



## U.21 & U.22

### HIGH VOLTAGE RECTIFIERS

RATING.	U.21	U.22
Heater Voltage ... ..	2.0	2.0
Heater Current (Amps.) ... ..	1.85	2.0
Maximum Anode Voltage (RMS) ... ..	4,500	4,500
Maximum Peak Inverse Voltage ... ..	12,500	12,500
Maximum Mean Anode Current (mA.) ... ..	5.0	5.0
Maximum Peak Anode Current (mA.) ... ..	55	55

#### TYPICAL OPERATION.

##### U.21—

Anode Voltage (RMS) ... ..	3,700	4,000	4,500
Reservoir Capacity ( $\mu$ F.) ... ..	0.25	0.25	0.25
Mean Load Current (mA.) ... ..	0.5	0.5	0.5
D.C. Volts Output ... ..	5,000	5,450	6,100
Ripple Volts RMS 50 $\sim$ (approx.) ... ..	10	10	10

Heating Time Delay—Approx. 15 per cent. of final output at 35 secs.

#### TYPICAL OPERATION.

##### U.22—

Anode Voltage (RMS) ... ..	3,700	4,000	4,500
Reservoir Capacity ( $\mu$ F.) ... ..	0.1	0.1	0.1
Mean Load Current (mA.) ... ..	0.25	0.25	0.25
D.C. Volts Output ... ..	5,000	5,450	6,100
Ripple Volts RMS 50 $\sim$ (approx.) ... ..	14	14	14

Heating Time Delay—Approx. 15 per cent. of final output at 35 secs.

#### DIMENSIONS.

	U.21	U.22
Maximum Overall Length ... ..	121 mm.	96 mm.
Maximum Diameter ... ..	39 mm.	28.5 mm.

#### GENERAL.

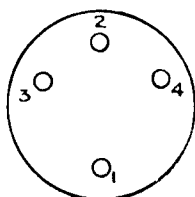
The U.21 and U.22 are indirectly heated half-wave rectifiers for use in the H.T. supply for the cathode ray tube in television receivers. The heater of either valve is designed to provide a suitable time delay, thus obviating the need for a time delay switch. The U.21 is fitted with a standard 4-pin base and the U.22 with the Mazda octal base, the connexions to which are given overleaf.



### APPLICATION.

The use of either of these valves in the H.T. supply unit of the cathode ray tube avoids the use of special delay switching and protects the cathode ray tube from excessive voltage stress during heating time of the tube cathode. If a UD.41 or similar valve is used in the H.T. supply unit of the time base, when switching on, the heaters of the thyratrons and output valves reach operating temperature and H.T. is applied to the time base. After a short period the U.21 or U.22 reaches its operation temperature and H.T. is applied to the cathode ray tube anode. With this sequence of operation it is possible to safeguard not only the cathode of the tube but also to eliminate the possibility of burning the screen with a stationary spot.

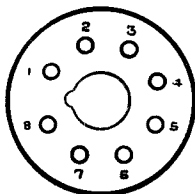
#### BASING. U.21.



- |            |                     |
|------------|---------------------|
| Pin No. 1. | —                   |
| 2.         | —                   |
| 3.         | Heater and Cathode. |
| 4.         | Heater.             |
| Top Cap.   | Anode.              |

Viewed from the free end of the base.

#### BASING. U.22.



- |            |                     |
|------------|---------------------|
| Pin No. 1. | Heater and Cathode. |
| 2.         | Omitted.            |
| 3.         | —                   |
| 4.         | Omitted.            |
| 5.         | —                   |
| 6.         | Omitted.            |
| 7.         | Omitted.            |
| 8.         | Heater.             |
| Top Cap.   | Anode.              |

Viewed from the free end of the base.

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*Mazda Radio Valves are manufactured in Great Britain for the British Thomson-Houston Co., Ltd., London and Rugby, and distributed by*

**THE EDISON SWAN ELECTRIC CO., LTD.**  
**155, CHARING CROSS ROAD, LONDON, W.C.2.**

