

OPERATING CONDITIONS

As resistance coupled A.F. amplifier

EBC 33
(contd.)

V_b (V)	R_a (K Ω)	I_a (mA)	R_k (K Ω)	V_{out} V_{in}	V_{out}^* (V)	D_{tot} (%)	R_{g1}^{**} (K Ω)
300	47	2.8	1.2	19.5	45	5.8	150
250	47	2.3	1.2	19.0	34	5.5	150
200	47	1.8	1.2	18.5	26	5.2	150
100	47	0.5	4.7	13.0	8	10.0	150
300	100	1.5	2.2	22.0	49	5.2	330
250	100	1.27	2.2	22.0	41	5.2	330
200	100	1.0	2.2	21.5	31	5.0	330
100	100	0.32	6.8	16.5	14	10.0	330
300	220	0.83	3.9	23.5	52	4.8	680
250	220	0.69	3.9	23.5	41	4.6	680
200	220	0.53	3.9	23.0	31	4.5	680
100	220	0.2	10	19.0	20	10.0	680

* V_{out} =Output voltage at start of I_g or D_{tot} =10%

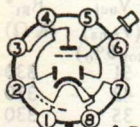
** R_{g1} =Grid resistance of following valve

LIMITING VALUES

$V_{a(b)}$ max.	550	V
V_a max.	300	V
p_a max.	1.5	W
I_k max.	10	mA
R_{g-k} max. (Self bias)	3	M Ω
R_{g-k} max. (Fixed bias)	1	M Ω
V_{h-k} max.	100	V

Each diode

V_{ad} max.	200	V
I_{ad} max.	0.8	mA
V_{h-k} max.	100	V



BASE :
Octal

DIMENSIONS :

$L=100$ mm
 $D=32$ mm

Double diode triode

EBC 41

HEATER

V_h 6.3 V I_h 0.225 A Suitable for A.C. operation only

CAPACITANCES

C_{ad-ad}	<0.15	$\mu\mu F$
$C_{ad-ad-at}$	<0.02	$\mu\mu F$
C_{ad-gt}	<0.007	$\mu\mu F$
C_{ad-gt}	<0.03	$\mu\mu F$
C_{ad-h}	<0.05	$\mu\mu F$



4 VALVE DATA PREFERRED TYPES

D VOLTAGE AMPLIFYING TRIODES

EBC 41 CHARACTERISTICS

(contd.)

V_a	250	V
I_a	1.0	mA
V_g	-3.0	V
μ	70	
g_m	1.3	mA/V
r_a	54	K Ω

OPERATING CONDITIONS

As resistance coupled A.F. amplifier (with cathode bias)

V_b (V)	R_a (K Ω)	I_a (mA)	R_k (K Ω)	$\frac{V_{out}}{V_{in}}$	V_{out} (V_{rms}) (D_{tot} 5%)	V_{out} (V_{rms}) (D_{tot} 10%)	R_{g1}^* (K Ω)
400	100	1.35	2.2	43.5	35.5	62.5	330
350	100	1.18	2.2	43	30.5	54	330
300	100	1.0	2.2	42.5	25.5	46	330
250	100	0.85	2.2	42	21	38	330
200	100	0.7	2.2	41	16	28.5	330
150	100	0.5	2.2	40	12	19.5	330
100	100	0.28	3.3	33.5	6	10.5	330
400	220	0.76	3.9	48	40	74.5	680
350	220	0.67	3.9	47.5	34.5	64	680
300	220	0.56	3.9	47	27	54	680
250	220	0.48	3.9	46.5	24.5	44.5	680
200	220	0.4	3.9	46	19	34	680
150	220	0.32	3.9	44	16.5	24	680
100	220	0.18	5.6	38	8	13.5	680

* R_{g1} = Grid resistance of following valve

OPERATING CONDITIONS

As resistance coupled A.F. amplifier** (with grid-current bias)

V_b (V)	R_a (K Ω)	I_a (mA)	$\frac{V_{out}}{V_{in}}$	V_{out} (V_{rms}) (D_{tot} 2.5%)	V_{out} (V_{rms}) (D_{tot} 5%)	R_{g1}^* (K Ω)
400	100	2.4	56.5	33	51	330
350	100	2.0	55	27	43	330
300	100	1.95	53.5	22	35	330
250	100	1.3	51	17	27	330
200	100	0.95	48.5	12	19	330
150	100	0.6	44	7	11	330
100	100	0.3	35.5	3	5	330
400	220	1.3	62.5	34	55.5	680
350	220	1.1	61.5	29	47	680
300	220	0.9	59.5	23	38	680
250	220	0.7	57	17	29.5	680
200	220	0.5	54	12.5	21	680
150	220	0.33	49	8	14	680
100	220	0.18	40	4	7	680

**Measured with grid resistance of 20M Ω and signal source impedance $Z_s=0$. The distortion figures quoted hold good for valves of Z_s not exceeding 0.2 M Ω . At this value of Z_s the gain will be reduced by 10%.

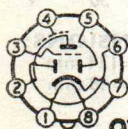
* R_{g1} = Grid resistance of following valve.

VOLTAGE AMPLIFYING TRIODES D

LIMITING VALUES

$V_{a(b)}$ max.	550	V
V_a max.	300	V
I_k max.	5	mA
p_a max.	0.5	W
R_{g-k} max. (cathode bias)	3	M Ω
V_{h-k} max.	100	V
$V_{ad(pk)}$ max.	200	V
I_{ad} max.	0.8	mA

EBC 41
(contd.)



97

BASE:
B8A

DIMENSIONS:
L=60 mm
D=22 mm

(ad' to pin 6, ad" to pin 5)

Low impedance triode, for use as voltage amplifier or low power output valve

EC 31

HEATER

V_h 6.3 V I_h 0.65 A Suitable for A.C. mains operation

OPERATING CONDITIONS

As R.C. amplifier

$V_{a(b)}$	250	350	450	550	V
R_a	82	100	120	150	K Ω
V_{in} (r.m.s.)	5.8	9.0	11.5	13.0	V
I_a	1.6	2.0	2.3	2.5	mA
R_k	8.2	8.2	8.2	8.2	K Ω
V_{out}/V_{in}	7.2	6.5	7.0	7.4	

OPERATING CONDITIONS

As output valve (Class "A")

V_a	250	V
V_g	-16	V
I_a	20	mA
R_k	800	Ω
g_m	3.2	mA/V
μ	10.5	
r_a	3.3	K Ω
R_a	10	K Ω
$V_{in(rms)}$	9.1	V
P_{out} ($D_{tot}=5\%$)	0.50	W

