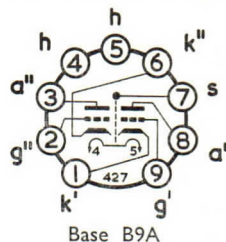


DOUBLE TRIODE



Base B9A

GENERAL

This valve is a double triode specifically designed for use in high gain pre-amplifier stages operating from low level inputs.

Heater Voltage	V_h	6.3 V
Heater Current	I_h	0.3 A

RATINGS (Each Section)

Maximum Anode Dissipation	$P_{a(max)}$	1.0	W
Maximum Anode Voltage ($I_a = 0$)	$V_{a(b)max}$	550	V
Maximum Anode Voltage	$V_{a(max)}$	300	V
Maximum Negative Grid Voltage	$-V_{g(max)}$	50	V
Maximum Heater to Cathode Voltage	$V_{h-k(max)}$	150	V
Maximum Cathode Current	$I_{k(max)}$	8	mA
Maximum Grid to Cathode Resistance	$R_{g-k(max)}$		
Fixed Bias		1.0	M Ω
Cathode Bias		2.2	M Ω
Grid Current Bias		22	M Ω

INTER-ELECTRODE CAPACITANCES (Each Section)

Input	C_{in}	2.0	pF
Output	C_{out}	1.35	pF
Anode to Grid	C_{a-g}	2.3	pF

CHARACTERISTICS (Each Section)

Anode Voltage	V_a	250	V
Grid Voltage	V_g	-1.5	V
Anode Current	I_a	1.3	mA
Mutual Conductance	g_m	2.4	mA/V
Amplification Factor		150	
Negative Grid Voltage for $I_g = 0.3\mu A$	$-V_g (I_g = 0.3\mu A)$	< 1.3	V

TYPICAL OPERATION (Each Section)

Anode Supply Voltage	$V_{a(b)}$	250	250	250	250	V
Anode Load Resistor	R_a	100	100	220	220	k Ω
Cathode Resistor ($C_k = 100\mu F$)	R_k	0	1.0*	0	2.2*	k Ω
Grid Resistor	R_g	8.2 \dagger	1.0	15 \dagger	1.0	M Ω
Grid Resistor of Following Stage		470	470	470	470	k Ω
Generator Resistance		50	50	100	100	k Ω
Anode Current	I_a	0.91	0.93	0.5	0.5	mA
Input Voltage (R.M.S.)	$V_{in(r.m.s.)}$	100	100	90	100	mV
Output Voltage (R.M.S.)	$V_{out(r.m.s.)}$	7.1	6.9	6.8	6.9	V
Stage Gain		71	69	76	69	
Total Harmonic Distortion	D_{tot}	1.0	2.0	1.5	2.0	%

Notes:

When used in cascade, section 1 should be employed as the input stage, as this section has the lower grid hum level of $3\mu V$ r.m.s. average with a maximum of $5\mu V$ r.m.s. Measured with a low pass filter (cut-off = 350 c/s).

If either side of the heater is earthed rather than the centre tap, the maximum value of hum would be of the order of $10\mu V$ r.m.s.

* $\pm 5\%$. $\dagger \pm 10\%$.

