

Ray Allsop and Don. B. Knock — Technical Editors

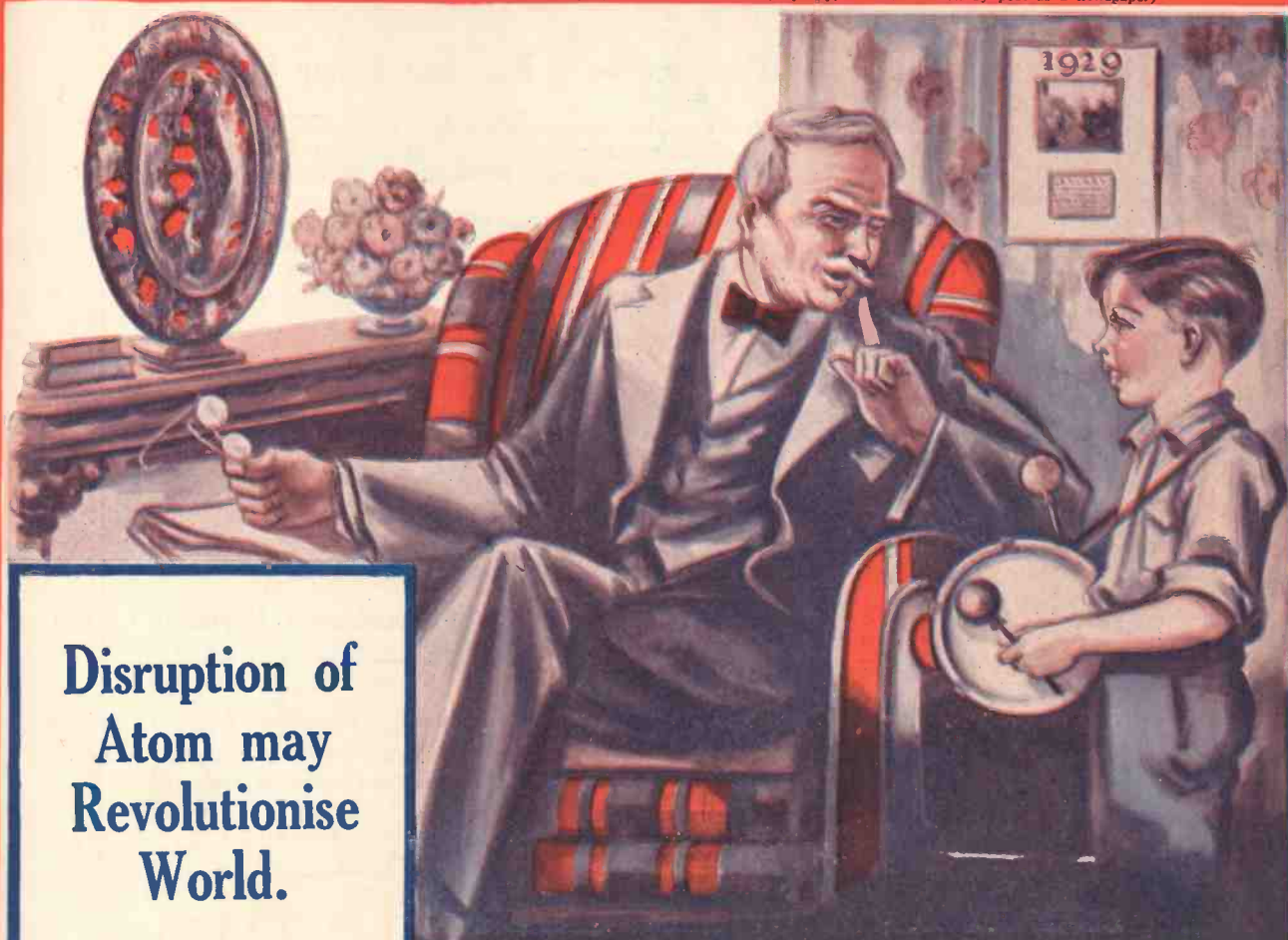
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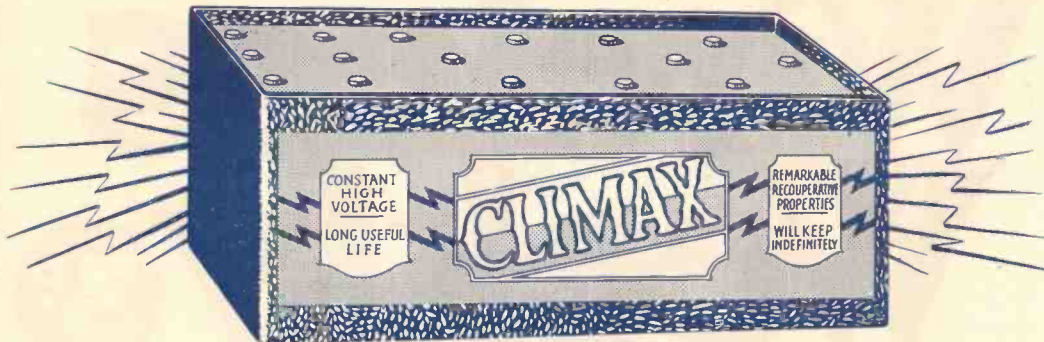


Disruption of
Atom may
Revolutionise
World.

The Super
Screen-Grid
Peridyne

PHILIPS

LOUD SPEAKERS



“CLIMAX”

The Battery Scientifically Produced by a New and Better Process!

SCIENTIFIC research has revealed the important fact that acids and Sal-ammoniac (largely used in ordinary High Tension Radio Batteries) decompose the Zinc Electrodes, causing most of the battery trouble the user has to contend with.

The “Climax” formula does not include either of these chemicals.

“Climax” is made by an entirely new method which ensures perfect operation over every period of a long and useful life.

Noise and unsteady operation need never be reckoned with if your set is “Climax” equipped!

Undoubtedly, the “Climax” in battery making has been reached in this new-process-product, so aptly named.

CLIMAX “B” BATTERIES

30 Volts, 8/-; 45 Volts, 12/-; 60 Volts, 16/-; 90 Volts, 24/-.

CLIMAX “C” BATTERIES

9 Volts, 4/-; 15 Volts, 6/-.

Equip Your Set with “Climax” to-day and get Maximum Results!

CLIMAX BATTERIES FOR YOUR TORCH

The next time you order torch batteries see they are “CLIMAX.” You will be rewarded with a steadier, brighter and never-failing light, plus longer life and service, than you have ever had before.

Double Cells, 3 Volts, 1/6; Triple Cells, 4½ Volts, 2/3; Flat Cells, 4½ Volts, 1/-.

FOX & MACGILLYCUDDY LIMITED

DAILY TELEGRAPH BUILDINGS — KING STREET, SYDNEY

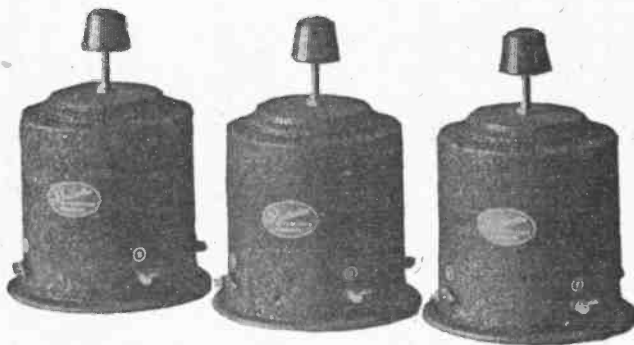
DEALERS, WRITE FOR DISCOUNTS.

"The Finest Receiver yet introduced," says Technical Editor

THIS SET IS

Radiokes Peridyne

Adapted for Screen-Grid Operation



PRICE £3/15/- PER KIT

In this issue you read all about the construction and performance of this truly wonderful receiver.

Most of the popular receivers are considerably improved by the addition of the new type screen grid tubes, but this circuit makes up into the finest ever.

Inter-State during daylight in summer, from beneath the shadow of our powerful 2BL, with selectivity to suit the most critical! What a performance!

Of course, the heart of this receiver is the **Radiokes Standard Peridyne Coil Kit.**

Efficient and correct in electrical design, permanent and robust in mechanical construction, beautifully and conveniently designed, exterior is highly finished in black crystalline lacquer and polished nickel.

Locking devices are provided to maintain adjustments of balancing shields when once obtained. Plainly designated screw terminals are conveniently located for easy wiring and mounting holes are situated in base to facilitate easy assembly in receiver.

OBTAINABLE FROM ALL HIGH-CLASS RADIO
DEALERS EVERYWHERE OR DIRECT FROM

NOTE NEW
ADDRESS
OPPOSITE

METROPOLITAN
ELECTRIC CO. LTD.

"Radiokes House"
126-130 SUSSEX ST.
SYDNEY

We have extended into
larger premises, and
office is removed from
27 King Street.

OUR NEW TELEPHONE NUMBER IS B2722

MOISTURE PROOF!

The SECRET of QUALITY

Transformers are designed to-day along the same lines as were employed years ago, when amplifier voltages ran up to only 45, or perhaps 90, volts, and yet an almost imperceptible amount of moisture will cause insulation breakdowns and open circuits under the conditions of modern amplifying valves and circuits.

The Water Jug Test

Pilot engineers have changed completely from conventional methods in order that these new Transformers will do their work under all climatic conditions. Pilot transformers are guaranteed to be unaffected by immersion in water for a period of 30 days. This exposure is equivalent to use in the most humid climate for five to ten years.

SUCH PROTECTION AGAINST MOISTURE ABSOLUTELY PREVENTS INSULATION BREAKDOWN AT ALL VOLTAGES NOW EMPLOYED IN AMPLIFYING CIRCUITS.

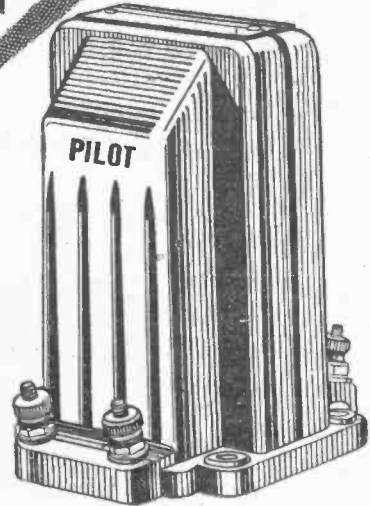
Sole Australasian Agents:

Harringtons LTD

Goodwill Built on Public Confidence Since 1889.

Retail Radio Dept. and Showroom: 386 GEORGE STREET, SYDNEY.
Wholesale Warehouse: 213 Clarence Street, Sydney.

Also at Katoomba, Newcastle, Melbourne, Brisbane, Adelaide, Hobart, Auckland (N.Z.), Wellington (N.Z.).



No. 391
PILOT

$3\frac{1}{2}$ to 1 ratio

AF Transformer

22'6

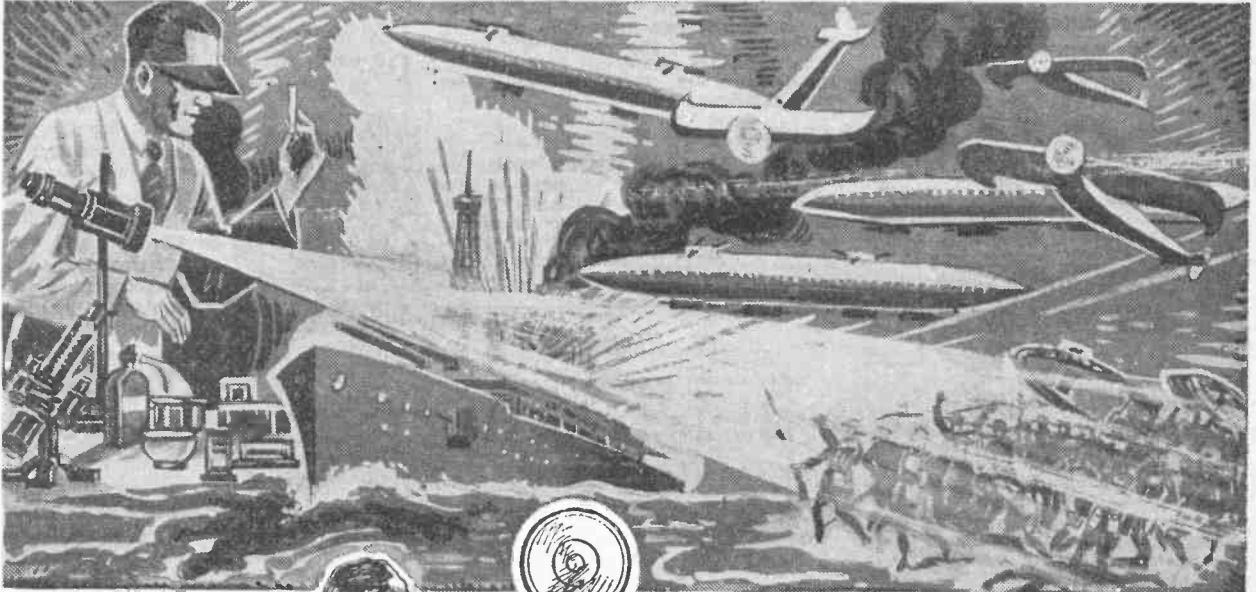
The characteristics of the transformers match the response curves of good speakers, giving the best musical reproduction without emphasising the low notes. With dynamic speakers the quality is exceptionally fine.

MAIL ORDER DEPARTMENT

We have long maintained a special Mail Order Department, and country clients are assured of prompt and expert attention to their requirements. Please add postage and exchange when ordering.

Behind Your Radio Receiver

*Vacuum-tube Experiments Presage Mastery of Elements . . .
Disruption of the Atom May Revolutionise World*



OVER 5,000,000 volts—the highest electrical potential ever produced by man—has been achieved in the laboratory of two American scientists, Breit and Tuve. They succeeded in applying a voltage of a million volts to a vacuum tube equipped with electrodes outside the exhausted glass bulb. This is the highest voltage ever impressed upon a vacuum tube.

This does not sound very impressive to the layman, but it means that we are promised, through the development of these powerful scientific tools, the disintegration of the elements into their building blocks of positive and negative electricity, probing of the constitution of the nucleus or mysterious heart of the atom and other such fundamental achievements in studying the constitution of matter.

Sitting comfortably listening to the radio programmes, we are oft, if we think about it at all, to believe that broadcasting is the ultimate achievement of physical science. But this is patently wrong. Radio broadcasting is only a small triumph in a minor branch of radio active science. In this vast field it occupies an insignificant place in the eyes of scientists. Their attention is directed to the rapidly approaching time when we will be in many respects masters of the elements.

A source of high-speed projectiles, both electrons and atoms, more powerful than the radiation from radium, whose irresistible and natural disintegration now gives the

most powerful minute bullets known to science, will be provided through the utilisation of the high voltages now developed.

The apparatus operating on 60 cycle current, sparking 120 times a second, will give out a stream of electrons that it would require two pounds of radium to produce. Over a kilowatt of power at the voltage of 5,000,000 can be emitted with the apparatus.

Relatively little space is needed in order to house the apparatus necessary to produce the 5,000,000 volts. An X-ray machine such as used in medical practice provides current at about 50,000 volts, which is fed into and charges a large condenser constructed from window glass and lead foil.

This condenser discharges suddenly and spectacularly through a spark gap into a

small inductance coil which is coupled with a Tesla coil, a yard long, three inches in diameter, and wound with 7000 turns of fine wire.

This is the coil in which the 5,000,000 volts is produced. To insulate the wire on the Tesla coil it is immersed in a large tank of transformer oil, under pressure of 500 pounds per square inch. Preliminary experiments

showed that the oil in an open tank under ordinary atmospheric pressure would insulate the coil sufficiently well for 3,000,000 volts.

Dr. Breit is confident that even higher voltages can be obtained by using larger Tesla coils, but for the last year he has been occupied with the problem of applying to vacuum tubes the high voltages already obtained.

"Five million volts, when applied to doubly charged helium atoms, or particularly to alpha particles, or, still better, to multiply charged ions or stripped atoms, should be capable of giving particles with energy much in excess of the swiftest alpha particles so far observed," Dr. Breit declared in his scientific report.

In order to use the high voltages it is necessary to get them inside an air-free tube in which the metal to be disintegrated or the substance to be otherwise affected can be placed. Ordinary vacuum tubes with elec-

(Continued on page 24.)

BETWEEN YOU AND ME AND THE MICROPHONE

The "Three Wise" Man

MR. CHARLES LAWRENCE handed us an unofficial laugh the other night. We said "We enjoyed the Nativity Play, Mr. Lawrence. How many parts did you take?" "Four," he said. "I was the shepherd and—the three wise men. What the devil are you laughing at?"

For Old Acquaintance

A CORRESPONDENT to 2FC asked whether John Mitchell was the man who sang "Home, Sweet Home," in Dubbo about 1915? Artists frequently receive such letters. Miss Mabel Batchelor was specially requested to sing "Alice Blue Gown" by a resident in the far west, as she was sure Miss Batchelor had sung it in her town five years ago; she recognised the voice!



The Hello Man Televised

ON New Year's Eve it was decided by the New South Wales Broadcasting Company to broadcast a photograph of 2FC's announcer, Mr. A. S. Cochrane. He was to be "televised" drinking a cup of coffee. We saw it done through the control room windows. Mr. Cochrane stood in front of the microphone, in the middle of a group of excited radio engineers. "Mr. Cochrane will now drink his coffee," it was announced. Mr. Cochrane drank audibly, with sibilant assistance from the group. There were all kinds of sounds from tin whistles and toy trumpets; and Mr. Alsop announced, "Mr. Cochrane will now replace his cup on the saucer." Mr. Cochrane obliged—as far as the listeners were concerned. But the television transmitter must have been shut off quickly, because we have had no reports of the finale; Mr. Cochrane replaced his cup on the saucer and—cup and saucer fell on to the studio carpet and smashed into so many pieces that they were extremely hard to pick up again.

Song of the Soul

MOST of the artists who sing jazz melodies in the studios have a habit of swaying and wobbling while they sing. This habit annoyed a certain accompanist, who thus reprimanded the wobbler:—"My dear girl, you MUST stop that wobbling," he said. "The song is not THERE" (giving her a gentle slap) "but in your head." Yet one doubts whether Jazz-sans-Wobble is possible. Another habit of the jazz singer is to wrinkle the face into all kinds of cheerful shapes. Eyebrows go up expressively, eyes roll dolefully to the ceiling, and smiles—sometimes grim and horrible, sometimes most charming and desirable—waste themselves on the microphone.



A Prince Broadcast

ROYALTY was heard on the air, via the short-waves, on December 28. ANE, Java, broadcast an address by the Prince and Princess Astrid, of Sweden, who are visiting the East.

Good Sir Knight

OFFICIALS of 2FC were very much astonished when an artist who had been broadcasting from their studio sent them a Christmas card, signed with his real name. The signature was: "Major Sir Howard Seymour, K.B.S."

The Naked Truth

MR. HARRY GRAHAM was talking on Fashions. "It'd be wonderful to be a woman in summer time," he said. "There's no doubt they have it all over us, so far as clothes go." "Doubtless because," remarked a cynic in the corner, "they haven't got much over themselves."

Lord Birkenhead

POLITICAL interest has been aroused by Lord Birkenhead's plans for the future, one report being that he is expected to receive one of the most important posts in the Imperial Cable and Wireless merger, the chairmanship of the 265,000,000 dollar Imperial communications combine.

We Apologise

OF course, it would be better and wiser to leave it out—but! In a certain studio in Sydney the request, during the children's session, was for a song—"Little Mister Baggy Britches." The announcer turned to the little girl who usually sings this song. "Well, now, have you got 'Baggy Britches' to-night?" he asked. As the control room operator afterwards remarked, "Rather a bloomer, what?"



BY REQUEST

I've listened-in to 2BL,
I've listened-in to 2FC;
I'm sure I've always tuned in well,
But one thing's always puzzled me—

I've listened-in to Adelaide,
To Perth, and also Maoriland;
But one thing's left me in the shade—
There's one thing I can't understand—

I've listened-in to 3LO,
I've listened-in to 4QG—
There's just one thing I'd like to know—
Perhaps you will explain to me.

Yes; one thing brings the puzzled frown,
So tell me now, and be a sport—

WHEN STATIONS SAY THEY'RE
CLOSING DOWN,
IS THIS TO CATCH THEIR
TRAINS OF THOUGHT?

—DERIT.

Fly Paper

ONE who has seen a great number of the letters received by the New South Wales Broadcasting Company from listeners-in throughout the world, assures us that he has not yet seen a specimen of American or Canadian handwriting which did not resemble a fly's passage across the paper. Of course, this may not be characteristic of all American writing. At any rate, it is typical of our friends over the pond that they disregard flourishes, and the Broadcasting Company must be very pleased with some of their congratulatory remarks.

Another for Mr. Lawrence

A WELL-KNOWN broadcasting artist had been engaged to perform at a dinner given to a great man. He resolved to give the best performance of his life, and went without his lunch to make sure. Moreover, he refused to take anything at all of the dinner itself. Mr. Lawrence, who is a connoisseur in these matters, says that the spread was the finest he has ever seen. So you will have a clear picture of an exceptionally hungry broadcasting artist, suffering for the sake of Art. As soon as the dinner was over, the chairman announced that, as his Excellency had many pressing duties, he would be pleased if the company would excuse him. The company broke up; and the unfortunate artist went home, sans performance and sans dinner. Mr. Lawrence says that he has never been known since then to go without his dinner.



Scottish Greetings

UNCLE BAS, of 2BL, received these charming Scottish New Year verses from little May Gowans, of Thirroul:—

Auld frien's as noo the year is endin'
Some lucky heather here I'm sendin';
Ma he'rty Yuletide greetin's gang wi';
An' a' guid wishes tak' along wi';
May you an' Fortune aye gang cleekin',
An' lang yer lum keep briskly reekin'.

Wishing ye a' a' rale Happy New Year;
an' that, lika day in the New Year may be better than the last.

Uncle Bas repeated these verses, which cam' wi' a sprig o' heather an' a large round o' shortbread, with perfect artistic effect. But we had to ask him the meaning of the last couplet, which, freely translated is "May you and Fortune go together; and long may your Chimney keep briskly smoking." At least, Uncle Bas says so.

Problems of Broadcasting

With each year's advance the difficulties which beset broadcasters become more intricate. In this article the well-known Chief Engineer of the British Broadcasting Corporation shows how the broadcasting problems have grown during the last decade, and enumerates the most important of those which are puzzling the authorities to-day. He contrasts British and American methods and states the "power" problem in full.

By CAPT. P. P. ECKERSLEY

(Chief Engineer of the British Broadcasting Corporation.)

I WILL endeavor to describe, in the first place, the history of broadcasting from the beginning; secondly, some of the technical problems as they confronted us yesterday and as they confront us today; and, thirdly, the future as I see it.

I wonder what most of you think about broadcasting. I expect to some it is a pleasant noise whilst washing up; to others, a necessary adjunct to any house; but to the lonely people it is a source of continual enjoyment. Do we realise the potentialities of what lies behind broadcasting? The spoken word used to be the only way in which one person could convey his thoughts to another. I believe broadcasting will bring a revolution in our times, because it has the power of personality behind it. You can never put into written things the same power that you can into spoken words. It does not matter what the talker is going to speak about, it all comes down to one thing, that you have behind broadcasting a personality which is actually in your room when you are listening in. I have that sincere feeling about its potentialities.

One wonders that it was thought about so little at the beginning. I had the privilege of being one of the beginning people in England. About 1919 some enthusiasts, of whom I was one, were keen on the wireless telephone. We got together a lot of valves, and optimism, fixed up an aerial, picked up a microphone, and began to blow into it, I am pleased to say, with some effect. After a while we began to talk, and 10,000 people used to listen to us. We even got some famous people to talk, and our enthusiasm was worked up to an enormous pitch. That was the beginning. People will tell you that broadcasting began in America, but I do not believe that is perfectly true. Anyway, the first time I knew anything about it was at Chelmsford. The Postmaster-General at that time said that this thing had got to stop, because it was interfering with legitimate services. It stopped. However, the flag was kept flying by people whom we call amateurs, who spend long hours listening at the ends of their telephones, some writing books about it all.

That was a hard time for wireless, but these amateurs stuck to it. They constantly petitioned the Postmaster-General that there might be a station to listen to, and under the influence of these shock tactics the Postmaster-General eventually permitted a broadcasting station, but said that this station must have certain limitations put upon its activities. The station must be only 250 watts; transmission should only take place half-an-hour a week; between every item transmitted there should be a three-minute silence; also that in between every item we should listen to see that we were not interfering with Government services; and, further, that our little 250 watts were not only to be used in radiating the energy, but also for lighting the valves. We found that it took 400 watts to light the valves. So it went on!

Those were great days. The station was at Writtle, near Chelmsford. We simply picked up the microphone, and, as anything occurred to us, so we would send it through. We were a very happy band of some 10,000 people. We gave a play, taking the parts of the characters ourselves. Imagine a long, low hut, with wire all round, and all of us talking into little instruments.

Very soon people began to say that it was very interesting. There was a great deal of talk how to start broadcasting in Great Britain. The Postmaster-General called together all the manufacturers in London, and asked them to put up some rule with regard to this; it took them six months. They said they were manufacturers of wireless apparatus, and wanted to go about among the public competing against one another for the sale of wireless receivers, which they would have some difficulty in doing if they had no broadcasting service. They stated that they would like to pool their interest in one central building, whilst competing amongst themselves privately. They said: "We will place our authority in one central body"; and that is how the British Broadcasting Company came into being. It was not a Government monopoly, nor a private enterprise. The profits were limited to 7½ per cent., and there was no possibility of any director making any more than 7½ per cent. on the original capital, and no chance of their directing it in any other way than as a public service.

Some people believe that private enterprise is the only thing to save the country. Others say that a public control is essential, and that a thing like transport should be under public control. However, the British Broadcasting Corporation seems to me to have been a compromise between these two things, because the public had the right to say when they were dissatisfied with it, and to dismiss the people there. I think it was an exceedingly good compromise, because the officials were not permanent officials. The chief stimulus I had was to make the service a success as a public service. I think, therefore, there was something to be said for the old B.B.C., as being something quite original and brilliant in the way of an effort to run a public service in England. People say, how different it must be now that we are under the Government. I want to inform you that we are not under the Government; the Government has less control of broadcasting under the present system than it did under the company system. If you will read our charter and constitution you will see that we are freer to-day to do things than ever before. We are given a responsibility towards the public; if we can carry out the job we are content.

I want to draw a contrast with what is going on in America. In those days of Chelmsford, an amateur in America got hold of a valve or two, and said he had heard certain things. His firm, the Westinghouse, said what a marvellous thing it was. They

advertised and built instruments. Immediately they started telling the world, somebody in Schenectady sat down and got out a similar machine. Again, somebody in a store in New York said that they must get hold of this. Broadcasting grew in a night; stations grew up. People talked and kept on saying who they were. After a while they began to look for programmes, which the artists carried out on the lines that if publicity were given to them they would give the programmes free. People, however, got tired, and they started to use their wireless sets for getting results from a long distance. The whole thing then grew up on the basis of reaching out. Never mind if you had no idea of the programme; that did not matter so long as you got somewhere farther away—quantity, rather more than quality, was preferred.

Gradually, however, people began to concentrate on their local stations, and the programme was forced to get better and better. So the small junk station went; slowly the bigger stations began to get hold, slowly the thing began to settle down to a public service. Someone started the idea of selling the time to advertisers. One could buy time from some central broadcasting station in America in the same way as one buys newspaper space. At the beginning, however, this was a failure because the charge was too cheap, and it only became a success when people put an enormous value upon such advertising. The people in America who are selling time in this manner are getting rich and powerful, and spreading their network all over the country. The situation in America is very different from what it is in England. I am sure, England did lead the way in showing how broadcasting should be run as a public service.

To come to my second point, the technical side of broadcasting is as simple as anything in the world. What happens when one talks into the microphone? Simply this: The microphone is designed to pick up your voice and turn that voice into electrical vibrations. The virtue of broadcasting is that you are able to tie up your voice, so to speak, into an electrical parcel, and distribute that voice to every home in Britain. It is quite obvious that if you could shout loud enough your voice would be heard throughout London. You can hear a person talking because the waves in the air carry the voice to you. The farther he is away, the fainter is his voice. Supposing somebody gives you an apparatus called a valve set which you put on your ears, and so make them four times as sensitive; then you are faced with another problem. Other people are making other noises, and they also would be amplified. That difficulty is overcome by using different wave lengths.

How can we increase the service area? By transmitting at much greater power. It may be asked, if we want to have a very large service area, why not a 1000 kilowatt or a 10,000 kilowatt station? There is a reason

why we cannot have one station to serve the whole of Great Britain, for instance. It is due to the influence of the two rays coming out from a broadcasting station. One ray, the sky ray, I will call it, rises at right-angles from the earth; the other is the earth-bound ray; the latter going along the ground, and the former going up and coming down again. The earth-bound ray gets very tired in comparison with the other. You can never rely on the broadcasting between 200 and 600 metres unless you are in its direct ray.

How are you going to get good broadcasting over a wide area? Obviously, one of the best ways is not to have a few high-powered stations, but as many stations as you possibly can. We started the relay station system in Britain, and found it worked well; on a crystal set 60 per cent. of the population could get programmes without any interruption. Our relay system brought the enormous population, especially the poor popu-

lation, within the scope of broadcasting.

Then we had to consider the people in the country districts. We had to come to the conclusion that we could not put up any more stations, because there has to be a certain density of population before a station is economical. It was decided that a central station to fill up all those areas would be the final consummation of the first part of our work; and, to cut a long story short, we finally got permission to work such a station. We were the first people to think of a long-wave station. The trouble with short waves is that they peter out, and you get fading; the value of long waves is that you do not suffer from that fading in the same way. Now with this long power station, and the relay stations, it means that 80 per cent. of the population of Great Britain are able to listen to the broadcasting.

What are we going to do in the future? It is easy to criticise programmes, but a friend

of mine who went all over musical Germany says he heard continuous praise for the musical portion of the B.B.C. programme. We have a talks department, a musical department, and many other departments. Numbers of people do not give broadcasting the attention it deserves. It is an extremely difficult matter to please everybody, and it would be of great value if we could have alternative programmes. To this end we are building at Potters Bar, near London, a twin wave station, which will be the first of its kind in the world.

Having organised the whole of Great Britain, the next step forward seems to me to be the linking up of national systems, so that they could interchange programmes with one another. There is no technical reason why the whole of Europe should not be linked up.

1928 IN REVIEW AND RETROSPECT

By RAY ALLSOP

(Associate Technical Editor.)

LET us pause and review radio in 1928—another year of achievements.

Radio transmission and broadcasting have become increasingly important factors in our lives. No longer is one living in a remote corner of the globe, isolated from his fellow men. Radio now keeps him in touch with all the happenings in the world, and as up to date as the person who can buy his morning and evening newspaper.

Commander Byrd and party, away down in the Antarctic—thousands of miles away from civilisation—receiving by radio the events of the day, and transmitting to the world the story of their adventures. Previous expeditions have gone down south, and have been unheard of for years.

One outstanding achievement of radio in 1928 was the constant communication between the "Southern Cross" and America, Hawaii, Fiji, and Australia, while the plane was in flight. All the world was told from Jimmy Warner's key aboard the "Southern Cross" of the dangers they were passing through. The reader may remember the signals were relayed from the "Southern Cross" through 2BL. Jimmy Warner will be, I am sure, always remembered by radio men for his cool manner at the key, sending out the continuous stream of messages from the "Southern Cross."

In passing I may mention a remark by Jimmy Warner to myself. "I guess it was harder for you boys ashore to read the signals than for me to send them."

How simple and inexpensive it is to-day to send communications to any part of the world via "Beam." Two-way telephone conversations have been carried out by 2ME, Sydney, and New York, 2XAF, also between Java and Sydney, and PCLL, Holland, and Sydney.

Now, review the broadcasting of to-day. In every capital city of Australia is one or two powerful stations transmitting excellent programmes and longer hours than most of the world broadcasting systems, the technical quality being equal to any of the world's best stations. Every important event of the

day has been put over the air, practically every important short-wave station has been relayed with success.

1928 has seen rapid advance of the domestic receiver. The all-electric receiver, just

switched on as you would your radiator or electric iron.

The loud speaker and pioneer valves have been developed to give reproduction so excellently we wonder how we ever listened to the old-timers. Another development of the modern loud speaker and power amplifier is the electric gramophone, the reproduction of which has made the old machine obsolete. This development has also made the "Talkies"—Talking Motion Pictures—possible.

Possibly television. This branch of the art will need a tremendous amount of experiment and improvement before anything like perfection can be claimed. Still the development of radio has been so rapid one can wonder what next.

July, 1929, will present a new era in broadcasting when the whole system will come under Government control. Parts of out-back Australia are not receiving a good service from the city stations, and the new control will probably be the solution of this difficulty by providing the means for linking up a complete broadcasting chain.

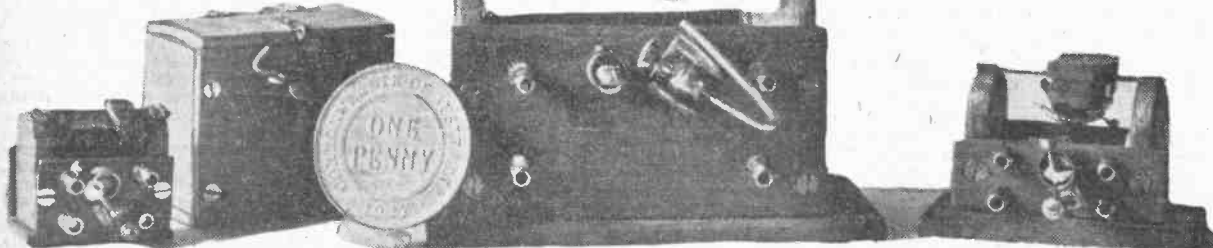
In a series of articles commencing next week I intend to put forward a scheme for Australian broadcasting. In the meantime I wish all readers and listeners a prosperous New Year, and to the experimenter much DX.



"Slim" De Villiers, famous parachute jumper, holding a portable broadcasting unit he used during a descent recently in Los Angeles. The transmission from this unit—De Villiers' description of his sensations as he descended—were picked up below and rebroadcast through a local broadcasting station. This is a stunt we may expect to see carried out here in 1929.

Q.S.L. Cards

WE have received quite a number of Q.S.L. cards for Australian Hams—a complete list appears below. Will the senders please note that these cards should not be forwarded here, but to the W.I.A., where the owners can pick up their own cards. It is becoming an extremely expensive matter for us to pay the cost of delivery for approximately fifty Q.S.L. cards per day! Will the owners of the undermentioned cards please call or forward postage for their belongings:—3FC, 7CH, 2HC, 2KB, 2RB, 2MF, 5HG, 3MY, 2YJ, 6AG, 2LJ, 3GR, 2NS, 2ZV, 2LG, 2KJ, 2LD, 2TW, 2NS, 2JH. L. T. Kermond (3rd District).



Three miniature crystal receivers built by Mr. J. C. Jenkinson Kemp Street, Granville. The reproduction is almost actual size, as may be seen from the penny in the picture. Each set brings in the local station clearly and with excellent volume and tone on an ordinary pair of headphones. Can any reader beat this record!

A Bracket of Four

Very few listeners who entered the Silhouette Competition could name the individuals in the Light Music Four who contributed to the programme. This excellent combination, however, should be better known. We, therefore, have pleasure in re-introducing them in this page.

WE WENT up to 2FC on what proved to be an eventful Tuesday evening, plunged in deep thought. Unusual, as you say; but necessary. The fact was, we were worried. We were to meet the Quartet, and we had not decided how we were going to interview four people at once. Four people! Four stories! We wedged our way through the No. 2 swing door, still wondering how it was to be done. The first thing (we don't mean to be obnoxious) we saw, was Mr. Horace Keats in evening dress making a beeline for the door. "Look here," we said, "you can't go straight away! We've got to interview you to-night, you know." "Yes, I know," replied Mr. Keats, "but what about the Elsteddfod? I've got to play there to-night, you know." We said, "Oh, we'll do you first." "How about Mr. Aspey?" asked Mr. Keats. "He's got to go to the Elsteddfod too." "He'll come second," we decided. "And I'm in a hurry to get away," said Miss Blair. We promised that Miss Blair would be third. So Mr. Bryce Carter came last. He is never in a hurry. It is the chief characteristic of days when . . . But you will see how the Quartet solved the problem itself. The interview was to be a fugue for four voices, each one fading away as it finished its song. Charming! The very atmosphere of Music.

So let us get on with the Baching.

Mr. Horace Keats came out to Australia 13 years ago with Nella Webb, on a Tivoli engagement. Since then he has sold pianos, gone on tour with a tent show, accompanied Peter Dawson and Ella Caspers, travelled all over Australia, and what else did we want to know, because, look at the time, for Heaven's sake be quick. Oh, yes! He was 2FC's first pianist; played for a time at 2BL, and came back to 2FC as conductor and pianist of the Quartet. Hardly as conductor. The Quartet is very much a Unity, and, with such, conductors are only passengers. "Yes, thank you, Mr. Keats." Exit the first theme.

"What shall we say about you, Mr. Aspey?" Mr. Aspey coughed and became silent again. Mr. Keats put his head round the door. "Tell 'm about the championship," he suggested. "Of course," said Miss Blair, "he won the champion violin solo event in the Radio Elsteddfod." "Indeed," we began; but Mr. Keats was getting impatient. "Hurry up," he said, "I'm waiting to take him to the Town Hall. Tell him your Life Story, Mr. Aspey. You've got two minutes." Thus admonished Mr. Aspey said, "I came out to New Zealand from England when I was two years old. Played a little in New Zealand, and came over to Sydney eight months ago. Joined the Quartet. I like the work very much. I don't think there's anything else." Clearly the quiet Mr. Vincent Aspey wanted to get away in; a hurry. Exit the second theme, to recur in a "Fugale Concerto E Minor" Motif at the Town Hall.

Miss Dulcie Blair gained her experience as a violinist with the Verbruggen Orchestra, in which she played from its inception, and with which she toured Australia and New Zealand. Afterwards, she toured New South Wales, as a soloist. Miss Blair has been associated with broadcasting for four years. Played in the 2BL Instrumental Trio for three and a half years. Joined the Dinner Quartet when it was formed. In fact, while



From left to right: Mr. Bryce Carter, cello; Mr. Horace Keats, piano; Miss Dulcie Blair, violin; Mr. Vincent Aspey, violin.

trio has shuffled to Light Orchestra, Light Orchestra to Quartet, Quartet to Symphony Orchestra, Symphony Orchestra to Quintet, Miss Blair has played serenely above the shuffling. Often she has been left quite alone; and we have yet to find something better to listen-in to than a solo by Dulcie Blair. Miss Blair, who, while we were thinking these things, was seated in one of the comfortable studio armchairs, stood up. "I think that's all," she said. "You'll excuse me, won't you? I've a lot of parcels to take home." Exit the third theme, walking softly over the heavy Studio carpets, carrying a burden of Christmas parcels under one arm, and a violin and Galsworthy's "Swan Song" under the other.

Which left Mr. Bryce Carter, who, all this time, had been sitting quietly amidst a maze of chairs in the dim background of the studio. "Exactly what do you wish me to tell you?" asked Mr. Carter. We suggested that he should begin at the beginning. We were afraid this was not quite original; but it's the kind of thing we're used to. He said, "Well, I began to play the cello when I was thirteen, under George Howard. That was in Melbourne. I came over here when I was fifteen, and finished my studies under Gerard Vollner. He was a Dutchman, and a great artist. In my earlier days I played seventh cello in the Sydney Philharmonic. I am still with the Philharmonic—as leader." He looked down at the walking stick, without which he would not be Mr. Bryce Carter, for inspiration. "In 1908 I was soloist with Melba. Toured with Amy Castles in 1914, and was with Amy Sherwin—yes, S-H-E-R-W-I-N—let me see, how long ago was that—"

Mr. Carter has played for 2BL and 2FC for about four years. "I have always liked broadcasting," he said, "and, as the programmes are improving, I am beginning to like it still more." We pushed out of the studio and towards the lift. "By the way," he remarked, "you can say that I am the proud possessor of my master's Balastreri cello. Made in 1774. Balastreri was one of Stradivarius' workmen."

The lift stopped. We pulled back the doors, slid them forward again, and walked out into Market Street. "Good night, Mr.

Carter," said someone. Exit the fourth theme.

So there is your Dinner Quartet, your fugue for four voices, your bracket of four themes. (Although we are rather mixed in our musical terms.) If you were to see the members of the Quartet in the street you would be horrified to notice how much like ordinary people they are. They live quietly in the suburbs; they have no favorite dishes; they have no particular liking for Highbrow Culture, nor do they flutter about Bohemianically through the lurid hours of a novelists' description of night life. In fact, for artists they must disappoint you considerably. Because every-day life cannot supply an adequate background for the Musician. The chief background of the Quartet is the large concert studio. A sudden swirl of rising and falling and flowing music as you push open the felted doors, and, seemingly far away, a group playing among the shadows. There is Mr. Horace Keats at the piano, relaxed and expressionless; Mr. Vincent Aspey quickly turning over a page; Miss Blair, tense and nervous as the melody; and Mr. Bryce Carter, who might be a carved image but for the movements of his arms and hands. This is what you don't see six nights every week, as you listen-in to the Dinner Music.

World's Best Records

THE USUAL FINE PROGRAMME of records has been arranged, and will be broadcast from 3AR on Sunday, January 13. Among a host of good things, the special attention of listeners is called to the following enjoyable items: "Rose Softly Blooming," sung by Dora Labette; "Three Fishers" and "The Enchantress," by Dame Clara Butt; two duets, "The Moon Hath Raised" and "Sweet Believe," by Sydney Coltham and Peter Dawson. Signor Caruso will be heard in a Neapolitan Folk Song, "Santa Lucia," and William Murdoch, the distinguished Australian pianist, who has made such an enviable name for himself overseas, will play Beethoven's famous Sonata Panthetique."

PROGRAMME PERSONALITIES

Mabel Batchelor

MISS MABEL BATCHELOR appears somewhere on this page, and has sung from 2FC since the inception of Australian broadcasting. Her singing career began when she left school, and Miss Batchelor has toured Australia with the Firm, gone concerting with John Lemmore, and played lead for the various amateur operatic societies for some time. A few years ago she settled down in Sydney for broadcasting and concert work; and has made herself very well known to New South Wales listeners-in.

"There are very few concerts nowadays," she said. "In fact, the only people who keep concerts going in Australia are the Scots. The Caledonian Societies still organise their concerts throughout Australia." We wondered why. "I don't know," laughed Miss Batchelor, "unless they wish to see what they are getting. Of course, broadcasting has made concerts unnecessary; and it makes very little difference to the artists. Besides, one doesn't have to spend money on pretty clothes."

Miss Batchelor has noticed many changes in broadcasting methods during her association with 2FC. "Every time I come here," she remarked, "I find something new—new microphones, new studio appliances, new faces. Especially since they have moved into the new studios." She sighed. "But I miss the Roof Garden at the old Studio. It used to be so cool there in summer; and, well, broadcasting was very amusing in its early days."

"Yes; I have always found broadcasting interesting," she said, "and I have had many enjoyable times. I was one of the first party to broadcast from Canberra; and I remember broadcasting from the old 'Tingira' before she was scuttled." Miss Batchelor has also taken part in many hospital parties. "I like the outside broadcasts," she said. "We used to go up to Wentworth Falls—eight or ten of us—in cars. The going-there is always part of the fun."

Miss Batchelor has only two formulas for correct broadcasting. "You see," she said, "I was bred to concert singing; and I find it necessary always to imagine an audience

Then I go ahead as I would in a concert hall. There is only one other thing to remember—that is, not to sing too loudly. It only spoils the transmission."

Ewart Chapple

HERE are two kinds of hard jobs in a Radio Studio. The first is that of the announcer.

The second, of the official accompanist. The accompanist must be an artist, a sight-reader, and a very Tactful Person if he is going to succeed. He must be able to turn, with perfect equanimity, from accompanying a comic song to playing in a quartet, or to accompany Wagner! All this without notice—without having previously seen the music.

Look at Mr. Ewart Chapple, accompanist to 2FC since the station began business. There is no part of studio routine which he has not been through, at some time or other. He has been announcer, has lectured on music, introduced great artists, and played for them.

Having lived in the world of broadcasting for the past three and a half years he is now a part of the studio. He was even married through radio. The story goes that Mr. Chapple was racing into town in his first car to keep a rehearsal appointment with a girl he didn't know very well. He smashed up his car, arrived in time for the rehearsal, and married the girl, the then Miss Marie Bremner. He has spent a great deal of time since then in an attempt to prove that the smash-up of his car was really a good omen for the future.

Mr. Chapple photographs and swims, and does other respectable things—according to Mr. Chapple. These vices come out in the course of the first two hours. We must have looked disappointed, because he turned his eyes towards the ceiling, and remarked innocently, "It's a very uninteresting life, really." We caught the inflection and laughed, and then Mr. Chapple began to tell stories. Of course, he and Mr. G. Vern Barnett supervise all the tests of artists. Between them, they are supposed to know many wonderful and unrepeatable stories. But some will come out.

There is the story of the young singer who ran down to Farmer's Radio Department to hear her voice coming back from Pennant Hills.

There was the mad 'woman who complained that she had 40 or 50 voices in her ears, and asked Mr. Chapple to turn the radio off.

There was the impromptu announcer at 2FC's Radio Elsteddoff, who announced to New South Wales, after a tussle with a set description, "By G—, Boss, that was a hard one!"

(Below) Mr. Ewart Chapple, accompanist, at 2FC.



(Above), Miss Mabel Batchelor.



Mr. Chapple has accompanied many great artists—Elsa Stralia, John Brownlee, and Scamuzzi being among those presented. He spent many long hours persuading Joseph Hislop to broadcast to England. "Most of the great ones are more nervous in front of a microphone than before an audience," he said.

"It's almost embarrassing to watch them." The technique of broadcasting piano accompaniments is quite different from that of the concert platform, according to Mr. Chapple. "It is ten times harder," he said, "You must be able to read anything at sight. Sometimes the music is marked in ciphers that look like anything from a whale to an anchor. Then you have to be prepared for the nervous singer, who makes a point of hopping six bars on every page. As to playing. I find that the middle registers broadcast best. Bass notes have a tendency to flatten out—in fact, it is very hard to get them over at all. And the handling is more staccato—hardly any pedal."

Thelma Ready Back Again

THELMA READY, with her banjo, is always a popular visitor to 3LO, and a warm welcome will await her when she appears before the microphone on January 18. The days of Miss Ready's banjo playing date from the time of the return of her father from America, where

he had been so captivated by the possibilities of the banjo. He brought one back for his little daughter, who made such progress under the guidance of local teachers that she was advised to continue her studies in Melbourne. Since her arrival in Australia, some two or three years ago, she has done a great deal of work, both as a soloist and as a leader of her own orchestra. She was selected to play at a reception accorded to Dame Nellie Melba, who warmly complimented the young artist, and, in spite of her very full engagement list to play at many social functions, still finds time to greatly add to the delight of listeners.



Miss Thelma Ready.



Uncle Ben of 40G and his blind assistant, Stanley.

Talks from 2LO are Illustrated by Broadcast Pictures

Getting your crosswords and cartoons by radio. . . Baird Television Tests. . . Empire Broadcasting Costs. . . British Exhibition. . . French Developments. . . New Receivers and Components. . .
General London Notes

By J. E. GRAHAM

(London Correspondent to "Wireless Weekly")

PICTURE transmission has actually started in England and (more recently) in Germany. In England the transmissions are from Daventry, 5XXX, and take place from 2 to 2.25 p.m. on week-days. The ordinary listener hears nothing but a series of squeaks and splutters, and the proud (?) owner of a Fultograph gets rather a bad picture with a lot of scratchy lines across it—and not much shading.

The system seems to work well for cartoons, crosswords, etc., but not for light and shade pictures. Nor is it certain that the B.B.C. are going to continue picture transmissions. They say that they are waiting to see whether the public is going to utilise the service fully and make it worth while to continue. The public, on the other hand, is waiting to see whether the service is to become a regular one before it buys its Fultograph. And so at the moment each is waiting for the other to begin. What's going to happen next?

Picture transmission was demonstrated at both the Manchester and Paris exhibitions, and was the centre of attraction at both—because of its novelty and not because of its quality, be it said! The Fultograph system was demonstrated at both, though in France it is called Sferographe. A second system, the Belinographe, was also on view in Paris.

Television

THE B.B.C. has at last consented to witness a demonstration of television given by the Baird Television Development Company. After the demonstration the corporation announced that while they thought it interesting as an experiment, "it failed to fulfil the conditions which would justify trial transmission through a B.B.C. station and, accordingly, no experimental transmission will be undertaken at present." This, in my opinion, is not a surprising decision, as the demonstration I saw at Olympia was not impressive. However, it has created rather a peculiar situation, for the B.B.C. has a monopoly on broadcasting, and television evidently falls within this.

So the Baird Television Development Company is not allowed to show its wares, so to speak, and the shareholders are to suffer in consequence. One wonders why they could not have the use of the London stand-by transmitter at Marconi House. This transmitter is only used when London breaks down. But the mind of the B.B.C. is hard to understand at times!

Empire Broadcasting

SSW is in the limelight again, and once more the press is full of letters suggesting that its cost of £10,000 a year should be borne by the Colonies. Why should the

poor English taxpayer pay for this station when it is the Colonies (horrid word!) which are deriving the benefit? And so on, and so forth.

And still the B.B.C. calls the station "experimental." When is it to be made something more than "experimental"? That's what the Colonies want to know. Then, perhaps, they might offer to pay some of the cost—in which case they would, of course, dictate times of transmission, wavelengths, etc. And how would the B.B.C. like that? And do the Colonies want Empire broadcasts? Matters are far from being settled on this question anyway.

Radio Shows

SINCE the National Radio Exhibition at Olympia in September, two other important shows have been held, one at Manchester and the other at Paris. The Manchester Exhibition did not differ greatly from the London one, and almost all well-known English apparatus was on view at both. But, whereas at London one saw nothing that was not English, at Manchester foreign-made apparatus was allowed and was much in evidence. Philips (Holland) showed their "bandbox" type receivers, some of them mains operated. These I described in my notes in August "Radio." General Radio (America) had some attractive crystal controlled wave metres on view, as well as their usual line in rheostats and whatnot. Crossley (America) had a new receiver called the "Gembox." Some French and German apparatus was also on show.

Radio in France

THEN came the Paris Exhibition, the "Salon de T.S.F." And anything more unlike the English shows would be hard to imagine. In the first place France uses but one type of set—the superheterodyne. From this it is easy to understand that it is quantity and not quality they prefer. French manufacturers have as yet paid very little attention to the Audio Frequency side of their sets and, as a result, moving coil loudspeakers are unknown. And they will continue to be unknown as long as the present system of Audio Frequency coupling is used, viz., low-class transformers. Battery eliminators are practically unknown (very good for the manufacturers of dry B batteries!) and even battery chargers are mainly of the vibrator and arc types. Nor is the dry rectifier used at all. The actual electrical construction of the sets is poor, but the cabinet work leaves nothing to be desired. In fact, some of the receivers are in cabinets almost as large as a piano. These usually include an electric gramophone.

Trend of Manufacture

IT is interesting to note the trend of manufacture of receivers in England now. The three-valve set is increasing in popularity,

while the single-valve is going out almost completely. Also five-valve sets are now more popular than four. In radio frequency stages screened grid valves are used in 80 per cent. of three-valve sets, and 50 per cent. of four-valve sets. Capacity controlled reaction is most common and transformer coupling continues to predominate in audio frequency stages.

In portable sets one control is most popular and though the screened grid valve has hardly made its appearance here as yet, no doubt this will come soon. Most portables use five valves—2 R.F., detector, 2 A.F. The R.F. coupling is usually a periodic, and the A.F. transformer coupled. Quite a number of sets are now provided with jack for gramophone pick-up.

New Apparatus

THE Australian Customs Duty is given in each case.

Marconi have brought out some new super power valves, the P. 425, P. 625, and P. 625A. These have already shown their worth and, at the moment, the demand for them is so great that it is well nigh impossible to obtain them. The price is quite reasonable at 15/ (no duty) and the mutual conductances show the excellent quality of the valves. Characteristics:—

	P. 425	P. 625	P. 625A
Fil. volts	4.0	6.0	6.0
Fil. amps.25	.25	.25
Plate volts max. .	150	250	180
Plate current max. —	24 ma.	28 ma.	
Amp. factor	4.5	6	3.7
Impedance	2300	2400	1600
Normal slope ...	1.95	2.5	2.3

On test the P. 625 gave a higher mutual conductance than that specified in all cases.

Another new loud-speaker has joined the ranks of moving coil speakers. This is the Britannia, made by Britannia Reproducers, Ltd., Furnival Road, Sheffield, and it is chiefly notable for its shallow angle diaphragm and for the fact that it reduces focusing on the higher notes. I have heard it in operation, and the reproduction (with a suitable receiver, of course) leaves nothing to be desired. Again the price is reasonable, being £4/17/6, without baffle (duty £1/14/).

Ormond (199 Pentonville Rd., London, W.I.) are now making a drum dial to fit almost any condenser, whether logarithmic or S.L.F. It has a ratio of 10 : 1, and sells for 5/ (duty 1/9).

The Corsor "Melody Maker," the most popular of the mass production "build-it-yourself-in-90-minutes" sets, is now made with a metal cabinet. It is a three-valve set, and sells for £7/15/ unassembled (includes valves, but no other accessories). Duty £2/6/ approximately.

Well-Known Musical Authorities

Arrange Weekly Classical Programmes From 2FC

World's best music will be heard in these new studio concert. Tune in to Mr. Oliver King's programme on January 9, Mr. Horace Keats' on January 16, and Mr. Ernest Chapple's on January 3.

THE decision of the New South Wales Broadcasting Company, Limited, to endeavor to arrange continuous programmes on at least one night a week showing a very definite leaning towards classical renditions is now taking practical form. A number of professors at the Conservatorium and leaders in the musical life of Sydney were approached and their co-operation was readily forthcoming.

The objective of the management in arranging a continuous programme of classical music, which will not be broken into by any extraneous performance from within the range of "jazz" or the "lowbrow," is to find whether there are sufficient listeners who desire the one type of complete programme. It is not the intention of the company, however, to allow both stations to cater for what may be termed "highbrow" in the one evening, as while the classical programme is being rendered from one station, the other will be meeting the requirements of those who do not aspire to the classics in music.

The first of these programmes will be prepared by Mr. Oliver King, who has arranged a classical programme of orchestral music to be broadcast on Wednesday, January 9. On the following Wednesday, January 16, Mr. Horace Keats is arranging a programme of Chamber music, while on Wednesday, January 23, Mr. Ewart Chapple is arranging a programme from Russian composers. Other programmes are being discussed with Messrs. Laurence Godfrey Smith, Roland Foster, Cyril Monk, Arnold Mote, Vern Barnett, Alexander Sverjensky, Harold Whittle, Frank Hutchens, Lindley Evans, Madame Viceroy Goossens, Madame Emily Marks, and others.

A very definite move in this direction is now being made in the United States of America under the head of "Sponsored Programmes." A number of leading musical bodies in the States, fearing that the craze of "jazz" music was overwhelming all the better instincts of the public in relation to classical music, have arranged with some of the chain stations for linking up programmes at their own expense, and are thus making use of wireless as a means of a direct educative campaign. Some of the large adver-

tising companies in the United States have seen possibilities in these first-class "Sponsored Programmes," and in many cases the total cost of the productions, in which many of the greatest American solo artists are engaged, has been borne by these firms as an advertising medium.

It will be necessary for the listening public to play its part in expressing an opinion in regard to this classification of programmes. For it will only be by the letters received at the broadcasting stations that the management will be able to form an idea as to whether the mixed programme is still to predominate, or whether there are sufficient listeners interested to warrant the more definitely prepared programme of a set character.

We have seen the first two of these classified programmes—that of Mr. Oliver King, arranged for January 9, and that of Mr. Horace Keats, for January 16.

Mr. King's programme appeared in our last number. The artists are: Gerald Wallen, Bryce Carter, Gwen Selva, Dagmar Roberts, and Oliver King. Mr. King will lead in some community singing by the studio audience. Composers represented are: Arensky, Chopin, Veracini, Brahms, Leclair-Kreisler, Strauss, Schubert, Mozart, Schu-

mann, and Smetana. The last-mentioned is a Bohemian, whose choral work, "The Bartered Bride," has made him famous. "The Bartered Bride" has been sung by the Royal Sydney Philharmonic Society.

Mr. Horace Keats' programme appears in this issue. The battle will open with the overture to the "Barber of Seville," played by an orchestra under Mr. Keats' baton. Miss Dulcie Blair will play Dvorak's little-known Sonatina in G to Mr. Keats' accompaniment. Mr. Clement Q. Williams will sing, among others, a bracket of three Irish folk songs, arranged by the famous Herbert Hughes, whose life has been spent in search of old melodies. Miss Le Brun Brown is to sing four modern songs: "A Woman's Last Word," by Granville Bantock; "Weathers," by Ireland; "Blossom Song," by Norman O'Neill; and "Golden Hair," by Frank Bridge. "A Woman's Last Word" is a setting of Browning's poem. Norman O'Neill is the very well-known composer who wrote the incidental music to "Mary Rose."

Television Advancing

TELEVISION is becoming an established thing in America. This is proved by the announcement that an American department store has already inquired as to the possibility of broadcasting a Fashion Review. Other advertisers are on the war-path—some desiring to televise book covers, sales talk, and cigarette packages. "Perhaps within six months," says an American magazine, "such commercial 'sponsored' television broadcasts will become an everyday occurrence, and no one will think otherwise of them." Yes, yes; it will be delightful—for the advertisers.

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IN New Zealand recently a solicitor was fined for being in possession of an unlicensed wireless set. He pleaded guilty.

"He takes this hardly," said his counsel, "for he has broadcast many talks for 3YA, and considers himself not 'fair game.'" Fined 20s, with costs. And, of course, being a solicitor, he could thoroughly sympathise with himself.



:: New Programme Features ::

2FC and 2BL

Mr. Chapple's Programme

ON WEDNESDAY NIGHT, JANUARY 23. Mr. Ewart Chapple is undertaking the direction of the classical programme which is now a weekly feature of 2FC's transmissions. He will devote it to Russian composers, and music lovers will enjoy the items which have been selected.

Pier Concert

NEGOTIATIONS ARE IN PROGRESS for the transmission of a concert programme from the new pier at Coogee. The "Night on Manly Beach" broadcast by 2BL under the direction of Basil Kirke and Charles Lawrence, was one of the most successful programmes of its kind ever undertaken. The holiday night, January 26, has been tentatively pencilled for the Coogee Pier concert.

Dandies

THE BLUE AND GOLD DANDIES, successful competitors in the revue section of the Elsteddfod, are appearing at 2BL on Thursday, January 24. The members of this excellently balanced combination are artists of individual merit, and the revue they have prepared is refreshingly new. Listeners may look forward with pleasure to their initial appearance on the air.

Taree's Gain

RUSSELL RIX is in Sydney for the school vacation, and 2FC have been quick to take advantage of his presence in arranging studio appearances. His is one of the most pleasing baritones we have on the air, and it is to be regretted his school duties necessitate country service, thereby depriving listeners of the pleasure of hearing him more frequently. Our loss, however, is Taree's gain, where he is in great demand at public and private social functions. Mr. Rix possesses a charming personality, and his singing is most artistic. He will appear at 2FC on Tuesday, January 22.

Farewell Talk

REV. F. H. RAWARD leaves the State early in the new year, but before he goes listeners will have another opportunity of hearing an interesting series of talks he has prepared under the title of "Tales of a Traveller." Mr. Raward has a most successful "air voice," which adds considerably to the value of the really good material at his command. He is a much travelled man, gifted at once with the keen perception of the beautiful, and a positively uncanny knack of unearthing curious information regarding the places, well off the usual tourist track, into which he strays. His talks are packed with a fund of dry humor, and he possesses a big following on the air. The first of the series is set down for Monday night, January 21.

The REV. F. H. RAWARD

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Gold-diggers

MR. BASIL KIRKE, of 2BL, is shortly to give a series of afternoon talks on "The Romance of New Guinea Gold." "The subject is extremely interesting," says Mr. Kirke, "because the hardships and privations suffered by the prospectors were greater than those of the Klondike or any other gold field."

Prof. and Polly

"PROFESSOR and POLLY PEDAGOGUE" have hit upon an unusual act, which, because of its originality, will find favor with listeners. The Professor is of the old school, and his modern daughter, "Polly," essays the task of "converting" him according to present-day standards—the result is five minutes of smart dialogue, in which the Professor capitulates entirely to the triumphant "Polly." Several old-time songs will complete this unusual programme to be given at 2BL on Tuesday, January 22.



A great deal of mystery surrounds this pretty face. It belongs to the *Ahad Duo*, the steel guitar players at 2BL. No one has been able to tell us which half of the *Duo* it belongs to—but we can't be wrong if we say the prettiest half.

Eisteddfod Artists

NOW THAT MOST of the artists who were successful in the recent Radio Eisteddfod conducted by the New South Wales Broadcasting Company, Limited, have returned to town after the brief holiday during the festive season, listeners will have an opportunity of hearing the talent which was brought to light by this unique competition. On Tuesday evening, January 22, Ivy Green, who won the soprano section, is making her bow to listeners through 2BL Service, and on the same night Theodore Atkinson, successful in the baritone section, is appearing at 2BL.

3LO AND 3AR

All Round Chicago

CONTINUING HIS BRÉEZY travelogue talks on America, Professor Berry, of the Melbourne University, will discuss "Chicago—the City of Superlatives," and "The Very Human City of Chicago," on January 15 and 17.

Old English Melodies

MISS MAISIE RAMSAY, whose brilliant soprano voice should carry her far in her chosen profession, will be heard from 3LO on Tuesday, January 15, in selections from early English melodies, among which will be included "My Mother Bids Me Bind My Hair," "The Lass with the Delicate Air," and "When Love is Kind." Since the commencement of her professional career, Miss Ramsay has done remarkably well, both as a student and in the competition world, and has recently made her debut in grand opera with the J. C. Williamson Company.

"Followers"

A REFRESHING TRIFLE, "Followers," from the versatile pen of Harold Brighthouse, will be presented by Miss Winifred Moverley and her clever colleagues, from 3AR, on January 14. Listeners are asked to visualise the interior of Miss Baine's parlor at the English village of Cranford in the June of 1859, with its mid-Victorian accessories of crochet antimacassars and wax fruit, jealously guarded under glass cases, while the question of "Followers" is discreetly discussed by the dear ladies of the village. Assisting Miss Moverley on this occasion will be Miss Lola Martin, Miss Ivy Broadley, and Mr. T. Bernard Lambie, who will each contribute to a performance of all-round excellence.

Everything O.K.

A REFRESHING MUSICAL interlude is promised on Thursday, January 17, when "The O'Kays," under the direction of Mr. George English, will submit a selection of songs, glees, and choruses from 3AR Studio. Mr. English, who knows all there is to be known about musical productions and choral societies, has arranged an excellent programme, ranging from negro spirituals to the famous Sextette from "Lucia," and listeners should not fail to find the entertainment provided by the "O'Kays" distinctly O.K.

Sunny Italy

FRANCES FRASER, who may always be relied upon for a delightfully interesting and picturesque talk, will speak again from 3LO on January 18, this time giving some impressions of many months spent "Among the Artists of Florence." As the Florentine picture galleries are among the finest in the World, and contain some priceless art treasures, the talk given by Miss Fraser, who is conversant with the history surrounding the majority of these masterpieces, should be of more than usual interest.

How to Deal With Emergencies

MRS. HENRIETTA WALKER, whose talks to outback settlers have been so interesting and instructive, will again speak from 3LO on January 17, this time taking for her subject "Emergencies."



MRS. HENRIETTA WALKER.

In this talk she will cover a wide area, dealing with the many unforeseen circumstances that arise in the daily life of a new settler, and give suggestions for meeting the emergencies. Few people are better able to deal with this subject than Mrs. Walker, who has not only braved the inconveniences of the back-blocks for many years, but, as a result of her observation and resourcefulness, established the new cottage industry of making bags and mats from plaited and dyed tree bark.

Contralt. and Tenor

TWO POPULAR VOCALISTS, Mr. and Madame Gregor Wood, will be broadcasting from 3LO on January 16, in a well-selected programme of solos and duets for tenor and contralto. Both artists have been before the public for many years, and are familiar and welcome figures on the concert platform and in the broadcasting studio.

Wireless Weekly

Incorporating "Radio in Australia and New Zealand."
FRIDAY, JANUARY 11, 1929.

The Reason Why Governments Control Broadcasting

WHILE the Government control of broadcasting in Australia has yet to take place, it is already a fact in most other countries in the world. The detail policy of the Government next July is still a matter of conjecture, but, in reality, there is nothing novel in the general proposals.

England has had centralised Government control of broadcasting, directed by a committee of experts appointed by Parliament, for some time. In the United States, although the stations are conducted by private individuals and concerns, they are directly responsible to a Government Commission for the retention of their permits to broadcast. This commission exercises a strict control and censorship.

Two years ago France decreed State supervision of radio. A period of five years was granted existing broadcasters, at the end of which time all French broadcasting stations will be nationalised.

Germany has State control, although it is mainly run on the lines laid down by the important and powerful commercial interests. The Scandinavian countries also exercise national control of their stations, as do most other European countries. Russia, in particular, has an especially strict censorship of broadcasting, in keeping with her policy in other directions.

In the East, India's stations are under British supervision, and the Japanese Government runs its own stations with rigid censorship.

Thus we see that Government control of broadcasting exists all over the world. This condition is not merely a coincidence of ideas; it has definite significance. The fact that broadcasting is something which cannot be confined to a certain territory at will, makes it political, and a weapon of nationalistic propaganda. Except for the unreadable propaganda from RFN, and an occasional Americanism from W2XAD, we, in Australia, do not experience much trouble, but in Europe it is a different matter. Here, where national rivalry is keen, and hatred intense, broadcasting is often both a political weapon of attack and defence. And now that broadcasting is becoming even more international, and reaching, we are falling into line with the rest of the world.

Changes in Broadcasting Control

IT is reported officially that the Federal Government has taken over the Perth broadcasting station 6WF, and that the service will now be carried on by the Postmaster-General's Department. Although no details have been announced so far, it is understood that the Postal officials will run the service, both the engineering and programmes.

Thus we see a start in the new developments foreshadowed for some time. About six months ago Mr. Bruce said his Government had decided to change the method of control of the broadcasting services. Under the new regime the Government would own and operate the engineering services of the stations and leave the programmes to people more experienced in the business. That would mean entering into a contract with an entertainment or broadcasting organisation for a term of years.

That rather radical change followed surprisingly some negotiations that had been proceeding for some months between the existing companies, which had carried on the services in the different States since broadcasting began in 1924. The negotiations for an amalgamation of the companies had been inaugurated at the instance of the Government, which desired one co-ordinated service throughout the States. Those negotiations naturally fell through, although very considerable progress had been made in arranging for one all-Australian company to improve and extend the services. Since the Prime Minister's announcement regarding the new policy of control and management an advisory board has been set up. That board is arranging plans for the new order of things, and presumably the acquisition of the Perth station is the first

step. It will be interesting to listeners to see how the change will work out, and if it will mean better service to the general public.

In taking over the West Australian station the Government has become responsible for an entirely new class of official activity, and in circumstances that are not too encouraging. Whilst in the Eastern States, owing to careful attention to the business, and with a full knowledge and wide experience of entertaining the public, most of the companies have built up attractive services that have held the interest of listeners in thousands, the Perth Station has not been successful.

Whatever the causes may have been, the service of 6WF has been a financial failure. And the number of listeners has decreased steadily since about eighteen months ago, when the modest total of about 4300 people paid for licences. With such a small number of licences the revenue has naturally been low, while the expenditure in running the station has been as high as it would have been if there were many more thousands of aeriels intercepting the transmissions in West Australia.

Whether the Government will be able to improve matters will be interesting to watch. Possibly the programmes could have been materially improved if an experienced organisation had been entrusted with their preparation and rendition; but the Government does not appear to be contemplating any arrangement with such an organisation at present. Under Mr. Bruce's scheme there will be some arrangement later on; why it is not inaugurated now is difficult to understand. Apparently the Government is going to try its hand at running all the services of 6WF for a while.

Around the World on a Motor Cycle

DR. JULIUS DE VILNITS is 24 years old, and has travelled over more than half the world, 67,000 miles, during the past forty-one months. He has only 37,000 miles to go now, and expects to complete his world tour at his native town, Riga, by the end of 13 months, with the aid of his motor cycle.

One cannot travel through Latvia, Lithuania, Poland, Czechoslovakia, Germany, Switzerland, Slavia, Greece, France, Turkey, Asia Minor, Italy, Austria, Hungary, Jugo-Slavia, Syria, Mesopotamia, Palestine, Egypt, Mecca, Sudan, Erthreia, Abyssinia, the Belgian Congo, Djibouti, Aden, Burma, French Indo-China, China, Manchuria, Korea, Japan, Formosa, Hongkong, Macao, Canton, Philippine Islands, British North Borneo, Sarawak, Straits Settlements, Sumatra, Sourabaya, Batavia, Bali, Timor, New Guinea, the Celebes, Banjoevang, Derby, and throughout Australia without striking adventure, and Dr. de Vilnits has struck it in large quantities.

He was in China when that charming country was amusing itself with revolutions and executions, and had an exciting time avoiding the mobs, which managed to shoot his companion, a journalist. He travelled for seven weeks through tropical jungles: in fact he seems to have followed death as closely as possible without actually catching up to it.



Dr. Julius de Vilnits.

On the fineness of this adjustment he is much to be congratulated, because it has given him a wealth of valuable data for the book he intends to write, and unfathomable depths of experience from which he can pour out knowledge in eleven languages for radio audiences, reporters who live in ruins, and other nonentities.

Dr. de Vilnits has broadcast addresses from all over Europe, from Tokio, Java, Singapore, Manila, from Perth, Adelaide, Melbourne, Sydney, and Queensland. You heard him from 2BL on the second of January. "Berlin is the best European station," he said, "but it is all so different out here. In Europe there is very little morning session, and during the afternoons and nights they transmit chiefly opera."

Shrewd Scheme

A CERTAIN Radio trader advertised his trial-in-your-home offer. Two young men came in on Friday and secured a portable set "on trial." It was returned on Monday. "Not quite the thing," they said. On the following Friday they returned and took another make of portable away. This, also, was returned the next Monday, but not before the manager, on a Sunday jaunt in his car, had seen the two young men among a picnic party listening-in to the portable set. So when the young men returned to get another set for trial he was ready for them. "My business has already been badly knocked through putting sets out on trial," he said, "and I have decided that in future I will not take another set back." Exit the young men.

The Safety Valve



Readers are urged to express their opinions on matters pertaining to broadcasting. If you have some grievance, if you have some constructive criticism to offer, here is your chance for expression—your safety-valve. The

editor assumes no responsibility for statements made by readers and published on this page, as opinions of correspondents do not represent our editorial policies or beliefs. Anonymous letters are not considered.

Radio Eisteddfod

Dear Sir,—If I may trespass on your courtesy and space I should like, as one of the listening public, to comment on the results of the Radio Eisteddfod.

One outstanding fact is that the instrumental sections were vastly superior to the vocal—the other sections I do not intend to speak of as they seem to have been even more futile than the two mentioned.

In the vocalist section I particularly wish to draw attention to the following points: The winner of the bass section did not, by any stretch of imagination, have a bass voice; by its timbre it should have been classified as baritone, and it was not even a heavy baritone; yet amongst the finalists there were at least two true bass voices. In the soprano section the winner's voice was a light mezzo—it had not the brightness of timbre of the true soprano, in fact, it sounded over the air like a mezzo that had been trained to a soprano's pitch, but the voice was essentially a mezzo-soprano.

Why are these incorrect classifications allowed to go unchecked? Is the musical world so uninterested in its art that it cannot stop this evil? Since when has it become correct to classify singing voices by their range and not by their timbre?

The utterly inartistic and slovenly rendition of songs, and appallingly unfinished technique of most of the singers—the more correct word would be vocalists—that comes over the air is enough to make the old masters of the bel canto writhe in their graves. If this degradation of the art of singing is being brought about by radio it is time some drastic change was made that will encourage genuine artistry among executors, and the habit of listening-in on the part of lovers of real singing.—Yours, etc.,

Sydney. EDWARD PERIEJUN.

Giving Us a Bad Noise

Dear Sir,—In the "Safety Valve" there has appeared several letters the tone of which suggests that the public needs educating. One letter went as far as to assert that the public should be educated whether it wanted to be or not. Your correspondent says "that there are enough 'lowbrows' in Australia to make it a C3 nation." I take great exception to these statements, because I feel that if people are allowed to say things like this Australia will be getting a bad name. And, at any rate, these statements are quite untrue. Australia's standard of education is better than any in the world. We have the best teachers, the best schools, and the very newest systems. More than this, the Australian people love liberty. I, as an Australian, object to having education crammed down my throat by supercilious committees and art connoisseurs. In plain Australia, I don't want to be educated. I want the news and the wireless features that please me. It will take all the jazz bands in Sydney to make up for the long, horrible years I spent at school.—Yours, etc.,

Melbourne.

J. LESSING.

Be Fair!

Dear Sir,—Whether by accident or not a letter was published (W.W. 28/12/28) from Mr. A. L. Gunn—a man who has studied history and who has found "that the public never knows what it wants, never has known what it wanted, and never will know what it wants."

Mr. Gunn, conscious of his condescension, speaks of "awful bourgeois programmes," programmes which, if revised and "concocted" as he suggests, would enable broadcasting to "justify itself" and "ensure an artistic standard to which the ignorant and uneducated may rise!"

Let us examine this suggestion. "The people who run the broadcasting stations should call in the recognised authorities in all the Arts, who would arrange programmes of high artistic merit which could be enjoyed by—the public who never know what they want, the broadcasters who would have the satisfaction of pleasing Mr. Gunn, and, of course, our own humbug, the admitted "highbrow" historian. Why, everybody would be pleased!

I do not expect that it has ever occurred to Mr. Gunn that even the broadcasters

sometimes spend spare moments arranging programmes and even selecting them. Granted that their "lowbrow" tastes has led them to put on programmes of insufficient artistic merit to please our cultured and refined "highbrow," such a slight was not intentional, and they may have omitted even the grave oversight of not thinking of him at all.

Nobody would say that the programmes are perfect, but Mr. Gunn should take into consideration the fact that the annual 27/ (or whatever it is in Victoria, I presume he does pay) for the maintenance of the station would not go very far towards paying "the recognised authorities in all the Arts."

It is impossible to please everybody; there will always be some section of disgruntled listeners, and as long as the discontented ones are only of the A. L. Gunn class the broadcasters have much to be congratulated on.

I will conclude by confiding that if the writer was sincere a Gunn is not the correct weapon for exterminating "comedians, jazz melodists, pseudo-classical singers, and boxing announcers," at least not in New South Wales,—Yours, etc.,

Blackheath.

V. SHANE O'G.

Winner of the Silhouette Competition

The winner of the Silhouette Competition is Mrs. Una Foster, 22 St. George's Crescent, Drummoyne, who sent in the most nearly correct entry in the opinion of the judges.

Entries received bearing a postmark dated later than January 31 were not considered, as copies of the following week's "Wireless Weekly" bearing the key to the silhouettes were available on that date.

Only one completely correct entry was received, but this, unfortunately, was unaccompanied by the reader's name and address, and was therefore disqualified.

Mrs. Foster's entry was correct in almost every particular, naming all artists and numbers in their proper order. Her only fault was the naming of Mr. Jules Van Der Klei instead of Mr. Vincent Aspey as the fourth member of the Instrumental Quartette.

Almost all otherwise successful entries failed to name correctly all four members of the quartette, many omitting them altogether. Another common error was the naming of Mr. James Donnelly instead of Mr. Len. Maurice as the whispering baritone of the evening.

A cheque for £5 has been forwarded to Mrs. Una Foster.

"I Love Me!"

Dear Sir,—Who is the 2BL early morning announcer? No doubt his records are exceedingly well chosen, but I feel sure that were he to confine himself to announcing the names of items only, the session would be far more enjoyable. Instead we have to listen to lengthy speeches, both before and following an item, in which this particular announcer repeats himself in a most irritating fashion. For instance: "I shall now play 'Chanson Hindu' (Song of India). Now a few words about this particular item. When I was in India, serving King and country," etc., etc., etc. And so he goes on—like a babbling brook.

I have also noticed that this announcer differs from all others I have heard, in that he makes his announcements in the first person. "I will now play." Never "we."

Yours, etc.,

"NON-EGOTIST"

Manly.

Let It Be Soon

Dear Sir,—In your paper some weeks back there was a statement to the effect that the New South Wales Broadcasting Company would broadcast a religious drama. I haven't heard this yet, and I wish they would do it soon; because I am sure the experiment would prove of great interest.—Yours, etc.,

Rockhampton.

L. MADDEN.

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THE SUPER R.F. PERIDYNE in this Issue

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A.W.A. Anti-vibration Sockets	3/-	Hard Rubber Panels, 24 x 7 x 3-16	8/6
Emmco Anti-vibration Sockets	2/6	Radiokes R.F. Chokes	8/6
Bradleystats (for fine filament control)	9/6	Pollocks R.F. Chokes	5/6
Rheostats, U.S.L., 30 ohms	2/6	Emmco 3-gang Condensers	£4/10/-
Bypass Condensers, 1 mfd.	4/9	Pilot 3-gang Condenser, with double drum Dial	£4/3/-
Airzone Sub-panel Brackets, pr.	3/6	Diora Bakelite Vernier Dials	6/3
Philips Audio Transformers	27/6	B.M.S. Single Circuit Filament Jack	2/6
Carborundum Permanent Detectors	11/-	Philips Screened Grid Valve, A442	30/-

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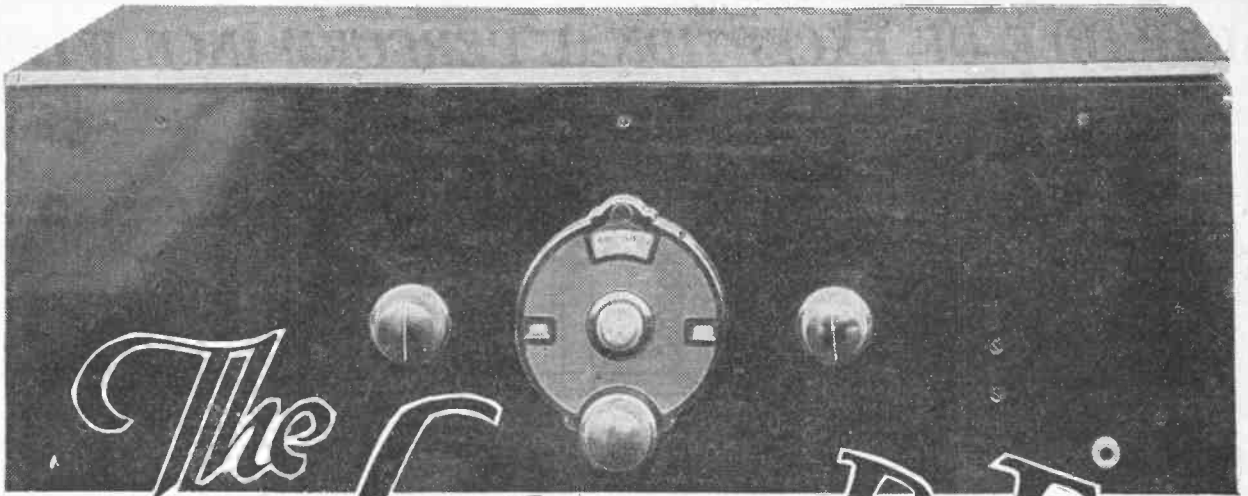
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The Super R.F. PERIDYNE

By DON B. KNOCK
(Associate Technical Editor).

The modernised version of the famous Peridyne circuit, employing the now famous screen-grid valve to obtain superlative results in the R.F. stages. The receiver described here tuned in all broadcasting stations within reasonable range of Australia. The panel arrangement above illustrates the ease of control obtained.

ALL remember "THE GLOOMCHASER FIVE," the name I gave to the original Peridyne in the columns of "Wireless Weekly." It was a well-chosen name, and the receiver proved immensely popular as a powerful but easily-controlled distance getter. Later, in the November issue (1928) of "Radio in Australia and New Zealand," the PERIDYNE, as adapted to use screen-grid valves in the R.F. stages, was described.

The results obtained with this circuit were far superior to the original, and the SUPER R.F. PERIDYNE holds a place as a uni-control receiver which will outclass many more complicated receivers in performance. The quality of the reproduction obtained is of the very best, and this receiver, used with a dynamic speaker, is one of those rare instruments catering for the man who just wishes to turn one dial, and sit back, and enjoy musical programmes par excellence.

Our old monthly journal, "Radio in Australia and

New Zealand," is now incorporated in "Wireless Weekly," and it is only fitting that this excellent receiver should be described anew for those who were not subscribers to the monthly journal. There is nothing complicated in its construction, in fact, it is probably the easiest of screen-grid receivers to construct. It has been presented in as simple a form as possible, without recourse to any metal screening, although those who may wish to be wholly on the

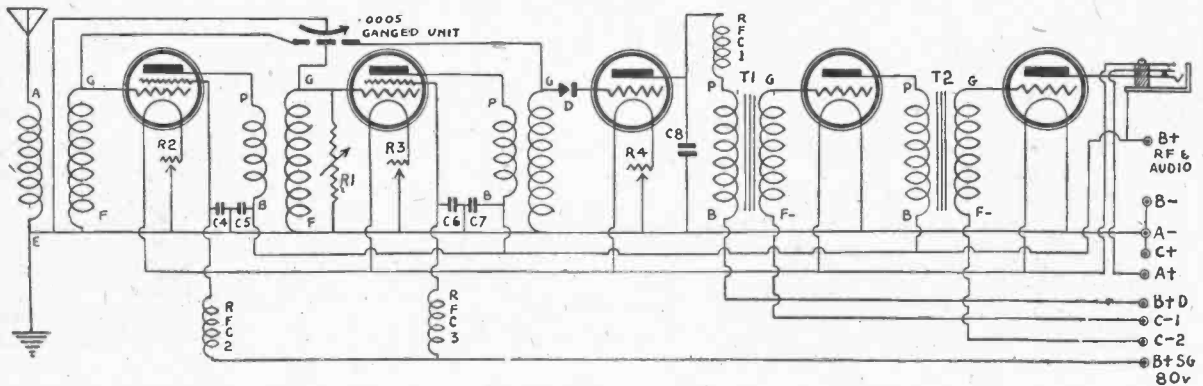
safe side may, with very little extra trouble, fit the usual screening boxes for the two Philips A442 valves. This procedure is not by any means necessary, as the coils themselves are adequately screened, and due precaution has been taken in the layout to preclude the possibility of instability in the R.F. amplifier.

The Peridyne is one of the few receivers capable of an exceptional performance with extreme simplicity. It is neither hard nor expensive to build, and has the great advantage over many sets of being a truly single control set. The front panel appearance is particularly neat as a consequence, and altogether it is a very desirable piece of apparatus. On deciding to convert the Peridyne it was necessary to consider the most important question first, namely, the method of coupling the R.F. valves. It was decided that, if straight tuned anode coupling was employed, the primary of the Peridyne R.F. transformers would have to be neglected, and other difficulties would arise in tuning arrangements. Alternatively, if the primaries

PARTS REQUIRED FOR THE SUPER R.F. PERIDYNE

- | | |
|--|--|
| 1 Bakelite panel, 24 x 8 x 3-16in. | 1 Emmco Velmo vernier dial. |
| 1 Bakelite sub-panel, 24 x 10 x 3-16in. | 1 Royalty 0-100,000 ohms. variable resistance. |
| 1 pair Benjamin or Arizona sub-panel brackets. | 2 Philips' transformers, or 2 Ferranti AF5 transformers. |
| 5 A.W.A. or Emmco anti-vibration U.X. valve sockets. | 1 corborundum permanent type crystal detector. |
| 2 Bradleystats. | 1 combination filament and single circuit jack. |
| 1 30 ohm. rheostat. | 1 .001 wetless type B fixed condenser. |
| 4 T.C.O. 1 mfd. by-pass condensers. | 11 terminals. |
| 3 Radiokes R.F. chokes. | 1 30-volt B battery for O biasing. |
| 1 Radiokes Peridyne coil kit. | Wiring used, "Chromax." |
| 1 Pilot or Emmco 3-gang .0005 condenser unit. | 2 Philips' A442 screen-grid valves. |
| | Valves as recommended in article. |

CAPABLE OF EXCEPTIONAL PERFORMANCE WITH EXTREME SIMPLICITY



were used, their impedance would not suit the high impedance of the screen-grid valves. Yet by suitable by-passing capacities they could be used, and no matter what slight loss might be present the nett result would be a much better performance than with the original three electrode arrangement!

At the present period we have quite a few types of screen-grid valves on the market to choose from, and in order to keep the receiver as economical as possible, the now well-known Philips A442 type was chosen. The A442 was the first of the screen-grid valves to be introduced to readers of "Radio," and was used in the "All Empire" short-wave receiver. This valve is of the four-volt filament type, and may be followed by a detector and audio valves, having six-volt filaments if required. Many American writers state that this should be the case with any screen-grid valve, but as in Australia we are able to procure British and European 4-volt valves with a high order of efficiency, relative to their types, we are able to design a set using two screen grid R.F. amplifiers, detector, and two audio stages using 4-volt valves throughout, and obtain the very best in efficiency. There is a very definite reason for the statements made by these American writers. The amplification from one or two stages of screen-grid R.F. working at the maximum efficiency will completely "paralyse" the ordinary type of detector valve. This means that the detector valve will not be able to deal with the "grid swing," or to pass it on to the audio amplifiers to the fullest advantage. A power or super-power type of valve should always be used as the detector; the characteristics of such a valve rendering it very suitable for this work. The grid of the super-power valve requires a greater excitation than usual, and this extra impulse is provided by the screen-grid R.F. amplifiers. Fortunately, we have a wide range of power and super-power valves in the 4-volt class, and this enables us to construct a modern and highly efficient receiver.

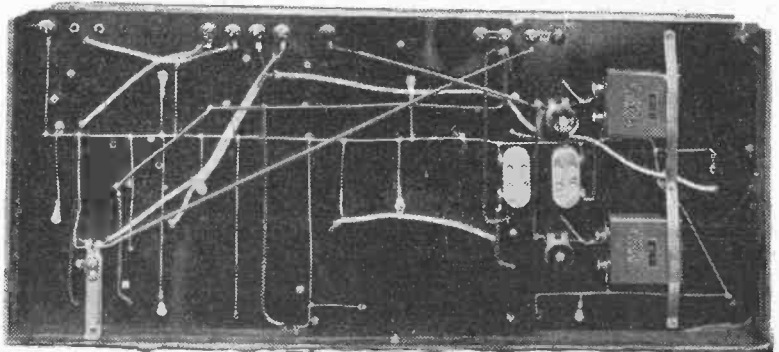
Those who have built and are using the Peridyne, as I described it in "Radio" for April, 1928, will find that this version requires only very little alteration from the original. Four by-pass condensers, two radio frequency chokes, and a little alteration of the wiring, and the job is done. After the original description, a host of queries came to hand, asking me if the condensers could be used with separate controls, and why the three .0001 bridging condensers were placed across the ganged condenser unit. Firstly, the .00035 ganged unit was the only one available of the type at the time, and as the total capacity of the variable condensers was insufficient to cover the entire tuning range of the Radlokes Peridyne coils, I included the

.0001 fixed condensers to raise the wavelength scale a little. Those who may have met with trouble from this source should note that it is imperative that these three .0001 condensers are matched, and have exactly the same capacity. There are so many cheaper makes of such condensers which possess any but the correct capacity. Do not take it for granted that because a little-known, cheap type of fixed condenser is marked .0001 microfarads that it is! Fortunately there are now many makes of ganged variable condensers of .0005 mfd. capacity available, and for those who prefer to build their own there are condensers with moveable spindles, permitting ready ganging.

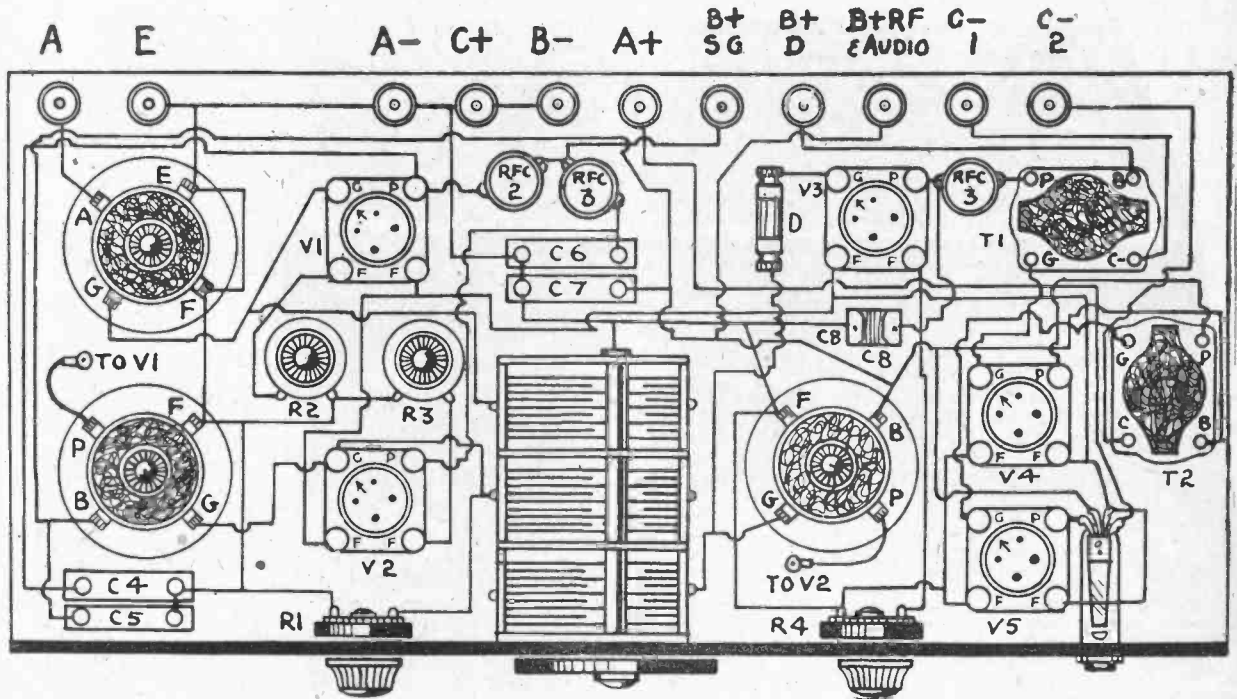
As many readers virtually "took the law into their own hands" and disregarded the ganging, using separate tuning condensers, I wish to emphasise that by so doing it is defeating the object of the Peridyne shields in which the coils are enclosed. If one designs a receiver, making use of one or more stages of radio frequency amplification and ganged condenser tuning control, then it is invariably necessary to provide some form of "trimming" or compensating capacity, at least for the first R.F. stage. The only method whereby this may be unnecessary is where the coils and their associated capacities are matched to a high degree of accuracy. The Peridyne principle of balancing the circuits introduces practically no losses, and is quite unique and convenient. In the original Peridyne self-oscillation of the radio frequency amplifiers was kept just below the oscillation point by means of a "suppressor" in the form of a variable resistance, having a variation of from 0 to 100,000 ohms. The Super R.F. Peridyne still retains this feature, and many readers will at once wonder how this is utilised, as the screen-grid valve is hailed far and wide as a self-neutralising radio frequency amplifier. Just so. The screen-grid valve used as an R.F. amplifier

will oscillate like any other valve if given plate and screening grid potentials slightly in excess of the correct value.

Look at it from this point of view: If we use the Peridyne with screen-grid valves in the R.F. stages we are at once sure to obtain a greater overall amplification before the detector, whether we introduce some form of regeneration or not. This is, of course, when using the correct voltages. Strictly speaking, the regeneration feature is not really essential for normal operation. The set is extremely powerful, as we expect, but it is still an advantage to be able to locate the carrier wave of distant stations, especially through these static-laden evenings. Many users of radio receivers are totally lost unless they are first able to pick out the carrier wave or whistle of a station, and then do their tuning. By varying the screen-grid voltage on the R.F. valves, these amplifiers may be made to oscillate in the usual way, and the degree of regeneration or self-oscillation easily controlled with the variable resistance as before. Only a small amount of signal strength will be lost in this way, and, despite this apparently round-about way of doing things, the gain is far greater than is possible with three electrode R.F. amplifiers. If you have before you the theoretical circuit diagram of the Peridyne as described before, a comparison with the diagrams accompanying this article will show the modifications necessary. The tuning arrangements and audio amplifier are fundamentally the same, and although different components are used, does not mean to say that your own Peridyne will not work similarly! We still retain the Bradleystats mounted on the sub-panel, although they are not really so important in function as they were before. Even so, they are an ideal filament control. The "B" voltages for the audio amplifier and the R.F. amplifier plates are both fed from the same battery terminal. This is quite in



ONLY SLIGHT ALTERATION FROM THE ORIGINAL PERIDYNE



order, with screen-grid valves, and you may take it as a rule whenever these valves are used that the plate voltage should be approximately the same as the audio amplifier. As before the plate supply passes through the primary of each R.F. transformer to the plate of the valve. The screen-grid voltage is in each case passed through a Radiokes R.F. choke to the screening grid of each R.F. valve. Connected between the "B" positive side of the primaries are two 1 mfd. T.C.C. blocking condensers in series to the screening grid. A mid point connection is taken from the two condensers to "A" negative and earth. This method of coupling the R.F. stages is fully efficient, and rules out the necessity for re-designing the Radiokes Peridyne primaries. It is probably even a more stable method of coupling than by means of a high impedance primary alone. In the case of the R.F. Peridyne receiver prompting this article, it was an experiment attended by success, and will enable those who so desire to make the requisite alterations easily. In the diagram the blocking condensers are marked C4 and 5, and C6 and 7. The radio frequency chokes must not be omitted in the screen-grid leads, or you may expect trouble from uncontrollable instability.

The crystal detector stays. Many readers wrote to me and said that they got better results by removing the crystal and replacing with a grid condenser and leak. This shows immediately that the valve used behind the crystal was of the wrong type or faulty. If you were to place two receivers side by side, one a Peridyne, working as a Peridyne should, and the other almost a Peridyne, except for the grid condenser and leak introduction, the Peridyne would be an easy winner.

The carborundum crystal detector is of extreme importance in this circuit. In the first place it must be used with a suitable valve, and, secondly, it will definitely only behave as it should when connected the right way

round in the circuit. It is unfortunate that not every carborundum detector is suitable for the use demanded of it in the Peridyne. For this reason it may be necessary to try half a dozen until you hit upon the one you want. Dealers carry large stocks of these particular crystal detectors in Sydney, and no doubt your dealer is tolerant, as most are, and would help you to find the right crystal for the job.

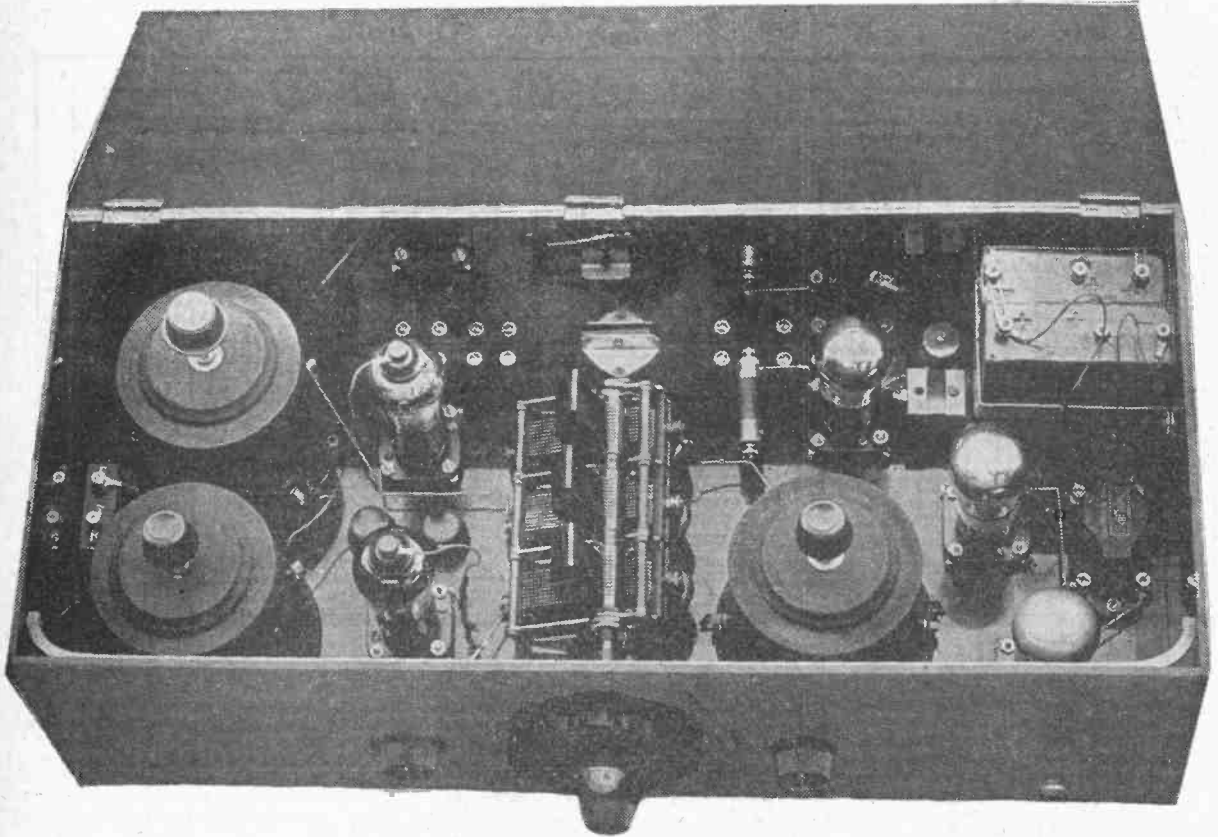
Now to consider the construction of the set. The photographs will show that the layout is different to the original. Do you think that this is materially important. Your revamped Peridyne will work just as well. The layout of the Super R.F. Peridyne illustrated here was purely a personal matter. At the same time, it is a very convenient arrangement, and should appeal to those who decide to build up such a set. This set was built up entirely in bakelite. Sheets of bakelite were cut to the size required so as to totally enclose the whole set in a cabinet of this material. This is only mentioned in passing. Readers will only require the panel and sub-panel dimensions. The first two Peridyne units are on the left, looking at the receiver from inside. Adjacent are the respective screen-grid valves, with the two Bradleystats in between. One of the T.C.C. by-pass condensers may be seen on the left, and another one is out of sight in front of the second R.F. valve, owing to the angle at which the set was photographed. The other two condensers are mounted conveniently under the sub-panel, with the two R.F. chokes in the screen-grid leaks. The back of panel diagram should clear up any doubt as to the position of components. The tuning condenser unit is of the straight ganged type. Each condenser has a capacity of .0005

mfd. To avoid any confusion this capacity should be used, but if you already have a Peridyne using a lower capacity bridged by the fixed condensers, and it is working well, this will be suitable.

There are, fortunately, many makes of ganged condenser units now available on the market, and also many makes of condensers in which the shafts may be removed to enable ganging. Emmco now make an excellent three-gang unit, which is just the thing for this work. The unit used in this R.F. Peridyne is a Pilot. These Pilot condensers are of the new type, sturdy, and of very smooth action. The Peridyne unit coupling the second R.F. valve to the detector is situated on the right of the tuning condensers, with the detector valve and the crystal behind. I should not really refer to this valve as the detector, as it is actually an audio amplifier in effect. Readers are accustomed to look upon the third valve in a receiver such as this as the detector, so this reference will help to avoid confusion. Just to the right of the detector is the Radiokes R.F. choke in the primary circuit of the first audio transformer, and the by-pass condenser C8. This condenser has a capacity of .001 mfd. A misprint in the original Peridyne article showed it as .0001. Such a capacity would be far too small to be of any use here. In the photograph the first audio transformer is hidden by two grid bias batteries mounted above in a small container. It is more convenient to arrange the "C" batteries like this, but I am showing the usual "C" battery terminal connections in the circuit diagrams as higher "C" voltages are desirable. The second audio transformer may be seen in between the two audio valves. Both the transformers in this set are the well-known Philips.

These transformers are beautifully compact, and at the same time highly efficient. Other good transformers may be used, but the reader must understand that they must be good. Two Ferranti AF5's are, for instance,

SET IS POWERFUL AND SCREEN GRID VALVES MAKE IT SELECTIVE



well worth inclusion in such a set as the Super R.F. Peridyne. The Ferranti AF5 is a well-designed, robust transformer, large in size, and the same in volume. No ordinary use the average reader will give such transformers will ever damage them, and they are good for all time. A 30 ohm rheostat controls the filament of the detector valve. This is mounted on the panel on the right-hand side of the tuning control. The Royalty variable resistance is on the left. The front of the panel presents the same appearance as before, with the exclusion of a filament switch. Instead, a combination filament jack is used for the loud-speaker output. When the speaker is plugged in, the filaments are automatically switched on. The vernier dial shown in the photographs is one of the Emmco De Luxe type. This is quite a good dial, but readers are advised to try the new Emmco Velmo Dial now on the market. The name "Velmo" is probably derived from a "velvet vernier," and, if so, was aptly chosen. To commence construction of this Super R.F. Peridyne, first obtain a bakelite panel and sub-panel, with a set of Benjamin or Airzone sub-panel brackets. The panel measures 24 x 8 in., and the sub-panel 24 x 10 in. The drilling diagram will show where the panel must be marked off for the controls. When you mount the two panels, use countersunk-headed screws for the bracket mounting on the front panel, and give the heads a touch with a brush dipped in black lacquer. It does not look nice to see a smooth bakelite panel dotted with yellow brass screw

heads. Of course, if you are an engineer, you may drill the panel from behind, not allowing the drill to run through, and tap the holes to take small studs, afterward locking up the brackets by means of the nuts as usual.

Now, with regard to the wiring. All low frequency wiring is run underneath the sub-panel, and is done mostly in 16-gauge tinned copper. A greater factor of safety will result if wiring such as "Chromax's" is used. This wire is 16-gauge tinned copper, provided with an insulating covering made in various colors. A box containing small coils of all the colors supplied may be obtained from most dealers in Sydney. Another good make of wire is "Glazite," which is very similar.

Alternatively, you may use your faithful "spaghetti" to cover the usual 16's. Attend to the filaments first—always the best way! Join up the A negative, B negative, and C positive terminals on the back of the sub-panel. These three are common. Run a lead to the negative filament terminals of the two audio valve sockets, one side of C8, R4, R3, R1, R2, the F terminals of each Peridyne unit E terminal of the first, and to the earth terminal of the set.

Next connect condensers C4 and C5 together, and from the connection between the two join to "A" negative also. Do the same with C6 and C7. As the rotor plates of the complete ganged condenser tuning unit are common, these are next joined to the "A" negative. It will be noticed that no filament resistances are used for the audio valves. A four-volt supply is used for the receiver, and four-volt valves nowadays are made to stand the full voltage, and do not normally require any voltage regulator resistances for audio

work particularly. If you feel dubious about this, put them in by all means, but make sure you obtain the right type for the valves used. Now we come to the A positive supply. Simply from the A positive terminal on the sub-panel and through the filament side of the jack to the positive filament terminals of each valve socket. Now work from beginning to end of the set and connect terminal A of the first coil unit to the aerial terminal on the sub-panel. Terminal G of this unit is joined to the grid terminal of the first valve socket and to the stator plates of C1. Deal similarly with the second coil and join terminal G to the grid of the second valve, and the stator plates of C2. The other side of the variable resistance R1 also links up here. The third coil has its terminal G connected first to the stator of C3 and to one side of the carborundum crystal detector D, with the other side to the grid valve of the third valve. The plate connection from the Philips A442 screen-grid valve, as readers should know by now, is the terminal on the top of the valve cap.

Connection must be made to this by means of a short length of flex wire, such as "Celat-site," with a soldering tab attached. The tab is screwed down under the head of the terminal. Connect the other end of this flex lead for the first R.F. valve to terminal P of the second Peridyne unit, and the lead for the second R.F. valve to terminal P of the third Peridyne unit. Join terminals B of the first two coil units together, and continue to the terminal on the sub-panel for B positive R.F. terminal on the sub-panel for B positive R.F. and audio. A lead is also run from this terminal to one side of the jack output (the

DEMONSTRATES SUPERIORITY OF TETRODE OVER TRIODE AS R.F. AMPLIFIER

other to the plate of the last valve) and to terminal B of the second audio transformer. Connect the other side of C5 to B of the second coil, and the other side of C7 to B of the third coil unit. Next is the screen-grid circuits.

As the plate of the Philips A442 valve is connected from the top of the valve itself, the terminal on the valve socket which would normally be the plate of any other valve is used for the screening grid. The connections inside the valve are, of course, wired in this way. Run a lead from the B positive screen-grid terminal on the sub-panel to one side of the two Radlokes R.F. chokes RFC3 and RFC2. Connect the other side of RFC3 to the other side of C6, and continue from here to the P terminal of the second valve socket. Deal similarly with RFC2, and join the other side of this to C4, and also to terminal P of the first valve socket.

Next we pass along to the audio frequency side of the receiver. The plate of the third valve is connected to one side of RFC1 and C8, with the other side of RFC1 to terminal P of the first audio transformer. Terminal B of this transformer primary is joined to the B positive D terminal on the sub-panel for the detector B voltage. Independent grid biasing is provided, and is necessary for the two audio stages, so that C negative of the first transformer goes to C negative 1 and C negative of the second to C negative 2. A perfectly straightforward wiring job and not at all difficult.

So you have completed the wiring of the Super R.F. Peridyne, and you are now naturally impatient to know what is going to be the result of your labors with soldering iron and pliers. You ask: "What valves am I to use?" A very important question for such a receiver. First of all, the Philips A442's are four-volt valves, and by correct choice we may use valves with the same filament voltage throughout. Please, Mr. Reader, do not go and insert a perfectly good set of four-volt valves in this receiver, and then put a six-volt accumulator across the lot. If you have only a six-volt accumulator handy, be sure to take the necessary tapping, leaving one cell idle. You would not be able to see any visible indication of damage with glowless filaments, but it would be done just the same, and when you find the mistake and use the four volts required it is certain that the valves will have lost most, if not all, of their utility. Where readers are liable to make such mistakes, amperites are certainly essential. Forewarned is forearmed! The following combinations of valves are equally good, and were successfully used in the tests of the Super R.F. Peridyne. Of course, the A442's were used with all:—

1st combination:

	1st	2nd
	Detector.	Audio. Audio.
Philips	B409	B403 B405

At 120 volts plate supply the negative bias on the B403 is 20 volts and 9 on the B405.

2nd combination:

	1st	2nd
	Detector.	Audio. Audio.
Mullard	PM6	PM6 PM256

At 120 volts plate supply the negative bias on the PM6 is 12 volts, and on the PM256 20 volts.

3rd combination:

	1st	2nd
	Detector.	Audio. Audio.
Cosson ..	410P stentor.	410LF. 410P stentor.

At 120 volts plate supply the negative bias on the 410LF is 6 volts and on the 410P 9 volts.

4th combination:

	1st	2nd
	Detector.	Audio. Audio.
Six Sixty	SS 410P	SS 410P SS 425SP

At 120 volts plate supply the negative bias on the SS 410P is 9 volts and 20 on the SS 425SP.

5th combination:

	1st	2nd
	Detector.	Audio. Audio.
Osram'	DEP-410	DEL-410 DEP-410

Negative bias with 120 volts on the plate 1st 4½ on the DEL-410 and 9 on the DEP-410.

The reader will see that he has a host of valves to choose from. The combinations given here were actually tried, and in each case the choice was excellent. Most who built the original Peridyne know what an extraordinary good performance it is capable of, and those who try this new version will realise at once the benefits of the screen-grid valves.

One point I have not mentioned until now: I tried a Philips B443 Penthode audio am-

plifier in the last stage. This valve is of the type used in the "Ultimax" receiver described last month. All that is necessary to use it is, an extra "B" battery connection. The volume from 3LO was such as to threaten the safety of the Ferranti Exponential speaker I was using for the test. A Ferranti OP1 output transformer overcame that trouble. Although I have not shown an output transformer with this receiver, it is a good plan to use one with any receiver which is capable of delivering heavy volume. The Ferranti OP1 is a 1 to 1 ratio transformer, which safeguards the speaker windings by keeping direct current confined to the set. The B443 was only tried in this Super R.F. Peridyne to see what would happen. It would be more suitable if only one stage was used with a B443, but as the receiver stands it delivers more volume if required than the average listener will ever want.

The next test was to use a MAQNAVOX Dynamic reproducer, and for this purpose a Ferranti 25 to 1 ratio OP2 transformer was used for the output to the reproducer. Never have I heard better reproduction anywhere than with this combination used with the Super R.F. Peridyne.

Volume is not the slogan to-day, but "QUALITY"! The Super R.F. Peridyne will give you those distant stations with ample punch, and a most remarkable clarity of volume. None other than the carborundum type of crystal will suit.

In conclusion, the set was not quite so selective in my testing location, close to 2BL, as I should have liked, but only a fair distance away and the trouble will disappear. It could be rendered completely selective by adequate screening; but as the majority of readers do not, like myself, use their receivers in close proximity to a powerful station, the question is one of secondary importance.

The set is worth building, and once again demonstrates the superiority of the screen-grid Tetrode over the Triode as a radio frequency amplifier.

A variation of the screen-grid voltage from 70 to 90 volts will give the oscillation required in the R.F. amplifier, afterwards checking up with the variable resistance. Normally, this control may be left set, and the tuning dial rotated, bringing in local and distant stations with almost equal intensity.

By including a LEWCOS standard wave-trap in series with the aerial lead, and tuning this to 2BL, there was not the slightest trace of background from 2BL, while 3LO was romping in as if local.

Since this Super R.F. Peridyne appeared in the pages of "Radio in Australia and New Zealand," I have found that a somewhat better control of regeneration may be effected by leaving RI (0 to 100,000 ohms) out, and by introducing a "losser" or grid suppressor control. Mount instead a 50,000 to 500,000 ohms Royalty variable resistance on the panel instead of RI, and connect this in series with the grid of the second R.F. valve instead of from the grid to A negative, as with RI. With the former method of control the strength of the carrier wave was considerably decreased as oscillation ceased, but with the grid suppressor method, the carrier wave remains constant in strength, with the result that the modulated signal is amplified more fully owing to the fact that the screen-grid valves are operating with only a slight retarding effect.

The Screen-grid Tetrode.



HITTING BELOW the BROADCAST BELT



(Short-wave and Amateur Notes by VK2NO)

THINGS are looking up. Even though we are in the midst of Summer there have been one or two of those incredible days and nights when the "green devil" has been chased away (probably to plot future static campaigns), and a silent background has been in evidence over the dials of short-wave receivers.

One never knows what is going to happen, for the simple reason that one does not know what governs the presence of static. There are occasions during our glorious Australian Summer (and Winter) when the sky is beautifully clear and the stars hang like glittering pendants in the silence of the quiet evenings. The kookaburras may laugh up there in the trees just as if they know exactly what you are going to get when you don the headphones—the most appalling of frying sizzling crashes of static! There is only one thing to do. Put the headphones down, switch off, and go out and forget it. A very dry air is usually the cause of such atmospheric trouble. Recently, however, we have had one or two brilliant evenings almost entirely free from atmospheric, and a search around the dials brought to light sundry carrier waves free from interference, and a medley of Australian experimenters trying out their new 42-metre band

RADIO PARIS AGAIN.

On the evening of December 22, at 6 o'clock Sydney time, the Radio Paris station was so strong on 24.5 metres that I thought it would make an ideal relay. Switching on a broadcast receiver I found our enterprising Ray Allsop busy on the job, giving the French colony of Sydney a treat in their own language direct from the Paris studio, through 2BL.

W2XAF is fairly strong on 31.4 metres at 9 a.m. Sydney time on Tuesday, Wednesday, Friday, and Sundays. The speech is a little difficult to follow, but the musical items quite clear. The other morning I listened to a description of a football match through W2XAF, from the Brooklyn Navy Yard ground. The announcer's description of the match and the yells of the cheer leaders were easily followed.

G5SW is now much stronger in the mornings and the evenings, and this station announces a change in schedule. They will start the evening programme in London at 7 on Fridays, which is 5 a.m. in Sydney. This will give Australian listeners an opportunity of hearing the 7 o'clock times of "Big Ben," followed by the first general news bulletin. There is your chance to start off for the early morning's surf with your head full of the latest European news in advance of your morning newspaper.

"SLOVOE RUSSKOE."

I went up the scale at 8 on Thursday evening, December 27, and heard our old friend, RFM in Siberia, on 70 metres yarning away in "Slovoe Russkoe." Occasionally his music was excellent, and he seems to interperse the programme with Morse lessons.

Although I have not heard them myself, I understand that 3LO, Melbourne, are occasionally using 75 metres as well as 32 metres. It will be interesting to know if they are heard in Europe on 75 metres as in the days of yore in Australian amateur radio, I will remember Max Howden (3BQ) putting over

very good telephony to Mr. Simmonds (G2OD) in 1924 in the vicinity of 85 metres. Power was low and strength good, so that it follows that a modern short wave broadcasting station stands a good chance of being well heard.

A new station has completed tests, and is ready to open up on 16.95 metres. This is VCD, Suva. VCD has been testing with 2ME, Sydney, on various wave lengths previously.

PCLL is busy at present on 18.4 metres, and the strength and modulation of this station are equal to that of PCJJ. PCLL may often be heard working duplex telephony with ANE, in Java. ANE may be found on 15.94 metres. At 9 p.m. December 27 Radio Paris was phenomenal in strength, and it was really hard to believe that the station was actually situated in Europe.

5SW MORSE INTERFERENCE.

5SW was also quite strong at the same time, and these two stations would put heart into the most sceptical of short-wave listeners on this occasion. It is annoying to follow diligently the constructional details of a modern short-wave receiver from a technical article, and upon testing it out, find nothing but a medley of Morse signals. Those Morse signals are the sweetest of music to those who understand them, but to the man who has spent his radio life with speech and music they are discord. As a well-known statesman said in 1915—"Wait and see."

I found a familiar station back with his monotonous reading lessons the other evening. This was W2XG, Rocky Point, New York. His wave length was 27 metres, and he was busy with the same old word test as in the early days: "Put down this; put down that." I wonder how he would fare if he asked listeners to put down Llanfair-llanfairpwllgwyngogerychwrndrobwylantisllogogogoch, the name of a well-known little Welsh village on the other side of the Menai Straits? I didn't look up the dictionary, so any Welsh readers must forgive me.

KDKA TRANSMISSION.

One station I have not yet identified myself on about 25.4 metres appears to be the world-famous KDKA. This was the first short-wave telephony station I ever heard in my radio career. That was on 63 metres in 1923, and KDKA still uses the same wave length. He is often quite strong here on 63 metres, and it is worth while making a special spare coil for him if necessary.

On Tuesday, December 24, I picked up a carrier wave at 9 p.m. Sydney time, which, although I am not prepared to swear it, resolved itself into "JB, Johannesburg, South Africa." It was quite a strain to make out exactly what the announcer was saying, and unless it was a special test I have my doubts, as this time corresponds with 1 a.m. in Johannesburg. Furthermore, South African experimental transmitters are rarely heard here before 3 a.m. Sydney time on telegraphy.

32 METRES DESERTED.

The 32 metres band is deserted so far as Australian experimental transmitters are concerned. They are all to be found on 42 metres or round about, and so those international short-wave telephony stations who seem to congregate around the 32-metre re-

gion will have a clear run. Most of the experimental signals to be heard on 42 are crystal controlled, which is a most desirable feature. Yet I am of the opinion that our amateur "bible," QST, the official organ of the American Radio Relay League, is far too optimistic about the preservation of international two-way communication when the whole world of experimental stations is hopelessly jumbled up in a ridiculously narrow frequency. The "hams" will find a way, but, as I have said before, it will be only by the diligent use of the 20-metre band.

BYRD TRANSMISSION.

The experimental world is interested in the Byrd Expedition to the Antarctic, and many short-wave listeners are unaware that when they hear a penetrating musical Morse signal in the vicinity of 34 metres they may be hearing the transmissions of messages from the "City of New York" and the "Eleanor Bolling" down at the ice barrier. We wrote to the Superintendent, Radio Division of the American Naval Research Laboratories for information regarding transmissions concerning the Byrd Expedition, and Dr. Hoyt Taylor's reply is given here for the benefit of Australasian experimental station operators:—

"I regret to say that I am unable to give you the information you request in very definite form, because we make so many changes both in transmitted frequencies and in hours of operation as we are primarily an experimental station.

"We have, however, high-power transmitters equipped to transmit on the following specific frequencies, although they may be adjusted to other frequencies on very short notice, indeed: 4435 kcs., 8370 kcs., 17,740 kcs., 20,004 kcs. We also have a moderate power transmitter on 54,000 kcs.

"Probably of particular interest to you will be our present work with the Byrd Antarctic Expedition. We have just finished a schedule with them this morning at 10 o'clock our time, using 17,740 kcs. They are approximately 200 miles off the coast of New Zealand. They have been using for most of their communications with us 16,450 kcs. When one considers that their transmissions to us cover nearly 7000 miles in daylight, and that they only have a relatively low power transmitter on the 'Eleanor Bolling,' the performance is rather unusual. These schedules will probably be continued as long as we are able to hold them after they leave Dunedin.

"For some considerable time now the schedule has been started at 1400 GMT, and is usually concluded by 1700 GMT. It often happens, however, that both the 'Eleanor Bolling' and our own station go to the 20,000 kc. band, although the schedule is usually opened on 17,740 kcs. on our part and 16,450 kcs. on the part of the 'Eleanor Bolling.' We often work the 'City of New York' on similar frequencies. It is possible that these schedules will be shifted to somewhat earlier hours as the 'Eleanor Bolling' moves southward from New Zealand, and it is also possible that more work will be done in the 20,000 kc. band than lower. The 'Eleanor Bolling' also has schedules with various stations in the 9000 kc. band for night work, but this Laboratory is primarily interested in long-haul daylight work, and, therefore, does not ordinarily take part in such schedules.

When we do we are likely to use the frequency 8870 kcs.

"We have had many very interesting reports from New Zealand amateurs, and have found them always willing to co-operate in tests of scientific interest dealing with wave propagation phenomena. Regretting that we cannot give you more definite schedules, and hoping what information I have presented will be of some interest to you.—Yours, etc.,
"A HOYT TAYLOR.

"Naval Research Laboratory,
"Anacostia, D.C."

Co-operation by Amateurs in Tests

By F. R. LEPPARD.

WIRELESS amateurs will be particularly interested in the booklet published by 3LO containing a report of static and fading tests conducted by the Broadcasting Company of Australia in conjunction with the Wireless Institute, during February and March, 1928. The report is very valuable in many respects, containing as it does the first complete statement of any organised observations relating to reception from broadcasting stations.

The wireless amateurs will be specially interested in the fact of the co-operation which was availed of by the Broadcasting Company. The tests could not have been carried out without the co-operation of the amateurs, and the results indicate the value of the services of experienced experimenters throughout the different States. Owing to the peculiar nature of broadcast transmission, it is essential in any tests that a large number of observers be pressed into the service, and, of course, a broadcasting company or any other organisation could not contemplate making simultaneous observations at distant points by its own employees. This is where the wireless amateurs fitted into the scheme of the tests and their co-operation has been acknowledged by the Broadcasting Company and by Professor Laby, who, as the technical adviser to 3LO, exercised a general supervision of the experiments.

One naturally wonders why the services of amateurs are not more availed of by official and commercial bodies. The institute has frequently offered the services of its members to the Defence Department, in the hope that their services could be made use of in other directions. In the United States, for instance, the American Radio Relay League regularly co-operates with the military authorities, and the league members are regarded as an important unit in the Defence reserves.

Similarly, in Australia, the opportunities for such official and technical co-operation have presented themselves, and if the Defence Department does not take advantage of the valuable aid offered it will be no fault of the Wireless Institute. Recent remarks by senior officers of the Defence Department would indicate that such co-operation is likely to be inaugurated, and that the amateurs will become more useful in a national sense by giving their voluntary services to official organisations or commercial wireless interests who are in a position to make use of the assistance that amateurs can render, both in receiving and transmitting.

Gunnedah Relay

WE welcome to the ranks of the experimental stations of Australia station VK2MO, owned and operated by Oliver Bros., the well known radio dealers of Gunnedah. VK2MO is running on the 200 metre waveband on low power telephony, and is doing particularly good work in this direction. Static troubles are at times so bad in Gunnedah that Mr. Marcus Oliver resorts to an underground aerial used in conjunction with a screen-grid R.F. receiver, and relays the transmission from Sydney stations, so that even the local crystal listener is catered for. Congratulations, VK2MO.

Exide

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PROVING RADIO!

No. 3 *Elementary experiments with static electricity... which is evident in one form as atmospheric interference, we suppose. Static electricity is the earliest known form of that mysterious force behind radio, and this article--the third of the series for beginners--takes you back to the first electrical experiments*

LAST week I told you how to make a Leyden jar. Unfortunately, the method of charging this jar was omitted, so it is published here.

Before the Leyden jar can be used, it must be charged. This is an easy matter with an electrophorus, described in Part Two of "Proving Radio." Hold the electrophorus in your left hand (thus grounding it), and then hold the charged cover to the wire that leads to and is connected with the inside of the jar, as shown in Fig. 1. Do this a few times, and the Leyden jar will be well charged. Do not forget to electrify the electrophorus first, in the manner described in Part 2.

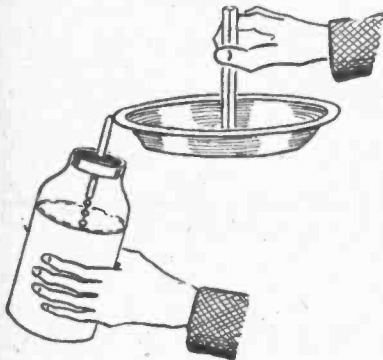


Fig. 1

A discharger may be made from a piece of stout copper wire, fitted with a wooden handle, as shown in Fig. 2. To discharge the jar, place it on a table, and place one end of the discharger into contact with the outside coating of the jar, and bring the other end close to the wire of the Leyden jar. Instantly there will be a flash and a crack. This is lightning and thunder on a small scale.

Now proceed with the other experiments outlined in Part 2, first recharging the jar.

Whilst the cell described last week will cause a current to flow, it quickly becomes polarized, and this reduces the flow of current soon after the circuit is closed. This is due to the formation of gas bubbles on the carbon rod, which prevents the solution from acting on it. (Listeners who use accumu-

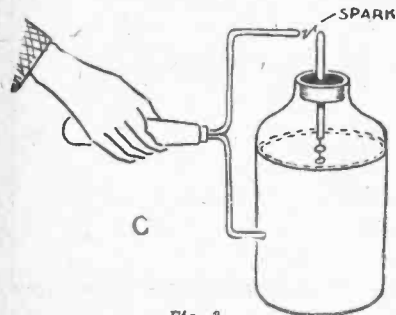


Fig. 2

lators for "A" battery supply will appreciate this.)

Now, if sal-ammoniac solution were used for the wet cell described in last issue, you can improve matters by placing loz. of manganese dioxide in a muslin sack about 1in. diameter, and nearly as long as the carbon rod. Place the bag round it, as shown in Fig. 3. Place the two rods into the paste-board support. This is called the "element." Now replace the element into the electrolyte, and the cell is ready for use. Sulphuric acid may be used for an electrolyte, but if this is done, first amalgamate the zinc rod, i.e., rub the rod with some weak sulphuric acid to cut off the grease, then rub with mercury until the rod is completely coated.

Remember, that ALWAYS, the zinc rod is negative, and the carbon rod is positive. This is the case with batteries bought in shops also.

It is possible to make a dry cell quite cheaply, though it stands to reason that the ready-made battery is more efficient for precision and radio work. Do not let this statement deter you from making a cell, however, as practical instruction is necessary if you wish to continue these lessons till you are proficient enough to commence your A.O.P.C. course.

Make a cup of zinc 2in. in diameter, and 6in. high. This not only serves as a container, but also acts as an active metal, and is part of the cell, i.e., the negative terminal.

You will need your piece of carbon rod. Drill a hole in this, about 1/4in. from the top, and mount a terminal here. Next solder a terminal to the top of the zinc cup.

Now mix 1lb. of zinc oxide, 1lb. zinc chloride, 1lb. sal-ammoniac, 1lb. oxide of manganese, and 3lb. plaster of paris, until they are perfectly dry, then work into a smooth paste with a little water. Put enough of this "active material" into the cup to make a layer 2 inches deep, then hold the carbon rod in the centre of the cup (do not let the rod touch the bottom of the cup), and pack the

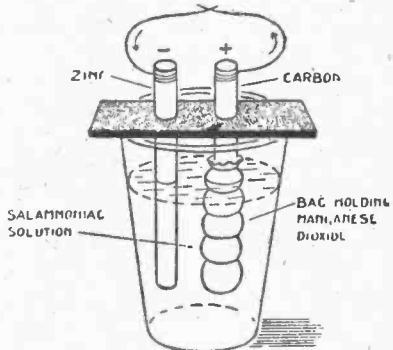


Fig. 3

rest of the mixture round it. This done, pour on some hot pitch or sealing wax, as this will seal the top of the cell, and prevent the air getting to the paste, and it will also hold the carbon rod in position. A cross section of the cell is shown in Fig. 4.

To raise the voltage (each cell supplies 1 1/2 volts) several cells should be connected together in series, i.e., with the negative terminal of the first cell connected to the positive of the next, and so on. The resultant voltage is equal to a sum of the voltages. See Fig. 5.

A current of electricity, like a current of water, has quantity and pressure. The quantity of electricity that flows in a circuit is measured by the ampere, and hence the quantity is called the amperage; while likewise, the pressure is measured by the volt, and pressure of electricity is called voltage.

The amount of amperage a cell of any kind will deliver depends entirely upon the area of the zinc and copper elements of which it is formed, while the pressure or voltage depends on the number of cells used. If a greater amperage is required, the cells should be connected in parallel--see Fig. 6. In this case, all the negative terminals are connected together, and a common lead taken to negative, and all the positive terminals are connected, and a common lead taken off for the positive tap.

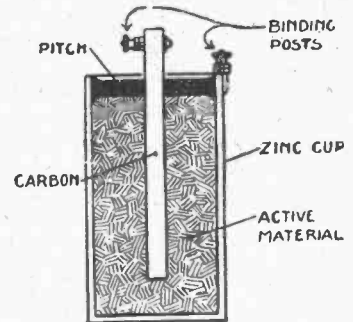


Fig. 4

There are two kinds of dynamos. That which delivers A.C. (alternating current) is termed an alternator, whilst D.C. (direct current) generators are termed dynamos. Actually it is incorrect to say that dynamos and alternators generate a current, because the current is already there, and it is only caused to move by the dynamo or alternator. However, the expression is used so often, that readers will be wise to remember that the statement is erroneous. You will understand this better later on. If you desire to use a dynamo (which will suit your requirements better than an alternator), obtain one that delivers 12 volts at 2 1/2 amperes (30 watts).

The difference between A.C. and D.C. is that the former has no evident polarity. The

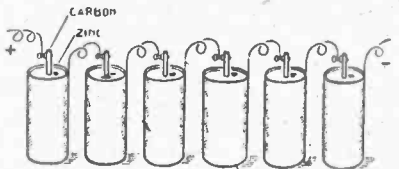


Fig. 5

direction of flow in alternating current is altered approximately 60 times per second. In other words, there is a complete reversal 60 times per second, in the polarity of either wire. D.C. is just the opposite. One wire is negative and the other positive. As we desire to experiment with polarity, it is advisable

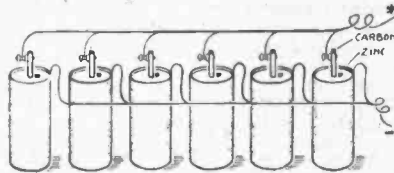


Fig. 6.

able to use D.C. Dry and wet batteries supply D.C.

Those who desire to use the power mains should first find out whether or no their mains are A.C. or D.C. The meter will show this. If the mains are D.C., let it alone, and use some other source of power. The reason is that D.C. cannot be stepped up or down as can A.C. If the mains supply this type of electricity, you can step it down by means of a bell transformer.

The resultant voltage, though lower, will still be A.C., and thus it will be necessary for us to rectify it, thus changing it back to D.C. For the rectifier you will need a strip of aluminium 1 1/2 in. by 8 in.; a strip of lead, same dimensions, and a jam jar. Fill the latter to within two inches of the top with a mixture of borax (two parts) and water (one part), and insert the two strips of material, bending over the edges.

Connect the 12 volt tapping of the transformer to the lead plate, and the negative tapping to a terminal marked "negative." From another terminal marked "positive," take a lead to the aluminium strip. On some transformers will be found additional taps, which are used for varying the voltage. These will be of use later on. Note that although the output of the transformer at the tapping used by us was 12 volts, a certain drop in voltage will be caused by the rectifier (depending on its size), and our D.C. output will be about five or six volts.

Now, I had intended to get much further this week, but it is necessary that the sketches and drawings be included in order to make things quite clear, so I haven't much room left.

Also, I have had several letters from readers, who intimate they are looking forward to the rest of the course. One in particular, from Mr. C. Y. Hook, of 29 Blairgowrie Street, Dulwich Hill, deserves thought. The letter reads:—"Sir, I congratulate you on your 'Proving Radio' articles. I, for one, intend to be a student. I am of the opinion that the study would attract interest of a greater number if it would be possible to organise groups and study circles for this subject. It would be more economical in carrying out the experiments, also it would give the leader of each circle an opportunity to show his ability as a teacher. Take this suggestion for what it is worth. If you know of any enthusiast in this locality who falls in with this idea, we might try it out."

Such suggestions are welcomed. Any readers interested may care to get in touch with me, and arrangements could be made.

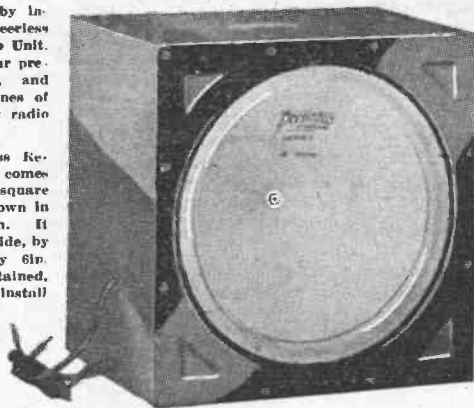
The method of using the A.C. mains has only been discussed in brief. In next issue, diagrams will appear. Readers should not attempt to make up the unit described until they read next issue, as the rectifier has first to be "formed," otherwise a short circuit will occur.

In the next issue I will describe a simple polarity indicator; we decompose water; make an electric light plant; prove that water has resistance; make a flashlight telegraph; electroplate with copper; nickel-plate; commence learning the Morse code, and—surely that's enough!

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TRANSMUTATION OF METALS AND SYNTHETIC FOOD MAY BE POSSIBLE

(Continued from page 3.)

trodes inside will not stand voltages of more than about 300,000. The development of the outside electrode tube, into which, through the glass, a million volts can be placed, is an important step toward applying the high voltages in disintegration experiments.

The significance of these new achievements can be appreciated when it is realised that one of the ends toward which scientists have been striving is a successful attack on the nucleus of the atom. The atom is composed of a centre surrounded by whirling electrons. It is like a minute solar system in which the nucleus is the sun and the electrons are planets. Sweeping off the electrons is easy, but the penetration and disintegration of the small, relatively heavy nucleus are more difficult.

Sir Ernest Rutherford, the British physicist, by bombardment with alpha particles from radium, has knocked hydrogen out of light-weight elements, such as sodium, potassium, etc., and thus proved transmutation of elements possible.

What is now needed is heavier artillery, and that is the object of Dr. Breit's work. Electrons such as given off from any electric light filament are immensely speeded up by high voltage current, but they are light in weight. More "beef" is needed, so alpha particles, which are speeding helium atoms, are projected against the nucleus being besieged.

When given off from radium these alpha particles are already moving at the speed that would be imparted by some 3,800,000 volts. The Carnegie Institution physicists intend eventually to give them another boost with 5,000,000 or more volts and obtain a more powerful bombardment than radium can produce. Even speedier and weightier projectiles will be obtained by similarly boosting the speeding bare hearts of atoms from which the electrons have been stripped.

By increasing in size the present apparatus, and by feeding the voltages from one tube into another, it may be possible to obtain in future years voltages of many times the 5,000,000 now achieved. When 30,000,000 voltages are produced and applied some of the moot questions in physics will probably be settled. Theoretically it may be impossible to have radiation at this high voltage, since the electron would be damped and all wave lengths would become one.

This is also the voltage involved in the creation of the helium atom out of four hydrogen atoms, which Dr. Robert Andrews Millikan believes gives rise to the powerful cosmic rays that bombard the earth from outer space.

The highest voltage produced before Dr. Breit's work was 3,600,000, obtained by the General Electric Company at Pittsfield, Mass., through the use of its so-called artificial lightning apparatus. The highest voltage heretofore obtained within a vacuum tube was the 900,000 volts within the cascaded three-in-one cathode ray tubes of Dr. W. D. Coolidge, of the General Electric Company.

It is interesting to speculate on the results of the disintegration of the atom. With atomic structure in our control we would be able to transform one element into another. It would be merely a question of dislodging electrons from the atomic nucleus.

The very fact that transmutation of elements would be possible is by no means the greatest effect of such an achievement of science. Since the early days of man there

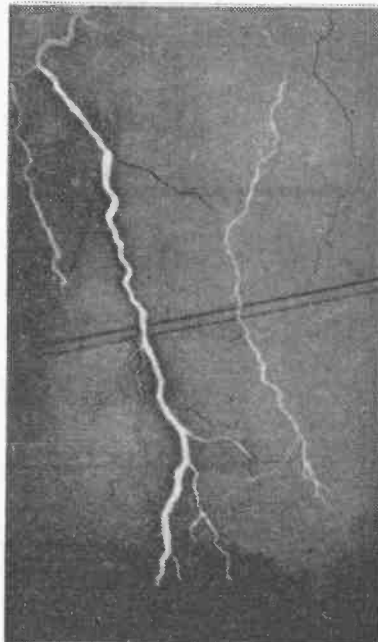
have been men who have attempted to change one element into another. Ancient folklore is full of the tales of the alchemists, those mysterious beings of the Middle Ages, half-wizard, half-chemist, who experimented with the baser elements in vain effort to change them into gold.



Edison and Steinmetz in the former's laboratory.

This would, of course, be possible. Think of its effect. Gold is the standard of the world by which wealth is measured. There would no longer be such a thing as wealth as we recognise it now. The terms "rich" and "poor" would lose their significance.

No longer would it be necessary to per-



Scientists may harness this force.

form manual labor. All of our foodstuffs would become synthetic, as would our fuels. Wastage would be entirely eliminated. This would be true because the atomic construction could be changed so as to transform this waste matter into useful foods, clothing, or sources of energy.

Speaking of energy, ordinary physics teaches us that if one were able to abstract the energy contained in a tumbler of water it would supply enough power to drive a liner from London to Sydney, and all that would be necessary to drive it back again would be to take an ordinary soda straw, immerse it in this same glass of water, and blow on it for a moment.

Dr. Williams, another well-known physicist, has said that one could get all manner of foods from the same glass of water or their equivalent in caloric strength.

One of the difficulties of using tremendous power of this nature would be in the design and development of a system of carburetion as we know it in an automobile—that is, a control which would permit us to use this energy without disaster to ourselves.

All of us are familiar with the latent energy of dynamite. In the case of explosions, the energy is suddenly released. No method has yet been found which would permit man to release it slowly and in sufficient strength to be of service. An ordinary lump of clay would put the present strength of dynamite to shame.

Society as we know it to-day would be destroyed. Since it is largely dependent on wealth, some new standard of valuation would have to be found. It is extremely difficult to speculate just what this would be. Certainly it could not be jewels, because they could be made synthetically, like gold. There would be no such thing as starvation.

However, as in everything else in nature, there is a "joker" hidden somewhere. We are confronted with the immutable laws of compensation or balance.

There would be selfish people who would take advantage of the situation to further their own interests, and the power of transmutation of elements in their hands would become a veritable Frankenstein monster which might eventually destroy the earth.

Any single individual who alone possessed this power could control the world with more omnipotence than any group of emperors in the history of the earth.

The most fanciful ideas of fervid imaginations might be poor in comparison with the realities that would exist in such an age.

Speed and time would lose their importance. The human mind would undergo vast changes; our processes of thinking would be considerably altered to cope with the new standards, situations, and ideals.

Over the centuries during which science has been developed there have been many mysterious catastrophes which have remained unexplained. There have been others due to what has been termed spontaneous combustion. That the atom is being broken down daily is no secret. We see it in the solar system. To this is attributed life itself.

It appears that science is not very far from the discovery of some of nature's innermost secrets. Who knows but that she may, on the very eve of their discovery, put an end to man's efforts in this regard by some holocaust which might wipe out the whole of mankind?

New Apparatus Tested & Approved



Climax Batteries

SCIENTIFIC research has revealed the important fact that acids and sal-ammoniac (largely used in ordinary high tension radio batteries) decompose the zinc electrodes, causing most of the battery trouble the user has to contend with.

The "Climax" formula does not include either of these chemicals. "Climax" is made by an entirely new method, which ensures perfect operation over every period of a long and useful life. Noise and unsteady operation need never be reckoned with if your set is "Climax" equipped! Undoubtedly, the climax in battery making has been reached in this new process-product, so aptly named. —Agents Fox and MacGillicuddy, Daily Telegraph Building.

Fuller Batteries

THE Fuller "S.W.D." type range of accumulators has been designed to meet the demand for batteries having characteristics falling between those possessed by the ordinary Plate type and the Fuller Block type, that is to say, the battery has been purposely built to give efficient service with discharge rates lower than those normally taken from ordinary Plate batteries, but greater than the rates of discharge advised for Block batteries.

Where dull emitter valves are used, or where the discharge time period of the cell

is about 40 hours or longer, that is to say, where it is possible to discharge the batteries at a 40-hour rate, then the S.W.D. type battery should be chosen. The plates are of different construction and much thicker than the ordinary type of portable battery plate, and are designed to hold their charge for long periods when not in use. A comparison curve is shown herewith, and is of the kind shown and explained when comparing Block and ordinary Plate type accumulators.

The Fuller R.H.G. type 20-volt, 3000-milliamper-hour high tension battery is one of the best and most successful of the many high-tension batteries on the market. It owes its success to the fact that it has been designed by engineers having exceptional knowledge of radio operating methods, in addition to expert knowledge of accumulator design and manufacture.

The Fuller range of S.W. portable batteries in celluloid, ebonite, or glass container, is also the outcome of many years' experience, and is also the development of a number of prior types. Every little detail has been carefully considered and thought out, and careful thought has been given to the smallest component part of the battery.

To the average user, different makes of accumulators may all look very much alike. There are, however, many small differences and many points that make for efficiency and long service.



Amalgamated Wireless recently organised a competition, featuring Marconi Valves and Speakers. To each entrant was supplied a large drawing, containing numerous objects, the names of which began with the letter "M." There were in all 217 names. In one case, a competitor forwarded 1760 names, quite a number ranged around the 1000 mark, while one optimist contented himself with 17, just 200 short. The prizes were: First, a cash prize of £25; second, a cash prize of £10; and third, a Marconi loud speaker, valued at £5. In addition, there were sixteen consolation prizes of a Marconi economy valve (DEP or DEL type). The attempts sent in, however, were so creditable that Amalgamated Wireless decided to make each of the sixteen consolation prizes two Marconi valves. The judges were Mr. W. T. Crawford (Radio Inspector, Sydney), Mr. Harry J. Weston (well-known artist), and Mr. J. F. Wilson (assistant manager, Amalgamated Wireless A/sia, Ltd.). This photograph shows the opening and checking of competition entries.

"The Peridyne Super R.F."

Parts for the above Receiver will be posted free to any place in New South Wales. Goods forwarded per Value Payable Post if so desired

LIST OF PARTS REQUIRED:

	£	s.	d.
1 Panel, 24 x 8 x 3-16in.	10	6	
1 Panel, 24 x 10 x 3-16in.	13	0	
1 Pair Brackets	3	0	
5 De-Jur Sockets	6	3	
2-30 Ohm Rheostats	5	0	
4-1 Mf. Fixed Condensers	16	0	
3 R.F. Chokes	16	6	
1 Emmco Vernier Dial and 3 .0005 Condensers, with Removable Shafts for Condenser Unit	2	5	0
1 Royalty Resistance	11	0	
2 Transformers	1	1	0
1 Carborundum Detector	8	6	
1 Filament Jack	2	9	
1 .001 Condenser	1	6	
1 30-Volt Bias Battery	9	6	
1 Doz. Lengths Bus Bar Wire	0	10	
2 Lengths Spaghetti	0	10	
2 Philips 442 Screen Grid Valves	3	0	0
1 Philips B409 Screen Grid Valve	15	0	
1 Philips B403 Screen Grid Valve	15	0	
1 Philips B405 Screen Grid Valve	1	0	0
1 Radiokes Peridyne Kit	3	15	0

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Goods supplied on a Deposit of 2/- in the £. No Terms to Country Customers

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Below is a List of Parts for Building "THE SUPER R.F. PERIDYNE"

	£	s.	d.
1 Bakelite Panel, 24 x 8 x 3-16in.	0	12	0
1 Bakelite Sub-Panel, 24 x 10 x 3-16in.	0	15	0
1 Pair Airzone Brackets	0	3	6
5 A.W.A. Valve Sockets, 3/- each (Anti-Vibration)	0	15	0
2 Rheostats—30 Ohm	0	7	0
1 30-Ohm Rheostat	0	3	6
4 T.C.C. 1 Mfd. Bi-Pass Condensers	1	2	0
1 Radiokes Peridyne Coil Kit	3	15	0
3 Radiokes R.F. Chokes	1	5	6
1 Emmco 3 Gang .0005 Condenser Unit	3	0	0
1 Emmco Velmo Vernier Dial	0	6	0
1 Royalty 0-100,000 Ohms Variable Resistance	0	11	0
2 Philips Transformers	2	15	0
1 Carborundum Permanent Type Crystal Detector	0	8	6
1 Combination Filament and Single Circuit Jack	0	3	3
1 .001 Wetless Type "B" Fixed Condenser	0	2	0
11 Terminals	0	2	9
1 30-Volt "B" Battery for "C" Bias	0	9	6
Sufficient Glazite Wiring for Set	0	3	6
2 Philips A442 Screen Grid Valves	3	0	0
1 Philips B409	0	15	0
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Crystal Sets, complete with Phones, Aerial, etc., from	3	0	0
Single Valve Sets, complete, ready to install, from	4	10	0
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Three Valve All-Electric, complete with Speaker	28	0	0
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The

2BL

Women's Sports Association

The Activities of a Popular Organisation

ABOUT two years ago Miss Gwen Varley joined the staff of 2BL, and immediately began to talk interestingly and with authority on women's sporting matters. Her talks must have been interesting, because, eight months ago, an army of Miss Varley's listeners demanded something practical in sport, so that they might find out how Miss Varley's theories on tennis service, driving off the tee, and the crawl stroke worked out in practice.

The 2BL WOMEN'S SPORTS ASSOCIATION was formed without delay. Mrs. Roland Conway, the international tennis player, was elected president, Mrs. L. Brittain and Mrs. E. Norton were elected vice-presidents, Mrs. O. Raz the treasurer, and Miss Gwen Varley the secretary. Three hundred members are enrolled, and approximately seventeen clubs send two representatives each to committee meetings, which are to take place, in future, on the first Wednesday of the month, at the 2FC studios.

TENNIS

The association has a great deal of energy. Miss Varley is organising a women's cricket team, and tennis clubs have been formed at Coogee, Maroubra, Strathfield, Ashfield, Manly, Waverley, and Chatswood. The clubs retain the services of a competent tennis coach for one day in every week; so there is no haphazard slashing with these players. Tennis costs no more than 7s 6d per month per member. The clubs have already played many challenge matches; but next year there will be a 2BL tennis competition, organised by a number of players who have previously played in tournaments.

GOLF

Twenty members have fallen victims to golf, and they and other valiant ones who wish to learn the science are given lessons by Mr. Oldfield. They go out once a fortnight to Collaroy, or to an alternative course, members who have cars driving the others down.

SWIMMING

Every Friday morning thirty of the association's mermaids assemble at the Domain Baths to learn swimming and to improve their strokes. There are professional instructors, the fee being 7s 6d per term of six lessons. Miss Varley tells us that the oldest



The Badge of the Association.

member is fifty-six, and has just learnt to swim.

These few but important facts help one to understand how, some weeks back, this Amazonian association boldly approached Mr. Anderson, of the New South Wales Broadcast-



Miss Gwen Varley

ing Co., who very readily granted them the half-hour between 11 and 11.30 a.m. for the 2BL Women's Sports Association Session. This session will not be devoted solely to sport; there will be women speakers to talk on all kinds of educational subjects. A series of talks on art will be given by Miss V. McKee; on literature, by Mrs. Gwen Spencer; on citizenship, by Mrs. Albert Littlejohn; and on thrift, by Miss Janet Mitchell.

Radio has proved its usefulness as a private theatre, concert and vaudeville, as a news medium, and as an information bureau. But the world grows tired of theatres and concerts night after night. It even grows tired of news and market reports. The future of radio lies not so much in its power of amusing and informing, but in its power for assisting the daily life of the community, for becoming an indispensable friend to every listener; for drawing the multitudinous threads of individual interests into one great public interest. That radio has produced such a happy group of women as the 2BL Women's Sports Association shows that these things are possible.

Miss Varley, pictured above, says that the greatest cause for satisfaction is that the demand for a sports association came of its own accord. But things don't happen like that. If you ever meet Miss Varley you will understand exactly why the 2BL Women's Sports Association daily increases its popularity and its membership.

Uncle Ben

TWO nights at 4QG, Tuesday and Saturday, are conducted by Uncle Ben with many and varied assistants.

Tuesday is usually set aside for the more serious things of life—short stories with a moral, edifying verse, and song. At present "Staanley," a little blind lad, assists on Tuesdays.

Saturdays are real holidays. Benefiting by an extra 15 minutes that night is given up to real relaxation. The maddest of schoolboy pranks are indulged in to the merriment even of the serious-minded engineer on the other side of the studio window.

The "Professor's" whiskers are cut off. "Grandfather's" tooth is pulled; "Tony" (the horse) is so weak that he must be propped up with a piano and a chair; a fowl-house is built, and many more and equally enjoyable stunts are put over.

Uncle Ben is Mr. L. L. Read, managing director of Read Press, Ltd., Adelaide Street, Brisbane, and he asserts that it is a real and beneficial relaxation to spend an all too short half-hour with the youngsters on Tuesday and Saturday evenings.

Brown LOUDSPEAKER

A Brown Speaker will satisfy the most exacting ear by making Radio a real pleasure. Reception will come through unmarred by discordant vibrations and distorted volume. Instead, the Brown Speaker of famed repute will give faithful and pleasing reproduction containing all the melody and resonance of the original Broadcast. And there's a BROWN Model to suit every type of receiver.

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A FAMOUS PEDIGREE

Every Brown Speaker is built with that same exacting precision which characterises all Brown Products.

For many years the name BROWN has been representative of the criterion in Loud Speakers, and whichever model is chosen from the famous pedigree, it is guaranteed to give the Service and Satisfaction for which it was built. Get your Dealer to demonstrate one for you.

The difference will surprise you, and win you over to the finest Speaker for your own particular Set.

Brown
LOUD-SPEAKERS

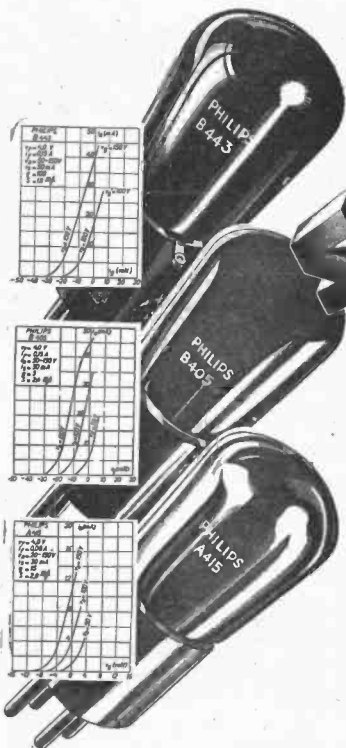
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IT'S THE SLOPE THAT MAKES PHILIPS VALVES SO GOOD!



SLOPE, or as it is often called, Mutual Conductance, indicates just how good a radio valve is. The higher the slope the larger the change in plate current for a given grid voltage.

Look at the slope of Philips "Mini-watts." Some of them you will see are as high as 2.4 m μ v. Sheer; that's the only word that describes them!

POPULAR SIX VOLT TYPES

Type.	Purpose.	Fl. Amps.	Price.
A609	General Purpose.	.06	13/6
A635	H.F.	.06	13/6
A615	Det.-1st Audio.	.08	15/-
B605	Power.	.1	13/6
C603	Super Power.	.3	15/-

POPULAR FOUR VOLT TYPES

Type.	Purpose.	Fl. Amps.	Price.
A409	General Purpose.	.06	13/6
A435	H.F.	.06	13/6
A415	Det.-1st Audio.	.08	15/-
A442	Screen Grid.	.06	30/-
B405	Super Power.	.15	20/-
B409	High Gain.	.15	15/-
B443	Pentode.	.15	37/6

PHILIPS

"MINIWATTS"

List of World's Broadcasting Stations Which can be Received in Australia on Long and Short Waves

AUSTRALIA.		Metres. Watts.		Metres. Watts.		Metres. Watts.	
New South Wales.		ness College, Melbourne	255 500	2103. Silent day	308 500	JAPAN.	
Queensland.		4QG—Queensland Govt. Radio Service, Brisbane. 0800-2200	385 5000	4YA—Radio Broadcasting Co. of New Zealand. Dunedin, 1700-2200. Silent days Mon. and Thurs.	463 750	JQAK—Tokio Central Broadcasting Co., Tokio, Japan. Jap. stations received best about midnight on Sunday	375 1000
South Australia		4GR—Gold Radio Service, Margaret St., Toowoomba	394 100	FOREIGN		JOBK—Osaka Central Broadcasting Co., Osaka	385 1000
Victoria.		6CJ—Central Broadcasters, Ltd., 59 Franklin St., Adelaide, 1100-2310	395 5000	GREAT BRITAIN.		JODK—Keijo Broadcasting Co., Keijo, Japan	345 1000
2FC—N.S.W. Broadcasting Co., Ltd. Market St., Sydney, 0700-2230	442 5000	5DN—5DN Pty., Ltd., 2-4 Montpelier St., Parkside	313 500	2LO—British Broadcasting Co., Savoy Hill, London, 1900-0850	351.4 3000	DUTCH EAST INDIES.	
2BL—N.S.W. Broadcasting Co., Ltd., Market St., Sydney, 0800-2330	353 5000	5KA—Sport Radio, Ltd., 51 Kintore Av., Prospect	250 1000	5X—British Broadcasting Co., Daventry, 1900-0850	1504.3 5000	JFC—Bataviaische Radio, Jereeninging, Batavia	220 40
2GB—Theosophical Broadcasting Station, 29 Bligh St., Sydney, 1000-2200	316 3000	West Australia.		UNITED STATES.		PHILIPPINE ISLANDS.	
2KY—Trades and Labour Council, Goulburn St., Sydney, 0900-2200	280 1500	6WF—Westralian Farmers, Ltd., 569 Wellington St., Perth, 1230-2230	1250 8000	KDKA—Westinghouse Electric and Manufacturing Co., E. Pittsburg, Pa.	315.6 60000	KZRM—Radio Corp. of the Philippines, Manila	413 1000
2UW—Radio Broadcasting Ltd., Pelling's Building, Ash St., Sydney, 1230-2230	287 500	Tasmania.		KFJ—Earle C. Anthony Inc., 1000 So. Hope St., Los Angeles	458.5 5000	KZKZ—Radio Corp. of the Philippines, Manila	270 500
2UJ—Electricity Utilidea, Ltd., 619 George St., Sydney, 0730-2330	293 250	7ZL—Tasmanian Broadcasters Pty., 95 Elizabeth St., Hobart, 1130-2204	535 3000	KGO—General Electric Co., Ltd., Oakland, California	384.4 5000	KZJB—Radio Corp. of the Philippines, Manila	260 500
2MK—Mockler Bros., Ltd., Hawick St., Bathurst	275 250	NEW ZEALAND.		KOA—General Electric Co., Ltd., 1370 Krameria St., Denver, Colorado	325.9 5000-10000	INDIA.	
2HD—H. A. Douglas, King St., Newcastle	283 100	1YA—Radio Broadcasting Co. of New Zealand, 419 Queen St., Auckland, 1500-2200. Silent day Mon.	323 500	WEAF—National Broadcasting Co., 1950 Broadway, New York	491.5 50000	7CA—Indian Broadcasting Co., Calcutta. Indian stations received best about 1.30 a.m. Monday.	370.4 3000
2RF—Burgin Electric Co., 340 Kent St., Sydney. At present off the air	316 100	2YA—Radio Broadcasting Co. of New Zealand, Wellington, 1500-2200. Silent day Wed.	420 5000	WGY—General Electric Co., So. Sceneca, N.Y.	378.5 50000	7BY—Indian Broadcasting Co., Bombay	357.1 3000
2LO—Dominions Broadcasting Co., 120A Russell St., Melbourne, 1000-2340	371 5000	3YA—Radio Broadcasting Co. of New Zealand, Christchurch, 1500-	1500-	WJZ—National Broadcasting Co., 195 Broadway, New York	454.3 30000	SOUTH AFRICA.	
2AR—Dominions Broadcasting Co., 120A Russell St., Melbourne, 1000-2200	454 1600	EUROPE.		FL—Eiffel Tower, Paris, France	2650 5000	WAMG—African Broadcasting Assn., Cape-town	375 1500
3UJ—O. J. Nilson and Co., Bourke St., Melbourne	319 100	EUROPE.				JR—African Broadcasting Assn., Johannesburg	450 500
2DB—Druleigh Busi-							

International Short Wave Stations: Times Stated are S.M.T.

AUSTRALIA.		Metres.		Metres.		Metres.	
2ME—A.W.A. (Syd.), relays		from 0930	66.04	2400 Sat., 0100-0400 Sun.	21	2300. Mon.; 0820-0700. Wed.; 0900-0930, Sun. Picture transmissions, 0900-1100, Tues. and Sat.	42.12
2FC, times irregular, usually Mon. from 0430-0600	28.5	WEZ—Springfield, Relays	70	PCPP—Kobtwijk, Wed. and Fri., 0200-0800; Sat., 0900-2400; Sun., 0100-0400	27	AUSTRIA.	
2YG—Ray Allport (Syd.), relays	32.5	2XAF—Scheneclady, Tues. 0900-1500; Wed., 0900-1430; Fri., 0900-1500; Sun., 0900-1500, except	32.4	PCUI—The Hague, 0300-0800, Wed. and Fri.; 0300-2400, Sat.; 0100-0400, Sun.	42	OKK2—Vienna	70
2BL, times various	32.5	WLW—Ohio, 0900, except Sat. and Mon.	52.02	UNION OF SOVIET SOCIALIST REPUBLICS.		OHK2—Vienna, Mon., 0400-1100	70.
3ME—A.W.A. (Melb.), relays		KDKA—East Pittsburg, Daily, from 0800	43.35, 43	RFM—U.S.S.R., Moscow	29, 60, 50	SPAIN.	
3LO, times various. Usually heard about 0430-0630	33	WJZ—New Brunswick, Irregular, usually after 0900	43.35, 61.06	RPM—U.S.S.R., Siberia	60, 30	—Casablanca	51
3AG—W.F.E. Coxon (Perth), relays G.W.F. Times various. Usually 2130-0200 daily	32.9	7XA—Portland, Oregon, Daily from 0900-2300	53.54	ITALY.		GC—Paris	61
GREAT BRITAIN.		2XG—Rocky Point, from 2400 Mon. and Fri.	16.02	IMI—Milan	45	YR—Lyon, Daily, 0230-0330	40, 20
5RW—Marconi Co. (London), relays		2XE—Richmond Hill, Relays WABC daily, from 0800	22.1	IDO—Italy	33.5	FL—Paris, Time signals, 1755-0556	32
2YL—Times various 25, 32	92, 94	WOWO—Fort Wayne, Indiana, Relays Columbian stations daily, 0800	22.8	IRA—Rome, 0700 Sun.; 0300-0530, Mon.	34.5	FW—Ste. Assise, At odd times throughout day...	14.28
2NM—Gerald Marcuse, Caterham, Surrey, 1700-0400-0600 (Sun), 1000, Thurs. and Sat.	32.5, 23	8XK—E. Pittsburg, Relays KDKA, 0800-0800, Tues. and Wed.	26.8	SOUTH AFRICA.		Radio Vitis, Paris, 0700-0900	37
GLW—Beam Station, all times (Dorchester)	16.7	2XAG—New York, Telephone, Irregular	20.92	JB—Johannesburg	20, 25	Radio Agn., France, Wed. and Sat., 0800-0915	39.75
GLQ—Beam Station, all times throughout day. (Ongar)	24.5	2XAL—New York, Relays WRNY, 0900-1400 Tues.; 1100-2000 Wed., 1300-1900 Sat., Wed.	30.91	JAPAN.		SWITZERLAND.	
GBH—Beam Station, Grimsby (Beam Station). All times	25.9	8XA—Detroit, Mich., Relays WJR daily	32	JHBB—Jbrakiken, nightly	37.5	EHXD—Zurich, Relay work, Tues., Thurs., and Sun.	35, 32
UNITED STATES.		WCVG—Brooklyn, Daily, 0900	64	JIAA—Iwatsuki	79	EH9C—Bern, 0500-0600.	32
2XAD—G.E.C., Scheneclady, Relays WGY, 0830-1300 Mon., 0400-0600 Tues. and Fri., 0800-1300 Thurs. and Sat.	21.96	2XRE—New York, Relays WARC and WBOQ daily, 0900	58.5	JKZB—Tokio	20	JAVA.	
4XZAR—San Francisco, 1000, daily	33	2XAA—Houston, Transatlantic telephony	22.99	AGJ—Nauen, Daily, 0.500	56.7	ANF—Malabar	56
2XI—Boundbrook, Relays WJZ	59.96	INDO-CHINA.		POX—Nauen, 70	70	JFC—Batavia	22, 40
4XU—Council Bluffs, Relays Columbian Broadcasting stations	61.06	HVA—Hanoi. No information available	31.85	POZ—Nauen, Press and news reports to ships	26.4	ANDIR—Bandoeng	35.5
3XBA—Newark, N.J., Relays WAAM, 1000-1600 Wed., Fri., and Sun.	65.13	HOLLAND.		AGA—Nauen, Press and news, daily	25.3	ANF—Malabar, 0340-0540, Wed. and Fri., 32, 31.26, 16.93	16.93
3XF—Cleveland, daily from 1500	68.04	PCLL—Kootwijk, 2240-2400 Wed.; and from 0200 Thurs.	21.98	AGC—Nauen, Throughout day	17.2	ANF—Malabar, 2340-2440, Sat.	17.4, 27, 32
3XAT—Inglewood, daily		PCMJ—The Hague, Irregular	26	AGC—Nauen, Throughout day	17.2	INDIA.	
		PCJZ—Eindhoven, 0300-0500, Wed. and Fri.; 0900-2400 Sat.; 0100-0400 Sun.	31.4	2XAA—Houlin, Transatlantic telephony	22.99	VWZ—Poona, Beam station	16.3
		PCTT—Kootwijk, 0300-0600 Wed. and Fri.; 0900-	0900-	NORWAY.		FINLAND.	
				LGN—Bergen, 0900, Irregular	30, 31.26	SPM—Helsingfors, 1930-0630	47, 31.5
				—Stavanger, News bulletins, 0400	12.14	BELGIUM.	
				SWEDEN.		GG—Brussels, Almost daily, 0600-0900	34.7
				TMK—Copenhagen, Irregular	39.2, 32.8	OU—Brussels, Almost nightly, 0300-0900	43.8
				TRL—Copenhagen, 42.12	42.12	TUNIS.	
				—Motala, Tests irregularly after midnight	41	SKR—Constantine, Sun. only, 0800-1000	42.8
				DENMARK.		MOROCCO.	
				ED7RL—Copenhagen, 2130-		AIN—Casablanca, 1930-0630, Weather report	61

Local Programmes, Friday, January 11

2FC

EARLY MORNING SESSION

(Announcer: A. S. Cochrane.)

7 a.m.: "Big Ben" and announcements. 7.5 a.m.: Studio music. 7.20 a.m.: Country session; official weather forecast, rainfall, temperatures, astronomical memoranda, shipping intelligence, mail services, river reports. 7.25 a.m.: Investment market, mining sharemarket, metal quotations. 7.35 a.m.: Wool sales, breadstuffs markets, inter-State markets, produce market. 7.45 a.m.: "Sydney Morning Herald" summary. 7.50 a.m.: Studio music. 8 a.m.: "Big Ben"; close down.

MORNING SESSION.

(Announcer: A. S. Cochrane.)

10 a.m.: "Big Ben" and announcements. 10.2 a.m.: Pianoforte reproduction. 10.10 a.m.: "Sydney Morning Herald" news service. 10.25 a.m.: Studio music. 10.30 a.m.: Last minute sporting information by the 2FC racing commissioner. 10.40 a.m.: Studio music. 11 a.m.: "Big Ben"; A.P.A. and Reuter's cable services. 11.5 a.m.: Close down.

MIDDAY SESSION.

(Announcer: A. S. Cochrane.)

12 noon: "Big Ben" and announcements. 12.1 p.m.: Stock Exchange, first call. 12.3: Official weather forecast; rainfall. 12.5: Studio music. 12.10 p.m.: Summary of news, "Sydney Morning Herald." 12.15 p.m.: Rugby wireless news. 12.18 p.m.: A reading. 12.30: Studio music. 1 p.m.: "Big Ben"; weather intelligence. 1.3 p.m.: "Evening News" midday news service; Producers' Distributing Society's report. 1.20 p.m.: Studio music. 1.28 p.m.: Stock Exchange, second call. 1.30 p.m.: Studio music. 2 p.m.: "Big Ben"; close down.

AFTERNOON SESSION.

(Announcer: Laurence Halbert.)
(Accompanist: Ewart Chapple.)

2.30 p.m.: Programme announcements. 2.32 p.m.: Recital of selected records of world-famous artists. 3 p.m.: "Big Ben"; pianoforte reproduction. 3.15 p.m.: Popular music. 3.30 p.m.: A sketch by the students of the MacCunn School, under the direction of H. W. Varna. 3.45 p.m.: Mamie Harris, soprano. 3.52: Marjorie Berry, contralto. 4 p.m.: "Big Ben"; a sketch by the Students of the MacCunn School, under the direction of H. W. Varna. 4.15 p.m.: From the Wentworth, the Wentworth Cafe Dance Orchestra, under the direction of Jimmy Elkins. 4.25 p.m.: From the Studio, Mamie Harris, soprano. 4.32 a.m.: Marjorie Berry, contralto. 4.39 p.m.: Studio music. 4.45 p.m.: Third call of the Stock Exchange. 4.47 p.m.: Studio music. 5 p.m.: "Big Ben"; close down.

EARLY EVENING SESSION

(Announcer: A. S. Cochrane.)

5.40 p.m.: The chimes of 2FC.
5.45 p.m.: The Children's Session, conducted by the "Hello Man"; letters and stories.
6.10 p.m.: The Farmyard Five, from Kookaburra Gully.
6.30 p.m.: Dalgety's market reports (wool, wheat, and stock).
6.40 p.m.: Fruit and vegetable markets.
6.43 p.m.: Stock Exchange information.
6.45 p.m.: Weather and shipping news.
6.48 p.m.: Rugby wireless news.
6.50 p.m.: Late sporting news, told by the 2FC racing commissioner.
7 p.m.: "Big Ben"; late news service.
7.10 p.m.: Special Record Recital.

EVENING SESSION.

(Announcer: Laurence Halbert.)
(Accompanist: Ewart Chapple.)

7.40 p.m.: Programme announcements.
7.45 p.m.: Pianoforte reproduction.

7.52 p.m.: Popular music.
8 p.m.: "Big Ben"; through the courtesy of J. C. Williamson, Ltd., a programme will be arranged to-night from one of Sydney's leading theatres.
9 p.m.: From the Studio; weather report. Light Music Four, instrumentalists.
(a) Overture, "Morning, Noon, and Night" (Suppe).
(b) "Scarf Dance" (Chaminade).
9.15 p.m.: John Mitchell, tenor.
(a) "Dolorosa" (Phillips).
(b) "Dear Little Star" (Foster).
9.22 p.m.: Tom Fogett, novelty pianist.
(a) "My Heart Stood Still" (Hart-Rogers).
(b) "The Man I Love" (Gershwin).
9.29 p.m.: The Two Old Cronies.
9.39 p.m.: The Light Music Four, instrumentalists.
(a) "Elsa's Dream" (Wagner).
(b) "Three Dances from 'The Palace of Puck'" (Leyland).
9.58 p.m.: John Mitchell, tenor.
(a) "The Irish Emigrant" (Parker).
(b) "Birds' Songs at Eventide" (Coates).
10.5 p.m.: Tom Fogett, novelty pianist.
(a) "After My Laughter" (Donaldson).
(b) "Because My Baby" (Donaldson).
(c) "What a Man" (Donaldson).
10.12 p.m.: The Two Old Cronies.
10.22 p.m.: The Light Music Four, instrumentalists.
(a) "Cherry Blossom" (Marling).
(b) "When Frances Dances" (Nerrol).
10.29 p.m.: To-morrow's programme.
10.30 p.m.: National Anthem; close down.

2BL

MORNING SESSION

Announcer: A. C. C. Stevens.

8 a.m.: G.P.O. clock and chimes; metropolitan weather report. 8.1 a.m.: State weather report. 8.2 a.m.: Studio music. 8.15 a.m.: G.P.O. clock and Chimes; news from the "Daily Telegraph Pictorial." 8.25 a.m.: Studio music. 8.30: G.P.O. clock and chimes. 8.35 a.m.: Information, mails, shipping, arrivals, departures, and sailings. 8.38 a.m.: News from the "Daily Telegraph Pictorial." 8.45 a.m.: G.P.O. clock and chimes; studio music. 9 a.m.: G.P.O. clock and chimes; studio music. 9.30 a.m.: Half an hour with silent friends. 10 a.m.: G.P.O. clock and chimes.

MIDDAY SESSION

Announcer: J. Knight Barnett.

11 a.m.: G.P.O. clock and chimes; 2BL Women's Sports Association session, conducted by Miss Gwen Varley. 11.30 a.m.: Advertising hints. 11.40 a.m.: Women's session, conducted by Mrs. Cranfield. 12 noon: G.P.O. clock and chimes; special ocean forecast and weather report. 12.3 p.m.: Pianoforte reproduction. 12.30 p.m.: Shipping and mails. 12.35 p.m.: Market reports. 12.45 p.m.: "Sun" midday news service. 1 p.m.: Studio music. 1.30 p.m.: Talk to children and special entertainment for children in hospital. 2 p.m.: G.P.O. clock and chimes. Close down.

AFTERNOON SESSION

Announcer: J. Knight Barnett.
Accompanist: Kathleen Roe.

3.45 p.m.: The chimes of the G.P.O. clock; studio music. 3.50 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams. 4 p.m.: The chimes of the G.P.O. clock; from the studio, Millie Hansen, soprano—
(a) "Love, Here Is My Heart" (Ross), (b) "The Flight of Ages" (Bevan). 4.7 p.m.: Arthur Aldis, 'cellist. 4.14 p.m.: Violet Hunt, contralto. 4.21 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams. 4.31 p.m.: Millie Hansen, soprano. 4.38 p.m.: Arthur Aldis, 'cellist.

4.45 p.m.: Violet Hunt, contralto. 4.52 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams. 5 p.m.: The chimes of the G.P.O. clock; from the studio, "Our Serial Story." 5.10 p.m.: "Sun" News Service. 5.17 p.m.: Pianoforte reproduction. 5.27 p.m.: Popular studio music. 5.35 p.m.: Producers' Distributing Society's poultry report. 5.37 p.m.: Features of the evening's programme.

EARLY EVENING SESSION

Announcers: J. Knight Barnett and Basil Kirke.

5.40 p.m.: Children's Session—music and entertainment.
6 p.m.: Letters and stories.
6.30 p.m.: "Sun" news and late sporting.
6.40 p.m.: Special dinner recital.
7.10 p.m.: Australian Mercantile Land and Finance Co.'s report; weather report and forecast, by courtesy of Government Meteorologist; Producers' Distributing Society's fruit and vegetable market report; grain and fodder report ("Sun"); dairy produce report ("Sun").
7.25 p.m.: Mr. Pim and Miss Pam in Advertising talks and nonsense.
7.55 p.m.: Programme and other announcements.

EVENING SESSION

Announcer: Basil Kirke.

Accompanist: G. Vern Barnett.

8 p.m.: G.P.O. clock and chimes. Margaret Madden and Frances Lea, violin and vocal—
(a) "Was It A Dream?"
(b) Violin solo, "Chanson" (Friml),
(c) "I Love the Moon" (Rubens).
8.10 p.m.: From the Arcadia Theatre, Chatswood, Nicholas Robins, at the Wurlitzer organ.
8.30 p.m.: From the studio—Roger Jones, baritone.
8.37 p.m.: Robert Turner and Tot Loudon, in popular sketches.
8.47 p.m.: The Savoyans' Dance Band.
8.57 p.m.: Weather report.
8.59 p.m.: Last-minute racing information by C. R. Dexter.
9.14 p.m.: Margaret Madden and Frances Lea, violin and vocal, in popular melodies—
(a) "Jeannine,"
(b) Song, "At Dawning" (Cadman).
(c) "Ramona."
9.24 p.m.: Frank Ryan, entertainer.
9.31 p.m.: The Savoyans' Dance Band.
9.41 p.m.: Roger Jones, baritone.
9.48 p.m.: Robert Turner and Tot Loudon, in popular sketches.
9.58 p.m.: The Savoyans' Dance Band, with popular choruses by Art Leonard.
10.8 p.m.: Frank Ryan, entertainer.
10.15 p.m.: From the Arcadia Theatre, Chatswood—Nicholas Robins at the Wurlitzer organ.
10.30 p.m.: From the studio—The Savoyans' Dance Band, with popular choruses by Art Leonard.
10.57 p.m.: Resume of following day's programme and late weather report.
10.59 p.m.: The Savoyans' Dance Band.
11.30 p.m.: National Anthem.
Close down.

2UW

12.30 p.m.: Music. 1.0 p.m.: G.P.O. clock and chimes, and Music. 2.30 p.m.: Close down. 4.30 p.m.: Musical programme. 5.30 p.m.: Children's Hour, conducted by Uncle Jack. 6.30 p.m.: Close down. 7 p.m.: G.P.O. clock and chimes. 7 p.m.: Music. 8 p.m.: To-day's anniversary. 8.2 p.m.: Musical programme. 9 p.m.: Clock and chimes; comments on foreign affairs, by Mr. J. M. Prentice. 10 p.m.: Close down.
Similar programme as above for Monday, 14th Jan., Tuesday, 15th, Wednesday, 16th, and Thursday, 17th.

Interstate Programmes, Friday, January 11

3LO

EARLY MORNING SESSION

7.15 a.m.: Morning melodies. 7.30 a.m.: Morning exercises to music. 7.39 a.m.: Stocks reports; market reports; general news; shipping; news information. 8.0 a.m.: Melbourne Observatory time signal. 8.1 a.m.: Morning melodies. 8.15 a.m.: Close down.

MORNING SESSION

11.0 a.m.: 3LO's different dances for the daily dinner. 11.20 a.m.: Musical Interlude. 11.25 a.m.: "Au Fait" will speak on "Fashions." 11.40 a.m.: Gramophone recital.

MIDDAY SESSION

12.0 noon: Melbourne Observatory time signal. Express train information. 12.1 p.m.: Prices received by the Mines and Metals Association from the London Stock Exchange this day. British official wireless news from Rueb; Reuters' and Australian Press Association cables. "Argus" news service. 12.15 p.m.: Newmarket stock sales; special report by John M'Namara and Co. 12.30 p.m.: The station orchestra. Overture, "Furante" (Weber). "Warum" (Schumann). 12.30 a.m.: John Byrne (bass), by permission of J. C. Williamson, Ltd. 12.37 p.m.: Stock Exchange information. 12.40 p.m.: The station orchestra. Overture, "Idomeneus" (Mozart). "Midsummer" (Alvares). 12.50 p.m.: Myrtle Walscott (contralto). 12.57 p.m.: Perla Jorgensen (violin). "Spanish Dance" (Sarasate). 1.4 p.m.: Keith Desmond (elephant) will give a short recital. 1.1 p.m.: Meteorological information; weather forecast for Victoria, New South Wales, Tasmania, and South Australia; ocean forecasts; river reports; rainfall. 1.13: The station orchestra. Overture, "Fadisi" (Lortzing). 1.28 p.m.: John Byrne (bass). 1.35 p.m.: The station orchestra. "In the Garden" (Goldmark). 1.40 p.m.: Myrtle Walscott (contralto). 1.47 p.m.: Close down.

AFTERNOON SESSION

2.15 p.m.: The Strad Trio. "Op. 70 in D Major" (Beethoven). Alfagon con bass. Largo assai. Presto.

EVENING SESSION

6.50 p.m.: Madame Bovary. "French Without Tears." 7.5 p.m.: Stock Exchange information. 7.15 p.m.: Special report by John M'Namara and Co. Official report of the Newmarket stock sales by the Associated Stock and Station Agents, Rourke Street, Melbourne. Fish market reports by J. R. Stoddart, Ltd. Rabbit prices. River reports. Market reports by the Victorian Producers Co-operative Company, Ltd. Poultry, grain, hay, straw, jute, dairy produce, potatoes, etc. Market reports of fruit by the Victorian Fruitgrowers' Association. Retail prices. Wholesale prices of fruit by the Wholesale Fruit Merchants' Association. Citrus fruits. 7.30 p.m.: News session. Stumps. South v. Queensland Shield cricket match, South Australia v. New South Wales, in Adelaide. 7.43 p.m.: Birthday greetings. 7.45 p.m.: Out of the Past. 7.48 p.m.: Under the auspices of the Department of Agriculture, Miss Knight will speak on "Home Utilisation of Fruits in Season." 8.0 p.m.: A Maker of History. 8.1 p.m.: H. K. Love will speak on "Technicalities." 8.10 p.m.: Collingwood Citizens' Band. March, "Crescendo." Overture, "If We Were Kings." 8.20 p.m.: Violet Jackson (soprano). "Strawberries." "Love is Meant to Make Us Glad." 8.27 p.m.: Collingwood Citizens' Band. Waltz, "Hearts of Gold." 8.34 p.m.: John Hobbs (baritone). "Lohr." Out of the Deep I Call" (Martin). 8.41 p.m.: Arnie Fortune (piano). "Anitra's Dance" (Grieg). 8.50 p.m.: Collingwood Citizens' Band. Trio. Last Act of "Faust" (Gounod). 9.1 p.m.: Sydney Hollister (comedian). "Fits." 9.15 p.m.: Collingwood Citizens' Band. March, "The Runaway." Cornet solo, "When You and I Were Young, Maggie." 9.11 p.m.: John Hobbs (baritone). "The Rat." "Finsult." "Sawney's Song." 9.18 p.m.: Eric Pym will speak on to-morrow's race at Epsom. "Mulligan's Musketeers." Mulligan's Musketeers. "Viking Song." W. G. Gosbell. "Harlequin." George Bryce and chorus. "Just a Song at Twilight." Millie Dixon. "Early Morning." Chorus, "Soldiers' Chorus" from "Faust." George English (tenor). "The Message." "Requiem." Jack Stewart and chorus. "Flaming on the Old Banjo." Eileen Sheridan. "A Little Brown Owl." Chorus, "Volga Boat Song." George Bryce and chorus. "Charmaine." Marion Davies. "Oh, My Fernando" (operatic aria). Chorus. "Honey, I Want You Now." Ted Jones (bass). "Young Republic." George English (bass) and chorus. "The Image of Rose." Phyllis Gibbs (soprano). "Villanelle." Mulligan's Musketeers. chorus. "Mulligan's Musketeers." 10.40 p.m.: "Argus" news service. British official wireless news from Rugby. Meteorological information and broadcast notes supplied by the Royal Automobile Club of Victoria. Announcements. Weekly seasonable gardening reminders, supplied by Leslie Brunning. 10.50 p.m.: The Red-Headed Boy and Dovey (Rose). "Mississippi" (Mid" (Harris). "Day Dreams" (Hallam). 11.1 p.m.: The Radi-o-Aces. "Jeannine" (Gilbert). "Dream House" (Fox). "Tiger Rag" (Moore). "That's My Weakness Now" (Step). "Get On and Get Under the Covers" (Tobias). "Sleepy Baby" (Kahn). "The Prune Song" (Crumit). "Sincerely I Do" (Davis). "Sally Rose" (Friend). "Good-night Waltz" (Bibbo). "Good-nights Chorus." 11.40 p.m.: God Save the King.

3AR

MORNING SESSION

10.0 a.m.: G.P.O. clock says "Ten." 10.1 a.m.: "Age" Stock Exchange reports; London metal market; "Age" market reports from an Australian produce, fruit, fish, vegetables, etc. 10.25 a.m.: "Age" shipping reports; ocean forecasts. 10.30 a.m.: Mail notices; express train information. 10.35 a.m.:

"Age" news service, exclusive to 3AR. 10.59 a.m.: Weather forecast. Ned Tyrrell's Radi-o-Aces—"Pleasant Tell Me" (Miller). "A Stolen Melody" (Fisher). "Sunshine" (Belin). 11.10 a.m.: Vocal vivacity. 11.15 a.m.: Ned Tyrrell's Radi-o-Aces—"Got a Big Date with a Little Girl" (Tobias). "Jeannine" (Gilbert). "Dream House" (Fox). 11.25 a.m.: Vocal vivacity. 11.30: Ned Tyrrell's Radi-o-Aces—"Ohiquita" (Weyne). "I'm Gonna Settle Up" (Frich). "Take You To-morrow" (Razy). 11.40 a.m.: Vocal vivacity. 11.45: Ned Tyrrell's Radi-o-Aces—"Lucky in Love" (Henderson). "The Best Things in Life Are Free" (Henderson). "Sleepy Baby" (Tierney). 11.55 a.m.: Vocal vivacity. 12 noon: Ned Tyrrell's Radi-o-Aces—"The Kin-kin" (Tierney). "Rio Rita" (Tierney). "I'm Sorry, Bally" (Kahn). 12.10 p.m.: Vocal vivacity. 12.15 p.m.: Ned Tyrrell's Radi-o-Aces—"A Little Change of Atmosphere" (Brown). "I Wanna Go Voon Voon Voo" (Brown). "Down upon the Sands" (Hamly). 12.25 p.m.: British official wireless news; announcements. 12.35 p.m.: Vocal vivacity. 12.40 p.m.: Ned Tyrrell's Radi-o-Aces—"Mallik" (Reel). "You Said Good-night, but You Meant Good-bye" (Kahn). "The Desert Song" (Romberg). 12.50 p.m.: Vocal vivacity. 12.55 p.m.: Ned Tyrrell's Radi-o-Aces—"One Alone" (Romberg). "Meet Me To-day" (Dean). "Once Again" (Lumsdaine). 1.5 p.m.: Vocal vivacity. 1.10 p.m.: Ned Tyrrell's Radi-o-Aces—"Tired Hands" (Wood). "Sweet Sea, Just You" (Tobias). 1.20 p.m.: Vocal vivacity. 1.23 p.m.: Ned Tyrrell's Radi-o-Aces—"In a Bamboo Garden" (Donaldson). "Anything You Say" (Donaldson). 1.30 p.m.: "God Save the King."

EVENING SESSION

6 p.m.: Sweet solace from the Seraphina. 8.5 p.m.: Results of the Sheffield Shield cricket match, South Australia v. New South Wales, at Adelaide.

NIGHT SESSION

8.13 p.m.: Did you know that? 8.15 p.m.: Eric E. Alkens—"To-morrow's Events at the Motorrome." 8.30 p.m.: Community singing—transmission from the City Hall. 10.30 a.m.: "Age" news service exclusive to 3AR; results of Sheffield Shield cricket, South Australia v. New South Wales, at Adelaide. 10.40 p.m.: "God Save the King."

4QG

EARLY MORNING SESSION

7.45 a.m.: Time signals. 7.45 a.m.: News service. 8.0 a.m.: Some electric records. 8.15 a.m.: News service. 8.30 a.m.: Close down.

MORNING SESSION

11.0 a.m.: Music. 11.5 a.m.: Social news. 11.15 p.m.: Lecture, "A cookery and household talk by 'The Etiquette Girl.'" 11.30 a.m.: Music. 11.35 a.m.: More social news. 11.45 a.m.: From the Wintergarden Theatre. Wurlitzer organ. 12.0 (noon): Close down.

MIDDAY SESSION

1.0 p.m.: Market reports and weather information. 1.20 p.m.: From the Paris Cafe, lunch-hour music. 2.0 p.m.: Close down.

AFTERNOON SESSION

3.0 p.m.: A programme of electrically-reproduced records. 3.30 p.m.: Mail train running times. 3.31 p.m.: From St. John's Cathedral, a recital by Mr. George Sampson, P.R.C.O. (City Organist). 4.0 p.m.: Afternoon news. 4.30 p.m.: Close down.

EARLY EVENING SESSION

6.6 p.m.: Mail train running times; mail information, shipping news. 6.5 p.m.: Dinner music. 6.25 p.m.: Commercial announcements. 6.30 p.m.: Bed-time stories, conducted by "The Bandman." 7.0 p.m.: News in English. 7.5 p.m.: Stock Exchange news. 7.6 p.m.: Metal quotations. 7.7 p.m.: Market reports. 7.25 p.m.: Fenwick's stock report. 7.30 p.m.: Weather information. 7.40 p.m.: Announcements. 7.43 p.m.: Standard time signals. 7.45 p.m.: To-morrow's sporting fixtures reviewed.

NIGHT SESSION

Part I.—"The Virginians." A pot-pourri of instrumental music, by The Virginians. (Conductor, Goldie Holmes.) 9.0 p.m.: From the studio, the Virginians, absurdity rag, "The Booster" (Lake). 8.4 p.m.: Goldie Holmes, trumpet solo, "The Jazz-pat" (Weldorf). 8.7 p.m.: The Virginians, a bird conversation, "The Virginians, bird suite." 8.14 p.m.: Ray Pitter, saxophone solo, "Rhapsodium" (Cosmey). 8.18 p.m.: The Virginians, fox-trot, "Drifting and Dreaming" (Courtis). 8.21 p.m.: Vince Bell, trombone solo, "Miss Trombone" (Pilmor). 8.25 p.m.: The Virginians, bird suite, "A Day in Florida Woodland" (Rising Hager). Part I: In the early morning the air is moist and the birds sing to an empty world. The chimps wake men to activity and the day begins. Part 2: In the deeper woodland the palms sway and host of feathered singers make an entrancing valse symphony. Part 3: The mlti clicks. One lone bird calls and sings a cadenza to its mate. A crow is heard and a dog barks. Two shots ring out, and a short finale ends the scene. 8.32 p.m.: George Janks (pianist), "Lopeziana" (Lopes). 8.35 p.m.: The Virginians, Oriental fox-trot, "Jazooriel" (Gold). 8.39 p.m.: Two Virginians, saxophone and trumpet oddity, "Frees" (Hahn). 8.44 p.m.: The Virginians (violinists), "The Gypsy's Wooling" (Trinka). 8.50 p.m.: The Virginians, fox-trot, "Toreador Fumoreggi" (Lake). 8.55 p.m.: Metropolitan weather forecast, 9.0 p.m.: News and read information for motorists, compiled by the Royal Automobile Club of Queensland. Part II: Anglo Male Quartette. 9.10 p.m.: From the studio, a programme by

one Anglo Male Quartette:—Anglo Quartette, "Only This" (Parks). C. R. Kolb (tenor), "On Wings of Song" (Mendelssohn). Dick Pike (bass), "The Lute Player" (Allinson). Anglo Quartette, "Southern Memories" (Berquest). C. R. Kolb and Dick Pike, vocal duet, "The Moon Hath Raised" (Benedict). A. F. Stoddart (baritone), "Sea Life" (Sanderson). Anglo Quartette, "Go Ask Papa" (Parks). "Two Flies" (Parks). Part III.—Gramophone recital. 9.40 p.m.: A short recital of electrically-reproduced records. 10.0 p.m.: The "Daily Mail" news; the "Courier" news, weather news. Close down.

5CL

MORNING SESSION

Announcer: G. R. Lamprell. 11 a.m.: G.P.O. chimes. 11.1 a.m.: A military band concert—St. Hild Colliery Pipe Band—"Queens of the West" (Rimmer). "Avondale" (Vernon); Royal Guards Band, "Romeo and Juliet." 11.15 a.m.: "Economist," kitchen craft and menu talk. 11.30 a.m.: Vocal, instrumental, and orchestral selections—Gertrude Johnson, soprano, "Jewell Song" from "Faust"; Arthur Catterall, violin, "Allegro Aperto" (First Part), "Allegro Aperto" (Continued). 12.15 p.m.: News session. 12.40 p.m.: From Adelaide Oval—description of the Inter-State cricket match, New South Wales v. South Australia. 12.50 p.m.: South Australian Railway information. 12.51 p.m.: S. C. Ward and Co.'s Stock Exchange information. 12.52 p.m.: Meteorological information. 2 p.m.: G.P.O. chimes. 1.1 p.m.: Description of the Inter-State cricket match, New South Wales v. South Australia. 1.12 p.m.: From the studio—the Metronome Dance Band, "Pat Your Arms Where They Belong." "A Night in June." "My Ohio Home." "Side by Side." 1.24 p.m.: Description of the Inter-State cricket match, New South Wales v. South Australia. 1.10 p.m.: Beatrice Kingston, soubrette—"Persian Rug" (Kahn). "Nauraska" (Sidel). "The Liac Tree" (Gartlan). 1.3 p.m.: Metronome Dance Band—"Cook-a-doodle." "Oh, Doris, Where Do You Live?" "Ramona." 1.48 p.m.: Beatrice Kingston, soubrette—"Persian Rug" (Kahn). "Nauraska" (Sidel). 1.56 p.m.: Inter-State cricket scores. 1.58 p.m.: Meteorological information. 2 p.m.: G.P.O. chimes and close down.

AFTERNOON SESSION

Announcer: J. L. Norris. 3 p.m.: G.P.O. chimes. 3.1 p.m.: Description of the Inter-State cricket match, New South Wales v. South Australia. 3.12 p.m.: News session. 3.15 p.m.: Selected pianoforte pieces. 3.15 p.m.: Diana Belmont, contralto—"Forethought" (Lambert). "Caprice" (Furrell). 3.21 p.m.: Gwen Moss, violinist—"Berceuse" (Hynsht). "Sennala" (Muszkowski). 3.27 p.m.: Description of the Inter-State cricket match, New South Wales v. South Australia. 3.47 p.m.: Gertrude Gray, mezzo—"Prayer" (Hiller). "When Thy Blue Eyes" (Lassen). 3.53 p.m.: Description of the Inter-State cricket match, New South Wales v. South Australia. 4 p.m.: G.P.O. chimes. 4.1 p.m.: Diana Belmont, contralto—"Beloved Sleep" (Slates). "The Daily Question" (Helmond). 4.6 p.m.: Gwen Moss, violinist—"Hymn to the Sun" (Korsokoff). "Le Tambourin de la Reine" (Lafont). 4.12 p.m.: Gertrude Gray, mezzo—"Since First I Saw Your Face." "I Atteiny from Love to Sickness" (Purcell). 4.18 p.m.: Description of the Inter-State match, New South Wales v. South Australia. 4.30 p.m.: Columbia recordings—London String Quartet—"Quartet in D Minor." "Andante Con Moto." "Scherzo-Allegro Molto." "Presto" (First Part), "Presto" (Concluded). 4.45 p.m.: Description of the Inter-State cricket match, New South Wales v. South Australia. 4.55 p.m.: S. C. Ward and Co.'s Stock Exchange information 5 p.m.: G.P.O. chimes and close down.

EVENING SESSION

5.50 p.m.: Description of the Inter-State cricket match, New South Wales v. South Australia. 6 p.m.: G.P.O. chimes. 6.1 p.m.: Children's happy moments—birthday greetings, correspondence, songs, and stories by Mrs. Mary Ann. 6.3 p.m.: G.P.O. chimes. 6.4 p.m.: G.P.O. chimes. 6.5 p.m.: G.P.O. chimes. 7.0 p.m.: S. C. Ward and Co.'s Stock Exchange information. 7.5 p.m.: General market reports. 7.8 p.m.: 5CL's sporting service, by "Billie" (20 p.m.) (Willow). 8.12 p.m.: G.P.O. chimes. 7.30 p.m.: Columbia recordings—Oliver King, bass-baritone. "Come Let Us Be Merry" (Wilson). "Be aware of the Maidens" (Day). Lou Alter, pianist. "Who" from "Sunny." "Ganyu" from "Sunny"; Coust Symphonic Orchestra. "Patience" selection. 7.45 p.m.: P. H. Nicholls. 8 p.m.: G.P.O. chimes. 8.1 p.m.: Holden's Silver Band, "Song of Australia," selection. "Rigoletto" 8.13 p.m.: Gertrude Gray, mezzo. "Piero" (Dagmar). "The Heart of the Matter" (Gustav). 8.19 p.m.: James Glennon, violinist—"Meditation" (Massenet). "Swing Song" (Barnes). 8.25 p.m.: Jack Burgess, songs at the piano—"For Mr. Sweetheart." "There Must Be a Silver Lining." 8.31 p.m.: Holden's Silver Band—march, "Gladiator's Farewell"; waltz, "Monastery Bells"; two-step, "Peace with Victory." 8.41 p.m.: Diana Belmont, contralto—"The Moor's Drops Love" (Gladman). Part One: Hear a Lover's Plea. Cadman. Part Two: Paul Jacel, saxophonist, selections from his repertoire. 8.53 p.m.: Denis Sheard, tenor—"Caro Mio Ben." "Come to the Fair." 9 p.m.: G.P.O. chimes. 9.1 p.m.: Metropolitan information. 9.2 p.m.: G.P.O. chimes grain report. 9.3 p.m.: Gertrude Gray, mezzo—"My Task" (Ashford). "Fleurette" (M'Gooch).

9.9 p.m.: Holden's Silver Band-Intermezzo. "Demorsille Chic"; "On a Sunday Morn." 9.19 p.m.: Jack Burgess, songs at the piano—"Muddy Waters," "There's One Little Girl Who Loves Me." 9.25 p.m.: James Griennon, violinist—"Adagio" from Suite (Bizet), "Angus Del" from Suite (Bizet). 9.31 p.m.: Diana Belmont, contralto—"The White Dawn Is Stealing" (Cadman), "From the Land of the Sky-blue Waters" (Cadman). 9.37 p.m.: Holden's Silver Band-march, "March Militaire." 9.43 p.m.: Gertrude Gray, mezzo—"Were I Thy Bride," "When Maiden Loves." 9.49: Paul Jeacle, saxophonist—selections from his repertoire. 9.55 p.m.: Denis Sheard, tenor—"Adorable," "A Spirit Flower." 10.1 p.m.: Holden's Silver Band-Orientale, "Down in China Town"; patrol, "Paddy's Patrol"; quickstep, "Washington Grays." 10.15 p.m.: "The Advertiser" general news service. 10.20 p.m.: British official wireless news. 10.22 p.m.: 5CL's sporting service by "Silvius." 10.33 p.m.: by courtesy of 3LO, Melbourne, modern dance numbers by the famous Radi-o-Aces. 11.10 p.m.: "God save the King."

6WF

12.30 p.m.: Tune in. 12.35 p.m.: Markets, news, and cables. 1 p.m.: Time signal. 1.1 p.m.: Weather notes supplied by the Meteorological Bureau of West Australia; station announcements. 1.2 p.m.: The Studio Quintette, conducted by Mr. Val Smith, will play selections from their repertoire. 2 p.m.: Close down. 3.30 p.m.: Tune in. 3.35 p.m.: Afternoon tea concert relayed from the Rosebud Cafe, Perth—vocal and instrumental interludes from the studio. 4.30 p.m.: Close down. 6.45 p.m.: Tune in. 6.48 p.m.: Musical session for the kiddies by Uncles Henry, Percy, and Duffy, and Aunties Amy and Audrey. 7.5 p.m.: Items by the Studio Trio. 7.30 p.m.: Stocks, markets, news. 7.45 p.m.: Racing talk. 8 p.m.: Time signal. 8.1 p.m.: Weather notes supplied by the Meteorological Bureau of West Australia; station announcements such as additions to programmes, etc. 8.3 p.m.: Musical programme from the studio, including vocal and instrumental artists; items by the Instrumental Duo of the S.S. Katoomba. 9 p.m.: Late news; ships within range announcement; weather report and forecast; station announcements, such as additions to programmes, etc. 10.30 p.m.: Close down. 104.5-metre transmission: Simultaneous broadcast on 104.5 metres of programme given on 1250 metres, commencing at 8.45 p.m.

7ZL

MIDDAY SESSION.

11.30 a.m.: Musical selections. 11.34 a.m.: Weather information. 11.35 a.m.: Musical selections. 11.55 a.m.: Tasmanian stations' 9 a.m. weather report. 12 noon: G.P.O. clock chimes the hour. 12.1 p.m.: Shipping information; ships within wireless range; mail notices; housewives' guide. 12.8 p.m.: Musical selections. 12.11 p.m.: British official wireless news. 12.20 p.m.: Musical selections. 12.29 p.m.: Announcements. 12.33 p.m.: News service; produce sales held at railway. 12.55 p.m.: Musical selections. 1.30 p.m.: Close down.

AFTERNOON SESSION.

3.0 p.m.: G.P.O. clock chimes the hour. 3.1 p.m.: Musical selections. 3.4 p.m.: Weather information. 3.5 p.m.: Musical selections. 3.15 p.m.: Memories of the Motherland. Cherniavsky Trio (violin, flute, and harp) "To My Mother" (Volg). "The Herd Girl's Dream" (Labitsky). Alfred O'Shea (tenor), "The Low-backed Car" (Lover), "Molly Branningham" (Stanford). The London Flute Quartette (variations), "Scotch and Irish Airs" (Stainer). Rene Male Quartet, "Church Scenes" from the Old Home-stead. "The Old Folks at Home." Kenneth Walters baritone, "The Village Blacksmith" (Long), "The Floral Dance" (Moss). William Thomas and quartette, "Eileen Alannah." "Love's Own Sweet Song." Mariel Brunsell (contralto), "Kathleen Mavourneen" (O'Farley). "Lovely Night." Eddie Thomas' Celosians, "Till We Meet Again" (Whiting). "Missouri" (Logan). Alfred O'Shea (tenor), "Mother Machree." The Taylor Trio (violin, cello, and piano), "Silver Threads Among the Gold." "Tis the Last Rose of Summer." 4.15 p.m.: Readings from the "Weekly Courier." "What Energetic Men are Doing." 4.30 p.m.: Close down.

EARLY EVENING SESSION.

6.15 p.m.: Answers to letters and birthday greetings, by "Uncle David." 6.20 p.m.: Musical selections. 6.30 p.m.: Molly Horlock (12 years of age), piano recital, "Minuet in G," "A Garden Dance." 6.40 p.m.: Musical selections. 7.0 p.m.: Request numbers for the children.

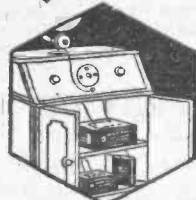
EVENING SESSION.

7.15 p.m.: A. M. O'Leary will speak on "Cricket." 7.30 p.m.: Orchestra. Claude Pross and his "Gloom-chasers," interspersed with gramophone records—"Mary Ann," "You're a Real Sweetheart," "The Desert Song," "When You Played the Organ," "Let a Smile be Your Umbrella," "Moonlight on the Ganges," "Sunset on the St. Lawrence," "Get Out and Get Under the Moon," "Tune in on Happiness." 8.45 p.m.: J. M. Counsel, "A Musical Hour with the Old Masters." "The History and Development of Music." 9.50 p.m.: News session. British official wireless news. Readings from the "Weekly Courier." "Mercury" special Tasmanian news service. Railway auction produce sales, held at railway. Weather information. Hobart Stock Exchange quotations. Royal Autocar Club of Tasmania road guide for the weekend. Notes by the Amateur Athletic Association. Cycling notes, by the Hobart Cycling Association. Market reports from Messrs. Roberts and Co. and Messrs. Wise and Stirling. 10.0 p.m.: G.P.O. clock chimes the hour. 10.2 p.m.: God Save the King. Close down.

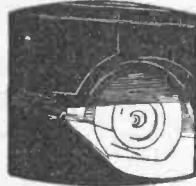


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Local Programmes, Saturday, January 12

2FC SERVICE

EARLY MORNING SESSION.

(Announcer: A. S. Cochrane.)

7.0 a.m.: "Big Ben" and announcements.
7.5 a.m.: Studio music. 7.20 a.m.: Country session; official weather forecast; rainfall; temperatures; astronomical memoranda; shipping intelligence; mail services; river reports. 7.25 a.m.: Investment market; mining share market; metal quotations. 7.35 a.m.: Wool sales; breadstuffs markets; Inter-State markets; produce markets. 7.45 a.m.: "Sydney Morning Herald" summary. 7.50 a.m.: Studio music. 8.0 a.m.: "Big Ben." Close down.

MORNING SESSION.

(Announcer: Laurence Halbert.)

10.0 a.m.: "Big Ben" and announcements. 10.2 a.m.: Pianoforte reproduction. 10.10 a.m.: "Sydney Morning Herald" news service. 10.25 a.m.: Studio music. 10.30 a.m.: Last-minute sporting information, by the 2FC Racing Commissioner. 10.40 a.m.: Studio music. 10.45 a.m.: A Talk on "Gardening," by J. G. Lockley ("Redgum"). 11.0 a.m.: "Big Ben"; A.P.A. and Reuter's cable services. 11.5 a.m.: Close down.

MIDDAY AND AFTERNOON SESSION.

(Announcers: Laurence Halbert and Ewart Chapple.)

12.0 Noon: "Big Ben" and programme announcements. 12.2 p.m.: Stock Exchange information. 12.4 p.m.: Studio music. 12.10 p.m.: "Sydney Morning Herald" news service. 12.15 p.m.: Rugby wireless news. 12.20 p.m.: Studio music. 12.45 p.m.: Cricket scores, England v. Tasmania, played at Launceston. 1.0 p.m.: "Big Ben"; weather intelligence. 1.3 p.m.: "Eyening News" midday news service. 1.20 p.m.: Studio music. Races: During the afternoon events at Moorefield will be described by the 2FC Racing Commissioner. Cricket: Scores of the England v. Tasmania match, played at Launceston, will be transmitted as received. During the intervals musical items will be given from the Studio. 4.45 p.m.: From the Studio: Complete sporting resume. 5.0 p.m.: "Big Ben." Close down.

EARLY EVENING SESSION.

(Announcer: A. S. Cochrane.)

5.40 p.m.: The chimes of 2FC.
5.45 p.m.: The children's session, conducted by the "Hello Man"; letters and stories.
6.30 p.m.: Music and entertainment.
6.40 p.m.: Weather intelligence; shipping; Stock Exchange.
6.45 p.m.: Rugby wireless news.
6.50 p.m.: Sporting news; late news and studio music.
7.10 p.m.: The 2FC Dinner Quartette, conducted by Horace Keats—
(a) "Love Evermore" (Burnet).
(b) "Cradle Song" (Schubert).
(c) "The Blue Paradise" (Romberg).
(d) "Ave Maria" (Schubert).

EVENING SESSION.

(Announcer: Laurence Halbert.)
(Accompanist: Ewart Chapple.)

7.40 p.m.: Programme announcements.
7.45 p.m.: Pianoforte reproduction.
7.52 p.m.: Popular music.
8.0 p.m.: "Big Ben." From the Town Hall: Organ recital, arranged by Ernest Truman.
9.0 p.m.: From the Studio: Weather report and forecast.
9.1 p.m.: John Mitchell, tenor.

9.8 p.m.: Vincent Aspey, violinist.
9.15 p.m.: A sketch by Zena and James Kendall.
9.27 p.m.: Amy Firth, soprano.
9.34 p.m.: From the Wentworth: The Wentworth Cafe Dance Orchestra, under the direction of Jimmy Elkins.
9.44 p.m.: From the Studio: John Mitchell, tenor.
9.51 p.m.: Vincent Aspey, violinist.
10.0 p.m.: "Big Ben"; Zena and James Kendall in a sketch.
10.12 p.m.: Amy Firth, soprano.
10.19 p.m.: From the Wentworth: The Wentworth Cafe Dance Orchestra, under the direction of Jimmy Elkins.
10.29 p.m.: From the Studio: Late weather forecast.
10.30 p.m.: Len Maurice in the newest song hits.
10.37 p.m.: From the Wentworth: The Wentworth Cafe Dance Orchestra, under the direction of Jimmy Elkins.
10.57 p.m.: From the Studio: To-morrow's programme.
10.58 p.m.: Len Maurice in the newest song hits.
11.5 p.m.: From the Wentworth: The Wentworth Cafe Dance Orchestra, under the direction of Jimmy Elkins.
11.30 p.m.: National Anthem. Close down.

2BL SERVICE

MORNING SESSION

Announcer: A. C. C. Stevens.

8 a.m.: G.P.O. clock and chimes; metropolitan weather report. 8.1 a.m.: State weather report. 8.2 a.m.: Studio music. 8.15 a.m.: The chimes of the G.P.O. clock; news from the "Daily Telegraph Pictorial." 8.25 a.m.: Studio music. 8.30 a.m.: The chimes of the G.P.O. clock; Studio music. 8.35 a.m.: Information, mails, shipping, arrivals, departures, and sailings. 8.38 a.m.: News from the "Daily Telegraph Pictorial." 8.45 a.m.: The chimes of the G.P.O. clock, Studio music. 9 a.m.: G.P.O. clock and chimes; Studio music. 9.30 a.m.: Half an hour with silent friends. 10 a.m.: G.P.O. clock and chimes; close down.

MIDDAY SESSION

Announcers: A. C. C. Stevens, J. Knight Barnett.

11 a.m.: G.P.O. clock and chimes. Women's Session conducted by Mrs. Cranfield: "What's on at the Pictures and Theatres." 11.30 a.m.: Advertising hints. 11.40 a.m.: Women's Session continued. 12 noon: G.P.O. clock and chimes; special ocean forecast and weather report. 12.3 p.m.: Studio music. 12.30 p.m.: "The Sun" news service. 12.40 p.m.: Studio music. 12.45 p.m.: Cricket scores, England v. Tasmania, played in Tasmania. 12.48 p.m.: Music. 1.30 p.m.: "The Sun" midday news service. 1.40 p.m.: Studio music. 1.57 p.m.: Cricket scores. 2 p.m.: G.P. clock and chimes; close down.
Note.—During the afternoon race results from Moorefield, and pony results will be transmitted as received by courtesy of "The Sun" newspapers.

AFTERNOON SESSION

Announcer: J. Knight Barnett.
Accompanist: Kathleen Roe.

3.45 p.m.: The Chimes of the G.P.O. clock; cricket scores, England v. Tasmania, played in Tasmania. 3.47 p.m.: Studio music. 3.50 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams. 4.0: The chimes of the G.P.O. clock; from the stu-

dio, Thelma Lovett, soprano. 4.4 p.m.: The Happy Trio, instrumentalists. 4.14 p.m.: "Sun" news service. 4.20 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams. 4.30 p.m.: Thelma Lovett, Soprano. 4.34 p.m.: The Happy Trio, instrumentalists. 4.44 p.m.: "Sun" news service; cricket scores. 4.50 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams. 5 p.m.: The Chimes of the G.P.O. clock; from the studio, the Happy Trio, instrumentalists 5.10 p.m.: "Sun" news service. 5.20 p.m.: Popular music. 5.27 p.m.: Sporting and racing resume. 5.27 p.m.: Features of the evening's programme.

EARLY EVENING SESSION

Announcer: Basil Kirke.

5.40 p.m.: Children's session—music and entertainment.
6 p.m.: Letters and stories.
6.30 p.m.: "Sun" news service.
6.40 p.m.: 2BL Dinner Quartet—
(a) "Apple Blossoms" (Jacobi-Kriesler).
(b) "Bolero" (Moskowski-Boston).
(c) "The Cabaret Girl" (Kern).
(d) "Barcarolle" (Offenbach).
(e) "The Blue Danube" (Strauss).
7.10 p.m.: Complete sporting and racing resume.
7.30 p.m.: Mr. Pim and Miss Pam in advertising talks and nonsense.
7.55 p.m.: Programme and other announcements.

EVENING SESSION

Announcer: Basil Kirke.
Accompanist: G. Vern Barnett.

8 p.m.: G.P.O. clock and chimes. "The Merry-Makers,"
A sparkling radio-revue, packed with the drollest quips and the newest song hits. Dance music from Romano's, and between dance groups, the latest news will be given by courtesy of the "Sun" Newspaper.
11.30 p.m.: National Anthem.
Close down.

2GB

5.30 p.m.: Children's Hour, conducted by Uncle Jack. 6.30 p.m.: Close down. 7 to 10: Musical programme." Close down.

2UW

5.30 p.m.: Children's session, by Uncle George. 7.15 p.m.: Music. 7.20 p.m.: Dance programme. 8.0 p.m.: Request evening. 9.0 p.m.: Grown-up bedtime stories. 10.0 p.m.: Close down.

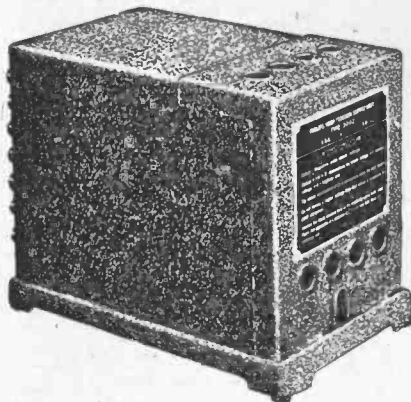
2GB

Friday, January 11.

10.0 a.m.: Music. 10.10 a.m.: Happiness talk, by A. E. Bennett. 10.20 a.m.: Music. 10.30 a.m.: Women's session, by Miss Helen J. Bpegling. 11.30 a.m.: Close down. 2.0 p.m.: Music. 2.5 p.m.: Women's radio service, by Mrs. Dorothy Jordan. 2.50 p.m.: Music. 3.0 p.m.: Talk. 3.15 p.m.: Close down. 5.30 p.m.: Children's session, by Uncle George. 7.0 p.m.: Stock and market reports, by New Zealand Loan and Mercantile Agency, Ltd. 7.15 p.m.: Music. 8.0 p.m.: 2GB Instrumental Trio—Miss Ada Brook, Mr. Cecil Berry, Mr. Cedric Ashton. 8.15 p.m.: Songs, by Miss Nance Marley. 8.25 p.m.: A humorous interlude, by Mr. Jack Win and Mr. Heath Burdock. 8.30 p.m.: 'Cello solos, by Mr. Cedric Ashton. 8.40 p.m.: Songs, by Signor Mario Gustino. 8.50 p.m.: Pianoforte solos, by Miss Ada Brook. 9.0 p.m.: Weather report. 9.3 p.m.: Address. 9.15 p.m.: Songs, by Miss Nance Marley. 9.25 p.m.: 2GB Instrumental Trio. 9.40 p.m.: A humorous interlude. 9.45 p.m.: Songs, by Signor Mario Gustino. 9.55 p.m.: Violin solos, by Mr. Cecil Berry. 10.5 p.m.: Orchestral music. 10.30 p.m.: Close down.

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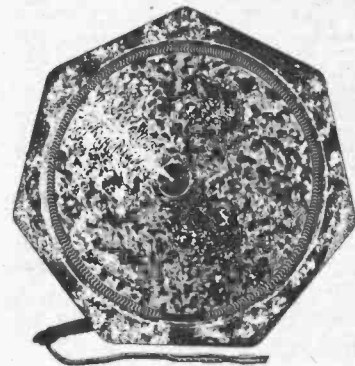
PHILIPS STANDARD "B" ELIMINATOR, 372.

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Interstate Programmes, Saturday, January 12

3LO

EARLY MORNING SESSION

7.15 a.m.: Morning melodies. 7.20 a.m.: Morning exercises to music. 7.30 a.m.: Stock reports, market reports, general news, sporting and sporting information. 8 a.m.: Melbourne Observatory time signal. 8.1 p.m.: Morning melodies 8.15 a.m.: Close down.

MORNING SESSION

11 a.m.: Eric Welch will speak on to-day's races at Epsom. 11.10 a.m.: The station orchestra—"First Massale" (Mozart). 11.20 a.m.: Syd. Hollister, comedian—"Sketches." 11.27 a.m.: Jessie Shmith, contralto—"I Thou Wert Blind" (Noel Jonsson). "Nothing but Love" (Jacobs-Bond). 11.34 a.m.: The station orchestra—selection, "Hit the Deck" (Youmans). 11.44 a.m.: Violet Jackson, soprano. 11.51 a.m.: The station orchestra. 12 noon: Melbourne Observatory time signal; express train information. 12.1 p.m.: Metals prices, received by the Australian Mines and Metals Association from the London Stock Exchange this day; British official wireless news from Rugby; Reuters's and the Australian Press Association cables; "Argus" news service.

MID-DAY SESSION

12.20 p.m.: The station orchestra—excerpts from "Delibes." 12.30 p.m.: Keith Desmond, elocutionist, will give a short recital. 12.37 p.m.: Stock Exchange information. 12.40 p.m.: Percy Cole, trumpeteer—selected. 12.47 p.m.: Syd. Hollister, comedian—"Just Run." 1.04 p.m.: The station orchestra—"Le Puits d'Amour" (Balfe). 1.14 p.m.: Jessie Shmith, contralto—"I'm a'Longin' for You" (Hathaway), "I Love You More" (Lee). 1.11 p.m.: The station orchestra—selection, "Marianne" (Aubry). 1.16 p.m.: Meteorological information; weather forecast for Victoria, South Australia, New South Wales, and Tasmania; ocean forecasts; river reports; rainfall. 1.22 p.m.: Violet Jackson, soprano—"Music When Soft Voices Die" (Cresley), "Ombi" (Sanderson). 1.29 p.m.: The station orchestra—suite, "L'ile des Fees" (Poppy). 1.39 p.m.: Keith Desmond, elocutionist, will give a short recital.

AFTERNOON SESSION

3.13 p.m.: Description of Open Handicap, 6 furlongs, Epsom races, by Eric Welch, 3.20 p.m.: Description of pennant cricket match, Richmond v. Prahran, at Richmond, by Rod M'Gregor. 2.43 p.m.: Description of Trial Plate, 6 furlongs, at Epsom races. 2.50 p.m.: Description of pennant cricket match. 3.13 p.m.: Description of Brush Steeplechase, 2 miles 15 chains, at Epsom races. 3.20 p.m.: Description of pennant cricket match. 3.43 p.m.: Description of Epsom Handicap, 1 mile, at Epsom races. 3.49 p.m.: Description of pennant cricket match. 4 p.m.: Sonora recital. 4.15 p.m.: Description of Trial Purse, 6 furlongs, at Epsom races. 4.20 p.m.: Description of pennant cricket match. 4.45 p.m.: Description of Welter Handicap, 1 mile, at Epsom races. 4.50 p.m.: Description of pennant cricket match. 5 p.m.: News service; during the afternoon progress scores in the cricket match, England v. Tasmania, at Launceston, also in the Sheffield Shield cricket match, New South Wales v. South Australia, in Adelaide, will be broadcast as they come to hand. 5.10 p.m.: Description of pennant cricket match. 6 p.m.: Stumps drawn.

EVENING SESSION

5.50 p.m.: Sporting results. 6 p.m.: Answers to letters and birthday greetings by Little Miss Kookaburra. 6.25 p.m.: Musical Interlude. 6.30 p.m.: "Little Miss Kookaburra" will tell the funny ones about "Nellie and Billie in Moonland."

NIGHT SESSION

6.50 p.m.: Stock Exchange information. 7 p.m.: River reports; market reports by the Victorian Producers Co-operative Co., Ltd.; poultry, grain, hay, straw, jute, dairy produce, potatoes, and onions; market reports of fruit by the Victorian Fruitgrowers' Association; wholesale prices of fruit by the Wholesale Fruit Merchants' Association; citrus fruits. 7.15 p.m.: News session—stumps scores, pennant cricket match. 7.28 p.m.: Birthday greetings. 7.30 p.m.: Out of the past. 7.31 p.m.: Frederick Chapman, A.L.S., F.G.S., Commonwealth Palaeontologist, "Notes on the Geology of the Anglesea Coast" (100th talk). 7.45 p.m.: A Maker of History. 7.46 p.m.: Dr. J. A. Leach, "Magnetic Larks." 8.1 p.m.: Programme announcements; Tasmanian letter to 3LO from "The Courier," Launceston. 8.5 p.m.: The station orchestra—selection, "Glaconda" (Ponchelli). 8.10 p.m.: John D. Fraser, baritone—"High on the Sleso Hills" (Loughborough). "Star Eyes" (Speaks). 8.17 p.m.: The station orchestra—"Andante from Sonata, Op 7" Grieg, selected. 8.27 p.m.: The Radio Melody Makers—

"Thirty Minutes of Melody." 8.57 p.m.: The station orchestra. 9.4 p.m.: The song feature of the week. 9.8 p.m.: Syd. Hollister, comedian—"Mood." 9.15 p.m.: Eric Welch will describe to-night's events at the Stadium. 9.30 p.m.: John D. Fraser, baritone—"The Blind Ploughman." "Mary Sweet and Brown." 9.37 p.m.: The station orchestra. 9.44 p.m.: Thelma Ready, banjo. 9.50 p.m.: Eric Welch will again describe to-night's events at the Stadium. 10.5 p.m.: Constance Flavel, soprano—"Mighty Gents" (Shepherd). "April Song." 10.12 p.m.: Station orchestra—overture, "Son and Stranger" (Mendelssohn). 10.22 p.m.: Syd. Hollister, comedian—"Potted Humor." 10.29 p.m.: Thelma Ready, banjo. 10.35 p.m.: Constance Flavel, soprano—"Bald Me Discourse" (Blisnop), "So Jarad Rose" (Ardill). 10.43 p.m.: The station orchestra. 10.53 p.m.: Late sporting. 10.59 p.m.: The Radi-o-Aces—"Googly Gate" (Davis), "Guess Who's in the Kitchen" (Bartlett), "The Stolen Melody" (Fisher), "Lenora" (Gilbert), "Chloe" (Kahn), "That's What You Mean to Me" (Davis), "Lazy Feet" piano solo (Masman), "Just Like a Melody Out of the Sky" (Donaldson), "Beloved" (Kahn), "Because My Baby Don't Mean Maybe Now" (Donaldson), "I Love to Dunk a Hunk of Sponge Cake" (Castill), "Rain" (Ruby), "Ramona" (Wayne), "Clarinet Marmalade" (Fergus), "Nebraska" (Revel), "Forever More" (Burnett). 11.40 p.m.: "God Save the King."

3AR

MORNING SESSION

10 a.m.: G.P.O. clock says "Time." 10.1 a.m.: "Age" Stock Exchange reports—London metal market, "Age" market reports—farm and station produce, fruit, fish, vegetables, etc. 10.25 a.m.: Mail shipping reports; ocean forecasts. 10.30 a.m.: Mail notices; express train (Kahn). 10.35 a.m.: "Age" news service, exclusive to 3AR. 10.59 a.m.: Weather forecast. 11 a.m.: Ned Tyrrell's Radi-o-Aces—"Lonely Acres" (Robinson), "Shake It Down" (Williams), "Next to Me Next to You" (Reid), "Chinatown" (Yvain), "The Riff Song" (Romberg). 11.25 a.m.: Vocal gems. 11.30 a.m.: Ned Tyrrell's Radi-o-Aces—selection of the "Blue Danube" (Fisher), "A Lonesome Boy's Rosary" (Tobias), "High Up on a Hill Top" (Baer). 11.40 a.m.: Vocal gems. 11.43 a.m.: Ned Tyrrell's Radi-o-Aces—"Tell Me Again" (Clark), "Up to the Boy's Room" (Mills), "Sissipud Mud" (Harris), "Lollita" (Stoneham), 11.55 a.m.: British official wireless news; rates of exchange as supplied by Messrs. Thomas Cook and Sons. 12 noon: Close down.

AFTERNOON SESSION

3 p.m.: Johnston's Studio Boys—March, "Amphion"—"Japanese Romance"; march, "The Outpost." 3.15 p.m.: Vocal variations. 3.25 p.m.: Johnston's Studio Boys—selection, "Faust." 3.30 p.m.: Vocal variations. 3.45 p.m.: Johnston's Studio Boys—selection, "Veronique." 3.55 p.m.: Vocal variations. 4.5 p.m.: Johnston's Studio Boys—selection, "Moonlight"; novelty trombone, "Sliding Jim." 4.15 p.m.: Vocal variations. 4.25 p.m.: Johnston's Studio Boys—selection, "Jessie Gem." 4.35 p.m.: Vocal variations. 4.45: Johnston's Studio Boys—selection, "Schubert's Works." 4.55 p.m.: Announcements. 5 p.m.: Close down.

EVENING SESSION

8 p.m.: Sweet solo from the operaphina. 7.45 p.m.: "The Results of Orchestral Shield cricket, South Australia v. New South Wales, at Adelaide.

NIGHT SESSION

8.30 p.m.: Prahran City Band—march, "The Silver Badge" (Rimmer); "Humoresque" (Dvorak). 8.35 p.m.: Keith Desmond—"Bright City Band." 8.40 p.m.: Prahran City Band—overture, "La Cazza Ladra" (Rossini); part song, "Sweet and Low" (Pinsuti), 9.2 p.m.: Vera Holgate Clarke (piano)—"Waltz in A Flat, Op. 42" (Chopin). 9.30 p.m.: "The Mirror" (Gopin). 9.35 p.m.: Minnor (Brahms). 9.15 p.m.: Prahran City Band—selection, "The Mikado" (Sullivan). 9.25 p.m.: Molly Mackay, soprano—"Blue Danube" (Strauss), "Bark, Bark, the Bark" (Schuber). 9.30 p.m.: Prahran City Band—"March of the Mannikins" (Fletcher). 9.42 p.m.: Keith Desmond—Barcarole, "Tales of Hoffman" (Offenbach); "Brighter and Better." 9.49 p.m.: Prahran City Band—valse, "Santa" (Brahms); "The Dream" (Hollan). 9.50 p.m.: Molly Mackay, soprano—"Da'fodil Gold" (Hodgson), "Everywhere I Look" (Carew). 10.6 p.m.: Prahran City Band—selection, "The Desert Song" (Romberg). 10.30 p.m.: The Commonwealth Evening Buzzer. 10.20 p.m.: News session—"Age" news service, exclusive to 3AR; announcements. 10.30 p.m.: "God Save the King."

4QG

EARLY MORNING SESSION.

7.43 a.m.: Time signals. 7.45 a.m.: News service. 8.0 a.m.: Some electric records. 8.15 a.m.: News service. 8.30 a.m.: Close down.

AFTERNOON SESSION.

From the racecourse, a description of the races. Items from the studio, and the Tivoli Theatre will be relayed between races. 5.0 p.m.: Close down.

EARLY EVENING SESSION.

6.0 p.m.: Mail train running times. Special "Queenslander" bi-weekly news service for distant listeners. 6.30 p.m.: Beachy stories, conducted by "Uncle Ben." 7.15 p.m.: To-day's race results in brief. 7.20 p.m.: General sporting notes. 7.30 p.m.: Selling notes, by Mr. Fred Smith.

NIGHT SESSION.

8.0 p.m.: Orchestral music. 8.15 p.m.: Motor-cycle races. 8.45 p.m.: Orchestral music. 9.15 p.m.: Dance music. 9.45 p.m.: Motor-cycle races. 10.0 p.m.: The "Sunday Mail" news, weather news. Close down.

5CL

MORNING SESSION.

Announcer: Athol Lykke. 11.0 a.m.: G.P.O. chimes. 11.1 a.m.: Last-minute selections of the Victorian meeting by Mr. Eric Welch, of 3LO, Melbourne. 11.5 p.m.: "Advertiser" general news service. 11.9 a.m.: British official wireless news. 11.15 a.m.: "A Sonora" recital from studio. H.M.V. recordings. 12.0 noon: G.P.O. chimes and close down.

AFTERNOON SESSION.

12.45 p.m.: From Victoria Park Racecourse, positions and riders of the first race, Licensed Victuallers' meeting. 1.0 p.m.: From Victoria Park, a running description of first race by Mr. Erenoid Treloar. 1.5 p.m.: From studio. A musical interlude. Modern dance numbers by world famous H.M.V. dance orchestras. 1.25 p.m.: From Victoria Park Racecourse, positions and riders of second race. 1.40 p.m.: From Victoria Park Racecourse, a running description of second race. 1.45 p.m.: From studio, vocal and instrumental numbers. Result of Over Handicap at Epsom Races. 2.5 p.m.: From Victoria Park Racecourse, Riders and positions of third race. 2.20 p.m.: From Victoria Park Racecourse. A running description of third race. 2.26 p.m.: From Adelaide Oval, N.S.W. v. S.A. 2.35 p.m.: From Victoria Park Racecourse, positions and riders of fourth race. 3.0 p.m.: From Victoria Park Racecourse, a running description of fifth race. 3.5 p.m.: From Adelaide Oval, Inter-State cricket, N.S.W. v. S.A. 3.25 p.m.: From studio. Result of Epsom Handicap. 3.26 p.m.: From Victoria Park Racecourse. A running description of Victoria Park Racecourse. 3.45 p.m.: From Adelaide Oval, Inter-State cricket, N.S.W. v. S.A. 4.4 p.m.: From studio. Result of Trial Purse, 6 furlongs. 4.5 p.m.: From Victoria Park Racecourse. Positions and riders of sixth race. 4.20 p.m.: From Victoria Park Racecourse. A running description of sixth race. 4.25 p.m.: From studio. Result of Welter Handicap, Epsom Races. 4.26 p.m.: From Adelaide Oval, Inter-State cricket, N.S.W. v. S.A. 4.45 p.m.: From Victoria Park Racecourse. Positions and riders of last race. 4.50 p.m.: Resume of afternoon's sporting. 5.0 p.m.: From Victoria Park Racecourse. A running description of last race. 5.10 p.m.: Close down.

EVENING SESSION.

5.50 p.m.: From Adelaide Oval, Inter-State cricket, N.S.W. v. S.A. 5.0 p.m.: G.P.O. clock chimes. 6.1 p.m.: Resume of sporting. 6.10 p.m.: Birthday greetings. Correspondence. Songs and stories. 6.40 p.m.: Diaper music. Sonora recital. 6.55 p.m.: Inter-Plate cricket scores. 7.0 p.m.: G.P.O. chimes. 7.1 p.m.: S. G. Ward and Co. Stock Exchange information. 7.5 p.m.: General market report. 7.8 p.m.: Inter-State and international cricket scores. New South Wales v. South Australia, England v. Tasmania. 7.10 p.m.: Rev. G. E. Hale, B.A. An Address on "The Poetry of Life." 7.25 p.m.: A resume of the day's cricket by "Willow." 7.35 p.m.: C. G. Riley. A talk on "Items of Interest." 7.47 p.m.: 5CL's sporting service by "Silvius," including Epsom results and Licensed Victuallers' races.

NIGHT SESSION.

Announcer: J. L. Norris. 8.0 p.m.: G.P.O. chimes. 8.1 p.m.: Metronola Dance Band in modern dance numbers. 8.4 p.m.: Hayden Male Quartet, "Two Rosas." "Juanita" 8.18 p.m.: Alan Kitson (entertainer) in piano specialties. 8.18 p.m.: Diana Belmont (contralto), "The Winds are Calling." "Love I Have Won You." 8.24 p.m.: Metronola Dance Band in modern dance numbers. 8.36 p.m.: Gertrude Gray (mezzo), "Now Sleeps the Crimson Petal." "Sylvan." 8.42 p.m.: Metronola Dance Band in modern dance numbers. 8.50: Hayden Male Quartet, "Sweet and Low." "Lovely Night." 9.2 p.m.: Alan Kitson (entertainer) in pianoforte interpretations. 9.8 p.m.: Diana Belmont (contralto), "Down in the Forest." "Prelude." 9.14 p.m.: Metronola Dance Band in modern dance numbers. 9.24 p.m.: Will Runge (humorist) in selected humorous sketches. 9.34 p.m.: Metronola Dance Band in modern dance numbers. 9.40 p.m.: Gertrude Gray (mezzo), "The Arrow and the Song." "Lady Moon." 9.48 p.m.: Will Runge (humorist) in selected humorous sketches. 9.56 p.m.: Metronola Dance Band in modern dance numbers. 10.15 p.m.: 5CL's sporting service. 10.30 p.m.: Our good-night thought, "Manners are more important than laws upon them in a great measure laws depend." 10.31 p.m.: On with the dance. From 3LO, Melbourne, modern dance numbers by the famous Radi-o-Aces. God Save the King.

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Mr. Frederick Chapman, whose talk on geology from 3LO to-night is the hundredth he has broadcast.

6WF

12 noon: Tune in. 12.5 p.m.: Musical programme, including pianoforte selections by Miss Audrey Dean. 12.47 p.m.: Markets, news, and cables. 1 p.m.: Time signal. 1.1 p.m.: Weather notes supplied by the Meteorological Bureau of West Australia; station announcements. 1.2 p.m.: Close down. 3.15 p.m.: Tune in. 3.20 p.m.: Racing results and general sporting news; musical programme from the studio, including vocal and instrumental numbers. 3.5 p.m.: Close down. 6.45 p.m.: Tune in. 6.48 p.m.: Stories for the kiddies by Uncle Duffy and the Radio Bird; fairy stories for the Tiny Tots by Auntie Amy. 7.5 p.m.: Sports results. 7.30 p.m.: Markets, news, and cables. 7.45 p.m.: Talk. 8 p.m.: Time signal. 8.1 p.m.: Weather notes supplied by the Meteorological Bureau of West Australia; station announcements, such as additions to programmes, etc. 8.3 p.m.: Musical programme from the studio, including vocal and instrumental artists; dance music by the Dance Symphonic Orchestra, relayed from Temple Court Cabaret. 9 p.m.: Late news; ships within range announcement; weather report and forecast; station announcements. 10.30 p.m.: Close down. 104.5 metre transmission: Simultaneous broadcast on 104.5 metres of programme given on 1250 metres, commencing at 6.45 p.m.

Next Week's Features

Watch for these features in next week's "Wireless Weekly":—
 Mr. Don B. Knock will describe, under the title, "Aerials," the various forms this important portion of the radio receiver takes. Zeppelin aerials, two wire, single wire, cage aerials, counterpoises, underground aerials, frame aerials, etc., will be described.
 Mr. Ray Allsop will describe how super-power broadcasting would benefit Australia.

7ZL

MIDDAY SESSION.

11.30 a.m.: Selections by the Melody Masters. 11.34 a.m.: Special midlands weather forecast. 11.35 a.m.: Selections by the Melody Masters. 11.55 a.m.: Tasmanian stations' 9 a.m. weather report. 12 noon: G.P.O. clock chimes the hour. 12.1 p.m.: Shipping information; ships within wireless range; mail notices; housewives' guide. 12.2 p.m.: Selections by the Melody Masters. 12.11 p.m.: British official wireless news. 12.20 p.m.: Selections by the Melody Masters. 12.29 p.m.: Announcements. 12.30 p.m.: Anticipations—3LO Melbourne commissioner's last-minute selections for the Melbourne races; also selections for Sydney races, by our special representative. 12.33 p.m.: Selections by the Melody Masters. 12.55 p.m.: "Mercury" news service. 1.10 p.m.: Selections by the Melody Masters. 1.30 p.m.: Close down. 1.15 p.m.: Running description of Two-year-old Handicap, run at Epsom racecourse, Epsom, Melbourne. 2.20 p.m.: Close down. 2.45 p.m.: Running description of Epsom Plate, run at Epsom racecourse, Epsom, Melbourne. 2.50 p.m.: Close down.

AFTERNOON SESSION.

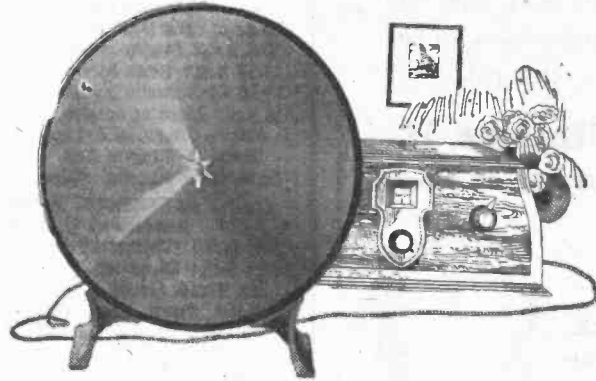
3.0 p.m.: G.P.O. clock chimes the hour. 3.1 p.m.: Cricket match, North-west v. Sandy Bay, described by A. M. O'Leary. 3.15 p.m.: Running description of Brush Steeplechase, run at Epsom racecourse, Epsom, Melbourne. 3.20 p.m.: Cricket match. 3.45 p.m.: Running description of Epsom Handicap, run at Epsom racecourse, Epsom, Melbourne. 3.50 p.m.: Cricket match. 4.0 p.m.: Selections by the Melody Masters. 4.15 p.m.: Running description of Epsom Purse, run at Epsom racecourse, Epsom, Melbourne. 4.20 p.m.: Cricket match. 4.45 p.m.: Running description of Apprentices' Handicap, run at Epsom racecourse, Epsom, Melbourne. 4.50 p.m.: All sporting results to hand. 5.0 p.m.: Close down. 6.0 p.m.: All sporting results to hand.

EARLY EVENING SESSION.

6.15 p.m.: Selections by the Melody Masters. 6.45 p.m.: "Uncle David" will entertain the wee folk. 7.0 p.m.: Answers to letters and birthday greetings, by "Uncle David." 7.5 p.m.: Selections by the Melody Masters. 7.15 p.m.: "Mercury" special news. Robert Stock Exchange quotations. To-day's golf, athletics, racing, cricket, "Mercury" late sporting news. Results of New Town egg-laying competition. Homing and bowling.

EVENING SESSION.

7.30 p.m.: Roy Johnson will give a talk on "Manual Training." 7.45 p.m.: A gripping tale of the ring, "The Fallen Star." 8.0 p.m.: G.P.O. clock chimes the hour. 8.6 p.m.: Selections by the Melody Masters. 8.30 p.m.: Transmission from the Continental, Macquarie Street, Hobart. Theo Pipping and his Continental Orchestra—"After My Laughter Came Tears" (Tunk). "Is It Gonna Be Long" (Cowan). "One Alone" (Romberg). "Lonesome in the Moonlight" (Bret). "Get Out and Get Under the Moon" (Tobias). "Beautiful" (Shay). "Sunshine" (Berlin). "Rio Rita" (Tierney). "Chiquita" (Wayne). "Desert Song" (Romberg). "My Angel" (Rapee). "It (Romberg). "The Man I Love" (Gershwin). "Let a Smile Be Your Umbrella" (Fair). "Varsity Drag" (De Sylva). "Mary Ann" (Silver). 10.20 p.m.: From the studio. "Mercury" special news service; ships within wireless range; Tasmanian district weather report; bowling, homing, cricket, and tennis. 10.45 p.m.: The Royal Autogar Club of Tasmania safety message. 10.50 p.m.: Our Tasmanian good-night thought. 10.51 p.m.: God Save the King. 10.52 p.m.: Close down.



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S2.

2FC

MORNING SESSION.

Announcer: A. S. Cochrane.

- 10 a.m.: "Big Ben" and announcements.
- 10.2 a.m.: Studio music.
- 10.15 a.m.: News service.
- 10.30 a.m.: Studio music.
- 11 a.m.: Morning service, broadcast from St. Mark's Church of England. Minister: Rev. Canon E. Howard Lea.
- 12.15 p.m.: Approx. Close down.

AFTERNOON SESSION.

Announcer: C. R. Hall.

- 2.30 p.m.: Programme announcements.
- 2.32 p.m.: Cheer-up Society, conducted by Mr. Frank Grose.
- 3 p.m.: From the Lyceum. Programme arranged by the Central Methodist Mission.
- Assisting Artists: Eleanor Statton, Lotys Lescaut, "Brunette Trio."
- Doxology.
- Prayer.
- Contralto solo, Eleanor Stanton.
- Ladies' Trio, Brunette Trio.
- Soprano solo, Lotys Lescaut.
- Ladies' trio, Brunette Trio.
- Notices, Offering.
- "Australia's Native Problem in the Pacific," Rev. J. W. Burton, M.A.
- Acknowledgments.
- National Anthem, Benediction.
- 4.30 p.m.: From the Studio, Recital of Selected Records.
- 5 p.m.: "Big Ben"; close down.

EVENING SESSION.

Announcer: Laurence Halbert.

- 6 p.m.: "Big Ben"; programme announcements.
- 6.2 p.m.: Song recital by Ward Morgan in association with Daisy Richards, violinist, and Kathleen Roe, pianiste.
- Songs: "The Minstrel" (Martin).
- "And so I made a Vilanelle" (Scott).
- "Song of Creation," from "Immortal Hour" (Boughton).

WARD MORGAN.

Violin solos: "Introduction and 1st Movement Scotch Phantasy" (Bruch).

"Praeludium and Allegro" (Kreisler).

DAISY RICHARDS.

Songs: "Five Eyes" (Gibbs).

"Wright it is" (Wightman).

"Wesbury Road."

"Randall" (Scott).

WARD MORGAN.

Violin solos, 32 Variations (Beethoven).

"Nightfall at Sea" (Phillips).

"As a Lovely Flower" (Cathie).

"Dirge."

WARD MORGAN.

Violin solos:

"Viennese Melody" (by request), (Kreisler).

"Allegretto" (Kreisler).

DAISY RICHARDS.

Pianoforte solo:

"Prelude and Fugue" (Bach).

KATHLEEN ROE.

6.55 p.m.: Evening service, broadcast from Pitt Street Congregational Church. Minister, Rev. T. E. Ruth.

- 8.30 p.m.: From the Arcadia Theatre, Chatswood, Organ Recital by Nicholas Robins.
- 9.30 p.m.: From the Studio, John Mitchell, tenor.
- 9.37 p.m.: Kathleen Roe, pianiste.
- 9.44 p.m.: John Mitchell, tenor.
- 9.51 p.m.: Kathleen Roe, pianiste.
- 9.58 p.m.: Recital by selected Records.
- 10.30 p.m.: National Anthem; close down.

2BL

MORNING SESSION.

Announcer: A. C. C. Stevens.

- 10.50 a.m.: Morning Service broadcast from Bourke Street Congregational Church. Minister, Rev. Sydney Herbert Cox.
- 12.15 p.m.: Approx., From the Studio, "Sun" news service.
- 12.30 p.m.: Studio music.
- 2 p.m.: G.P.O. clock and chimes; close down.

AFTERNOON SESSION.

Announcer: J. Knight Barnet.

- 3 p.m.: Studio music.
- 3.30 p.m.: From the Band Rotunda, Manly Beach, Manly Band, conducted by J. Pheloung.
- 4.30 p.m.: Studio music.
- 5 p.m.: G.P.O. clock and chimes; close down.

EVENING SESSION.

Announcer: J. Knight Barnet.

- 6 p.m.: G.P.O. clock and chimes; Children's Session, conducted by Uncle Peter.
- 6.20 p.m.: Letters and stories.
- 6.30 p.m.: Studio music.
- 7.15 p.m.: Evening Service, broadcast from Chalmers Street Presbyterian Church. Minister, Rev. D. F. Brandt.
- 8.30 p.m.: From the Band Rotunda, Manly Beach, The Manly Municipal Military Band, conducted by J. Pheloung.
- 9.30 p.m.: From the Studio, Alfred Cunningham, baritone.
- 9.37 p.m.: Gerald Walenn, violinist.
- 9.44 p.m.: Alfred Cunningham, baritone.
- 9.51 p.m.: Gerald Walenn, violinist.
- 9.57 p.m.: Weather forecast.
- 10 p.m.: National Anthem; close down.

2UW

- 10.30 a.m.: Music. 1 p.m.: Close down.
- 5.30 p.m.: Children's Hour, conducted by Uncle Jack. 6.30 p.m.: Close down. 7 p.m.: Musical programme. 10 p.m.: Close down.

2GB

- 10.15 a.m.: Organ music, from St. Alban's Church, Redfern. 10.30 a.m.: Morning service. 12.0 Noon: Close down. 5.30 p.m.: Children's session. 7.0 p.m.: Lecture, from Adyar Hall. 8.0 p.m.: Sacred concert, from Adyar Hall. 8.15 p.m.: Violin solos, by Mr. Cecil Berry. 8.25 p.m.: Songs, by Miss Elsie Brown. 8.32 p.m.: Flute solos, by Mr. Leslie Sproule. 8.40 p.m.: Recital, by Mr. Heath Burdock. 8.50 p.m.: Cello solos, by Mr. Cedric Ashton. 8.58 p.m.: Songs, by Miss Elsie Brown. 9.5 p.m.: Violin solos, by Mr. Cecil Berry. 9.14 p.m.: Flute solos, by Mr. Leslie Sproule. 9.21 p.m.: Recital, by Mr. Heath Burdock. 9.31 p.m.: Cello solos, by Mr. Cedric Ashton. 9.40 p.m.: Close down.

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Interstate Programmes, Sun., Jan. 13

3LO

MORNING SESSION

Announcer: C. J. O'Connor. 10.30 a.m.: Bells from St. Paul's Cathedral. 10.45 a.m.: Express train information; British Official Wireless News from Rugby; news from yesterday's papers. 11 a.m.: Morning service from Scots Church, Melbourne. Preacher: The Rev. Dr. W. Borland. Psalm: (Metrical Version), 81 v. 1-5, "How Lovely is Thy Dwelling Place." Prayer. Prose Psalms: 99 and 100, "The Lord Reigneth." Old Testament. Lesson: 2 Samuel, 24, v. 1-10. Hymn: No. 169, "O, For a Thousand Tongues." Prayer of Intercession. New Testament. Lesson: St. Mark, 20, v. 20-28. Anthem. The Lord's Prayer. The congregation standing will unite. Sermon: "The Sin of Counting Heads," 1 Chron. 21, v. 1, and 7. Prayer, Intimations, Offering. Hymn: No. 91, "All Hail the Power of Jesus' Name." 12.15 p.m.: Close down.

AFTERNOON SESSION

Announcer: C. J. O'Connor. 2 p.m.: Sonora recital of the world's most famous records. 3 p.m.: Pleasant Sunday afternoon, Wesley Church Central Mission, Lonsdale Street, Melbourne. Chairman, Rev. J. H. Cain. Hymn No. 113, "All People That on Earth Do Dwell." Orchestral selection, Mr. C. M. Williams, conductor. Hymn No. 82, "Mine Eyes Have Seen the Glory." Soloist: Miss Dorothy Humphreys. Orchestra. Soloist: Miss Dorothy Humphreys. 4.30 p.m.: Close down.

Announcer: C. J. O'Connor. 5.45 p.m.: Shipping information. 5.47 p.m.: Answers to letters and birthday greetings by "Plain Peter." 6.25 p.m.: Capt. Donald MacLean will tell you "A Tale of Long Ago." 6.45 p.m.: Adult birthday greetings and programme announcements. 6.47 p.m.: Bells from St. Paul's Cathedral.

NIGHT SESSION

Accompanist: Mabel Nelson. Announcer: C. J. O'Connor. 7 p.m.: Evening service from Central Mission, Wesley Church, Lonsdale Street, Melbourne. Conducted by Rev. C. Irving Benson. Introit: "The Lord is in His Holy Temple." Prayer: The Outer Gate. Hymn: "Heavenly Father, Thou Hast Brought Us." Prayer: The Inner Court. Anthem: Scripture reading; intimations and offerings. Anthem. Hymn, "Our Blest Redeemer." Sermon. Hymn: "Now the Day is Over." 8.30 p.m.: Malvern Tramways Band; Selection, "Gems from Gilbert and Sullivan's Operas" (Gilbert). 8.40: Myrtle Walscott, contralto, "O Rest in the Lord" (Mendelssohn). 8.47: Malvern Tramways Band; March, "Australasian" (Rimmer). 8.52 p.m.: Raymond Lambert, piano; Nocturne for Lefthand Only (Scriabine), "Scherzo in E Flat" (De Bolk). 9.2 p.m.: Harold Browning, baritone, will give a recital of songs by modern British composers, with explanatory remarks. 9.15 p.m.: Malvern Tramways Band; Waltz, "Fascination" (Rimmer). 9.20 p.m.: F. Stempinski, violin—Symphonie Espagnole (Lalo), Minuet in D (Mozart). 9.30 p.m.: Myrtle Walscott, contralto; "I Lift My Heart to Thee" (Costa), "Come Unto Me" (Koelmann). 9.37 p.m.: Malvern Tramways Band; Selection, "Faust" (Gounod). 9.50 p.m.: "Argus" news session; announcements. 10 p.m.: Close down.

3AR

MORNING SESSION.

Announcer: Frank Hatherley. 11.0 a.m.: Morning service from St. Paul's Cathedral. Sentence. Exhortation. Absolution. Lord's Prayer. Versicles and Responses. Venite. Psalms 46 and 47. First Lesson. Te Deum. Second Lesson. Benedictus. The Apostles' Creed. Collects. Hymn 297 (A. and M.), "Songs of Praise the Angels Sang." The Litany. Hymn 78, "The Heavenly Child in Stature Grows." Sermon. Rev. T. H. Dewhurst. Hymn 193, "Jesus Lover of My Soul." Benediction. 12.15 p.m.: Close down.

AFTERNOON SESSION.
3.0 p.m.: "Sweet Solace from the Seraphina."
4.30 p.m.: Close down.

EVENING SESSION

5.0 p.m.: "Erer Rabbit." A story for the children.
5.30 p.m.: Close down.

NIGHT SESSION.

Announcer: Frank Hatherley. 7.0 p.m.: A Bravura of Beautiful Ballads. A. S. Kenyon will speak on "The Australian Aborigines." More Beautiful Ballads. 9.47 p.m.: News Announcements. 10.0 p.m.: God Save the King.

4QG

MORNING SESSION.

11.0 p.m.: From the Baptist City Tabernacle, morning service. 12.15 p.m.: Close down.

AFTERNOON SESSION.

3.15 p.m.: The concert by the Citizens' Band (conductor, Mr. A. Kaesser) will be relayed from the Botanic Gardens. 4.30 p.m.: Close down.

EARLY EVENING SESSION.

6.30 p.m.: Greetings from little listeners and replies to letters.

NIGHT SESSION.

7.0 p.m.: From the Baptist City Tabernacle, children's service. 7.30 p.m.: Evening service. At the conclusion of the church service the concert by the Erskine Municipal Concert Band will be relayed from Wickham Park. 9.30 p.m.: Close down.

6WF

10.25 a.m.: Tune in. 10.30 a.m.: Special half-hour for the enthusiastic listener. 11 a.m.: Morning service relayed from Trinity Church, St. George's Terrace, Perth. 12.15 p.m.: Close down. 3.30 p.m.: Tune in. 3.35 p.m.: Musical programme from the studio, including vocal and instrumental artists. 4.30 p.m.: Close down. 7 p.m.: Tune in. 7.5 p.m.: Children's bedtime stories. 7.30 p.m.: Evening service relayed from St. George's Cathedral, Perth. 8.45 p.m.: Concert by the Perth City Band, conducted by Mr. L. M. Price, and items by vocal assisting artists, relayed from Government Gardens, Perth. 10.5 p.m.: Close down. 104.5 metre transmission: Simultaneous broadcast on 104.5 metres of programme given on 1250 metres, commencing at 7 p.m.

7ZL

MORNING SESSION.

10.45 a.m.: Transmission from the Trinity Church, Hobart, Trinity Bells. 11.0 a.m.: Transmission from Memorial Congregational Church, Hobart. Preacher, Rev. Arthur C. Nelson. Subject: Scripture. John 21-1, 25. 12.30 p.m.: Close down.

AFTERNOON SESSION.

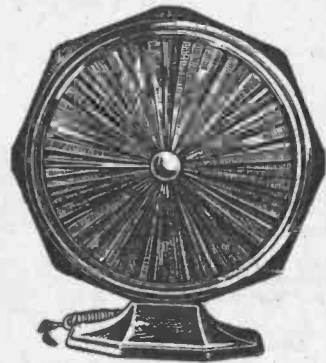
3.30 p.m.: G.P.O. clock chimes the hour. 3.31 p.m.: Transmission from the Beaumaris Zoo, Hobart. A band concert by the Municipal Band (conductor L. M. Barnett). 4.30 p.m.: Close down.

EARLY EVENING SESSION.

6.15 p.m.: Chorus singing. Conductor, Trevor M. Morris, of Children's Special Service Mission.) 6.45 p.m.: Bertha Southey Brammall will read poems.

EVENING SESSION

7.0 p.m.: Transmission from Chalmers Presbyterian Church, Bathurst Street, Hobart. Preacher, Rev. Crookston. 8.25 p.m.: A programme of sacred and classical music arranged by J. M. Counsel. 9.40 p.m.: News session. 9.50 p.m.: Our Tasmanian good-night thought. God Save the King. Close down.



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Local Programmes, Monday, January 14

2FC

EARLY MORNING SESSION.

Announcer: A. S. Cochrane.

7.0 a.m.: "Big Ben" and announcements.
7.2 a.m.: Official weather forecast; rainfall; river reports; temperatures; astronomical memoranda. 7.7 a.m.: "Sydney Morning Herald" summary. 7.12 a.m.: Shipping intelligence; mail services. 7.15 a.m.: Studio music. 7.25 a.m.: Investment market; mining share markets; metal quotations; wool sales; breadstuffs markets; inter-State markets; produce markets. 7.40 a.m.: Studio music. 8.0 a.m.: "Big Ben." Close down.

MORNING SESSION.

Announcer: A. S. Cochrane.

10.0 a.m.: "Big Ben" and announcements. 10.2 a.m.: Pianoforte reproduction. 10.10 a.m.: "Sydney Morning Herald" news service. 10.25 a.m.: Studio music. 10.30 a.m.: A talk by the 2FC Racing Commissioner. 10.45 a.m.: A talk on Home Cooking and Recipes, by Miss Ruth Furst. 11.0 a.m.: "Big Ben"; A.P.A. and Reuter's cable services. 11.5 a.m.: Close down.

MIDDAY SESSION.

Announcer: A. S. Cochrane.

12.0 Noon: "Big Ben" and announcements. 12.1 p.m.: Stock Exchange, first call. 12.3 p.m.: Official weather forecast; rainfall. 12.5 p.m.: Studio music. 12.10 p.m.: Summary of news. "Sydney Morning Herald." 12.15 p.m.: Rugby wireless news. 12.18 p.m.: A reading. 12.30 p.m.: Studio music. 12.45 p.m.: Cricket scores, England v. Tasmania, played at Launceston. 12.47 p.m.: Studio music. 1.0 p.m.: "Big Ben"; weather intelligence. 1.3 p.m.: "Evening News" midday news service; Producers' Distributing Society's report. 1.20 p.m.: Studio music. 1.28 p.m.: Stock Exchange, second call. 1.30 p.m.: Popular studio music. 1.57 p.m.: Cricket scores. 2.0 p.m.: "Big Ben." Close down.

AFTERNOON SESSION.

Announcer: Laurence Halbert.

2.30 p.m.: Programme announcements. 2.32 p.m.: Record recital of world-famous artists. 2.45 p.m.: Talk, by Miss B. Macaulay, in continuation of her series, "Your Son." 3.0 p.m.: "Big Ben." Pianoforte reproduction. 3.15 p.m.: Popular music. 3.30 p.m.: Dawn Harding, mezzo—(a) "An Epitaph" (Besly); (b) "Master Carol" (Shaw). 3.37 p.m.: Slim Solomon, violinist—(a) "La Capricieuse" (Elgar); (b) "Melody" (Dawes). 3.44 p.m.: Cricket scores, England v. Tasmania. 3.45 p.m.: A reading. 4.0 p.m.: "Big Ben." From the Lyceum, the Lyceum Orchestra, under the conductorship of Frank McCann. 4.10 p.m.: From the Studio—Dawn Harding, mezzo, (a) "Death and the Maiden" (Schubert); (b) "Impatience" (Schubert). 4.17 p.m.: Slim Solomon, violinist—(a) "Menuet" (Beethoven); (b) "Gipsy Airs" (Sarasate). 4.24 p.m.: Popular music. 4.30 p.m.: From the Lyceum—The Lyceum Orchestra, under the conductorship of Frank McCann. 4.44 p.m.: From the Studio—Third call of the Stock Exchange. 4.47 p.m.: Popular music. 5.0 p.m.: "Big Ben." Close down.

EARLY EVENING SESSION.

Announcer: A. S. Cochrane.

5.40 p.m.: The Chimes of 2FC. 5.45 p.m.: The children's session, conducted by the "Hello Man," and assisted by Miss Dorothy Vautier; letters and stories; music and entertainment. 6.30 p.m.: Dalgety's market reports (wool, wheat, and stock). 6.40 p.m.: Fruit and vegetable markets. 6.43 p.m.: Stock Exchange information. 6.45 p.m.: Weather and shipping news. 6.48 p.m.: Rugby wireless news. 6.50 p.m.: Late sporting news. 7.0 p.m.: "Big Ben"; late news service. 7.10 p.m.: The 2FC Dinner Quartette, conducted by Mr. Horace Keats—(a) "Peacock Alley" (Hay); (b) "Chiquita" (Wayne); (c) "A Song Remembered" (Coates); (d) "Rosemarie" (Friml); (e) "Roses of Ispaham" (Van Phillips).

EVENING SESSION.

Announcer: Laurence Halbert.

Accompanist: Ewart Chapple.
7.40 p.m.: Programme announcements.
7.45 p.m.: Pianoforte reproduction.
7.52 p.m.: Cricket results, Tasmania v. England, played at Launceston.
7.54 p.m.: Popular music.

8.0 p.m.: "Big Ben." From the Haymarket Theatre, the Haymarket Theatre Orchestra, under the baton of Sydney Porter.
8.20 p.m.: From the Studio—The Ashfield Choral and Musical Society.
8.30 p.m.: The Light Music Four, instrumental, "La Fille Du Tambour Major" (Offenbach).
8.40 p.m.: Gwladys Evans, soprano—
(a) "Il Pastore Canta" (Rech).
(b) "She Wandered Down the Mountain Side" (Clay).
8.47 p.m.: The Light Music Four, instrumentalists—
"Suite Romanesque" (Besly).
Sunday morning.
8.57 p.m.: A. G. McDonald, baritone—
(a) "Thank Me Not" (Mallinson).
(b) "Sing, Break Into Song" (Mallinson).
9.4 p.m.: Weather report.
9.5 p.m.: The Light Music Four, instrumentalists—
(a) "Over the Steppe" (Gretchaninoff).
(b) "Song of the Book" (Lack).
(c) "Scherzo" (Centola).
9.15 p.m.: The Ashfield Choral and Musical Society.
9.25 p.m.: From the Haymarket Theatre—The Haymarket Theatre Orchestra, under the baton of Stanley Porter.
9.45 p.m.: From the Studio: Gwladys Evans, soprano—
(a) "Desire" (Goldberg).
(b) "Cupid" (Goldberg).
9.52 p.m.: A. G. MacDonald, baritone—
(a) "Fill a Glass With Golden Wine" (Quilter).
(b) "O, Mistress Mine" (Quilter).
10.0 p.m.: The Light Music Four, instrumentalists—
(a) "At the Inn" (Massenet).
(b) "Consolation, No. 3" (Liszt).
10.15 p.m.: The Ashfield Choral and Musical Society.
10.27 p.m.: To-morrow's programme.
11.30 p.m.: National Anthem. Close down.

2BL

MORNING SESSION.

Announcer: A. C. C. Stevens.

8 a.m.: G.P.O. clock and chimes; metropolitan weather report. 8.1 a.m.: State weather report. 8.2 a.m.: Studio music. 8.15 a.m.: G.P.O. clock and chimes; news service from the "Daily Telegraph Pictorial." 8.25 a.m.: Studio music. 8.50 a.m.: G.P.O. clock and chimes; Studio music. 8.35 a.m.: Information, mails, shipping, arrivals, departures, and sailings. 8.38 a.m.: News from the "Daily Telegraph Pictorial." 8.45 a.m.: G.P.O. chimes; Studio music. 9 a.m.: G.P.O. clock and chimes; Studio music. 9.30 a.m.: Half an hour with silent friends. 10 a.m.: G.P.O. clock and chimes; close down.

MIDDAY SESSION.

Announcer: J. Knight Barnett.

11 a.m.: G.P.O. clock and chimes; 2BL Women's Sports Association Session, conducted by Miss Gwen Varley. 11.30 a.m.: Advertising hints. 11.40 a.m.: Women's session, conducted by Mrs. Cranfield. 12 noon: G.P.O. clock and chimes; special ocean forecast and weather report. 12.3 p.m.: Studio music, 12.30 p.m.: Shipping and mails. 12.35 p.m.: Market reports. 12.45 p.m.: Cricket scores, England v. Tasmania, played at Launceston. 12.48 p.m.: "Sun" midday news service. 1 p.m.: Studio music. 1.35 p.m.: Talk to children and special entertainment for children in hospital. 1.57 p.m.: Cricket scores. 2 p.m.: G.P.O. clock and chimes; close down.

AFTERNOON SESSION.

Announcer: J. Knight Barnett.

Accompanist: Kathleen Roe.
3.45 p.m.: G.P.O. clock and chimes; cricket scores, England v. Tasmania. 3.46 p.m.: Pianoforte reproduction. 4 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams. 4.10 p.m.: Jeanne Byndon, contralto, from the Studio, (a) "Sand Castles" (Leoni), (b) "I Know a Bank" (Martin Shaw), (c) "Oasis" (Hewitt). 4.17 p.m.: Edward Evans, baritone. 4.20 p.m.: Captain Fred. Aarons, mystery story, "The House Slide"; cricket scores, England v. Tasmania. 4.35 p.m.:

Popular music. 4.40 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams. 4.50 p.m.: From the Studio, Jeanne Byndon, contralto, (a) "Only One England" (Smith), (b) "The Blind Ploughman" (Comings Clarke). 4.57 p.m.: Edward Evans, baritone. 5.4 p.m.: "Sun" news service. 5.10 p.m.: Pianoforte reproduction. 5.20 p.m.: Popular music. 5.37 p.m.: Features of the evening's programme.

EARLY EVENING SESSION.

Announcers: J. Knight Barnett, Basil Kirke.
5.40 p.m.: Children's session; music and entertainment. 6 p.m.: Letters and stories. 6.30 p.m.: "Sun" news and late sporting. 6.40 p.m.: 2BL Dinner Quartet (a) "Rusticanello" (Cortopassi), (b) "Was it a Dream" (Coslow), (c) "High Jinks" (Friml), (d) "Saskatchewan" (Gilbert), (e) "O, Star of Eve" (Wagner), (f) "A Kiss before the Dawn" (Perkins). 7.10 p.m.: Cricket scores, England v. Tasmania. 7.12 p.m.: Australian Mercantile Land and Finance Co.'s report; weather report and forecast by courtesy of Govt. Meteorologist; Producers' Distributing Society's fruit and vegetable market report; grain and fodder report ("Sun"); dairy produce report ("Sun"). 7.25 p.m.: Mr. Pim and Miss Pam in advertising talks and nonsense. 7.55 p.m.: Programme and other announcements.

EVENING SESSION.

Announcer: Basil Kirke.

Accompanist: G. Vern Barnett.

8 p.m.: G.P.O. clock and chimes; The Savoyans' Dance Band.
8.15 p.m.: Poppy Plant and Peg. Page, popular vocal duets.
8.25 p.m.: Charles Lawrence, entertainer.
8.35 p.m.: Edward Gregory, saxophonist.
8.42 p.m.: A Debate conducted by the Y.M.C.A. Debating Team. Affirmative, Messrs. R. Kidson, A. Simpson, and George Snow. Negative, Messrs. R. Chapple, L. Starke, and D. McLeod.
9.22 p.m.: The Savoyans' Dance Band.
9.32 p.m.: Poppy Plant and Peg. Page, popular vocal duets.
9.42 p.m.: "Sydney By Night"—a novel feature to place, following a vivid description by our announcer who is travelling Sydney streets in a car fitted with a transmitting set, describing the various points of interest.
9.52 p.m.: From the Studio, Charles Lawrence, entertainer.
10.2 p.m.: Edward Gregory, saxophonist.
10.9 p.m.: "Sydney by Night."
10.19 p.m.: From the Studio, The Savoyans' Dance Band.
10.30 p.m.: Late weather report and forecast.
10.32 p.m.: The Savoyans' Dance Band.
10.57 p.m.: Resume of following day's programme.
11 p.m.: The Savoyans' Dance Band. During intervals between dance items "Sun" news will be given.
11.30 p.m.: National Anthem.

2GB

10.0 a.m.: Music. 10.10 a.m.: Happiness talk, by A. E. Bennett. 10.20 a.m.: Music. 10.30 a.m.: Women's session, by Miss Helen J. Beegling. 11.30 a.m.: Close down. 2.0 p.m.: Music. 2.5 p.m.: Women's radio service, by Mrs. Dorothy Jordan; Pat Hansen; sports talk. 2.50 p.m.: Music. 3.0 p.m.: Talk. 3.15 p.m.: Close down. 5.30 p.m.: Children's session, by Uncle George. 7.0 p.m.: Stock and market reports, by New Zealand Loan and Mercantile Agency, Ltd. 7.15 p.m.: Music. 8.0 p.m.: Songs, by Miss Lorraine Lincey. 8.10 p.m.: Items, by the Newtown Band; conductor, Mr. C. Bignall. 8.30 p.m.: A humorous interlude, by Mr. Jack Win and Mr. Heath Burdock. 8.40 p.m.: Songs, by Mr. Leslie Herford. 8.50 p.m.: Pianoforte solo, by Miss Ada Brook. 9.0 p.m.: Weather report; address. 9.15 p.m.: Songs, by Miss Lorraine Lincey. 9.25 p.m.: Items by the Newtown Band. 9.55 p.m.: A humorous interlude. 10.0 p.m.: Songs, by Mr. Leslie Herford. 10.10 p.m.: Orchestral music. 10.30 p.m.: Close down.

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To country residents—Have you electric light and power in your home? If not, drop a note to the Clyde Battery Service Station, 106-110 Goulburn Street, Sydney. You will receive in return a copy of an attractive little booklet describing Clyde Home-Lighting Batteries. This, of course, entails no obligation.

CLYDE

Clyde Batteries for radio, cars and home-lighting are made by the Clyde Engineering Co. Ltd., Granville, N.S.W., largest manufacturers of storage batteries in Australia.

Obtainable at all radio dealers and garages throughout the Commonwealth.

Interstate Programmes, Monday, January 14

3LO

EARLY MORNING SESSION.

7.5 a.m.: Express train information. 7.15 a.m.: Morning melodies. 7.20 a.m.: Morning exercises to music. 7.30 a.m.: Stock reports. Market reports. General news. Shipping. Sporting information. 8.0 a.m.: Melbourne Observatory time signal. 8.1 a.m.: Morning melodies. 8.15 a.m.: Close down.

MORNING SESSION.

Announcer: Frank Hatherley. 11.0 a.m.: 3LO's different dances for the daily dinner. To-day's radio recipe. 11.15 a.m.: Miss Olga Parker. Stories to tell the children. What some famous poets have written for children—Browning. 11.30 a.m.: Musical Interlude. 11.35 a.m.: Under the auspices of the Workers' Educational Association, Mr. G. F. Brown will speak on "An Adventure in Adult Education." 11.40 a.m.: Musical Interlude. 11.45 a.m.: Under the auspices of the Safety Council of Victoria, Mr. H. J. Book will speak on "Some Aspects of Safety."

MIDDAY NEWS SESSION.

12.0 noon: Melbourne Observatory time signal. Express train information. 12.1 p.m.: British official wireless news from Rugby. Reuter's and the Australian Press Association cables. "Argus" news service. 12.15 p.m.: Newmarket stock sales. Special report by John McFarlane and Co. 12.20 p.m.: Community singing transmitted from the Auditorium, Collins Street. Conductor, G. J. MacKay. Moran Hilford (basso) (by permission J. C. Williamson, Ltd.). "The Garonne." "The Captain's Ditty." Selected. 1.45 p.m.: Stock Exchange information. Meteorological information. Weather forecast for Victoria, New South Wales, Tasmania, and South Australia. Ocean forecasts. River reports. Rain-fall. 1.55 p.m.: Close down.

AFTERNOON SESSION.

Announcer: Frank Hatherley. Accompanist: Agnes Fortune. 1.55 p.m.: The Strat Trio. "Trio in G Minor" (Lava). "Variazioni-Allegretto Scherzando. Andante-Allegro Moderato." 2.30 p.m.: Bernard Manning (bass-baritone) (by permission J. C. Williamson, Ltd.). "When the King Went Forth to War." "The Three Roads" (Kohlmann). 2.37 p.m.: Frank Johnstone (cello). "Hungarian Rhapsody" (Popper). 2.44 p.m.: Cecil Parker and May Brock (violin and piano). "Sonata E Flat, No. 5" (Mozart). Allegro. Rondo. 2.53 p.m.: Violet Jackson (soprano). "Moonlight" (Schumann). "Cradle Song" (Schubert). 3.0 p.m.: The Strat Trio. "Canon" (Lava). "L'Avanture" (Lava). "Menuet in E Flat" (Beethoven). "Scherzo" (Reisigner). 3.12 p.m.: Captain Donald MacLean will continue his series of "Pirate" stories. 3.30 p.m.: The station orchestra. Overture. "Merry Wives of Windsor" (Nicola). 3.40 p.m.: Bernard Manning (bass-baritone). "Simon the Cellarer" (Hattori). "King Charles" (White). 3.47 p.m.: The station orchestra. Suite. "Le Deux Pigeons" (Messager). 3.55 p.m.: Keith Desmond (elocutionist) will give a short recital. 4.2 p.m.: Percy Code (trumpet). "For You Alone" (Czech). 4.7 p.m.: The station orchestra. Selection. "The Student Prince" (Romberg). 4.17 p.m.: Violet Jackson (soprano). "Strawberries" (Oliver). "Early One Morning" (old English). 4.25 p.m.: The station orchestra. Selection. "Romeo and Juliet" (Gounod). 4.30 p.m.: Keith Desmond (elocutionist) will give a short recital. 4.42 p.m.: Joseph Barrille (flute). "Belle Espagnola" (Tobani). 4.47 p.m.: The station orchestra. "Andante from Symphony in G" (Mozart). Suite. "In Arcady" (Nevin). 5.0 p.m.: Herald news service. Stock Exchange information. Programmes scores in the Cricket match, England v. Tasmania, at Launceston, will be broadcast as they come to hand; also N.S.W. v. South Australia, at Adelaide. 5.10 p.m.: Close down.

EVENING SESSION.

Announcer: Frank Hatherley. 6.0 p.m.: Answers to letters and birthday greetings by "Bobby Blue-gum." 6.25 p.m.: Musical Interlude. 6.30 p.m.: Captain Donald MacLean will tell you more thrilling "Pirate" adventures. 6.45 p.m.: "Bobby Blue-gum," songs and stories.

NIGHT SESSION.

Announcer: C. J. Connor. Accompanist: Agnes Fortune. 7.5 p.m.: Stock Exchange information. 7.15 p.m.: Market reports. 7.30 p.m.: News session. "Stumps scores, cricket match, England v. Tasmania, at Launceston will be broadcast as they come to hand; also N.S.W. v. South Australia, at Adelaide." 7.43 p.m.: Birthday greetings. 7.45 p.m.: Out of the Past. 7.46 p.m.: Under the auspices of the Department of Agriculture, Mr. W. C. Rugg, poultry inspector, will speak on "Poultry Keeping: Seasonable Hints." 8.0 p.m.: A Maker of History. 8.1 p.m.: Transmission from the Tivoli Theatre (by permission Tivoli Theatres, Ltd.). Ernest Oram and his Tivoli orchestra. 9.15 p.m.: Professor R. J. A. Berry. "Chicago, the City of Superlatives." 9.30 p.m.: The station orchestra. "Rural Scenes and Dances" (Albion Matt). 9.37 p.m.: Olive Painter (mezzo-soprano). "La Serenata" (Tosti). "Dennis" (Richardson). 9.44 p.m.: The station orchestra. Suite of dances. "My Native Heath" (Wood). 9.54 p.m.: Olive Painter (mezzo-soprano). "My Laddie." "Fairings" (Easthope-Martin). 10.1 p.m.: Myrtle (violinist). "Romance" (Svendsen). 1.8 p.m.: The station orchestra. Suite. "Harvest Time" (Haydn Wood). 10.18 p.m.: "Argus" news session. Eric Welch's selections for the Warrnambool Races, Tuesday, 15th. 10.28 p.m.: Bernard Manning (bass-baritone) (by permission J. C. Williamson, Ltd.). 10.35 p.m.: Keith Desmond (elocutionist) will give a short recital. 10.42 p.m.: The station orchestra. "The Voice of the Bells" (Thurban). 10.47 p.m.: Bernard Manning (bass-baritone). "Till I Wake" (Finden). "The Tivoli Flinders." "Our Great Thought for to-day is: 'It is easy to

be philosophical over other people's troubles."— (Modern proverb). 10.55 p.m.: The Radi-o-Aces. "Sally Rose" (Friend). "Sincerely I Do" (Davis). "The Frune Song" (Crumit). "Sleepy Baby" (Kahn). "Get Out and Get Under the Moon" (Tobias). "That's My Weakness Now" (Steept). "Tiger Rag" (Moore). "Dream House" (Fox). "Jeannine" (Gilbert). "Day Dreams" (Hallam). "Mississippi Mud" (Harris). "Ups and Downs" (Rose). "Goodnight Wozz" (Ebo). "Good-night Chorus. 11.40 p.m.: God Save the King. "Good-night

3AR

Announcer: Frank Hatherley. 10.0 a.m.: G.P.O. clock says "Ten." 10.11 a.m.: "Age" Stock Exchange reports; London metal market. 10.10 a.m.: "Age" market reports; farm and station produce; fruit, fish, vegetables, etc. 10.25 a.m.: "Age" shipping reports; ocean forecast. 10.30 a.m.: Mail notices; express train information. 10.35 a.m.: "Age" news service, exclusive to 3AR. 10.59 a.m.: Weather forecast.

MORNING MUSICAL SESSION.

11.0 a.m.: Ned Tyrrell's Radi-o-Aces—"Chiquita" (Wayne). "Dream House" (Fox). "Jeannine" (Gilbert). "Get out and get under the moon" (Tobias). "Sunshine" (Berlin). "A Stolen Melody" (Fisher). 11.20 a.m.: Vocal variations. 11.26 a.m.: Ned Tyrrell's Radi-o-Aces—"Please tell me" (Miller). "Adorée" (Silver). "You're in love, I'm in love" (Donaldson). "Never before, never again" (Chik). "Laugh, clown, laugh" (Young). 11.48 a.m.: Vocal variations. 11.52 a.m.: Ned Tyrrell's Radi-o-Aces—"Sticky Faws" (Andrina). "Why haven't we got the Sunday every day" (Summers). "Loved Me" (Willson). "What a baby" (Whiting). "What's my weakness now" (Steept). 12.12 p.m.: Vocal variations. 12.18 p.m.: British official wireless news; announcements. 1.24 p.m.: Ned Tyrrell's Radi-o-Aces—"Get out and get under the moon" (Tobias). "Somebody's crazy about you" (Murphy). "What a baby" (Whiting). "What do I care what somebody said" (Woods). "Forever more" (Edwards). "Vocal variations. 1.36 p.m.: Ned Tyrrell's Radi-o-Aces—"Nebraska" (Sisllill). "Angela Mia" (Rappe). "Kiss before the dawn" (Perkins). "Parting with you" (Conley). "Choo" (Kahn). 1.56 p.m.: Vocal variations. 1.12 p.m.: Ned Tyrrell's Radi-o-Aces—"Lonely in crowd" (Greer). "Louisiana" (Schafer). "My blackbirds are bluebirds now" (Friend). "Guess who's in town" (Razay). "Because my baby don't mean maybe now" (Donaldson). 1.30 p.m.: Close down.

EVENING SESSION.

Announcer: Frank Hatherley. 8.0 p.m.: Sweet solace on the Seraphina. 7.50 p.m.: Results of cricket, England v. Tasmania, South Australia v. New South Wales, at Adelaide.

NIGHT SESSION.

8.0 p.m.: E. V. Brooke, Vice-Commodore of the St. Kilda Dinghy Club, will speak on "The Australian 14ft. Dinghy Championship, to be held in Melbourne on the 24th, 25th and 26th January." 8.15 p.m.: Tristan N. N. Buest will speak under the auspices of the League of Nations' Union. 8.30 p.m.: H. Webb, Manager of the Tasmanian Government Tourist Bureau, will speak on "An Old Tasmanian Worthy." 8.40 p.m.: Ned Tyrrell's Radi-o-Aces—"Chiquita" (Wayne). "Last Night I dreamed you kissed me" (Kahn). "Tin Pan Parade" (Gillespie). 8.50 p.m.: Violet Jackson, soprano. "My Heart is sad or somebody's Heart" (Bells). 9.24 p.m.: 8.57 p.m.: Ned Tyrrell's Radi-o-Aces—"Who knows?" (Dixon). "Ah, sweet mystery of Life" (Herbert). "Evening Star" (Turk). 9.7 p.m.: Jean Lewis, contralto. "Fond Kiss" (Hiland Melody). "Banks of Allen Water." 9.14 p.m.: Ned Tyrrell's Radi-o-Aces. "Down Home"—Rag (Sweetman). "We'll have a new home in the morning" (Buck). "In a Bamboo Garden" (Donaldson). "In my bosom, Robert Allen, alto. "In the Garden of To-morrow" (Deppen). "Thinking of Thee" (Caro Roma). 9.31 p.m.: Ned Tyrrell's Radi-o-Aces—"Anything you say" (Donaldson). "That Melody of Love" (Donaldson). "Constellation" (Carlton). 9.41 p.m.: Violet Jackson, soprano—"Hatfield Bells" (E. Martin). "Pack and Penny Days," from "Songs of the Fair" (E. Martin). 9.48 p.m.: Ned Tyrrell's Radi-o-Aces—"Down Home" (Sweetman). "Glam and Strum" (Meyers). "Jazz Master—Piano Solo" (Mayerel). 9.58 p.m.: Jean Lewis, contralto—"I be Hopin'" (C. Clarke). "My Girl and I" (C. Clarke). 10.5 p.m.: Ned Tyrrell's Radi-o-Aces—"In my bosom, Robert Allen, alto. "In the Garden of To-morrow" (Deppen). "Thinking of Thee" (Caro Roma). 9.31 p.m.: Ned Tyrrell's Radi-o-Aces—"Anything you say" (Donaldson). "That Melody of Love" (Donaldson). "Constellation" (Carlton). 9.41 p.m.: Violet Jackson, soprano—"Hatfield Bells" (E. Martin). "Pack and Penny Days," from "Songs of the Fair" (E. 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THE MASTER VALVE

Local Programmes, Tuesday, January 15

2FC

EARLY MORNING SESSION.

Announcer: A. S. Cochrane.

7 a.m.: "Big Ben" and announcements. 7.2 a.m.: Official weather forecast, rainfall, river reports, temperatures, astronomical memoranda. 7.7 a.m.: "Sydney Morning Herald" summary. 7.12 a.m.: Shipping intelligence, mail services. 7.15 a.m.: Studio music. 7.25 a.m.: Investment market, mining share markets, metal quotations, wool sales, breadstuffs markets, inter-State markets, produce markets. 7.40 a.m.: Studio music. 8 a.m.: "Big Ben," close down.

MORNING SESSION.

Announcer: A. S. Cochrane.

10 a.m.: "Big Ben" and announcements. 10.10 a.m.: Pianoforte reproduction. 10.10 a.m.: "Sydney Morning Herald" news service. 10.25 a.m.: Studio music. 10.30 a.m.: Last minute sporting information by the 2FC Racing Commissioner. 10.40 a.m.: Studio music. 10.50 a.m.: Pianoforte reproduction. 11 a.m.: "Big Ben." A.P.A. and Reuter's Cable Services. 11.5 a.m.: Close down.

MIDDAY SESSION.

Announcer: A. S. Cochrane.

Note: Race results will be given. 12 noon: "Big Ben" and announcements. 12.1 p.m.: Stock exchange first call. 12.3 p.m.: Official weather forecast, rainfall. 12.5 p.m.: Studio music. 12.10 p.m.: Summary of news, "Sydney Morning Herald." 12.15 p.m.: Rugby wireless news. 12.18 p.m.: A reading. 12.30 p.m.: Studio music. 12.45 p.m.: Cricket scores, England v. Tasmania, played at Launceston. 12.47 p.m.: Studio music. 1 p.m.: "Big Ben," weather intelligence. 1.3 p.m.: "Evenink News" midday news service; Producers' Distributing Society's report. 1.20 p.m.: Studio music. 1.28 p.m.: Stock Exchange, second call. 1.30 p.m.: Studio music. 1.57 p.m.: Cricket scores. 2 p.m.: "Big Ben"; close down.

AFTERNOON SESSION

Announcer: Laurence Halbert.

2.30 p.m.: Programme announcements. 2.32 p.m.: Educational Session for the Schools—short musical programme; talk. 3 p.m.: "Big Ben," pianoforte reproduction. 3.15 p.m.: Popular music. 3.24 p.m.: Bessie Magner, contralto—(a) "Danny Boy" (Weatherley), (b) "Salaam" (Lang). 3.30 p.m.: Eric Cox, boy soprano. 3.37 p.m.: William Krasnik, violinist—(a) "Song of Desert" (Walenn), (b) "Impromptu in G" (Schubert-Monk). 3.45 p.m.: Cricket scores, England v. Tasmania. 3.46 p.m.: A reading. 4 p.m.: "Big Ben"; Bessie Magner, contralto—(a) "The Night has a Thousand Eyes" (Metcalf), (b) "A Song Remembered" (Coates). 4.7 p.m.: Eric Cox, boy soprano. 4.14 p.m.: From the Wentworth—The Wentworth Cafe Dance Orchestra, under the direction of Jimmy Elkins. 4.24 p.m.: From the Studio, William Krasnik, violinist—(a) "Dance 'al Ombrella" (Asprey), (b) "Lament" (Schubert-Monk). 4.31 p.m.: Cricket scores. 4.32 p.m.: Popular music. 4.45 p.m.: Stock Exchange, third call. 4.47 p.m.: Popular music. 5 p.m.: "Big Ben"; close down.

EARLY EVENING SESSION.

Announcer: A. S. Cochrane.

5.40 p.m.: The chimes of 2FC. 5.45 p.m.: The Children's Session, conducted by the "Hello Man," assisted by "Aunt Eily." Letters and stories. Music and entertainment. 6.30 p.m.: Dalgety's market reports (wool, wheat, stock). 6.40 p.m.: Fruit and vegetable markets. 6.43 p.m.: Stock Exchange information. 6.45 p.m.: Weather and shipping

news. 6.48 p.m.: Rugby Wireless news. 6.50 p.m.: Late sporting news. 7 p.m.: "Big Ben"; late news service. 7.10 p.m.: The 2FC Dinner Quartette, conducted by Horace Keats.

EVENING SESSION.

Announcer: Laurence Halbert.

Accompanist: Ewart Chapple.

7.40 p.m.: Programme announcements. 7.45 p.m.: Pianoforte reproduction. 7.52 p.m.: Cricket results, England v. Tasmania, played at Launceston. 8.0 p.m.: "Big Ben," the Metropolitan Band, from Darlington Town Hall. 8.20 p.m.: Gwladys Fimister, soprano. 8.27 p.m.: A sketch by Scott Alexander. 8.37 p.m.: Hilda Sutton, violinist. 8.45 p.m.: "The Mellow Fellows," in song and story. 8.55 p.m.: The Metropolitan Band, from the Darlington Town Hall. 9.5 p.m.: From the Studio: Weather forecast. 9.6 p.m.: Gwladys Fimister, soprano. 9.13 p.m.: A sketch by Scott Alexander. 9.23 p.m.: Hilda Sutton, violinist. 9.30 p.m.: "The Mellow Fellows," in song and story. 9.40 p.m.: The Metropolitan Band, from the Darlington Town Hall. 10 p.m.: From the Studio: "The Mellow Fellows," in song and story. 10.10 p.m.: The Studio Dance Band, conducted by Cec. Morrison. 10.20 p.m.: Dorothy Dewar, in popular numbers. 10.27 p.m.: The Studio Dance Band, conducted by Cec. Morrison. 10.37 p.m.: Late weather. 10.38 p.m.: The Studio Dance Band, conducted by Cec. Morrison. 10.57 p.m.: To-morrow's programme. 10.58 p.m.: The Studio Dance Band, conducted by Cec. Morrison. 11.30 p.m.: National Anthem. Close down.

2BL

MORNING SESSION.

Announcer: A. C. C. Stevens.

8 a.m.: G.P.O. clock and chimes; metropolitan weather report. 8.1 a.m.: State weather report. 8.2 a.m.: Studio music. 8.15 a.m.: G.P.O. clock and chimes; news from the "Daily Telegraph Pictorial." 8.25 a.m.: Studio music. 8.30 a.m.: G.P.O. clock and chimes; Studio music. 8.35 a.m.: Information, mails, shipping, arrivals, departures, and sailings. 8.38 a.m.: News from the "Daily Telegraph Pictorial." 8.45 a.m.: G.P.O. clock and chimes; Studio music. 9 a.m.: G.P.O. clock and chimes; Studio music. 9.30 a.m.: Half an hour with silent friends. 10 a.m.: G.P.O. clock and chimes; close down.

MIDDAY SESSION.

Announcer: J. Knight Barnett.

Note.—Race results. 11 a.m.: G.P.O. clock and chimes; 2BL Women's Sports Association Session, conducted by Miss Gwen Varley. 11.30 a.m.: Advertising hints. 11.40 a.m.: Women's session, conducted by Mrs. Cranfield. 12 noon: G.P.O. clock and chimes; special ocean forecast and weather report. 12.3 p.m.: Pianoforte reproduction. 12.30 p.m.: Shipping and mails. 12.35 p.m.: Market reports. 12.45 p.m.: Cricket scores, England v. Tasmania, played at Launceston. 12.48 p.m.: "Sun" midday news service. 1 p.m.: Studio music. 1.35 p.m.: Talk to children and special entertainment for children in hospital. 1.57 p.m.: Cricket scores. 2 p.m.: G.P.O. clock and chimes; close down.

AFTERNOON SESSION.

Announcer: J. Knight Barnett.

Accompanist: Kathleen Roe.

3.45 p.m.: G.P.O. chimes; cricket scores, England v. Tasmania. 3.46 p.m.: Pianoforte reproduction. 4 p.m.: G.P.O. clock and chimes; Romano's Dance Band, conducted by Bennie Abrahams. 4.10 p.m.: From the Studio, J. Knight Barnett, entertainer. 4.17 p.m.: "Sun" news service. 4.20 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams. 4.30 p.m.: From the Studio; cricket scores; Kathleen Nichols, soprano; (a) "April Morn" (Badden), (b) "Songs My

Mother Taught Me" (Dvorak). 4.37 p.m.: "Sun" news service. 4.40 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams. 4.50 p.m.: J. Knight Barnett, entertainer. 5 p.m.: G.P.O. clock and chimes. Kathleen Nichols, soprano (a) "Carissima" (Penn), (b) "Down in the Forest" (Ronald), (c) "The Star" (Rogers). 5.9 p.m.: "Sun" news service. 5.12 p.m.: Pianoforte reproduction. 5.22 p.m.: Popular music. 5.32 p.m.: Producers' Distributing Society's poultry report. 5.35 p.m.: Racing resume. 5.37 p.m.: Features of the evening's programme.

EARLY EVENING SESSION.

Announcer: Basil Kirke.

5.40 p.m.: Children's session; music and entertainment. 6 p.m.: Letters and stories. 6.30 p.m.: "Sun" news service and late sporting. 6.40 p.m.: 2BL Dinner Quartet. 7.10 p.m.: Cricket scores, England v. Tasmania. 7.12 p.m.: Australian Mercantile Land and Finance Co's report; weather report and forecast by courtesy of Government meteorologist; Producers' Distributing Society's fruit and vegetable market report; grain and fodder report ("Sun"); dairy produce report ("Sun"). 7.25 p.m.: Mr. Pim and Miss Pam in advertising talks and nonsense. 7.55 p.m.: Programme and other announcements.

EVENING SESSION.

Accompanist: G. Vern Barnett.

8 p.m.: G.P.O. clock and chimes. From the King's Cross Theatre, The King's Cross Orchestra, under the conductorship of E. J. Roberts. 8.20 p.m.: From the Studio, Madame Lillian Gibson, contralto. 8.27 p.m.: Pianoforte solos by G. Vern Barnett. 8.37 p.m.: Clement Q. Williams, baritone. 8.44 p.m.: The Music Makers. (a) "Reverie" (Debussy). (b) "Malaguena" (Moszkowski). 8.54 p.m.: Weather report and forecast. 8.55 p.m.: "Week by Week," a topical talk by S. H. Bowden. 9.10 p.m.: Ivy Green, soprano. 9.17 p.m.: The Music Makers—(a) "Canzone A'Amore" (Lorvitz), (b) "Crown Diamonds" (Auber). 9.27 p.m.: Madame Lillian Gibson, contralto. 9.34 p.m.: The Music Makers—(a) "The Marriage of Figaro" (Mozart). (b) "Serenade" (Salcedo). 9.44 p.m.: Clement Q. Williams, baritone. 9.51 p.m.: The Music Makers—"Les Preludes" (Liszt). 10.3 p.m.: Ivy Green, soprano. 10.10 p.m.: From King's Cross Theatre, the King's Cross Theatre Orchestra, under the conductorship of E. J. Roberts. 10.27 p.m.: Resume of following day's programme. 10.30 p.m.: National Anthem; close down.

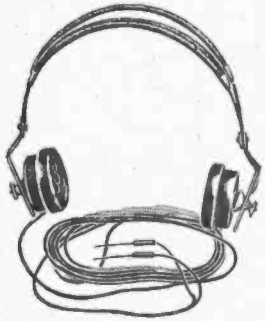
2GB

10.0 a.m.: Music. 10.10 a.m.: Happiness talk, by A. E. Bennett. 10.20 a.m.: Music. 10.30 a.m.: Women's session, by Miss Helen J. Beegling. 11.30 a.m.: Close down. 2.0 p.m.: Music. 2.5 p.m.: Women's radio service, by Mrs. Dorothy Jordan. 2.50 p.m.: Music. 3.0 p.m.: Talk. 3.15 p.m.: Close down. 5.30 p.m.: Children's session, by Uncle George. 7.0 p.m.: Stock and market reports, by New Zealand Loan and Mercantile Agency, Ltd. 7.15 p.m.: Music. 8.0 p.m.: 2GB Instrumental Trio—Miss Ada Brook, Mr. Cecil Berry, Mr. Cedric Ashton. 8.15 p.m.: Songs, by Mr. Robert Cottenill. 8.25 a.m.: Humorous interlude, by Mr. Jack Win and Mr. Heath Burdock. 8.30 p.m.: Violin solos, by Mr. Cecil Berry. 8.40 p.m.: Songs, by Miss Nancy Watkin. 8.50 p.m.: Pianoforte solos, by Miss Mavis Tindale. 9.0 p.m.: Weather report. 9.3. Address. 9.15: Songs, by Mr. Robert Cottenill. 9.25 p.m.: Cello solos, by Mr. Cedric Ashton. 9.35 p.m.: A humorous interlude. 9.40 p.m.: 2GB Instrumental Trio. 9.55 p.m.: Songs, by Miss Nancy Watkin. 10.5 p.m.: Orchestral music. 10.30 p.m.: Close down.



Murdoch's Great Summer SALE

MONEY-SAVING BARGAINS IN RADIO



"Lissen" Headphones

Two efficient ear-pieces, extremely sensitive. Cords do not twist or tangle. Light in weight. (As illustrated.)

Usually 15/-
Sale Price - **10/6**

Ormond S.L.F. Condensers

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Ormond Vernier Dials

The finest procurable.
Usually 8/6.
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1 mfd. Usually 5/3.
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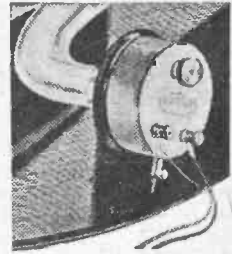
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Cossor P.1, English base. Usually 7/- Each
Sale Price . . 6d ea. or 5/6 doz.

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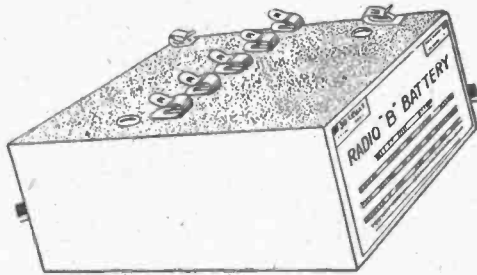
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Large capacity 45-volt "B" Battery. Suitable for any set. Full voltage.

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"Lissen" 60-volt "B" Battery. The remarkable oxygen content of this battery is responsible for its long life. Tested and guaranteed full voltage.

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Ordinary capacity. Each one fully tested.
Voltage 45 60 100
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Ready-cut Panels

Beautifully-grained Mahogany finish. Perfect insulation. 3-16 inch thick.
Size 12 x 6 15 x 8 20 1/2 x 8
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For all weather. Will not crack in heat.
Usually 3/6.

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Usually 2/6.

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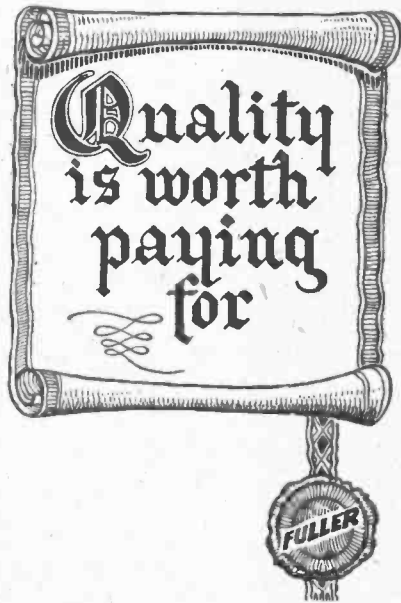
Act. Capacity	S.W. Ebonite	S.W. Glass	S.W.D. Ebonite	S.W.D. Glass
20	19/	21/	—	—
30	22/6	25/	—	—
40	25/	27/6	27/6	—
50	29/3	—	—	—
60	32/6	—	33/6	36/
80	—	—	40/	—

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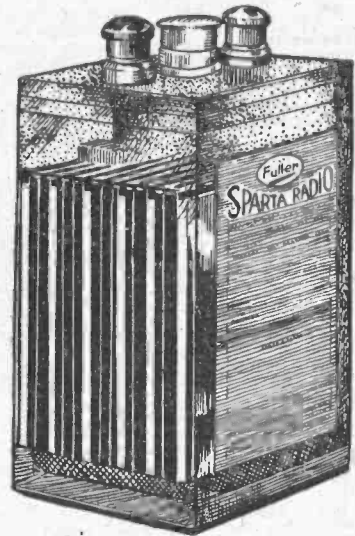
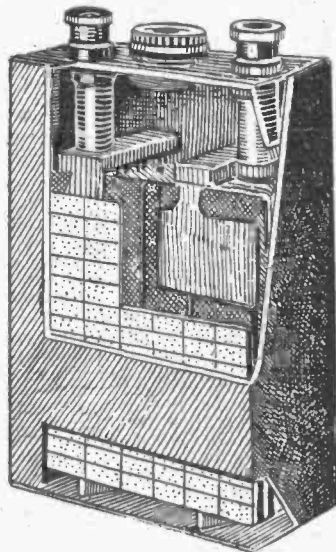
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Local Programmes, Wednesday, January 16

2FC

EARLY MORNING SESSION.

Announcer: A. S. Cochrane
 7. a.m.: "Big Ben" and announcements.
 7.2 a.m.: Official weather forecast; rainfall; river reports; temperatures; astronomical memoranda. 7.7 a.m.: "Sydney Morning Herald" summary. 7.12 a.m.: Shipping intelligence; mail services. 7.15 a.m.: Studio music. 7.25 a.m.: Investment market; mining sharemarkets; metal quotations. 7.28 a.m.: Wool sales; breadstuffs markets; inter-State markets; produce markets. 7.40 a.m.: Studio music. 8.0 a.m.: "Eig Ben." Close down.

MORNING SESSION

Announcer: A. S. Cochrane
 10.0 a.m.: "Big Ben" and announcements. 10.3 a.m.: Pianoforte reproduction. 10.10 a.m.: "Sydney Morning Herald" news service. 10.25 a.m.: Studio music. 10.45 a.m.: A talk on "Home Cooking and Recipes," by Miss Ruth Furst. 11.0 a.m.: "Big Ben"; A.P.A. and Reuters cable services. 11.5 a.m.: Close down.

MIDDAY SESSION

Announcer: A. S. Cochrane.
 12 noon: "Big Ben" and announcements. 12.1 p.m.: Stock Exchange, first call. 12.3 p.m.: Official weather forecast; rainfall. 12.5 p.m.: Studio music. 1.30 p.m.: Stock Exchange, second call. 1.32 p.m.: Weather forecast. 1.34 p.m.: "Evening News" mid-day news service; Producers' Distributing Society's report. 1.42 p.m.: Rugby wireless news. 1.45 p.m.: Studio music. 2.0 p.m.: "Big Ben." Close down.

Note.—Race results will be broadcast as received.

AFTERNOON SESSION

Announcer: Laurence Halbert.
 2.30 p.m.: Programme announcements. 2.32 p.m.: Selected record recital. 3.0 p.m.: "Big Ben"; pianoforte reproduction. 3.15 p.m.: Popular music. 3.30 p.m.: Jill Valentine, in the latest songs. 3.37 p.m.: Carlos Fakola, pianist. 3.44 p.m.: Cricket scores. 3.45 p.m.: A reading. 4.0 p.m.: "Big Ben"; Jill Valentine, popular numbers. 4.7 p.m.: From the Wentworth—the Wentworth Cafe Dance Orchestra, under the direction of Jimmy Elkins. 4.20 p.m.: From the Studio—Carlos Fakola, pianist. 4.27 p.m.: Popular music. 4.30 p.m.: Cricket scores. 4.32 p.m.: Popular music. 4.35 p.m.: Stock Exchange, third call. 4.37 p.m.: Popular music. 5.0 p.m.: "Big Ben"; close down.

EARLY EVENING SESSION

Announcer: A. S. Cochrane
 5.40 p.m.: The chimes of 2FC. 5.45 p.m.: The "Hello Man" talks to the children—assisted by Uncle Ted and "Sandy"; letters and stories; music and entertainers. 6.37 p.m.: Dalgely's market reports (wool, wheat, stock). 6.40 p.m.: Fruit and vegetable markets. 6.43 p.m.: Stock Exchange information. 6.45 p.m.: Weather and shipping news. 6.48 p.m.: Rugby wireless news. 6.50 p.m.: Late sporting news. 7.0 p.m.: "Big Ben"; late news service. 7.10 p.m.: The 2FC Dinner Quartette, conducted by Horace Keats.

EVENING SESSION

Announcer: Laurence Halbert
 Accompanist: Ewart Chapple
 arranged and directed by *zzziffiff*
 7.40 p.m.: Programme announcements. 7.45 p.m.: Pianoforte reproduction. 7.54 p.m.: Popular music.
 8.0 p.m.: "Big Ben." A classical programme arranged and directed by Horace Keats. Overture, "The Barber of Seville" (Rossini). Orchestral conductor, Horace Keats.
 8.8 p.m.: Tenor Soli—
 (a) "O Cease thy Singing, Maiden Fair" (Rachmaninoff).
 (b) "In the Silence of Night" (Rachmaninoff).
 8.15 p.m.: "Sonatina in G for Violin and Piano" (Dvorak). Dulcie Blair, violinist. Horace Keats, pianist.
 8.35 p.m.: Clement Q. Williams.
 a) "Vision Fugitive" (Massenet).
 (b) "L'heure Exquise" (Hahn).
 (c) "O Men from the Fields" (Hughes).
 (d) "The Moon Cradle" (Hughes).



Horace Keats who has arranged tonight's classical programme from 2FC.

(e) "The Terrible Robber Mer" (Hughes).
 8.50 p.m.: "Siegfried Idyl" (Wagner). The Orchestra.
 9.5 p.m.: A talk by C. R. Hall—"Out and About Iraq and Persia—The Women of Bagdad."
 9.20 p.m.: (a) "Rhapsodie and Three Gipsy Songs" (Brahms).
 (b) "Slavonic Dance" (Dvorak). The Orchestra.
 9.35 p.m.: A Group of Modern Songs.
 (a) "A Woman's Last Word" (Bantock).
 (b) "Weathers" (Ireland).
 (c) "Blossom Song" (O'Neill).
 (d) "Golden Hair" (Bridge). Miss le Brun Brown.
 9.45 p.m.: Two Pianos—the players being Ewart Chapple and Horace Keats.
 (a) "Pas des Cymbales" (Chaminade).
 (b) "Grand Tarantella" (Gottschalk).
 9.54 p.m.: Tenor Soli—Alfred Willmore.
 (a) "Standchen" (Schubert).
 (b) "Frühliingsfluten" (Rachmaninoff).
 10.2 p.m.: The Orchestra, conducted by Horace Keats, will play "A Tribute to Franz Liszt" (Morena).
 10.27 p.m.: To-morrow's programme.

2BL

MORNING SESSION

Announcer: A. C. C. Stevens.
 8.0 a.m.: G.P.O. clock and chimes; metropolitan weather report. 8.1 a.m.: State weather report. 8.2 a.m.: Studio music. 8.15 a.m.: G.P.O. clock and chimes; news from the "Daily Telegraph Pictorial." 8.25 a.m.: Studio music. 8.30 a.m.: G.P.O. clock and chimes. 8.35 a.m.: Information; mails; shipping, arrivals, departures, and sailings. 8.38 a.m.: News from the "Daily Telegraph Pictorial." 8.45 a.m.: G.P.O. clock and chimes; studio music. 9.0 a.m.: G.P.O. clock and chimes; studio music. 9.30 a.m.: Half an hour with silent friends. 10.0 a.m.: G.P.O. clock and chimes. Close down.

MID-DAY SESSION.

Announcer: J. Knight Barnett.
 11.0 a.m.: G.P.O. clock and chimes; 2BL Women's Sports Association session, conducted by Miss Gwen Varley. 11.30 a.m.: Advertising hints. 11.40 a.m.: Women's session, conducted by Mrs. Cranfield. 12.0 Noon: G.P.O. clock and chimes; special ocean forecast and weather report. 12.3 p.m.: Pianoforte reproduction. 12.30 p.m.: Shipping and mails. 12.35 p.m.: Market reports. 12.48 p.m.: "Sun" mid-day news service. 1.0 p.m.: Studio music. 1.30 p.m.: Talk to children, and special entertainment for children in hospitals. 2.0 p.m.: G.P.O. Clock and chimes. Close down. Note.—Race results.

AFTERNOON SESSION.

Announcer: J. Knight Barnett.
 Accompanist: Kathleen Roe.
 3.45 p.m.: G.P.O. chimes; cricket scores. England v. Tasmania. 3.46 p.m.: Pianoforte reproduction. 4.0 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams. 4.10 p.m.: Kathleen Nichols, soprano, from the studio—(a) "Dawn" (Curran); (b) "Over the Waters Blue" (Clarke). 4.17 p.m.: A talk—Romance of New Guinea Gold. 4.30 p.m.: Cricket scores, England v. Tasmania. 4.32 p.m.: Popular music. 4.40 p.m.: Romano's Dance Orchestra, conducted by Ben-

nie Abrahams. 4.50 p.m.: From the Studio—Popular music. 5.0 p.m.: G.P.O. clock and chimes; "Sun" news service. 5.10 p.m.: Pianoforte reproduction. 5.20 p.m.: Popular music. 5.30 p.m.: Racing resume. 5.37 p.m.: Features of the evening's programme.

EARLY EVENING SESSION.

Announcers: J. Knight Barnett, Basil Kirke.
 5.40 p.m.: Children's session; music and entertainment. 6.0 p.m.: Letters and stories. 6.30 p.m.: "Sun" news and late sporting. 6.40 p.m.: 2BL Dinner Quartette. 7.10 p.m.: Cricket scores, England v. Tasmania. 7.12 p.m.: Australian Mercantile Land and Finance Co.'s report; weather report and forecast, by courtesy of Government Meteorologist; Producers' Distributing Society's fruit and vegetable market report; grain and fodder report ("Sun"); dairy produce report ("Sun"). 7.25 p.m.: Mr. Plm and Miss Pam in advertising talks and nonsense. 7.55 p.m.: Programme and other announcements.

EVENING SESSION.

Announcer: Basil Kirke.
 Accompanist: G. Vern Barnett.
 8.0 p.m.: G.P.O. clock and chimes. Sydney Calland, baritone—
 (a) "Was I the Streamlet" (Lloyd).
 (b) "Wait For Me" (Matheson).
 8.7 p.m.: J. Knight Barnett and Dorothy Dewar, entertainers.
 8.17 p.m.: Foster and Finlay, in musical memories.
 8.27 p.m.: Studio production of Oscar Wilde's play, "A Woman Of No Importance," by the H. W. Varna Company. Lady Hunstanton—Cleo Glover. Mr. Altonby—Betty Wall. Lady Caroline Pontefract—Jean Morice. Hester Worsley—Phyllis Clegg. Gerald Arbuthnot—Gordon Trilling. Alice (Maid)—Miss Coombe. Mrs. Arbuthnot—Muriel Conner. Lord Illingworth—H. W. Varna. ACT I.—Drawing-room at Lady Hunstanton's.
 ACT II.—The same.
 ACT III.—Sitting-room at Mrs. Arbuthnot's.
 9.27 p.m.: Weather report and forecast; The Savoyans Dance Band.
 9.37 p.m.: J. Knight Barnett and Dorothy Dewar, entertainers.
 9.47 p.m.: Sydney Calland, baritone—
 (a) "Ten Thousand Years From Now" (Ball).
 (b) "Coaling" (Heimor).
 9.54 p.m.: Foster and Finlay, in musical memories.
 10.4 p.m.: The Savoyans Dance Band.
 10.14 p.m.: Ivy Saxton, in popular songs.
 10.21 p.m.: The Savoyans Dance Band.
 10.31 p.m.: Late weather report and forecast.
 10.32 p.m.: Ivy Saxton, in popular songs.
 10.37 p.m.: Resume of following day's programme.
 10.59 p.m.: The Savoyans Dance Band. During the intervals between dance items "Sun" news will be given.
 11.30 p.m.: National Anthem. Close down.

2GB

10.0 a.m.: Music. 10.10 a.m.: Happiness talk, by A. E. Bennett. 10.20 a.m.: Music. 10.30 a.m.: Women's session, by Miss Helen J. Beecling. 11.30 a.m.: Close down. 2.0 p.m.: Music. 2.5 p.m.: Women's radio service, by Mrs. Dorothy Jordan. 2.50 p.m.: Music. 3.0 p.m.: Talk. 3.15 p.m.: Close down. 5.30 p.m.: Children's session, by Uncle George. 7.0 p.m.: Stock and market reports, by New Zealand Loan and Mercantile Agency, Ltd. 7.15 p.m.: Music. 8.0 p.m.: Songs, by Miss Alicia Haywood. 8.2 p.m.: A humorous interlude, by Mr. Jack Win and Mr. Heath Burdock. 8.25 p.m.: Violin solos, by Mr. Edmund Collins. 8.35 p.m.: Songs, by Mr. Cecil Houghton. 8.45 p.m.: Pianoforte solos, by Mr. John Beson. 8.55 p.m.: A humorous interlude. 9.0 p.m.: Weather report. 9.3 p.m.: Address. 9.11 p.m.: Mayo Hunter and Gladys. 9.25 p.m.: Songs, by Miss Alicia Haywood. 9.35 p.m.: Violin solos, by Mr. Edmund Collins. 9.45 p.m.: A humorous interlude. 9.50 p.m.: Songs, by Mr. Cecil Houghton. 10.0 p.m.: Orchestral music. 10.30 p.m.: Close down.



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1053

Interstate Programmes, Wednesday, January 16

3LO

EARLY MORNING SESSION

7.15 a.m.: Morning melodies, 7.20 a.m.: Morning exercises to music, 7.30 a.m.: Stock reports, market reports, general news, shipping, and sporting information, 8.0 a.m.: Melbourne Observatory time signal, 8.1 a.m.: Morning melodies, 8.15 a.m.: Close down.

MORNING SESSION

Announcer: Frank Hatherley, 11.0 a.m.: 3LO's different dainties for the daily dinner; To-day's Radio Recipe—Lemon jelly, 11.5 a.m.: Miss I. D. Beaven, "Home-made Confectionery", 11.20 a.m.: Musical Interlude, 11.25 a.m.: Mrs. M. Callaway Mahood, color in decoration, 11.40 a.m.: Sonora recital.

MIDDAY NEWS SESSION

Announcer: Frank Hatherley, 12.0 noon: Melbourne Observatory time signal; express train information, 12.1 p.m.: British official wireless news from Rugby, Reuters, and the Australian Press Association cables; "Argus" news service, 12.15 p.m.: Newmarket stock sales; special report by John M'Namara and Co.

MIDDAY SESSION

Announcer: Frank Hatherley, Accompanist: Agnes Fortune, 12.20 p.m.: The Radi-o-Aces, "Forever More" (Burnett), Nebraska (Revel), Clarinet Marmalade (Fergus), 12.22 p.m.: Miss Ramsay (soprano), "The Lass with the Delicate Air" (Anne), "Three Green Bonnets" (D'Hardelot), 12.36 p.m.: Stock Exchange information, 12.40 p.m.: The Radi-o-Aces, "Ramona" (Wayne), "Rain" (Ruby), "I Love to Dunk a Hunk of Sponge Cake" (Castill), 12.49 p.m.: Keith Desmond, electrician, will give a short recital, 12.55 p.m.: The Radi-o-Aces, "Because My Aubrey" (Wayne), "Maybe Now" (Donaldson), "Beloved" (Kahn), "Just Like a Melody Out of the Sky" (Donaldson), 1.5 p.m.: Meteorological information; weather forecasts for Victoria, Australia, New South Wales, and Tasmania; ocean forecast; river reports; rainfall, 1.12 p.m.: Bernard Manning, bass (by permission of J. C. Williamson Ltd.), "Down Among the Dead Men" (O'Connell), "Sigh No More, Ladies" (Aitken), 1.19 p.m.: The Radi-o-Aces, "Lazy Feet"—piano solo (Masman), "That's What You Mean to Me" (Masman), "That's What You Mean to Me" (Davis), "Chloe" (Kahn), "Lenora" (Gilbert), "That Stolen Melody" (Fisher), "Guess Who's in Town" (Razaf), "Googly God" (Davis), 1.40 p.m.: God Save the King.

AFTERNOON SESSION

Announcer: Frank Hatherley, Accompanist: Agnes Fortune, 2.15 p.m.: Description of Trial Stakes, 6 furlongs, at Amateur Turf Club races, Warrnambool, by Eric Welch, 2.20 p.m.: The station orchestra, "Tarantella" (Bohn), "Audacious Melody" (Rachmaninoff), 2.29 p.m.: Violet Jackson (soprano), "Danny Boy", "Irish Folk Song", 2.37 p.m.: The Station Orchestra, suite, "Silhuettes" (Hadley), 2.47 p.m.: John Byrne (bass), "Caledonia", 2.54 p.m.: Description of Hurdle Race, 2 miles 58 yards, Amateur Turf Club races, at Warrnambool, 3.1 p.m.: The Station Orchestra, "Whim" (Schumann), "Naiad's Idyll" (McCo), 3.15 p.m.: George Findlay (piano), "A Vagotte and Musette" (d'Albert), "Romance in E Flat" (Rubinstein), "Polonaise in A Major" (Chopin), "Country Gardens" (Grainbert), 3.23 p.m.: Description of Sumner Handicap, 1 mile, Amateur Turf Club races at Warrnambool, 3.30 p.m.: Tom Masters (tenor), "There's a Land" (Alliten), "I'm a longin' for you" (Hathaway), 3.37 p.m.: The Station Orchestra, "Tales of the Ozonoon" (Glaszounoff), (Rachmaninoff), 3.47 p.m.: Ella Riddell (contralto), "I Will Await Thee" (Coningsby-Clarke), "My Heart's Desire" (Coningsby-Clarke), 3.54 p.m.: The Station Orchestra, selected, 4.3 p.m.: Description of Pony Race, 5 furlongs, Amateur Turf Club races at Warrnambool, 4.10 p.m.: Tasma Tiernan (cello), "Meditation" (Massenet), "Where Girls Lie" (Egbert), (soprano), "The Nightingales of Lincoln's Inn", "Down Vauxhall Way" (Oliver), 4.22 p.m.: The Station Orchestra, "Luella di Lammemoor" (Donizetti), 4.32 p.m.: Tom Masters (tenor), "Now Sleeps the Crimson Petal" (Quilter), "The Star" (Rogers), 4.39 p.m.: Description of Welter Handicap, 6 furlongs, Amateur Turf Club races at Warrnambool, 4.45 p.m.: Ella Riddell (contralto), "Where Girls Lie" (Egbert), "Jack of Hazeldean" (Scottish), 4.52 p.m.: The Station Orchestra, "Four Dances" (O'Neill), "Serenade" (Rachmaninoff), 5.0 p.m.: "Fidelity" (news session); Stock Exchange information, 5.10 p.m.: Description of the Flying Handicap, 5 furlongs, at Amateur Turf Club Races, Warrnambool, 5.15 p.m.: Close down. During the afternoon progress scores for the Sheffield Shield cricket match, S.A. v. N.S.W., will be broadcast as they come to hand.

EVENING SESSION

Announcer: Frank Hatherley, 6.0 p.m.: Answers to letters and birthday greetings, by "Mary Mary", 6.25 p.m.: Musical Interlude, 6.30 p.m.: "Mary Mary", "Cobbler, Cobbler, Mend My Shoe," the story of a cobbler who has done his best for "two" two, "The Cat and the Parrot," the story of a cat who was too greedy, "Mr. and Mrs. Vinegar," a fairy tale.

NIGHT SESSION

Announcer: C. J. O'Connor, Accompanist: Agnes Fortune, 7.5 p.m.: Stock Exchange information, 7.45 p.m.: Market reports, 7.50 p.m.: News session—Stumps Scores, Sheffield Shield cricket match, South Australia v. New South Wales, at Adelaide, 7.43 p.m.: Birthday greetings, 7.45 p.m.: Out of the past, 7.46 p.m.: Under the auspices of the Department of Education, a talk will be given by F. de Castellu, Vilitcultist, 8.1 p.m.: R. H. Campbell will speak on "England v. Tasmania, at Hobart", 8.10 p.m.: The Station Orchestra, overture, "Carnival" (Dvorak), 8.17 p.m.: J. Gregor Wood (contralto), "Prelude" (Cyril Scott), "A Roundelay" (Lidgely), 8.27 p.m.: The Station Quartette, "Quartet" (Beethoven), 8.37 p.m.: J. Gregor Wood (tenor), "Fog" by the Clock" (Mallinson), "Every Kiss is a Song" (Massene), 8.44 p.m.: Agnes Fortune (piano), Selected, 8.50 p.m.: The Station Orchestra, "Omnipotence" (Schubert), "Adagio" (Beethoven), 8.57 p.m.: Madame and J. Gregor Wood (contralto and tenor), "Night hymn at Sea" (Thomas), "A Maiden in Grey" (Baincott), 9.4 p.m.: The Station Orchestra, overture, "Le Songe D'Une Nuit" (Thomas), "At the Old Bush Camp", "Drinking" (Ohr. German), "Dyik to Me Out, with Thine Eyes" (Arr. Quilter), "The Martyr" (Original), "Art a Gigar" (Bailey), "The sundowners Quartette" (Robt. Allen, Tom Semple, Herbert Sanderson, Robert Gillard, One-act Play, "Just Like a Woman"—J. Beresford Fowler, Joan Wilson, Scene, Their home in the West End, 10.0 p.m.: The Station Orchestra, selection, "We led into Happiness" (Stolz), 10.10 p.m.: Victor Jackson (soprano), "Attempt from Love's Sickness to Fly" (Purcell), "Anterbury Bells" (Carew), 10.17 p.m.: The Station Orchestra, "Adele Pathetique" (Godard), "Beethoven Meditation" (Cottent), 10.24 p.m.: "Argus" news service; British official wireless news from Rugby; meteorological information, 10.34 p.m.: Bernard Manning (bass) and J. C. Williamson J. C. Williamson Ltd., "Let the Sweet Heavens Endure", "O That 'Twere Possible" (Somerville), selected, 10.41 p.m.: The Station Orchestra, overture, "Hamlet" (Tschakowsky), selected, 10.56 p.m.: "Our Great Thought for to-day is: "Bad temper is its own scourge. Few things are bitter than to feel bitter. A man's venom poisons himself more than his victim."—Charles Burton, 10.56 p.m.: The Radi-o-Aces, "Forever More" (Burnett), "Nebraska" (Wayne), "Clarinet Marmalade" (Fergus), "Ramona" (Wayne), "Rain" (Ruby), "I Love to Dunk a Hunk of Sponge Cake" (Castill), "Because My Aubrey" (Wayne), "Maybe Now" (Donaldson), "Beloved" (Kahn), "Just Like a Melody Out of the Sky" (Donaldson), "Lazy Feet" (piano solo (Masman), "That's What You Mean to Me" (Davis), "Chloe" (Kahn), "Lenora" (Gilbert), "That Stolen Melody" (Fisher), "Guess Who's in Town" (Razaf), "Googly God" (Davis), 11.40 p.m.: God Save the King.

Announcer: Frank Hatherley, 10.0 a.m.: G.P.O. clock says "Ten", 10.1 a.m.: "Age" Stock Exchange reports; London metal market, 10.10 a.m.: "Age" market reports; London industrial produce; fruit; fish; vegetables, etc., 10.25 a.m.: "Age" shipping reports; ocean forecast, 10.30 a.m.: Mail notices; express train information, 10.35 a.m.: "Age" news service, exclusive to 3AR, 10.55 a.m.: Weather forecast.

3AR

Announcer: Frank Hatherley, 10.0 a.m.: G.P.O. clock says "Ten", 10.1 a.m.: "Age" Stock Exchange reports; London metal market, 10.10 a.m.: "Age" market reports; London industrial produce; fruit; fish; vegetables, etc., 10.25 a.m.: "Age" shipping reports; ocean forecast, 10.30 a.m.: Mail notices; express train information, 10.35 a.m.: "Age" news service, exclusive to 3AR, 10.55 a.m.: Weather forecast.

MORNING MUSICAL SESSION

11.0 a.m.: Melodious Measures of the Studio Seraphim, 12.30 p.m.: Interlude, British official wireless news; announcements, 1.30 p.m.: Close down.

EVENING SESSION

6.0 p.m.: More Melodious Measures of the Studio Seraphim, 7.50 p.m.: Results of cricket, Sheffield Shield Match, New South Wales v. South Australia.

NIGHT SESSION

Announcer: John Stiles, 8.0 p.m.: Prahran City Band—March, "The Vedette" (Alford), selection, "Melodious Memories" (Rimmer), 8.45 p.m.: Keith Desmond, "Motel's the only wear", 8.52 p.m.: Prahran City Band—Band, "The Knight Cavalier" (Stuppe), 8.59 p.m.: The Donian Male Quartette, "If I lost you" (White), "She don't wanna" (Milton), 9.6 p.m.: Prahran City Band—Fantasia, "The songs of the Sea" (Greenwood), 9.16 p.m.: Interlude, Capt. Donald McLean, "The Rime of an Ancient Mariner", 9.31 p.m.: Alan R. Mitchell, scene, "Legend of Kleinsch", from Tales of Hoffmann, Glee club, supplied by the Donian Male Quartette, "Only the River Running By" (Hopkins), 9.48 p.m.: Prahran City Band—"Foden's Own" (Greenwood), "Chanson Triste" (Tschakowsky), 9.58 p.m.: W. G. Phillips, "Open the Gates of the Temple" (Knapp), "Silent Moon" (Vaughan Williams), 10.17 p.m.: Prahran City Band, Intermezzo, "My Syrian Maid" (Rimmer), 10.20 p.m.: Donian Male Quartette, "Old Fashioned Looket", "She's Still My Bunting" (Raskin), 10.27 p.m.: Results of Sheffield Shield cricket match, New South Wales v. South Australia; God Save the King.

4QG

Announcer: Frank Hatherley, 6.0 p.m.: Answers to letters and birthday greetings, by "Mary Mary", 6.25 p.m.: Musical Interlude, 6.30 p.m.: "Mary Mary", "Cobbler, Cobbler, Mend My Shoe," the story of a cobbler who has done his best for "two" two, "The Cat and the Parrot," the story of a cat who was too greedy, "Mr. and Mrs. Vinegar," a fairy tale.

MORNING SESSION

Announcer: Frank Hatherley, 6.0 p.m.: Answers to letters and birthday greetings, by "Mary Mary", 6.25 p.m.: Musical Interlude, 6.30 p.m.: "Mary Mary", "Cobbler, Cobbler, Mend My Shoe," the story of a cobbler who has done his best for "two" two, "The Cat and the Parrot," the story of a cat who was too greedy, "Mr. and Mrs. Vinegar," a fairy tale.

MIDDAY SESSION

Announcer: Frank Hatherley, 6.0 p.m.: Answers to letters and birthday greetings, by "Mary Mary", 6.25 p.m.: Musical Interlude, 6.30 p.m.: "Mary Mary", "Cobbler, Cobbler, Mend My Shoe," the story of a cobbler who has done his best for "two" two, "The Cat and the Parrot," the story of a cat who was too greedy, "Mr. and Mrs. Vinegar," a fairy tale.

AFTERNOON SESSION

Announcer: Frank Hatherley, 6.0 p.m.: Answers to letters and birthday greetings, by "Mary Mary", 6.25 p.m.: Musical Interlude, 6.30 p.m.: "Mary Mary", "Cobbler, Cobbler, Mend My Shoe," the story of a cobbler who has done his best for "two" two, "The Cat and the Parrot," the story of a cat who was too greedy, "Mr. and Mrs. Vinegar," a fairy tale.

EARLY EVENING SESSION

Announcer: Frank Hatherley, 6.0 p.m.: Answers to letters and birthday greetings, by "Mary Mary", 6.25 p.m.: Musical Interlude, 6.30 p.m.: "Mary Mary", "Cobbler, Cobbler, Mend My Shoe," the story of a cobbler who has done his best for "two" two, "The Cat and the Parrot," the story of a cat who was too greedy, "Mr. and Mrs. Vinegar," a fairy tale.

Announcer: Frank Hatherley, 6.0 p.m.: Answers to letters and birthday greetings, by "Mary Mary", 6.25 p.m.: Musical Interlude, 6.30 p.m.: "Mary Mary", "Cobbler, Cobbler, Mend My Shoe," the story of a cobbler who has done his best for "two" two, "The Cat and the Parrot," the story of a cat who was too greedy, "Mr. and Mrs. Vinegar," a fairy tale.

NIGHT SESSION

Announcer: Frank Hatherley, 6.0 p.m.: Answers to letters and birthday greetings, by "Mary Mary", 6.25 p.m.: Musical Interlude, 6.30 p.m.: "Mary Mary", "Cobbler, Cobbler, Mend My Shoe," the story of a cobbler who has done his best for "two" two, "The Cat and the Parrot," the story of a cat who was too greedy, "Mr. and Mrs. Vinegar," a fairy tale.

6WF

Announcer: Frank Hatherley, 6.0 p.m.: Answers to letters and birthday greetings, by "Mary Mary", 6.25 p.m.: Musical Interlude, 6.30 p.m.: "Mary Mary", "Cobbler, Cobbler, Mend My Shoe," the story of a cobbler who has done his best for "two" two, "The Cat and the Parrot," the story of a cat who was too greedy, "Mr. and Mrs. Vinegar," a fairy tale.

7ZL

MIDDAY SESSION

Announcer: Frank Hatherley, 6.0 p.m.: Answers to letters and birthday greetings, by "Mary Mary", 6.25 p.m.: Musical Interlude, 6.30 p.m.: "Mary Mary", "Cobbler, Cobbler, Mend My Shoe," the story of a cobbler who has done his best for "two" two, "The Cat and the Parrot," the story of a cat who was too greedy, "Mr. and Mrs. Vinegar," a fairy tale.

EVENING SESSION

Announcer: Frank Hatherley, 6.0 p.m.: Answers to letters and birthday greetings, by "Mary Mary", 6.25 p.m.: Musical Interlude, 6.30 p.m.: "Mary Mary", "Cobbler, Cobbler, Mend My Shoe," the story of a cobbler who has done his best for "two" two, "The Cat and the Parrot," the story of a cat who was too greedy, "Mr. and Mrs. Vinegar," a fairy tale.

EVENING SESSION

Announcer: Frank Hatherley, 6.0 p.m.: Answers to letters and birthday greetings, by "Mary Mary", 6.25 p.m.: Musical Interlude, 6.30 p.m.: "Mary Mary", "Cobbler, Cobbler, Mend My Shoe," the story of a cobbler who has done his best for "two" two, "The Cat and the Parrot," the story of a cat who was too greedy, "Mr. and Mrs. Vinegar," a fairy tale.

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Local Programmes, Thursday, January 17

2FC

MORNING SESSION

Announcer: A. S. Cochrane

10.0 a.m.: "Big Ben" and announcements.
10.2 a.m.: Pianoforte selection. 10.10 a.m.:
"Sydney Morning Herald" news service.
10.25 a.m.: Studio music. 10.30 a.m.:
Last minute sporting information by the
2FC Racing Commissioner. 10.40 a.m.:
Studio music. 11.0 a.m.: "Big Ben." A.P.A.
and Reuter's cable services. 11.5 a.m.:
Close down.

MIDDAY SESSION

Announcer: A. S. Cochrane

12.0 noon: "Big Ben" and announcements.
12.3 p.m.: Official weather forecast; rainfall;
12.5 p.m.: Studio music. 12.10 p.m.: Sum-
mary of news, "Sydney Morning Herald."
12.15 p.m.: Rugby wireless news. 12.18
p.m.: Dickens's reading by A. S. Cochrane.
12.30 p.m.: Studio music. 1.0 p.m.: "Big
Ben"; weather intelligence. 1.3 p.m.: "Even-
ing News" midday news service; Producers'
Distributing Society's report. 1.20 p.m.:
Studio music. 1.50 p.m.: Last minute
sporting information by the 2FC Racing
Commissioner. 2.0 p.m.: "Big Ben." Close
down.

AFTERNOON SESSION

Announcer: Laurence Halbert.

2.30 p.m.: Programme announcements.
2.32 p.m.: Educational session for the
schools; short musical recital. 3.0 p.m.:
From Christ Church, St. Laurence, organ re-
cital, arranged by Christian Hellemann. 3.20
p.m.: Isabel Thiselton, soprano—(a) "A Song
Of Sunshine" (Bunning); (b) "Starry Woods"
(Phillips). 3.27 p.m.: Popular music. 3.34
p.m.: Isabel Thiselton, soprano—(a) "Love's
Valley" (Forster); (b) "Butterfly Wings"
(Phillips). 3.40 p.m.: From Christ Church,
St. Laurence—organ recital, arranged by
Christian Hellemann. 4.0 p.m.: From the
Studio—a reading. 4.20 p.m.: From Christ
Church, St. Laurence—Organ recital, ar-
ranged by Christian Hellemann. 4.40 p.m.:
From the Studio—Popular music. 4.45 p.m.:
Stock Exchange, third call. 4.47 p.m.:
Popular music. 5.0 p.m.: Close down.

EARLY EVENING SESSION

Announcer: A. S. Cochrane.

5.40 p.m.: The Chimes of 2FC. 5.45 p.m.:
The "Hello Man" conducts the Children's
Session; letters and stories; music and en-
tertainment. 6.30 p.m.: Dalgely's market re-
ports (wool, wheat, and stock). 6.40 p.m.:
Fruit and vegetable markets. 6.43 p.m.:
Stock Exchange report. 6.45 p.m.: Weather
and shipping news. 6.48 p.m.: Rugby wire-
less news. 6.50 p.m.: Late sporting news.
7 p.m.: "Big Ben." Late news service.
7.10 p.m.: The 2FC Dinner Quartette, con-
ducted by Horace Keats.

EVENING SESSION

Announcer: Laurence Halbert.
Accompanist: Ewart Chapple.

7.40 p.m.: Programme announcements.
7.45 p.m.: Pianoforte reproduction.
7.52: England v. Tasmania, cricket scores.
7.54 p.m.: Popular music.
8.0 p.m.: "Big Ben." From the Capitol Theatre.
The Capitol Unit Entertainment.
8.20 p.m.: From the Studio—
Eileen Boyd, contralto—
(a) "The Enchantress" (Hatton).
(b) "How Did Everybody Learn" (Ewing).
8.27 p.m.: Joan Fry, pianist—
(a) "Jeux d'eau" (Ravel).
(b) "Tango" (Albeniz).
8.37 p.m.: Gwladys Evans and Robert Gil-
bert, vocal duets—
(a) Duet from "Don Giovanni" (Mozart).
(b) Duet from "Veronique" (Messager).
8.47 p.m.: To-night's Competition, conducted
by Scott Alexander.
9.2: Weather report and forecast.
9.3 p.m.: Joan Fry, pianist—
"Ballade F Minor" (Chopin).
9.11 p.m.: Eileen Boyd, contralto—
(a) "Heart's Ease" (Willebey).
(b) "Could I Forget" (Arnold).
9.18 p.m.: From the Capitol Theatre—
The Capitol Unit Entertainment.
9.40 p.m.: From the Studio—
"Chronicles of Creamy Creek"—told by the
Bush Parson.
9.55 p.m.: Gwladys Evans and Robert Gil-
bert, vocal duets—

(a) Duet from "La Traviata" (Verdi).
(b) "Bird Songs at Eventide" (Coates).
10.5 p.m.: From the Hotel Australia—
Cec Morrison's Dance Band.
10.15 p.m.: From the Studio—
Nea Hallett, in popular numbers.
10.22 p.m.: From the Hotel Australia—
Cec Morrison's Dance Band.
10.33 p.m. From the Studio—
Late weather report and forecast.
10.34 p.m.: Nea Hallett, in popular numbers.
10.41 p.m.: From the Hotel Australia—
Cec Morrison's Dance Band.
10.57 p.m.: From the Studio—
To-morrow's programme
10.59 p.m.: From the Hotel Australia—
Cec Morrison's Dance Band.
11.30 p.m.: National Anthem. Close down.

2BL

MORNING SESSION.

Announcer: A. C. C. Stevens.

8 a.m.: G.P.O. clock and chimes; metro-
politan weather report. 8.1 a.m.: State
weather report. 8.2: Studio music. 8.15
a.m.: G.P.O. clock and chimes. 8.25 a.m.:
Studio music. 8.30 a.m.: G.P.O. clock and
chimes; Studio music. 8.35 a.m.: Informa-
tion, mails, shipping arrivals, departures,
and sailings. 8.38 a.m.: News from the
"Daily Telegraph Pictorial." 8.45 a.m.:
G.P.O. clock and chimes; Studio music. 9.0
a.m.: G.P.O. clock and chimes; Studio
music. 9.30 a.m.: Half an hour with silent
friends. 10 a.m.: G.P.O. clock and chimes;
close down.

MIDDAY SESSION.

Announcer: J. Knight Barnett.

11 a.m.: G.P.O. clock and chimes; 2BL
Women's Sports Association Session, con-
ducted by Miss Gwen Varley. 11.30 a.m.:
Advertising hints. 11.40 a.m.: Women's
Session, conducted by Mrs. Cranfield. 12
noon: G.P.O. clock and chimes; special
ocean forecast and weather report. 12.3
p.m.: Pianoforte reproduction. 12.30 p.m.:
Shipping and mails. 12.35 p.m.: Market re-
ports. 12.48 p.m.: "Sun" midday news ser-
vice. 1 p.m.: Studio music. 1.30 p.m.:
Talk to children and special entertainment
for children in hospital. 2 p.m.: G.P.O.
clock and chimes; close down.

AFTERNOON SESSION.

Announcer: J. Knight Barnett.

Accompanist: Kathleen Roe.

3.45 p.m.: G.P.O. chimes; cricket scores,
England v. Tasmania. 3.46 p.m.: Pianoforte
reproduction. 4 p.m.: Romano's Dance Or-
chestra, conducted by Bennie Abrahams. 4.10
p.m.: From the Studio, Captain Fred. Aarons,
Mystery Story, "Condonation." 4.25 p.m.:
Dawn Harding, mezzo, (a) "The Lament of
Isis" (Bantock), (b) "In the Village" (Ban-
tock). 4.32 p.m.: James Walker, pianist,
(a) "Songs Without Words in A Major"

(Mendelssohn), (b) "Scherzo in E Minor"
(Mendelssohn). 4.38 p.m.: Romano's Dance
Orchestra, conducted by Bennie Abrahams.
4.48 p.m.: From the Studio, Dawn Harding,
mezzo, (a) "Secrecy" (Wolf), (b) "The Gar-
dener" (Wolf). 4.55 p.m.: "Suns" news ser-
vice. 5 p.m.: Popular music. 5.10 p.m.:
James Walker, pianist, "Waltz in E Minor"
(Chopin). 5.17 p.m.: "Sun" news service.
5.25 p.m.: Popular music. 5.37 p.m.: Fea-
tures of the evening's programme.

EARLY EVENING SESSION.

Announcer: Basil Kirke.

5.40 p.m.: Children's session; music and
entertainment. 6 p.m.: Letters and stories.
6.30 p.m.: "Sun" news and late sporting.
6.40 p.m.: 2BL Dinner Quartet. 7.10 p.m.:
Cricket scores, England v. Tasmania. 7.12
p.m.: Australian Mercantile Land and
Finance Co.'s report; weather report and
forecast by courtesy of Govt. Meteorologist;
Producers' Distributing Society's fruit and
vegetable market report; grain and fodder
report ("Sun"); dairy produce report
("Sun"). 7.25 p.m.: Mr. Pim and Miss Pam
in advertising talks and nonsense. 7.55 p.m.:
Programme and other announcements.

EVENING SESSION.

Announcer: Basil Kirke.

Accompanist: G. Vern Barnett.

8 p.m.: G.P.O. clock and chimes. Madame
Adrienne Talbot, violinist.
8.7 p.m.: Cliff Gane, comedian.
8.15 p.m.: Kathleen Nichols, soprano.
8.22 p.m.: David M'Kissock, 'cellist.
8.29 p.m.: Edith Cowley and Ian Maxwell,
entertainers.
8.39 p.m.: Tom King, novelty pianist.
8.46 p.m.: Eileen Shettle, contralto—
(a) "A Heap of Rose Leaves" (Willebey).
(b) "Lilacs" (Cadman).
8.53 p.m.: Christopher Faulkner, cornetist.
9 p.m.: G.P.O. clock and chimes; weather re-
port and forecast.
9.1 p.m.: A Sketch by Carrie Tennant.
9.11 p.m.: Amy Firth, mezzo.
9.18 p.m.: Madame Adrienne Talbot, violinist
9.25 p.m.: Cliff Gane, comedian.
9.32 p.m.: Kathleen Nichols, soprano.
9.39 p.m.: David M'Kissock, 'cellist.
9.46 p.m.: Edith Cowley and Ian Maxwell,
entertainers.
9.53 p.m.: Tom King, novelty pianist.
10 p.m.: G.P.O. clock and chimes.
Eileen Shettle, contralto.
(a) "Out on the Rocks" (Dolby).
(b) "Out of the Dusk to You" (Lee).
10.7 p.m.: A Sketch by Carrie Tennant.
10.14 p.m.: Christopher Faulkner, cornetist.
10.21 p.m.: Amy Firth, mezzo.
10.28 p.m.: Resume of following day's pro-
gramme.
10.30 p.m.: National Anthem; close down.

2GB

10.0 a.m.: Music. 10.10 a.m.: Happiness
talk, by A. E. Bennett. 10.20 a.m.: Music.
10.30 a.m.: Women's session, by Helen J.
Beegling. 11.30 a.m.: Close down. 2.0
p.m.: Music. 2.5 p.m.: Women's radio ser-
vice, by Mrs. Dorothy Jordan. 3.0 p.m.:
Address, by G. H. Chappel. 3.15 p.m.:
Close down. 5.30 p.m.: Children's ses-
sion, by Uncle George; Radio Movie Club.
7.0 p.m.: Stock and market reports, by
New Zealand Loan and Mercantile Agency,
Ltd. 7.30 p.m.: Feature story. 8.0 p.m.:
Violin solos, by Mr. Lionel Hargreaves.
8.10 p.m.: Songs. 8.20 p.m.: A humor-
ous interlude, by Mr. Jack Win and Mr.
Heath/Burdock. 8.25 p.m.: Pianoforte
solos, by Miss Ada Brook. 10.10 p.m.: Or-
by Madame Bennett North. 8.45 p.m.:
Frank Lua and his steel guitar. 8.55 p.m.:
A humorous interlude. 9.0 p.m.: Weather
report. 9.3 p.m.: Address. 9.15 p.m.:
Songs. 9.25 p.m.: Violin solos, by Mr.
Lionel Hargreaves. 9.35 p.m.: A humorous
interlude, by Mr. Jack Win and Mr. Heath
Burdock. 9.40 p.m.: Frank Lua and his
steel guitar. 9.50 p.m.: Songs, by Madame
Bennett North. 10.0 p.m.: Pianoforte
solos, by Miss Ada Brook. 10.10 p.m.: Or-
chestral items. 10.30 p.m.: Close down.



Miss
Kathleen Roe
to-night's
accompani-
ment at 2BL.

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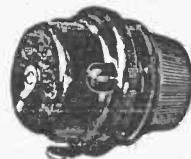
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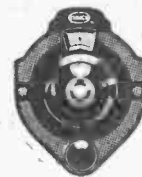
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Sugden Place off Little Collins St.
MELBOURNE

Interstate Programmes, Thursday, January 17

3LO

EARLY MORNING SESSION.

7.15 a.m.: Morning melodies. 7.20 a.m.: Morning exercises to music. 7.30 a.m.: Stock reports, Market reports. General news. Shipping. Sporting information. 8.0 a.m.: Melbourne Observatory time signal. Express train information. 8.1 a.m.: Morning melodies. 8.15 a.m.: Close down.

MORNING SESSION.

Announcer: Frank Hatherley. 11.0 a.m.: 3LO's different dairies for the daily dinner. To-day's radio recipe. Peach amber tart. 11.5 a.m.: Sonora recital. 11.25 a.m.: Matron Moreland will speak on "Mothercraft." 11.40 a.m.: Musical interlude. 11.45 a.m.: Mrs. Henrietta C. Walker will speak on "The Art of Being a Settler: Emigrations."

MIDDAY NEWS SESSION.

12.0 noon: Melbourne Observatory time signal. Express train information. 12.1 p.m.: Prices received by the Australian Mines and Metals Association from the London Stock Exchange this day. British official wireless news from Rugby. Reuters and the Australian Press association cables. "ARGUS" news service. 12.15 p.m.: Newmarket stock sales. Special report by John McNamara and Co. 12.20 p.m.: Community singing, transmitted from the Auditorium, Collins Street, Melbourne. 1.0 p.m.: The Australian Press association cables. Colin Crane (bass-baritone). Selected. 1.45 p.m.: Stock Exchange information. Meteorological information. Weather forecast for Victoria, Tasmania, New South Wales, and South Australia. Ocean forecast. River reports. Rainfall. 1.55 p.m.: Close down.

AFTERNOON SESSION.

Announcer: Frank Hatherley. Accompanist: Agnes Fortune. 1.58 p.m.: Description of Breakwater Hurdle Race, 2m. 58yds., at Warrnambool Races, by Eric Welch. 2.5 p.m.: The Station Orchestra. "Op. 100 in E Flat" (Schubert). Andante con moto. (Scherzo). 2.18 p.m.: Millie McCormack (mezzo-soprano). "Fairy Lullaby" (Quilter). "Lament of Isis" (Bantock). 2.25 p.m.: Cecil Parkes (soprano). "Fugue in A Major" (Franklin). "Moment Musical" (Schubert). "Chants and Variations" (Tartini-Kreisler). 2.38 p.m.: Description of Corinthian Handicap, 6 furlongs, at Warrnambool Races. 2.45 p.m.: Bernard Manning (bass-baritone). "Autumn Winds" (Korsec). "The Crown of the Year" (Maurin). 2.52 p.m.: May Broderick (piano). "Ballade" (Brahms). "Waltz in A Flat" (Brahms). "Musical Box" (Ladoff). 3.0 p.m.: Dr. Loftus Hills. "Topics of the Week." 3.15 p.m.: Description of Beach Steeplechase, 2 miles, Warrnambool Races. 3.24 p.m.: Wm. G. James will give a talk to students of music, illustrated with a suitable gramophone record. 3.50 p.m.: The station orchestra. "Autumn" (Bisetti). "Romance" (Grieg). 3.58 p.m.: Description of Lindsay Cup, 9/4 furlongs, at Warrnambool Races. 4.5 a.m.: The station orchestra. "Andante from Fifth Symphony" (Beethoven). 4.15 p.m.: Violet Jackson (soprano). "Where Violets Grow" (Postrel). "Snowflakes" (Cowan). 4.22 p.m.: The station orchestra. Overture, "Song of the Flame" (Stothart). 4.31 p.m.: Bernard Manning (bass-baritone). "The Lute Player" (Allislett). "The Windmill" (Nelson). 4.38 p.m.: Description of Pony Race, 4 1/4 furlongs, at Warrnambool Races. 4.45 p.m.: The station orchestra. "Voice of the Bells" (Thurban). Selected. 4.55 p.m.: News session. Acceptances and barrier positions for the V.A.T.C. Races at Caulfield, Saturday, January 19, 1929. 5.8 p.m.: Conclusion of the Final Handicap, 8 furlongs, at Warrnambool Races. 5.15 p.m.: Close down.

EVENING SESSION.

Announcer: Frank Hatherley. 6.0 p.m.: Answers to letters and birthday greetings by "Bobby Bluegum." 6.25 p.m.: Musical interlude. 6.30 p.m.: "Bobby Bluegum" in song and story.

NIGHT SESSION.

Announcer: C. J. O'Connor. Accompanist: Agnes Fortune. 7.5 p.m.: Stock Exchange information. 7.15 p.m.: Market reports. 7.30 p.m.: News session. 7.43 p.m.: Birthday greetings. 7.45 p.m.: Out of the Fast. 7.46 p.m.: Miss May Collins, now appearing at the New Comedy Theatre, will speak on "The Actor" (by permission of J. C. Williamson, dressing-room) (by permission of J. C. Williamson, Ltd.). 8.0 p.m.: "Baker of History." 8.1 p.m.: Rod McGregor will speak on "Cricket." 8.15 p.m.: The Radi-o-Aces. "The Lovel Legion" (Souvan "Chloe" (Meret). "Because My Baby Don't Mean Maybe Now" (Donaldson). 8.24 p.m.: Keith Desmond (eulouionist) will give a short recital. 8.27 p.m.: The Radi-o-Aces. "Wabaly Walk" (Green). "The Desert Song" (Romberg). "One Alone" (Romberg). 8.36 p.m.: E. Mason Wood (baritone). "Philadelphia" (Raynes). 8.39 p.m.: The Radi-o-Aces. "Alabama Stamp" (Creamer). "Anything You Say" (Donaldson). "In a Bamboo Garden" (Donaldson). 8.48 p.m.: Pat McLean (soubrette). "Child Impertinents." 8.51 p.m.: The Radi-o-Aces. "Get Out of Get Under the Moon" (Tobias). "That's My Weakness Now" (Step). "Nebraska" (Sisk). 9.0 p.m.: Millie McCormack (mezzo-soprano). "Apple Blossom" (Colburn). 9.3 p.m.: The Radi-o-Aces. "Forever More" (Burnett). "Roses of Yesterday" (Berli). "Is Goes Like This" (Caesar). 9.32 p.m.: Keith Desmond (eulouionist) will give a short recital. 9.16 p.m.: The Radi-o-Aces. "Is It Gonna Be Long" (Whiting). "Just Keep Singing a Song" (Sissel). "Minn-tonka" (Wallace). 9.25 p.m.: Pat McLean (soubrette). "Child Impertinents." 9.28 p.m.: The Radi-o-Aces. "Child Impertinents." 9.27 p.m.: The Radi-o-Aces. "The Dance of the Blue Danube" (Fischer). "Beautiful" (Gillespie). "Constantinople" (Carlton). 9.36 p.m.: E. Mason Wood (baritone). "Stoneraker John" (Coster). 9.39 p.m.: The Radi-o-Aces. "Gotta Big Date with a Little Girl" (Tobias). "Dream House" (Fox). "My Blackbirds are Bluebirds Now" (Friend). 9.48 p.m.:

Millie McCormack (mezzo-soprano). "The Blackbird's Song" (Scott). 9.51 p.m.: The Radi-o-Aces. "Rain" (Ruby). "Oh, Yes" (Friend). "I Ought to be a Law Against That" (Friend). 10.0 p.m.: "Argus" news service. British official wireless news from Rugby. Meteorological information: Announcements. 10.15 p.m.: On with the Dance. The Radi-o-Aces. "Ho, Ho!" (Sinasra). "Chiquita" (Wayne). "Just Like a Melody Out of the Sky" (Donaldson). 10.24 p.m.: Keith Desmond (eulouionist) will give a short recital. 10.27 p.m.: The Radi-o-Aces. "You Are Wonderful" (Ash). "Evening Star" (Turk). "Afrail" (Burnle). 10.36 p.m.: Millie McCormack (mezzo-soprano). "May Day at Islington" (Oliver). 10.39 p.m.: The Radi-o-Aces. "Paradise" (Zamcinek). "Cinnamon Cakes" (Bernard). "Beside a Lazy Stream" (Step). 10.48 p.m.: E. Mason Wood (baritone). "Kitty" (Fletcher). 10.51 p.m.: The Radi-o-Aces. "Dusky Stevedore" (Razall). "You're a Real Sweetheart" (Friend). "It Don't Do Nothin' But Rain" (Cook). 11.0 p.m.: Our Great Thought for to-day is: "Let us enjoy the fugitive hour. Man has no harbor; time has no shore; it rushes on, and carries us with it."—(Lamartine). 11.1 p.m.: The Radi-o-Aces. "How Long has This Been Going On?" (Welding). "Why Can't You Care?" (Gilber). "High Noon" (Hilton). "Easter" (Plantados). "My Inspiration Is You" (Nichols). "Dawning" (Silver). "Ready for the River" (Meret). "Good-night Waltz" (Bibho). "Good-night Song." 11.40 p.m.: God Save the King.

3AR

Announcer: Frank Hatherley. 10.0 a.m.: G.P.O. clock says "Ten." 10.1 a.m.: "Age" Stock exchange reports. London market. 10.10 a.m.: "Age" market reports. Farm and station produce, fruit, fish, vegetables, etc. 10.25 a.m.: "Age" shipping reports. Ocean forecast. 10.30 a.m.: Mail notices. Express train information. 10.35 p.m.: "Age" news service, exclusive to 3AR. 10.59 a.m.: Weather forecast.

MORNING MUSICAL SESSION.

11.0 a.m.: Melodious measures on the studio seraphina. 12.0 noon: Captain Donald McLean. "How Many Perils Does He Eat" (Spenser). 12.15 p.m.: Melodious measures continued. 12.30 p.m.: British official wireless news. Announcements. 12.50 p.m.: Melodious measures continued. 1.30 p.m.: Close down.

NIGHT SESSION.

Announcer: C. M. Hosking. 8.0 p.m.: Under the auspices of the Nurserymen and Seedsmen's Association of Victoria, W. R. Warner will speak on "Winter Flowers." 8.15 p.m.: E. A. Gollan, director of the Y.M.C.A. Canoe Club, affiliated with the Victorian Canoe Association, will speak on "Canoe Racing." 8.30 p.m.: The station orchestra. Overture, "Merry Wives of Windsor" (Nichols). 8.37 p.m.: Violet Jackson (soprano). "Luckeddy" (Gompston). "In An Old-fashioned Town" (Squire). 8.44 p.m.: The station orchestra. Suite, "La Deux Pigeons" (Messanger). 9.53 p.m.: Bernard Manning (bass-baritone). "Roses Red in the Garden" (Ronald). "The Season" (Quartette). 9.0 p.m.: O. Kay's Director, George English. Chorus, "Funiculi Funicule." Chorus, Veronica Cox, "April Morn." Ted Jones. "Yeoman's Wedding Song." Chorus, "Comrades in Arms." Chorus, Boy Till. Chorus, "Sympathy." Sextette, "Lida d' Lammermoor." Veronica Cox, Josie Muller, George English, George Bryer, J. Stewart, and Ted Jones. Quartette, O. Kay Quartette, "Old Man Moses." Ted Jones. Lettie "A Courtship Courtship." Veronica Cox, "I Heart that's Free." Chorus, Negro spiritual, "Get Out Shoes." Duet, tenor and baritone, George English and Jack Stewart, "Negro Melodies." Chorus, 9.35 p.m.: The station orchestra. "The Student Prince" (Romberg). 9.45 p.m.: Violet Jackson (soprano). "The Lass with the Delicate Air" (Arne). "Love is Meant to Make Us Glad" (German). 9.52 p.m.: The station orchestra. "Romany and Gipsy" (Gounod). 10.7 p.m.: Bernard Manning (bass-baritone). "The Yodel" (Wilson). "The Admiral's Yarn" (Rubens). 10.14 p.m.: The station orchestra. "Eastern Romance" (Korsakov). 10.20 p.m.: "Age" Announcements. 10.30 p.m.: God Save the King. Announcements. 10.30 p.m.: God Save the King.

4QG

EARLY MORNING SESSION.

7.43 a.m.: Time signals. 7.45 a.m.: News service. 8.0 a.m.: Some electric records. 8.15 a.m.: News service. 8.30 a.m.: Close down.

MORNING SESSION.

11.0 a.m.: Music. 11.5 a.m.: Social news. 11.15 a.m.: Lecture, a gardening talk, by "Tecoma." 11.30 a.m.: Music. 11.35 a.m.: More social news. 11.45 a.m.: Wurilizer organ. 12.0 (noon): Close down.

MIDDAY SESSION.

1.0 p.m.: Market reports and weather information. 1.1 p.m.: A lunch-hour address. 2.0 p.m.: Close down.

AFTERNOON SESSION.

3.0 p.m.: Orchestral music by the Tivoli Operatic Orchestra, under the baton of Mr. C. Groves. 3.30 p.m.: Mail train running times; a programme of electrically-reproduced records. 4.0 p.m.: Orchestral music. 4.15 p.m.: Afternoon news. 4.30 p.m.: Close down.

EARLY EVENING SESSION.

6.0 p.m.: Mail train running times; mail information; shipping news. 6.5 p.m.: Dinner music. 6.25 p.m.: Commercial announcements. 8.30 p.m.: Bed-

time stories, conducted by "The Sandman." 7.0 p.m.: News in brief. 7.5 p.m.: Stock Exchange news. 7.6 p.m.: Metal quotations. 7.7 p.m.: Market reports. 7.25 p.m.: Fenwick's stock report. 7.30 p.m.: Weather information. 7.40 p.m.: Announcements. 7.43 p.m.: Standard time signals. 7.45 p.m.: Lecture, poultry talk, by Mr. F. Rumball (poultry instructor).

NIGHT SESSION.

A programme of Scottish music. 8.0 p.m.: From the studio. Pipe-Major M'Corkindale, bagpipe selections. 8.10 p.m.: Agnes Kerr (contralto). "John Anderson My Jo." 8.15 p.m.: The Studio Instrumental Quartette (conductor, Fred C. Smith)—Hull-land patrol, "Wee M'Gregor." 8.22 p.m.: A. N. Falk (baritone). "Jock o' Hraidean." 8.26 p.m.: H. Scott MacCallum (violinist), Scottish fantasia, "Culloden" (McKenzie Murdoch). 8.34 p.m.: Part-song by 4GG artists, "Blue Bells of Scotland." 8.40 p.m.: May King (contralto). "Robin Adair." 8.45 p.m.: The Studio Instrumental Quartette—one-step, "She's Ma Daisy." 8.49 p.m.: Stanley Tamblay (bass). "The Laird o' Cockpen." 8.53 p.m.: Nance King (soprano). "Jessie's Dream." 8.55 p.m.: Agnes Kerr and Stanley Tamblay, vocal duet, "Huntingtower." 9.0 p.m.: Metropolitan Orchestra, forecasts. 9.1 p.m.: Pipe-Major M'Corkindale, bagpipe selections. 9.10 p.m.: D. Ritchie, Scottish entertainer. 9.20 p.m.: Agnes Kerr (contralto). "Comin' Thru the Rye." 9.25 p.m.: The Studio Instrumental Quartette—"I Love a Lassie" (March of the Cameronians). 9.35 p.m.: Mercury (Hasslam Water). "Bonnie Mary of Argyll." 9.38 p.m.: Wind-fused Haslam (contralto), "Annie Laurie." 9.43 p.m.: The Studio Instrumental Quartette—"Scottish Fiddle." 9.50 p.m.: Stanley Tamblay (bass). "March of the Cameronians." 9.55 p.m.: Mercury (Hasslam Water). "Bonnie Mary of Argyll." 9.58 p.m.: Wind-fused Haslam (contralto), "Annie Laurie." 9.43 p.m.: The Studio Instrumental Quartette—"Savvy Scottish Medley." 10.0 p.m.: The "Daily Mail" news, the "Courier" news, weather news. Close down.

7ZL

MIDDAY SESSION.

11.30 a.m.: Selections. 11.34 a.m.: Social Midlands weather forecast. 11.35 a.m.: Selections. 11.55 a.m.: Tasmanian station's 9 a.m. weather report. 12.0 noon: G.P.O. clock chimes the hour. 12.1 p.m.: Shipping information. British official wireless news. Mail notices. Housewives' guide. 12.8 p.m.: Selections. 12.11 p.m.: British Official Wireless news. 12.20 p.m.: Selections. 12.29 p.m.: Announcements. 12.35 p.m.: Selections. 1.00 p.m.: News service. 1.10 p.m.: Selections. 1.30 p.m.: Close down. 2.0 p.m.: Running description of Breakwater Hurdle Race, 2m. 58yds., run at Warrnambool Racecourse, Warrnambool, Victoria. 2.5 p.m.: Close down. 2.40 p.m.: Running description of Victorian Handicap, 6 furlongs, run at Warrnambool Racecourse, Warrnambool, Victoria. 2.45 p.m.: Close down.

AFTERNOON SESSION.

3.0 p.m.: G.P.O. clock chimes the hour. 3.1 p.m.: Selections. 3.20 p.m.: Weather information. 3.5 p.m.: Selections. 3.26 p.m.: Running description of Beach Steeplechase, 2 miles, run at Warrnambool Racecourse, Warrnambool, Victoria. 3.25 p.m.: Selections. 4.0 p.m.: Running description of Lindsay Cup, 9/4 furlongs, run at Warrnambool Racecourse, Warrnambool, Victoria. 4.5 p.m.: Selections. 4.40 p.m.: Running description of Pony Race, 4 1/4 furlongs, run at Warrnambool Racecourse, Warrnambool, Victoria. 4.45 p.m.: Selections. 5.10 p.m.: Running description of Trial Handicap, 5 furlongs, run at Warrnambool Racecourse, Warrnambool, Victoria. 5.15 p.m.: Close down. 6.10 p.m.: Results of the Warrnambool Races.

EARLY EVENING SESSION.

6.15 a.m.: Selections by the Melody Masters. 6.30 a.m.: Mollie Hall will recite to the wee folk. 6.45 a.m.: Selections by the Melody Masters. 7.0 p.m.: Answers to letters and birthday greetings by "Bobby David." 7.5 p.m.: Request numbers for the children. 7.15 p.m.: News session.

EVENING SESSION.

7.30 p.m.: Gus Froelich, ex-European champion swimmer, and world's record breaker, explains how a child of 5 years of age can be taught to swim. 7.45 p.m.: J. M. Counsel will speak on "Old Identities: Judge Giblin." 8.0 p.m.: G.P.O. clock chimes the hour. 8.24 p.m.: A studio concert by 4GG artists and the Discus Ensemble. Raymond Johnson (baritone). "Love's Coronation" (Aylward). "The Old Road" (Scott). 8.13 p.m.: Kettleby's concert orchestra. "In a Persian March" (Wright). 8.20 p.m.: Doreen Ellison (soprano). "Danny Boy" (Waterley). "By the Waters of Minnetonka" (Leuridan). 8.27 p.m.: The Wavallan guitar duet. "Aloha Land." Washbush (soprano). "Cello solo by W. H. Squire." 8.41 p.m.: Rene Dyer (soprano). "The Rosary" (Nevin). "Birds Go North Again" (Willeby). 8.46 p.m.: Wilfrid Kemp (violin solo). "Serenade" (Fuchs). 8.53 p.m.: Doreen Ellison (soprano). "Spring" (Henschel). "Butterfly Wings" (Phillips). 9.0 p.m.: Classic Symphony Orchestra. "Stradella" (Monte). 9.20 p.m.: Jack Broadbent (baritone). Selected. 9.11 p.m.: Wilfred Kemp (violin solo). "On the Wines of Song" (Mendelssohn). "Meditation" (Gounod). 9.21 p.m.: Rene Dyer (soprano). "Aeolo Cradle Song" (Clusdon). "My Dear Soul" (Byron). 9.28 p.m.: New Queen's Hall light orchestra. "Peer Gynt Suite." No. 2. 9.38 p.m.: Ray Johnson (baritone). "My Prayer" (Squire). "King Charles" (The White). 9.42 p.m.: "The Wagon Wheel" (Collings). "Missus" (Logan). "Till We Meet Again" (Whiting). 9.50 p.m.: News session. 10.0 p.m.: G.P.O. clock chimes the hour. 10.2 p.m.: God Save the King. Close down.

The WIRELESS WEEKLY

RADIO INFORMATION

Under the direction of

Ray Allsop

and

Don B. Knock

(Associate Technical Editors)

Service

Correspondence Answered

only through

these

Columns

(See Coupon Below)

A.R. (Allawah).—'I have built the crystal set described in the Information Service, 'Wireless Weekly', 7/12/28, and the receiver will not work. The aerial is very low, being joined to the guttering of my house, and to a four-foot pole on my fence. The earth is about 12 feet long, and is in a peach tin filled with water. Can you tell me how I shall fix my set? Diagram of wiring is enclosed.'

Answer: I spent an enjoyable five minutes reading your letter through again and again! Considering your locality, it is rather a wonder the little crystal set did not become abusive when attached to such an aerial—earth system! The aerial should be at least 30 feet high—for your locality—and should NOT be attached to the guttering of your house, as you are then earthing it, and rendering the receiver worse than useless. It would have a better chance were you to use no aerial or earth at all. As for a piece of wire stuck in a tiny peach tin (filled with water) for an earth—this is absolutely of no use whatsoever. Attach your earth wire to a water tap—or, if this is not available, bury a kerosene tin, with the earth wire soldered to it—about three feet in moist earth.

C.G.L. (Goulburn).—'I have a Mingay super-five radio set, using Philips' A409 valves. Since altering my aerial to a six wire hoop type I would like to know if I should use higher efficiency valves. During daytime reception is clear, but at night it varies.'

Answer: Conditions are none too favorable at present, and Goulburn is apparently not the best place for radio reception. The explanation of good reception during daytime, but bad reception at night, may be accounted for by the fact that a doctor, or someone else living near you, starts up an electrical machine. This would have the effect of which you complain. Your other letter also answered in these columns.

A.P.J. (Sumengerie).—'I have a Schnell short-wave adapter, which seems to be out of order. When I plug the speaker into my broadcast set, all I can hear is a whistle, which still continues when the speaker is taken off. If I place my finger on one of the transformer terminals this whistle vanishes.'

Answer: Place a .002 fixed condenser across the secondary of the transformer, and an R.F. choke in series with the detector plate lead.

W.H.C. (Channon).—'Can you tell me how to rejuvenate my 'B' (dry) battery?'

Answer: Remove the lower insulation and pierce each zinc cell. Soak the block in sal-ammoniac for twenty-four hours, then seal up the bottoms again.

Mr. W. H. Clarke, of Turntable Creek, Channon, via Lismore, N.S.W., writes:—'I have on hand all copies of 'Wireless Weekly' dating back to June 18, 1928, and would be glad to supply readers with back numbers, if they write to the above address and enclose postage.'

Answer: Thanks, Mr. Clarke. I fear you will be kept busy!

'Reinartz' (Lismore).—'I am the owner of a three-valve Reinartz receiver, and would like to know if there is any advantage in using heavy type 'B' batteries. If so, what voltage should I use for 201A valves? Would it be advisable to use a rheostat on the 'B' voltage? How many ohms? Should the rheostat be placed in the 'B' negative or 'B' positive lead?'

Answer: Yes, there is an advantage in using the heavy duty batteries. The amperage is greater, and your batteries will therefore give longer service. Use three of the 42 or 45 volt type in series. There is no advantage gained by using a variable resistance in the 'B' plus lead except to control the voltage. Use one of 0-100,000 ohms, if you wish to try out the idea. Place the resistance in the positive lead.

C.G.L. (Goulburn).—'I have a super-five valve receiver using valves as per attached list. Since altering my aerial to a six-wire type I would like to know if it is necessary for me to use higher efficiency valves.'

Answer: No, it will not be necessary to use different valves. However, you could improve on your previous selection by using two A409 Philips valves for the radio frequency stages—an A415 for the detector, and A406 for the first audio, and an A409 for the last audio stage. The fact that reception varies at night may be due to some local disturbance. Try an underground aerial.

L.K. (Poakatawe)—(1) 'I have an eight-valve superheterodyne of my own design, which works excellently from a loop. In daytime, however, reception is marred by a rushing sound. What is the cause of this, and how may it be eliminated or minimised?'

Answer: Evenly some local disturbance. A slight hum may be heard with the transmission, and is caused by the power alternators. Try the use of an underground aerial, and if this does not reduce the interference satisfactorily, build the inter-

ference eliminator, circuit of which appeared in last issue.

(2) 'What is the correct value of the variable resistance to shunt across the reaction coil as a regeneration control?'

Answer: The resistance should be one of 0-500,000 ohms. C.A.R. (Woolahra).—(1) 'I would be greatly obliged if you could tell me the best R.F. valve to use in my Selectrex Four, which was published in your paper December, 1927. I am using a six-volt accumulator. I am at present using an A630, which does not give me the results I desire.'

Answer: Use an A635. (2) 'Has there come to light any circuit (using four valves), which would give me better results?'

Answer: Build the Marco Four. The circuit appeared in last issue, in the queries columns. A modernised version of this receiver will shortly be published.

R.S. (Double Bay).—'I am contemplating building the single control Marco Four, which appeared in 'W.W.' February 3, 1928. In the article you specify No. 26 gauge wire. Can 24-gauge be used? If so, please state the correct number of turns for the aerial, r.f. coil (grid), r.f. coil (primary), detector grid coil, and reaction coil.'

Answer: Yes, you can use this gauge wire. For the aerial coil wind on 14 turns, r.f. grid coil 45 turns, r.f. primary 23 turns, detector grid coil 45 turns, reaction coil 19 turns. You enclosed a stamped envelope, but we do not reply by post. Please enclose coupon next time, or your queries may not be answered.

J.H. (Wallsend).—'During the last three or four weeks my reception at night has been far from satisfactory. Daylight reception is perfect, but as soon as night approaches a rushing sound starts. Some nights it is that strong that it is impossible to listen. My aerial is at right angles to the electric power mains.'

Answer: This is either due to local interference or to a leakage from a power transformer in the near vicinity. You should ask the local council to have the matter looked into. See if other listeners in your vicinity are troubled with the same noise. If so, use an underground aerial, or build the interference eliminator which appeared in these columns last issue.

R.J.K. (Duntroon).—'Is the seven-valve superheterodyne a success in conjunction with a 'B' socket power unit on the broadcast band?'

Answer: I suppose you refer to the broadcast receiver. Yes, it may be used with good results. If you refer to the S.W. superheterodyne, I would not advise the use of an eliminator for either B.C. or S.W. work.

(2) 'Which would be the best eliminator—a Philips' No. 3002 or an Emmco 'Maxum'?'

Answer: We cannot, for obvious reasons, discuss the merits and otherwise of our advertisers' products. Your best plan would be to look up the literature issued by the respective firms, and make your own comparisons.

(3) 'Would any alteration be necessary in my receiver (which is battery-operated) in order to use an eliminator?'

Answer: No, though you could use a power valve in the audio stage, with improved results.

A.G. (Granville).—'About four weeks ago I blew three valves in my Reinartz Three. I scrapped these valves after being tested by a dealer, but after a spell of three weeks the 415 and the 309 (Philips) resumed duty, and are carrying on as good as ever. The 406 still refused duty. I converted the three-valve into a Marco Four, and imagine my surprise when putting the valves into their sockets when I found that the 406 valve, placed in the R.F. socket, lit up brightly. Strangely enough (to me), it will not light in any of the other sockets, although the other valves are doing their bit in these sockets. I may mention also that the 'B' and 'C' batteries were not connected at the time; also the valve in question will not light when making direct contact to the 'A' or 'C' battery leads. I have not been able to test this valve to see if it will work in the set. As I mentioned to you in a letter last week—my 'B' battery died young, and I cannot see my way clear (after buying the family toy and the raspberry vinegar for the festive season) to get another before Panake Day. I will take this opportunity of expressing my appreciation of the new 'Wireless Weekly'. The 'Proving Radio' page is what hundreds of us (mugs) have been waiting for. I know I have tried hard to get some grasp of the fundamental principles of radio, but I felt like a five-year-old kid being sent to school for the first time and dumped straight into the fourth class without knowing my A.B.C. I have already per-

suaded four others to follow up the articles, and will persuade many more, as I am moving about among a thousand men at the Loco. Dept., and it may be news for you to know that there is not one man among the hundreds that I come into contact with that know anything about wireless, and the joke of it is, they have got it into their heads that I am a wireless expert, and I hardly know a gridleak from a transformer, but there are those who are people who would build sets but for the fact that they cannot understand the articles or books at present on the market. They won't buy a receiver either, because they reckon it is like buying a pig in a bag—you see, you won't know what they're putting across. So I am sure 'Proving Radio' is going to start a lot of them on the job. I don't know if you will have the time or inclination to read through this, but it doesn't matter, anyhow. I am looking forward to the Marco Four to appear in 'Wireless Weekly'. If you have got this far will you please tell me if the coils specified in the Marco Four of 'W.W.' Nov. 4, 1927, will work satisfactorily with Philips' valves? The article states that the R.F. coil was specially designed for a UX201A valve.'

Answer: The valves were 'paralysed' in the first instance, and were not actually blown out. A blown-out valve has a broken filament, and the valve then becomes useless. I myself have often accidentally caused the 'B' current to flow through the filaments of valves, but have found that in most cases, after one or two weeks, the valve is just as good as ever it was. In a way, this is the same treatment as rejuvenation, but it takes longer to recuperate from the accidental treatment because the voltage used accidentally is more than would be ordinarily used. Further, this voltage (called the 'flashing voltage') should be followed by smaller power (called the 'aging' voltage). Many valves accidentally shorted with the 'B' battery can be quickly recuperated by disconnecting the 'B' battery and leaving the filaments lighted for about an hour. The valve mentioned should not light (visibly). I am afraid I cannot explain the phenomenon. It might have been possible if you had had the 'C' battery connected. Try 'aging' the valve in question by giving it the treatment outlined above. Test the filament connections of the R.F. stage valve. Glad you like the 'Proving Radio' series. The circuit of the Marco Four appeared in these columns last issue. The modernised Marco Four will appear shortly. The coil L2 was designed specially for the 201A valve, and it may be necessary (when using four-valve valves) to wind this coil with 50 turns of 32-gauge D.C.C. wire. The coil is not critical if attention is paid to coupling.

E.G.F. (Leichhardt).—'I have a number of 'Wireless Weekly's, which I will post to any address on receipt of postage for same.'

Answer: Thanks, Mr. Ferguson. Those wishing to get in touch with Mr. Ferguson will find him at 41 South Avenue, Leichhardt.

J.L.S. (Chatswood).—'I would like to build the Peridyn, but the coils will be rather expensive. Where can I obtain specifications of these coils?'

Answer: Write to Metropolitan Electric Co., who have complete specifications, and who also market special kits for those who desire to wind their own

QUERY COUPON

If you are in difficulties about reception or set-construction, let us know, and we will endeavor to set you right. Make your questions brief to the point, and, where possible, show in-out and wiring design. Under no circumstances will answers to queries be made by letter or by telephone. All answers will appear in the columns of this department in the order in which they are received.

The Radio Information Service, WIRELESS WEEKLY. Please answer the accompanying queries in the order in which they appear in this coupon in order to indicate your earliest convenience. I enclose this coupon in a bona-fide reader.

Perlydne coil kits. Re your request—the only description given of the coils appears with Mr. Bug Oernsbach's original article in American Radio News.

R.J.M. (Oralla).—(1) "I have a good Perlydne receiver built in May last, and fitted with Advance Pantagraph. I have fitted two Philips A-42 valves with by-pass condensers, chokes, etc., but instead of an improvement, it is not so good. Is this method satisfactory, or should 42's be shielded? This is the first failure I have had with screen-grid valves.

Answer: You do not forward a circuit, therefore it is hard for us to say whether you have made an error in this direction. It would be advisable to shield the 42's.

(2) "The pantagraph only extends to 2FC. Will a .001 capacitor fitted to condenser raise the wave-length to 3AR or 7ZL?"

Answer: No. A series condenser in the aerial lowers the wave-length. Add a few turns to the secondary coil in the detector stage—try four or five turns.

(3) "I have tried the Philips' 443 on all voltages from 50 to 130 volts, but find it no better than any power valve. Do you think the valve is faulty?"

Answer: No; I think your trouble is grid-bias. You will find that the bias is in the vicinity of twelve volts. The bias voltage for this valve is critical to the volt.

R.P.A. (Ballmore).—"Could you please tell me if it would be possible to bury a Rotary Converter about three feet in the ground? Would this stop the wireless set picking it up? The converter belongs to a Brunswick Panophone."

Answer: Yes; do this. It will help. Also use a counterpoise instead of an earth connection. Make certain that the converter is shielded properly from dirt and moisture before you bury it.

C.M. (Grafton).—"In the 1928 Solodyne circuit published in 'Radio and Wireless Weekly,' the screen grid valve for the radio tubes are of the horizontal type and are placed through holes cut in the screens. Would it be possible to use valves of the vertical type such as Philips' or Radiotone (yes) instead? If so, what alterations will be necessary in the layout and screening?"

Answer: Your suggestion is quite in order. Suggest the Philips' A42 S.G. valve, which may be mounted in the same way. I do not advise the use of the UX222 valves in this circuit.

T.W. (Rose Bay).—"Can a valve be mended when, after a sharp knock, the plate has been moved from its correct position, leaving about a quarter of an inch of the grid element showing? None of the elements are touching, and the valve still operates, although nothing like as efficiently as originally."

Answer: No. The only chance you have of repairing the valve is to knock the element back again. Your best plan would be to disconnect the battery and turn the light up the filament, and place a high plate voltage on the valve, when it will become hot, and you will have a better chance of moving the element without breaking it. It will not do in spite of this method, but an easy job, but it's worth trying, anyhow.

M.P. (Sydney).—"My husband and I would like to know all particulars about an underground aerial mentioned in 'W.W.' a few weeks ago. Where can this aerial be obtained? I am enclosing diagram of our set. Is it O.K.? Since installing an eliminator I have failed to pull in inter-State stations. Previously all stations had been received at full speaker strength. I wish to place reaction in this set. What method would you advise, as the reaction on the Circloid kit is immovable."

Answer: As far as I am aware, it is not possible to buy a second-hand aerial. It is a simple affair to fix it yourself, however. Use Electron wire, and place it in a length of conduit equal to the length of the aerial. Seal up the ends. Bury the pipe about three feet deep. The end of the pipe giving outlet to the lead-in wire, should be turned so that it just comes above the level of the earth. If this is not done, the covering round the electron wire will rot away, and shielding precautions will be wasted, as the aerial will be earthed. Perhaps the rectifier in your eliminator is faulty. Have it tested by your dealer. Most users of an eliminator make the error of overloading their detector valves. Use not more than about 45 volts on the R.F. stages, and 30 volts on the detector. For Reinartz Reaction wind a coil about three inches in diameter consisting of 30 turns of 30 gauge D.S.O. and place this inside the Circloid coil in the detector stage. The circuit will be published in the next issue. Tuning managed by means of a .00025 variable condenser.

A.F.K. (Willoughby).—"Will you please tell me how I can add reaction to my receiver?"

Answer: See reply to M.P. (Sydney) above. Pressure of space does not allow for diagrams this issue. Watch these columns next week.

J.B.C. (Leichhardt).—"Recently, my wife and I decided to build a radio from the home-made kit, and find that I cannot give it up, so interesting has it become to me. Therefore I wish to ask you to spare valuable space in your Radio Information Service to print a two-valve circuit using crystal detector. I have a Harley crystal detector, and would like to use it."

Answer: The circuit will appear next issue. Other readers will also be interested in this circuit, as results are extremely clear and voluminous. Full details will appear with the circuit, but if any are in doubt, I shall be pleased to advise.

H.J. (Gordon).—"I recently built a crystal set (circuit enclosed). Usually receive 2FC on the tapping at 50 turns, but while I was listening this morning, the music died out, and I could not pick it up again until I changed the tapping to 75 turns, and then it came back. I have a variable condenser. The crystal adjustment must have altered, thereby altering the resistance. Remove your crystal from its cup by means of a pair of tweezers and gently scrape the surface to remove the dull spots."

Answer: The crystal adjustment must have altered, thereby altering the resistance. Remove your crystal from its cup by means of a pair of tweezers and gently scrape the surface to remove the dull spots.

C.H. (Albury).—"Have you any idea when the

Cosmor Quintode valve will be obtainable in Australia?"

Answer: The agents advise us that they have been expecting a consignment for some time, but to date they have received no word from London. They will let us know when these valves are received, however, and we shall be pleased to advise you through these columns.

S.T.G. (Queensland).—"I wish to thank you for the missing copy which you kindly appealed for through your paper. There was quite an unexpected response. Up to date I have received over fifty replies and copies, from Adelaide to Nor-n Queensland, and in most cases I replied personally. However, owing to some benefactors not sending a letter or address I have a few strays, and I should like to thank these senders through your columns. One gentleman said his daughter was collecting for the hospital so I kept that copy and returned the others. Will you please publish the following little letter of thanks:—S. T. Grice, No. 12 Prospect Terrace, 8th Brisbane, Qld., wishes to thank all who responded to his S.O.S. for a copy of 'W.W.' Fifty replies came to hand, and they are still rolling up. I kept one, and reprinted all those for which I had names and addresses. I now have copies (inclusive) since September 11, 1925 (Vol. 6, No. 20). Anyone having the complete issues previous to that (from the first issue) wishing to sell, please communicate, stating price."

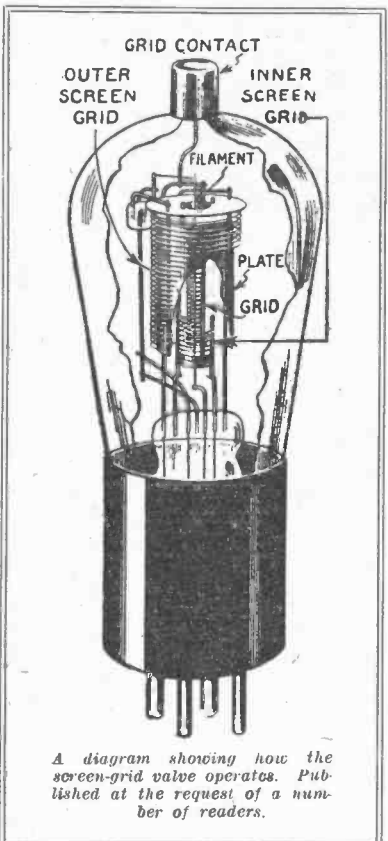
Answer: I am pleased to hear that your requirements were met. Mr. Grice. Other readers who have asked us to request copies have had a similar experience to yours.

BRIEF REPLIES

S.J.R. (Jervis Bay).—"Do not advise you to change the type valves supplied with your receiver, which is of good make. The trouble may be occasioned by the battery. Accumulators give good service for approximately 18 months, as do valves when it is advisable to make a change. Stick to the same type, however."

L.W.G. (Lakemba).—"A one-valve Reinartz receiver appeared in these columns on the 28th December, 1928."

F.S. (Glebe Point).—"Mr. L.W.G., of Sproute St., Lakemba, is asking for a copy of the circuit of your one-valve receiver. Can you oblige, please?"



A diagram showing how the screen-grid valve operates. Published at the request of a number of readers.

J.M.S. (Dorrigo).—"The transformers mentioned will be quite O.K. with these valves. We do not reply by post. You took a risk, you know, enclosing the circuit you value so much, when we have repeatedly mentioned that no queries are answered by post. In this instance, however, we shall return the circuit by post. Next time, please, send a copy. Other readers please note."

F.R.E. (Plye Dock) writes—"Will you please publish a request for 'Radio,' October, 1927, also 'Wireless Weekly,' containing the Marco Four?" The address is Mr. F. R. Evans, 54 Waremba Street, Five Dock.

A.L.L.T. (Moore Park).—"Your request was answered before I received it. Mr. Gannon had so many requests for particulars of his circuit that I wrote in to us, and particulars were published in a recent 'Safety Valve' column."

Mr. Frank Bell, 56 Holder Street, Ashfield, asks if any of our readers could supply a copy of 'Wireless Weekly' for January 15, 1928. Mr. Bell will be pleased to pay for same.

Mr. L. Hellyer, 36 Young Street, Sydney, requests that we publish an urgent S.O.B. for a copy of 'W.W.' for January 15, 1928, under the usual conditions, i.e., postage paid.

Mr. O'Brien.—Re your letter recently published in the 'Safety Valve' in connection with Pick-ups, I have a couple of letters here for you. Please send your address.

P.L.Q. (Sydney).—"Sorry I have not Mr. O'Brien's address; perhaps he will see the above note. We'll hope so, anyway."

R.N. (Annandale).—"Build the Marco Four, Vol. 11, No. 2."

G.W. (Narrandera).—"Thanks for the coupon. Where's your letter?"

No Name (Victoria).—"Sorry we have no copies of the Marco Four. The circuit appeared in these columns a week or so ago. This receiver will suit your requirements. If any readers have a spare copy of this issue, No. 10, of Redcliffs, Victoria, would like to get hold of this issue."

C.V.W. (Forest Lodge).—"Your request cannot be answered through these columns. It would take up too much space. I shall jot down your suggestion, and when time permits, will be pleased to give you an article on the subject of A. Eliminators."

A.J.S. (Inverell).—"The Penthode valve is equal to two ordinary three element valves, transformer coil, providing all potentials are correct, 120 Yes, in later issue of 'W.W.' it is far better to use separate condensers. Ganged condensers may be used if the filament returns are common, and if the filament returns have the same capacity. (1) It is easier to separate stages when each stage one control is used. (2) Yes, a high grid bias would be necessary and this is critical with the valve mentioned."

J.C. (Hurlstone Park).—"Yes, the three condensers in the Perlydne may be ganged. Do not advise it, however, for reasons outlined in brief reply to A.J.S. (Inverell) above. If you desire specifications for winding your Perlydne kits, write to Metropack Electric, who can supply your requirements in greater detail than is possible through these columns. The last stage of A.F. could be cut out when not required by using a D.P. jack. The wave-trap idea is O.K."

A.W. (Waterloo).—"It is not possible to judge the wave-length by the numbers appearing on your tuning dials. Suggest you have the receiver calibrated and use a wave-measure. It will be a simple matter then to tune in on inter-State wave-lengths."

A.G. (Muttaborra).—"An excellent idea in theory, but difficult in practice, owing to the fact that the coils would be too bulky with screened coils. Besides there are few casual listeners who would care to be bothered with every change of station, and desired to listen to a different station. Nevertheless, you are to be congratulated on the thought you have given to the idea. Try improving it in the direction mentioned above. Good luck!"

R.S. (Munduberra).—"I have put a notice in these columns in the hope that Mr. O'Brien sees it. If so, I will forward your letter as soon as I receive his address."

L.T. (Croydon).—"The transformer mentioned in the article 'The Stability Transmitter' was made by Colville, Moore, Ltd., Rose Street, Sydney. The filament voltage of the UX281 is 7.5 volts, current consumption 1 ampere."

A.C.T. (Dummocky).—"The grid-leak or condenser is faulty. Glad you liked the Ultimax. One reader pulls in the Japs on his edition!"

O.C.M. (Marrickville).—"In place of the home-made choke for the short-wave receiver, you can use the second set of an old radio. Any of the old sets you make of six-volt valves can be used, such as Philips', Cosmor, Mullard, Radiotone, etc. If you desire to use Philips' get an A 615 for the detector, and an A 616 for the audio. Radiotone 201A's may be used if desired."

A.M.A. (Clarence River).—"Either the reaction coil or the reaction condenser has too large capacity. Try reversing the connections to the reaction coil. Also try moving it further away from the secondary."

G.W. (Bexley).—"The A.R.R.L. Handbook will give you a good selection of transmitters. It is necessary to get your license before you transmit. Sorry I cannot give regarding details of the microphone I mentioned in my article 'Short Wave Radio' here. I to publish it here I should be stepping ahead of the series. Just follow the articles as they appear—you must walk before you can run, you know."

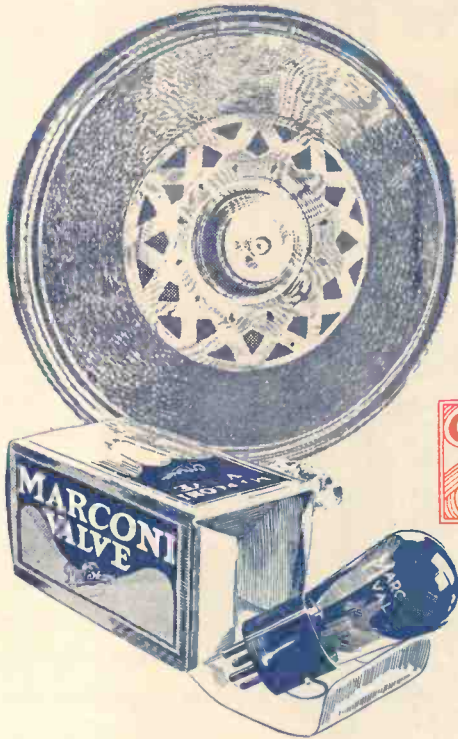
Mr. G. Morgan, Oakwood, 153 Wardell Road, Dulwich Hill, writes—"I have a copy of the Marco Four doing nothing but sleep. Some troubled reader might like this issue, and he can have it, if it will bring him happiness, by writing me at the above address. I built the Marco Four 12 months ago, and use the largest Amplion speaker made on two valves, for local stuff." Thanks, Mr. Morgan. Might last for years with reasonable care. Usual 100 per cent. life is about two years. However, had cells can always be replaced, so that the wet B can always be kept up to the mark. Thanks for kind remarks. Same to yourself!"

W.A. (Parks).—"Evidently the coils are not designed to cover the complete 200-500 meter band. Remove six turns off the secondary coil."

C.J.H. (Henty).—"Place it anywhere so long as the ends of the coil are convenient to the terminals."

H.B.W. (Bondi Beach).—"You say you have built the Niclost and get the same results as you get on your six-valve as regards volume, etc., but you cannot get any more out of your Niclost. It is very likely you will find that the receiver was not really meant for reception of inter-State stations. It is more a receiver for cheap reception of local stations."

(Short Wave) (Newcastle).—"The best method of adapting your superheterodyne to use a short-wave adaptor (circuit appeared a week or two back in these columns)."



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