

# DA41



## DA41 POWER TRIODE

### DESCRIPTION

Type DA41 is a power triode with carbon anode and fitted with a thoriated tungsten dull emitter filament and designed mainly for use in pairs in a positive grid drive Class B push-pull audio frequency amplifier. Under suitable conditions an output of up to 175 watts may be obtained from a pair of DA41 valves operating at an anode voltage of 1,000.

The valve is designed to operate under the zero grid bias condition, so effecting a considerable saving by avoiding the necessity for a separate grid bias supply.

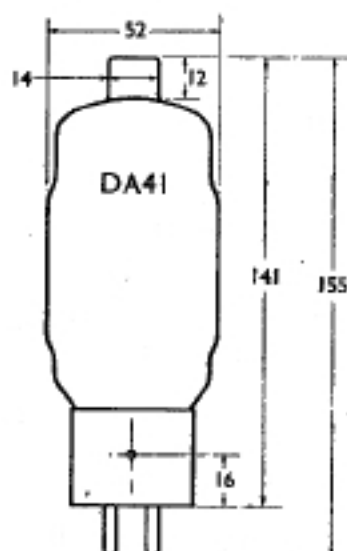
### RATINGS

Filament Voltage	...	...	...	...	...	...	7.5	volts
Filament Current	...	...	...	...	...	...	2.5	approx. amps
Anode Voltage	...	...	...	...	...	...	1000	max. volts
Anode Dissipation	...	...	...	...	...	...	40	max. watts
Amplification Factor	}	measured at $V_a = 1000$ ; $W_a = 40$	}	17,500	3.6		62	ohms
Impedance								
Mutual Conductance								
								mA/V

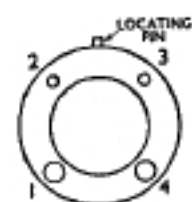
### Capacitances:

Anode to Control Grid	...	...	...	...	...	...	5.9	approx. pF
Control Grid to Filament	...	...	...	...	...	...	10.0	" "
Anode to Filament	...	...	...	...	...	...	1.8	" "

### DIMENSIONS



### BASE



View looking on underside of base.

#### AMERICAN MEDIUM 4-PIN BAYONET

- 1: Filament.
  - 2: Not connected.
  - 3: Control Grid.
  - 4: Filament.
- Top Cap: Anode.

*All dimensions are in mm and are max. except where otherwise stated.*

# TYPE DA41

## OPERATING CONDITIONS

Per pair of valves ; push-pull. Class B.

Anode Voltage ... ..	1000	volts
Grid Voltage ... ..	0	volts
Anode Current (zero signal) ... ..	44	approx. mA
Anode Current (max. signal) ... ..	280	approx. mA
Load Resistance (anode to anode) ... ..	7000	ohms
Signal Input (grid to grid) ... ..	220	peak volts
Grid Current (max. signal) ... ..	30	approx. mA
Power Output ... ..	175	watts
Distortion ... ..	5	%

It will be found that the anode dissipation at approximately one half maximum output will exceed 40 watts per valve: this is permissible as it is intermittent. It is not possible to dissipate this wattage for long periods but normal speech and music, because of their intermittent nature, do not cause any overload.

### Typical Circuit.

The circuit shown is suggested as a simple arrangement giving good quality. The driver stage consists of a pair of triode-connected KT61 valves in push-pull, cathode-coupled to the output stage by a "bridged transformer."

The resistors R1 and R2 in the cathode circuit of the KT61 valves are added in series with each half-primary to make up a total of 300 ohms to provide automatic bias for the KT61 valve.

In this arrangement of driver circuit, the pre-driver stage must supply a comparatively large signal voltage to the driver—slightly more in fact than the input to the DA41—and for this purpose two triode-connected Z63 or L63 valves in push-pull are used with a coupling transformer having a ratio of 1 : 3. This transformer should be designed to give an undistorted secondary voltage of about 85 + 85 volts R.M.S.

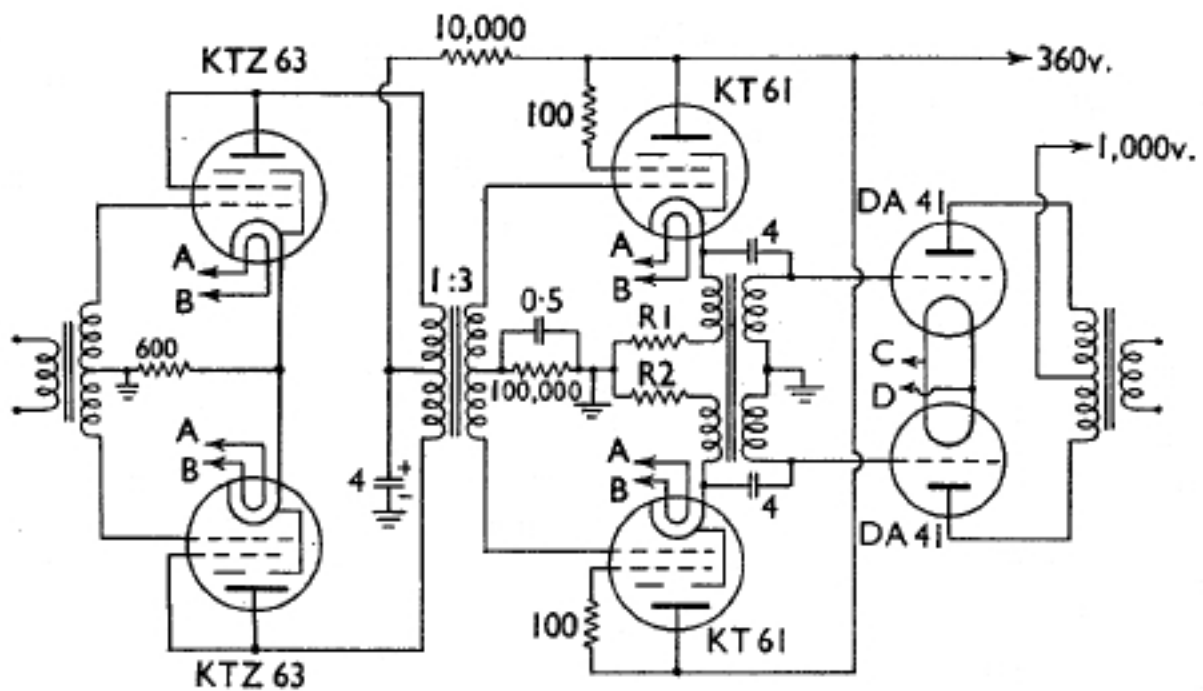
The Z63 valves have a common bias resistor of 600 ohms, no by-pass capacitor being required. The input transformer need only give an undistorted secondary voltage of 6+6 volts R.M.S. and may have any suitable ratio.

A suitable mains unit is also shown. Bi-phase half-wave rectification with two GU50 valves provides H.T. power for the DA41 stage and a smaller unit with a vacuum rectifier supplies the driver and pre-driver positions. It is essential that some form of delayed switching system is used in the GU50 circuit.\*

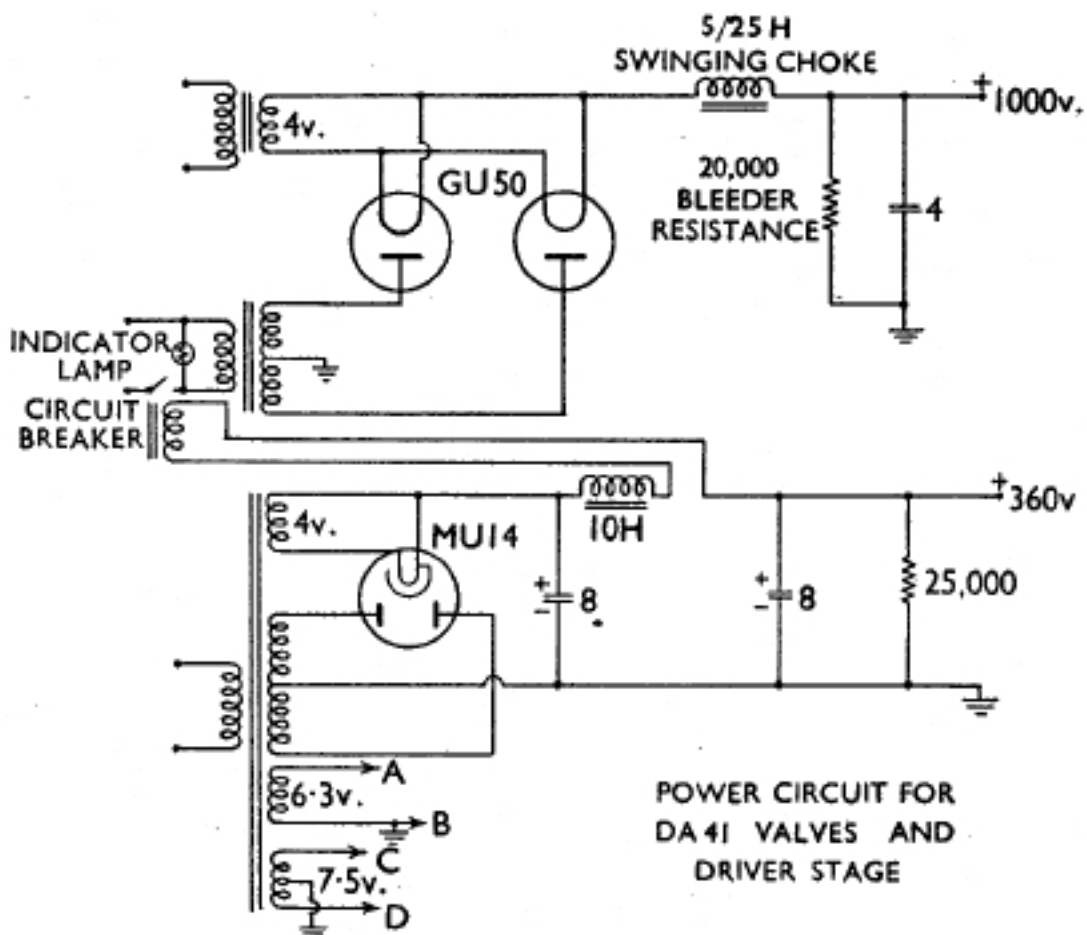
\* For operating data see page 122 for GU50 valve.

*The circuit information given does not imply any licence under any patents which may be involved.*

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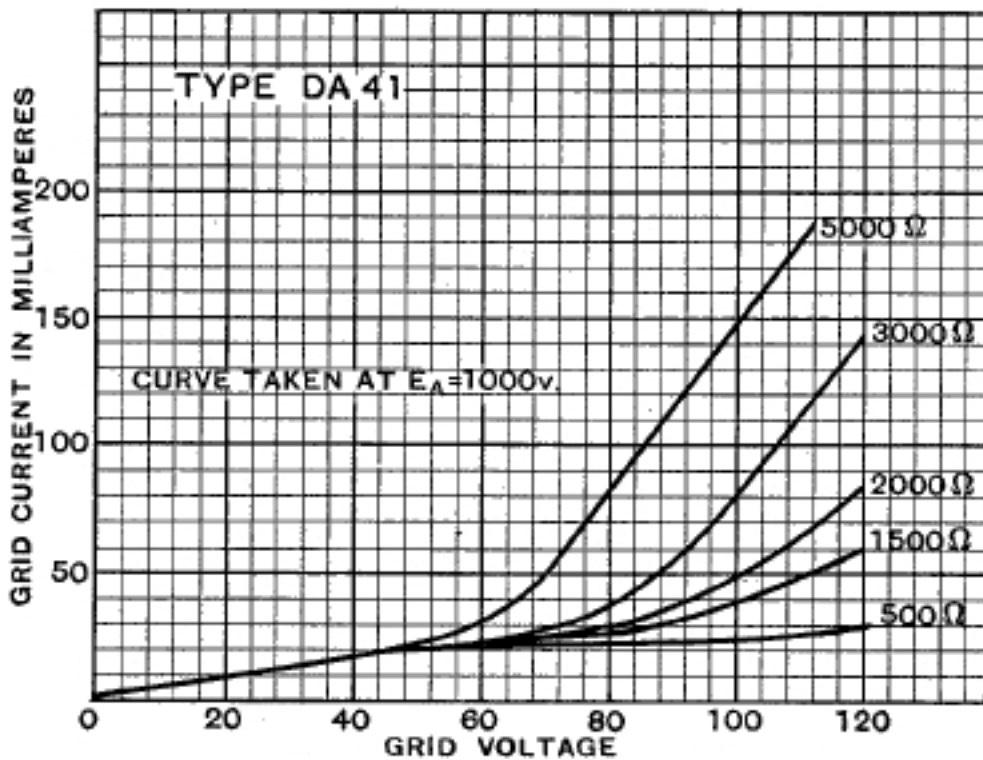
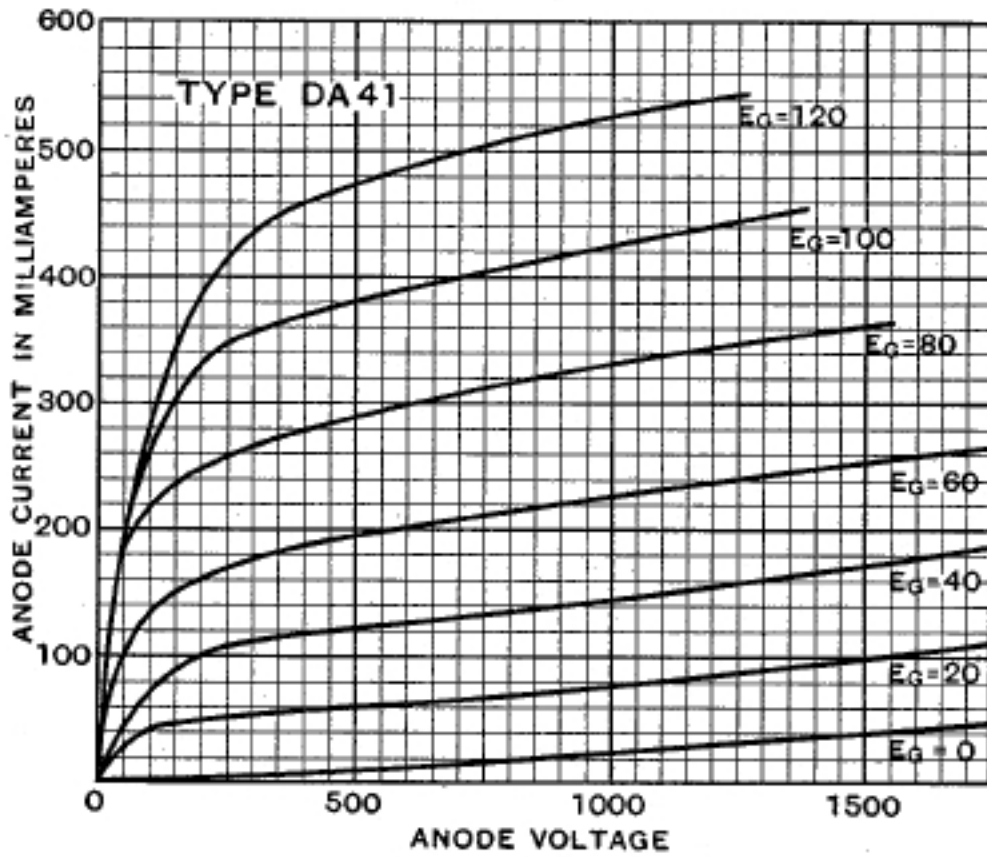


USE OF CATHODE COUPLING AND BRIDGED TRANSFORMER FOR DRIVING A PAIR OF DA 41 VALVES



POWER CIRCUIT FOR DA 41 VALVES AND DRIVER STAGE

# TYPE DA41



CHARACTERISTIC CURVES OF AVERAGE VALVE.