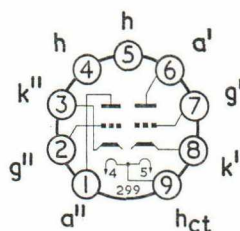


A.F. DOUBLE TRIODE



Base B9A

GENERAL

This general purpose double triode is intended for use as an amplifier or oscillator. Each triode unit has identical characteristics, the structures are separate and can be used for different functions or in cascade. The heater is centre tapped and the sections may be operated in series or in parallel on AC or AC/DC mains.

Heater Voltage	V_h	6.3	} or { 12.6 V
Heater Current	I_h	0.3	

RATINGS (Each Section)

Maximum Anode Dissipation	$P_a(\max)$	2.75	W
Maximum Anode Supply Voltage	$V_{a(b)\max}$	550	V
Maximum Anode Voltage	$V_a(\max)$	300	V
Maximum Negative Grid Voltage	$-V_g(\max)$	150	V
Maximum Heater to Cathode Voltage	$V_{h-k}(\max)$	100	V
Maximum Peak Heater to Cathode Voltage	$V_{h-k(pk)\max}$	200	V
Maximum Cathode Current	$I_k(\max)$	20	mA
Maximum Average Grid Current	$I_{g(av)\max}$	5.0	mA
Maximum Grid to Cathode Resistance	$R_{g-k(\max)}$		
Fixed bias		0.25	M Ω
Self bias		1.0	M Ω

INTER-ELECTRODE CAPACITANCES

Input'	$C_{in'}$	1.6	pF
Input''	$C_{in''}$	1.6	pF
Output'	$C_{out'}$	0.5	pF
Output''	$C_{out''}$	0.35	pF
Grid' to Anode'	$C_{g'-a'}$	1.5	pF
Grid'' to Anode''	$C_{g''-a''}$	1.5	pF

* Without external shield.

CHARACTERISTICS (Each Section)

Anode Voltage	V_a	100	250	V
Anode Current	I_a	11.8	10.5	mA
Grid Voltage	V_g	0	-8.5	V
Valve Anode Resistance ($\partial V_a / \partial I_a$)	r_a	6.25	7.7	k Ω
Mutual Conductance	g_m	3.1	2.2	mA/V
Amplification Factor	μ	19.5	17	

When the two sections are used in cascade the section connected to pins 6, 7 and 8 should be used as the first stage for best hum performance. The heater voltage should be applied between pin 9 and pins 4 and 5 connected together and the centre tap of the heater transformer earthed.

TYPICAL OPERATION AS RESISTANCE COUPLED AMPLIFIER

Anode Supply Voltage $V_{a(b)} = 100V$

Anode Load Resistance	R_a	47	47	100	100	220	220	k Ω
Grid Resistance of following valve	$R_{g'}$	0.1	0.22	0.22	0.47	0.47	1.0	M Ω
Cathode Resistance	R_k	1.8	2.0	3.8	4.7	9.5	11.5	k Ω
Peak Output Voltage	$V_{out(pk)}$	11	14	15	18	20	24	V
Voltage Amplification	V_{out}/V_{in}	11	11	11	11	11	11	

Anode Supply Voltage $V_{a(b)} = 200V$

Anode Load Resistance	R_a	47	47	100	100	220	220	k Ω
Grid Resistance of following valve	$R_{g'}$	0.1	0.22	0.22	0.47	0.47	1.0	M Ω
Cathode Resistance	R_k	1.2	1.4	2.8	3.6	8.3	10	k Ω
Peak Output Voltage	$V_{out(pk)}$	26	29	33	40	44	54	V
Voltage Amplification	V_{out}/V_{in}	12	12	12	12	12	12	

Anode Supply Voltage $V_{a(b)} = 300V$

Anode Load Resistance	R_a	47	47	100	100	220	220	k Ω
Grid Resistance of following valve	$R_{g'}$	0.1	0.22	0.22	0.47	0.47	1.0	M Ω
Cathode Resistance	R_k	1.2	1.5	3.0	4.0	8.8	11	k Ω
Peak Output Voltage	$V_{out(pk)}$	52	68	68	80	82	92	V
Voltage Amplification	V_{out}/V_{in}	12	12	12	12	12	12	

MOUNTING POSITION—Unrestricted

