

Laboratory Jottings

Mullard Valves.

WE have received from Speddings Limited, a full range of the new Mullard valves, and have been able to test each valve in its particular place in the set. Four distinct series are now produced: Two, four, and six-volt and A.C. valves. Each range is complete, being equipped with general purpose, high frequency, audio, power, detector, screen grid, and pentode valves. The full range of the new valves is as follows:—

Valve	Position	vf.	ia.	va.	g.	Slope.	Ri.	v.g.
PM1A	Det.	2	.1	150	38	.7	51,000	13
PM1HF	H.F.	2	.1	150	18	.8	22,500	4½
PM1LF	Audio	2	.1	150	11	.9	12,000	7½
PM2	Power	2	.15	150	7.5	1.7	4,400	12
PM2D	Audio	2	.25	150	13.5	1.25	10,700	6
PM12	S.G.	2	.15	150	200	.87	230,000	1½
PM22	Pentode	2	.3	150	82	1.3	62,500	10.5
PM252	Power	2	.3	150	5.4	2.1	2,600	15
PM3	General	4	.06	150	14	1.05	13,000	6
PM3A	Res.	4	.06	150	38	.66	55,000	1½
PM4	Power	4	.1	150	8	1.8	4,450	12
PM4D	Audio	4	.1	150	15	2.0	7,500	4½
PM14	S.G.	4	.075	150	200	.87	230,000	1½
PM24	Pentode	4	.15	150	62	2.3	28,600	10½
PM254	Power	4	.18	150	4.2	2.1	2,000	22½
PM5	General	6	.06	150	17.5	1.2	14,700	4½
PM5B	Res.	6	.06	150	40	.75	55,000	1½
PM6	Power	6	.1	150	8	2.25	3,550	9
PM6D	Audio	6	.1	150	18	2.0	9,000	4½
PM16	S.G.	6	.1	150	200	—	200,000	—
PM28	Pentode	6	.17	150	50	2.0	25,000	12
PM256	Power	6	.25	150	4.25	2.0	2,100	22½
DFA6	Power	4.5	.85	400	6.4	1.45	4,500	30
DFA7	Power	4.5	.85	400	2.4	.86	2,800	150
DFA8	Power	4.5	.85	400	19.5	1.3	15,000	7½
DFA9	Power	6	.6	250	5	2.5	2,000	28½
DO20	Power	7.5	1.3	425	5	2.5	2,000	51

Of these new valves, the following merit special attention:—

The special detectors: 2D, 4D, and 6D. This is a very fine series of very sensitive valves. They will oscillate on very low voltage, and give a high amplification without distortion. They are not easy to overload.

Screen grid valves: The Mullard screen grid valve has a very high amplification factor and steps up the signals very considerably. The plate is taken from the terminal at the top of the glass.

The pentode: The pentode in this make of valve is known as the Pentone, and compares very favourably with other pentode valves. It has been found that if a station is on the borderline of readability and a pentode is introduced in the last stage, it will

be brought in at satisfactory strength. However, a pentode can be easily overloaded, and it is advisable to keep a power valve handy to prevent this happening.

For roundness of tone the set owner is advised to introduce the special power valves, 252, 254, or 256. These are capable of giving just that completeness to reproduction that makes wireless worth while.

THE A.C. valves have been brought out in three types, two of which

are indirectly heated and use the 5-10 base. 102T is the heater valve and in character is very similar to the Radiotron 227. A.C.3 is directly heated and is similar to Radiotron 226. A.C.4 is, strictly speaking, a D.C. valve of the 171A type. It can be used as a super-power valve in the last stage for sets using battery power, but in this case a resistance would be needed in the filament circuit.

The new Mullard valves are sent out in very attractive cartons. These are artistically designed in two colours, and make a very good display. The valves are robust and breakage through ordinary handling very difficult. They are obtainable in either English or UX base.

Wonder of Wonders

Attraction of Radio

AFTER about three and a half years' experience with radio as a listener-in, I have certain thoughts concerning radio which may be of interest more particularly to the new chum to radio.

I well remember the first time I actually heard an Australian station, and the excitement of hearing a violin solo, received on a home-made set owned by a neighbour, excellent reception, too. He worked hard improving his receiver, and finally now that same gentleman can boast of owning probably one of the finest receivers and allied attachments in New Zealand. I did, of course, indulge in a receiver, and soon I was "on the air" for a penny a night. Mark you a "penny a night." Wonderful! Since then I also have made improvements to my receiver, and had to be with the few who owned a short-wave receiver; and again I have had improvements made, and now work a totally new and efficient short-waver. Being musical, music is pleasing and rejuvenates the body, the nerves, the soul, drives away care, worry, and takes one right out of that business groove. Away thousands of miles does the mind wander, miles does the soul look for music, thousands of miles away that carrier-wave starts on its long journey to these shores to tickle the ears of the radio enthusiast. Something to take the mind off everything, something to "buck one up," something to make one feel young, happy, and carefree; that's what I expected of radio, and with certain reservations, I get that something. If New Zealand could not fill my requirements, well, I had recourse to overseas stations. Now, would I miss radio? One might ask. "Can a duck swim?" and if he was on dry land would he want to swim? Of course I would miss the radio: the question almost requires no answer. And yet I have heard some poor fellows say, "D— the radio. I would not be bothered with it, the static and noises, and had reproduction of good music"—music mutilated, as one man said. But see them seeking me for news of boxing and football matches, and other news—rather! They see the value of radio, but it takes a long time to get them to install radio, why I don't know. It cannot be poverty. I think it is just that they will not concentrate their minds on anything in particular; that the only pleasure they get in life is in be-

ing out amongst other people in the theatres and halls, etc. For my part, give me my radio, a good fire, a cosy chair, and I'm "as contented as a king." A king could not be happier, I'm sure. Once my radio was out of commission for three days, and I felt like a duck out of water—there was something missing from the home, something wrong somewhere. On another occasion I was on holiday, and no radio available. Did I miss my radio? I swore on oath, I would never go away again without a radio receiver; and I didn't! for I secured a portable set, and had the fun of the fair on the launch; and heard Christchurch Cathedral bells and all the city glamour and noises on Christmas Eve, and again New Year's Eve. Radio! Why not live now? Why not enjoy life now? Why not get the most out of life now? There is enjoyment enough surely! Why wait for years before partaking of the good things offering? With all the pessimists groaning about trade depression, politics, etc., surely we want something to rejuvenate us during our spare time! It seems to me radio can and will turn pessimists into optimists. Radio will, I'm sure, do a great deal towards rejuvenating the mind, soul, and vitalise humans, if they use radio in the right quantity; for the dose, although harmless, should be taken in correct doses, generally after meals as a tonic. Radio is a genuine tonic for the weary, depressed, and worried mother or father. That is why I have for several years tried to get more humorous items included on the New Zealand programmes. I contend there is an enormous amount of enjoyment from using a short-wave receiver, and these receivers are not expensive, and can be obtained from any radio dealer. Another branch of radio which will bring considerable enjoyment to listeners is the amateur transmitter who works on 'phone transmission. Any listener can send in reports to the amateur transmitter and receive a reply (descriptive) card for his trouble; and a great network of listeners and transmitters is being gradually but surely built up in New Zealand, a genuine circle of friends (unseen) friends; a brotherhood which must be for the good of the community as a whole.

THE educational side of radio has great possibilities, and the Aunts and Uncles are doing fine work—wonderful work, in fact, educating the youngsters, trying to make their lives happy, a fact alone worth the trouble of installing radio in the home. The voices of the announcers are part of the day's routine and life. They do their work well—not much to find fault with in them. I congratulate them.—R. Leslie Jones.

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