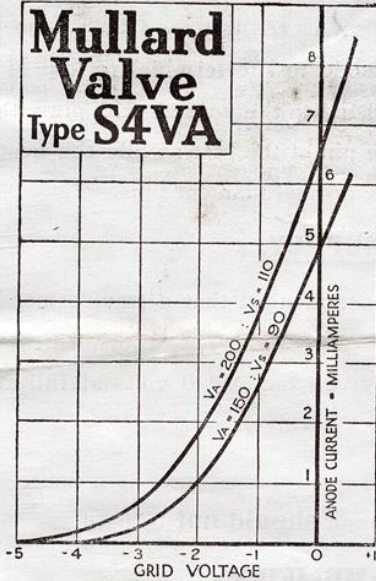


# MULLARD VALVE S.4.VA

## INSTRUCTIONS FOR USE.

**Mullard**  
**Valve**  
**Type S4VA**



### WORKING CONDITIONS.

Heater Voltage	... ..	4.0 volts.
Heater Current	... ..	1.0 ampere.
Max. Anode Voltage	... ..	200 volts.
Screen Voltage	... ..	75-110 volts.
Characteristics at (1) Anode Volts 200, Screen Volts 110, Grid Volts Zero: (2) Anode Volts 200, Screen Volts 110, Grid Volts -1.5:		
Mutual Conductance	... (1) ...	3.0 mA/volt.
Mutual Conductance	... (2) ...	2.0 mA/volt.
Amplification Factor	... (2) ...	1,000.

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### **CONNECTIONS.**

The screen is connected to the anode pin of the base; the anode to the terminal on top of the bulb; the grid as usual to the normal grid pin; the cathode to the centre pin of the base; while the heater is connected to the normal filament pins.

### **HEATER SUPPLY.**

It is recommended that a transformer be used to provide heater power. The transformer should be designed to give exactly 4.0 volts at full load (i.e. —1 amp. per S.4.VA valve).

A heater control resistance is a source of danger to the valve and **should not** be used.

### **AS H.F. AMPLIFIER.**

An anode voltage of 100 to 200 volts should be used with about 75 to 110 volts on the screen. Grid bias of 1.5 volts may be obtained by means of a 450

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ohms bias resistance included between cathode and H.T. negative leads of the S.4.VA valve. Where an anode voltage of 200 volts can be arranged it will be found advantageous to use a screen voltage of 110 volts.

### **CIRCUIT DESIGN.**

The impedance of this valve is comparatively high and it is essential that the H.F. coupling in the anode circuit shall have a very high impedance. Hence it is preferable to use the "tuned anode" (or "tuned grid") systems.

Although the internal screen of the valve avoids retroactive coupling through anode-grid capacity it is essential to screen the various circuits as completely as possible in order to avoid any stray electromagnetic or electrostatic coupling external to the valve which would introduce instability.

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## **MULLARD RANGE OF 4 VOLT MAINS VALVES.**

S.4V—(g=1,000), S.4VA—(g=1,000), S.4VB—(g=750),  
Screened Grid Valves for H.F. Amplification.  
904V—(g=75), Detection, H.F. and L.F. Amplification.  
354V—(g=36), Detection, H.F. and L.F. Amplification.  
164V—(g=16), Detection and L.F. Amplification.  
104V—(g=12), L.F. and Power Amplification.  
054V—(g=5), Power Amplification.  
Pen4V—Indirectly Heated Pentode Valve.  
A.C.104—(g=10), L.F. and Power Amplification.  
A.C.064—(g=6), Power Amplification.  
A.C.044—(g=4), Power Amplification.  
P.M.24A, P.M.24B, P.M.24C, P.M.24M, Five Electrode  
Valves.

### **IMPORTANT NOTICE**

#### **as to return of Mullard Valves**

The valve in this carton has been thoroughly tested. If returned to the makers owing to alleged defect it will be accepted only on the following conditions:

1. That it is forwarded at the sender's risk and expense to:-

**THE MULLARD WIRELESS SERVICE CO. LTD.,**  
Service Department,  
Vauxhall Street,  
Kennington Oval, London, S.E.11.

2. That if the Manufacturers decide it is necessary to break open the valve for inspection they are at liberty to do so without any obligation to return or replace it.