

*When buying Valves
-Remember!*



The B.B.C., Imperial Airways,
Trinity House Beacon Stations
and Lightships, Metropolitan
Police, Large Passenger Liners,
Empire Wireless Communication,
etc., etc., all use

MARCONI VALVES



SUBJECT INDEX.

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The New Home of the British Broadcasting Corporation, London



The B.B.C. use Marconi Valves !
*Wonderful Testimony to their Efficiency
and unfailing Reliability.*



"I am writing to inform you that from March, 1924, until the beginning of this year I have used one of your V.2a 2-valve long range sets and that the valves on this set have been in continual use to my personal knowledge for nine years and have never been replaced, always giving good results. One valve is marked (inside) 1919. This set came into my possession second-hand in 1924 but to my knowledge it was in use for two years before that and then was bought second-hand."

H.G.L., Radstock, Somerset.

INDEX AND PRICE LIST

			Price	Page
2-volt Valves	}	S 215 Screen Grid 	20/-	15
		H 210 } High Magnification 	8/6	19
		H 2 } 	8/6	19
		HL 210 } Medium Magnification 	8/6	23
		L 210 } Low Magnification 	8/6	27
		P 215 } Power 	10/6	31
		P 2 } Super-power 	13/6	35
		P 240 } 	13/6	35
PT 240 } Pentode 	22/6	45		
4-volt Valves	}	S 410 Screen Grid 	20/-	15
		H 410 } High Magnification 	8/6	19
		HL 410 } Medium Magnification 	8/6	23
		L 410 } Low Magnification 	8/6	27
		P 410 } Power 	10/6	31
		P 425 } Super-power 	13/6	35
		PX 4 } 	22/6	35
		PT 425 } Pentode 	22/6	45
6-volt Valves	}	S 610 Screen Grid 	20/-	15
		H 610 } High Magnification 	8/6	19
		HL 610 } Medium Magnification 	8/6	23
		L 610 } Low Magnification 	8/6	27
		P 610 } Power 	10/6	31
		P 625 } Super-power 	13/6	35
		P 625A } Super-power 	13/6	35
		PT 625 } Pentode 	27/6	45
		LS 5B } 	25/-	35
		LS 5 } High Power 	25/-	35
		LS 5A } 	25/-	35
LS 6A } 	30/-	35		
A.C.Mains Valves	}	MS 4 } Screen Grid 	25/-	50
		S.8 } 	25/-	50
		MH 4 } High Magnification 	15/-	50
		H.8 } 	15/-	50
		MHL 4 } Medium Magnification 	15/-	50
		HL.8 } 	15/-	50
		ML 4 } Power 	17/6	50
		P.8 } 	17/6	50
D.8 } Special detector 	15/-	50		
H.T. Rectifying Valves	}	U 5 	20/-	57
		U 8 	22/6	57
		U 9 	20/-	57
		U 10 	17/6	57
		GU 1 	40/-	57

Transmitting Valves, pages 60 and 61

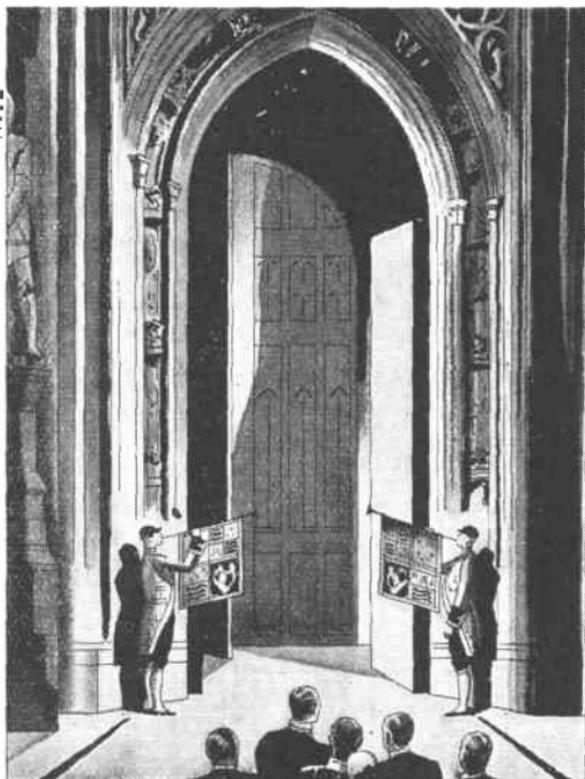
Anode Volts—Anode Current Curves for PX 4, P 625, P625A, LS 5A, LS 6A, pages 43 and 44.

Details of Marconi Valves not in this List will be supplied on request.

ALWAYS USE MARCONI VALVES

The Opening of the Great Five- Power Naval Conference

House of Lords,
January, 1930.



It is a significant fact that Marconi Valves are used for the amplification of speeches on these all-important occasions and for their broadcasting throughout the world.



"I can verify the reliability and long life of Marconi Valves, as I am still using 2 DER Marconi Valves which I purchased in Spring, 1924, and they continue to give perfect reception and reproduction, one in the detector stage and one L.F. They have had constant use, and have experienced several removals, but still are better than more recent valves of various other makes that I have tried since."

C.F.D., Kingston.

How to Choose the Best Valves for your Set.

In setting out to choose the best valves for a radio receiver the first step is to define what we mean by "best." Do we mean most efficient, most economical, most reliable, cheapest—or should we look for a blend of all these attributes?

Experience has shown the latter to be by far the most satisfactory basis. It is the basis on which all important public services operate, and may be summed up as "dependable efficiency."

Imperial Airways know this, and as they can take no risks they must equip their machines with dependably efficient valves.

Trinity House Beacon Stations, responsible for guiding ships carrying thousands of lives, must be fitted throughout with such valves.

The great British liners and other vessels of all classes carrying wireless equipment place dependable efficiency first and foremost.

The B.B.C. transmissions are remarkably free from breakdowns—their equipment must be dependable, especially in the matter of valves.

Metropolitan Police rely on the efficiency and reliability of their wireless communications for swift news—they need dependably efficient valves.

Intrepid explorers risking their lives in unknown lands have one link with civilization—wireless—and this link depends very greatly on its valves.

And in all these cases the universal choice is MARCONI VALVES.

Now, even if you know nothing about the technicalities of wireless, you have the first key to better reception. Go to a good radio dealer and say—"I want some Marconi Valves for this set"—leaving the choice of types to him.

The second key to better reception is found on pages 10 to 13. Here is a list of popular receivers with the best valves for them specified in full. If, then, you wish to go a step farther, find your own receiver and ask for the Marconi Valves recommended in the adjoining columns—and be sure that you get them. You will notice that the recommendations cover 2-volt battery equipments and A.C. Mains equipments; if you wish to use 4-volt or six-volt valves it is only necessary to refer to the subsequent sections on pages 15 to 49 in order to ascertain which of these correspond to the 2-volt types stated.

Perhaps your circuit does not appear in this list. Then you have two or three courses open to you; first, use Key One—and go to your dealer; second, follow the information given in Key Three; third, if Key Three is too technical for you, and you particularly wish for our recommendation, let us have the necessary details of your receiver as outlined on page 9.

ALWAYS USE MARCONI VALVES

How to Choose the Best Valves for Your Set—*contd.*

Valves may be employed in modern circuits to carry out four main functions:—

1. High Frequency Amplification.
2. Detection.
3. Low Frequency Amplification (intermediate stages).
4. Power output (final stage).

High Frequency Stages.

First, the high frequency valves, if any, In the case of modern receivers this choice is very simple—merely ask for the Marconi screen grid valve of the appropriate filament voltage (pages 15 to 17). Older circuits not using screen grid valves will as a rule take HL or L types (pages 23-29), but it is advisable to be guided by the characteristics of the original valves, as new high efficiency types may cause instability. If in doubt, use HL and either reduce the high tension voltage or introduce damping by means of a resistance across the tuning circuit; about .1 to .5 megohm will do.

The Detector.

Second, the detector; one of three types of valves may be used. Here is a quick guide to a correct choice:

1. Detector followed by resistance capacity coupling:—
 - (a) When there is one high frequency valve, or none at all—H or HL type (pages 19 to 25).
 - (b) When preceded by two or more H.F. valves—HL or L types (pages 23 to 29).
2. Detector followed by low ratio transformer—HL types (pages 23 to 25).

An exception is MH 4 (page 51) for A.C. Mains, which may be used because of its comparatively low impedance.
3. Detector followed by high ratio transformer—L types (pages 27 to 29).

An exception is MHL 4 (page 51) for A.C. Mains, which may be used because of its low impedance.

First Low Frequency Stage.

When there are two low frequency stages the first may be filled by an H, HL or L type. Here is the guide:

1. Followed by resistance coupling:—
 - (a) H type if signals are weak, for maximum magnification (pages 19-21).
 - (b) HL type if signals are stronger, as H type would tend to be over-loaded (pages 23-25).
2. Followed by transformer coupling:—
 - (a) In a three valve set with detector and two L.F., an HL may generally be used unless listening is confined chiefly to local and more powerful stations, when an L type is preferable (pages 23-29).
 - (b) In four or five valve circuit the L is almost invariably to be preferred (pages 27-29).

ALWAYS USE MARCONI VALVES

How to Choose the Best Valves for Your Set—*contd.*

The Output Valve.

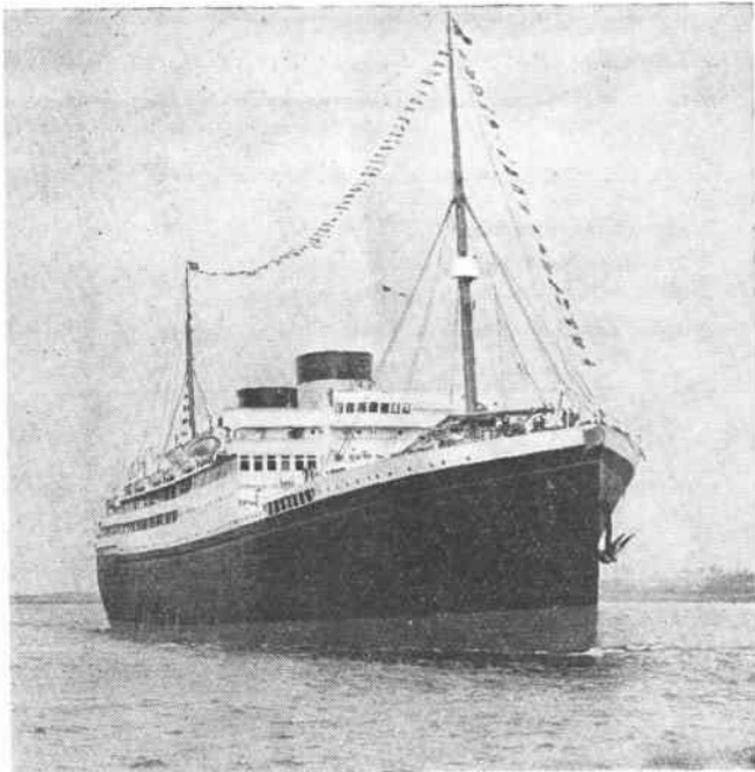
Finally we come to the output stage, which is often the most difficult position to fill to the best advantage. The considerations are:—

1. What volume is required.
2. What high tension supply is available.
3. What is the loudspeaker or output impedance.

Let us again resort to a table in which these factors can be clearly set out:—

Valve.	Page.	Output.	Suitable H.T. supply.	Loudspeaker.	
Power	P215 P410	31 & 32 32 & 33	Moderate volume in small room.	Standard H.T. batteries or small H.T. unit 150 volts max.	2,000 ohm cone.
	P610	31 & 33	Full volume in small room.	"	1500—2000 ohm cone, or moving coil.
Super Power	P2 P240 P425	35 & 38 35 & 38 35 & 39	Full volume for average room.	Large capacity H.T. batteries or Standard H.T. Unit 150 volts max.	750—1000 ohm cone, or moving coil.
	P625	35 & 40	Full volume for large room.	Super capacity H.T. batteries or Standard H.T. Unit 250 volts max.	750 ohm cone, or moving coil.
	P625A PX4	35 & 40 35 & 39	"	H.T. accumulators or Standard H.T. Unit. 200 volts max.	500 ohm cone, or moving coil.
	For		High Power Valves, see pages 41—44.		
	Pen- todes	PT240	46 & 48	Full volume for average room.	Large capacity H.T. batteries or Standard H.T. Unit, 150 volts max.
PT425		46 & 49	"	Super Capacity H.T. batteries or Standard H.T. Unit 200 volts max.	1000—1500 ohm cone, or moving coil
PT625		46 & 49	Full volume for large room.	H.T. Accumulator Standard H.T. Unit. 250 volts max.	750—1000 ohm cone, or moving coil.

ALWAYS USE MARCONI VALVES



M.S. Britannic

RADIO plays a vital part in the life of these immense liners. The safety of thousands of lives may well depend upon the efficiency of the radio equipment. Does not the fact that almost all of the great British liners use Marconi Valves speak for itself? They are the same Valves that you can use in your home set.

"Over four years ago, I purchased four of your Valves DER Type, 2 volt and think you will be pleased to hear that three of them are still working in my receiver, the other one I accidentally broke only a week ago, or it would be going still. My set is on practically every night and reception is just beginning to get less. They have done very well and I have no hesitation in recommending them."

S., Dawdon, Seaham Harbour, Co. Durham.

How to Choose the Best Valves for Your Set—contd.

From these details it should be possible to choose the most suitable valve for any given conditions. Bear in mind that the volume obtainable depends fundamentally on the quantity of high tension power available, as this limits the class of valve which can be used. If you depend on dry batteries, don't choose a P 625A or PX 4. On the other hand, if you own an H.T. Unit such as the Marconiphone A.C. 7 or D.C. 7, which will give up to 200 volts at 50 milliamperes, you can choose any valve in the table which suits your needs. Further details regarding power and super-power valves are given on pages 35 to 44.

Pentode Valves are dealt with in full on pages 46 to 49. If you are not sure whether to choose a pentode or a power valve, here are the rules:—

1. The Pentode will give a similar output to that of its equivalent super-power valve, but does this with a smaller input. Therefore, if signals are too weak to load the super-power valve, and you wish to increase volume without adding another valve, a pentode is of advantage.
2. The Pentode will not handle as much input as the super-power, hence if signals are already strong enough to load the super-power they will overload the pentode, producing distortion. In this case, to get more undistorted volume a larger power valve is necessary, *not* a pentode.
3. The Pentode is most useful in a set with only *one* low frequency stage. It should not as a rule be used in sets having *two* L.F. stages.

With the information given in Key 3 it should be possible to choose the best combination of valves for the majority of circuits. Should, however, there be any special difficulty in arriving at a decision, a recommendation will gladly be given if you will send full information to the Marconiphone Co., Ltd., Valve Department, 210-212, Tottenham Court Road, London, W.1

The following details are necessary:—

1. Name and type of receiver, if known, and number of valves.
2. Valves at present or previously used, if any, stating positions.
3. If valves used are unknown, give details of circuit, stating:
 - (a) How many H.F., whether screen grid or neutralised.
 - (b) Detector, whether leaky grid or Anode Bend, and whether followed by transformer or resistance coupling.
 - (c) How many L.F. stages and how coupled.
4. State filament supply, whether 2, 4 or 6 volts or A.C.
5. State H.T. supply, whether from batteries, accumulator or mains unit, and what voltage is available.
6. State type of loudspeaker, if any.

VALVES FOR ALL RECEIVERS.

○ VERLEAF, on pages 10-13, are tabulated the best valves for a number of receivers of all types, including Portable sets; Kit sets; 2-3-4 and 5-valve battery and electric sets. The use of the correct Marconi valves as specified will ensure the best performance—efficiency, economy, quality and reliability. If your receiver does not appear, send the above details of its circuit for a special recommendation.

ALWAYS USE MARCONI VALVES

THE BEST VALVES!

For Home Constructor's Sets

	H.F.	DET.	1st L.F.	2nd L.F.
Osram Music Magnet 3 ..	S.215	H.L.210	P.215	—
New Osram Music Magnet 4	S.215(2)	H.210	P.215	—
Brown Screened Grid 3 ..	S.215	H.L.210	P.215	—
Lamplugh Chassirad S.G. 3	S.215	H.L.210	P.215	—
McMichael Screened Dimic 3	S.215	H.L.210	P.215	—
Lotus S.G. Kit Set ..	S.215	H.L.210	P.T.240	—
Ediswan R.C. Threesome ..	—	H.210	H.L.210	P.215
Mullard Master Three ..	—	H.210	H.L.210	P.215
" " Star ..	—	H.L.210	L.210	P.2
" " Orgola ..	S.215	H.L.210	P.215	—
Cossor Melody Maker (1927)	—	H.210	H.L.210	P.215
" " " (1928)	S.215	H.L.210	P.215	—
" " " (1929)	S.215	H.L.210	P.215	—

P2 or PT 240 pentode may be used as alternative last valve in most sets.

For Portable Sets

Aeonic Transportable 5 ..	H.L.210(2)	H.210	H.L.210	P.215
" Suitcase 5 ..	H.L.210(2)	H.210	H.L.210	P.215
" Screened Grid 4 ..	S.215	H.L.210	L.210	P.215
Amplion Screened 4 ..	S.215(2)	H.L.210	P.T.240	—
Burddept Portable ..	S.215	H.210	L.210	P.215
Super Screen Portable	S.215	H.210	H.L.210	P.2
Burgoyne Screen Grid 4	S.215	H.210	H.L.210	P.T.240
" Transport De-Luxe	H.L.210(2)	H.210	H.L.210	P.215
" Pentode Portable ..	H.L.210(2)	H.210	L.210	P.T.240
" Model "A" ..	H.L.210(2)	H.210	H.L.210	P.215
Burne Jones Magnum				
Port. ..	H.L.210(2)	H.210	L.210	P.215
" Suit Case 5 ..	H.L.210(2)	H.210	L.210	P.215
Chakophone Junior Port 4	H.L.210(2)	H.L.210	P.T.240	—
" Warwick Port 5	H.L.210(2)	H.L.210	L.210	P.2
Columbia Model "303"	H.L.210(2)	H.210	L.210	P.215
Decca Transportable "21"	H.L.210(2)	H.210	L.210	P.215
" " "16"	H.L.210(2)	H.210	L.210	P.215
Detex 5 ..	H.L.210(2)	H.210	L.210	P.215
Dorian S.G.4 ..	S.215	H.L.210	L.210	P.215
Dunham Portable 5 ..	H.L.210(2)	H.210	H.L.210	P.215
S.G.4 ..	S.215	H.L.210	L.210	P.215

THE BEST VALVES!

	H.F.	DET.	1st L.F.	2nd L.F.
Edlson Bell Maison 3	S.215	L.210	P.T.240	—
Picnic Port.	H.L.210(2)	H.210	L.210	P.215
G.E.C. " Screen Grid 4 ..	S.215	H.210	L.210	P.2
Halcyon De Luxe Cab 5	H.L.210(2)	H.210	L.210	P.215
Screen Grid 4	S.215	H.210	L.210	P.2
Hart Collins Passport 4	S.215	H.210	L.210	P.215
Tourist 5	H.L.210(2)	H.210	L.210	P.215
Igranic Universal Port ..	S.215(2)	H.210	L.210	P.215
Kolster Brandes Port ..	H.L.210(2)	H.210	L.210	P.215
Lissen Suitcase Portable	H.210 & H.L.210	H.L.210	L.210	P.215
" S.G. Transportable	S.215(2)	H.L.210	P.T.240	—
Langham Popular 5 ..	H.L.210 (2)	H.L.210	L.210	P.215
Lotus S.G. Suitcase Port.	S.215(2)	H.L.210	P.T.240	—
McMichael Super Screen 4	S.215(2)	H.L.210	P.T.240	—
Super Range 4	S.215	H.L.210	P.T.240	—
Super Port ..	S.215	H.210	L.210	P.215
Marconiphone "43" ..	L.210	L.210	H.210	P.215
" "53" ..	H.L.210(2)	H.210	H.L.210	P.215
" "55" ..	H.L.210(2)	H.210	L.210	P.215
National Portable ..	H.L.210(2)	H.210	L.210	P.215
Ormond Suitcase 4 ..	S.215	H.210	H.L.210	P.215
" Portable 5 ..	H.L.210(2)	H.L.210	L.210	P.215
Philips Model 2522 ..	S.215	H.210	L.210	P.215
Portadyne S.G.4 ..	S.215	H.L.210	L.210	P.215
" Regional 5 ..	H.L.210(2)	H.210	L.210	P.215
Pye Model 2525C ..	H.L.210(2)	H.210	L.210	P.215
Rees Mace Gnome ..	S.215	H.L.210	L.210	P.215
Rolls Caydon Regional	H.L.210(2)	H.L.210	L.210	P.215
" Phantom Reg.	S.215(2)	H.L.210	P.T.240	—
Selectors Screen Grid 4	S.215	H.210	L.210	P.2
" Portable 5 ..	H.L.210(2)	H.210	L.210	P.215
Symphony 5-valve Port ..	H.L.210(2)	H.210	L.210	P.215
Truphonic Melo-set ..	H.L.210(2)	H.210	H.L.210	P.215
" Melo-Grande ..	S.215	H.210	H.L.210	P.215
Ultra Transportable 5 ..	H.L.210(2)	H.L.210	L.210	P.215

For Battery Operated Receivers

Aeonic Batt. Radio-Gram	H.L.210(2)	H.L.210	L.210	P.240
Amplion Four-Valve ..	S.410	L.410	L.410	P.625
Bowyer Lowe Pentovox 2	—	H.L.210	P.T.240	—
" " Pentovox 3	S.215	H.L.210	P.T.240	—
" " Radio-Gram	S.215	H.210	P.T.240	—
" " Vox Populi 4	S.215	H.L.210	L.210	P.2

THE BEST VALVES!

	H.F.	DET.	1st L.F.	2nd L.F.
Brownie Two-valve ..	—	H.L.210	P.215	—
„ Dominion Three	—	H.L.210	L.210	P.215
Burndept Screened 4 ..	S.625	H.L.610	L.610	P.610
„ Screened Ethophone	S.215	H.L.210	P.T.240	—
„ Empire Screened 4	S.625	H.L.610	L.610	P.610
„ Ethogram ..	S.215	H.L.210	H.L.210	P.2
Columbia Model "304"	S.215(3)	H.L.210	P.240	—
Edison Bell Pedestal 3 ..	—	H.210	L.210	P.215
„ Homestead 3	—	H.210	L.210	P.215
„ Maison 3 ..	S.215	L.210	P.T.240	—
„ Regent 4 ..	H.L.210	H.L.210	L.210	P.2
Ediswan Three-valve ..	S.215	H.L.210	P.215	—
„ B.T.H. 4 ..	S.215(2)	H.L.210	P.240	—
G.E.C. Two-valve ..	—	H.L.210	P.215	—
„ Victor 3 ..	—	H.210	H.210	P.215
„ World Wide S.G.4	S.625(2)	H.L.610	P.610	—
„ 3 Valve 2830	—	H.L.210	L.210	P.2
Igranic Short Wave S.G. 4	S.410	H.410	H.L.410	P.425
Kolster-Brandes 163 ..	S.215	H.L.210	P.T.240	—
„ „ 3 "A"	—	H.L.210	L.210	P.2
„ „ 3 "B"	—	H.L.210	L.210	P.2
Lamplugh Chassirad 2 ..	—	L.210	P.215	—
„ Chassirad 3 ..	—	L.210	L.210	P.215
„ Silver Ghost 3	—	H.L.210	L.210	P.215
„ Chass. S.G. 3	S.215	H.L.210	P.215	—
McMichael Dimic 3 ..	—	H.210	H.L.210	P.215
„ Screened Dimic 3	S.215	H.L.210	P.T.240	—
Marconiphone Model "22"	—	H.L.210	P.215	—
„ Model "23"	—	L.210	P.215	—
„ Model "32"	—	H.L.210	H.210	P.2
„ Model "35"	S.215	L.210	P.215	—
„ Model "39"	S.215	H.L.210	P.215	—
„ Model "44"	S.215(2)	H.L.210	P.240	—
„ Model "51"	L.210(2)	H.410	L.410	P.425
„ Model "56"	S.215(3)	H.L.210	P.2	—
Ormond Screen Grid 3 ..	S.215	H.L.210	P.T.240	—
„ Two-Valve ..	—	H.L.210	P.215	—
„ Three-Valve ..	—	H.L.210	L.210	P.2
Philips Type 2802 ..	S.410	L.410	L.410	P.T.425
„ Type 2502 ..	S.410	L.410	P.T.425	—
Pye Popular Two ..	—	H.L.210	P.215	—
„ Screen 3 ..	S.410	L.410	P.T.425	—
„ Presentation 2 ..	—	H.L.210	P.T.240	—

THE BEST VALVES!

For A.C. All Electric Sets

	H.F.	DET.	1st L.F.	2nd L.F.	Rectifier.
Aeonic All Mains S.G.4 ..	M.S.4	M.H.4	M.H.L.4	P.625	U.9
„ Two-Valve Mains A.C.	—	M.H.L.4	P.425	—	U.9
Amplion Radio-Gram ..	M.S.4	M.H.L.4	M.H.L.4	P.625 (2)	—
„ Standard Mains	M.S.4	M.H.L.4	M.H.L.4	P.625(2)	—
„ Cabinet ..	M.S.4	M.H.L.4	M.H.L.4	P.625(2)	—
Bowyer Lowe Radiogram	M.S.4	M.H.4	M.L.4	—	—
„ Vox Populi 3	M.S.4	M.H.4	M.L.4	—	—
Burndeft A.C. Screened 7	M.S.4 (2)	M.H.4	M.H.4	P.625A(2)	U.9
„ A.C. Ethogram	M.S.4(2)	M.H.4	M.H.4	P.625A(2)	U.9
Ekco P.2	—	M.H.4	P.T.425	—	—
„ S.G. P.3	M.S.4	M.H.4	P.T.425	—	—
„ Straight 3	—	M.H.4	M.H.4	P.625	U.10
Columbia Radio-Gram ..	S.215(3)	L.210	P.240	—	—
„ Table Model "304"	S.215	L.210	P.625	—	U.5
Edison Bell A.C. Rad.Gram.	M.S.4	M.H.4	M.H.L.4	L.S.5A(2)	U.9
Ediswan 3 valve all-electric	M.S.4	M.H.4	P.T.425	—	U.10
Ferranti A.C.31	M.S.4	M.H.L.4	P.625	—	U.9
Gambrell All-electric 2	—	H.210	P.410	—	—
„ All-electric 3 ..	M.S.4	M.H.L.4	P.T.425	—	—
„ All-electric 4 ..	S.410	L.410	P.T.425(2)	—	—
„ A.C. Radio Gram.	M.S.4	M.H.L.4	P.425	L.S.6A	—
H.M.V. Radio Gram. 520	M.S.4	M.H.L.4	M.H.4	PX.4	U.9
Igranic A.C.3 Cabinet ..	M.S.4	M.H.4	P.T.425	—	U.9
Kolster-Brandes 161-169	M.S.4	M.H.4	P.T.425	—	U.9
„ „ Radiogram	M.S.4	M.H.4	M.H.4	L S.5.A (2)	U.8
Lamplugh AC/SG.3 ..	M.S.4	M.H.L.4	M.L.4	—	—
Lissen Radio-Gram. ..	M.S.4	M.H.4	P.T.425	—	—
Lotus S.G.P. All Mains	M.S.4	M.H.4	P.T.425	—	—
M.P.A. All-electric 3 ..	M.H.L.4	M.H.L.4	P.T.425	—	U.5
McMichael Screened 3 ..	S.215	M.H.L.4	M.L.4	—	—
Marconiphone					
„ Model "22" ..	—	M.H.L.4	M.L.4	—	U.5
„ Model "32" ..	—	M.H.L.4	M.H.4	M.L.4	U.5
„ Model "39" ..	M.S.4	M.H.L.4	P.425	—	U.5
„ Model "44" ..	S.8(2)	M.H.4	P.425	—	U.5
„ Model "47" ..	M.S.4	M.H.L.4	M.H.4	P.X.4	U.9
„ Model "56" ..	S.8 (3)	H.L.8	P.625	—	U.5
Philips Type 2501 ..	M.S.4	M.H.4	P.T.425	—	U.9
„ Type 2511 ..	M.S.4(2)	M.H.4	P.T.425	—	U.9
„ Type 2515 ..	—	M.H.L.4	P.T.425	—	U.9
„ Type 2514 ..	M.S.4	M.H.L.4	P.T.425	—	U.9
Pye All-electric 2 ..	—	M.H.4	M.L.4	—	—
„ All-electric 3 ..	M.S.4	M.H.4	M.L.4	—	—
R.I. Transportable A.C. 3	M.S.4	M.H.4	P.T.425	—	—
Varley All-electric 2 ..	—	M.H.4	M.L.4	—	U.9
„ All-electric 3 ..	M.S.4	M.H.4	P.X.4	—	U.9



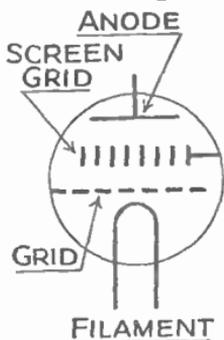
Throughout their journeys to and from this country, day after day, through all weathers, Imperial Airways machines are in constant touch with Air Ports along their routes through the Marconi Valves they invariably carry—the same Valves that are used for domestic radio sets.

"I originally purchased in April, 1925, two 2-volt DER's and used them in a 2-valve Reflex Circuit. In March, 1927, I converted my circuit to a straight three, viz., H.F., Det. and L.F. purchasing an additional valve of D.E. 2 H.F. type as advised in your communication of 8th March, 1927, and I am still using that circuit with the original valves. The two DER's have therefore been in constant use for more than five years and the D.E. 2, H.F. a little over three years, which I should imagine is an almost unique record. I have used a 2-volt 60 actual accumulator for L.T. and 100 volts H.T. on H.F. and L.F., 60-volts on detector and 9 volts G.B. The emission of the valves seems quite unimpaired by their long service and many people have been astonished at the results we obtain with an indoor aerial. The valves have not had any especial care and as my profession necessitates my being away for long periods, my wife is left much alone and in consequence finds radio a great boon and uses it to a great extent."

J. S. (Yeoman of Signals, R.N.), Southsea, Hants.

The Best Screen Grid Valves for Long Distance Reception.

Modern conditions of reception, with the Regional Broadcasting scheme nearing completion and a daily increase in the number of Continental programmes, necessitate the fitting of at least one High Frequency stage in almost every set. By this means only can the essential qualifications of range and selectivity together with ease of control be combined to provide satisfactory long distance reception.



Construction of Screen
Grid Valve.

Marconi Engineers introduced the first screen grid valve, thereby enormously simplifying high frequency amplification and superseding all other methods.

The construction of the valve is indicated here; it has a filament, control grid and anode, as in standard valves, plus a second grid inserted between the control grid and anode. This grid practically eliminates inter-electrode capacity, prevents the escape of magnified signals from the anode circuit back into the grid circuit, and makes possible a very high degree of controllable magnification.

The latest Marconi Screen Grid Valves are the result of still further research and incorporate every possible feature for maximum efficiency and reliability. They combine a very large amplification factor with stability and ease of control.

There is a Marconi Screen Grid Valve for every receiver incorporating screen grid circuits. If mains operated—Types MS4 and S.8 (pages 50 to 54). If battery operated—Types S215 for 2-volt accumulator, S410 for 4-volt accumulator and S610 for 6-volt accumulator (overleaf).

ALWAYS USE MARCONI VALVES

Marconi Screen Grid Valves



Marconi.
S 215,
S 410,
S 610.

Approx.
Overall
Dimen-
sions
136 x 44
m/m.

Marconi S 215
for 2-volt Accumulators.

Marconi S 410
for 4-volt Accumulators.

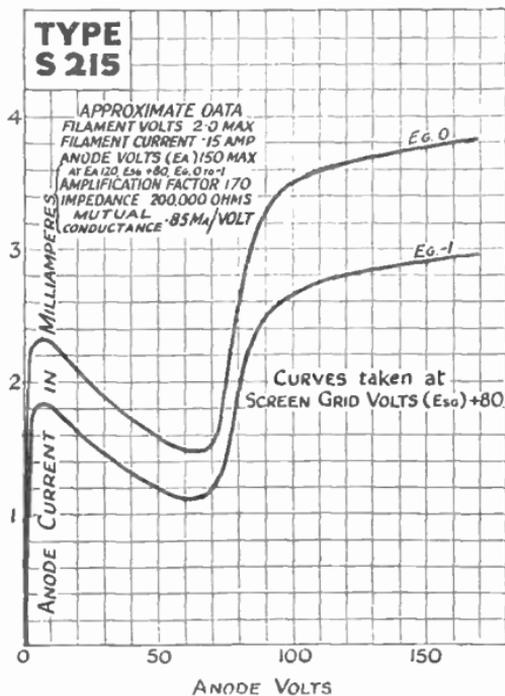
Marconi S 610
for 6-volt Accumulators.

Price each, 20/-

Marconi S 215

Approximate Operating Data.

Anode Volts.	Screen Volts.	Grid Bias -ve
120	60-80	} 0 to -1½
150	80-90	



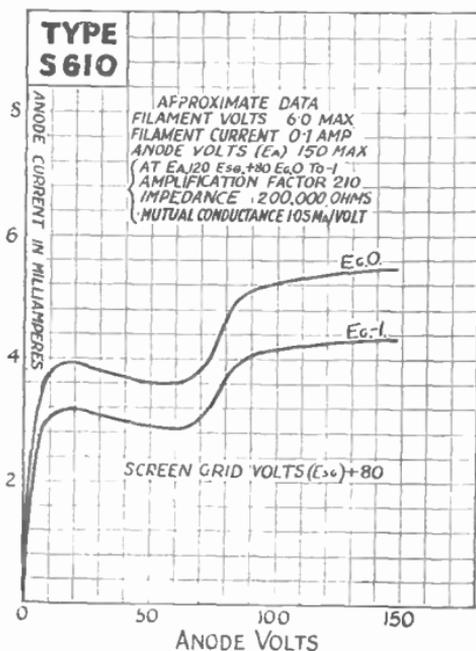
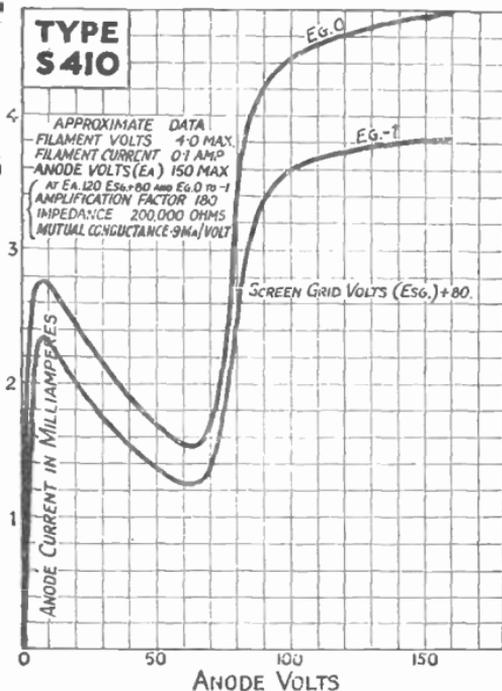
ALWAYS USE MARCONI VALVES

For all Battery Operated Sets

Marconi S 410

Approximate Operating Data.

Anode Volts.	Screen Volts.	Grid Bias -ve.
120	60-80	} 0 to $-1\frac{1}{2}$
150	80-90	



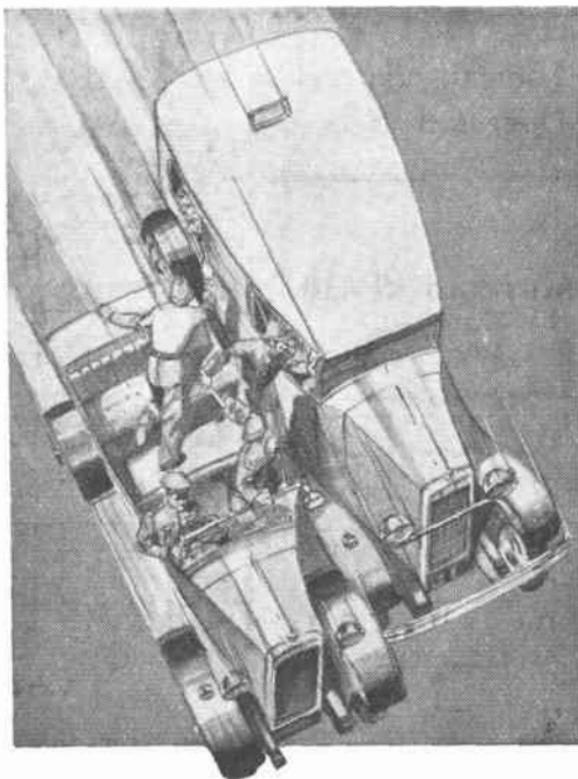
Marconi S 610

Approximate Operating Data.

Anode Volts.	Screen Volts.	Grid Bias -ve.
120	60-80	} 0 to $-1\frac{1}{2}$
150	80-90	

**ALWAYS USE
MARCONI VALVES**

Marconi
Valves
are used
by the



Metropolitan Police !

Radio is becoming more and more important in the tracking of criminals. This vital public service can afford to use nothing but the most efficient and reliable equipment. Once again Marconi Valves are chosen for their unfailing reliability.

“ I had been running another well-known make of valve, but I can honestly say it has not got the same in it as your H.L.210. I have tried several makes but have found nothing better for all round results than yours. They seem to have just that final touch and punch in them that others lack in bringing out distant stations.”

E., Leicester.

The best high amplification Valves for resistance capacity circuits

Marconi High Amplification (H) Valves are designed to give the greatest possible magnification in resistance capacity circuits. They are therefore specially valuable for making the most of weak signals. Due regard must be paid to the type of circuit and in a modern receiver there are two positions where an "H" will give an excellent performance. These are :—



Marconi H 2

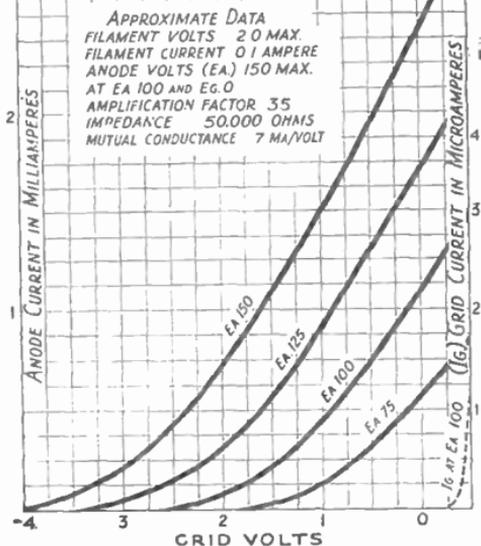
1. Detector stage followed by resistance capacity coupling.
2. First Low Frequency stage, followed by resistance capacity coupling.

A special case is that of Portable Receivers, where MARCONI H₂ and H₂10 are very widely used in the Detector position, followed by a transformer, for maximum sensitivity. For the same reason a MARCONI "H" Valve is often employed in the first socket of a two valve set, for increased range and volume. In general, however, if a circuit incorporates transformers it is better to employ a MARCONI "HL" or "L" Type, reserving the "H" for circuits with resistance capacity coupling.

Overleaf are the characteristics of MARCONI H₂10 and H₂ for 2 volt accumulators, H₄10 and H₆10 for four and six volt, and on pages 50-55 are MARCONI MH₄ and H.8 for A.C. Mains—a complete range for all needs.

ALWAYS USE MARCONI VALVES

TYPE H 210



The best High Magnification Valves

Approximate Operating

Circuit.	Anode Volts.
Grid leak Detector	50 to 150
Anode bend Detector	100 to 150
L.F. Amplifier	100 to 150
H.F. Amplifier	75-150

* or, with H2 and H210, connect

Marconi H 210

(above)

and

Marconi H 2

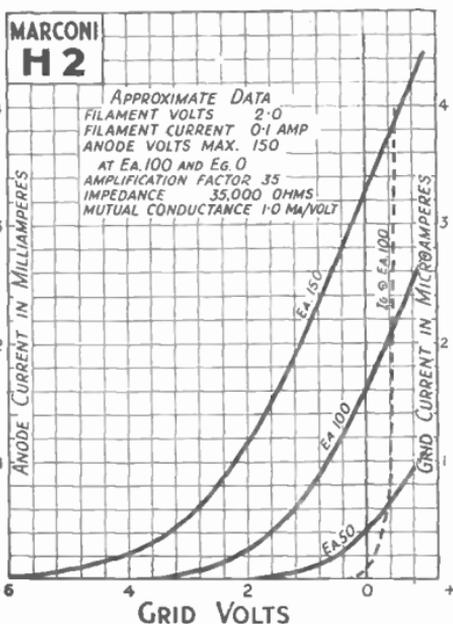
(right)

for

2-volt Accumulator

Price each, 8/6

ALWAYS USE
 MARCONI VALVES

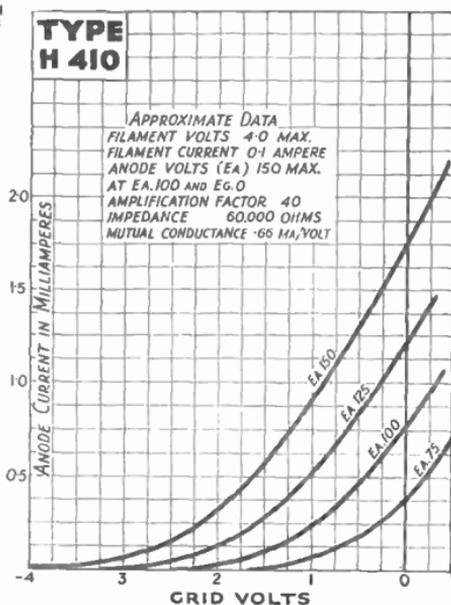


For Battery Operated Sets

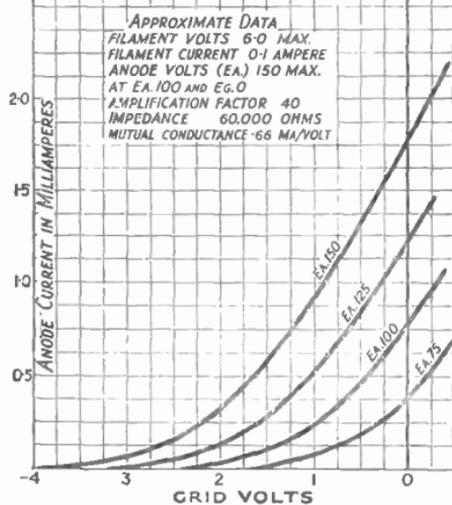
Data for H Valves.

Grid Bias.	Anode Coupling.
+1½*	Resistance Capacity, with Anode resistance of 150,000 to 500,000 ohms.
-1½ to -3	
-1¼	
Zero or negative according to circuit.	Neutralised tuned anode or semi-periodic choke coupling.

to + end of filament.



TYPE H 610



Marconi H 410

(above)

for

4-volt Accumulator

Price, 8/6

Marconi H 610

(left)

for

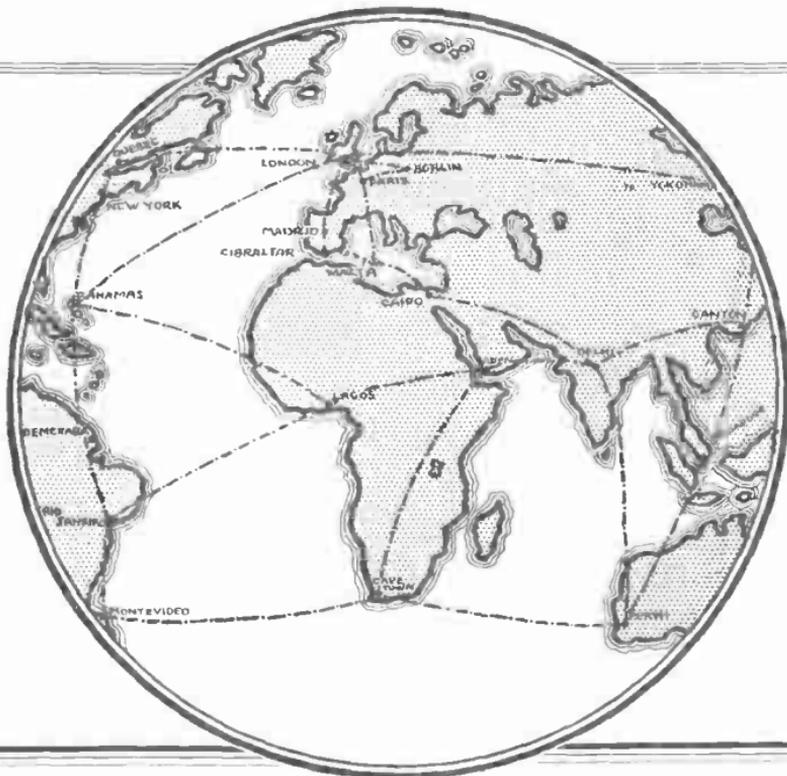
6-volt Accumulator

Price, 8/6

**ALWAYS USE
MARCONI VALVES**

THE EMPIRADIO BEAM WIRELESS SERVICE

To-day the whole British Empire is woven into a close-knit unity by means of radio communication. The Empiradio Beam Wireless Service, receiving and distributing messages over the whole face of the earth, requiring tremendous power, sensitivity and efficiency from its Valves, stipulates Marconi Valves. More unanswerable testimony would be difficult to find.

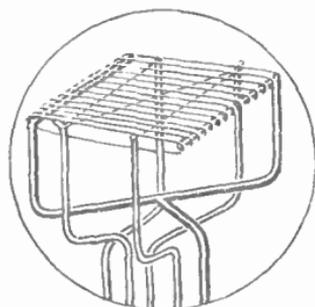


"I think you may be interested in the performance of two Marconi Valves I have in my possession. They were purchased in October, 1924, and have been working four hours per day (average) ever since. One of them is still as good as when I bought it and the other although it has failed a little still works alright in an L.F. stage. I have also one Marconi Valve purchased in November, 1925, that has had the same usage and still works alright. I am thinking of replacing these with modern Valves, Marconi's of course."

G. F., Wells, Somerset.

The Best Medium Amplification Valves for General Purpose Use

Marconi Medium Amplification (HL) Valves are the modern high efficiency general purpose types, which find one or more places in almost every up-to-date receiver. They provide the ideal blend of magnification with quality of reproduction and stability. Their chief uses are :—



Electrodes of Marconi HL Types.

1. Detector, leaky grid, followed by transformer.
2. Detector, anode bend, followed by R.C. coupling.
3. First Low Frequency stage, followed by transformer.
4. High Frequency stages with neutralised or semi-aperiodic coupling.

In the popular three valve circuit of to-day a MARCONI "HL" is the best detector, used immediately following the screen grid valve. In five valve portable sets, MARCONI HL₂₁₀ finds three—sometimes four places, being used in the two high frequency stages, in the first low frequency stage, and sometimes also as detector. In four valve sets a MARCONI "HL" will again fill the role of detector with distinction, and if there are two low frequency stages it may serve in the first, although an "L" is usually preferable.

Overleaf are the characteristics of MARCONI HL₂₁₀ for 2-volt accumulator, and HL₄₁₀ and HL₆₁₀ for four and six volts, while on pages 50-55 are MARCONI MHL₄ and HL.8 for A.C. Mains—the best group of General Purpose Valves for all receivers.

ALWAYS USE MARCONI VALVES



Marconi
HL
Valves.

*Approximate Overall
Dimensions.*

HL 210 95 × 41 m/m
HL 410 } 103 × 46 m/m
HL 610 }

The Best Medium Magnification Valves

Approximate Operating Data

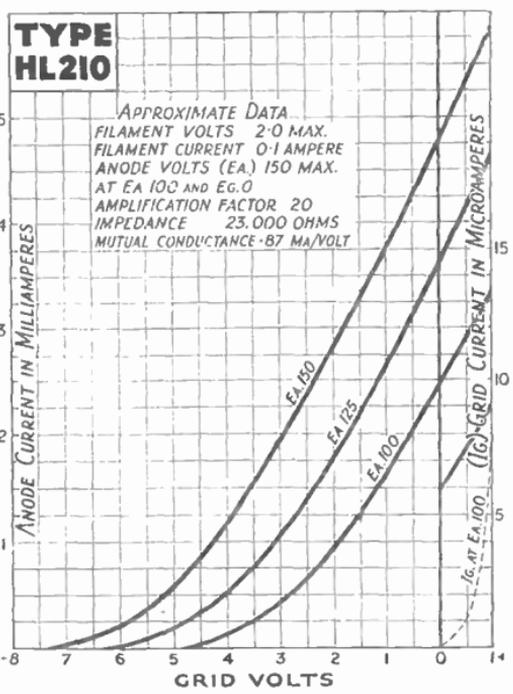
Circuit.	Anode Volts.
Grid Leak detector	50-150
Anode Bend detector	100-150
L.F. Amplifier	75-150
H.F. Amplifier	50-150

* or, with HL 210, connect

Marconi HL 210
for
2-volt Accumulator

Price, 8/6

**ALWAYS USE
MARCONI VALVES**

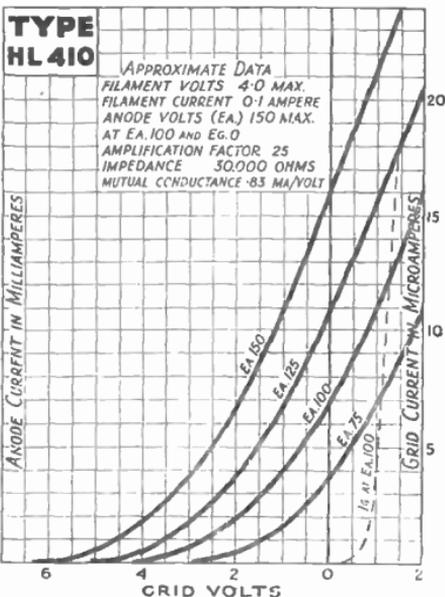


For All Battery Operated Circuits.

for HL Valves.

Grid Bias.		Anode Coupling.
HL 210	HL 410 and 610	
$+1\frac{1}{2}^*$	$+1\frac{1}{2}$	1. Transformer (Low Ratio). 2. R.C. Coupling with anode resistance. 80,000 to 150,000 ohms. Neutralised or H.F. Choke
-3 to -6	$-1\frac{1}{2}$ to $-4\frac{1}{2}$	
$-1\frac{1}{2}$ to $-4\frac{1}{2}$	$-1\frac{1}{2}$ to -3	
Zero or negative according to circuit		

* to + end of filament.



Marconi HL 410

(above)

for

4-volt Accumulator

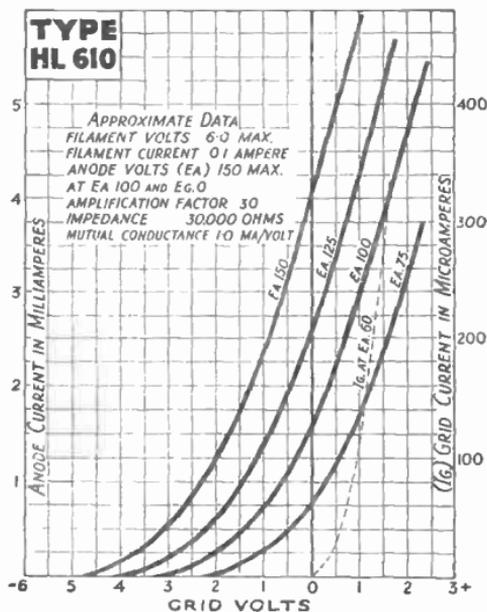
Price, 8/6

Marconi HL 610

for

6-volt Accumulator

Price, 8/6



ALWAYS USE
MARCONI VALVES



Lightships and Lighthouses use Marconi Valves!

The wonderful Trinity House Organisation of lightships and lighthouses around the coasts of Britain, which is the admiration of the world, speaks to ships at sea through Marconi Valves. The recognised efficiency of this important service owes much to the reliable assistance given by Marconi Valves.

"On May 1st, 1924, I purchased two of your Marconi Valves 2-volt General Purpose type costing at that time 21/- each. These Valves have been in daily use ever since, and to-day are giving me fine results. I have also another one bought 3 years ago, and these three are working on a P.W. Magic 3 Set which I constructed a few weeks ago. I may say that the first two mentioned are of the Nickel Base Type and have the original instructions and voltage notice on the base. The volume and selectivity are wonderful considering I have no Power Valve in my set."

W.S., Manselton, Swansea.

The Best Low Amplification Valves for General Purpose and Low Frequency Circuits.

Marconiphone Low Amplification (L) Valves are also General Purpose Valves, but have a lower magnification than the HL types. They are employed as :—



Typical Electrodes.

1. Detector (leaky grid) followed by transformer.
2. Detector (anode bend) followed by transformer or R.C. coupling.
3. First Low Frequency followed by transformer.

The lower amplification factors of Marconi L valves, as compared with those of the HL series, enables them to deal with a greater input and they are therefore often preferred in receivers which have considerable high frequency magnification or in sets used solely for the reception of local and high power stations. In these cases the larger grid bias taken by the L types handles the stronger signals without overloading.

MARCONI L210 is frequently used in the first low frequency stage of portable receivers for excellent quality with freedom from overloading and distortion on nearer and more powerful programmes.

Overleaf are the characteristics of MARCONI L210 for 2 volt accumulator, with L410 and L610 for four and six volts respectively, while on pages 50-53 is MARCONI ML4 for A.C. Mains.

ALWAYS USE MARCONI VALVES



Marconi.
L Valves.

Approximate Overall Dimensions.

L 210 95 × 41 m/m
 L 410 }
 L 610 } 103 × 46 m/m

The Best Low Magnification Valves

Approximate Operating Data

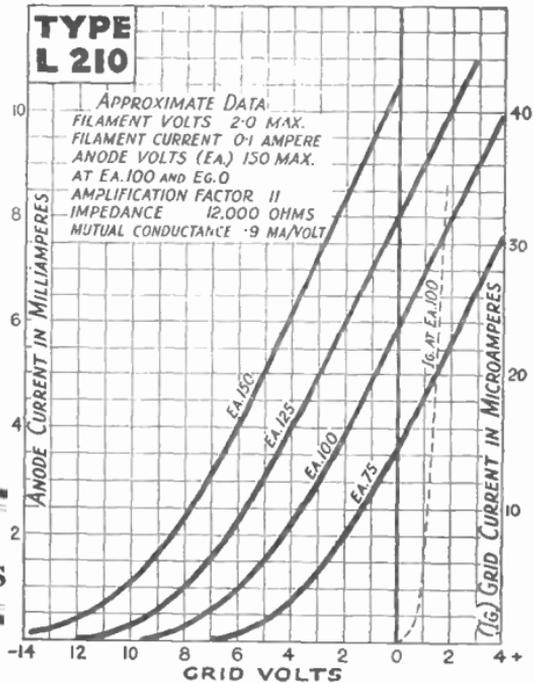
Circuit.	Anode Volts.
Grid leak detector	50-150
Anode bend detector	100-150
L.F. Amplifier	100-150

*Or, with L210, connect to + end

Marconi L 210
 for
 2-volt Accumulator

Price, 8/6

**ALWAYS USE
 MARCONI VALVES**



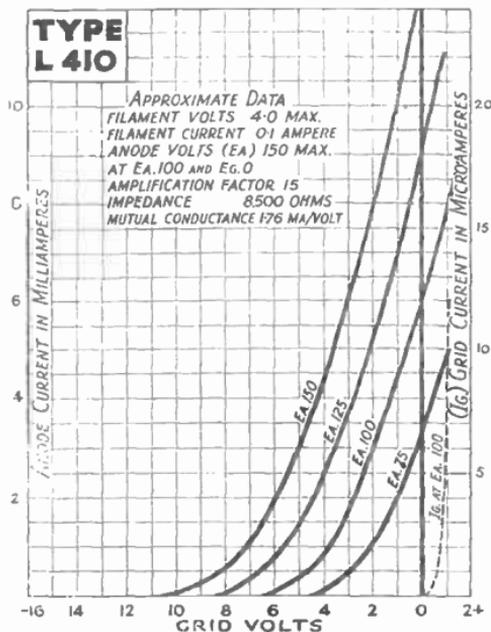
For all Battery Operated Receivers.

for "L" Types.

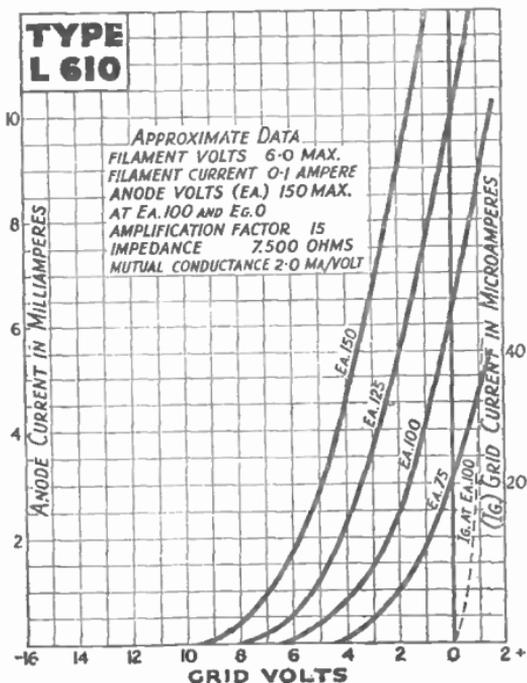
Grid Bias.		Anode Coupling
L210	L410 and 610	
+1½*	+1½	Transformer (high or medium ratio).
-7½ to -12	-4½ to -7½	<ol style="list-style-type: none"> Transformer (low ratio) R.C. Coupling with anode resistance of 30,000-80,000 ohms.
-3 to -7½	-1½ to -4½	Transformer (high or medium ratio)

of filament.

TYPE L 410



TYPE L 610



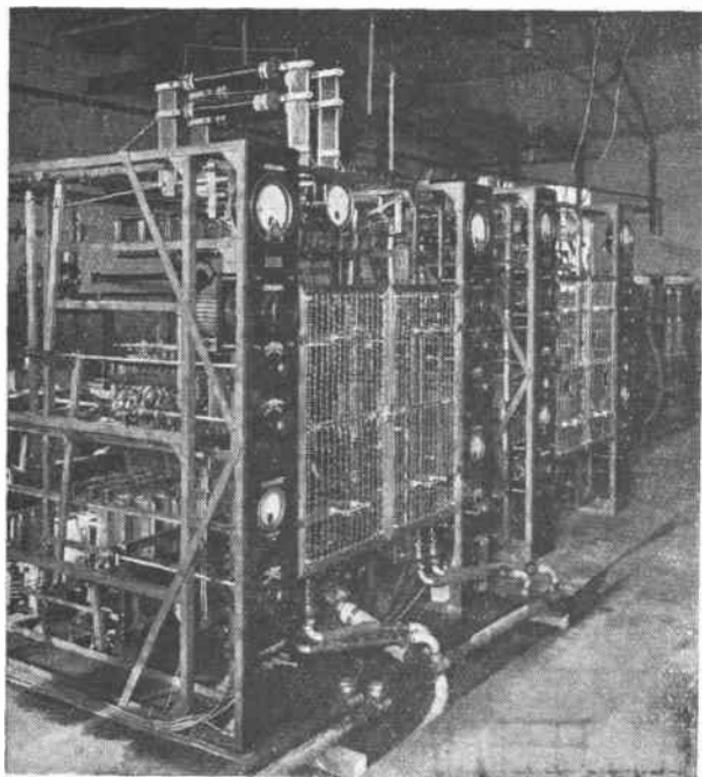
Marconi L 410
for
4-volt Accumulator.

Price, 8/6

Marconi L 610
for
6-volt Accumulator.

Price, 8/6

**ALWAYS USE
MARCONI VALVES**



5 SW SHORT WAVE STATION.

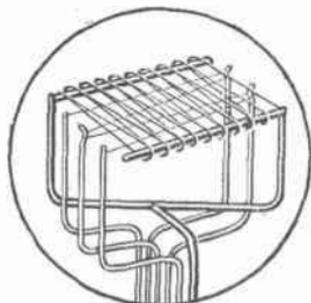
This is one of the most powerful short wave transmitting stations in the world and represents one of the greatest engineering triumphs of radio science. Throughout its appliances you will find Marconi Valves, which are recognised by the experts as unequalled in performance and reliability.

"I am writing to you proving the efficiency of your valves. I have had these working for over five years. My set is a Three-Valve and has been working almost every day since I had it, and they are as good as ever they were. It is 1 Low Frequency, 1 Detector and 1 Power. The Valves are D.E.R., R. 11358; D.E.R., R. 10236; D.E.6, K. 7458."

T. I., Audley, Stoke-on-Trent.

The Best Power Valves for Quality with Economy.

The last valve in a receiver performs the function of delivering power to the loud speaker, and the power it will give is determined largely by its high tension consumption. This fact is clear from the table on page 7.



Typical Electrodes of
Marconi Power Valve.

There are three broad classifications under which output valves are grouped (excluding pentodes). These are:—Power, Super-Power, High Power. The two latter classes are dealt with on pages 35 to 44.

Marconi Power Valves are designed to operate a loudspeaker with the highest quality reproduction at the best possible volume compatible with *minimum current consumption*. They are preeminently

the valves to be used when the high tension supply comes from dry batteries and economy is of importance, giving excellent results with voltages of 100 to 150. For the best results use the maximum available, up to 150, with the correct grid bias as specified on the following pages.

As will be seen from the table on page 7, the impedances are chosen to match the average loudspeaker—an important point for maximum efficiency.

MARCONI P215 is the economical 2-volt type, highly popular for portable receivers, P410 and P610 are for use with a 4 volt and 6 volt accumulator respectively, while on page 55 is P.8 for A.C. Mains.

ALWAYS USE MARCONI VALVES



Marconi
P 215, P 410,
P 610.

*Approximate Overall
Dimensions.*

P 215 } 103 × 40 m/m
P 410 }
P 610 } 103 × 46 m/m

The Best Power Valves

Marconi P 215
for 2-volt Accumulator

Marconi P 410
for 4-volt Accumulator

Marconi P 610
for 6-volt Accumulator

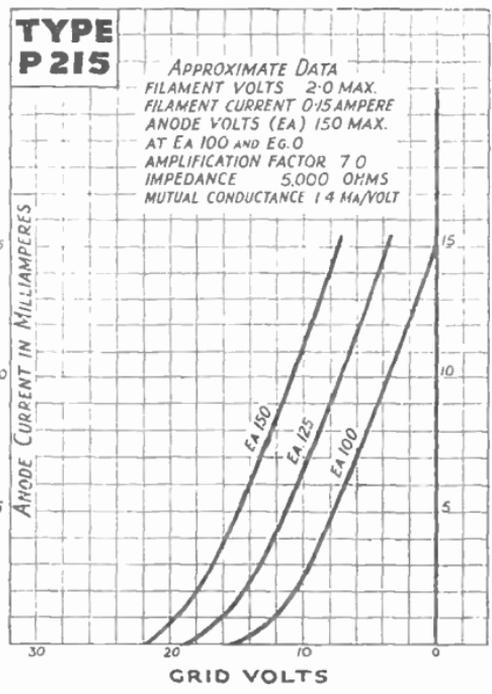
Price each, 10/6

Marconi P 215

Approx. Operating Data.

Anode Volts.	Grid Bias.	Average Anode Current.
75	- 4.5	4.5m.a.
100	- 7.5	5m.a.
125	- 10.5	6m.a.
150	- 12	8.5m.a.

**ALWAYS USE
MARCONI VALVES**

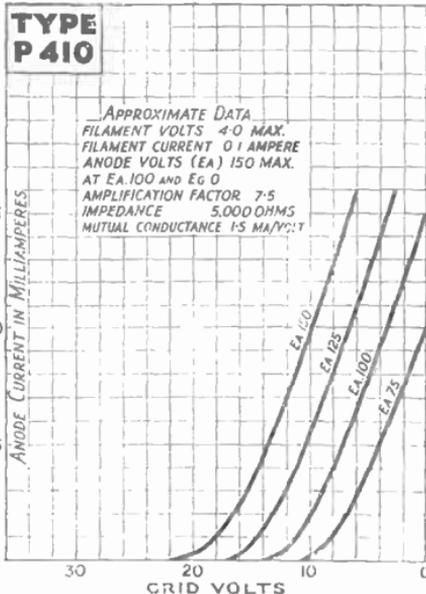


For all Battery Receivers.

Marconi P 410

Approx. Operating Data.

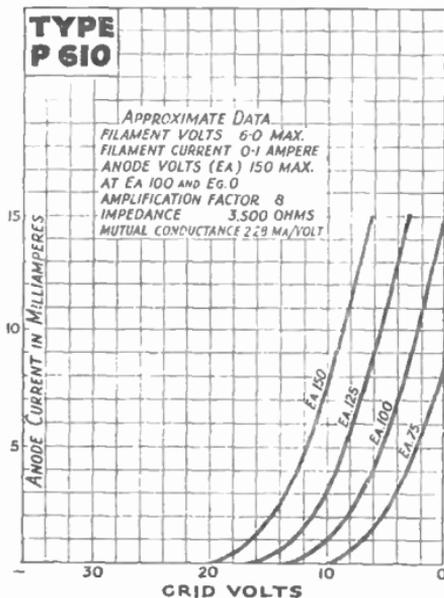
Anode Volts.	Grid Bias.	Average Anode Current.
75	-4½	4.5m.a.
100	-6	6.5m.a.
125	-9	6.8m.a.
150	-10½	9.0m.a.



Marconi P 610

Approx. Operating Data.

Anode Volts.	Grid Bias.	Average Anode Current.
75	-4½	2.5m.a.
100	-6	4.0m.a.
125	-7½	6.5m.a.
150	-9	9.5m.a.



**ALWAYS USE
 MARCONI VALVES**



In Frozen Wastes.



In Tropical Forests.

YOU will invariably find that the exploration expeditions into the remote corners of the earth use Marconi Valves in their radio equipment, and as the lives of these explorers may well hang upon the frail mechanism of a radio valve, it is only the absolute reliability and efficiency of Marconi Valves which lead to their being used.

"A little over three years ago I purchased, amongst others, a D.E.5 Marconi Power Valve. On recently looking at my Log Book I found that this valve has done over 4,500 working hours and is still going strong. I have always found the Marconi Valves to be absolutely the perfect receiving valve in all respects, especially in volume and selectivity."

W. H. J. B., Great Bookham, Surrey.

The Best Super Power Valves for Perfect Reproduction and Volume

As previously explained on page 31, final stage valves may be roughly classified as power, super-power or high power, and it is the two latter groups with which we are now concerned. Marconi super-power valves, described in the following pages, include types for various H.T. voltages, with filaments for 2, 4 and 6-volt accumulators and also for A.C. mains operation.

Let us first be clear on the point that *super-power valves are capable of a greater output than power types—but not necessarily a greater magnification.* For example, a P240 will give less volume than a P215 on weak signals; but if signals are so strong as to overload the P215 and produce distortion, then the substitution of a P240 will give greater volume with better quality. A super-power valve is therefore not as a rule a cure for weak signals; for this you need a pentode or an extra valve to give greater magnification.

Secondly, as we have explained, the power which a valve can deliver to the loudspeaker depends primarily on the power which it draws from the H.T. source. Hence we classify Marconi super-power valves thus :—

- (a) For H.T. voltages up to 150 :—Marconi P 2, P 240, P 425.
- (b) For H.T. volts up to 200-250 :—Marconi PX 4, P 625, P625A.
- (c) For H.T. voltages up to 400 :—Marconi LS 5, LS 5A, LS 6A.

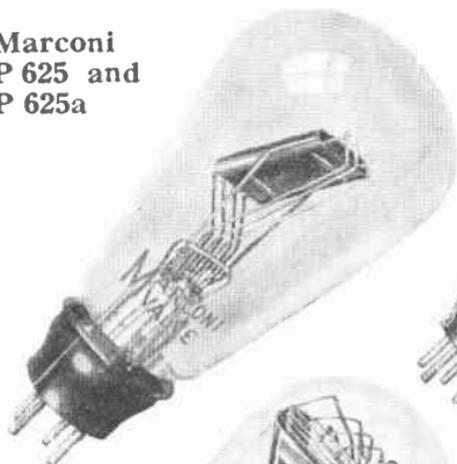
The types in groups (b) and (c) should be operated from a mains unit whenever electricity supply is available, or from H.T. accumulators, since their current requirements cannot economically be supplied by dry batteries.

Valves in the first group consume up to 18 milliampères, a current within the power of super-capacity batteries, but which again is more economically obtained from a high tension unit.

ALWAYS USE MARCONI VALVES

MARCONI SUPER POWER VALVES

Marconi
P 625 and
P 625a

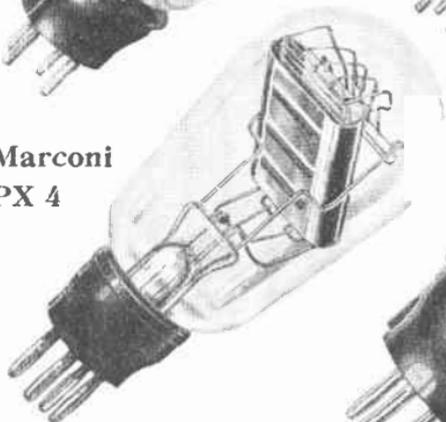


Marconi
LS 6a

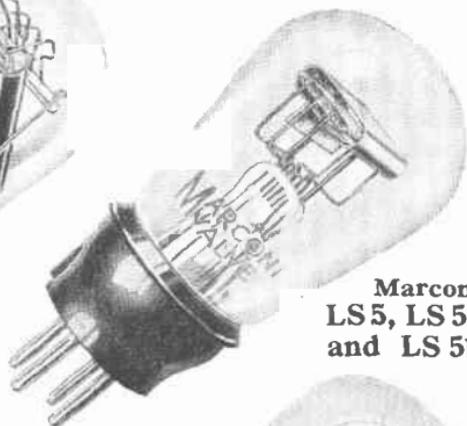


Marconi
P 240 & P 425

Marconi
PX 4

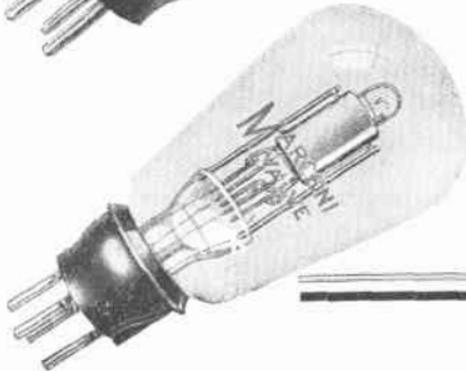


Marconi
LS 5, LS 5a
and LS 5b



Marconi DA 60

*Full information regarding
Type DA 60 and larger
power output valves supplied
on request.*



The Best Super Power Valves, etc.—*contd.*

If a mains unit is used, one's choice of valve depends on the maximum H.T. output which is available, after making due allowance for the earlier stages of the set. If you are not yet in possession of a unit but propose to obtain one, it is well worth selecting a model which will enable you to use a really good output valve, in the interests of both quality and volume.

The valves in (a) and (b) have already been classified on page 7.

Marconi P 2, P 240 and P 425 will drive a cone or moving coil at moderate volume.

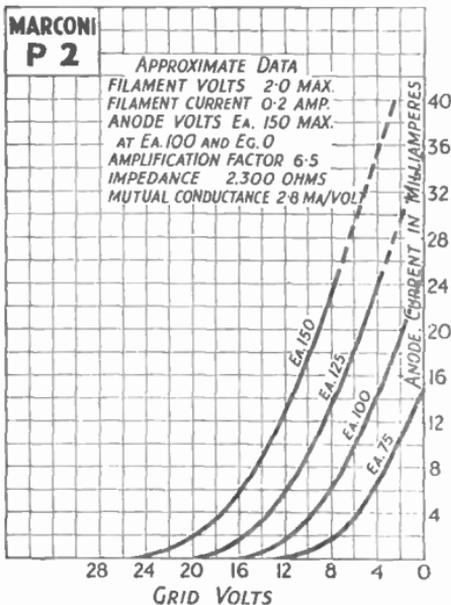
Marconi PX 4, P 625 and P 625A are capable of greater output; they will fill an average room with sufficient intensity for dancing if desired. It is seldom that larger valves will be necessary for home use. In choosing between P 625 and P 625A the H.T. voltage is the chief point; if above 200, use P 625.

Marconi LS 5, LS 5A and LS 6A are high power valves operating with H.T. voltages up to 400. For music and dancing in large rooms, halls and the open air, for public speech and music amplifiers, for small transmitters—these valves give high undistorted output with great reliability and long life.

The filaments of Marconi super-power output valves may be heated either from an accumulator or from the electric mains through a suitable transformer or resistance. This feature is particularly valuable in all-electric A.C. receivers when a greater output is required than can be obtained from an A.C. valve in the last stage. For circuits employing indirectly heated valves (pages 50 to 53) Marconi PX 4 is the best type, as it operates on the same filament and high tension voltages. When operating from D.C. Mains, PX 4, P 625 or P 625A may be used.

For maximum efficiency it is important to match the loud-speaker impedance to that of the valve. As a rule it may be taken that for the best blend of quality and volume the impedance at 500 cycles should be about two to three times that of the valve. Anode Volts—Anode Current curves are given on pages 43 and 44 for the larger valves in order that those who are familiar with the procedure may be able to calculate the optimum impedance for any conditions. Otherwise the above rule may be used in conjunction with the table on page 7.

ALWAYS USE MARCONI VALVES



**Marconi
 2-volt Super
 Power Valves.**

Marconi P 2
 for 2-volt Accumulator
 Price, 13/6

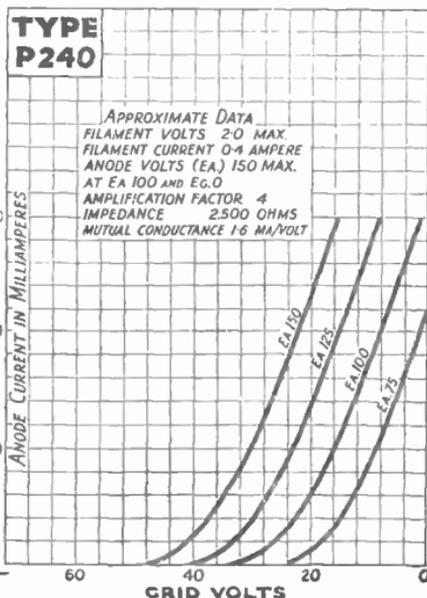
Approx. Operating Data.

Anode Volts.	Grid Bias.	Average Anode Current.
150	-10½	17m.a.
125	-9	11m.a.
100	-7½	7m.a.

Marconi P 240
 for 2-volt Accumulator
 Price, 13/6

Approx. Operating Data.

Anode Volts.	Grid Bias.	Average Anode Current.
150	-24	17m.a.
125	-19.5	14m.a.
100	-15	11m.a.



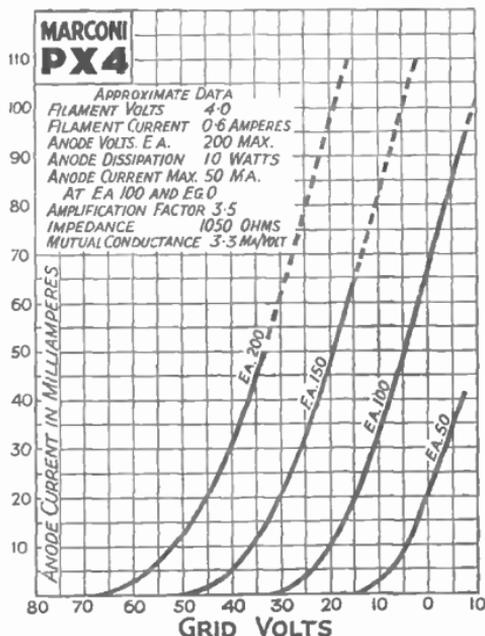
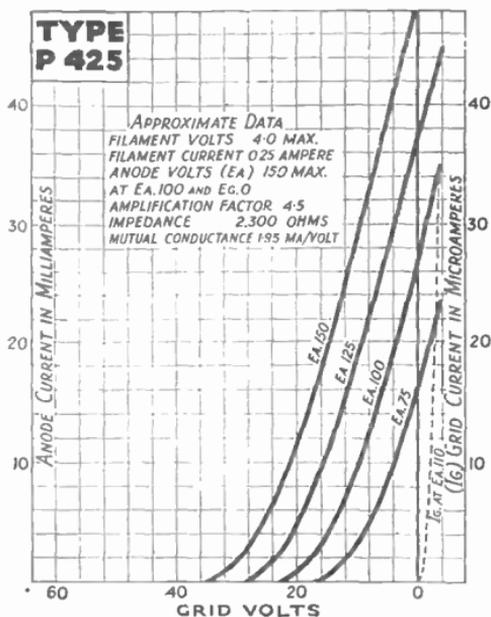
**ALWAYS USE
 MARCONI VALVES**

Marconi 4-volt Super Power Valves.

Marconi P 425 for 4-volt Accumulator or A.C. Mains. Price, 13/6

Approx. Operating Data.

Anode Volts.	Grid Bias.	Average Anode Current.
150	-16.5	17m.a.
125	-12.0	15m.a.
100	-9	11m.a.
75	-6	7m.a.



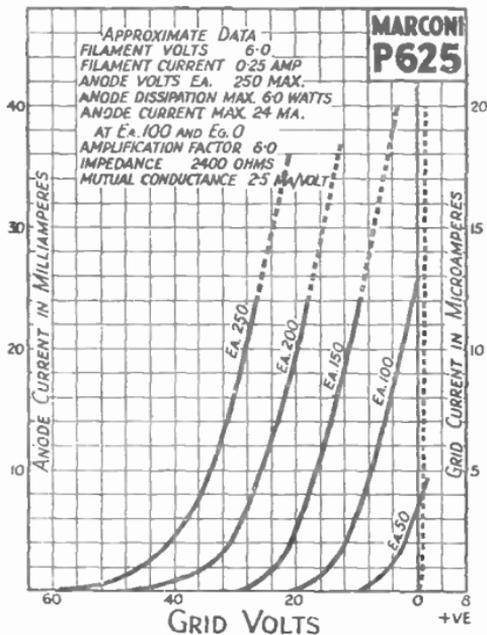
NOTE: Anode Volts—Anode Current Curves for PX4 on page 43.

Marconi PX 4 for 4-volt Accumulator or A.C. Mains. Price, 22/6

Approx. Operating Data.

Anode Voltage.	Grid Bias.	Anode Current m.a.
100	-13	25m.a.
150	-23	37m.a.
200	-33	50m.a.

**ALWAYS USE
MARCONI VALVES**



**Marconi 6-volt
Super Power
Valves.**

Marconi P 625

for
6-volt Accumulator
or A.C. Mains.

Price, 13/6

Approx. Operating Data.

Anode Volts.	Grid Bias.	Average Anode Current.
250	-26	24m.a.
200	-20	19m.a.
150	-14	14m.a.
100	-7	10m.a.

Marconi P 625a

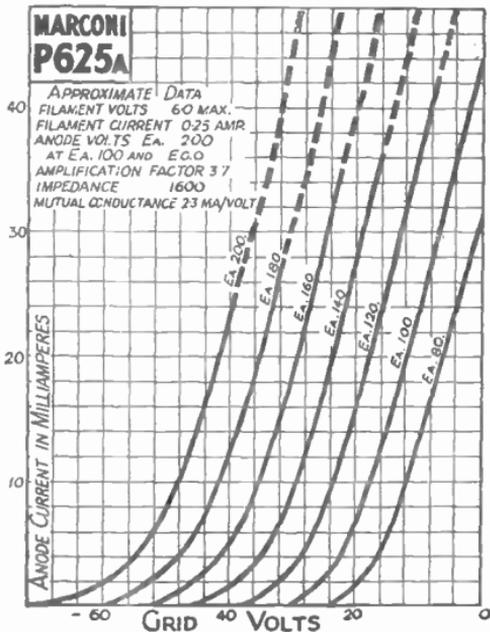
for

6-volt Accumulator
or A.C. Mains.

Price, 13/6

Approx. Operating Data.

Anode Volts.	Grid Bias.	Average Anode Current.
120	-19½	16m.a.
160	-28½	20m.a.
200	-39	25m.a.



**ALWAYS USE
MARCONI VALVES**

NOTE: Anode Volts—Anode Current Curves for P625 & P625a on p.43.

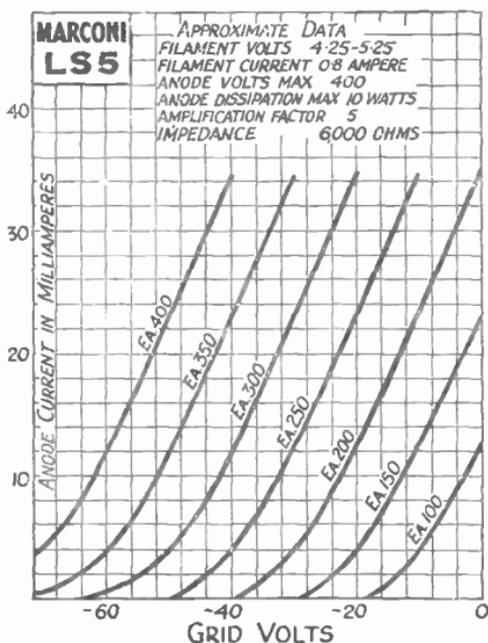
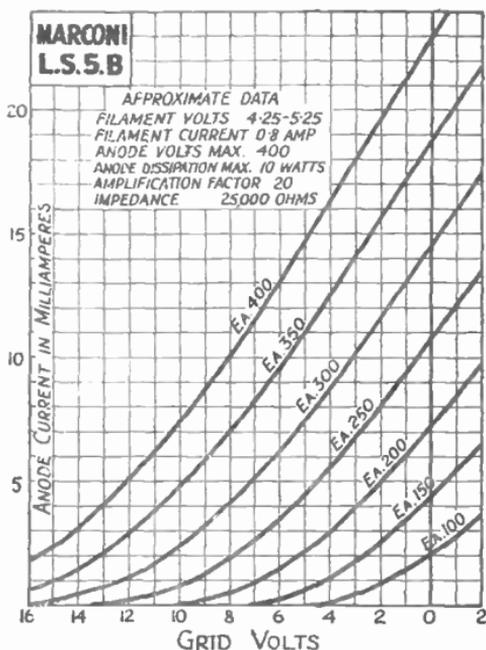
Marconi High Power Valves.

Marconi LS 5b for 6-volt Accumulator.

Price, 25/-

Approx. Operating Data.

Anode Volts.	Grid Bias.	Average Anode Current.
200	-4½	2.6 m.a.
300	-7½	4.7 m.a.
400	-9	8.8 m.a.



Marconi LS 5

for
6-volt Accumulator
or A.C. Mains.

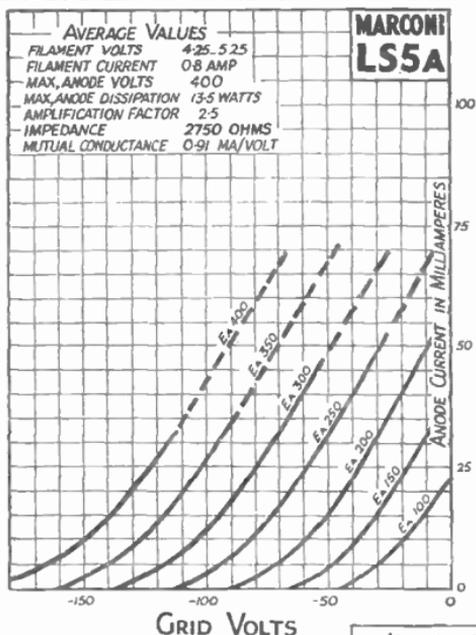
Price, 25/-

Approx. Operating Data.

Anode Volts.	Grid Bias.	Average Anode Current.
200	-20	12.3 m.a.
300	-34	18.5 m.a.
400	-48	25 m.a.

**ALWAYS USE
MARCONI VALVES**

Marconi High Power Valves



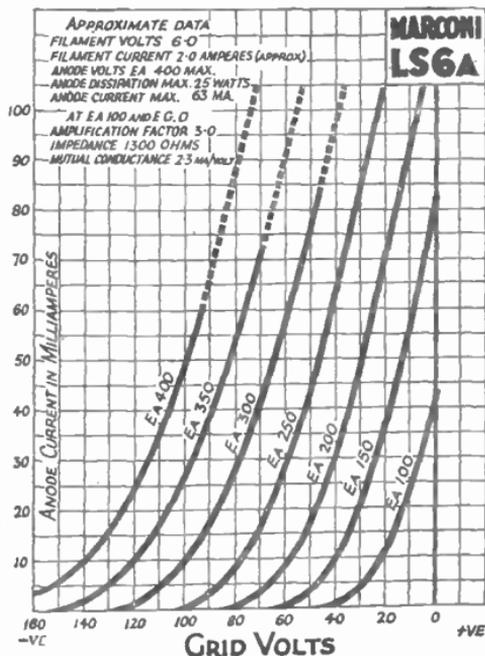
Marconi LS 5a
 for
 6-volt Accumulator
 or A.C. Mains.

Price, 25/-

Anode Volts.	Grid Bias.	Average Anode Current.
200	-50	16 m.a.
250	-65	20 m.a.
300	-80	25 m.a.
350	-97	29 m.a.
400	-112	33.5 m.a.

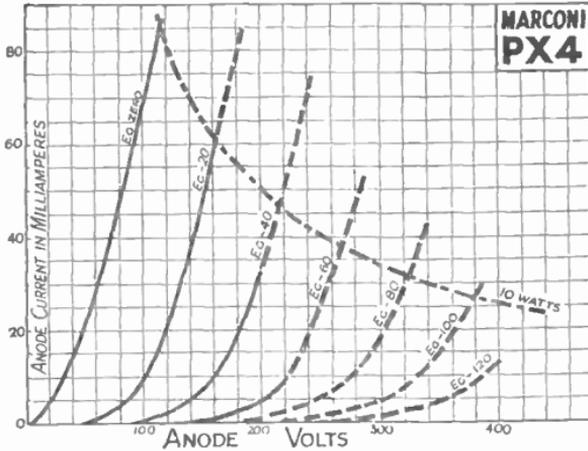
Marconi LS 6a
 for
 6-volt Accumulator
 or A.C. Mains.
 Price, 30/-

Anode Volts.	Grid Bias.	Average Anode Current.
200	-34	40 m.a.
250	-48	47 m.a.
300	-60	55 m.a.
350	-76	60 m.a.
400	-91	63 m.a.



**ALWAYS USE
 MARCONI VALVES**

Anode Volts—Anode Current Curves



Marconi PX4

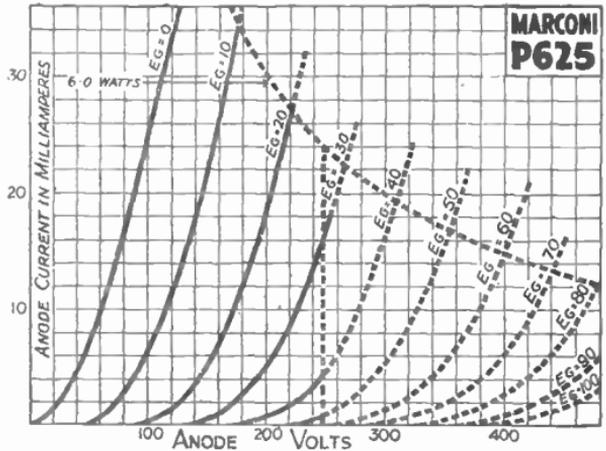
4-volt
Super-power
Valve

(See page 39).

Marconi P625

6-volt
Super-power
Valve

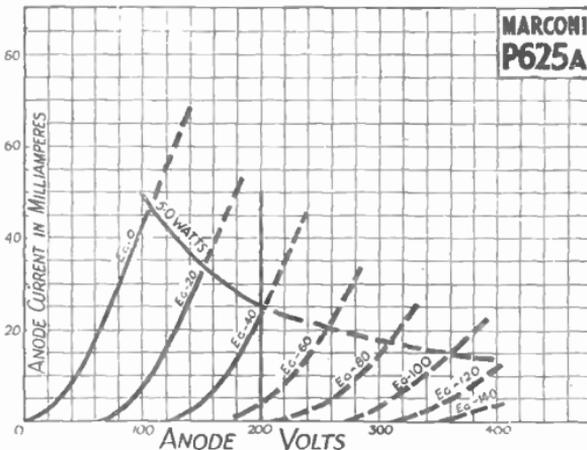
(See page 40).



Marconi P625

6-volt
Super-power
Valve.

(See page 40).



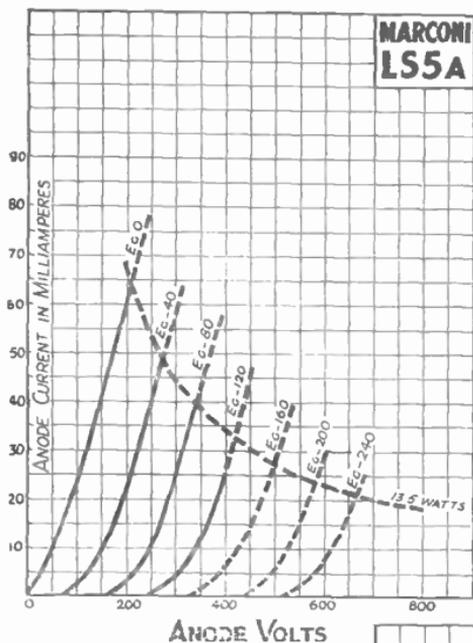
Marconi P625

6-volt
Super-power
Valve.

(See page 40).

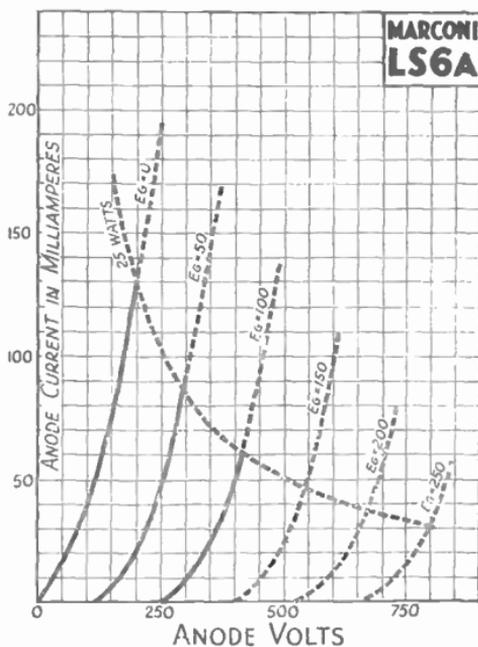
**ALWAYS USE
MARCONI VALVES**

Anode Volts—Anode Current Curves.



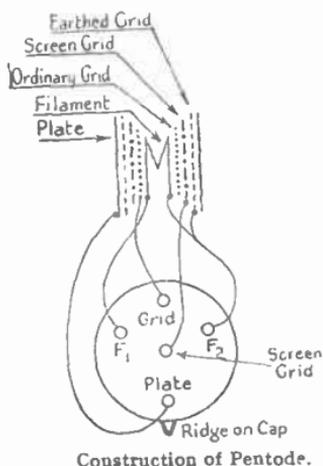
Type LS 5a
 For Grid Volts Curves,
 see page 42.

Type LS 6a
 For Grid Volts Curves,
 see page 42.



The Best Pentode Valves for Volume and Tone.

The Pentode is a special type of power valve which combines a high magnification with an output comparable to, or greater than, that of the equivalent super-power valve. The replacement of the latter by a Pentode approximates in effect to the addition of a resistance coupled stage to the original circuit. Hence the Pentode should be used when an increase of signal strength is desired without the necessity for any alteration in, or addition to the circuit.



In construction the Pentode is a development of the screen grid valve. It has the standard filament, grid and anode of the ordinary power valve, plus a screening grid which is connected to the H.T. battery (as with the screen grid valve, see page 15); plus a third grid which is placed between the screen grid and the anode, and is connected internally to the filament—i.e. there is no outside connection to it.

The standard Pentode has a five pin base; the four outer pins correspond exactly to those of the ordinary valve and the central (fifth) pin is joined to the screen grid. In use it is connected to an H.T. + tapping as detailed on pages 48 and 49. Do not confuse this central pin with that of the Indirectly

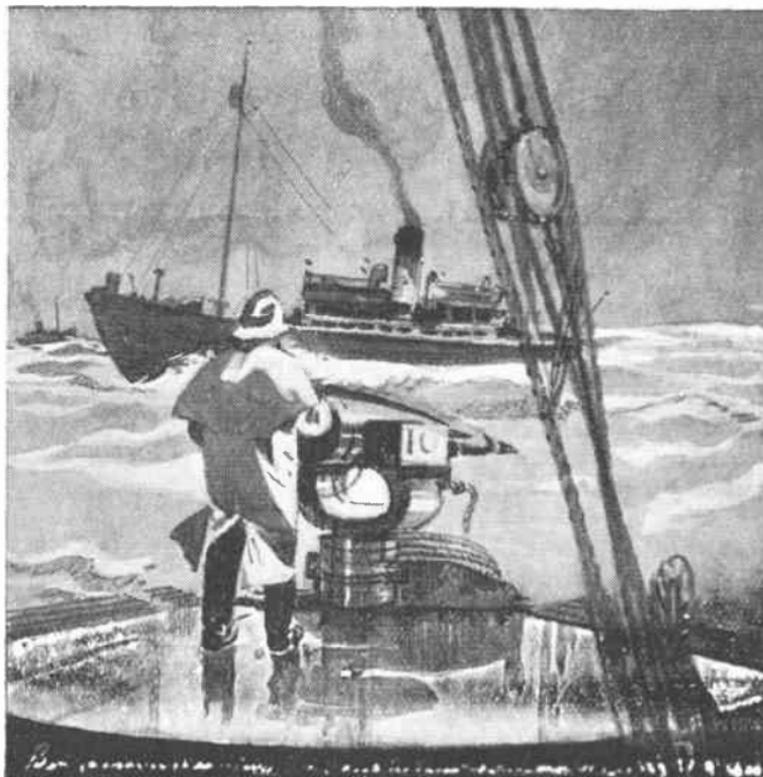
Heated Mains Valves (page 50); the two are *not* interchangeable.

Marconi Pentodes are also available with a standard 4-pin base and a terminal on the side, to fit existing sets with 4-pin valve holders.

There are three Marconi Pentode valves: PT240 for 2-volt accumulator—PT425 for 4-volt accumulator, and PT625 for 6-volt accumulator. These differ to some extent in characteristics, and are therefore described separately.

MARCONI PT240 for 2-volt accumulator is the smallest of the range,

ALWAYS USE MARCONI VALVES



The Fishing Fleets.

THE whaling and trawler fleets of Britain, which represent a very important section of British industry, are fitted throughout with Marconi Valves. These fleets are at sea for long stretches of time and rely upon radio for touch with the outer world, for entertainment and for inter-communication while at sea. Once again Marconi Valves have proved the best for long and useful service.

"I feel that I should like to let you know how well satisfied I am with your valves. I have been listening to American Broadcasting Stations regularly for this last month, listening to Boxing and Baseball Matches and Dance Music, on the short waves using a 2-valve receiver with 2 Marconi D.E.3 Valves and the results are O.K. (These are just a few of the stations received on the short waves, K.D.K.A., W.G.Y., U.2X.A.F. and U.D.X.A.D.)."

A.S. W. (2. BVK), Windsor.

The Best Pentode Valves for Volume and Tone—*contd.*

being designed to give approximately the same maximum output as P240. It is quite economical, especially if the screen voltage is kept about 30 volts below that of the anode. The power output is sufficient for cone or moving coil speakers in a room of moderate size.

MARCONI PT425 is designed for a 4-volt low tension supply. The filament may be heated from a 4-volt accumulator, or, in all-electric A.C. receivers, by the 4 volts alternating current used for the Indirectly Heated A.C. Valves in the previous stages. The power output is larger than that of PT240, being sufficient to drive a cone or moving coil speaker at good volume.

MARCONI PT625 is a super power Pentode Valve noteworthy for its exceptionally large undistorted power output, which approximates to that given by valves in the 400 volt class. It is intended for a six-volt low tension supply, filament current being derived from an accumulator or, in the case of all-electric A.C. sets, from an extra six-volt winding on the mains transformer. PT625 will operate a moving coil speaker at considerable volume. It is also able to deal with a comparatively large grid swing without overloading, and is therefore an excellent output valve for powerful receivers having two or more H.F. stages.

The primary rules concerning the use of pentodes are given on page 7. Since the impedance of the Pentode is considerably higher than that of the ordinary power valve, attention must be given to the type of winding which is employed on the loud speaker. With Marconi PT240 and PT425, standard speakers will generally be found satisfactory, but should the reproduction appear shrill, a correction can be effected by fitting a suitable output transformer. In the case of PT625 the speaker impedance is limited by certain technical considerations and a satisfactory compromise is reached by using a speaker of moderate impedance with a small fixed condenser in parallel.

The instructions issued with each valve should be carefully read. Should any difficulty arise, every assistance will be given if you will send details to the Marconiphone Company as outlined on page 9.

ALWAYS USE MARCONI VALVES

The Best Pentode Valves



Marconi
PT 240 & PT 425

Marconi PT 240
for 2-volt Accumulator.

Marconi PT 425
for 4-volt Accumulator
or A.C. Mains.

Price each, 22/6

Marconi PT 625
for 6-volt Accumulator
or A.C. Mains.

Price, 27/6



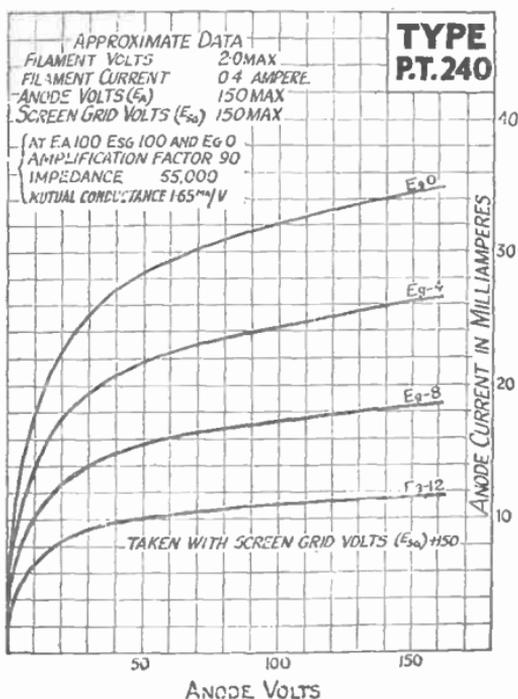
PT 625

Marconi PT 240

Approximate Operating Data.

Anode Volts	Screen Volts	Grid Bias.	Anode Current m.a.
120	100	-6	9
150	150	-9	16

**ALWAYS USE
MARCONI VALVES**



For All Receivers.

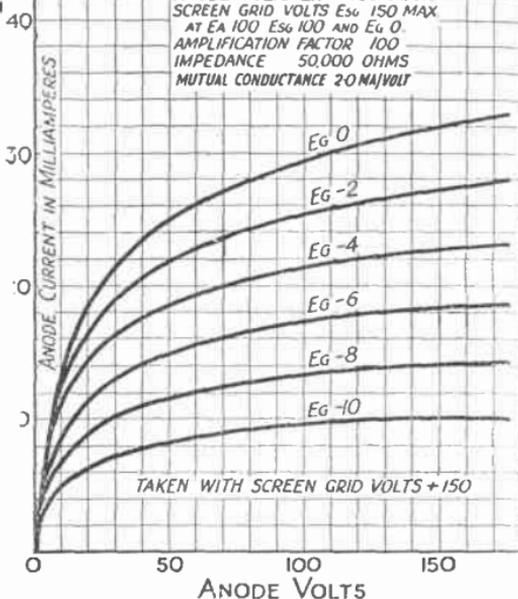
Marconi PT 425

Approximate Operating Data.

Anode Volts	Screen Volts.	Grid Bias	Anode Current m.a.
120	100	-4½	8
150	150	-7½	15
200	150	-7½	15.8

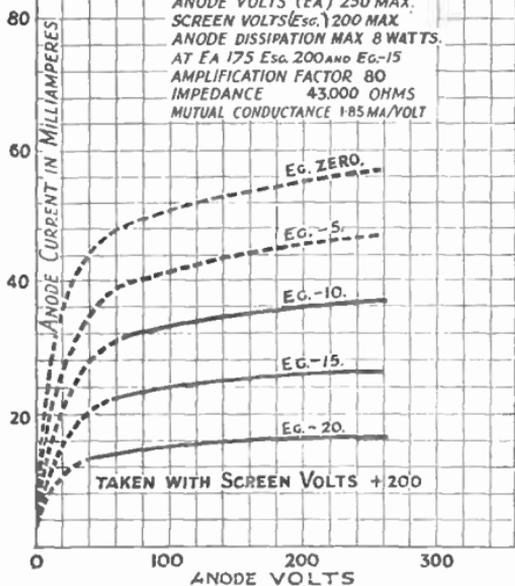
TYPE PT425

APPROXIMATE DATA
 FILAMENT VOLTS 4.0 MAX
 FILAMENT CURRENT 0.25 AMP
 ANODE VOLTS EA 150 MAX.
 SCREEN GRID VOLTS E_{SG} 150 MAX.
 AT EA 100 E_{SG} 100 AND E_G 0.
 AMPLIFICATION FACTOR 100
 IMPEDANCE 50,000 OHMS
 MUTUAL CONDUCTANCE 2.0 MA/VOLT



TYPE PT.625

APPROXIMATE DATA
 FILAMENT VOLTS 6.0 MAX.
 FILAMENT CURRENT 0.25 AMP
 ANODE VOLTS (EA) 250 MAX.
 SCREEN VOLTS (E_{SG}) 200 MAX.
 ANODE DISSIPATION MAX 8 WATTS.
 AT EA 175 E_{SG} 200 AND E_G -15
 AMPLIFICATION FACTOR 80
 IMPEDANCE 43,000 OHMS
 MUTUAL CONDUCTANCE 1.85 MA/VOLT



Marconi PT 625

Approximate Operating Data.

Anode Volts	Screen Volts	Grid Bias Volts.	Average Anode Current m.a.	Average Screen Current m.a.
250	200	15	26.5	7.0

Note:—The screen voltage is conveniently obtained by connecting 7,000 ohms between HT+250 and the screen, with a 2 mfd. condenser from screen to -HT.

ALWAYS USE MARCONI VALVES

The Best A.C. Mains Valves for All Electric Receivers.

Marconi A.C. Valves are designed to work from alternating current mains in all electric receivers and amplifiers, without accumulators or batteries. Their filaments are so constructed as to maintain a constant temperature—and therefore a steady emission—when heated by alternating current directly from a step-down transformer. There are two classes :—



Marconi MH₄, MHL₄, & ML₄.

When the filament is supplied with current at 4 volts it becomes white hot and heats the tube to a constant temperature by conduction. Emission then takes place from the surface of the tube—which is called the “cathode”—and *not* from the filament itself. The construction is clearly shown in the adjoining illustration. These valves have a five-pin base, the cathode being joined to the centre pin.

- (a) The Directly Heated—Point 8 series.
- (b) The Indirectly Heated — M series.

In the Point 8 series the filament operates on a very low voltage—0.8 volt—and consumes a large current—0.8 ampere. This filament is shorter and thicker than battery filaments, therefore having a higher thermal inertia and maintaining a constant emission when heated by A.C.

In the Indirectly Heated Valves the filament is of a long, narrow hairpin shape embedded in insulating material within a metal tube of small diameter, which has higher emissive coating.

ALWAYS USE MARCONI VALVES

The Best A.C. Mains Valves, etc.—*contd.*

The applications of the two classes of A.C. valves differ to a certain extent.

The Directly Heated Point 8 series is intended primarily for use in conversion of battery and D.C. sets to A.C. Mains working, and these valves are therefore provided with characteristics similar to those of the battery valves (pages 54-55).

The Indirectly Heated range (pages 52-53) is employed in standard all electric receivers and amplifiers of every type. These Marconi "M" valves are exceptionally efficient and incorporate several novel features—among them the mesh type anode which prevents over-heating and assures a long life, while hum is entirely eliminated.

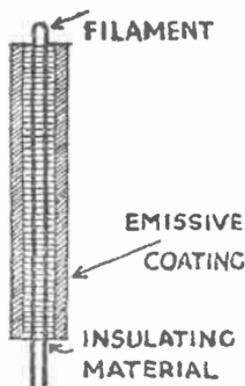
MS 4 is a highly efficient screen grid valve with a magnification factor of 550, suitable for every modern A.C. receiver.

MH 4 is a high magnification valve with a moderate impedance rendering it suitable for all the uses mentioned on page 19 and also for detector and first L.F. positions followed by a low ratio transformer.

MHL 4 is a medium magnification valve fulfilling every need mentioned on page 23, as it combines a moderately high magnification factor with low impedance.

ML 4, although classed as a low magnification general purpose valve, actually approaches the super-power class in performance, being widely used in the last stage of all-electric receivers. It may be used in the circuits mentioned on page 27, or, with 200 volts H.T., will give an output comparable to that of the P 625.

The instructions issued with each Marconi A.C. Valve should be carefully followed for the best results and long service.



Construction of A.C. Valve cathode (M series).

ALWAYS USE MARCONI VALVES

Indirectly Heated A.C. Valves

Marconi MS 4

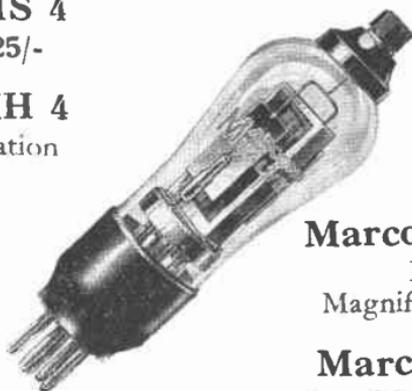
Screen Grid, 25/-

Marconi MH 4

High Magnification
15/-

*Approx. Overall
Dimensions.*

MH 4 } 130m/m
MHL 4 } X
ML 4 } 50m/m



Type MS 4.

*Approx.
Dimensions.*

MS 4—
140 X 45 m/m

Marconi MHL 4

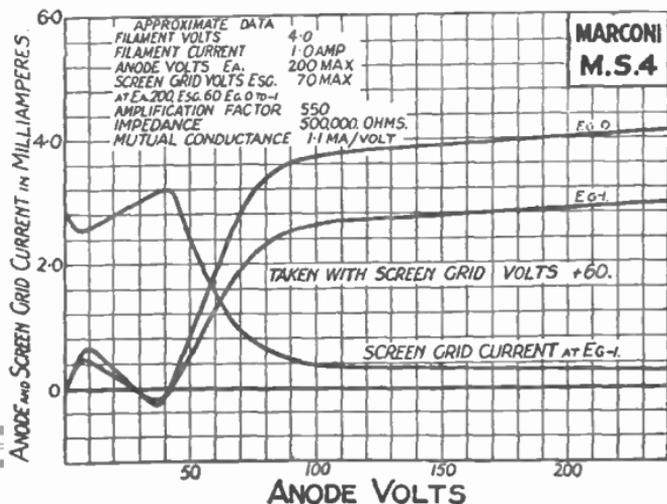
Medium
Magnification, 15/-

Marconi ML 4

Low Magnification and
Power Valve, 17/6

Marconi MS 4. Approximate Operating Data.

Anode Volts.	Screen Grid Volts.	Grid Bias.
100-150	50-60	-1½
150-200	60-70	-1½ to -3



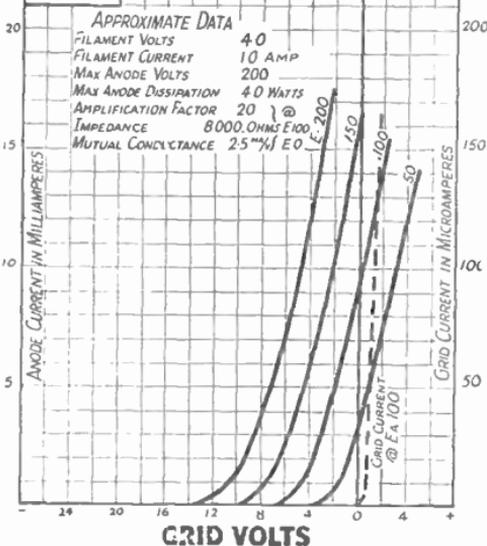
For All Electric Receivers

Marconi MH 4

Approximate Operating Data.

Circuit.	Anode Volts.	Grid Bias Volts.
Grid Leak Det.	50-100	0 to +1½
Anode Bend Det.	100-200	-3 to -6
L.F. Amplifier.	150-200	-1½ to -3
H.F. Amplifier.	50-150	Zero or negative according to circuit.

MARCONI MHL4

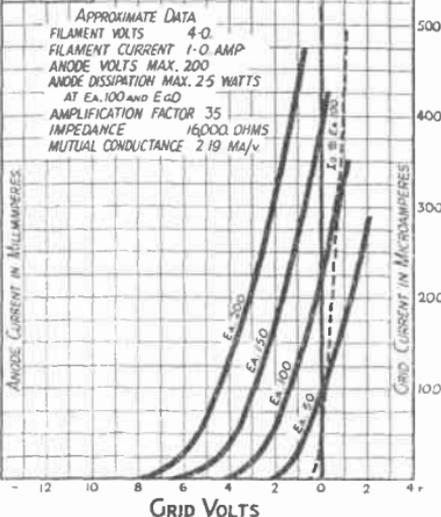


Marconi ML 4

Approximate Operating Data.

Anode Volts	Grid Bias	Approx. Anode current m.a.
100	-6	8
150	-10	13.5
200	-13 to 16	20 to 14

MARCONI MH 4

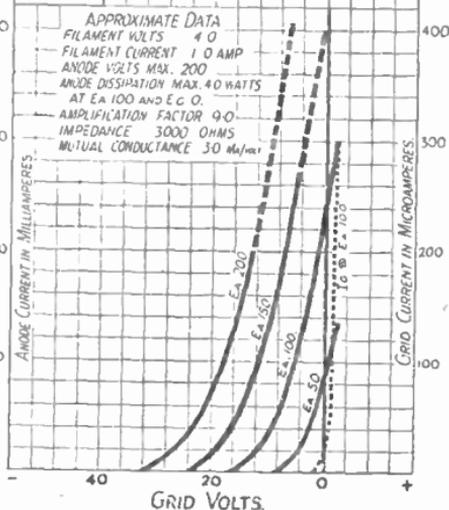


Marconi MHL 4

Approximate Operating Data.

Circuit.	Anode Volts	Grid Bias
Grid Leak Det.	50-100	0 to +1½
Anode Bend Det.	100-200	-6 to -12
L.F. Amplifier.	150-200	-4½ to -6

MARCONI ML 4



Marconi Point 8 Directly Heated Valves



Approximate Overall Dimensions.
S.8—1.36 × 44 mm.
Others—103 × 46 mm.

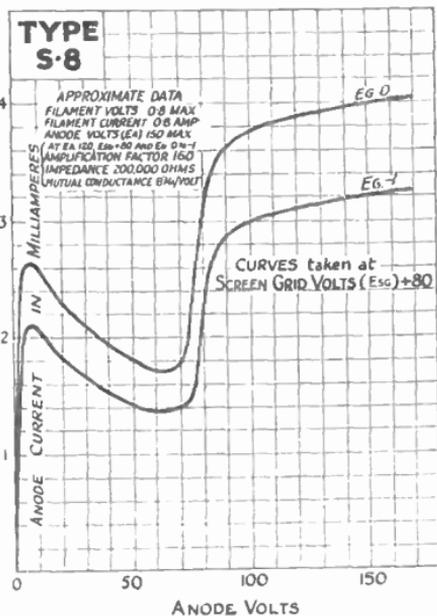
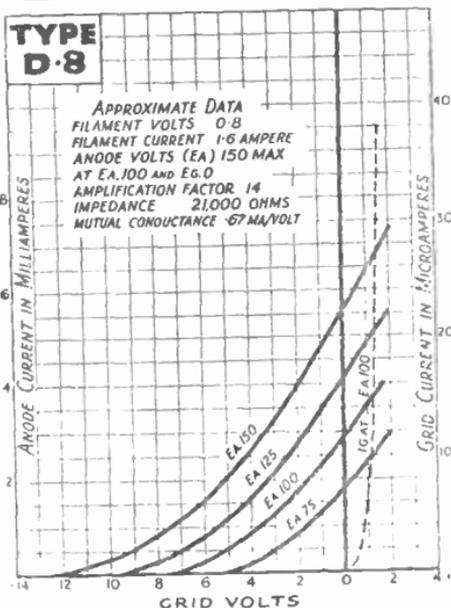
Marconi Point 8 Valves.

Marconi S.8

Approximate Operating Data.

Anode Volts	Screen Volts	Grid Bias
100-120	60-20	} 0 to 1½
120-150	70-80	

- Marconi S.8 Screen Grid 25/-
- Marconi H.8 High Magnification 15/-
- Marconi HL.8 Med. Magnification 15/-
- Marconi D.8 Detector 15/-
- Marconi P.8 Power 17/6



Marconi D.8

Approximate Operating Data.

Circuit	Anode Volts	Grid Bias.
Grid Leak Detector	50-150	+1½

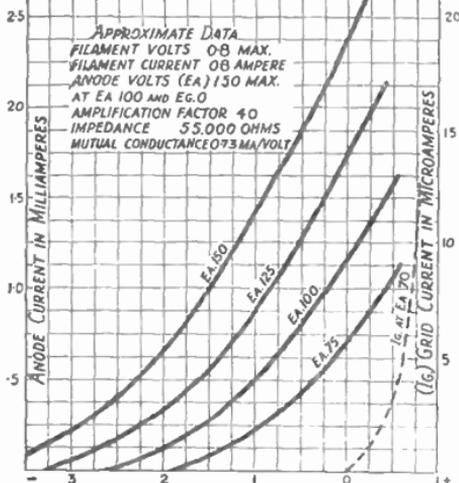
For A.C. all Electric Receivers

Marconi H.8

Approximate Operating Data.

Circuit.	Anode Volts.	Grid Bias.
Anode Bend Detector	100-150	$-1\frac{1}{2}$ to -3
R.C. Coupled L.F. Amplifier	100-150	$-1\frac{1}{2}$

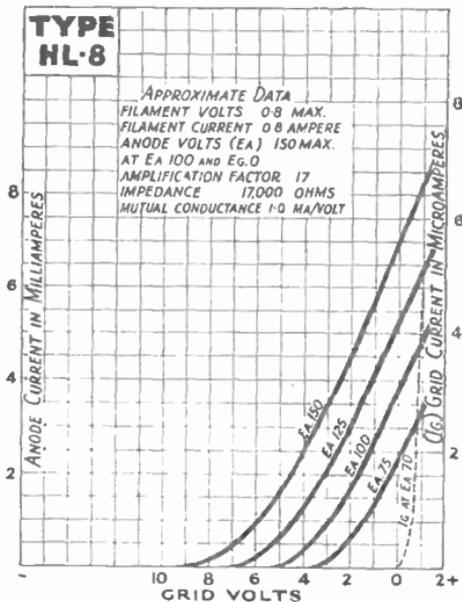
TYPE H-8



Marconi HL.8

Circuit.	Anode Volts.	Grid Bias.
Anode Bend Detector.	100-150	-3 to $-7\frac{1}{2}$
Transformer Coupled L.F. Amplifier.	100-150	$-1\frac{1}{2}$ to $-4\frac{1}{2}$

TYPE HL-8

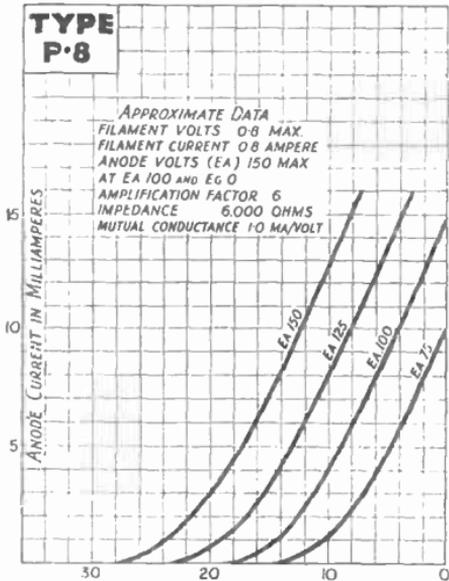


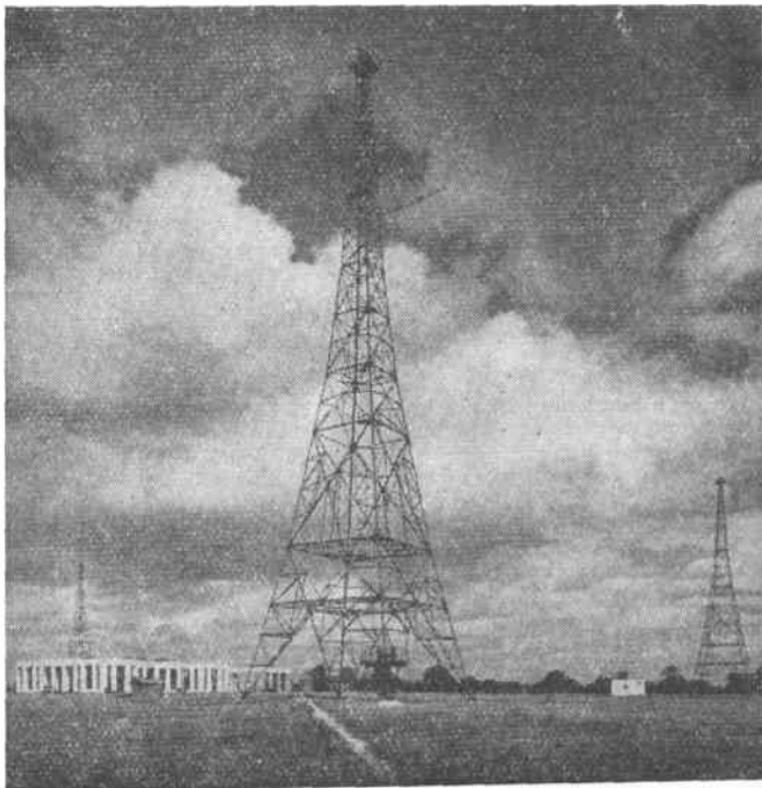
Marconi P.8

Approximate Operating Data.

Anode Volts.	Grid Bias.	Average Anode Current.
100	-7.5	6.0 m.a.
125	-10.5	7.5 m.a.
150	-12	10.0 m.a.

TYPE P-8





The Brookmans Park Station.

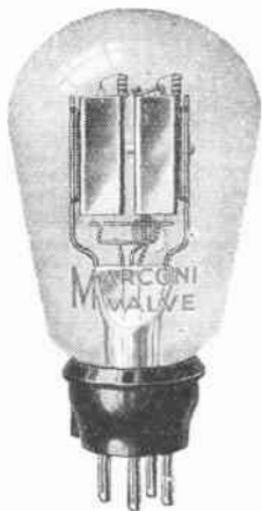
THE fact that the British Broadcasting Company uses Marconi Valves for the fundamental work of spreading its programmes across the face of Great Britain should convince you that Marconi Valves are the best for the reception of these programmes. Marconi Valves are used in practically every important national service, as outlined in previous pages, and many of the Valves used are identical with those supplied to the public for domestic purposes.

“ The valve which I am using is one of two purchased in 1924 and has been in constant use ever since. As proof of my statement I give you the type and number of the valve to compare with your records :—DER type, No. 16131 (or 316131). I am not quite sure of the number as the first character is blurred, but if necessary I could send you the box. People are astounded at the long life of this valve, especially as it has not deteriorated in any way.”

E., Shipley, Yorks.

The Best Rectifying Valves for supply from A.C. Electric Mains

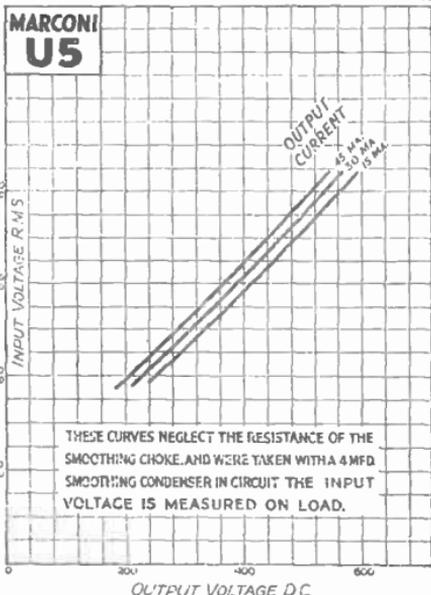
Marconi Rectifying Valves are made to give the most efficient and reliable high tension supply from A.C. Mains, in all types of all-electric receivers, amplifiers and A.C. High Tension Units. They incorporate particularly robust filaments capable of high emissions; rigid, dual electrode construction for efficient full wave rectification of both halves of the A.C. supply; low internal impedance for good voltage regulation—and there is a type for every H.T. requirement in broadcast reception.



- U5. A full-wave rectifying valve giving 45 m.a. at a maximum input of 400 + 400 volts R.M.S. Has sufficient output for large receivers using a super-power valve in the final stage.
- U8. A large full wave rectifier having the generous output of 120 m.a. on a maximum input of 500 + 500 volts R.M.S. Suitable for power amplifiers, large receivers incorporating high power valves and for providing field current to Moving Coil Speakers.
- U9. This is again a full wave rectifying valve providing 75 m.a. on a maximum input of 250-250 volts R.M.S. Designed for the average domestic receiver having super-power output and for the field current of moving coil speakers.
- U10. This full wave rectifier is designed to suit a large number of standard receivers and units, and has a maximum output of 60 m.a. at 250 volts. It is economical and reliable.
- GUI. This is a gas-filled half-wave high power rectifier giving up to 250 m.a. when the anode circuit is switched $\frac{1}{2}$ min. after the filament, or up to 60 m.a. with simultaneous switching—both at voltages up to 1,000.

ALWAYS USE MARCONI VALVES

Marconi H.T. Rectifying Valves



MARCONI U8

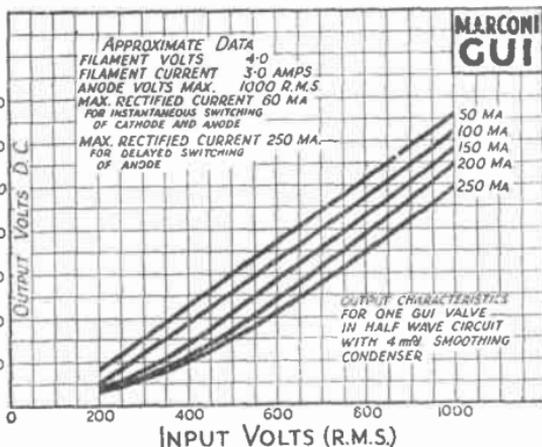
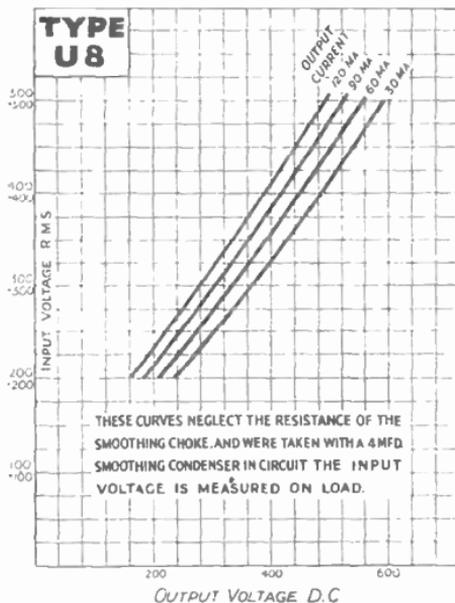
Fil. Volts7.6
 Fil. Amps. (approx.) 2.4
 Impedance (ohms) 150
 Max. m/a (smoothed) 120
 HT Max.....500 + 500

Price, 22/6

MARCONI U5

Fil. Volts5.0
 Fil. Amps. (approx.) 1.6
 Impedance (ohms) 300
 Max. m/a (smoothed) 45
 HT Max400 + 400

Price, 20/-



MARCONI GUI

(Gasfilled Rectifier).

Fil. Volts4.0
 Fil. Amps. (approx.) 3.0
 HT max. — 1000 volts
 *Max. m/a 250

Price, 40/-

*For delayed switching of anode.

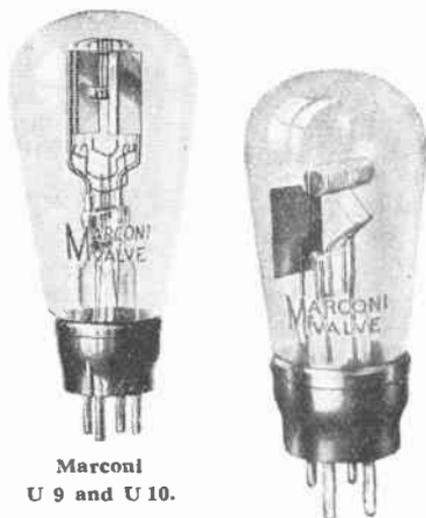
**ALWAYS USE
 MARCONI VALVES**

For A.C. Receivers and H.T. Units.

MARCONI U 9.

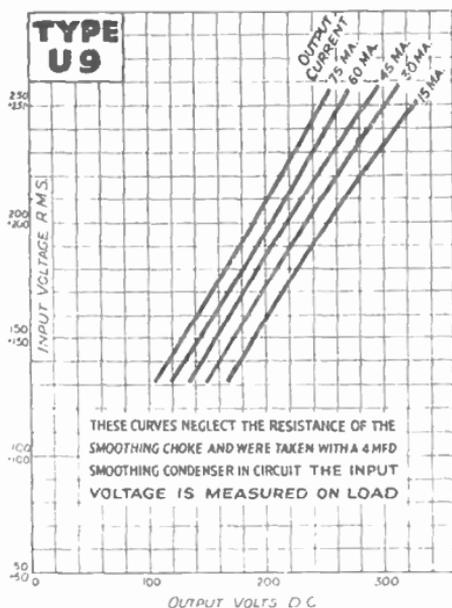
Fil. Volts. 4.0
 Fil. Amp. (approx.) 1.0
 Impedance (ohms) 220
 Max. m/a (smoothed) 75
 HT Max. 250 + 250

Price, 20/-



Marconi
U 9 and U 10.

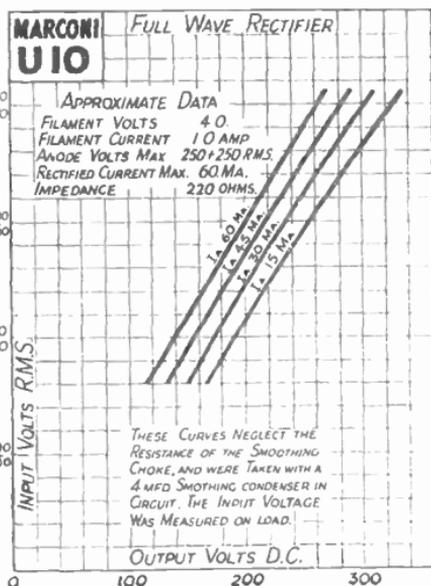
Marconi
GU 1.



MARCONI U 10

Fil. Volts 4.0
 Fil. Amp. (approx.) 1.0
 Impedance (ohms) 220
 Max. m/a (smoothed) 60
 HT Max. 250 + 250

Price, 17/6



**ALWAYS USE
 MARCONI VALVES**

Marconi Transmitting Valves



T 15

Approximate Overall Dimensions,
115 x 55 m/m

Filament Volts.....7.0 Anode Volts(max.) 1,000
Fil. Current..... 1.8 amps. Impedance... 40,000 ohms.
Volt. Magnification..... 35

Price, £2 10 0

MARCONI T 15

A small power Transmitting Valve, tested dissipating 15 watts at the anode, suitable for voltages up to 600.

Filament Volts.....5.5-6.0
Filament Current1.0 amp.
Anode Volts (max.).....600
Impedance.....50,000 ohms.
Voltage Magnification 25

Price, £1 10 0

MARCONI T 30

A small power Transmitting Valve tested dissipating 30 watts at the anode, suitable for voltages up to 1,000.



T 30

Price, £2 10 0

MARCONI DET 1

A small power Transmitting Valve with a dull emitting filament. Tested dissipating 40 watts at the anode and suitable for voltages up to 1,000.

Filament Volts6.0
Filament Current, 1.9 amps.
Anode Volts.....1,000 max.
Amplification Factor.....11
Impedance 6,500 ohms.

Price, £5 5 0



DET 1

Approximate Overall Dimensions,
180 x 78 m/m.

Filament Volts.....6.0 Amplification Factor.....8.5
Fil. Current...2.0 amps. Impedance.....5,000 ohms.
Anode Volts (max.) 500-1000

Price, £7 5 0

MARCONI DET 1sw

A double ended dull emitter Transmitting Valve, designed for short wave working on wavelengths down to 10 metres.

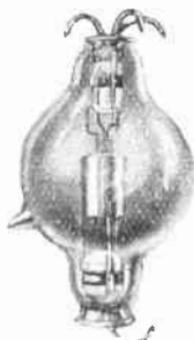


DET 1sw

Approximate Overall Dimensions,
255 x 78 m/m.

Full information regarding these and other Marconi Transmitting and High Power Rectifying Valves supplied on request.

Marconi Transmitting Valves



T 50

Approximate Overall
Dimensions,
145 x 76 m/m.

MARCONI T 50

A small power, double ended Transmitting Valve, tested dissipating 50 watts at the anode, suitable for voltages up to 1,500.

Filament Volts.....7.0.
Fil. Current.....2.5 amps.
Anode Volts (max.).....1,500
Impedance 35,000 ohms.
Voltage Magnification 30

Price, £5 12 6

MARCONI T 100

A double ended Transmitting Valve, tested dissipating 100 watts at the anode, suitable for voltages up to 1,500.

Filament Volts.....10.0
Filament Amps.....3.5
Anode Volts, 1,000-1,500
Impedance (ohms) 75,000
Voltage Magnification 50

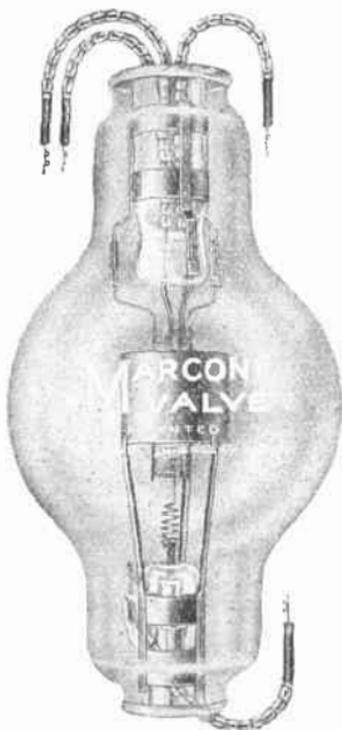
Price, £7 7 0

MARCONI T 250

A Transmitting Valve, tested dissipating 250 watts at the anode, suitable for voltages up to 4,000.

Filament Volts.....12.5
Fil. Current.....5.5 amps.
Anode Volts, 2,000-4,000
Impedance...17,000 ohms
Voltage Magnification 20

Price, £7 7 0



T 250

Approximate Overall Dimensions,
280 x 125 m/m.

Full information regarding these and other Marconi Transmitting and High Power Rectifying Valves supplied on request.

Notes and Additions

" I thought it might be of interest to you to learn of the performance of a Marconi Valve which I purchased in December, 1923. This Valve was one of the first Dull Emitters, No. 17546, 2-volt DER, to be used in the district where I was then residing, namely Newmains, by Wishaw, Lanarkshire. From the date on which it was purchased till the 10th July, 1930, it has been in constant use in my wireless receiver, which is a three valve instrument. The Marconi Valve has been working in the detector holder and in the other holders at different periods. Despite the fact that it has certainly been abused, it is still going strong and may be good for some time yet."

J. B., Hamilton.

Notes and Additions

" There is indeed nothing of the spendthrift in your valves. I bought two three years ago, giving 30/- each. They have given me about 3,000 hours' service —this speaks for itself and one of them is still giving me every satisfaction as a detector."

P. L., Portsmouth.

Notes and Additions

" These valves have " made " my set, and the reproduction of volume and tone exceed any other valves I have heard. They are ideal."

A. F., Ely.



The B.B.C.

Imperial Airways

The Great Shipping Lines

The Metropolitan Police

Trinity House Lightships and
Lighthouses

The Trawler and Whaling
Fleets

Empire Wireless

Communications, etc.

All use

Marconi Valves

Issued by The Marconiphone Company, Limited.

SUPPLEMENT.

NEW SERIES.

MARCONI 2-VOLT VALVES

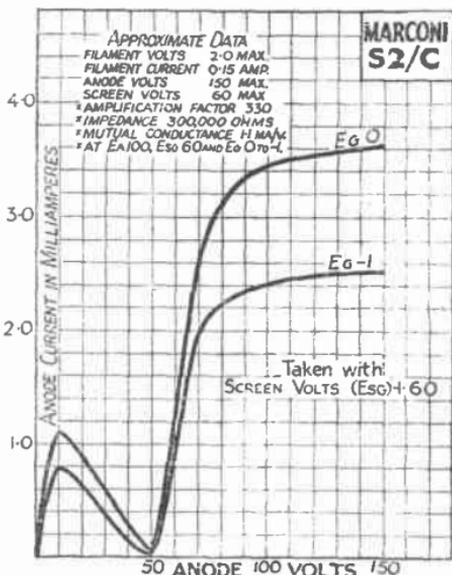
of

INCREDIBLE EFFICIENCY.

A new Marconi 2-volt series which, individually and collectively, will set new standards of valve efficiency. A casual glance or brief comparison will reveal genuine supremacy on every essential point—superiority of characteristics—vastly improved performance—greater range with amazing volume and tone—even longer life than hitherto—in fact every feature which appeals to the connoisseur of real efficiency. Truly this new 2-volt range is a crowning achievement of Marconi research.

NEW MARCONI 2-VOLT VALVES

NEW 2-VOLT VALVES



Marconi S2/c

High efficiency screen grid amplifier.

Approx. operating data.

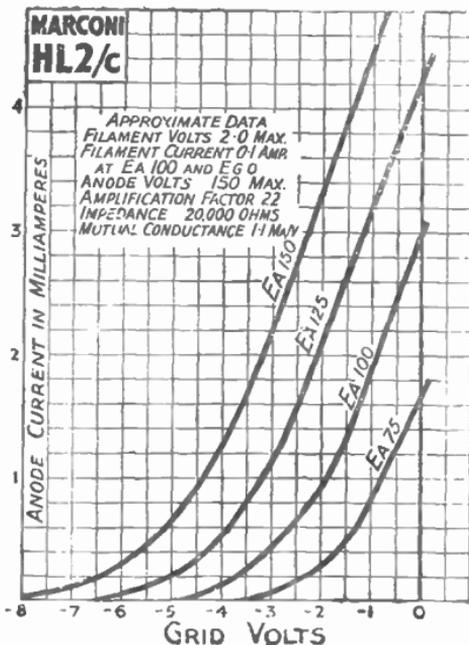
Anode Volts.	Negative Grid Bias Volts.	Screen Grid Volts.
120-150	0 to 1½	60

Marconi HL2/c

Medium Magnification Valve.

Approx. operating data.

Circuit.	Anode Volts.	Grid Bias
Grid leak detector	50-150	Connect grid leak to positive end of filament.
Anode bend detector	50-150	-1½ to -6
L.F. Amplifier	75-150	-1½ to -4



ALWAYS USE MARCONI VALVES

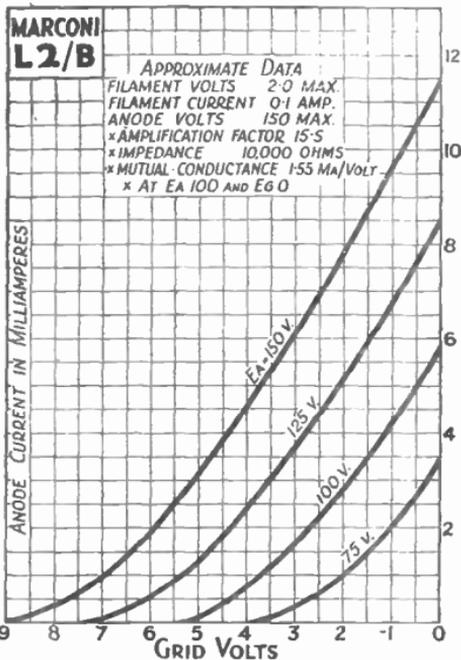
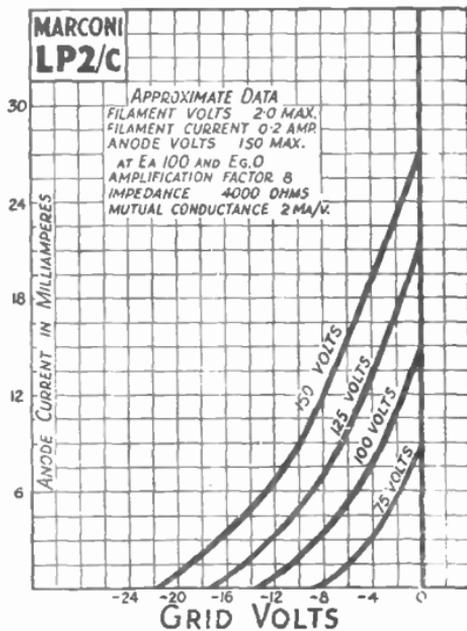
NEW 2-VOLT VALVES

Marconi L2/b

Low Magnification Valve.

Approx. operating data.

Circuit.	Anode Volts.	Grid Bias.
Grid leak detector	50-150	Connect grid leak to positive end of filament
Anode bend detector	50-150	-1½ to -7½
L.F. Amplifier	75-150	-1½ to -6



Marconi LP2/c

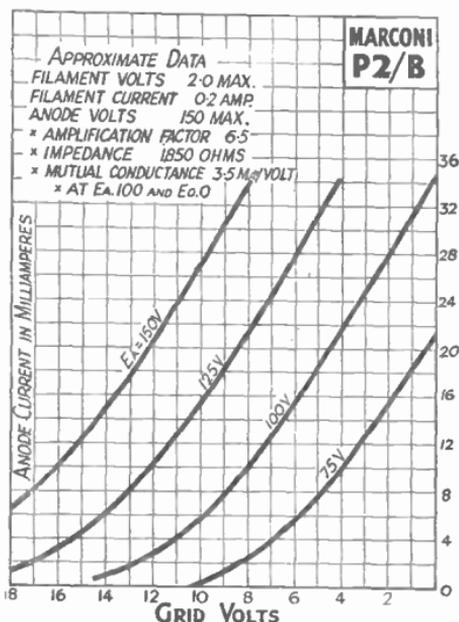
Power Output Valve.

Approx. operating data.

Anode Volts.	Grid Bias.	Average Anode Current
75	3	4.5
100	4.5	7.0
125	7.5	7.5
150	9	11.0

ALWAYS USE MARCONI VALVES

NEW 2-VOLT VALVES.



Marconi P2/b

Super Power Output Valve.

Approx. operating data.

Anode Volts.	Grid Bias.	Average Anode Current.
150	- 13½	16
125	- 10½	13
100	- 7½	11
75	- 4½	9

THE COMPLETE 2-VOLT SERIES.

Cat. No.	Type.	Purpose.	Amplification Factor.	Impedance	Mutual Cond'tance	Price
B.1618	S2/c	Screen Grid	330	300,000	1.1	20/-
B.1510	S215	Screen Grid	170	200,000	0.85	20/-
B.1612	H2	High Magnification ..	35	35,000	1.0	8/6
B.439	H210	High Magnification ..	35	50,000	0.7	8/6
B.1616	HL2/c	Medium Magnification	22	20,000	1.1	8/6
B.1476	HL210	Medium Magnification	20	23,000	0.87	8/6
B.1619	L2/b	Low Magnification ..	15.5	10,000	1.55	8/6
B.442	L210	Low Magnification ..	11	12,000	0.9	8/6
B.1617	LP2/c	Power	8	4,000	2.0	10/6
B.437	P215	Power	7.0	5,000	1.4	10/6
B.1620	P2/b	Super Power	6.5	1,850	3.5	13/6
B.1481	P2	Super Power	6.5	2,300	2.8	13/6
B.1480	P240	Super Power	4	2,500	1.6	13/6
B.1460	PT240	Pentode	90	55,000	1.65	22/6

ALWAYS USE MARCONI VALVES