MARCONI RECEIVING VALVES

MARCONI'S WIRELESS TELEGRAPH COMPANY, LTD.

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INTRODUCTION

THE most interesting new Marconi Valves introduced since the publication of our last catalogue are to be found in widely differing categories.

There is, for instance, the 250 watt triode, a pair of which in push-pull with drive will give 800 watts A.C. output. As contrast, we have the new 2 volt midget series for deaf aids, while for more general application there are the KT33, an A.C.-D.C. output tetrode designed specifically to give the maximum output obtainable on 200 volt supplies ; the X65 triode hexode, having remarkable freedom from pulling ; the KTZ41 tetrode for television frequencies, a new battery double-diode triode, the HD23, and the first battery triode-hexode the X23.

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A.C. MAINS (4-volt) RANGE.

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*MX40	Heptode	7	11/6	46
KTZ41	H.F. Tetrode	7	12/6	36
VMP4G	Var. Mu H.F. Pentode ...	7	10/6	35
W42	Var. Mu H.F. Pentode ...	7	10/6	46
D41	Double Diode ...	5	5/6	38
D42	Television Diode ...	4	10/-	59
DH42	Double Diode Triode ...	7	9/6	46
*MHD4	Double Diode Triode ...	7	9/6	38
H42	Triode	7	7/6	46
*MH4	Triode	5	7/6	37
*MH41	Triode	5	9/6	37
*MHL4	Triode	5	7/6	39
ML4	Triode	5	10/-	39
MKT4 / *MPT4*	Output Tetrode	5 or 7	10/6	40
KT41 / *N41*	Output Tetrode ...	7	10/6	41
KT42 / *N42*	Output Tetrode ...	7	10/6	46
N43	Screened Output Pen.	7	25/-	59
PX4	Output Triode ...	4	9/6	42
PT25H	Output Pentode ...	5	45/-	43
PX25	Output Triode ...	4	20/-	43
PX25a	Output Triode ...	4	25/-	46
DA30	Output Triode ...	4	25/-	44
*MS4	Screen Grid	5	12/6	46
*MS4B	Screen Grid	5	10/6	46
*MS4B/K	S.G. Catkin ...	5	10/6	—
*VMS4	Var. Mu S.G.	5	10/6	46
*VMS4/K	V.M.S.G. Catkin ...	5	10/6	—
*VMS4B	Var. Mu. S.G.	5	10/6	46
MSP4	H.F. Pentode ...	5 or 7	10/6	46
M SP41	H.F Pentode ...	5 or 7	15/-	46
VMP4	Var. Mu H.F. Pentode	5 or 7	12/6	46
VMP4/K	Catkin V.M. Pen. ...	5	10/6	—
WD40	H.F. Pen.—D.D. ...	9	20/-	46
MPT4/K	Catkin Pentode	5 or 7	10/6	—
N40	Output Tetrode ...	5	13/6	46
PT4	Output Pentode ...	5	18/6	46
DN41	D.D. Pentode	7	12/6	46
PT16	Output Pentode ...	5	40/-	46
PT25	Output Pentode ...	5	45/-	46

INTERNATIONAL (6.3-volt) RANGE.

X63	Heptode ...	...Octal	11/6	21
X64	Mixing Heptode	...Octal	10/6	23
X65	Triode Hexode ...	...Octal	11/6	22
KTZ63 / Z63	H.F. Tetrode ...	...Octal	10/6	24
KTW63 / W63	Var. Mu H.F. Tet.	...Octal	10/6	25
D63	Double Diode ...	...Octal	5/6	27
DH63	Double Diode Triode	...Octal	9/6	27
H63	Triode	...Octal	7/6	26
L63	Triode	...Octal	7/6	26
KT63	Output Tetrode	...Octal	10/6	30
KT66	Output Tetrode	...Octal	15/-	31-2
KT32	Output Tetrode	...Octal	12/-	28
KT33	Output Tetrode	...Octal	12/-	29

RECTIFYING VALVES.

U10	Full Wave Rectifier ...	4	9/-	47
U12	Full Wave Rectifier ...	4	9/-	47
MU12	I.H.C. Full Wave R'fier	4	9/-	47
U14	Full Wave Rectifier ...	4	9/-	48
MU14	I.H.C. Full Wave R'tifier	4	9/-	48
U16	High Voltage Rectifier	4	12/6	51
U17	High Voltage Rectifier	4	12/6	51
U31	Half Wave Rectifier ...	Octal	9/-	52
U18	Full Wave Rectifier ...	4	15/-	49
U50	Full Wave Rectifier ...	Octal	9/-	50
U52	Full Wave Rectifier ...	4	15/-	50
GU5	Mercury Vapour Rec'fier	4	25/-	49
U5	Full Wave Rectifier ...	4	35/-	—
U8	Full Wave Rectifier ...	4	40/-	—
U30	Full Wave Rectifier ...	7	9/-	33
GU1	Mercury Vapour Rec'fier	4	25/-	49

UNIVERSAL RANGE.

X30	Heptode	7	15/-	33
X31	Triode Hexode ...	7	15/-	33
X32	Replace by X30 ...	7	15/-	33
W30	Var. Mu H.F. Pentode ...	7	15/-	33
W31	Var. Mu H.F. Pentode ...	7	12/6	33
WD30	H.F. Pentode D.D. ...	7	20/-	33
DH30	Double Diode Triode ...	7	12/6	33
H30	Triode	7	12/6	33
L30	Triode	7	14/-	33
KT30 / *N30*	Output Tetrode ...	7	13/6	33
KT31 / *N31*	Output Tetrode ...	7	13/6	33
B30	Class B Double Triode...	7	35/-	33

TUNING INDICATORS.

Y63	Tuning Indicator	...Octal	8/6	23
Y64	Tuning Indicator	...Octal	8/6	23
6G5	Tuning Indicator	Special	8/6	23
T165	Tuning Indicator	...Octal	8/6	—

BARRETTERS

301	Barretter ...	E.S. Cap	8/6	52
302	Barretter ...	E.S. Cap	8/6	52
303	Barretter ...	E.S. Cap	8/6	52
304	Barretter ...	E.S. Cap	8/6	52

*Indicates that clear and metallised alternatives are available.

Marconi Valve Index—*continued*

2-VOLT RANGE.

Type	Description	Base	Price	Page
X22	Heptode ...	7	10/6	12
X23	Triode Hexode ...	7	10/6	13
Z21	H.F. Pentode ...	4 or 7	9/-	15
W21	Var. Mu H.F. Pentode	4 or 7	9/-	14
*HD23	Double Diode Triode ...	5	7/6	16
*HL2	Triode	4	4/9	17
HL21	Triode	4	5/3	17
L21	Triode	4	4/9	20
LP2	Output Triode ...	4	6/-	17
KT2 / PT2	Output Tetrode ...	5	9/-	18
KT21	Output Tetrode ...	5	9/-	19
QP21	Q.P.P. Pentode	7	12/6	20
X21	Replace by X22 ...	7	10/6	20
S23	Screen Grid	4	9/-	20
S24	Screen Grid	4	11/-	20
VS24	Var. Mu S. Grid ...	4	9/-	20
VS2	Var. Mu S. Grid ...	4	12/6	20
VS24/K	Small S. Grid	4	12/6	20
VP21	Var. Mu H.F. Pentode ...	7	9/-	20
HD21	Double Diode Triode ...	5	7/6	20
HD22	Double Diode Triode ...	5	7/6	20
H2	Triode	4	5/6	20
HL2/K	Small Triode	4	8/6	20
HL210	Triode	4	6/-	20
L210	Triode	4	7/-	20
P215	Output Triode ...	4	7/-	20
P2	Output Triode ...	4	10/-	20
B21	Class B Triode	7	12/6	20
DER	Triode	4	25/-	—
DE7	Bi-grid	4	40/-	—

4-VOLT RANGE.

S410	Screen Grid	4	25/-	—
H410	Triode	4	20/-	—
HL410	Triode	4	15/-	—
L410	Triode	4	15/-	—
P410	Output Triode ...	4	15/-	—
P415	Output Triode ...	4	25/-	—
PT425	Output Pentode ...	5	25/-	—
DE3	Triode	4	40/-	—
DEV	Low Capacity Triode	Special	40/-	—
DEQ	Low Capacity Triode	Special	40/-	—
R	Bright Emitter Triode ...	4	25/-	—

6-VOLT RANGE.

S610	Screen Grid	4	40/-	—
S625	Screen Grid ...	Special	40/-	—
H610	Triode	4	20/-	—
HL610	Triode	4	20/-	—
L610	Triode	4	20/-	—
P610	Output Triode ...	4	20/-	—
P625	Output Triode ...	4	30/-	—
P625a	Output Triode ...	4	35/-	—
PT625	Output Pentode ...	5	40/-	—
DE5b	Triode	4	40/-	—
DE5	Triode	4	40/-	—
DE5a	Output Triode ...	4	40/-	—
LS5b	Triode	4	40/-	—
LS5	Triode	4	40/-	—
LS5a	Output Triode ...	4	40/-	—
LS6a	Output Triode ...	4	40/-	—
V24	Low Capacity Triode	Special	30/-	—
QX	Low Capacity Triode	Special	40/-	—
R5v	Bright Emitter Triode	4	15/-	—

D.C. RANGE.

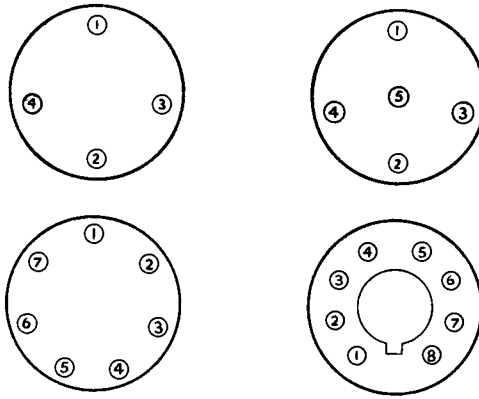
DS	Screen Grid	5	17/6	—
DSB	Screen Grid	5	17/6	—
VDS	Var. Mu S.G.	5	17/6	—
VDSB	Var. Mu S.G.	5	17/6	—
DHD	Double Diode Triode ...	5	15/6	—
DH	Triode	5	13/6	—
DL	Triode	5	14/-	—
DPT	Output Pentode	5 or 7	18/6	—

MISCELLANEOUS.

H11	Midget Triode ...	Special	15/-	59
L11	Midget Triode ...	Special	15/-	59
S12	Midget Screen Grid	Special	17/6	57
H12	Midget Triode ...	Special	15/-	56
L12	Midget Triode ...	Special	15/-	56
ZA1	Acorn Pentode ...	Special	60/-	55
HA1	Acorn Triode ...	Special	50/-	54
A537	Low Noise Level T'de	Special	50/-	53
MH40	Low Noise Level Triode	5	50/-	53
A577	Valve Voltmeter Triode	5	60/-	59
ET1	Electrometer Triode ...	4	85/-	59
GT1	Gas Filled Relay ...	5	40/-	59
GT1A	Gas Filled Relay ...	5	60/-	59
GT1B	Gas Filled Relay ...	5	20/-	59
GT1C	Gas Filled Relay ...	5	25/-	58
A831	Battery Charging R'fier	4	10/6	59
DA60	60 watt Triode	Special	110/-	44
DA100	100 watt Triode	Special	168/-	45
DA250	250 watt Triode	Special	336/-	45

* Indicates that clear and metallised alternatives are available.

Valve Bases



The above diagrams of the **undersides** of standard valve bases show how the pins are numbered. The table on the next page enables the pin connections of any type to be determined. The following abbreviations are used.

F = Filament or Heater
G = Control Grid
A = Anode
S = Screen
Sp = Suppressor
Ao = Oscillator Anode
Go = Oscillator Grid
C = Cathode
D = Diode Anode
HC = Heater Centre
M = Metallising
T = Target
TC = Top Cap
ST = Side Terminal
— = No connection or no pin

In the case of double valves electrodes of sections are differentiated by numbers, e.g., A1, A2, G1, G2, etc.

Pin Connections of Marconi Valves

	1	2	3	4	5	6	7	8	T.C.	S.T.
2-volt Battery Types.										
Frequency Changers, X22, X23	Ao	Go	S	F	F	M	A		G	
Screen Grids, S23, S24, VS24, VS2 ...	S	G	F	F					A	
H F. Pentodes, 7 pin. W21, Z21 ...	M	G	Sp	F	F	—	S		A	
H.F. Pentodes, 4 pin. W21, Z21 ...	S	G	F	F					A	
D.D. Triode. HD21	A	DI	F	F	D2				A	
D.D. Triodes. HD22, HD23	A	D2	F	F	DI				G	
Triodes. HL2, L21, LP2, HL21	A	G	F	F					G	
Output Tetrodes. KT2, KT21	A	G	F	F	S					
Double Pentode. QP21	G2	GI	AI	F	F	S	A2			
AC and Universal Types.										
Frequency Changers, MX40, X41, X42, X30, X32, X31	Ao	Go	S	F	F	C	A		G	
Screen Grids. MS4, MS4B, VMS4, VMS4B	S	G	F	F	C				A	
Triodes 5 pin. MH4, MHL4, MH41, MH40, ML4	A	G	F	F	C					
Triodes, 7 pin, top grid. H42, H30 ...	M	—	—	F	F	C	A		G	
Triode, 4 pin. PX4, PX25, PX25A, DA30	A	G	F	F						
H.F. Pentodes, 5 pin. MSP4, MSP41, VMP4	S	G	F	F	C				A	
H.F. Tetrode. KTZ41	—	A	—	F	F	C	S		G	
H.F. Pentodes, 7 pin, top anodes. MSP4, MSP41, VMP4G, W31	M	G	Sp	F	F	C	S		A	
H.F. Pentode, 7 pin, top grid. W42 ...	—	A	Sp	F	F	C	S		G	
Output Tetrodes, 5 pin. MKT4	A	G	F	F	C					S
Output Tetrodes, 7 pin. MKT4, KT42, KT41, KT30	—	G	S	F	F	C	A			
Output Tetrode, 7 pin, top grid. KT31 ...	HC	—	S	F	F	C	A		G	
D.D. Triodes. MHD4, DH42, DH30 ...	DI	M	D2	F	F	C	A		G	
D.D. Output Pentode. DN41	DI	A	D2	F	F	C	S		G	
Double Diode. D41	DI	D2	F	F	C					
Single Diode, D42	D	C	F	F						
Rectifiers. U12, MU12, U14, MU14, U18	A	A	F	F						
Rectifier. U30	HC	AI	CI	F	F	C2	A2			
Rectifier. GUI	A	—	F	F						
Rectifiers. GU5, U16, U17	—	—	F	F					A	
Octal Base Types.										
Frequency Changers. X63, X65	—	F	A	S	Go	Ao	F	C	G	
Frequency Changer. X64	—	F	A	S	Go	—	F	C	G	
H.F. Pentodes. W63, Z63	—	F	A	S	Sp	—	F	C	G	
H.F. Tetrodes. KTW63, KTZ63	—	F	A	S	A	—	F	C	G	
Triode. H63	—	F	—	A	—	—	F	C	G	
Triode. L63	—	F	A	—	G	—	F	C		
D.D. Triode. DH63	—	F	A	D2	DI	—	F	C	G	
Double Diode. D63	M	F	D2	C2	DI	—	F	CI		
Output Tetrodes. KT63, KT66, KT32, KT33	—	F	A	S	G	—	F	C		
Rectifiers. U50, U52	—	F	—	A2	—	AI	—	F		
Tuning Indicators. Y63, Y64, T165 ...	—	F	A	T	G	—	F	C		
Rectifier U31	—	F	—	—	A	—	F	C		

Comparative Table—4 v. A.C. MAINS

MARCONI	MS4	MS4B	VMS4	VMS4B	VMP4 (5 pin)	VMP4G (7 pin)	W42	MSP4	MX40	X42	X41
MULLARD ...	S4V	S4VA S4VB	MM4V	MM4V	VP4	VP4A	—	SP4	FC4	FC4	TH4 TH4A
EVERREADY	—	—	—	A40M	—	A50N A50M	—	A50A	A80R	A36A	A36B
EKCO	—	—	—	—	—	—	—	—	—	—	TX41
COSSOR ...	41MSG	MSG/LA MSG/HA	MV/SG	MV/SG	—	MVS/Pen	MVS/PenB	MS/Pen	41MPG	41MPG	41STH
MAZDA ...	—	ACSG ACS2	AC/SGVM	—	—	AC/VPI	—	AC/S2 Pen	—	—	ACTH1
BRIMAR ...	—	—	—	—	9A1	9A1	—	8A1	15A2	15A2	—
FERRANTI ...	—	—	—	—	VPT4	VPT4B	—	SPT4A	VHT4	VHT4	—
TUNGSRAM ...	—	AS4120	AS4125	AS4125	HP4106	HP4115 HP4106	—	HP4101	MH4105	VO4	TX4
TRIOTRON ...	S430N	S410N S412N	S415N	S431N	S434N	S434N	—	S435N	O406	O406	—
DARIO ...	—	TE424 TE524	TE554	—	TE474	TE474	—	TE464	TK24	TK24	TCH24
SIX SIXTY ...	4SGAC	4XSGAC 4YSGAC	4VMAC	—	—	HP2AC	—	HP1AC	—	—	—
362	—	AC/SG4	AC/VS4	AC/VS4	—	AC/VP4	—	AC/HM4	ACFC4	ACFC4	—
HIVAC ...	AC/SL	AC/SH	AC/VS	—	AC/VP	—	—	AC/HP	—	—	—
LISSEN ...	—	AC/SG	AC/SGV	—	—	AC/SPV	—	AC/SP	—	—	AC/FC
CLARION ...	—	AC/SG	AC/VS	—	—	AC/VHP	—	AC/HP	FC4	FC4	—
MARCONI	**MS4**	**MS4B**	**VMS4**	**VMS4B**	**VMP4 5 pin**	**VMP4G 7 pin**	**W42**	**MSP4**	**MX40**	**X42**	**X41**

Comparative Table—4 v. A.C. MAINS (*cont.*)

MARCONI	**MH41**	**MH4**	**MHL4**	**ML4**	**MHD4**	**D41**	**PX4**	**PX25**	**MKT4 KT42**	**KT41**	**DN41**
MULLARD ...	904V	354V	244V	104V	TDD4	2D4A	ACO44	DO24	Pen4VA	Pen4VB	—
EVER-READY	A30B	A30D	—	—	A23A	A20B	S30C	—	A70B	Pen A4 A70C A70D	—
EKCO ...	—	T41	—	—	DT41	—	—	—	—	OP42	—
COSSOR ...	41MH	41MHF	41MLF	41MP	DDT	DD4	4XP	—	MP Pen	42MP Pen	420TDD
MAZDA ...	AC2/HL	AC/HL	—	AC/P	AC/HLDD	V914	PP3/250	PP5/400	AC/Pen	AC2/Pen	AC2/PenDD
BRIMAR ...	HLA1	HLA2	—	PA1	11A2	—	—	—	7A2	7A3	—
FERRANTI ...	—	D4	—	—	H4D	—	LP4	—	—	—	PT4D
TUNGSRAM ...	—	HL4+	—	—	DDT4	DD4	P12/250	P27/500	APP4A	APP4B	DDPP4B
TRIOTRON ...	A440N	—	A430N	E430N	DT436	D400	K435/10	K480	P441N	P495	—
DARIO ...	TE994	TE384	TE244	TE094	TBC14	TB24	—	—	TE534	TL44	—
SIX SIXTY ...	4DXAC	4GPAC	4HLAC	4PAC	4DDTAC	—	HV42	—	4 Pen AC	—	—
362	—	AC/HL4	—	—	AC/HL4DD	—	ACPX4A	—	ACME4C	—	—
HIVAC ...	—	AC/HL	—	AC/L	AC/DDT	AC/DD	PX41	PX5	AC/Y	AC/Z	AC/ZDD
LISSEN ...	—	AC/HL	—	—	—	—	—	—	—	AC/PT	—
CLARION ...	—	AC/HF	—	—	DDT4	AC/D	—	—	AC/PN	—	—
MARCONI	**MH41**	**MH4**	**MHL4**	**ML4**	**MHD4**	**D41**	**PX4**	**PX25**	**MKT4 KT42**	**KT41**	**DN41**

Comparative Table—2 v. BATTERY RANGE

MARCONI	S23	S24	VS2	VS24	VP21	W21	Z21	X22	H2	HL210	HL2
MULLARD ...	PM12	PM12A	PM12V	PM12M	—	VP2	SP2	FC2 FC2A	PM1A	PM1HF	PM1HL
EVER-READY ...	—	K40B	—	K40N	—	K50M	—	K80A K80B	—	K30A	K30K
EKCO	—	—	—	—	—	—	—	—	—	—	T21
COSSOR ...	215SG	220SG	220VSG	220VS	210VPT	—	210SPT	210PG 210SPG	210RC	210HF	210HL
MAZDA ...	SG215	S215B	—	S215VM	VP215	VP210	SP210 SP215	—	H2	HL210	HL2
BRIMAR	5B1	—	—	—	—	—	—	—	—	—	HLB1
FERRANTI ...	—	—	—	VS2	VPT2	—	—	VHT2 VHT2A	—	—	—
TUNGSRAM ...	SS210	SS210	SE211	SE211	—	HP211	HP210	VO2	R208	H210	HR210
TRIOTRON ...	S215	S215	S208	S213	—	S217	—	O202	HD2 W213	—	WD2
DARIO ...	TB622	TB622	—	TB552	—	PF472	PF462	BK22	—	—	TB282
SIX SIXTY	215SG	218SG	—	218VSG	—	218VP	—	—	—	—	210HL
362	SG2	SG2	—	VS2	VP2C	—	—	—	H2	—	HL2
HIVAC	SG215	SG220	—	VS215	VP215	—	HP215	—	—	—	H210
LISSEN	SG215	SG215	—	SG2V	—	SP2V	SP2	FC2	—	—	HL2
CLARION ...	SG2	SG2	VS2	VS2	—	VHP2	—	—	—	—	H2
MARCONI	**S23**	**S24**	**VS2**	**VS24**	**VP21**	**W21**	**Z21**	**X22**	**H2**	**HL210**	**HL2**

Comparative Table—2 v. BATTERY RANGE (*cont.*)

MARCONI	**HD23**	**L210**	**L21**	**LP2**	**P215**	**P2**	**KT2**	**KT21**	**B21**	**QP21**
MULLARD ...	TDD2A	PM1LF	PM2DX PM2DL	PM2A	PM2	PM202	PM22A	PM22D	PM2BA	—
EVER-READY ...	K23B	—	K30D K30E	K30G	—	—	K70B	K70D	K33B	—
EKCO	DT21	—	—	—	—	—	—	—	—	—
COSSOR ...	210DDT	210DET	210LF	220PA	220P	230XP	220OT 220HPT	—	—	240QP
MAZDA ...	HL21DD	—	L2	P220	P215	P220A	Pen 220	Pen 231	PD220A	—
BRIMAR ...	—	HLB1	—	PB1	—	—	Pen B1	—	—	—
FERRANTI ...	H2D	—	—	L2	—	—	—	—	HP2	—
TUNGSRAM ...	DDT2	LG210 LD210	LL2 PD220	LP220	P215	SP220	PP222	—	CB220	—
TRIOTRON ...	DT215	TD2	S2D A214	YD2	ZD2	UD2	P225	—	E220B	—
DARIO ...	BBC12	TB102	TB102 TB172	TD122	TB052	TB032	TC432	—	—	—
SIX SIXTY ...	210DDT	210D 210LF	210D	220PA	220P	220SP	220Pen	—	—	—
362	—	—	L2	LP2	—	P2	—	—	—	—
HIVAC	DDT220	D210	L210	P220	P215	PX230	Y220	—	—	—
LISSEN	L2D	L2	L2	L2P	P220	PX240	PT225	—	BB220A	—
CLARION ...	—	HL2	—	LP2	P2	PX2	PN2	—	—	—
MARCONI	**HD23**	**L210**	**L21**	**LP2**	**P215**	**P2**	**KT2**	**KT21**	**B21**	**QP21**

Comparative Table—RECTIFIERS

MARCONI	U10	U12	MU12	U14	MU14		
MULLARD ...	DW2	DW3 DW4/350	IW3 IW4/350	DW4 DW4/500	IW4		
EVER-READY ...	S11A	S11D	A11B A11D	—	A11C		
EKCO	—	R41	—	—	—		
COSSOR ...	506BU	442BU	—	460BU	—		
MAZDA	UU3	UU120/350	UU4	—	UU5		
BRIMAR	R1	—	R2 1A7	—	R3		
FERRANTI ...	—	R4	—	R4A	—		
TUNGSRAM ...	PV495	PV4	APV4	PV4200	—		
TRIOTRON ...	G470 G431	G4110	—	G4120	G4120N		
DARIO	FW1	FW2	T234	FW3	1FW1		
SIX SIXTY ...	—	W120/350	1H120/350	W120/500	—		
362	RB41	RB/350/80	RB42	RB/500/120	—		
HIVAC	—	—	UU120/350	—	UU120/500		
LISSEN	UU41	UU42	—	UU43	—		
CLARION ...	UF4	—	—	—	—		
PHILIPS	1821	1807	1867	1561	1861		
MARCONI	U10	U12	MU12	U14	MU14		

Comparative Table—INTERNATIONAL RANGE

MARCONI	X64	X63	KTW63	KTZ63	H63	DH63	D63	KT63	KT66	KT32	U50	U52
BRIMAR ...	6L7G	6A8G	6U7G	6J7G	—	6Q7G	6H6G	6F6G	—	—	—	—
TUNGSRAM ...	—	6A8G	6K7G	6J7G	—	6Q7G	6H6G	6F6G	6L6G	—	5Y3G	—
MULLARD ...	—	6A8G	6K7G	—	—	6Q7G	—	6F6G	—	—	5Y3G	—
AMERICAN ...	6L7G	6A8G	6K7G	6J7G	6F5G	6Q7G	6H6G	6F6G	6L6G	25L6G	5Y3G	5Z3

D.C. RANGE

MARCONI	VDS	DH	DHD	DPT
COSSOR ...	DVSG	DHL	DDT16	DP/Pen
FERRANTI ...	—	—	—	—

UNIVERSAL RANGE

MARCONI	X30	W31	H30	DH30	KT30	KT31
COSSOR ...	—	—	—	—	—	—
FERRANTI ...	VHTS	VPTSB VPTS	DS	HSD	PTA	PTSA

NOTE.—The valves shown as ' equivalents ' in these pages are generally sufficiently similar to be used as direct replacements, but for best results it is always advisable to check the operating conditions and make any slight adjustments that are necessary.

Marconi 2-volt Battery Valves

Marconi X22

2 volt Heptode

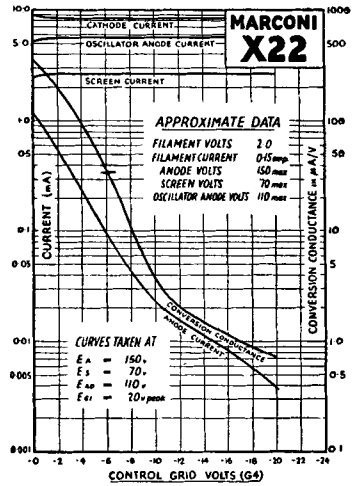
Marconi X22 is a heptode frequency changer for battery receivers. It operates satisfactorily down to 12 metres.

Nominal Rating, see curve.

Inter-electrode capacities.

(metallised valve).

G_4-A	0.61$\mu\mu$F	G_4-E	12.7$\mu\mu$F
G_4-G_1	0.22$\mu\mu$F	G_1-G_2	1.6$\mu\mu$F
A $-$E	23.7$\mu\mu$F	G_1-E	8.5$\mu\mu$F



Dimensions : 130×45 mm. 7 pin base ; for connections see pages 4-5.

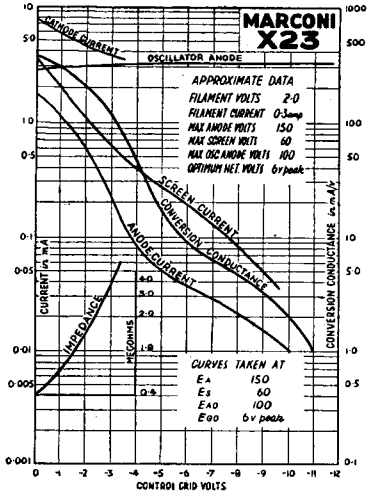
Typical Operating Data.

Anode voltage	150	100
Oscillator anode voltage	110	80
Screen voltage	70	55
Total cathode current	8.5 mA	5.0 mA
Heterodyne voltage L.W. operation ...	20 peak	
Heterodyne voltage S.W. operation ...	6-10 peak	

Notes.

A standard tuned grid circuit should be used. With 150v. H.T. the screen may be fed through a series resistance of 30,000 ohms, and the oscillator anode through 50,000—100,000 for L.W. operation and 10,000 ohms. for S.W.

Price - - 10/6



Marconi X23

2 volt Triode Hexode

Marconi X23 is a triode hexode frequency changer particularly suitable for all-wave receivers.

Its design ensures easy oscillation and lack of "pulling" at the highest frequencies.

Nominal Rating, see curve.

Inter-electrode capacities
(metallised valve).

G_1-A	0.05$\mu\mu$F	A_0-E	9.8$\mu\mu$F
G_1-E	6.3$\mu\mu$F	G_0-E	21.5$\mu\mu$F
G_1-G_0	0.5$\mu\mu$F	G_0-A_0	4.1$\mu\mu$F
A $-$E	17.5$\mu\mu$F		

Dimensions : 120 × 42 mm. 7 pin base ; for connections see pages 4-5

Typical Operating Data.

Anode voltage	150
Screen voltage	60
Oscillator anode voltage	150 through 20,000 ohms
Grid bias	−1.5
Heterodyne voltage	6 peak
Anode current	0.7 mA
Screen current	1.7 mA
Oscillator anode current	2.1 mA

Notes.

A tuned grid circuit is normally recommended. Comparatively loose coupling can be used between grid and anode circuits since the triode has adequate slope. If the screen is fed through a series resistance from maximum H.T. instead of from a tap on the battery, the grid base is greatly extended. A method which retains a reasonably short grid base is to feed the screen through 20,000 ohms from the oscillator anode this being fed from maximum H.T. through a further 20,000 ohms.

Price - - 10/6

Marconi W21

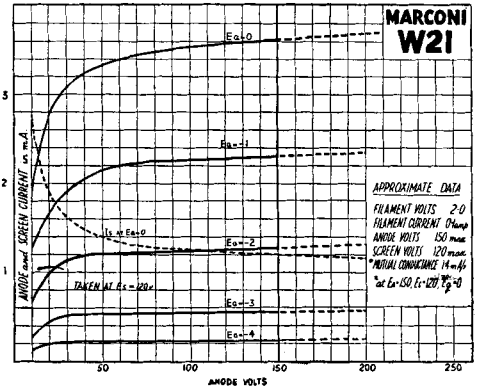
2 volt Variable Mu H.F. Pentode

Marconi W21 is suitable for the H.F. and I.F. stages of all battery receivers. It gives high gain with economical operation.

Nominal Rating, see curve

Inter-electrode capacities (*metallised valve*).

A—G	.006$\mu\mu$F
A—E	6.8$\mu\mu$F
G—E	10.5$\mu\mu$F



Dimensions : 125×41 mm. 4 or 7 pin base ; for connections see pages 4-5.

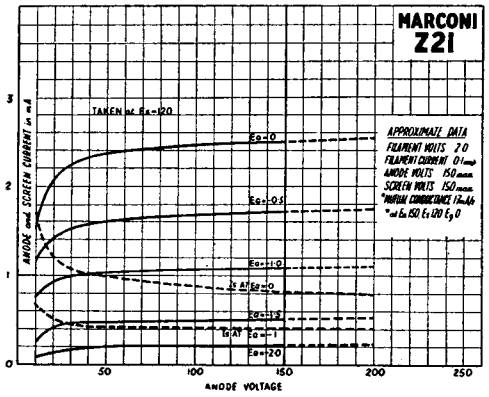
Typical Operating Data.

Anode voltage	150	150	120
Screen voltage	150	150 through 25,000 ohms	120
Grid bias	−1.5	−1.5	−1.0
Anode current	3.0 mA	3.0 mA	2.3 mA
Screen current	0.9 mA	0.7 mA	0.7 mA

Notes.

Full control of gain is given by 9-12 volts bias. The total effective resistance between grid and filament should not exceed 2.0 megohms. W21 may be used as a grid leak detector with an anode load of 75,000 ohms and screen feed of 200,000 ohms, but the Z21 is in general more suitable for this purpose.

Price - - 9/-



Marconi Z21

2 volt H.F. Pentode

Marconi Z21 is a screened pentode for use where a variable mu characteristic is not required. In particular it makes a sensitive grid detector

Nominal Rating, see curve.

Inter-electrode capacities
(*metallised valve*).

A—G	0.005$\mu\mu$F
A—E	6.5$\mu\mu$F
G—E	10.0$\mu\mu$F

Dimensions : 125 × 41 mm. 4 or 7 pin base ; for connections see pages 4-5.

Typical Operating Data.

As leaky grid detector.

H.T. voltage ...	120	120	150	150
Anode load ...	50,000 ohms	0.25 megohm	50,000 ohms	0.25 megohm
Screen resistance	50,000 ohms	1.0 megohm	100,000 ohms	1.0 megohm
Anode current ...	1.5 mA	0.3 mA	1.7 mA	0.4 mA
Screen current ...	0.6 mA	0.1 mA	0.6 mA	0.12 mA
Anode voltage ...	45	45	65	50
Screen voltage ...	90	20	90	30

Notes.

When used as a detector the grid leak should be returned to filament positive and the screen should be decoupled with 0.5μF.

Other uses for the valve are as L.F. amplifier, as oscillator and as H.F. amplifier. In the last mentioned use bias control of gain may be obtained if the screen is fed through a series resistance of 50,000 ohms from maximum H.T.

Price - - 9/-

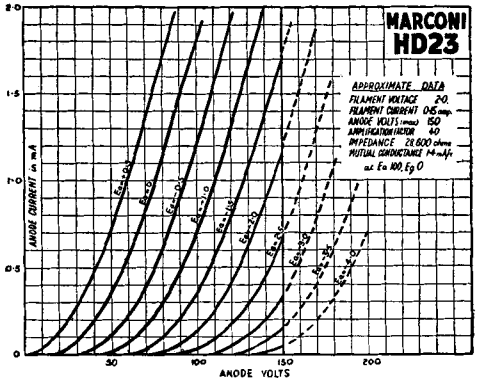
Marconi HD23

2 volt Double Diode Triode

Marconi HD23 embodies a new form of construction giving economy of filament current. It may be used in most cases to replace HD21 or HD22.

Inter-electrode capacities
(metallised valve)

G—E	2.75$\mu\mu$F
G—A	2.5$\mu\mu$F
A—E	10.0$\mu\mu$F
Diodes—G	.002$\mu\mu$F
Diodes—E	8.4$\mu\mu$F



Nominal Rating, see curve.

Dimensions : 120×42 mm. 5 pin base ; for connection see pages 4-5.

Typical Operating Data.

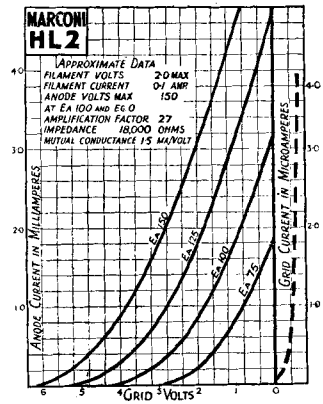
H.T. voltage	...	120	120	150	150
Anode load	...	50,000 ohms	0.25 megohms	50,000 ohms	0.25 megohms
Grid voltage	...	zero	zero	zero	zero
Anode current	...	1.0 mA	0.2 mA	1.5 mA	0.3 mA
Gain ...	...	22	27	22	28

Notes.

Owing to its high magnification factor the HD23 will usually be resistance capacity coupled to the subsequent valve. Its low impedance however makes transformer coupling quite possible, and in this case 1—1.5 volts grid bias is desirable.

The diode connected to pin No. 5 should be used for signal rectification.

Price - - 7/6



Marconi HL2

2 volt Triode

Marconi HL2 is normally used as LF amplifier or leaky grid detector. The anode load for R.C. coupling should be 50,000 ohms for 100-120 volt supplies, rising to 75,000 ohms when 150v. is available.

As an amplifier the grid bias should be $-1\frac{1}{2}$ volts.

Inter-electrode capacities

(metallised valve).

A—G	4.0$\mu\mu$F
A—E	9.0$\mu\mu$F
G—E	8.0$\mu\mu$F

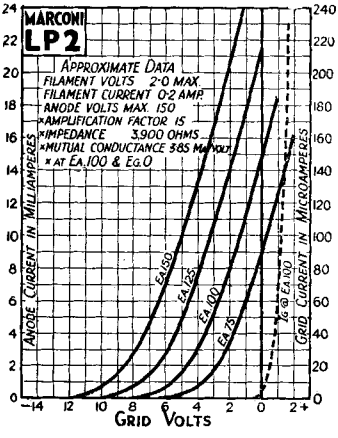
Price **4/9**

Marconi HL21

A special version of Marconi HL2 for the detector stage of portable receivers.

Price **5/3**

Dimensions : 105 × 42 m.m. 4 pin base ; for connections see pages 4-5.



Marconi LP2

2 volt Output Triode

Marconi LP2 is a power output valve with a very high amplification factor combined with a normal value of impedance, thus providing stage magnification comparable with that of a pentode. Its high sensitivity and very small H.T. consumption render the LP2 ideal for the output stages of portable and similar receivers.
Optimum load, 9,700 ohms.

Overall Dimensions, 107×45 mm.

Price **6/-**

Anode Volts	Grid Bias	Anode Current
100	−3	5 mA.
120	−4½	6 mA.
150	−6	7 mA.

Marconi KT2

(replaces PT2)

2 volt Output Tetrode.

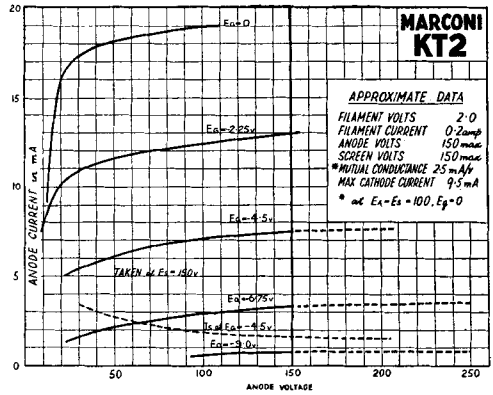
Marconi KT2 is suitable for receivers where a moderate output is required with H.T. and L.T. economy.

Nominal rating, see curve.

Inter-electrode capacities.

G—A	1.6$\mu\mu$F
A—E	13.1$\mu\mu$F
G—E	11.3$\mu\mu$F

Dimensions : 115 × 45 mm. 5 pin base ; for connections see pages 4-5.



Typical Operating Data.

Single Valve, Class A

Anode voltage ...	150	150	120	100
Screen voltage ...	150	120	120	100
Grid bias ...	—4.5	—3.0	—3.0	—3.0
Anode current ...	7.5 mA	6.4 mA	6.2 mA	3.8 mA
Screen current ...	1.7 mA	1.2 mA	1.3 mA	0.8 mA
Optimum load ...	17,000 ohms	16,000 ohms	12,000 ohms	16,000 ohms
Power output ...	500 mW	350 mW	250 mW	200 mW

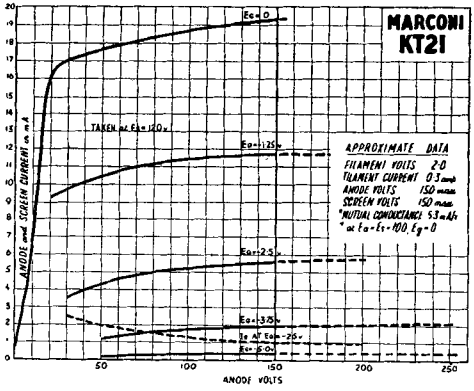
Two Valves, Class AB$_1$ (Q.P.P.)

Anode voltage	150	120
Screen voltage	V132	V112
	W140	W112
	X147	X120
Grid bias	—7.5	—6.0
Optimum load	25,000 ohms	35,000 ohms
Power output	1,000 mW	560 mW
Quiescent anode current, per pair	2.7 mA	1.6 mA
Quiescent screen current, per pair	0.5 mA	0.4 mA
Full drive anode current, per pair	12.0 mA	8.0 mA
Full drive screen current, per pair	2.7 mA	2.0 mA

Notes.

KT2 valves are graded V, W, X, so that any pair may be used for Q.P.P. by adjusting the screen voltages as given in the table above.

Price - - 9/-



Marconi KT21

2 volt Output Tetrode.

Marconi KT21 has an extremely high slope and should be used where the utmost amplification per stage is required.

Nominal rating, see curve.

Inter-electrode capacities.

A—G	1.14$\mu\mu$F
A—E	9.9$\mu\mu$F
G—A	12.0$\mu\mu$F

Dimensions : 118 × 45 mm. 5 pin base ; for connections see pages 4-5.

Typical Operating Data.

Single Valve. Class A.

Anode voltage	120	150	150
Screen voltage	120	120	150
Grid bias	−2.5	−2.5	−2.5
Anode current	5.0 mA	5.3 mA	10.0 mA
Screen current	1.2 mA	0.9 mA	2.3 mA
Optimum load	19,000 ohms	19,000 ohms	10,000 ohms
Power output	350 mW	425 mW	725 mW

Two Valves. Class AB$_1$ (Q.P.P.)

Anode voltage	150	120
Screen voltage	V 132	V 105.5
	W 140	W 112
	X 147	X 117.5
	Y 155	Y 124
	Z 162	Z 129.5
Grid bias	−5	−4
Optimum load	20,000	20,000
Power output	1,250 mW	610 mW
Quiescent anode current, per pair ...	3.0 mA	1.8 mA
Quiescent screen current, per pair ...	1.0 mA	0.6 mA
Full drive anode current, per pair ...	16.0 mA	10.6 mA
Full drive screen current, per pair ...	3.6 mA	2.8 mA

Notes.

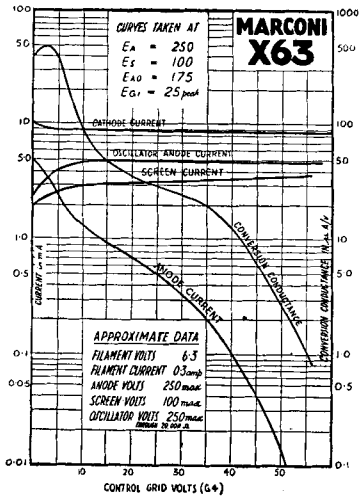
KT21 valves are graded V, W, X, Y, Z so that any pair may be used for Q.P.P. by adjusting the screen voltages as given in the above table.

Price - - 9/-

Miscellaneous. 2 Volt Battery Valves

Type	Description	Fil. Volts	Fil. Amps.	Max. Anode Volts	Max. Screen Volts	Impedance Ohms	Amplification Factor	Slope mA/volt	No. of Pins	Price
X21	Heptode	2.0	0.1	150	40	—	—	c/c=0.2	7	**10/6**
S23	Screen Grid	2.0	0.1	150	70	—	—	1.1	4	**9/-**
S24	Screen Grid	2.0	0.15	150	70	—	—	1.4	4	**11/-**
VS24	Var. Mu. Screen Grid	2.0	0.15	150	75	—	—	1.5	4	**9/-**
VS24/K	Small Var. Mu Screen Grid	2.0	0.15	150	75	—	—	1.5	4	**12/6**
VS2	Var. Mu Screen Grid	2.0	0.1	150	70	—	—	1.25	4	**12/6**
VP21	Var. Mu H.F. Pentode	2.0	0.1	150	60	—	—	1.1	7	**9/-**
HD21	Double Diode Triode	2.0	0.2	150	—	18,000	27	1.5	5	**7/6**
HD22	Double Diode Triode	2.0	0.2	150	—	18,000	27	1.5	5	**7/6**
HL2/K	Small Triode ...	2.0	0.1	150	—	18,000	27	1.5	4	**8/6**
H2	Triode	2.0	0.1	150	—	35,000	35	1.0	4	**5/6**
L21	Triode	2.0	0.1	150	—	8,900	16	1.8	4	**4/9**
HL210	Triode	2.0	0.1	150	—	23,000	20	0.87	4	**6/-**
L210	Triode	2.0	0.1	150	—	12,000	11	0.9	4	**7/-**
P215	Ouput Triode ...	2.0	0.15	150	—	5,000	7	1.4	4	**7/-**
P2	Ouput Triode ...	2.0	0.2	150	—	2,150	7.5	3.5	4	**10/-**
QP21	Q.P.P. Double Pentode	2.0	0.4	150	150	—	—	2.3	7	**12/6**
B21	Class B Double Triode	2.0	0.2	150	—	—	—	—	7	**12/6**

Marconi International Range Valves



Marconi X63

Heptode

Marconi X63 is a frequency changer which will operate satisfactorily on all wavelengths down to 15 metres.

Nominal Rating, see curve.

Inter-electrode capacities
(with screening can)

A — G_4	0.3$\mu\mu$F	G_4 — E	8.6$\mu\mu$F
G_4 — G_2	0.21$\mu\mu$F	G_2 — E	6.2$\mu\mu$F
G_4 — G_1	0.22$\mu\mu$F	G_1 — E	8.2$\mu\mu$F
G_1 — G_2	1.20$\mu\mu$F	A — E	12.9$\mu\mu$F

Dimensions : 114 × 40 mm. Octal base ; for connections see pages 4-5.

Typical Operating Data.

Anode voltage	250
Screen voltage	100
Oscillator anode voltage	250 through 20,000 ohms min.
Heterodyne voltage	25 peak
Grid bias	−3
Total cathode current	12 mA max.

Notes.

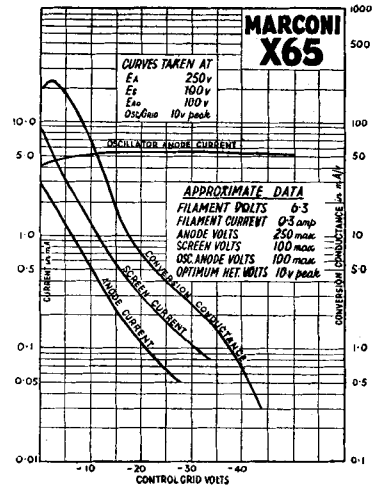
The screen should be fed from a potentiometer of good regulation. The heterodyne voltage is not very critical and can vary from the optimum between 5 and 35 volts peak without serious effect in gain. A small capacity of 1 — 2$\mu\mu$F introduced between G_1 and G_4 improves the gain on the higher frequencies. It is not advisable to apply A.V.C. to this valve below 50 metres.

Price - - 11/6

Marconi X65

Triode Hexode

Marconi X65 is a frequency changer particularly suitable for all-wave receivers on account of its excellent short wave performance. Its input impedance remains high and pulling is negligible even at the highest frequencies.



Nominal Rating, see curve.

Inter-electrode capacities

(with screening can)

A — G_1	0.16$\mu\mu$F	G_3 — A_0	2.0$\mu\mu$F
A — E	10.2$\mu\mu$F	A_0 — E	6.6$\mu\mu$F
G_1 — E	4.0$\mu\mu$F	G_3 — E	10.2$\mu\mu$F
		G_3 — G_1	0.11$\mu\mu$F

Dimensions : 114×40 mm. Octal base ; for connections see pages 4-5.

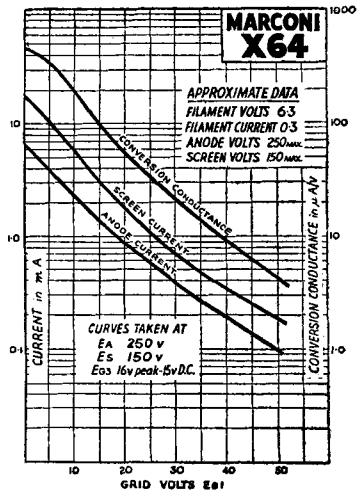
Typical Operating Data.

Anode voltage	250
Screen voltage	100
Grid bias	−3
Oscillator anode voltage	250 through 30,000 min.
Heterodyne voltage	10 peak
Impedance	2.5 megohms
Total cathode current	11.0 mA

Notes.

A tuned grid circuit is recommended but tuned anode can also be used. The heterodyne voltage is not critical, the change in gain between 5 and 20 volts being less than 3db. In A.C. receivers one side of the heater should be taken to earth and the other side earthed through 0.001μF.

Price - - 11/6



Marconi X64

Mixing Heptode

Marconi X64 is a mixing valve requiring a separate oscillator (KTZ63 or L63 are suitable) to form a complete frequency changing stage.

Nominal Rating, see curve.

Inter-electrode capacities
(with screening can)

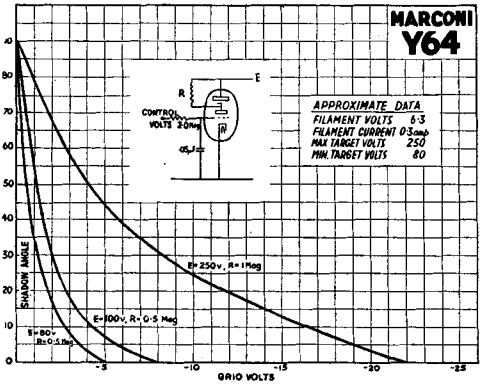
G_1-A	0.14$\mu\mu$F	A $-$ E	10.9$\mu\mu$F
A $-G_3$	0.72$\mu\mu$F	G_1-E	6.0$\mu\mu$F
G_1-G_3	0.15$\mu\mu$F	G_3-E	11.9$\mu\mu$F

Typical Operating Data.

Anode Voltage ...	250	250
Screen voltage ...	100	150
Grid bias	−3	−6
Peak heterodyne voltage ...	12	18
Anode current ...	2.4	3.25 mA
Screen current ...	6.5	8.75 mA
Conversion Conductance	290	310μA/V.

Dimensions : 114×40 mm. Octal base ; for connections see pages 4-5.

Price - - 10/6



Marconi Y63 and Y64

Tuning Indicators.

These indicators consist of a fluorescent screen and a variable mu triode amplifier. A shadow sector is varied in angle by the control voltage. Y63 is for A.C. receivers, Y64 for A.C./D.C. receivers where the H.T. voltage is usually too low to give a satisfactory glow with the Y63.

Dimensions : 108×40 mm. Octal base ; for connections see pages 4 & 5.

MARCONI 6G5 is Y63 capped with a small 6 pin base.

Price - - 8/6 each

Marconi KTZ63

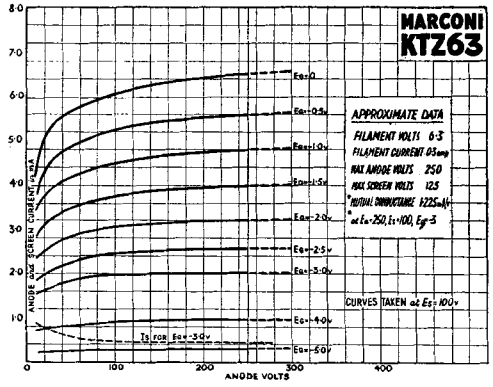
H.F. Tetrode

Marconi KTZ63 is suitable for use as a tetrode amplifier, oscillator or detector and may also be triode connected for these functions. It replaces the pentode type Z63.

Nominal rating, see curve.

Inter-electrode capacities
(with screening can)

G—A	.005$\mu\mu$F
G—E	5.1$\mu\mu$F
A—E	8.8$\mu\mu$F



Dimensions : 120×40 mm. Octal base ; for connections see pages 4-5.

Typical Operating Data.

As H.F. amplifier.

Anode supply	250 v.	2.0 mA
Screen supply	100 v.	0.5 mA
Grid bias	—3 volts	(1,200 ohms cathode resistance)

As L.F. amplifier tetrode connected.

Anode supply	250 v. through .25 megohm load
Screen supply	250 v. through 1.25 megohm
Grid bias	—0.75 (1,200 ohms cathode resistance)
Stage gain	135 approx.

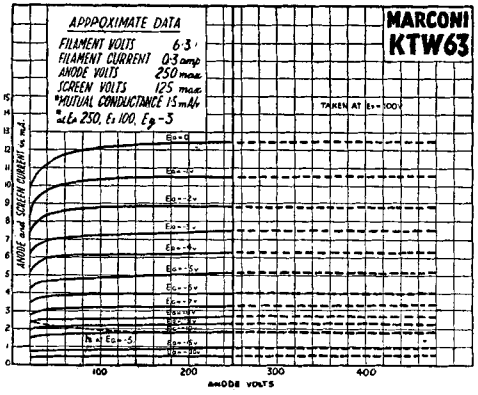
As L.F. amplifier triode connected.

	R.C.C.	*Transformer.*
Anode supply ...	250 through 50,000 ohms	250v. 8 mA
Grid bias ...	—5 (3,000 ohms cathode resistance)	—8 (1,000 ohms)

Notes.

As a grid leak detector KTZ63 requires anode and screen resistances of 0.15 and 0.75 megohms respectively. The grid condenser and leak should be mounted within the screening can to avoid hum pick-up.

Price - - 10/6



Nominal Rating, see curve

Marconi KTW63

Variable Mu H.F. Tetrode

Marconi KTW63 is a kinkless tetrode for H.F. and I.F. amplification. It replaces the pentode type W63.

Inter-electrode capacities
(with screening can)

G—A	.0035$\mu\mu$F
A—E	10.0$\mu\mu$F
G—E	4.9$\mu\mu$F

Dimensions : 120×40 mm. Octal base ; for connections see pages 4-5.

Typical Operating Data.

As H.F. amplifier

Anode Voltage	250
Screen voltage	100
Grid bias	−3
Bias resistance	300 ohms

Notes.

The grid base with fixed screen voltage is 40 v. This may be extended by feeding the screen from a series resistance so that the screen voltage rises as the negative bias is increased. A 50,000 ohm screen feed gives a grid base of 150 volts. Intermediate values can be obtained by using high resistance potentiometers. The total effective resistance between cathode and grid should not exceed 2 megohms. The valve is not metallised and where screening is required a can should be used.

Price - - 10/6

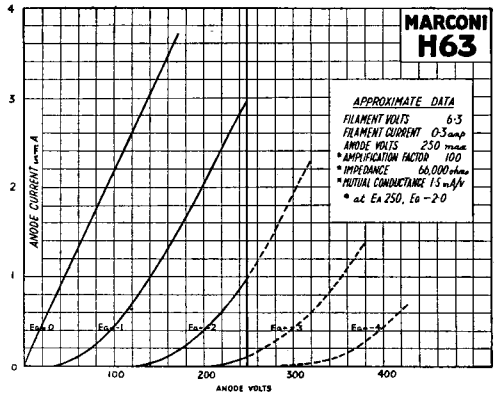
Marconi H63

Triode

Marconi H63 is intended mainly for L.F. amplification in resistance coupled circuits. An anode load of 0.25 megohm is suggested with a bias resistance of 2,000 ohms. The grid leak of the following stage should be .5 meg. where such a value is allowable.

Inter-electrode capacities.
(metallised valve).

A—G	2.3$\mu\mu$F
G—E	3.2$\mu\mu$F
A—E	7.3$\mu\mu$F



Dimensions : 114 × 40 mm. Octal base ; for connections see pages 4-5.

Price - - 7/6

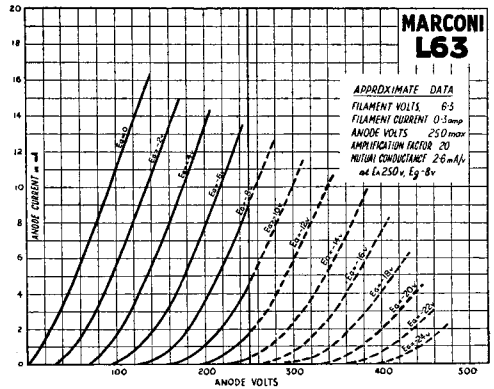
Marconi L63

Triode

Marconi L63 is suitable for L.F. amplification and due to its low impedance it may be followed by transformer coupling. It will find many applications in high quality amplifiers. A further use for the valve is as an oscillator.

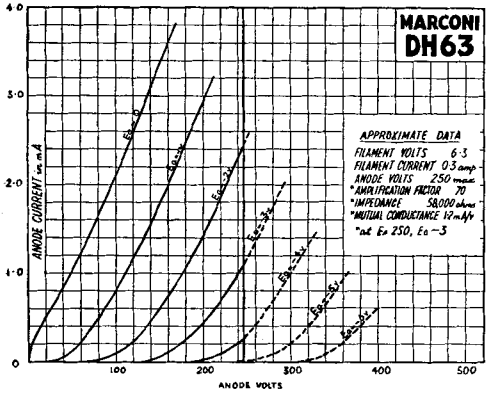
Inter-electrode capacities.

G—A	4.3$\mu\mu$F
G—E	5.2$\mu\mu$F
A—E	4.0$\mu\mu$F



Dimensions : 105 × 40 mm. Octal base ; for connections see page 4-5.

Price - - 7/6



Marconi DH63

Double Diode Triode

Marconi DH63 is intended for detection, A.V.C. and resistance coupled L.F. amplification in superhet receivers.

Nominal rating, see curve.

Inter-electrode capacities
(*with screening can*)

A—G	1.7$\mu\mu$F
G—E	2.6$\mu\mu$F
A—E	6.2$\mu\mu$F
Diodes—E	7.8$\mu\mu$F

Dimensions : 114×40 mm. Octal base ; for connections see pages 4-5.

Typical Operating Data.

Anode supply voltage ...	340	340	275	275
Anode load resistance ...	.1 meg.	.25 meg.	.1 meg.	.25 meg.
Anode current	1.4 mA	0.7 mA	1.1 mA	0.6 mA
Bias resistance	1,500	3,000	2,000	3,000
Stage gain	29	32	28	32

Notes.

When used under the above conditions, the grid leak of the subsequent valve should not be less than 0.5 megohm. The total effective grid to cathode resistance of the DH63 should not exceed 4 megohms.

Price - - 9/6

Marconi D63

Double Diode

Marconi D63 is a double diode with heater rating 6.3 volts, 0.3 amp. The diodes have separate cathodes taken out to different pins.

Octal base.
Overall Dimensions,
99×36 mm.

Inter-electrode capacities
(*metallised valve*).

A_1—A_2	0.17$\mu\mu$F
A_1—C_1	2.76$\mu\mu$F
A_2—C_2	2.2$\mu\mu$F

Price 5/6

Marconi KT32

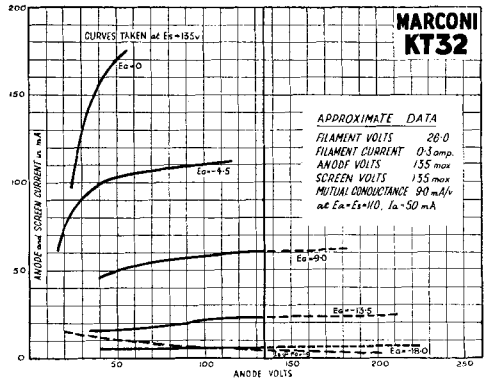
Output Tetrode

Marconi KT32 uses aligned grid construction. It is suitable for the output stage of A.C./D.C. receivers including those for 100 volt mains.

Nominal Rating, see curve.

Inter-electrode capacities.

A—G	1.4$\mu\mu$F
A—E	12.0$\mu\mu$F
G—E	21.0$\mu\mu$F



Dimensions : 119×45 mm. Octal base ; for connections see pages 4-5.

Typical Operating Data.

Single Valve, Class A.

Anode and Screen voltage	135	135	110	110	90
Anode current	75	60	60	50	44 mA
Screen current	5	5	4	4	4 mA
Optimum load	1300	1300	1600	1600	1600 ohms
Power output	3.5	2.8	2.3	2.3	1.2 watts
Bias resistance	95	145	95	130	95 ohms

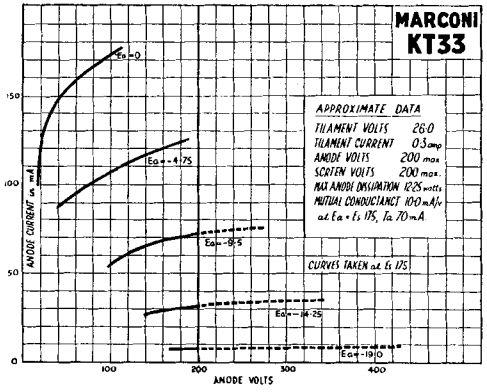
Two Valves, Class AB1

Anode and screen voltage	135
Combined anode and screen currents, no signal	100 mA and 8 mA
Combined anode and screen currents, full drive	135 mA and 20 mA
Anode—anode load	2,500 ohms
Power output	7.5 watts
Bias resistance, each valve	200 ohms

Notes.

To prevent parasitic oscillation grid and anode stoppers are recommended, 5000 and 25 ohms being suitable values. KT32 can also be used triode strapped for push-pull operation, in this case 100 ohm stoppers should be used in the screen connections.

Price - - 12/-



Nominal rating, see curve.

Marconi KT33

Output Tetrode.

Marconi KT33 is designed to give a large output in A.C./D.C. apparatus where the smoothed voltage is usually less than 200.

Inter-electrode capacities.

G—E	18.5$\mu\mu$F
A—E	11.5$\mu\mu$F
G—A	1.2$\mu\mu$F

Dimensions : 122×50.5 mm. Octal base ; for connections see pages 4-5.

Typical Operating Data.

Single Valve, Class A.

Anode and screen voltage ...	150	175	200	150	175	
Anode current	44	52	60	60	70	mA
Screen current	8	9	10	10	12	mA
Bias resistance	188	188	188	116	116	ohms
Optimum load	3,000	3,000	3,000	2,500	2,500	ohms
Power output	3	4	5	3.6	5.0	watts

Notes.

Owing to the high slope of the valve it is advisable to use anode or grid stoppers to prevent parasitic oscillation. An alternative method which is often very effective is to use a stopper (100 ohms or more) in the screen circuit. The total grid-cathode path should not exceed 0.5 megohm.

Price - - 12/-

Marconi KT63

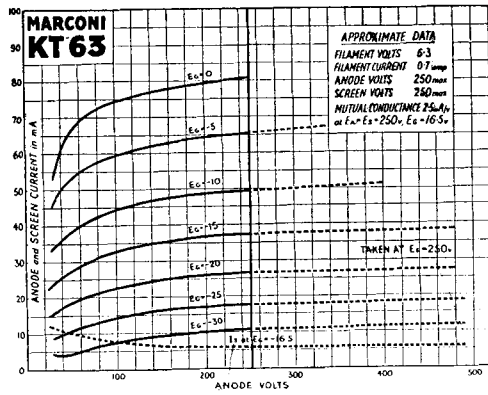
Output Tetrode

Marconi KT63 is a suitable output valve for all A.C. receivers where medium power is required with high efficiency.

Nominal Rating, see curve.

Inter-electrode capacities.

A—G	0.8$\mu\mu$F
G—E	9.8$\mu\mu$F
A—E	9.0$\mu\mu$F



Dimensions : 119×45 mm. Octal base ; for connections see pages 4-5.

Typical Operating Data.

Single Valve, Class A.

Anode and screen voltage	250
Anode current	34 mA
Screen current	5.5 mA
Power output	3.0 watts
Optimum load	7000 ohms
Bias resistance	420 ohms

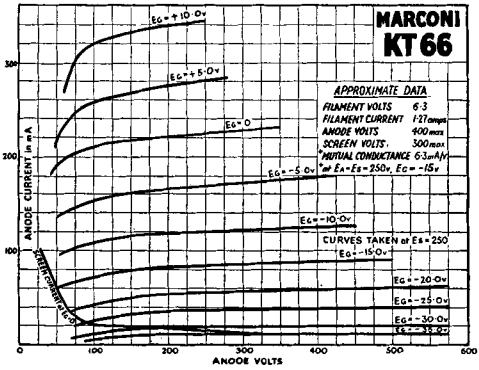
Two Valves, Class AB1

Anode and screen voltage	250
Combined anode current	64 mA
Combined screen current...	14 mA
Power output	6 watts
Anode—anode load	12000 ohms
Common bias resistance	250 ohms

Notes.

KT63 may be triode connected to form a small power valve suitable for driver stages. Used in this way its mutual conductance is 2.4 mA/V and its impedance 3200 ohms.

Price - - 10/6



Marconi KT66

Output Tetrode

Marconi KT66 is an aligned grid tetrode of high efficiency. It is suitable for the output stages of radio receivers or P.A. amplifiers.

Nominal rating, see curve.

Inter-electrode capacities.

A—G	0.9$\mu\mu$F
G—E	14.8$\mu\mu$F
A—E	11.5$\mu\mu$F

Dimensions : 140 × 57 mm. Octal base : for connections see pages 4-5.

Typical Operating Data.

Single Valve, Class A.

Anode and screen voltage	250
Anode current	85 mA
Screen current	6.3 mA
Power output	7.25 watts
Optimum load	2,200 ohms
Bias resistance	170 ohms

Single Valve. Triode connected.

Anode voltage	250	400
Anode current	60	62.5 mA
Bias resistance	315	600 ohms
Optimum load	2,750 ohms	4,500 ohms
Power output	2.2	5.8 watts

Notes.

The total resistance in the grid cathode path should not exceed 0.5 meg. Stoppers should always be used to avoid possibility of parasitic oscillation and unless negative feedback is applied some form of high note limiter should be incorporated in the anode circuit. The KT66 can be used as a triode when anode and screen are strapped. In this case the stopper resistance should be placed in the screen circuit. It should be noted that this position for the stopper is also often very effective when the valve is used as a tetrode.

(continued overleaf)

Marconi KT66

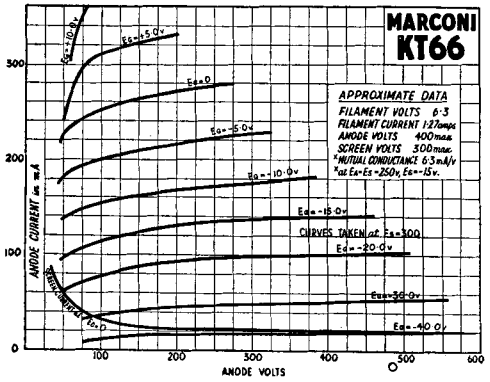
(continued)

Notes—*(contd.)*

For class AB_1 working under the 400 volt condition the anode current varies considerably with signals and the H.T. supply should therefore have good regulation. Vacuum type rectifiers U52 are suitable but a choke input circuit should be used.

For higher outputs 2 pairs of valves in parallel may be employed.

Alternatively class AB_2 working may be used. This requires special circuit conditions to keep the distortion low.



A separate supply is necessary to supply the fixed grid bias and the screen voltage. In addition a very low impedance driver stage must be used. A KT63 triode connected and cathode coupled is suitable.

Typical Operating Data.

2 Valves, Class AB_1

Anode voltage, no signal	258	400
Anode voltage, full drive	250	385
Screen voltage, no signal	258	300
Screen voltage, full drive	250	270
Combined anode current, no signal	162 mA	125 mA
Combined anode current, full drive	165 mA	140 mA
Combined screen current, no signal	12 mA	5 mA
Combined screen current, full drive	20 mA	14 mA
Power Output	17 watts	32 watts
Anode—anode load	4000 ohms	6000 ohms
Bias resistance, each valve	200 ohms	400 ohms

2 Valves, Class AB_2

	No Signal	Full drive.
Anode voltage	400	365
Screen voltage	300	290
Combined anode current	120 mA	245 mA
Combined screen current	4 mA	18 mA
Grid current	0	1.8 mA
Grid bias	−25	−30
Peak input voltage, per grid	—	38
Power output	—	50 watts
Anode—anode load		2,800 ohms

Price - - 15/-

Marconi Universal Valves

These valves have in general 13 volt 0.3 amp. heaters, and are suitable for A.C.-D.C. or 12 volt car radio receivers. They have the standard British 7 pin base. The voltages given below are maximum figures.

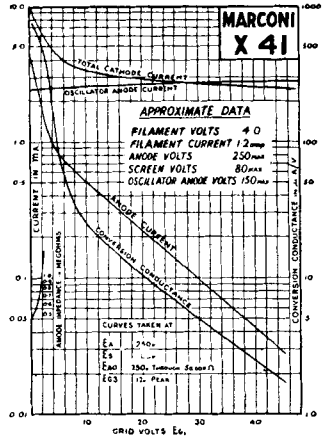
	Price
Marconi X30—Heptode : Ea250 ; Es80 ; Eosc150 ; c.c. 0.8 at Eg −3	**15/–**
Marconi X31—Triode Hexode : Ea250 ; Es80 ; Eosc150 ; c.c. 0.55 at Eg −3	**15/–**
Marconi W31—Var. Mu. H.F. Pentode : Ea250 ; Es100 ; Slope 3.5 at Ea200, Es100, Eg −1 ; Grid base 20v. ...	**12/6**
Marconi W30—Var. Mu. H.F. Pentode	**15/–**
Marconi WD30—Var. Mu. H.F. Pentode with Double Diodes. 9 pin base	**20/–**
Marconi DH30—Double Diode Triode : Ea200 ; M80 ; Slope 4.5	**12/6**
Marconi H30—Triode : Ea250, M80, Slope 6.0	**12/6**
Marconi L30—Triode : Ea200, M12, Slope 4.2	**14/–**
Marconi KT30—Output Tetrode : Ea250 ; Es250 ; Wa8.0 ; Load 7500 ; Eg −14 ; Output 2.6 watts ; Bias Res. 375	**13/6**
Marconi KT31—Output Tetrode : Ea200 ; Es200 ; Wa8.0 ; Load 6500 ; Eg $-4\frac{1}{2}$; Output 3.0 watts ; Bias Res. 95 ; Filament 26v., 0.3 amp. or 13v., 0.6 amp.	**13/6**
Marconi B30—Double Class B Triode : Ea180 ; Load 7000 ; Eg0 ; Input impedance 6000 ; Output 5.0 watts ...	**35/–**
Marconi U30—Full Wave or Voltage doubling Rectifier : Ea250 ; Rectified Current 120 mA ; Filament 26v. 0.3 amp. or 13v. 0.6 amp.	**9/–**

Marconi 4v. A.C. Mains Valves

Marconi X41

Triode Hexode

Marconi X41 is a frequency changer suitable for all wavelengths including the Television band.



Nominal rating, see curve.

Inter-electrode capacities
(metallised valve.).

G_1—A	0.046$\mu\mu$F	A_o—E	8.5$\mu\mu$F
G_1—E	7.0$\mu\mu$F	G_o—E	17.0$\mu\mu$F
A—E	21.5$\mu\mu$F	G_o—G_1	0.26$\mu\mu$F
A_o—G_o	3.56$\mu\mu$F		

Dimensions : 135×44.5 mm. 7 pin base ; for connections see pages 4-5.

Typical Operating Data.

Anode voltage	250
Screen voltage	70
Oscillator anode voltage	100
Heterodyne voltage, L.W. operation	12 volts peak
Heterodyne voltage, S.W. operation	6 volts peak
Grid bias	—1.5
Bias resistance	200 ohms
Conversion impedance	1.25 megohm
Total cathode current	5.4 mA

Notes.

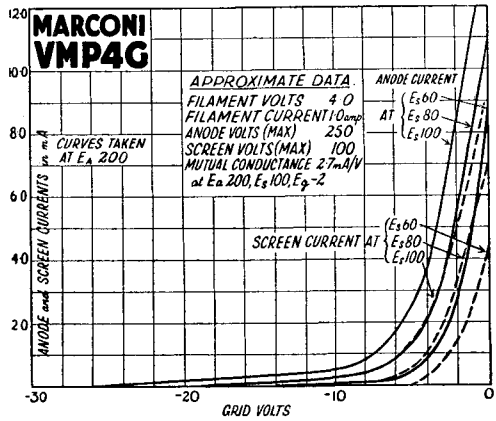
A tuned anode circuit is recommended for minimum pulling but tuned grid can be used with highly satisfactory results. The screen should be fed from a low resistance potentiometer and the oscillator anode from full H.T. through a series resistance of 50,000—100,000 ohms. The effective resistance between grid and cathode should not exceed 4.0 megohms.

Price - - 11/6

Marconi X41c

Marconi X41c is identical with X41 in characteristics but it has a ceramic base to eliminate the last traces of frequency drift in television receivers.

Price 12/6



Marconi VMP4G

Variable Mu H.F. Pentode

Marconi VMP4G has a low leakage capacity combined with high slope and is suitable for H.F. and I.F. amplification.

Nominal rating, see curve.

Inter-electrode capacities
(metallised valve).

A—G	0.0026$\mu\mu$F
A—E	8.7$\mu\mu$F
G—E	14.0$\mu\mu$F

Dimensions : 140 × 44.5 mm. 7 pin base ; for connections see pages 4-5.

Typical Operating Data.

Anode voltage	250	250	250	200	200	200
Screen voltage	100	80	60	100	80	60
Bias resistance	150	250	400	150	250	450
Screen potentiometer, upper element	9,000	12,000	20,000	6,000	9,000	15,000
Screen potentiometer, lower element	10,000	10,000	10,000	10,000	10,000	10,000
Series screen feed	20,000	35,000	70,000	12,000	22,000	45,000

Notes.

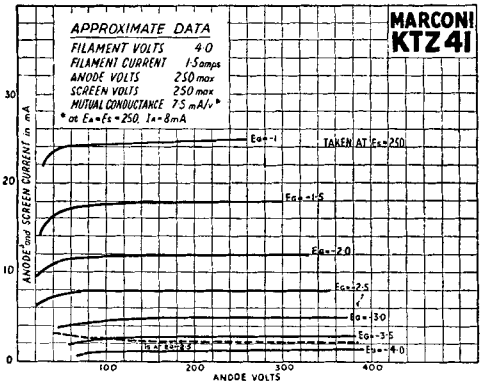
If manual control is used the potentiometer should have a value of 5,000 ohms. The grid base is normally 25 volts but it can be extended by using a series feed to the screen as shown in the above table. This device is of value when VMP4G is used for feeding a diode at high level.

Price - - 10/6

Marconi KTZ41

H.F. Tetrode

Marconi KTZ41 is intended for wide-band amplification, particularly in Television receivers. It has an extremely high slope (12.0 mA/V. at Eg −1.5) and comparatively low input and output capacities.



Inter-electrode capacities.

G—A	.008$\mu\mu$F
A—E	10.5$\mu\mu$F
G—E	14.0$\mu\mu$F

Nominal rating, see curve.

Dimensions : 120×42 mm. 7 pin base ; for connections see pages 4-5.

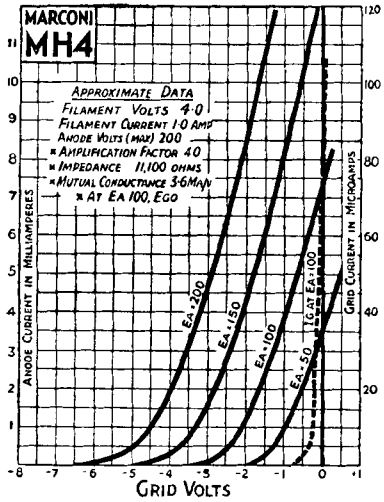
Typical Operating Data.

Anode volts	250
Screen volts	250
Grid volts...	−2.5
Bias resistance	250 ohms
Impedance	1 megohm

Notes.

The normal use for the KTZ41 is for H.F. or I.F. amplification in television receivers where its characteristics enable a high stage gain to be obtained with adequate band width. The valve may also be used for L.F. work where its high slope results in an exceptional order of gain.

Price - - 12/6



Marconi MH4

Triode

MH4 is a medium slope general purpose triode, suitable for use as detector, L.F. amplifier, in phase charging circuits, as an oscillator, etc.

Typical Operating Conditions

1. L.F. Amplifier : Ea150 - 200, Eg $-1\frac{1}{2}$ to -3, auto bias res. 700 ohms, anode res. 20—50,000 ohms.
2. Oscillator : Ea—up to 100 volts, grid leak to cathode.

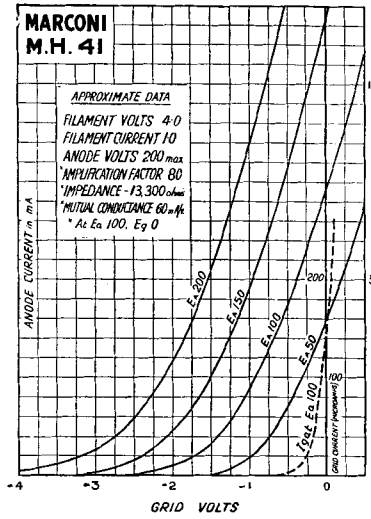
Inter-electrode capacities

(*metallised valve*).

G—E	7.0 $\mu\mu$F
G—A	5.7$\mu\mu$F
A—E	6.5$\mu\mu$F

Dimensions: 115×44 mm. 5 pin base

Price - - - **7/6**



Marconi MH41

High Slope Triode

MH41 is a high slope general purpose triode, suitable in general for the same uses as MH4, but giving greater stage gain where the circuit is suitably designed.

Typical Operating Conditions

1. L.F. Amplifier : Ea150-200, Eg -1 to -2, auto bias res. 400 ohms, anode res. 20-80,000 ohms.
2. Oscillator : Ea up to 100 volts, grid leak to cathode.
3. Detector : Ea50-200, grid leak to cathode.

Inter-electrode capacities

(*metallised valve*).

G—E	8.1$\mu\mu$F
G—A	4.3$\mu\mu$F
A—E	4.3$\mu\mu$F

Dimensions : 115×44 mm. 5 pin base.

Price - - - **9/6**

Marconi MHD4

Double Diode Triode.

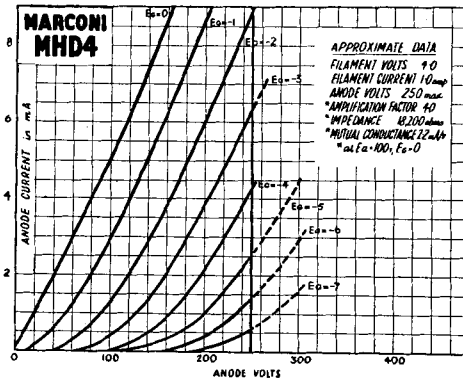
Marconi MHD4 is intended for detection, A.V.C. and L.F. amplification in straight or super-het receivers.

Nominal rating, see curve.

Inter-electrode capacities

(*metallised valve*)

G—A	3.8$\mu\mu$F
G—E	2.4$\mu\mu$F
A—E	4.7$\mu\mu$F
G—each diode	0.15$\mu\mu$F
Diodes—E	12.7$\mu\mu$F



Dimensions : 125×44.5 mm. 7 pin base ; for connections see pages 4-5.

Typical Operating Data.

H.T. voltage	350	250	250	250	
Anode load resistance ...	50,000	50,000	50,000	50,000	ohms
Bias resistance	400	750	400	750	ohms
Anode current	4.0	3.2	2.8	2.2	mA
Voltage output (R.M.S.) ...	34	21	25	15	

Notes.

The high amplification factor of MHD4 allows good gain to be obtained with R.C. coupling, but its impedance is moderate so that transformer coupling can be used with success where extra gain is required.

Price - - 9/6

Marconi D41

Double Diode.

A double diode having a 4 volt 0.3 amp. heater, suitable for use with the A.C. or Universal range.

5 pin base.

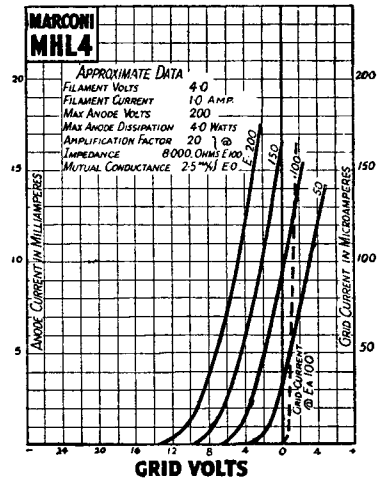
Dimensions : 100×35.5 mm.

Inter-electrode Capacities

(*metallised valve*).

D_1—E	3.5 $\mu\mu$F
D_2—E	2.5$\mu\mu$F
D_1—D_2	0.5$\mu\mu$F

Price 5/6



Marconi MHL4

Triode

Marconi MHL4 is a medium impedance triode used as audio frequency amplifier, phase reversing valve, oscillator, etc. In general, its chief use lies in stages where the M valve of the MH41 or MH4 is too high for the circuit requirements. Bias resistance 850 ohms.

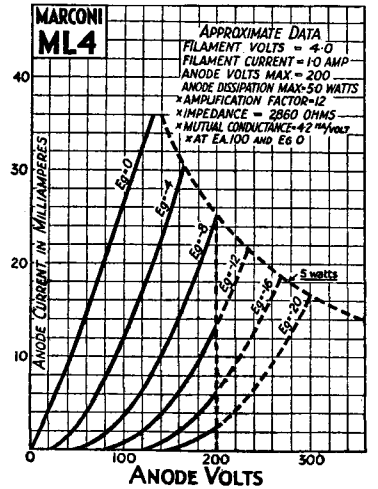
Interelectrode capacities

(metallised valve).

G—E	4.27$\mu\mu$F
G—A	3.37$\mu\mu$F
A—E	1.8$\mu\mu$F

Dimensions : 115 × 44.5 mm.
5 pin base.

Price **7/6**



Marconi ML4

Triode

Marconi ML4 is a small power output valve. Its chief use is as a driver in large power amplifiers. Other uses are oscillator and valve voltmeter (for L.F. only).

As an output valve the bias resistance should be 650 ohms and the optimum load 7000 ohms.

Inter-electrode capacities.

G—E	7.2$\mu\mu$F
G—A	6.3$\mu\mu$F
A—E	4.5$\mu\mu$F

Dimensions : 115 × 44.5 mm.
5 pin base.

Price **10/-**

Marconi MKT4

(replaces MPT4)

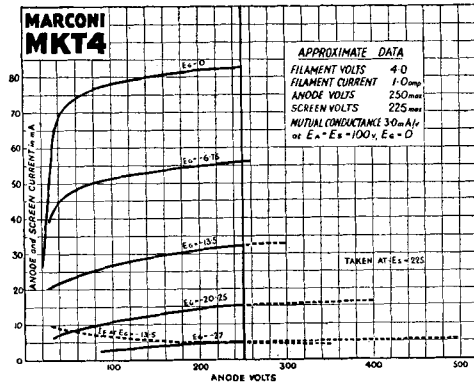
Output Tetrode

Marconi MKT4 is a suitable output valve for all A.C. receivers where medium power is required with high efficiency.

Nominal rating, see curve.

Inter-electrode capacities.

A—G	0.8μμF
G—E	11.0μμF
A—E	9.1μμF



Dimensions : 118×45 mm. 5 or 7 pin base ; for connections see pages 4-5.

Typical Operating Data.

Single Valve, Class A.

Anode voltage	250	250
Screen voltage	200	225
Grid bias	−10.5	−13.5
Anode current	32	32
Screen current	4.0	5.0
Power output	2.5 watts	3.2 watts
Optimum load	8000 ohms.	7000 ohms.
Bias resistance	270 ohms.	360 ohms.

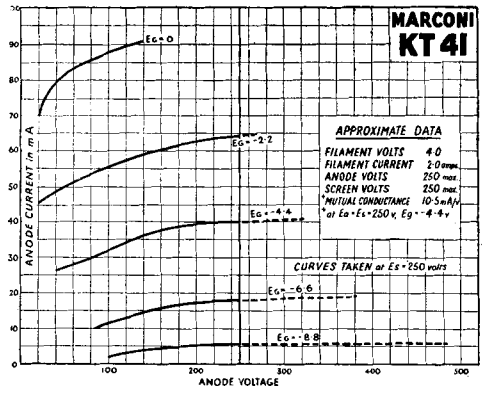
Two Valves, Class AB₁

Anode voltage	250
Screen voltage	225
Grid bias	−15
Anode current, per pair	64 mA
Screen current, per pair	12 mA full drive
Power output	6.5 watts
Optimum load	11,000 ohms
Common bias resistance	200 ohms

Notes.

There is some variation in screen current with signals and for maximum output it is therefore desirable to feed the screen from a potentiometer instead of a series resistance. In practice the feed to the earlier stages can be made to take the place of the lower element. The total resistance in the grid cathode path should not exceed 0.5 megohm.

Price - - 10/6



Marconi KT41

(replaces N41)

Output Tetrode

Marconi KT41 is a high slope output valve giving a large output for a very small grid swing.

Nominal rating, see curve.

Inter-electrode capacities.

G—A	1.3$\mu\mu$F
A—E	11.3$\mu\mu$F
G—E	21.0$\mu\mu$F

Dimensions : 145×56.5 mm. 7 pin base ; for connections see pages 4-5.

Typical Operating Data.

Single Valve, Class A.

Anode voltage	250	250	250
Screen voltage	200	225	250
Grid bias	−3.5	−4.0	−4.4
Anode current	32	35	40 mA
Screen current	6.5	7.5	8.5 mA
Power output	3.2	3.5	4.3 watts
Optimum load	8,500	7,500	6,000 ohms
Bias resistance	90	90	90 ohms

Two Valves, Class AB$_1$.

Anode voltage	250	
Screen voltage	250	
Anode current, per pair	56 mA, no signal	60 mA, full drive
Screen current, per pair	12 mA, no signal	20 mA, full drive
Power output	8.6 watts	
Optimum load	10,000 ohms	
Common bias resistance	90 ohms	

Notes.

Grid and anode stoppers of 10,000 and 100 ohms are recommended. The total resistance in the grid-cathode path should not exceed 0.5 megohm and full automatic bias should always be used. Owing to its high sensitivity this valve is particularly suitable for negative feed-back circuits.

Price - - 10/6

Marconi PX4

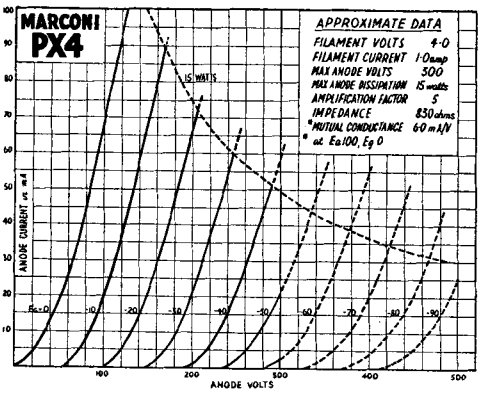
Output Triode

Marconi PX4 is the ideal output valve for apparatus where high quality is the primary consideration. It has recently been re-rated at 15 watts anode dissipation.

Nominal rating, see curve.

Inter-electrode capacities.

G—A	13.3$\mu\mu$F
A—E	5.8$\mu\mu$F
G—E	9.3$\mu\mu$F



Dimensions : 145 × 61 mm. 4 pin base ; for connections see pages 4-5.

Typical Operating Data.

Single Valve, Class A.

Anode voltage	200	250	300
Grid bias	—25	—33	—42.5
Anode current	40	48	50
Bias resistance	625 ohms	700 ohms	850 ohms
Power output	1.5 watts	2.6 watts	3.5 watts
Optimum load	2,500 ohms	3,000 ohms	4,000 ohms

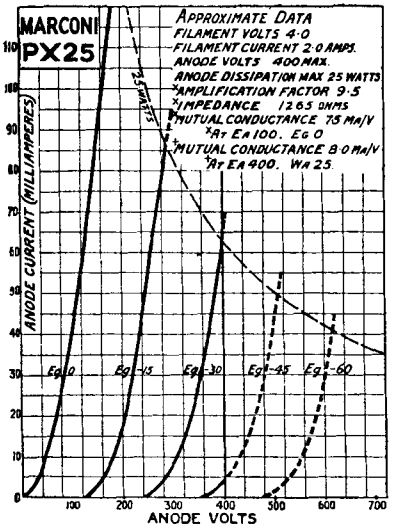
Two Valves, Class A.

Anode voltage	300
Anode current	45—50 mA each valve
Bias resistance	900—1000 ohms each valve
Power output	8—9 watts
Optimum load	7,000 ohms

Notes.

It is advisable to use grid or anode stoppers with PX4 valves especially when push pull operation is employed. The value of load is not critical and higher loads may be used without serious power loss and with lower order of distortion.

Price - - 9/6



Marconi PX25

25 watt Triode

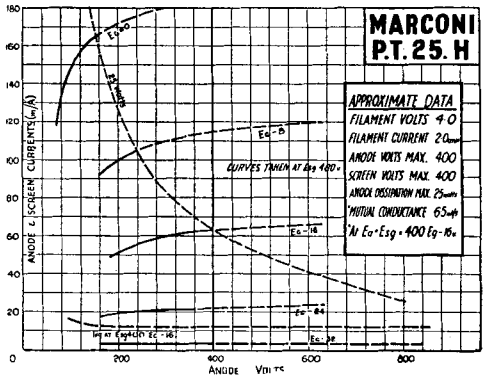
Marconi PX25 is a low impedance triode giving about 5 watts output in class A. It is useful for domestic receivers and small amplifiers because of its high slope, and is also used as a driver valve for certain larger valves.

PX25 is a popular transmitter on medium wavelengths, and is also employed as a modulator.

Normal operating conditions in class A are shown on the curve, with load 4000 ohms, bias resistance 475 ohms, grid bias 30 volts.

Price **20/-**

Dimensions : 160×66 mm. 4 pin base.



Marconi PT25H

25 watt Pentode

Marconi PT25H is a high efficiency pentode giving 10 watts per valve in class A. The screen is operated at the full line voltage, thus simplifying the maintenance of the constant potential necessary for maximum output. With a grid bias of only 16 volts, PT25H is easily loaded by microphone or pickup with only one preceding stage.

The normal load is 4000 ohms, bias resistance 240 ohms, screen current 12.5 mA.

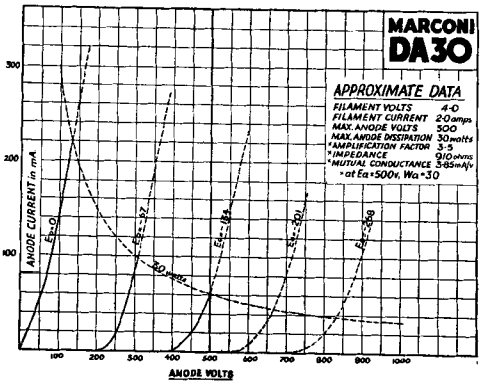
Overall Dimensions : 160×66 mm. 5 pin base.

Price - - **45/-**

Marconi DA30

30 watt Triode.

Marconi DA30 is a low impedance triode specially intended for use in push pull circuits of the class A and A-B types. The output per pair in class A is 20 watts and in low loading class A-B 44-60 watts depending upon the amount of drive. The higher output necessarily increases the harmonic distortion to some extent. Circuit details, etc., on request.



Price **25/-**

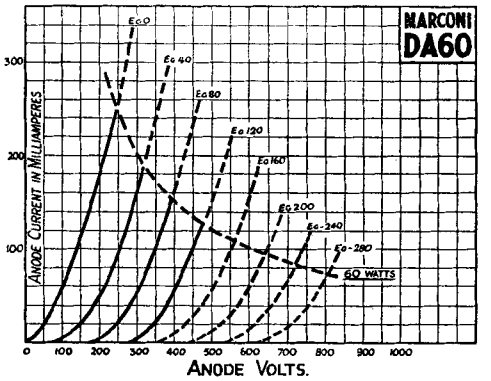
Overall Dimensions : 160×66 mm. 4 pin base.

Marconi DA60

60 watt Triode.

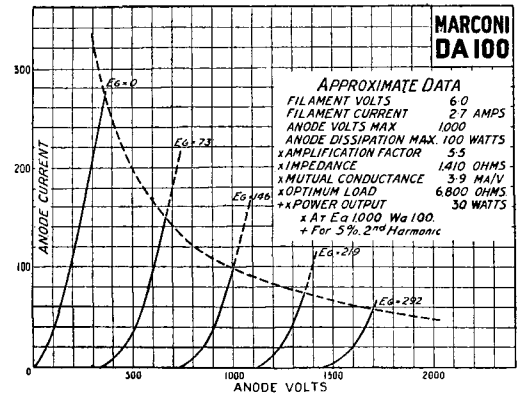
Marconi DA60 is a valve which has been very popular for relay, public address and other amplifiers, but is now seldom used for new apparatus owing to the introduction of the DA30, DA100 and other high efficiency types. Its chief use lies in class A circuits, either singly or in push-pull, the output being about 12 watts per valve.

Operating conditions available on request.



Price **110/-**

Overall Dimensions : 205×78 mm. Special 4 pin base.



Marconi DA100

100 watt Output Triode

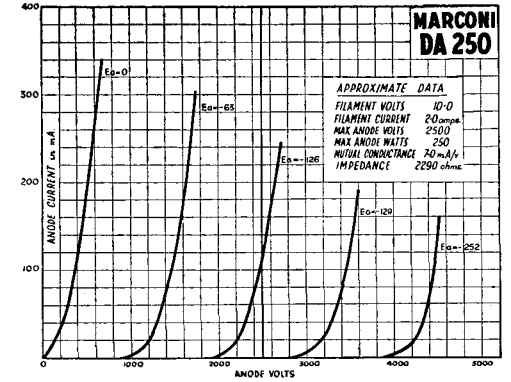
It is not possible to give here full details of this valve. Special advice is available on request to any user.

In a single class A circuit the output is 30 watts ; in push-pull class A, 90 watts per pair ; in push pull class A-B, with drive, 200 watts per pair.

Price - - 168/-

Overall Dimensions : 205×78 mm.

Special 4 pin base.



Marconi DA250

250 watt Output Triode

Here again, as with DA100, full information is available on request. This is a new valve of great interest for relay systems, as a pair in class A-B with positive drive will give 800 watts output. Without drive, over 400 watts are easily obtained.

Price - - 336/-

Overall Dimensions : 395×110 mm.

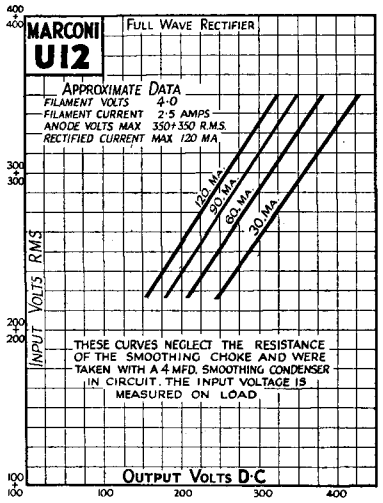
Large 4 pin bayonet cap.

Miscellaneous. 4 Volt A.C. Valves

Type	Description	Fil. Amps.	Max. Anode Volts	Max. Screen Volts	Impedance Ohms	Amp. Factor	Slope mA/volt	No. of Pins	Remarks	Price
*X42	Heptode	0.6	250	100	—	—	c/c=490	7	Clear only	11/6
MX40	Heptode	1.0	250	100	—	—	c/c=500	7	Met. or clear	11/6
*W42	Var. Mu. H.F. Pen. ...	0.6	250	125	—	—	1.5	7	Top grid	10/6
MSP4	H.F. Pen.	1.0	250	100	—	—	4.0	5 or 7	Top anode	10/6
MSP41	H.F. Pen.	1.0	250	240	—	—	3.2	5 or 7	Top anode	15/–
VMP4	Var. Mu. H.F. Pen. ...	1.0	250	100	—	—	3.5	5 or 7	Top anode	12/6
WD40	D.D. Var. Mu. H.F. Pen.	1.0	250	100	—	—	3.5	9	Top grid	20/–
MS4	Screen Grid	1.0	250	70	—	—	1.1	5	Top anode	12/6
MS4B	Screen Grid	1.0	250	80	—	—	3.2	5	Top anode	10/6
VMS4	Var. Mu. Screen Grid	1.0	250	80	—	—	2.6	5	Top anode	10/6
VMS4B	Var. Mu. Screen Grid	1.0	250	80	—	—	2.0	5	Top anode	10/6
*H42	Triode	0.6	250	—	66,000	100	1.5	7	Top grid	7/6
*DH42	D.D. Triode	0.6	250	—	58,000	70	1.2	7	Clear only	9/6
N40	Output Tetrode ...	1.0	250	225	—	—	2.9	5	Replaced by MKT4	13/6
*KT42	Output Tetrode ...	1.0	250	250	—	—	2.5	7	Replaces N42	10/6
PT4	D.H. Output Pentode...	1.0	250	250	—	—	2.85	5	Bias Res. 390	18/6
PT16	Output Pentode ...	1.0	300	300	—	—	4.8	5	Bias Res. 270	40/–
PX25A	Output Triode ...	2.0	400	—	580	4	6.9	4	Replaced by DA30	25/–
PT25	Output Pentode ...	2.0	400	200	—	—	4.0	5	Bias Res. 350	45/–
DN41	D.D. Output Pentode...	2.3	250	250	—	—	10.0	7	Bias Res. 90 Top grid.	12/6

*Except for filament rating and base connections these valves have identical characteristics with **X63, KTW63, H63, DH63 and KT63** in the International Range.

Marconi Rectifiers & Barretters



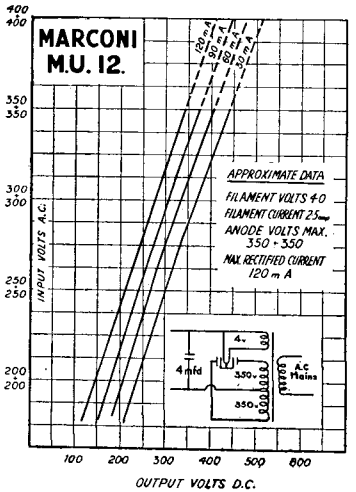
Marconi U12

Full Wave Rectifier

Marconi U12 is a full wave rectifier most widely used in modern receivers, giving an output of 325 volts at 120 mA for an input of 350 volts R.M.S.

Price **9/-**

Overall Dimensions : 119×41 mm.



Marconi MU12

Full Wave Rectifier

Marconi MU12, which has been re-designed for this year, is the indirectly heated counterpart of the U12, giving a slightly greater output. The slower heating time assists in preventing the setting up of high peak voltages when the receiver is switched on.

Price **9/-**

Overall Dimensions : 125×50 mm.

MARCONI U10

Full Wave Rectifier

The maximum output of this rectifier is 60 mA at 250 volts. The filament rating is 4v. 1 amp.

Price **9/-**

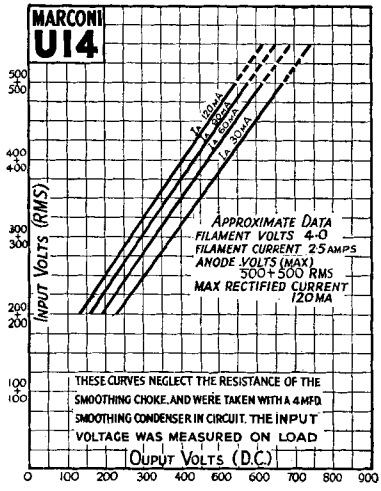
Marconi U14

Full Wave Rectifier

Marconi U14 is a full wave rectifier for use in receivers employing valves such as the PX25, PT25H, etc., in the output stage.

The U14 will provide an output of 500 volts at a current of 120 mA for an input of 500 volts R.M.S.

Price 9/-



Overall Dimensions : 119×41 mm. 4 pin base.

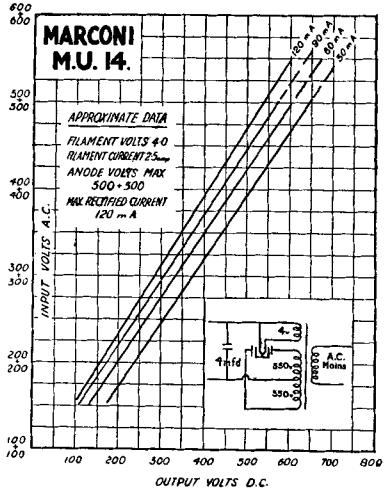
Marconi MU14

Full Wave Rectifier

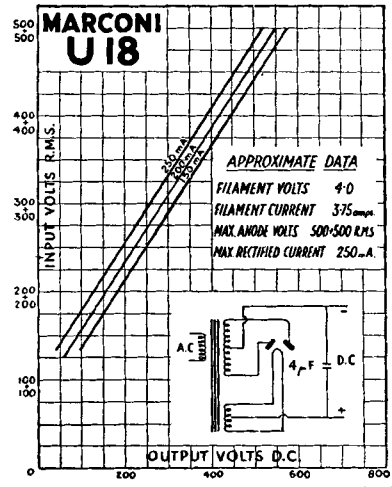
Marconi MU14 is an indirectly heated rectifier having a lower impedance than the U14. It has recently been re-designed and has a longer heating time, which helps still further to reduce peak voltages on switching. An output of 540 volts at 120 mA is obtainable for an input of 500 volts R.M.S.

The construction is very rigid.

Price 9/-



Overall Dimensions : 125×50 mm. 4 pin base.



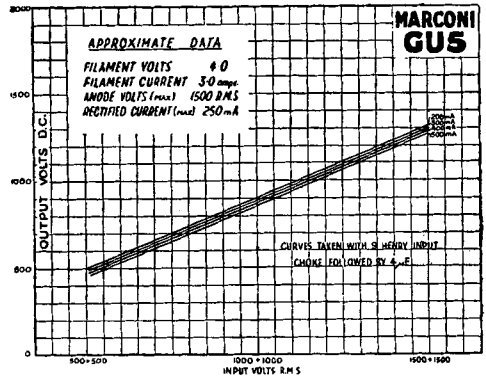
Marconi U18

Full Wave Rectifier

U18 is a directly heated rectifier of sturdy construction giving an output of 250 mA at over 500 volts. This valve enables the users of big gear to avoid the disadvantages of rectifiers in parallel or the delayed switching of mercury vapour types.

Price 15/-

Overall Dimensions: 135×57 mm.



Marconi GU5 and GU1

Half Wave Mercury Vapour Rectifiers

GU5 and GU1 are half wave hot cathode mercury vapour rectifiers, recommended when heavy currents are required at voltages in excess of 500. The valves are in general similar but GU5 has its anode connection taken to a top cap so that its rating is 1500v. R.M.S. The maximum rectified current is 250 mA in each case. Delayed switching of the H.T. must be employed. These rectifiers give high efficiency owing to the very low voltage drop, about 15 volts, and excellent regulation is obtainable by virtue of the very low effective internal resistance. To avoid damage to the valve from unduly high peak current a choke should precede the first smoothing condenser, with 4 mfd. the minimum valve is 1 Henry. Larger values will often be used to give the necessary regulation when fluctuating loads such as class 'B' amplifiers are being supplied.

Overall Dimensions:
GU5 145×51 mm.
GU1 110×45 mm.

Price 25/- each.

Marconi U50

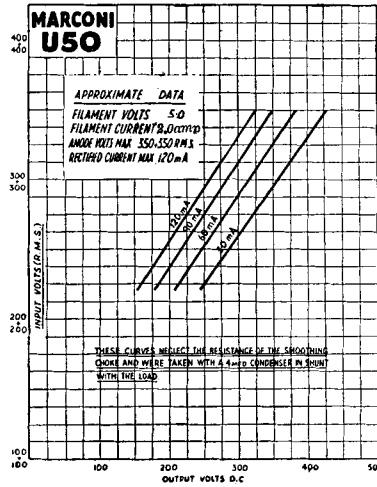
Full Wave Rectifier

Marconi U50 is the 5 volt, Octal base equivalent of the popular U12 type. It is of very robust construction.

Price 9/-

Overall Dimensions : 119×45 mm.

Octal base ; for connections see pages 4-5.



Marconi U52

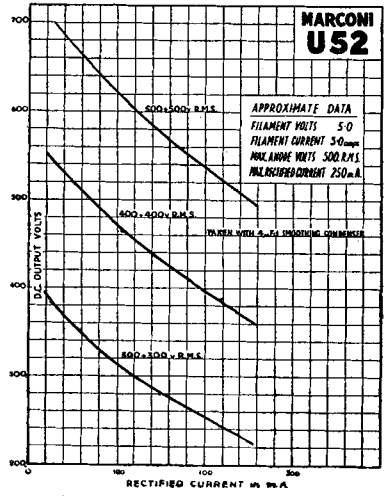
Full Wave Rectifier

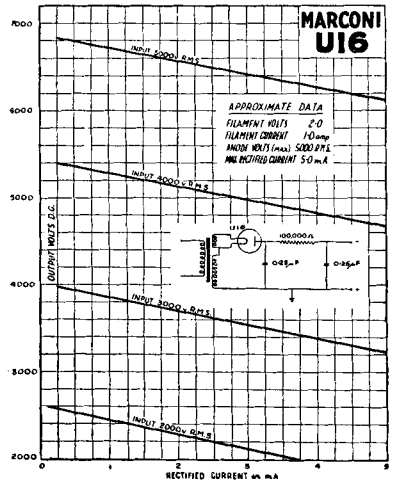
Marconi U52 is a heavy duty rectifier delivering up to 250 mA and is thus suitable for large receivers or small and medium size public address equipment.

Price 15/-

Overall Dimensions : 135×51 mm.

Octal base ; for connections see pages 4-5.





Marconi U16

Half Wave Rectifier

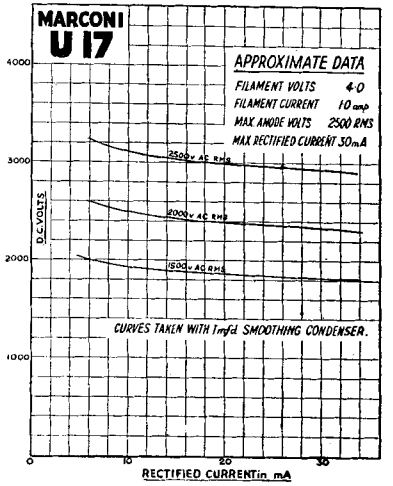
Marconi U16 is designed for Television and general Cathode Ray tube use where a high voltage is required at low values of current.

A maximum input of 5000 volts R.M.S. is permissible with a rectified current of 5.0 mA.

The anode is taken to the top cap.

Price 12/6

Overall Dimensions : 128 × 51mm.



Marconi U17

Half Wave Rectifier

Where a high voltage supply is required for time bases as well as for the Cathode Ray tube, Marconi U17 should be used.

30 mA rectified current can be drawn and the input may be up to 2500 volts R.M.S.

A top cap anode connection is employed.

Price 12/6

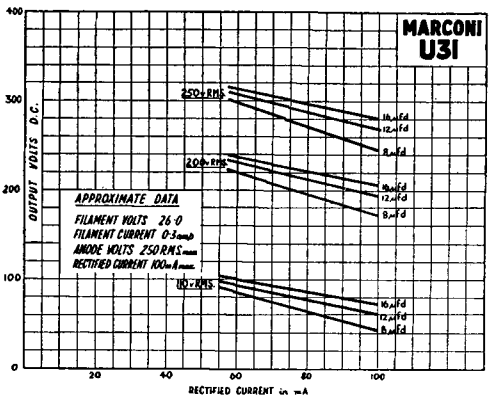
Overall Dimensions : 140 × 51 mm.

Marconi U31

Half Wave Rectifier

Marconi U31 is an indirectly heated half-wave rectifier. It can be run in series with International or Universal Range valves in A.C./D.C. sets. Its low impedance results in the minimum of voltage drop.

Price 9/-



Overall Dimensions: 119 × 45 mm. Octal Base. For connections see pages 4-5.

Marconi Barretters

301, 302, 303, 304

For a current of 0.3 amp.

In D.C. and A.C./D.C. circuits where series connected Universal valves are used a Barretter will maintain the filament current within small limits in spite of variations of applied voltage.

This not only makes a tapped resistance unnecessary but also compensates for mains fluctuations.

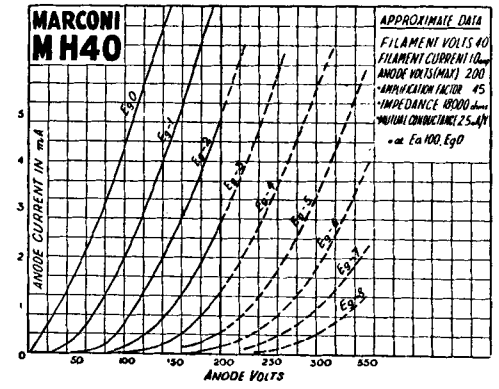
Ample ventilation should be provided to dissipate the heat evolved during use.

Type	Volts Dropped
301	138—221
302	112—195
303	86—129
304	95—165

Overall Dimensions: 130 × 64 mm.

Price 8/6

Marconi Valves for Special Uses



Dimensions : 125×51 mm. 5 pin base.

Price **5O/-**

Marconi MH40

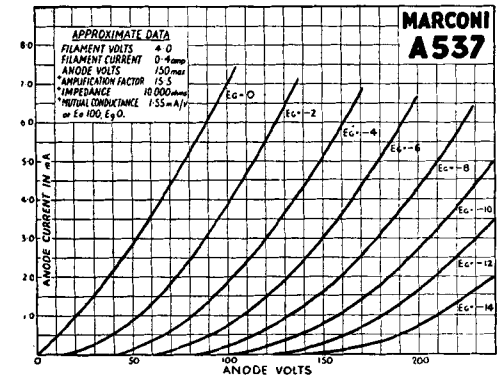
Low Noise Level Triode

MH40 is intended for the early stages of high gain amplifiers. A rigid electrode system with special steatite insulators ensures a consistently low order of microphony and noise, the latter approaching closely to the theoretical shot noise limit.

In general, the valve should be operated with the lowest anode current possible, consistent with the gain required. MH40 is supplied in clear glass form only.

Inter-electrode capacities.

G—A	7.3μμF
A—E	4.0μμF
G—E	6.0μμF



Dimensions : 77×29 mm.

Special side contact base, and grid to top of bulb.

Price **5O/-**

Marconi A537

Small Low Noise Level Triode

A537 is a low noise level valve designed for use in microphone sound heads, where size and filament current are considerations.

When the subsequent gain is very high ; and low frequencies are transmitted, the filament should be heated by an accumulator or smoothed D.C. at 4 volts, in order to avoid hum. This also applies to MH40.

A suitable working point is at anode volts 50, grid bias 1.75 volts.

Inter-electrode capacities.

G—A	1.7μμF
G—E	1.4μμF
A—E	1.5μμF

Marconi HA1

Acorn Triode.

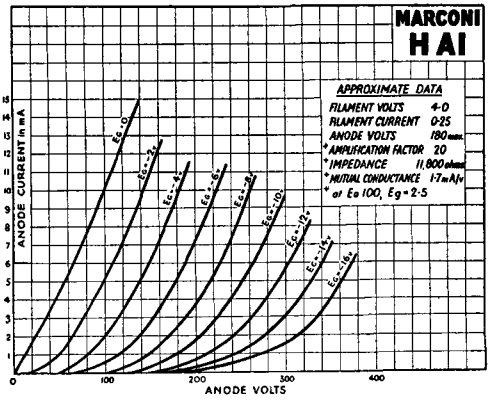
Marconi HA1 is a triode of normal slope but greatly reduced size and capacities. One of its chief uses is for ultra high frequency work.

Nominal rating, see curve.

Inter-electrode capacities.

G—E	1.0$\mu\mu$F
G—A	1.4$\mu\mu$F
A—E	0.6$\mu\mu$F

Connections and dimensions, see below.



Typical Operating Data.

As super regenerative detector up to 400 Mc.

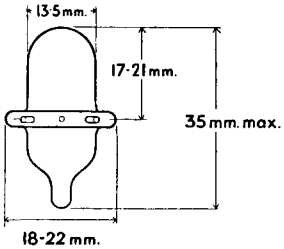
Anode volts	100—150
Anode current	4.5 mA max.
Grid condenser	50$\mu\mu$F
Grid leak	10 megohms

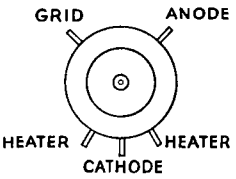
Notes.

It is important that the anode current should never be allowed to exceed 4.5 mA. As an oscillator the HA1 will operate up to 600 Mc, a suitable type of circuit being one employing parallel or concentric tubes.

Owing to its high input impedance the acorn triode is particularly suitable for valve voltmeter work with an anode bend circuit.

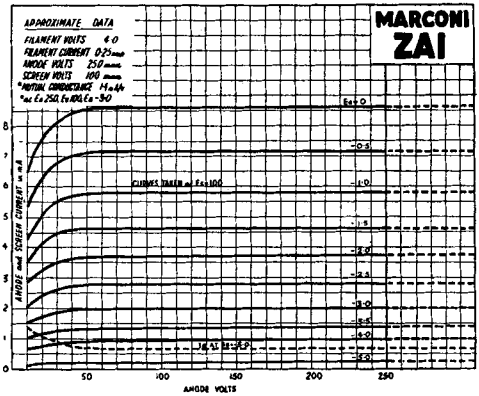
Soldered connections must not be made to the valve prongs.





VIEW FROM TOP

Price - - 50/-



Marconi ZA1

Acorn Pentode

Marconi ZA1 enables H.F. gain to be attained at frequencies above 50Mc where the ordinary type of valve ceases to amplify.

Nominal rating, see curve.

Inter-electrode capacities.

G—A	0.007$\mu\mu$F
A—E	3.0$\mu\mu$F
G—E	3.0$\mu\mu$F

Typical Operating Data.

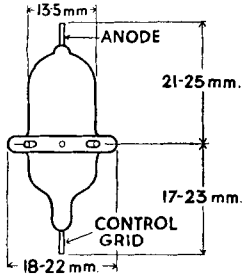
As H.F. amplifier.

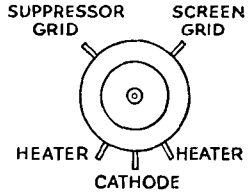
Anode volts	250
Screen volts	100
Grid volts	—3
Bias resistance	1500 ohms

Notes.

The acorn pentode can also be used as a frequency changer in conjunction with an acorn triode, suppressor grid injection being employed. As a valve voltmeter ZA1 can be mounted at the end of a test prod, thus keeping the live lead very short indeed.

Soldered connections must not be made to the valve prongs.





VIEW FROM TOP

Price - - 60/-

Marconi H12

Midget Triode

Marconi H12 is intended for the early stages of deaf aid amplifiers or other apparatus where small size is of primary importance.

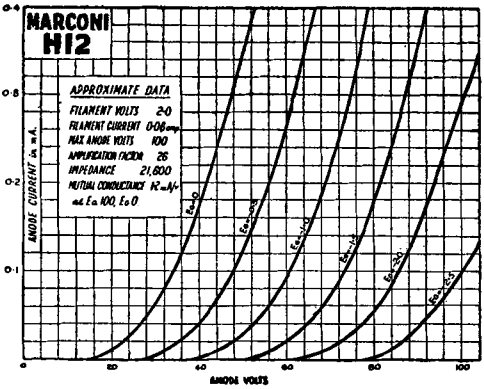
Nominal rating, see curve.

Inter-electrode capacities.

G—A	4.3μμF
G—E	2.5μμF
A—E	1.6μμF

Typical Operating Data.

H.T. voltage	... 36-52
Anode load resistance	.. 0.25 meg.
Grid bias	... zero
Voltage gain	... 15



Base connections, see page 57.

Dimensions : 75 × 17 mm.

Price - - 15/-

Marconi L12

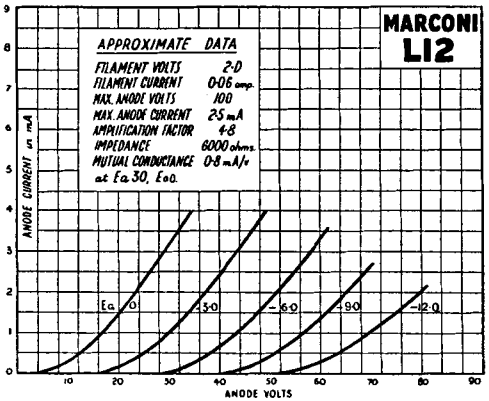
Midget Triode

Marconi L12 is designed for the output stage of deaf aid or similar amplifiers feeding headphones.

Nominal rating, see curve.

Inter-electrode capacities.

G—A	4.0μμF
G—E	2.0μμF
A—E	1.6μμF

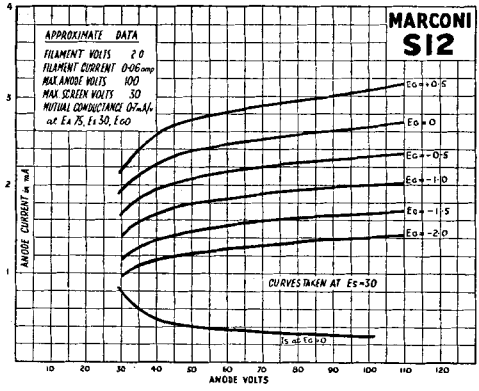


Typical Operating Data.

Anode volts	45	30
Anode current	2.2	1.4 mA
Grid bias	−4.4	−2.8
Power output	12mW	5 mW
Optimum load	10,000 ohms	
Bias resistance	2,000 ohms	

Price 15/-

Dimensions : 75 × 17 mm. Base connections, see page 57.



Marconi S12

Midget Screen Grid

Marconi S12 is suitable for the early stages of deaf aid amplifiers where it gives high gain with low H.T. voltage.

It is not intended for H.F. work.

Nominal rating, see curve.

Inter-electrode capacities.

A—G	0.3$\mu\mu$F
G—E	5.6$\mu\mu$F
A—E	3.4$\mu\mu$F

Dimensions : 76 × 17 mm.

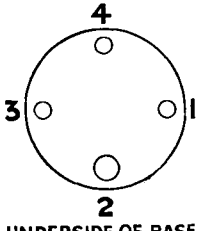
Typical Operating Data.

H.T. voltage	36	36	36	52	52	52
Anode load resistance	150,000	250,000	Choke	150,000	250,000	Choke
Screen feed resistance	1 meg.	1 meg.	1 meg.	1 meg.	1.5 meg.	1 meg.
Total cathode current	0.11	0.1	0.16	0.18	0.12	0.27 mA
Grid bias	0	0	0	0	0	0
Stage gain	24	26	57	29	32	57

Notes.

When choke coupling is used its value depends on the frequency response required. With small apparatus some compromise between size and bass response is usually necessary.

Price - - 17/6



UNDERSIDE OF BASE

Base Connections.

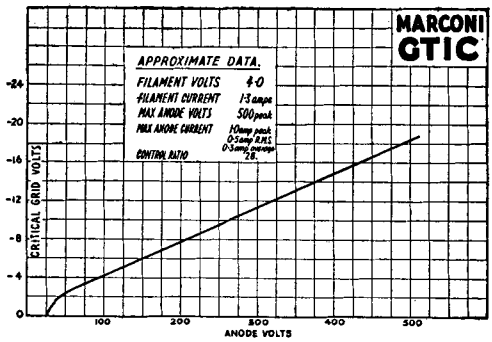
	H12	L12	S12
1	Anode	Anode	Screen
2	Grid	Grid	Grid
3	Filament	Filament	Filament
4	Filament	Filament	Filament
Top Cap	—	—	Anode

Marconi GTIC

Gas-filled Relay.

Marconi GTIC is an Argon filled relay capable of controlling currents up to 1 amp. (peak value).

Its design ensures constancy of operation under all variations of room temperature and a long life with freedom from clean-up.



5 pin base. Standard I.H.C. triode connections.

Nominal Rating.

Heater voltage	4.0 min.
Heater current	1.3 amps.
Max. anode voltage	500 peak
Max. anode current	1.0 amp peak 0.5 amp. R.M.S. 0.3 amp. average Measured on M.C. meter.
Anode—cathode voltage drop	16
Control ratio	28
Cathode heating time	30 secs. min.

Notes.

The impedance of the anode circuit should be such that the anode current can never exceed 1.0 amp. Special attention must be given to this point in circuits where the GTIC discharges a condenser.

1,000 ohms or more should be included in the grid circuit to limit the grid current but the grid circuit impedance should normally be kept low. An exception to this is the case where the grid is thrown highly negative immediately following the discharge. A high grid impedance is then necessary to protect the valve, but in no case should it exceed 1 megohm.

A large heater to cathode potential difference must be avoided and the two should where possible be connected together.

The de-ionisation time is from 10 to 1000 micro-seconds depending on circumstances.

Price - - 25/-

Miscellaneous Special Types

	Price
MARCONI H11—Deaf Aid Triode : Filament 1v., 0.1 amp. Ea100 max. Slope 0.5 mA/v. M=15. Special side contact base	**15/-**
MARCONI L11—Deaf Aid Output Triode : Filament 1v., 0.1 amp. Ea100 max. Slope 0.57 mA/v. M=4.4. Special side contact base	**15/-**
MARCONI A577—Voltmeter Triode : Filament 4v., 1.0 amp. Ea250 max. Slope 2.0 mA/v. M=6. Input impedance 20 megohms min. at 1,000 K.C. 5 pin base, top grid	**60/-**
MARCONI N43—Screened Output Pentode. Filament 4v., 2.0 amps. Ea=Es=250 max. Slope 10.0 mA/v. 7 pin base, top grid	**25/-**
MARCONI GT1—Gas Filled Relay. Filament 4v., 1.3 amps. Ea1000 max. Ia 1.0 amp. peak max. Control ratio 20—25. Mercury vapour filled. 5 pin base ...	**40/-**
MARCONI GT1A—Gas Filled Relay. Filament 4v., 1.3 amps. Ea300 max. Ia 0.6 amp. peak max. Control ratio 20. Argon filled. 5 pin base	**60/-**
MARCONI GT1B—Gas Filled Relay. Filament 4v., 1.35 amps. Intended for television time bases. Argon filled. 5 pin base	**20/-**
MARCONI D42—Television Diode. Filament 4.0v., 0.6 amp. Ea75 max. Ia 15 mA max. 4 pin base	**10/-**
MARCONI ET1—Electrometer Triode. Filament 1v., 0.1 amp. Ea4—10. Slope 0.08 mA/v. 4 pin base, top grid	**85/-**
MARCONI A831—Battery Charging Rectifier. Filament 1.8v., 2.8 amps. Ea30+30 R.M.S. max. Ia 1.3 amps. max. Argon filled. 4 pin base	**10/6**

Explanation of Type Numbers

The type numbers of Marconi Valves have been devised so that they show at a glance the valve's function and the range to which it belongs.

The table below gives the prefixes commonly used and is followed by an explanation of the numbers used in conjunction with the letters.

A	Special purpose valves. Number is merely a serial.
B	Class " B " double triode.
D	Valve with one or more diodes. Also applies to the old .25 amp. direct current range of valves.
GU	Mercury vapour filled rectifier.
GT	Gas filled relay.
H	Triode with high magnification factor.
KT	Kinkless tetrode.
L	Triode with low magnification factor.
M	A.C. mains valve (not used recently).
N	Output pentode.
P	Output triode.
PT	Output pentode.
QP	Q.P.P. double pentode.
S	Screened tetrode.
U	Rectifier.
V	Variable Mu (not used recently).
W	Variable Mu H.F. type.
X	Frequency changer
Z	Straight Mu H.F. type.
21, 22, etc.	2 volt battery valve.
30, 31, etc.	0.3 amp. valve for series running.
4, 40, 41, etc.	4v. valve.
5, 50, etc.	5v. valve.
63, 64, etc.	6.3v. valve.

A letter following the numeral is generally a distinguishing mark between two valves of a similar series.