----------------------|-----|-----|-----|-------------------------------|
| Base                 | ... | ... | ... | B9A—Noval                     |
| Max. Overall Length  | ... | ... | ... | 67.5 mm. ( $2\frac{3}{4}$ " ) |
| Max. Seated Height   | ... | ... | ... | 60.5 mm. ( $2\frac{3}{8}$ " ) |
| Max. Diameter (Bulb) | ... | ... | ... | 22.2 mm. ( $\frac{7}{8}$ " )  |
| Mounting Position    | ... | ... | ... | Any                           |

### BASE CONNECTIONS.

|                            |                                |
|----------------------------|--------------------------------|
| Pin 1—Heptode Grid $g_3$   | Pin 5—Heater                   |
| Pin 2—Heptode Grid $g_1$   | Pin 6—Heptode Anode            |
| Pin 3—Cathode $g_5$ shield | Pin 7—Heptode Grids $g_2, g_4$ |
| Pin 4—Heater               | Pin 8—Triode Anode             |
|                            | Pin 9—Triode Grid              |

### HEATER.

|                |     |     |     |           |
|----------------|-----|-----|-----|-----------|
| Heater Voltage | ... | ... | ... | 6.3 volts |
| Heater Current | ... | ... | ... | 0.3 amps  |

### RATINGS.

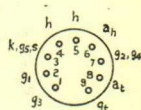
#### HEPTODE SECTION

|                              |     |     |     |             |
|------------------------------|-----|-----|-----|-------------|
| Max. Supply Voltage          | ... | ... | ... | 550 volts   |
| Max. Anode Voltage           | ... | ... | ... | 250 volts   |
| Max. $V_{g_2+g_4}$           | ... | ... | ... | 250 volts   |
| Min. $V_{g_2+g_4}$           | ... | ... | ... | 10 volts    |
| Max. Anode Dissipation       | ... | ... | ... | 1.7 watts   |
| Max. $g_2+g_4$ Dissipation   | ... | ... | ... | 0.8 watts   |
| Max. Cathode Current         | ... | ... | ... | 12.5 mA     |
| Max. Negative $V_{g_1}$ (pk) | ... | ... | ... | 150 volts   |
| Max. Negative $V_{g_3}$ (pk) | ... | ... | ... | 150 volts   |
| Max. $R_{g_1-k}$             | ... | ... | ... | 3.0 Megohms |
| Max. $R_{g_3-k}$             | ... | ... | ... | 3.0 Megohms |

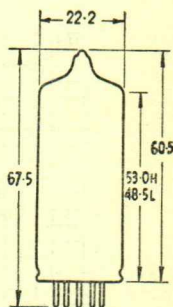
#### TRIODE SECTION

|                            |     |     |     |             |
|----------------------------|-----|-----|-----|-------------|
| Max. Supply Voltage        | ... | ... | ... | 550 volts   |
| Max. Anode Voltage         | ... | ... | ... | 250 volts   |
| Max. Anode Dissipation     | ... | ... | ... | 1.3 watts   |
| Max. Mean Cathode Current  | ... | ... | ... | 10 mA       |
| Max. Peak Grid Voltage     | ... | ... | ... | 200 volts   |
| Max. Grid-Cathode Resistor | ... | ... | ... | 3.0 Megohms |

|                             |     |     |     |           |
|-----------------------------|-----|-----|-----|-----------|
| Max. Heater-Cathode Voltage | ... | ... | ... | 100 volts |
|-----------------------------|-----|-----|-----|-----------|



Base  
Connections  
Underside View  
of Base



Dimensions in  
millimetres.

## CHARACTERISTICS.

|                                   | Triode Section | Heptode Section |
|-----------------------------------|----------------|-----------------|
| $V_a$ ... ..                      | 50             | 135 volts       |
| $V_{g3}$ ... ..                   | —              | 0 volts         |
| $V_{g2+g4}$ ... ..                | —              | 14 volts        |
| $V_{g1}$ ... ..                   | 0              | 0 volts         |
| $I_a$ ... ..                      | 3.0            | 1.7 mA          |
| $I_a (V_{at}=200 V_{gt}=-11)$ ... | <0.1           | — mA            |
| $I_{g2+g4}$ ... ..                | —              | 0.9 mA          |
| $g_m$ ... ..                      | 3.7            | 2.2 mA/V        |
| $\mu$ ... ..                      | 50             | —               |
| $V_{g3} (I_{ah}=20 \mu A)$ ... .. | —              | -2.0 volts      |
| $V_{g1} (I_{ah}=20 \mu A)$ ... .. | —              | -1.9 volts      |

## CAPACITANCES.

|                    |           |
|--------------------|-----------|
| $C_{ah-at}$ ... .. | <0.25 pF  |
| $C_{ah-gt}$ ... .. | <0.09 pF  |
| $C_{g1-at}$ ... .. | <0.08 pF  |
| $C_{g1-gt}$ ... .. | <0.1 pF   |
| $C_{g3-at}$ ... .. | <0.13 pF  |
| Heptode Section.   |           |
| $C_{a-g1}$ ... ..  | <0.009 pF |
| Triode Section.    |           |
| $C_{in}$ ... ..    | 3.0 pF    |
| $C_{a-g}$ ... ..   | 1.1 pF    |

