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5 JUN 1929
SYDNEY

Wireless Weekly 3^d

INCORPORATING "RADIO IN AUSTRALIA & NEW ZEALAND"

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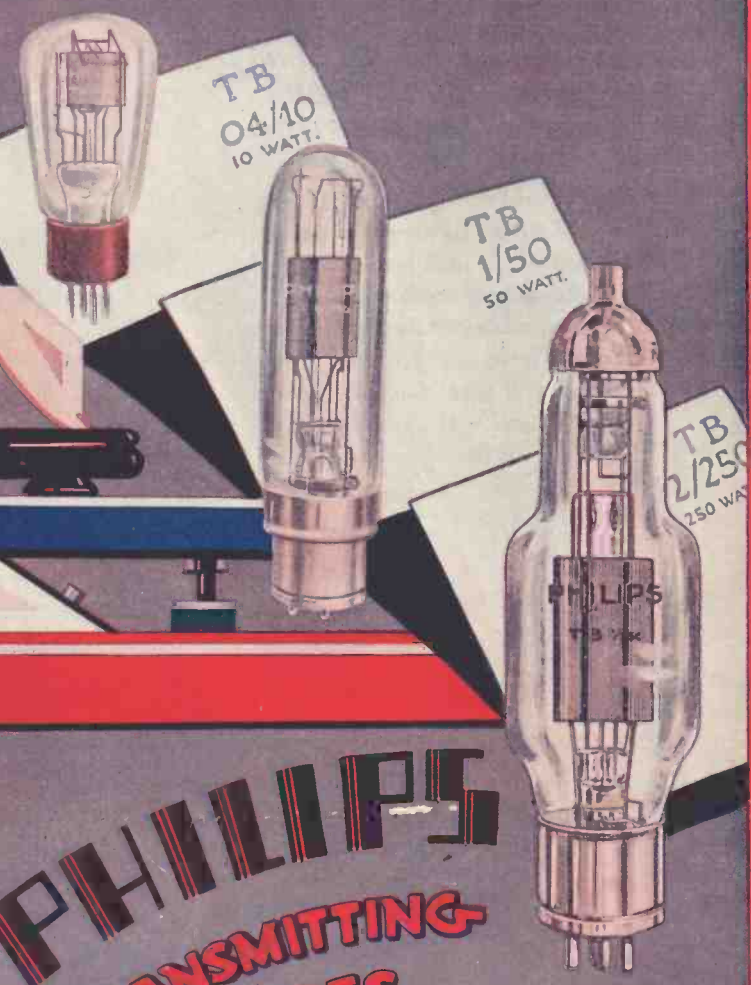
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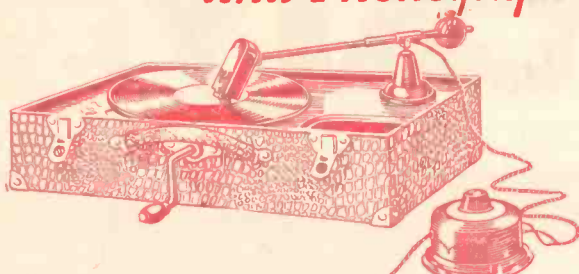
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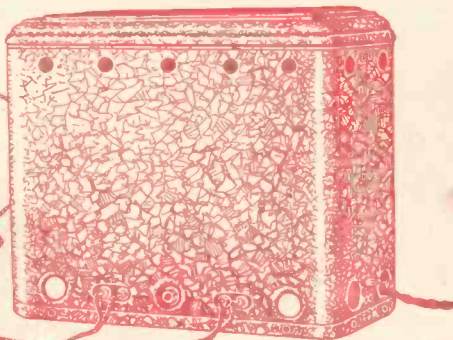
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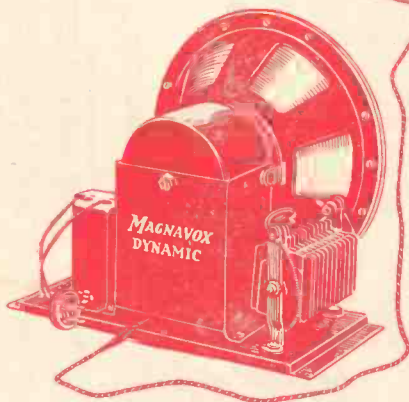
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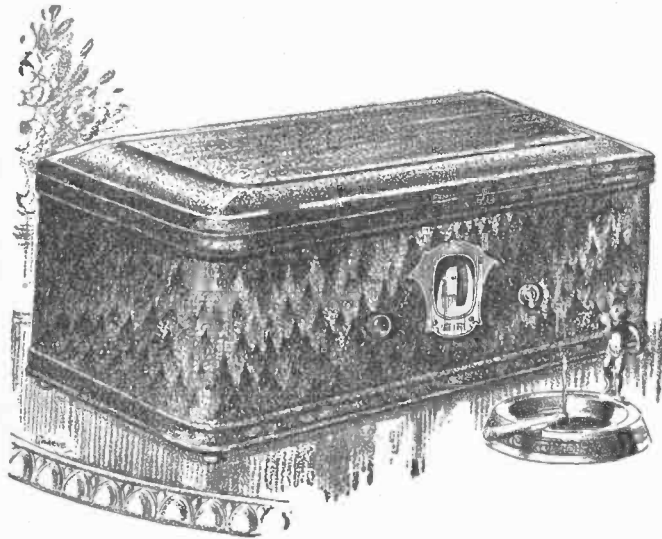
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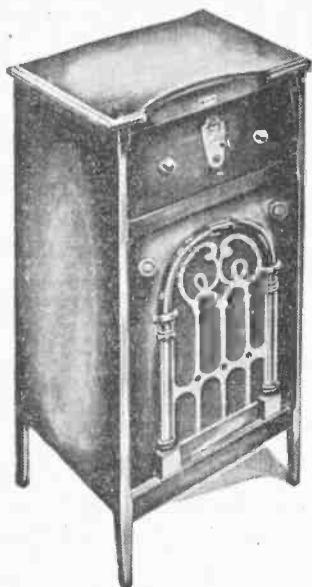
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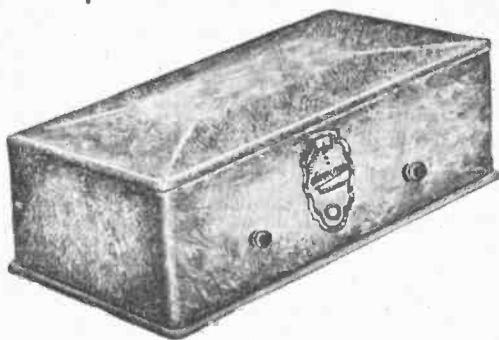
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W.W., 7/6/29.

“ALL IS LOST” by HOPE

Not the subject of this article, but one instance of what could happen if we translated composers' names as well as the titles of their songs into English.

A Talk on Titles and Composers

(By CARLTON FAY)

SOME time ago the New South Wales Broadcasting Company gave instructions to all artists that the titles of foreign compositions should be translated into English, so that they might appear in English on the programmes. Such an innovation must, of course, lead to greater appreciation on the part of the public, as most musical titles serve as commentaries on mood, and thus help people to understand what is being played for them.

But it occurred to me that yet one more step forward might be taken. We have translated the titles of foreign compositions into English. Why should we not translate the names of the composers into English? By translating the names of the composers we should be making a thorough job of it—we should be able to bring forward a programme in which everything would be English except the composers themselves. Such a scheme seemed to be worth investigating. I investigated it. It would not be too much for me to say that the results astounded me. In fact, I didn't expect anything like them.

Of course, you have heard that wonderful thing. “Dream Delusions,” by Bootmaker? No? Before I investigated, it was known as “Traumeswirren,” by Schumann. I think if we were to change Bootmaker to Bookmaker, the sense would be even more apparent.

Then there is “Death and Transfiguration,” by Richard the Ostrich. Once this was known as “Tod und Verklarung,” by Richard Strauss. It is thus interesting to know that, in Vienna, they have advanced so much in their knowledge of bird life that they have been able to transcribe the thoughts of an ostrich on Death and Transfiguration into music. But for me, this would never have been known in Australia.

The passionate “Ich Liebe Dich” of Hans Maurer must assume quite a new significance to the flapper occupants of front seats at concerts, when they know it is only the “I love thee” of a Jack Bricklayer. And shall the beautiful “Evening Song,” or “Abenlied,” of Waldteufel ever have the same appeal to those who know it was composed by a Forest Devil?

Notice the magnificent but otherwise undiscernible futility in the song which used to be “Alles ist verloren,” by Hoffnung. This is now “All Is Lost,” by Hope. How very, very lost one must be if Hope herself can cry it! Then there is the hitherto unnoticeable subtlety about “Die Schone Rose,” by Dorn, which, by my method, becomes “The Beautiful Rose,” by the Thorn. This composition, which hitherto has been played more happily than otherwise, is thus shown to be downright melancholy—the heartburnings of the ugly thorn in the shades cast by the

beautiful rose. “In dem Garten,” by Kornblum, may be said to be characteristic of its composer—“In the Garden,” by Cornflower.

What hitherto unsuspected hints of unthought of domestic economies are contained in the “Nacht Lager von Granada” of Kreutzer, which becomes “A Night's Rest,” by Halfpenny! What amazing self-contradiction there was in the soul of Ernst Sommer, who wrote “Herbst Blaetter,” which is, as you know, “Autumn Leaves,” by Earnest Summer. What truth there is in the simple statement “Schnsucht,” by Herz, which becomes, translated, “Longing,” by Heart! What an intense knowledge of human nature is evinced in the assertion “Wie bist du meine Koenigin,” by Stolzmann—“Thou Art My Queen,” by a Proudman!

A taste for picturesque background is discernible in “Papillons,” by Moritz Rosenthal, which, being translated, is “Butterflies,” by Maurice Valley of Roses. The vexed question of whether bakers prefer celebrity is solved at once by “Frauenlob,” or “Women's Praise,” sung by A. Becker, or, in English, A. Baker.

Many compositions have been written by Streams and Open Streams (Bach and Offenbach); some by a Peartree (Birnam); others by a Carpenter (Zimmermann); more by Bel-lows (Bruellen); Greenfields (Gruenfeld); and Clean Corner (Reinecke).

But the best commentary of composer on his own song is that of Thormann, “Du bist ein Engel”—“Thou Art An Angel,” by Madman.

These are only a few of the translations one might make of composer's names. They have been taken at random, just to show how the method might work out in practice. Excellent as the results are in many places, I am not sure that the plan should be adopted just now. It might be disheartening to people who appreciate music to learn that the Zimmermann they looked up to and loved so well was only a Carpenter, and that Hans Maurer was only a Bricklayer. There are some things people might as well not know, because knowledge will only make them sad. Look at Adam and Eve. Of course, some scientist, when he sees what is here disclosed, may make investigations into the Psychology of Song Titles, and the Relationship Between Names and their Origin. I hope he does. But I also hope he won't come and worry me about it, because I have already worried about it too much.

And I think you may have been worried about it too much, so we won't say any more about it.



Mr. Fay sees the humor of the situation.

BETWEEN YOU & ME & THE MICROPHONE



RADIO for GOUT



STATION 3LO was asked by a long sufferer, who had heard about "radio activity" and the treatment of various diseases, to broadcast special treatment for his gout. This is only one of the many unusual requests that have been received by 3LO. An old lady wrote recently, complaining that the wireless waves were damaging a brick wall surrounding her property, and asked 3LO to turn the waves in another direction

ILLEGAL EARS



ENGLISH license forms have been altered. Licensees are now prohibited from listening in to Morse messages or to any other kinds of messages "not intended for their receipt." And M, inadvertently, they hear a message not meant for them they must not tell anyone about it. As some English set owners are experiencing interference from Post Office experimental stations, they want to know if their complaints about such interferences will be used as evidence against them, and we think the whole position is extremely funny indeed.

HIS RESISTANCE AT STEAK



A SHORT while ago our Query Department advised a set builder to put a 100,000 ohm resistance across the primary of a transformer, and a .002 across the secondary, to stop a certain tinny sound which had developed. You'd think the mere mention of a 100,000 ohm resistance and a primary and secondary would be enough to silence any sensitive set for ever; but they get used to this sort of vification, and we suppose some people understand and love it. Anyhow, the set-builder did not have a 100,000 ohm resistance in his pinaflore, and he wanted to hear that night's programme; so he just made a selection at random of articles which might serve as resistances. Everything failed until he cut a piece of fat off the rump steak which answered the purpose O.K. Just as simple as that! It is another instance, dear friends, of our tendency to overlook the Obvious Little Things in this Transitory Life.

The "Puir Auld Scot" Again
WE learn that Scotsmen who stutter are speedily cured by a course of Trans-Atlantic Telephony at £3 per minute!

OUR FAULT



IN America, we are told, the latest fad is a revolving color cylinder in the loud-speaker compartment of radio sets, which throws soft lights of various colors on a pleated white silk grille cloth while music is being received. Adding delight to Debussy?

EGGS by WIRELESS



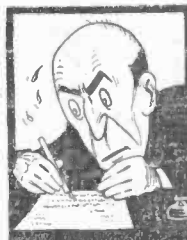
A 3LO listener wrote from the country, requesting that an imitation cock-crow should be broadcast very early every morning. His idea was to get his fowls up earlier than usual by placing a loud-speaker near his fowl-house—the theory being that "the earlier the hens do rise the more eggs they do lay."

PROPAGANDA



YOU know these knife-throwing acts? A woman, preferably a pretty woman, stands in front of a board, and a man, preferably a skilful man, throws knives until he has outlined her figure, preferably a slim figure, on the board aforesaid in quivering weepings. Well, such an act was broadcast from the studio of WLS, Chicago, and the audience listened in to the thud, thud, thud of the knives as they struck the boards. How thrilling for the Chicago listeners! What a splendid way of blending education with amusement! A lecture by the name of "Tuning in on Chicago's Greatest Industry" would certainly NOT have smelled so sweet.

Listeners We All Know—No. 1



HERE you see vividly pictured THE RADIOCAL CRITIC OF EVERYTHING. This interesting exhibit lives generally in the metropolitan area, where it can hear radio programmes from dawn to midnight. Its staple diet is euss words, both the refined and the more puerile grades; its chief pleasure is in viewing itself in a mirror, although why this is so we are unable to imagine; and its chief attribute as a social being is to be an unsocial being.

From dawn to midnight it listens in to the radio programmes with a sad and horrible smile, and when the announcer says, "Miss Winkly Winkly will now sing..." it remarks in its humorous way, "Miss Winkly Winkly will now WHAT?" Or when "Mr. Whoorle will now render..." it says, "Exactly!"

From midnight to morning it writes at its little desk, in ink mixed with vitriol, giving its opinions of broadcast items to the various companies. It gives its opinions on all kinds of items, because its tastes are catholic—it hates everything equally well.

We all know the Radiocal Critic of Everything; we all know him wonderfully well—in fact, there are times when we feel quite a brotherly regard for him.

SORRY



A LETTER to Uncle Bas, of 2BL, was addressed, "Uncle Bas, transmitting from the A.M.L. and F. Building, Bligh Street." This was highly encouraging; but another letter followed, addressed to "Uncle Bas." It is now suggested that the only other variation is "Uncle Bias," but we hope it won't come to that, because it might make Uncle Bas ill.

FREIGHT FRIGHT



MR. ERIC BESSEMER returned from Kurri Kurri, where he had supervised arrangements for broadcasting the Kurri Kurri Eisteddfod, with broad smiles, although when he went away he looked grumpy and sad, as one with all the sorrows in the world on his mind. He had been troubled about his gear, for he had to carry a fair amount, and wondered how he could get it from the nearest station to the hall at Kurri Kurri. He tells us that he was only able to get a "bus—a great big motor-bus—to carry it. The distance was six miles, and the bus had to make a special trip, without passengers; so Mr. Bessemer faced the journey's end with some trepidation as to its cost. When they arrived at Kurri Kurri, he put his hand into his pocket to fish for bank notes, and said, "How much, please?" "Three bob," said the driver. "That," said Mr. Bessemer, "is what I call a 'fare' deal; thus adding to the iniquity of a calculating mind yet one more horrible pun.

A FEW CORRECTIONS



WE have received a letter from "Jean Epping," one of Mr. Cochrane's constant bedtime story-hour listeners-in. Jean tells us we made a mistake in our account of Mr. Cochrane's birthday party, as this party was given by Jean herself, assisted by two of his staunchest nieces—not five, as we were foolish enough to say. Many other people have told us how incorrect we are; for instance, Mr. Halbert says that our account of his falling through the seat of a chair was not quite according to fact; Mr. Graham tells us that we told an incident of Mr. Wallie Baynes which had really happened to Mr. Graham; and Mr. Horace Keel says we never get anything right, and wishes us never again to mention his name or put his photograph in our (by courtesy) publication. We are very sorry about these things; but we cannot acknowledge our mistakes. We feel, with Mr. Leacock, Mr. Jones and several other interesting gentlemen, that if the facts we give you are not true, they ought to be.

Applications of the ELECTRIC EYE



Further applications of the photo-electric cell recently described.

SPECTACULAR, almost incredibly so, are some of the applied uses of the photo-electric cell—rightly called the "electric eye."

The Public Health Service of the United States Treasury Department is measuring the intensity of daylight in this manner. The Bureau of Standards is taking a time signal from a clock, without mechanical contact, by virtue of the light-sensitive cell. An educational institution has made a count of automobile traffic passing the intersection of a street by means of this cell, employed in conjunction with an automatic counter.

It lends itself to the grading of commodities where fluctuation in light values are to be reckoned, such as the sorting of cigars and the identification and matching of textures, as previously explained in these columns. A lighthouse service has even considered its possibilities in automatically turning off its light beacons at sunrise and turning them on at sunset. And, without the photo-electric cell, radio vision or television might not even be in its swaddling clothes.

Indeed, the varied uses of the photo-electric cell already defy enumeration. Yet, the cumulative and diversified applications of this modern Aladdin lamp is further contributed to by the coast and geodetic survey of the U.S., in assigning it the role of recording variations in the earth's magnetism.

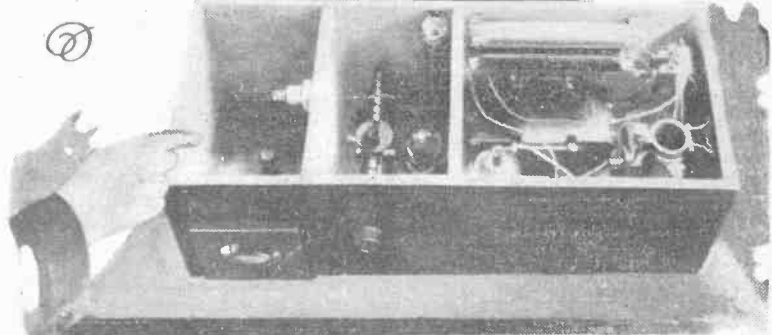
At a famous American magnetic observatory this wonder-working, light-sensitive cell is now being employed to keep tab on the hourly and daily magnetic variations. The Coast and Geodetic Survey, in conjunction with the Carnegie Institute, has adapted the photo-electric cell to a working circuit, which includes a radio amplifier and a magnetograph. The latter instrument, when coupled to a light-sensitive cell, makes possible the writing of an automatic record of magnetic variations on a revolving drum.

Until this experimental equipment was installed, the variations in the periods of oscillations of the earth's magnetism required

The school room above is equipped with an automatic lighting system (shown by arrow at rear window)—the "Electric Eye," or photo-electric cell, which is sensitive to light. When daylight in this room is not sufficient for proper child-vision the "eye" registers the fact, and automatically turns on the electric lights—thus protecting the children's eyes.



Right: How the "Electric Eye," the marvelous light-sensitive photo-electric tube, developed by the General Electric Company, is placed in the window of a school-room.



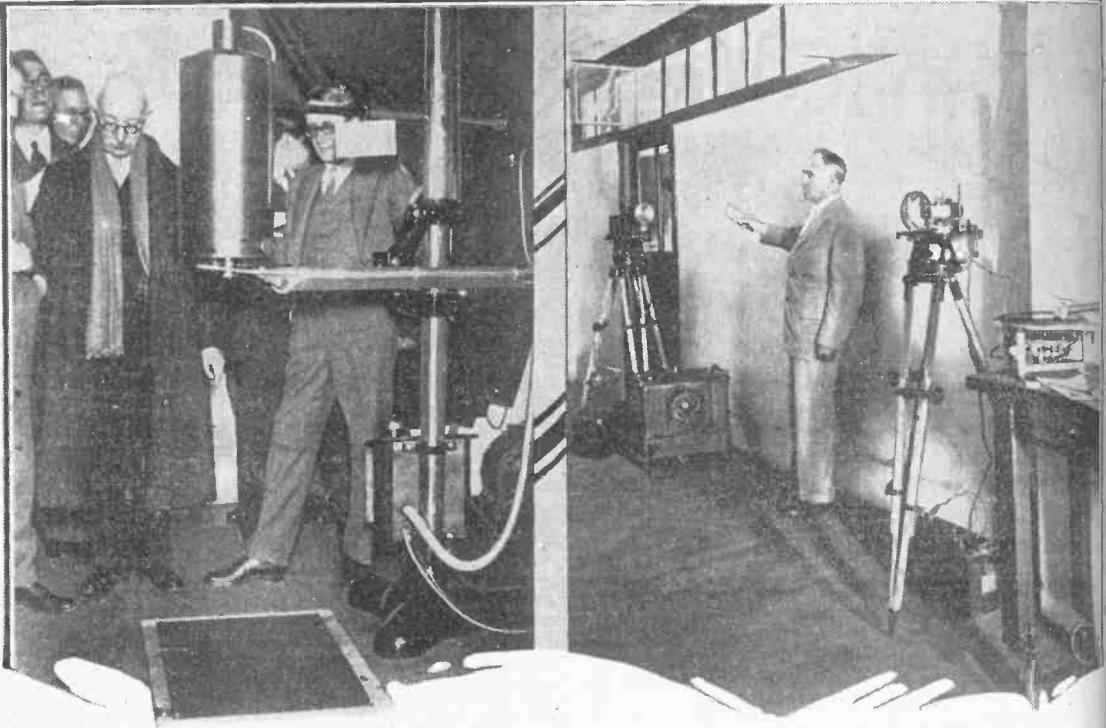
The interior of the new automatic lighting system, which has been installed in the school. The finger is pointing to the marvellous "Electric Eye," or light-sensitive photo-electric cell, which operates the device.

the personal services of an observer. The human equation, in making these observations, was on duty at intermittent periods from two to four hours, the watch being interrupted for these hours. These personal observations apply to four other magnetic observatories of the Coast and Geodetic Survey.

If the photo-electric cell, as experimentally installed at the Cheltenham magnetic observatory should prove its unquestioned worth in this strange role of writing the autographs of fickle magnetism, this automatic means of keeping magnetic records will undoubtedly receive sanction for use at all of the five magnetic observatories maintained by the Coast and Geodetic Survey.

Preliminary tests with the photo-electric cell not only suggest its usefulness in this capacity, because of its automatic feature, but it appears to be more accurate than the human element. Furthermore, it can conveniently keep a twenty-four-hour watch, thereby faithfully indicating to what extent the periods of oscillations of the earth's magnetism varies. This unbroken twenty-four hour observation would further contribute to the success of the Coast and Geodetic Survey in searching for the key fact about magnetism—a phenomenon per se and also a mystery in its alleged secret affinity with radio.

John V. Breisky, of the Westinghouse Electric and Manufacturing Company, re-



A demonstration is shown here of a new X-ray apparatus, which reveals defects, restorations, or alterations in paintings which have been claimed to be painted by one of the "Old Masters." The device was invented by Mr. Kennedy North, of London.

John Bellamy Taylor, of the General Electric Company, regulating the intensity of the sound being transmitted over light waves, by cutting off part of the light beam with a piece of paper. The sending apparatus and electric phonograph pick-up is seen in the foreground, and the receiving apparatus with loud speaker in the rear.

cently demonstrated apparatus, which, by means of various vacuum tube devices, act with superhuman accuracy and dependability in such varied functions as detecting and instantaneously extinguishing fires, counting people or passing objects of any size, or providing safety against explosions in gas and oil furnaces.

A lighted match was thrown into a tank of gasoline and kerosene on the lecture platform. The first cloud of smoke from the tank instantly operated the "photo-electric smoke detector," which, in turn, automatically released carbon dioxide from a cylinder, and extinguished the fire before the audience could realise what had happened. Mr. Breisky showed the superiority of this method of protection against fire, as compared with previous methods, which were dependent upon a change in temperature before operating. Quick-starting fires were often widespread before extinguishing means were released.

USEFUL FOR SPIT BRIDGE

Persons coming into the lecture hall were counted automatically as they crossed a beam of light, which extended across the entrance. There was no need to "press the button" or for actual physical contact, for a photo-electric cell set into operation an electrical counter every time the ray of light was interrupted. Mr. Breisky pointed out how apparatus of this type may be used for toll bridges, vehicular tunnels, or turn-stiles, and for the counting of items in mass production, or detecting paper breaks in mills where machinery must be stopped instantly to prevent accidents.

Mr. Breisky brought out that the advent of radio, talking movies, and television had been an enormous stimulus to an intensive

study of vacuum tube devices, resulting in the invention of new tubes and improvements of others. The Westinghouse Company soon realised that these devices must have many other uses, and, therefore, put much research and engineering talent on devising new means of applying them. These studies resulted in opening up new fields for their use in industry during the past two years.

SORTING BY COLOR

Where arduous tasks of sorting have heretofore been dependent upon the easily wearied human eye, a mechanical process may now be substituted, thus releasing many workers for less monotonous tasks. More accurate than the human eye, the photo-electric cell responds equally well, day or night, in hot or cold weather.

The use of the photo-electric cell was also demonstrated. A spot of light was made to fall on the surface under examination, and reflected from the surface to the photo-electric apparatus. Small packages of supposedly uniform character were automatically moved past this spot of light. If one of them was without a label, or was otherwise defective, it was automatically thrown out.

Mr. Breisky spoke of a similar device which is applicable to the automatic inspection of wide surfaces, such as metal sheets, that should be of uniform character, or in selecting paper for defects, analysing colors to match fabrics, paints, tiles, etc. All this is now done by the eye, but the electric eye presents a more scientific and precise method.

Another interesting demonstration showed how domestic oil and gas furnaces can now

be protected against explosions. Heretofore the flow of gas or oil could not be stopped quickly enough when, for any reason, the flame was extinguished. The so-called grid glow tube acts instantly and with absolute dependability in such cases. By the amplifying of impulses, a relay and connecting apparatus are made to function, so that a variety of operations may be caused through the activity of this tube, which can be operated by as little energy as one millionth of a watt. The amount of energy necessary to light a 75-watt lamp is 75 millions times as much. For the invention of this tube, Dr. D. B. Knowles, of the Westinghouse Research Laboratories, was awarded the John S. B. Medal of 1927.

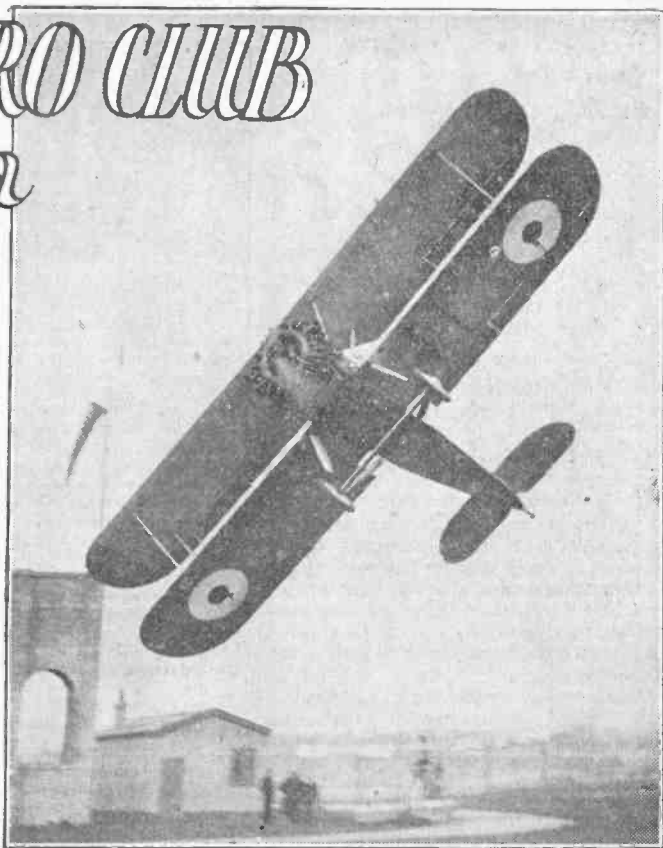
BURGLAR ALARM

The grid glow tube is also applicable to protection against theft, since it will act instantly when anyone approaches it. There may be installed inside a safe a device which will ring an alarm or trap an intruder. The approach of a hand is enough to affect this sensitive piece of apparatus, which, through delays, will operate any kind of apparatus connected to it. Window counter displays of many sorts may be set in motion by a passer-by without actual contact.

Concluding his talk, Mr. Breisky pointed out that the application of these sensitive devices for automatic control is still in its infancy. Remarkable things have been achieved in the last few years, but the future holds many more. Many processes and methods now used in factories, mines, and mills will be revolutionised, and human beings will be released from arduous tasks that should rightfully be performed by robots in this age of mechanisation.

A MODEL AERO CLUB of Australia

In conjunction with 2BL, "Wireless Weekly" is sponsoring a Model Aero Club of Australia for boys and young men interested in model aviation. Sessions are to be broadcast weekly from 2BL at 6.20 p.m. on Wednesdays. Constructional details of the 'planes will appear in "Wireless Weekly."



A Fairy Fox banking steeply 15 feet from the ground.

AUSTRALIA air-minded? It hasn't been so long since this question was answered in the negative. "No," leaders in aviation replied with some concern, "Australia is not air-minded. Europe and America are away ahead of us—their commercial air lines make ours look like the slow train through to Wonondilly—over there people take flying as a matter of course, are interested in it, patronise air lines. Over here! Even the young people don't seem to be taking flying seriously.

That was scarcely more than a year ago. Now, Australia is enthusiastic in its support of aviation—commercial air lines are taking on new life, their bookkeeping is being done in black ink instead of in red—the nation wants to fly, wants to have a part in the development of flying.

The cause? Hinkler, Smithy and Ulm, Moir, Owen? Certainly.

"But," leaders in aviation add, "though Hinkler and the Southern Cross flights stimulated an interest in flying, glorified flying made everyone want to fly, this new interest might easily collapse unless the nation is given a means of manifesting its enthusiasm. How is this newborn interest in aviation to be kept alive? How? When it is impossible to give boys and girls, men and women, actual training in the development of flying."

But is it impossible? Cannot boys and girls become air-minded through handling models? Yes; if they know how to build them.

Well, here's good news for Australian boys! During the coming months "Wireless Weekly," in conjunction with 2BL, will carry a series of articles, one each week, describing the construction of indoor and outdoor model aeroplanes.

Thousands of boys throughout the country are invited to build model 'planes—smoothly flying ships, powered with rubber motors, that will circle in the air as long as five minutes! Building flying models is not a new science. Twenty years ago, when man was just attempting his conquest of the air, men like the Wright brothers were experimenting with models. But never did these men construct such models as are being flown by boys to-day.

Through "Wireless Weekly" boys will learn to build the most advanced types of

'planes. The first article, appearing next week, will carry full plans and building instructions for the Baby R. O. G. (Rise Off the Ground). This is an indoor 'plane, with a 12in. wingspan. It is built of a wood as light as cork, Japanese Imperial tissue, bamboo, and piano wire. It is drawn by a single propeller and powered with a double-strand rubber motor. It will rise from its own landing gear, circle around in a small-sized room for at least 30 seconds—its record is 55 seconds—and land easily, without nosing over!

Following the Baby R. O. G., the "Wireless Weekly" will describe other and larger 'planes. There will be an indoor pusher, a ship that has the propeller behind the

wings, and flies elevated to the front; the indoor endurance model, the 'plane with a 16½-inch wing that holds the present world's indoor record—173sec. And then outdoor models, including a big 2-propeller pusher such as boys are flying in national contests; a hydro-plane that will rise off water; and large commercial models with enclosed fuselages.

Along with these flying types "Wireless Weekly" will teach the construction of scale models—'planes that are built to reproduce exactly some larger ship. Among the scale models will be the Curtiss Hawk, an army pursuit 'plane whose flying speed is 160 miles per hour, the Canberra, D.H.61, a large Ford 14-passenger all-metal ship, Lindberg's 'plane, and others.

Later on every 'plane builder will have a chance to compete for indoor, outdoor, and scale model championships. There will be the junior championships in each one of these contests, open to entrants of 15 and younger, and senior championships, open to entrants of all ages. But this is anticipating.

The real object of this series of model 'planes is to encourage an air-sense in the boys of the country which most greatly needs it.

It is proposed that a boys' aero club be formed. Model 'plane enthusiasts following the series of model 'plane articles will be soon busy forming groups to meet and work on their ships.

They're wise. Builders who work in groups can progress much further, experienced model aviators say, than those who work alone. The best workmen can give help to the others. They can compare 'planes and profit from each other's experiences.

A group can more easily afford to set up a workroom outfitted with useful equipment. It can have a programme of meetings that will be helpful to members. When its members have built a few 'planes that will fly for 30 seconds or more, it can interest civic clubs, lodges, or some similar body, in its work.

Any boy or girl interested in forming a club should write to the proposed Model Aero Club, c/o 2BL, Market Street, Sydney, for a club organisation letter. (Enclose a stamp for your reply.) This form letter contains not only many suggestions for a programme of activities, but a model constitution.

In the meantime, do not forget to order next week's "Wireless Weekly." On sale NEXT Wednesday, for full details of the proposed club and how to build the model R. O. G.

NEXT WEEK.

Watch for the constructional details of the R.O.G. (Rise Off the Ground) model 'plane in next week's "Wireless Weekly." Tune in to the Aero Club Session, 6.20 p.m. Wednesday.

HOT AIR?

The term is not strictly correct when applied to radio talkers, for the chemists tell us it is not pure air we breath out when we talk. However, let us see—

A PARAGRAPH of our "Microphone" page recently announced that, of 510 broadcasts from New York during the pleasant month of January, 212 were lectures. This is what one might term speaking generally, even for New York. But it is an illustration of a general tendency in countries where broadcasting has been established for some time towards the broadcasting of talks, lectures, and discussions in increasing numbers.

The tendency is noticeable in New South Wales, where, with the extension of the number of licenses towards six figures, a very definite swing is noticeable in correspondence received by the New South Wales Broadcasting Company, Limited, in the direction of extending the present series of talks and readings which appear in the programmes of both stations.

In the past, many listeners-in have kicked forcibly (please do not be alarmed at our metaphor) when talks have been introduced. They were not satisfied with the subjects, or they disliked the speaker, or they thought his treatment dull, or they wanted a jazz band or selections from Wagner. Often their protests were justified; but the company's experience in such matters has increased with the years; greater care is exercised in the choice of speakers and subjects; and short talks, readings, and lecturettes have gradually established their popularity.

Of course, there are some people who take special pride in the wide range of their dislikes. They dislike chamber music; or they dislike variety entertainments; or they dislike talks; or they dislike plays; or they dislike everything; for them, it is as much a virtue to hate what they believe to be bad, as it is for others to like what they believe to be good.

To these people the company appeals that they should extend the range of their enjoyment to cover as much as possible of the programmes; in fact, to meet the company half-way in its attempt to satisfy everyone. Broadcasting menus are made up "table d'hôte," and permit of no variations in a single programme; but the radio audience dines "à la carte," taking its amusement from the several programmes offered to it, according to individual tastes. Yet it is felt that, if individuals should attempt to extend the scope of their appreciations by listening in to the various talks of people who are extremely anxious to interest and please them, in to the various talks of people who are extremely anxious to interest and please them,



One talk that did not fail. R. Fitzhardinge describing the recent G.P.S. Regatta through Mr. Ferry's glasses.

they would derive a more intense pleasure from broadcast programmes, and achieve that broader interest in world affairs which produces enlightened and energetic minds. Some time ago, Sir Henry Braddon, interviewed by one of our contemporaries, advised all young men to have as many interests as possible, as wide interests would enable them to use their brains on the greatest possible number of projects. The same advice should serve for the listener-in; that is, if he has. . . .

It is not difficult, for instance, to hold an open ear to Mr. C. R. Hall's "Interesting Phantasies on the East," Mr. C. Price Congrave's travel talks on "Unknown Parts of Australia, and the Surrounding Islands"; Rev. F. H. Raward's "Travel Experiences in Foreign Lands," and other travel talks by Miss Freda Sternberg, Mr. Elliott Napier, Miss Ada Holman, Miss Lucille Bruntnell, and Dr. T. J. Henry. Nor does one exactly moan when Mr. W. F. Kay talks on "Behind the

Scenes," Mr. C. N. Bayertz on "Great Writers I Have Met," Mr. James Donnelley on Negro Spirituals, and "The Seven Ages of Speed"; nor when Mr. John Benyon delects his "Vignettes of Society," Mr. A. S. Cochrane reads from Dickens, and Mr. Basil Kirke talks about his South Sea Islands.

This list covers regular features, of which there are many more, such as Miss Furst's cookery instructions, and Miss Varley's Sports Association talks; but quite apart from these, the Company often secures talks from men prominent in the public life of the community, and from distinguished travellers.

In earlier days, the Company simply made a selection of as many subjects as possible, on which single lectures were delivered purely as thought-provokers. But it was realised that simply to scratch a very wide surface of popular interest was not the best method of bringing attention to this new feature of broadcasting; and it was decided to make a rather more careful selection of speakers and subjects, and to link up a certain number of talks into a connected series, running, perhaps, into a set of six on one subject. This has proved a decided success, and the letters received by the Company, asking for continuation of talks by many of the selected speakers, are now encouraging. Part of a letter received is as follows:—

"Whenever your interesting travel talks are broadcast, my children invariably take out their atlas, and follow the speaker in his wanderings. You may certainly be congratulated for carrying on such educative work under the guise of entertainment."

The Company realises that every wireless talker is not a Socrates or a Spurgeon or a Rosebery; but is firmly of the opinion that each is, or should be, a man with a message.

Marching Along

On the evening of July 2, through 2FC, Alfred Cunningham, in conjunction with the Metropolitan Band, will present a series of "BRITISH MARCHING SONGS," the story of which will be told by Captain Fred Aarons. The same singer will be associated with the Murrumbidgee Silver Band on the evening of July 16 (through 2BL), for a series of "SONGS OF OLD ENGLAND."

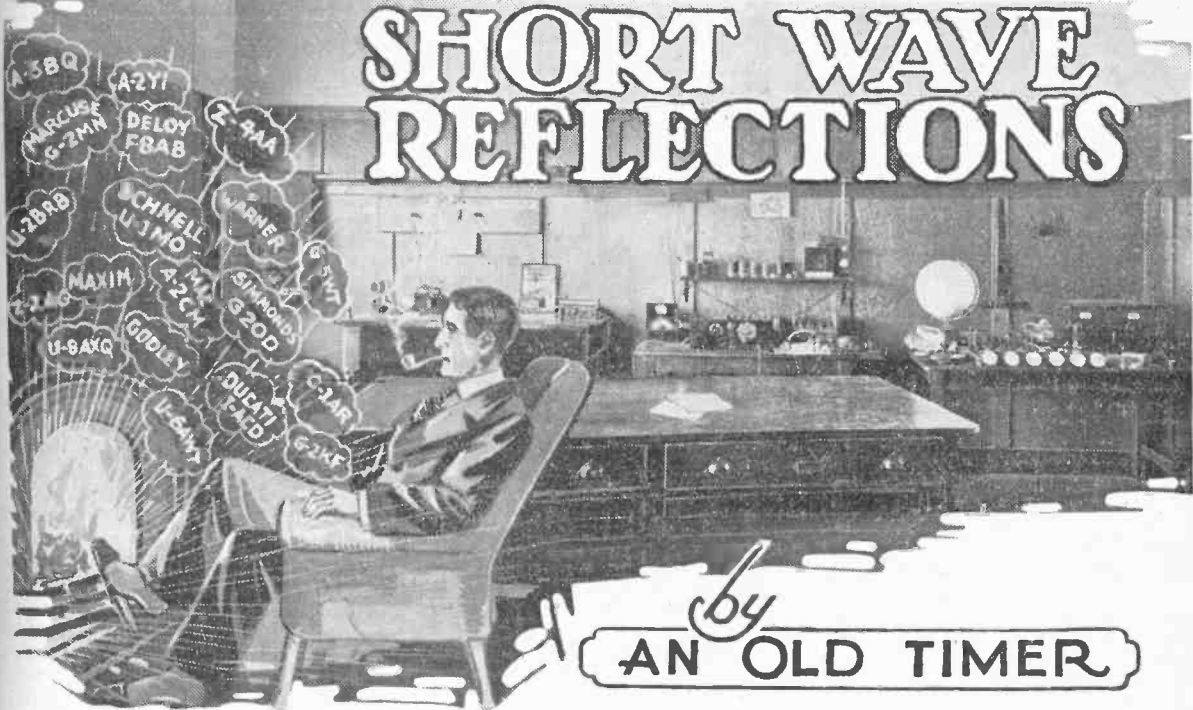


ALFRED CUNNINGHAM.

War Reparations

A TALK will be given from 3AR on June 10, when, under the auspices of the League of Nations, Prof. D. B. Copland will speak on "The Present Stage of the Reparation Discussion."

SHORT WAVE REFLECTIONS



by
AN OLD TIMER

What has happened to the old amateur game? Where are the enthusiastic "hams" who pounded out the first trans-Atlantic, trans-Pacific, and round-the-world records? Here an old-timer at the game dreams of the days which seem to have gone forever.

LIKE many other radio amateurs, I am a dreamer. I like at times to snap the power off my 1929 breed transmitter, doff the headphones, and sit back in silent contemplation of numerous pieces of pasteboard bearing cryptic call signs. There they are, scattered all over the walls of the shack, some of them in glaring red letters, some in small black ones, and a thousand and one different designs. DX cards! . . . and what a wealth of interest and memory lies hidden in their writings.

In this year of grace 1929 I meet the post-man with a calm indifference, the DX card is nothing new, but in those days when those old-timers posted those identical pieces of cardboard the minion of the P.M.G. was awaited with breathless anxiety. Yes, I am still a "ham" with the same old enthusiasm, but with misgivings at the state the old game has reached. I am still twisting dials, cursing static, and pounding a key long into the silent hours of the night, and yearning for the impossible . . . the days of amateur radio that will never come again.

Those DX cards! Look them over with me, and together we will hark back to those days when 200 metres and below was the sacred territory of scattered bands of young men whose next-of-kin probably thought them in danger of courting the mad-house through lack of sleep. What a host of pleasant memories those cards conjure up! There is one; it confirms my first long-distance contact. Two hundred metres, and the wonderful distance of 100 miles—the greatest of thrills in my "ham" life.

FIRST AMERICAN

There is another. It came from my first American. How well I recollect that I could not believe my ears when I heard him answer my tentative plaintive call. There are some "Grand Old Men" in radio among those multi-colored cards. Marcuse himself G-2NM, Deloy French 8AB, old Joe Fasset Canadian 1AR "the Globe Trotter," Johnny Reinartz American 1XAM, Norwegian LA1X, Simmonds G-20D, Goyder G-2SZ, Bell Z-4AA,

and a veritable collection from practically every country of the world.

QSL CARD COLLECTION.

To the layman they mean nothing, but to the man who worked hard for them and enjoyed every minute of it they mean everything. Of those old cards I hold in my collection there are none that I would part with for gold. How strange it all seems now to think over the planting of the seed of amateur radio, and how rapidly it grew, and in a short space of time helped to make the world a small place for humanity. It seems incredible also to think that an individual has been able to sit in a "shack" and silently make friends and acquaintances with individuals like himself in other nations scattered over the earth.

Trying times have been the lot of amateur radio, and now in 1929, when the world looks in on the short-waves which were once left blissfully to the amateur, the influence of powerful world-wide organisations restricts the amateur's activity, but the spirit of the old days is still carried on by those who remain and those who follow. It is very sad

to me to note the disappearance of so many of the "old timers" we knew so well.

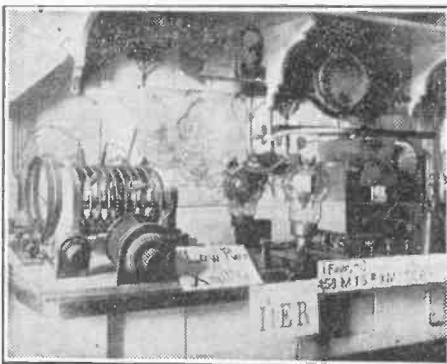
They may never return to their keys, and if not, their cards among the collections of thousands of those who knew them over the air will bring back fleeting memories of thrilling communications and the mental strain of those nights and early mornings when the green static devil sat on the aerial and cut big pieces out of the words from the man in that remote country one had been after so long. It is the same with the stage—the actor ages and the younger generation steps in with fresh ideas and vigor, and in this amateur communication business the new "ham" takes the place of the old.

For the new entry into the "ham" ranks the DX card is the same thrill, but it has not quite the same attraction for those who saw the birth of the DX card. When American 8UX conceived the idea of the DX card, long-distance communication with low power was merely a precocious baby; now it is full-grown and so very easy. Correctly or incorrectly, I look at it from this point of view.

SILENT TESTIMONY.

Marconi gave the world the science of radio communication, but the old DX card is a silent and true testimony to men who blazed the trail for the rest of the world to follow. There the cards nestle on the walls and even the ceilings of countless "shacks" in remote corners of the seven seas—multi-colored, various shapes and sizes, with complete reports and humorous remarks, and perhaps in my own case I shall be able to sit by the fire in my old age and look them over—silent keys, perhaps—and we may QSO again in the great beyond.

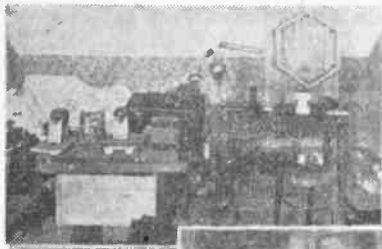
Before me as I write is the latest edition of the Radio Amateur's Handbook, published by the A.R.R.L. Those who do not realise the amount of work previously involved in bringing radio communication to its present state should read the preface, entitled



Italian IER. One of the two pioneers among the Italian amateurs. This station had many records to its credit.

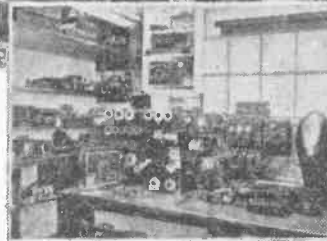
Famous Amateur Stations

Some of the old timers who created records not so long ago in the history of radio.



An old timer with many long distance pioneer records to its credit. G-2SM, owned and operated by Mr. F. Hogg in Highgate, London, 1924.

Mr. John Partridge's station, G-2KF, as it was at the time he communicated for the first time between England and Canada. Mr. Partridge is now Chief Receiving Engineer of the BBC.



The receiving equipment of New Zealand 4AA as it was in 1922. This was the pioneer station operated by Mr. Frank Bell which first communicated with England.



The original station of Mr. Gerald Marcuse, G-2NM. This station was the forerunner to the International Telephone station he operated in 1924, previous to the advent of GSW.

British 5SZ. One of the original trans-Atlantic tests. Note the antiquated receiving apparatus.

led "Amateur Radio." There is the whole story, out of which I am going to pick at random the most outstanding incidents in my memory. "King Spark" runs one heading. "The sixty cycle sync . . . the harsh resounding snarl of the rotary . . . good-natured sparks that drawled lazily and ended in a throaty chuckle as the gap coasted down hill for the sign off . . . interference . . . the race was on and devil take the hindmost."

DAYS OF KING SPARK.

Yes! This was right after the great unpleasantness ended, and it was truly a case of the high-power man wins. Wave lengths? They didn't matter much . . . the other chap was pretty sure to hear you. 1921 happened along and King Spark was deposed by the Continuous Wave. It took quite a little while for the transmitting amateur to take kindly to the valve for his work . . . but when he did things began to hum.

During that year over 30 American amateur stations were heard in Europe on 200 metres. There for a moment would it be suggested that the Americans doubted the ability of their British cousins, but they were more experienced, and sent over one Paul Godley, who made his camp on a bleak Scottish moor. He heard many of his fellow "hams" calling him away over there in the States, and so did a few British "hams" with far more simple apparatus.

Someone a year later said something about 100 metres, and Fred Schnell, American 1MO, and Johnny Reinartz, 1XAM, worked for several hours with Leon Deloy, French 8AB, using 110 metres. John Partridge, G-2KF, in London, joined in the melee, so did Gerald Marcuse, G-2NM, and others, and amateur Trans-Atlantic communication was established for all time. In 1924 Goyder, a school-

boy at Mill Hill School, London (G-2SZ), communicated with Z-4AA, Frank Bell, in New Zealand, and was rapidly followed by Simmonds, G-2OD.

The goal was reached when G-2OD communicated with Australian 3BQ. M. Howden of Melbourne, on November 13, 1924. The Englishman used 95 metres with 105 watts input, and the Australian 75 metres with about 50 watts. Thoughts were turned toward 40 metres, and then 20 metres, and it was found easier still to effect incredibly long distance communication with even lower power. It was thought that there would be no limit to this downward rush in wavelength or upward rush in frequency, but below 10 metres proved a real snag for a long time.

CONFERENCE RESTRICTIONS.

Ten metres is used fairly extensively in these days, but is unreliable. It is one of the frequencies doled out at the Washington International Radio Conference in 1928, and so the "ham" will go on using it, no matter what tricks it plays.

No wonder I often tear the 'phones from my head, and dig out a pile of old early-day "ham" journals, and once again live those inspiring times over again. My mind reverts to the first time in my life that I heard a wireless telegraphy signal—the time

when the seed was sown, and from then on my waking and sleeping interest has been this most fascinating of studies.

Appropriately enough, this was in the City of Colchester, in England, only 25 miles from Chelmsford, where the works of the Marconi Company are situated. At that same location at the Marconi works, is now housed the international short-wave telephony transmitter of G5SW, so well known to Australian S.W. listeners. The occasion was a Christmas-time party, when the writer was a goggle-eyed schoolboy, at the troublesome age of 12 years. The word "wireless" was somewhat vaguely planted in my mind as a new and remarkable method of communication, and there was a faint recollection of a man named Marconi, who, not so long previously had been almost an object of ridicule.

THE FASCINATING WORD.

Someone in that party, at which I was the only small boy, said something about wireless, and the wonderful apparatus the elderly engineer son of the house had upstairs in a room barred to all but the son. Drawing the engineer son of the house into conversation with all the cunning of the mechanically-inclined boy who has been presented with the latest Meccano box of tricks, the fascinating word "wireless" slipped from my lips. Imagine my unbounded delight when this wireless engineer, who seemed to have a halo over his head, asked me if I would like to hear some wireless signals.

(This article will be concluded in next week's "Wireless Weekly.")

Palmerston North, New Zealand
 Z-4AA
 N.E.T. is the best of O.M.T.
 Z-4AA
 In N.Z. etc. QSO Australia, U.S.A. of Europe. On Oct. 18, 1924, we inaugurated trans-world communication by sig. Q284.
 FRANK S. BELL
 1924 B. S. BELL

Some well-known QSL cards of early amateurs

Z-4AA
 SAINIO
 MERIKATU E. - HELSINKI
 SWEDEN - FINLAND

TO RADIO R-2NO
 YOUR STATION WORKED 4:15-4:27
 AT 1200 S.W.T. ON 27.7 P.B.
 TIME sig. fr. QSO O.M. fixed to
 hear U. aid. g. 6K6 L.F.A.

TRANSMITTER 200 VOLTS 50
 SINGLE WIRE AERIAL 100 FT. LONG
 VALVE - Philips 21

He is Europe man. sigs on the air, but only a few old timers
 4200 is the strongest heard ever. Hope we GSW
 "WORLD-WIDE AMATEUR-RADIO" regularly!

They are respectively: Z-4AA, the first station to work Australia, U.S.A., or Europe from New Zealand; SAINIO, Finland; G2OD, British record holder.

G-2OD
 G2OD
 118 British to QSO N.Z., Aust., Canada, France, Argentina, China, etc.

SESSIONAL NEWS



MUSICAL SESSIONS



Classical Programmes

EVERY Wednesday 2FC devotes its night programme to classical music. Dagmar Thomson will have charge of the night's offering on June 5; Oliver King on June 12; Gladstone Bell and Lionel Lawson, June 19; Ewart Chapple, in association with Don Finley, on June 26; and Dorothy Helmrich on July 3. Classical programmes arranged through 2BL are as follows: Vost Janssen, June 4; The Conservatorium String Quartette, June 11; and Haagen Holenberg, on June 25.

Band Music

THE Lithgow Band, whose previous performance from Lithgow was so greatly appreciated, will give a recital from Lithgow on Sunday night, June 30, through 2FC. In addition to a number of the leading "A" class bands which have previously broadcast, arrangements have been made for the following:—Marrickville Silver Band, June 13, 2BL; Burwood Municipal Band, June 18, 2FC; and the Concord District Band, June 20, 2BL.

New Jazz Numbers

REC. MORRISON has supplied us with a list of new jazz numbers, which will be played during the week: "There's a Four-leaf Clover in My Pocket," "Honey," "Poor Punchinello," "Down by the Old Front Gate," "I Faw Down an Go Boom!" "A Room with a View," from "This Year of Grace." To-night, Friday, Mr. Morrison's Band will play from Farmers, featuring a negro spiritual, "Bless, You Sister," "All by Yourself in the Moonlight," and a waltz, "King for a Day."

Mr. Morrison is a very busy man these days. His bands are going into many country districts of this fair land of ours. His latest experience was at a big country dance, when one of the revellers drove a Baby Wasp on to the dance floor, and circled round and round at thirty miles an hour. Then there was polo for the men, with buns and walking-sticks; and sleigh rides for the women on kerosene tins, which must have made quite a noise in the ballroom. But Mr. Morrison tells us that all these attempts to compete with his Jazz Bands are beaten before they start.

COOKING SESSIONS



FOR some months, Mrs. Cranfield's General Housekeeping and Cooking session, from 11.30 to 12, has been gaining in popularity. Mrs. Cranfield specialises in specially-selected egg recipes, and sandwich fillings. This has proved very useful for many housewives, some of whom have to cut as many as nine lunches every morning.

Next Saturday morning, Mrs. Cranfield will speak on Invalid Cookery. On Wednesday she will give a special recipe for Sweet Pickle Pears.

So many people have written for directions for knitting a kind of woollen wrap called a "Hug-Me-Tight," that Mrs. Cranfield thinks every woman in the State will be wearing one this winter. Lately, a man wrote in from the country, on his wife's behalf, asking for the recipe of the "Hug-Me-Tight Cake."

Mrs. Cranfield informs us that it is a great improvement to the finished product if a little finely-grated rind of orange is added to the stewing rhubarb.

COMPETITIONS.

Following the success of the Laughing, Whistling, and Interpretation Competitions, the New South Wales Broadcasting Company, in association with "Wireless Weekly," are running a "Best Anecdote" Competition, through 2BL, on June 17, and a "Crying" Competition, through the same station, on July 20.

MR NORMAN'S

SESSION



THE Governor has consented to open the 2BL Boy Scout Session next Tuesday, during Mr. Norman's session. The Governor will speak from Government House, and will be introduced by Mr. Kelso King, chairman of the Association. The Deputy Honorary Commissioner of the Boy Scouts Association of New South Wales, Mr. H. R. Lee, will address the boys; and other executive officers will outline the aims of the Boy Scouts' Association. A crack troop, especially chosen, will be present at the studio to render a new Scout war-cry.

This is realised the project towards the accomplishment of which Mr. Norman, Mr. Basil Kirke, and the Boy Scouts' Association have been striving for some months. It is expected that radio sessions will prove a wonderful force for consolidating the widespread branches, and a most powerful factor in teaching the public the value of the Boy Scout movement.

If the Electric Ship Brunswick gets into Sydney on June 6, as is expected, there will be very little chance of her being here on the following Saturday. But if she arrives towards the end of the week, it is very probable that Mr. Norman may be able to organise a party to go over her on Saturday morning.

READING SESSIONS



Captain Stevens

DURING the mornings this week, Captain Stevens will continue his readings of stories of the French Foreign Legion, an exciting mixture. On Saturday morning he will discourse on "being a failure." On Sunday he will read another "Woodbine Willie" sermon, "Street Corner Lies," which exposes the folly and iniquity of hearsay believing.

The captain's "Church Parade" two Sundays ago was acclaimed in many letters. The captain gets his many unusual records from a Mr. Ransom, who has an indexed collection of 2000 records, ranging from speeches by the King and Queen to the latest in fox-trots.

Mr. Cochrane

EVERY day this week, at 12.13, Mr. Cochrane will hold his reading sessions. He will read from a book of travels, interspersing a series of exceptionally interesting dog stories by leading American writers. The dog stories have provoked a heavy mail, which shows that many people in New South Wales are interested in dogs and stories about them; and Mr. Cochrane is delighted.

On Thursdays, at the usual time, Mr. Cochrane will continue his readings from Dickens' "Tale of Two Cities." These Dickens readings are eagerly awaited for by very many people, as was proved when the station attempted to go through Thursday without them.

Miss Gibson

DURING the week Miss Gibson will continue her readings of short stories from 2FC. Miss Gibson has not yet heard from the public as to what kind of stories it prefers. Does it prefer short stories or long stories? Calm, and with neither a trace of anger nor a gesture of impatience, Miss Gibson awaits the answer.

Mr. Halbert's Readings

MR. HALBERT tells us he never knows what he is going to read weeks in advance. He picks up his stories at random, always looking for neat, terse ideas and plots with points to them. So, every afternoon, at about four, you can be sure of hearing something very interesting. That is what many correspondents say, anyhow.

MR. FERRY'S

SESSION



NEXT SATURDAY Mr. Ferry will broadcast from Randwick, where the best steeplechase horses in the State will be in action.

MISS VARLEY'S SESSION



THE latest activity of the 2BL Women's Sports Association—and the association is remarkably active—is the opening of the golf club, which commenced on June 5, at 10.30 at Moore Park. The club was very successful last year; and a large number of women were introduced to the mysteries of golf. Arrangements were made with a leading golf professional in the city that 2BL members should receive a special concession tuition fee. Many seized the opportunity, and on learning the correct stance, grip, and swing of the golf club, they met every Wednesday at Moore Park, and there put their lessons into practice. An effort was made to get members on a handicap, and so to organise a handicap tournament.

When the summer season arrived, several trips were made by cars (various members lent their cars) to Long Reef links at Collaroy. A picnic luncheon was always planned, and all the members voted these golf days at Collaroy the very nicest.

Everyone is looking forward to the re-stitution of this club, and is hoping for big things for 1929.

JUVENILE TENNIS CLUBS.

As an outcome of 2BL's Women's Tennis Clubs, there has been a demand for juvenile clubs, as mothers realise the value of learn-

ing to play tennis in the correct style, and have asked that clubs should be formed for their children, and that professional coaches should be in attendance, to instruct children in orthodox methods.

Consequently, Manly, Strathfield, Rockdale, and Coogee have flourishing clubs, with an approximate membership of 100 children. Matches are being arranged with much enthusiasm between the clubs, and it is expected that demands from other suburbs may shortly be heard.

Mr. Kirke's Descriptions

ON Saturday, from the Sports Ground. Mr. Basil Kirke will describe the Queensland v. New South Wales League football. This will be the last of a trilogy which began last Saturday, and was continued on Monday, and which is important, as it will help to decide the membership of the team to leave for England in July.

The Stadium proprietors have prohibited broadcasting of battles waged under their old tin roof; but Uncle Bas attends on Saturday evening; then comes back to the studio and gives his impressions. Thus doth the busy Uncle B. attend to the needs of his boxing fans, and maintain the standard of service which has ever been the aim of 2BL. Anyhow, a good few people have expressed the opinion that Uncle Bas's blow-for-blow resumes are even better than the usual hurried descriptions from the stadium. Uncle Bas says he will see the boxing fans get their fight, all right, which sounds rather pugilistic; but is nevertheless rather comforting.

TALKS AND TALKERS



TO-DAY, Friday. Mr. J. E. Patterson will speak from 2FC at half-past four, on trout fishing in New South Wales. Captain Stevens will speak from 2BL at seven minutes past four on "Our first and finest explorer—George Bass's 600 miles in a whale-boat," and Mr. C. R. Dexter will weigh up the chances of to-morrow's racing from the same station at ten past nine in the evening.

On Sunday, the captain will speak to his comrades for the last time from 2FC at twenty past ten in the morning; and Mr. S. H. Bowden will talk of the bulb fields of Holland at six from the same station. At thirteen to four Mr. Kirke will talk from 2BL.

On Monday Mr. S. H. Bowden will summarise the topics of the week from 2BL at nine.

On Tuesday, at nine, from 2FC, Mr. C. N. Baeyertz will continue the "Great writers I have met" series, with Frank Anstey as his subject. This is not the political Mr. Frank Anstey, Mr. Baeyertz warns us. This is the humorist Frank Anstey, who is now dead. We understand Mr. Baeyertz will read from a play by this gentleman—a bright commentary on the London public's knowledge of the French language. At quarter to nine, Miss Vera Keogh will detail her "Memories of famous plays" from 2BL.

:-: How to Service Radio Sets :-:

AO VALVES XIX.

When we arrived at the A.O. filament valves a different service problem was put before us, and one which will undoubtedly stay with us, as the AO valve is too practical to be a flash-in-the-pan novelty.

Where our direct current filaments had their respective grid and plate returns without complications, the AC filaments must be treated kindly, and electrically balanced for the respective grid and plate returns, which in the case of AC filaments, is common.

To get this electrical balance, a potentiometer or tapped resistance is used, giving an equal path to both the grid and plate returns. If one side of this tapped resistance becomes open or unequal to the other side, a divided hum takes place.

The 227 type heater detector has a coil which throws off electrons for the plate voltage path, and is heated thermally from an adjacent filament, which itself is heated by AC.

This has five prongs, the cathode to which the grid and plate circuits return being the fifth.

It takes this valve considerable time (nearly 45 seconds) before the AC filament heats the cathode sufficiently for it to throw off electrons.

A method of detection which works immediately is the heating of a 199 filament by rectified B current. This filament is in series with the plate return to negative B of the amplifier. The current pulled through by these valves heats the filament. If the

The sixth article of the series on Servicing Radio by an experienced business man in radio.

current is not enough for 60 milliamperes, a high resistance is tapped from the filament to positive B so that the filament is directly across the B, and the high resistance is adjusted to give the balance of current. A reading should be taken (see test No. 10) of what current the amplifier valves are pulling, plus what the resistance is allowing to pass. If it is not up to 60 milliamperes, adjust the resistance to bring the current to this amount.

Another way of using the 199 valves is to wire the filaments of the radio frequency detector and 1st audio in series, using 12 volts. This voltage will push through more current than is good for the valves, or 60 milliamperes, so a 3000 ohm variable resistance is shunted across the filament supply and adjusted to take up the excess current. When you find a set using 199 valves in series and a resistance in series with the filaments, you will undoubtedly find the resistance heating too much, and gradually decreasing the current, causing signals to fade away. Change this resistance so it is across the filament supply.

High Power

Ideal for high power amplification behind any existing receiver, or for electrical gramophone reproduction, the Martin all-electric power amplifier, to be described next week, will interest thousands.

Do not miss your copy.

Don't overtax a small eliminator with the system.

You can tell whether or not the eliminator has enough delivery by testing the voltage (see test No. 12) with one of the amplifier valves out, and then putting it back. If the voltage will not stay up, it shows too much drain is being placed on the eliminator.

If the milliammeter starts to wobble, and then drops to around one-half of the proposed reading, it shows a defective rectifier. The trouble may have been in the rectifier, or it may have been caused by heavy overload for the type of rectifier. Before putting in a new one, be sure it is designed to deliver the current being drawn. The overload may, of course, be caused by a defective or shorted valve in the set.

The AC valves now on the market have not been standardised, and, where some take 1 volt, there are others up to 15 volts. So don't service a set using 1 volt with a 15 volt valve.

Overhead filament terminal valves are of the heated cathode type, and are used in all stages except the power output. These have one advantage of the large separation of the AC filament leads from the grid and plate terminals, minimising the chances of inductive coupling.

The filament heating current for these must be kept at proper strength.

The greater the number used in a set, the greater the pull on the step-down transformer, and sometimes the transformer will not deliver enough current to heat them properly. It is necessary, then, to step up the voltage if the transformer is so designed. If this can't be done, the transformer is not suitable for the job.

If too much heat is on the heating filament, the valves oscillate easily. Resistance must then be added in the filament line to cut down the voltage.

Analysing the "B" Eliminator

Concluding the analysis of rectifier filter and voltage regulator units begun last week. This article deals with half and full-curve rectification, with hints on safe operation.

THE following diagrams will be of interest to the home constructor in determining which is the best rectifier for his purpose. Figure 5 shows the half-wave rectifier, consisting of two-element valve, with plate and filament and a plate and filament transformer.

SEPARATE TRANSFORMER.

There is really no need for a separate filament transformer, as the winding for this purpose may be included on the core of the power transformer, but the regulation is likely to be better by using the two transformers independently. The winding P of the power transformer and the corresponding AC input of the filament transformer are the windings connected to the mains. S is the high voltage secondary of the power transformer and the centre tapped secondary of the filament transformer, (CT) the low voltage winding supplying the filament of the rectifying valve with alternating current.

OPERATION.

The method of operation is that when the filament is heated it gives off a stream of electrons, and when the plate is made positive, a current flows across the space between with ease. When the end of S connected to the plate of the rectifying valve is positive, the current will flow across the space in the valve to the filament and through the centre tap of the filament transformer to the Positive output terminal, which is connected to

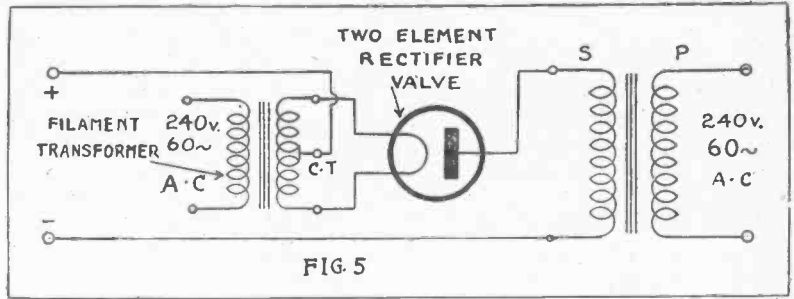


FIG. 5
A method of obtaining pulsating D.C. by half-wave rectification.

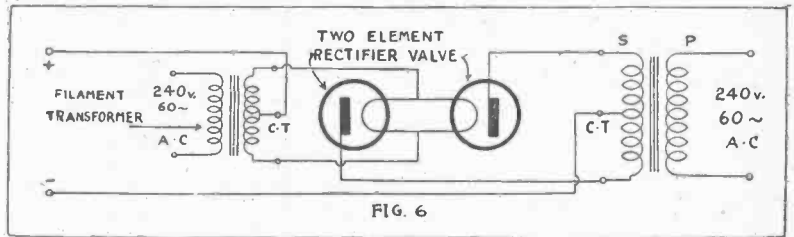


FIG. 6
Pulsating D.C. derived from full-wave rectification.

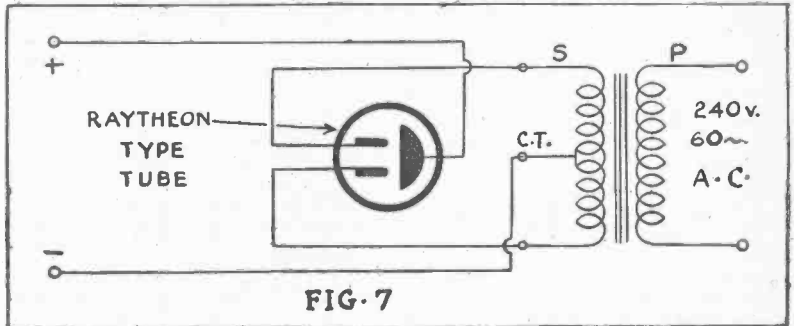


FIG. 7
Full-wave rectification by means of Raytheon type filamentless tube.

the filter. The circuit is completed through the Negative back to the power transformer secondary. It is obvious that when the top of S connected to the plate of the rectifying valve is negative, no current will flow, thus explaining how this half-wave rectifier works.

HALF-WAVE RECTIFIER.

The half-wave rectifier is satisfactory for B Eliminator work if an adequate filter is used, but a much better scheme is the full wave rectifier shown in Figure 6. In this case we use two rectifying valves, the filaments of which may be run in shunt or in series, with each end of the winding of the secondary (S) connected to the plate of a rectifying valve. As each end of S becomes alternately Positive and Negative, when the top end is Positive current will flow through the valve connected at that end, and when the bottom end is Positive through the valve connected at that end.

The great advantage of this scheme is that we use both halves of the alternating current so that with a 60 cycle current and a double wave rectifier we get 120 pulses per second. It is much easier to filter current with 120 pulses per second than current with 60 pulses per second.

FULL WAVE.

In Figure 7 is shown a rectifier using the

Raytheon type full wave tube. In this tube there are two electrodes which are very small and one which is very large. The electrodes are placed close together and the glass bulb is filled with a special low pressure gas.

The operation is that the voltage surge from the power transformer ionises the gas between the electrodes and the current starts across the intervening space between the electrodes. The smaller electrodes are the Positive and the large one the Negative, and it is found that by this means a very high current will flow.

RECTIFIED A.C.

One type Raytheon tube passes 60 milli-amperes, another 125, and another 350. To increase the output, many Australian experimental transmitters use this type of tube in shunt and by this means obtain an excellent rectified A.C. supply for low powered transmitting apparatus.

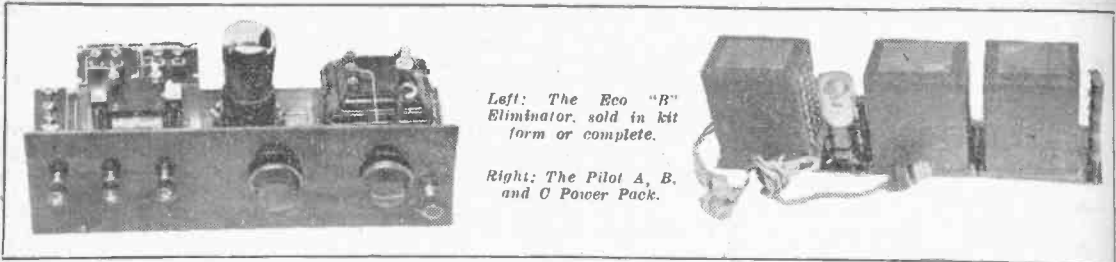
At this point it is necessary to say a few words to the home constructor about using the house mains with safety. In the first place, my advice in these days of advanced apparatus is to purchase your B Eliminator in preference to making your own, and most certainly so if you are not conversant with high voltage alternating current.

FOOL-PROOF.

The voltages inside a main's unit are high and extremely dangerous and it is for this



The Philips Trickle Charger is a particularly useful device, allowing inclusive switch control of receiver.



Left: The Eco "B" Eliminator, sold in kit form or complete.

Right: The Pilot A, B, and O Power Pack.

reason that all manufacturers enclose their productions inside a fool-proof casing. Never interfere with the mains unless you are well aware of what you are doing. With reasonable precaution there is no need for accidents. The first thing the beginner is likely to do is to accidentally short circuit the mains, particularly in the case of the D.C. mains where one side (nearly always the negative) is earthed.

That is not likely to have any serious consequences beyond causing a certain amount of inconvenience through blowing fuses.

FIRE RISK.

Perhaps he gets "fed up" with blowing fuses and replaces the standard fuse with heavier wire. By doing this he is running a risk of fire in a conductor. The most important risk is that of shock, which while not apt to be serious from D.C. mains, may prove so with Alternating Current. Against this must be set the fact that the body is a very poor conductor and offers a good protection due to the high resistance. It is very seldom that a really good connection is accidentally made between any part of the body and a current carrying electric current, as in most cases the body of the person touching it only forms a shunt circuit so that only a very small proportion of the total current may actually flow through the body.

SHOCK RISK.

A great deal depends on the hands (if contact is made here), and whether they are dirty, clean, greasy, dry, or wet. The reason why there have been recorded fatal accidents in bathrooms is invariably because the person coming into contact has touched some faulty switch either when in the bath or stepping out of it.

The fact that the whole body is covered in a film of water and in more or less direct connection with the earth has passed the current flow over the whole surface, and not merely over the hand alone, with the result that the shock has been greatly intensified. Common sense and forethought are all that is necessary, and the experimenter has only to remember that before making any alteration whatever to the house wiring he should put the main switch of the house (to be found near

the meter) to the off position. If the house wiring itself is not touched, and connection is made through a lamp socket or power point (which should always be the case), care should be taken to remove the adaptor from the socket before doing anything at all to the set or apparatus using power from the mains. For those who contemplate making their own B Eliminator, the following data, by courtesy of Ferranti Ltd., will be very useful:—

Messrs. Ferranti Ltd., of Hollinwood, Lancashire, England, have gone very exhaustively into the technical properties of "B" battery eliminators. They advise in selecting the components for use in the construction of an eliminator it is necessary to bear in mind that the apparatus has to with-



The Ferranti "B" Eliminator uses a dry metal contact rectifier.

stand comparatively high voltages and heavy currents; therefore, unless care is exercised in selecting and assembling the components the results may be unfortunate.

It would perhaps be as well to mention at this stage that properly designed components for this class of work are expensive to manufacture and are in consequence relatively high in price. It is not possible to build a satisfactory and safe eliminator at a low price.

This well-known company manufacture several "B" eliminator kits, employing the "anode feed" system—developed by Ferranti Ltd. They deal with the eliminator for use on AC supplies up to 250 volts, 40/70 cycles designed for supplying high tension to a 4 or 5 stage receiver including one or two stages of radio frequency. The total output is 100 milliamperes at 200 volts with mains transformer type EM1 and dry rectifying unit type R80.

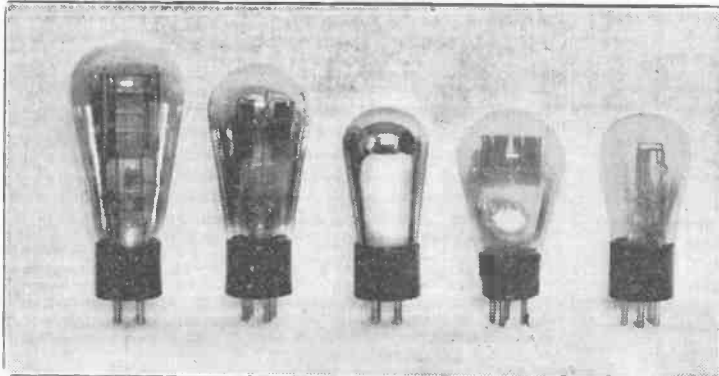
The "Mains" Transformers are tested at 2000 volts A.C., and have an insulation resistance of not less than 1000 megohms. Following the transformer a Ferranti Rectifying Unit is recommended. This unit comprises a Westinghouse Patent Metal Rectifier enclosed in a well-finished metal case with a fuse and terminals brought out to facilitate connection.

The chokes used have an insulation resistance of not less than 1000 megohms, and the fixed condensers for H.T. supply units are of 2 mfd. capacity, each being of the rolled foil low resistance pattern, not "Mansbridge" type. They have an insulation resistance of not less than 200 megohms each, which as well as their test voltages, is higher than that of other similar types.

Eliminators built in accordance with these instructions may be used for providing H.T. to receivers employing the best amplifying arrangements without "motor-boating," and in almost all cases without mains hum.

The arrangement is so good that the overall application of a receiver operated from such a unit is equivalent to the product of the amplification provided by the individual stages. This is important, as, although inferior designs may give comparatively good performances under some circumstances, they invariably distort the amplification curve of the receiver and so nullify to a great extent the advantages gained by the use of high-class inter-valve couplings.

With the A.C. Eliminators described using Ferranti mains transformers, the connection of the earth and the aerial to the set can be left the same as when batteries are used. It is strongly recommended, however, that the phones or loud-speaker be connected to the set by means of an output transformer, so as to isolate the high voltage, which may be anything from 160 to 210



Types of Rectifying Valves used in modern eliminator design.

Continued on Page 64.

FLOODS PROVE RELIABILITY OF RADIO

General Notes by
Our Melbourne
Correspondent

IN the field of telegraph communication it has long been the opinion that wireless could not compete with wires for reliability and dependability. That has proved to be true to a certain extent in the past, but with the advent of short-wave working, wireless has come to the fore in more ways than one.

As with any communication system there will be occasions when the service breaks down. Severe weather conditions cause breakage of communication in wire telegraph just as extreme atmospheric conditions detrimentally affect the wireless service.

During the recent Tasmanian floods the usefulness of wireless was prominently brought to the notice of the general public, as well as to the more interested organisations, official and otherwise. With the severance of the telephone and telegraph lines connecting Hobart and Launceston, all the normal means of communication broke down. A very serious state of telegraph and telephone isolation threatened Hobart; an isolation that was complete but for the wireless service.

Had there been no wireless station at Hobart the Tasmanian capital would have been cut off from its important northern centres, from the mainland, and consequently from the world. That serious state of affairs was obviated by the fortunate possession of wireless facilities.

Strangely enough the Federal Government had no emergency wireless service available to utilise. And its own company, which operates the coast stations, was able only to give limited assistance in communicating between Hobart and Melbourne. For communicating with Launceston it was not of use.

It remained for the unofficial services to come to the rescue, though broadcasting stations 3LO and 7ZL were of great value in transmitting news and other important messages. The services of these stations in this way were of national importance, and were much appreciated.

Coming Musical Programmes

Shakespearean Music

A FINE programme of Shakespearean music will be broadcast from 3LO on June 11 by the Victorian Railways Symphony Orchestra, under the direction of Mr. A. Belcher, when the selections will include the incidental music to "The Merchant of Venice," "The Merry Wives of Windsor," and "Portia"

"Chamber Music"

THE attention of musical listeners is drawn to the programme of Chamber music arranged by the Cecil Parkes String Quartette at 3LO for June 9, and included in the selection are the Schumann Piano Quartette in E Flat, and the Beethoven F Major String Quartette. This is the first of a series of Chamber concerts to be given over the air by Cecil Parkes (1st violin), George Paton (2nd violin), Kingsley Parkes (viola), and Frank Johnstone (cello), who are soloists of high standing, and listeners are familiar with the excellence of their ensemble work.

Schubert

MUSICAL listeners will be glad to hear that a Schubert programme will be given from 3LO on June 10 by the brilliant young Melbourne artist, Lindsay Biggins, who has included in his programme Impromptu in C Minor and G Minor, together with the the Moment Musical. Whilst he was a student in Germany, Mr. Biggins made a special study of the interpretation of Schubert, and his concert work in Leipzig created a most favorable impression.

Melbourne Banjo Club

A PROGRAMME of banjo music will be given from 3LO on June 10 by the members of the Melbourne Banjo Club, under the direction of Messrs. Andrews and Wynne. Many southern melodies especially arranged for the banjo will be given by the entire company, interspersed with trios and duets, with a solo from William J. Wynne, who is recognised as one of the foremost banjo players in Australia

Choral Recital

A CHORAL recital will be given at Cairns Memorial Church, on June 13, and transmitted by 3AR. A fine programme has been arranged. Items will be given by the choir and the Cairns Quartette, with duet, "So Thou Lifest Thy Divine Petition," from Stainer's "Crucifixion," rendered by Messrs. A. J. Etheridge and Frank R. Thomas. Miss F. F. Thurman will officiate at the organ, and Mr. R. J. Oehr will conduct.

Australian Music

IN response to many requests, the "Half-hour of Orchestral and Vocal Works by the Australian composer, Frederick Hall," will be repeated at 3AR on June 13. Two songs, with orchestral accompaniment, "Little Northern Window" and "Love Comes but Once," will be sung by Alexander Brown, the Station Orchestra will be heard in the suites, "Pictures from France," and "Lavender and Lace," while Frederick Hall will contribute his own "Intermezzo Brillante," an octave solo for the piano.

3LO SPORTING NOTES

(By ERIC WELCH)

BY the week ending Saturday, June 15, interest in the great cross-country races in Melbourne this season will be at its greatest height. The King's Birthday meeting, Flemington, will have passed, and there will be only three week-end meetings before the Grand National meeting opens at Flemington. Those in search of likely winners of the Nationals will find plenty to interest them in the racing at Williamstown on Saturday, June 15; for on that day there will be three races for jumpers, two for hurdlers, and one for steeplechasers. The meeting has often been the means of bringing before racegoers horses who subsequently give good accounts of themselves in the great cross-country races at headquarters. It is a strange thing that the Maiden Hurdle Race is often a better guide to the Grand National Hurdle than the Port Phillip Hurdle Race, which is for the better class of horse at the time. Only last year Longlands presaged his National win by a win in the Maiden Hurdle Race at Williamstown. Two years before Deacon, who won the Maiden Hurdle Race, finished third in the National. Other years too have seen the Maiden Hurdle Race giving something of an idea of the chances in the National. The year 1924 served to introduce to racegoers one of the best hurdlers we have yet seen—Pildin—and his first hurdle win was in the Maiden Hurdle Race at Williamstown. The Port Phillip Hurdle Race, too, has been won by many good hurdlers. Bendoc won the race in 1923 and 1924. Joulmi is another good winner of the race. The Williamstown Steeplechase has always been the means of bringing together many Grand National candidates, but the year 1925 saw the South Australian Dundalk run third at Williamstown before his win in the National. This year the Williamstown meeting promises to be even more interesting than in former years, and listeners will derive great pleasure from the descriptions of the races, which will be handled for

3LO, Melbourne, by Eric Welch. Final selections for the races will be broadcast by Eric Welch on the morning of the races, and he will also review the form of the runners from the studio on the night before the race.

FOOTBALL DESCRIPTIONS.

For Saturday, June 15, the football matches selected for description by 3LO, Melbourne, are those in which Carlton will meet North Melbourne, at Carlton, and in which Richmond will meet Geelong, at Richmond. Rod M'Gregor, a former Carlton champion, will be behind the "Mike" at his old ground, while Mel Morris will handle the description of the match in which his old team, Richmond, will meet the very strong Geelong combination. As both men will be handling games in which their own teams will be engaged, listeners can depend upon it that there will be any amount to interest in their descriptions.

INTERESTING BASEBALL

What promises to be a very interesting baseball game will be described by Percy Steele from the Richmond Cricket Ground on Saturday, June 15, for 3LO, Melbourne. On that day Richmond will meet a very strong team in University. The students have not been long fielding a team in the baseball competition, but they have shown that they are adept at the game, and the description by Mr. Steele should prove very interesting.

ACCEPTANCES FOR WILLIAMSTOWN.

At half-past five o'clock on Thursday, June 13, the acceptances and barrier positions for the Williamstown races, to be run on the Saturday following, will be broadcast by 3LO, Melbourne. This service is proving of great use, especially to country listeners, many of whom are not able to obtain a copy of the daily papers in which are the acceptances until after the races have been run.

Wireless Weekly

Incorporating "Radio in Australia and New Zealand."

FRIDAY, JUNE 7, 1929.

Lighting Up Our Coasts With Radio

THE lighthouse has been a subject of romance for so long, that people are only just realising that the stories of its steadfastness are becoming a little old-fashioned.

The ancient mariner had a sextant, a compass, and a working knowledge of the heavens to guide him. Later, navigators made use of the chronometer, the telescope, efficient log-lines, charts, and well-lighted coasts, but while all these aids to reckoning are still the fundamental means of navigation, they have been supplemented by a hundred more exact and scientific methods. These, while they have not detracted from its value, have overshadowed the importance of the lighthouse.

The biggest factor in this direction has been the radio beacon, which works efficiently in all weathers, whether fog or gale. Almost every light-house on European, Scandinavian, and British coasts now possesses the radio beacon, which flashes out its constant signal to ships at sea. The whole coast of North America, from Newfoundland to Panama, and from Panama to Behring Strait, has radio beacons at various intervals.

But what of Australia? Nowhere along our coast is there a beacon, and only three lighthouses in Bass Strait have radio at all. Overseas vessels approaching our shores find no use for their direction-finding apparatus. The Riverina and the Kanowna go ashore in fogs; Moir and Owen are lost to the world for days. Even New Zealand, with its one beacon station at Cape Maria Van Diemen, is better situated than we are.

Why is Australia so badly equipped? Mr. Gullett, answering a similar question in the Federal House, advances the excessive cost as the reason. But this is no reason at all. In a fog our coasts are as dark as they were in the Middle Ages; radio beacons would light them up, and its worth in making our sea trade safe is far above the £30,000 per annum mentioned by Mr. Gullett.

If Australia is to hold her own as a trader among the nations of the world, she must light her coasts with wireless. Otherwise navigation in Australian waters, compared with other countries, will become as dangerous and as unsafe as the shores of America were to medieval Europe.

Free Licenses for the Blind

FROM time to time requests are received by the broadcasting companies for free licenses for listening to the services. These requests are mainly on behalf of blind persons and others suffering afflictions. It is contended that the broadcasting services are a great boon to such persons who are denied the pleasures and benefits of science which their more fortunate fellow citizens enjoy.

The matter is one for the Government, of course, as all licenses are issued by the Post-Offices under Government regulations, which make it obligatory for all persons using wireless appliances to have a license. Nevertheless 3LO Melbourne, and some of the other companies adopted a sympathetic attitude when requests were received, and decided to forego their right to their proportion of the licence fees if the recipients of the their prtings of the fees—the Postmaster General's Department, Amalgamated Wireless, and the Copyright Association would agree to do so.

The Postal Department takes one shilling. Amalgamated Wireless three shillings per license, and the Copyright Association is given seven and a half per cent. of the remainder of the 24/ which a listener pays. The Postal Department some time ago asked the broadcasting companies if they would agree to a free license. The companies agreed, but the Department would not give up any of its proportion. There the matter stayed, and any further representations to the companies were forwarded to the Government.

In Great Britain free licenses are given to blind persons under a special act of Parliament, and the number of such licenses is about 25,000. What the number is likely to be in Australia is very difficult to assess but in proportion to population it would probably be about equal.

The broadcasting companies' attitude has pathy was shown to the afflicted persons. It been logical; no semblance of want of sympathy is the business of the Government to say if any concession should be given, and if so, the Government should take the larger share, if not all of it, in providing the services. The companies who bear the expense of arranging the programme services should only be called on to relinquish a part of the total fee that may be waived.

Apart from the particular aspect of the matter mentioned in the foregoing, the amount of charitable work done by the broadcasting companies has been quite considerable. In addition to collections obtained from listeners by special appeals, the occasional performances at hospitals, sanatoria, etc., have been valuable contributions to alleviating the conditions of our less fortunate fellow citizens.

All-Australian Programme

AN "All-Australian" programme will be presented by the Australian Composers' League through 2BL on June 18, when every item presented will be written and performed by Australians. Some of our most noted authors and composers are being associated with this evening.

BUILDING A SET No. 4



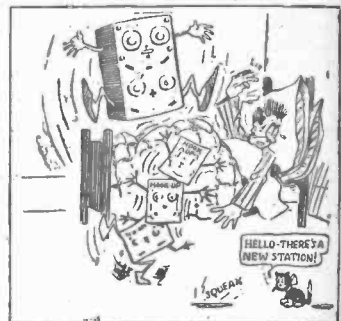
As He Feels When Studying His New "Hook-Up"



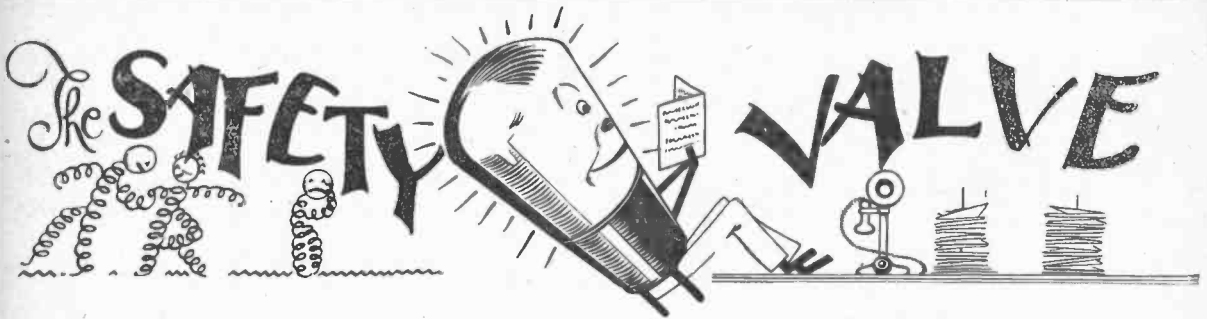
As He Will See to It that He Isn't



Is That So



And Now Even His Nights Are Ruined.



"4QG Will Do Me"

Dear Sir.—Having read the remarks of "Something to Cry Over" (Safety Valve, May 24). I crave the privilege of answering the very uncalled-for remarks about the squealers down south, and I would like to say he does not know when he is well off, as I am in the lucky position of having a set with which I can get fourteen stations, but invariably tune in to 4QG five nights out of the seven. They have some of the best-arranged concerts, and some of the best talent available anywhere. I need only quote these that are well worth while: The Eric Johns party, the Richmond party, and the Orpheans, and they all put over first-class stuff. Then, on Saturday night, their Speedway announcer is a character well worth anybody's time listening to, but since the Speedway has been cut out I lose a good laugh, as he will give you as good a thrill as the "mike" can supply. But when all is said and done, programmes are a matter of taste, and if your correspondent had tried a little more often than "five times in four months" he might have changed his tune. Anyhow, 4QG will do me.

Yours, etc.,

Braddon.

ACK DON.

Silent Period

Dear Sir,—As one who heartily agrees with J. Redding's letter in "Wireless Weekly" of May 17, why this one and one-half hour silence every Sunday morn and evening? Broadcasting is a public affair, maintained by the public, and religion or politics should be rigidly excluded. My advice to the churches and people who want to hear these services is to do what some denominations are doing now—maintain their own station. As regards listeners who are complaining, write and complain to proper authorities. If a few dozen letters are forwarded, I feel sure something will be done in this matter.

Yours, etc.,

Burwood.

C. REARDEN.

On Behalf of Singers

Dear Sir,—After reading Mr. Barnett's remarks on accompanying, I think it only fair to put in a few words in favor of the singer, as I conclude from those remarks that he is not a trained singer. I always was taught that a soloist was allowed a certain amount of license with the music, the same as a poet is with his grammar. The singing world is made up of people with different opinions, the same as the rest of the world, and the accompanist's part is to listen carefully and keep with the singer, and not to lead, as Mr. Barnett seems to imply. A good singer is not necessarily the one who keeps the best time, has the best voice, or the best-trained one, but a combination of the three in conjunction with the best expositor of a composer's music and interpreter of the words, and to emphasise the words it is sometimes necessary to slacken just a little or accelerate, or make a

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.

slight pause, and so on, which naturally interferes with strict tune. Some well-trained singers are utterly expressionless, and might be mechanical, the words mean very little to them, and they merely sing the music: some do not even trouble about the composer's expression marks, while others are badly-trained and have such faulty diction that they might be singing Chinese for all one can tell, but the accompanist's part is the same with them all.

I remember some years ago one of our public singers taking part in a concert, and her accompanist was unable to attend, so another musician was recommended. She was delighted to be so honored, and told me afterwards that she (the singer) "did sing well, and just as she wanted her to!" No power on earth could have convinced her that she actually spoiled the songs. Knowing herself to be an accomplished pianist, she thought that her part was to play the music, and never mind the singer, which, of course, the latter "sensed" at the start, and had to make the best of it.

I read an article some time ago by a musician (I cannot call his name to mind) in an English magazine, in which he stated that it was an accepted fact by the world's greatest conductors that they never got just what they wanted, even from the pick of the world's artists. This proves the differences of opinion, and stresses the need for watchfulness by the accompanist.

I learned singing years ago from one of the best teachers, who was considered second only to Madame Christian in this country. She was a nun of the same order, with a magnificent contralto voice, and, being a great singer like Madame Christian, she naturally knew something about the matter. She always insisted on studying the words and their meaning, as well as the music, that departure from strict time was allowed in interpretation at the singer's discretion, as the first and chief aim of a soloist was to show the voice to best advantage, and that the accompanist's part was strictly in the literal sense of an "escort." I contend that she was right, and also that a trained singer must of necessity know much more about singing than the untrained. I refer, of course, only to those thoroughly trained by competent teachers.

Then, again, I am old-fashioned, and perhaps these old ideas of singing do not now apply.

Yours, etc.,

L. WAY.

Auburn.

(Our correspondent has undoubtedly taken Mr. Barnett and Mr. Chapple' duets more seriously than was intended. We hope, however, that Miss Marie Bremner's spirited reply—also not to be taken too seriously by accompanists—in last week's issue completely meets the case from the singer's point of view!)

R.C. Services

Dear Sir,—I wish you would grant me space in your valuable paper to express my keen appreciation of the programme put over by 2FC on Sunday, May 19. That is, the relay of the concert arranged for charitable purposes from the Criterion Theatre.

What a dirty smack up the ribs it must have been to those poor misguided persons who parade their poor weak babblings in "Wireless Weekly" under the nom-de-plumes of "Fedup Nos. 1, 2, 3, etc." I can almost hear them moaning because they have nothing to moan about. I cannot imagine people being so narrow-minded as to expect to have jazz all the week, and then to expect more on Sunday.

The only kick I have coming about Sunday broadcasting is this: Ever since I have had my receiver (about nine months) I have only heard a service broadcast by an A class station from a Roman Catholic church twice. I don't know why this is so, but it seems to me to be absolutely unfair, as I think there are just as many Roman Catholic listeners as any other religions. Reverting to the old argument, jazz and religion, why not organise a poll to find out the consensus of opinion regarding this?

Yours, etc.,

Dubbo.

FAIR-GO.

The Bugler

Dear Sir,—Further to the letter about Mr. J. A. Watson, the bugler who played "The Last Post" and the "Reveille" at the conclusion of the Anzac Day services at the Memorial Stone at Canberra, I would like to say that he is well known here as bandmaster of the Canberra City Band. Mr. Watson was Sergeant of the 5th Battalion, A.I.F. After the war he furthered his musical studies at the famous Kneller Hall, London, and on his return to Australia was most successfully associated with the Wanganui and Lithgow bands. Under Mr. Watson's capable direction the Canberra City Band is becoming one of the most popular institutions in the national Capital, and at an early date the band hopes to participate with success in Australian competitions.

Yours, etc.,

J. H. HONEYSETT.

Canberra.

It Works While You Sleep!

THE *New* ECO METALLIC RECTIFIER "A" BATTERY CHARGER

Charging rate—2 amps.
Two, four, or six volts.
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No valves or acids.
No better charger made.

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Philips A.C. Power Pack 12	0	0	0
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Radiokes R.F. Chokes	0	8	6
Aerovox Grid Condensers 0	3	0	
Pilot A.C. Sockets	0	3	0
Pilot U.X. Sockets	0	3	0
Electrad 100,000 ohms			
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Radiokes R.F. Chokes	0 8 6
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Osram Valves, K.H.I.	1 7 6
A.W.A. Ideal Trans- formers	0 18 0
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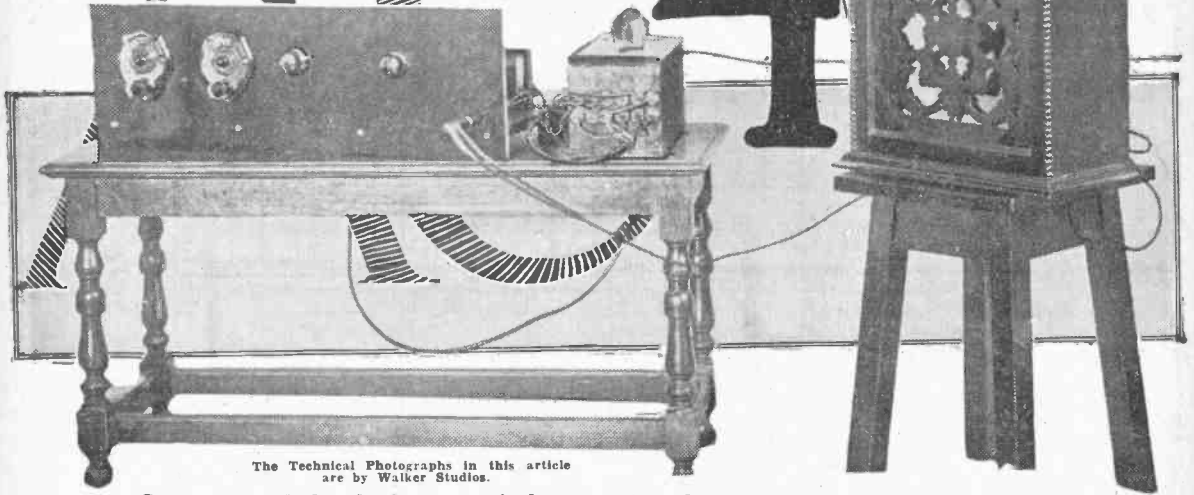
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The MARCO

4



The Technical Photographs in this article are by Walker Studios.

Constructional details for one of the most popular of "Wireless Weekly" circuits adapted to work without batteries.

THE name "Marco" seems to be a kind of "open sesame" with "Wireless Weekly" readers and examination of correspondence during the last two years shows that it is easily the most popular of four-valve home constructed receivers. The reason is not far to seek. It is an easy piece of apparatus to build, and when it is done, the results obtained are as good as anyone possessing an average aerial system could wish for.

The Radio and Electrical Exhibition brought home to everyone the fact that the "All-electric" era has dawned very forcibly, and to-day the man who lives anywhere where there is alternating current lighting supply to his home begins to look askance at the faithful dry battery, accumulator, and D.C. valves. He has heard commercially designed all-electric sets working, realises they have come to stay, and that they give a minimum of trouble. When he makes his mind up to purchase a set, it is almost certain to be completely power operated.

BEST FOR GENERAL PUBLIC

Probably it is the best thing that ever happened for the man in the street. He wants reception of the broadcast programmes, he knows nothing about radio receivers, nor does he care to know, and the sight of accumulators, which simply must be charged, and B batteries, with a lot of different colored wires, scare him away from the D.C. set.

He wants to hear his set work by merely snapping on a switch from his house power supply, and in 1929, thanks to years of effort on the part of the world's leading engineers, he is able to do it. If anything goes wrong, a telephone call brings the radio company's service man along; well versed in A.C. work, and the trouble is put right on the spot—if he has traded with a reliable concern with a good reputation.

THE HOBBY MAN.

The home constructor, that indefatigable being whose waking and sleeping hobby is making up and trying out the latest his

List of Parts for the Marco A.C. Four

- 1 Bakelite Panel, 2½ by 8 by 3-16 in.
 - 1 Baseboard, 23 x 12 x ½ in.
 - 2 Radiokes Screening Boxes.
 - 1 Radiokes Marco Four Coil Kit.
 - 1 Radiokes R.F. Choke.
 - 2 Formo .0005 Variable Condensers (C and C.1).
 - 1 Formo .00055 Variable Condenser (C.2).
 - 3 A.W.A. U.X. Anti-vibration Valve Sockets.
 - 1 Benjamin English Type Anti-vibration Valve Socket.
 - 2 A.W.A. Ideal 3 to 1 Ratio Audio Transformers.
 - 1 A.W.A. Ideal 1 to 1 Ratio Output Transformer.
 - 1 General Radio 50-ohm (Carter) Centre-tapped Resistance.
 - 1 Enncostad Type 1A 0 to 2000 ohms.
 - 2 T.C.O. Impd. By-pass Condensers (C.4) and (C.5).
 - 1 Mullard 50,000-ohm Fixed Resistance (R.4).
 - 1 Royalty 0 to 500,000 Potentiometer (R.5).
 - 1 Single Circuit Jack.
 - 2 Emkaybe Vernier Art Dials.
 - 1 Plain Knob for C2.
 - 2 Electrad .002 Fixed Condensers (C.6 and C.7).
 - 1 Electrad .00025 Grid Condenser, and Mullard 2-meg. Leak (C.3 and R.3).
 - 1 Alpha 6-point Battery Plug.
 - 8 Terminals.
 - 1 Piece Thin Sheet Brass, 23 by 12 in.
 - 1 Osrarn H.L.S. R.F. A.C. Valve.
 - 1 Osrarn K.L.1. A.C. Valve.
 - 1 Osrarn P625 Power Valve.
 - 1 Osrarn P625A Super Power Valve.
 - Leucos Flexible Stranded Insulated Wire.
 - 18's Tinned Copper Wire and Insulating sleeving.
- Set recommended for use with B.G.E. Power Pack, which contains requisite A, B, and C voltages.

technical journals place before him, is his own service man, or ought to be, after a year of tinkering about with wireless "gadgets." He, too, is turning to A.C. operation of sets, but he is not going to buy the "ready-made" article, and so it behoves the radio journal to cudgel its wits and give Mr. Home Constructor an all A.C. operated set, which is not terrifyingly complicated, and which is a younger brother of an older name.

WORTH TRIAL.

Whether it becomes popular or not remains to be seen; but as it is simply the good old Marco Four in an "electrified" state, it is certain to be tried by a goodly number of our readers, and it will be the same old story—many will do the right thing, and if they are not satisfied with the job as it stands, will try various schemes of their own, while others are sure to wire something up incorrectly, and then tell the writer of this article that "the wheels won't go round. . . why?"

NEW DEPARTURE.

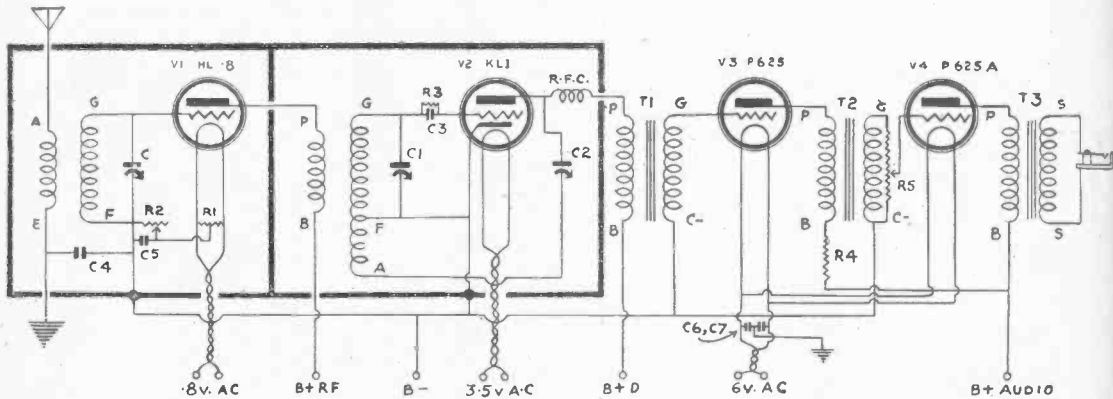
There are probably a fair number who understand the application of A.C. valves, both of the directly and indirectly-heated types, although not a great deal has been said about them in the pages of "Wireless Weekly," and to those who know exactly what they are dealing with I issue a warning: That I have taken serious liberties in the Marco A.C. Four in using A.C. direct on the filaments of the two audio stages, and not only the last stage.

Normally this practice is avoided by all A.C. set designers, and there is a very good reason for so doing. By supplying the final audio valve with A.C. on the filament, there is an entirely negligible amount of hum at a period of 60 cycles from the mains, but if both transformer coupled stages are fed in this way that negligible amount of hum becomes amplified considerably by the second stage, which is only natural, as it is an audio amplifier.

CARE NECESSARY.

Nevertheless, with due care it is possible to balance that hum almost completely out, so that it does not interfere materially with

CIRCUIT SHOWS RADICAL DEVELOPMENT IN DESIGN



the slightest whisper into the microphone in the studio of the broadcasting station. The method of doing this will be explained later, but even as the circuit stands without the balancing arrangement, the hum in the audio stages is not so persistent as to be continually annoying. In short, the application of A.C. to the Marco Four, as shown here, was a great success, and the results far exceeded expectations.

OLD MARCO

Before going on to a description of the receiver, I am going to say a few words about the original Marco for the benefit of

ventional Reinartz, and the result was that the idea was put into practice in earlier days by the Martin Copeland Company of America. It was highly successful, and the receiver was then named the Marcodyne. All over Australia, radio enthusiasts are well acquainted with the Marco circuit and its undisputed qualities as a simple but well worth trying receiver.

MARCO IN NEW ROLE.

On various occasions we have described the Marco Four in its original, improved, and localised control forms in "Wireless Weekly," and now we present it in its new power-operated role as the Marco A.C. Four.

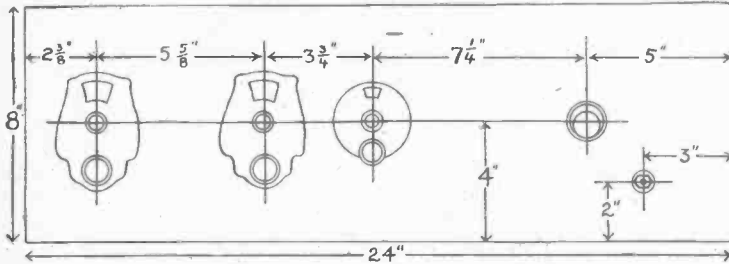
The inherent disadvantages of batteries with their consequent restriction of the best, have been the cause of all the research work involved in their total elimination. With the valves and circuits first designed for use the alternating current produced in the loud speaker or headphones an audible note, whose frequency was the same as the mains supply frequency.

PROBLEMS.

It was a big problem to find a method of wiring a receiver and making valves in such a way that the annoying hum could be entirely eliminated or reduced to an insignificant degree. It was found comparatively easy to eliminate the plate or B batteries in the very early stages of A.C. development, as evidenced by the many highly efficient B eliminators, which have been on the market for two years or more, but until last year there was no practical method of heating the filaments of the valves with an A.C. supply.

HUM CAUSED TROUBLE.

Actually before A.C. operation of radio receivers became a realisation it was known that the last stage of the amplifier could easily be arranged through a suitable transformer to run off the house main, but if the A.C. supply was extended to the preceding audio amplifier and the detector trouble started for the reason that the arrangement was an amplifier. In other words



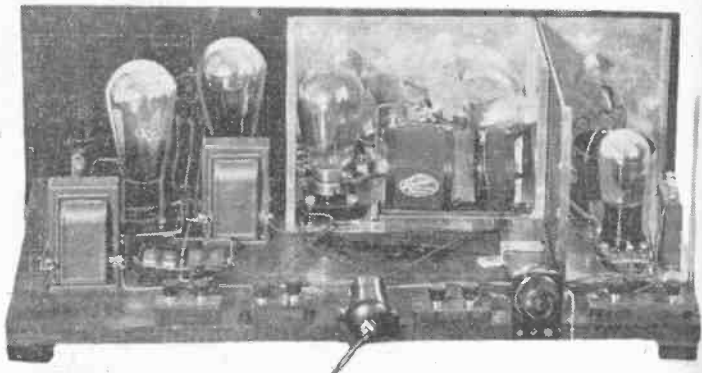
any new readers, to whom the name means nothing. Almost everyone who has any interest at all in the home construction of wireless receivers knows the conventional Reinartz circuit. The Reinartz circuit has been almost done to death in radio publications, and yet it always comes on top and gives excellent justification for its use.

"CONSTANT REACTION"

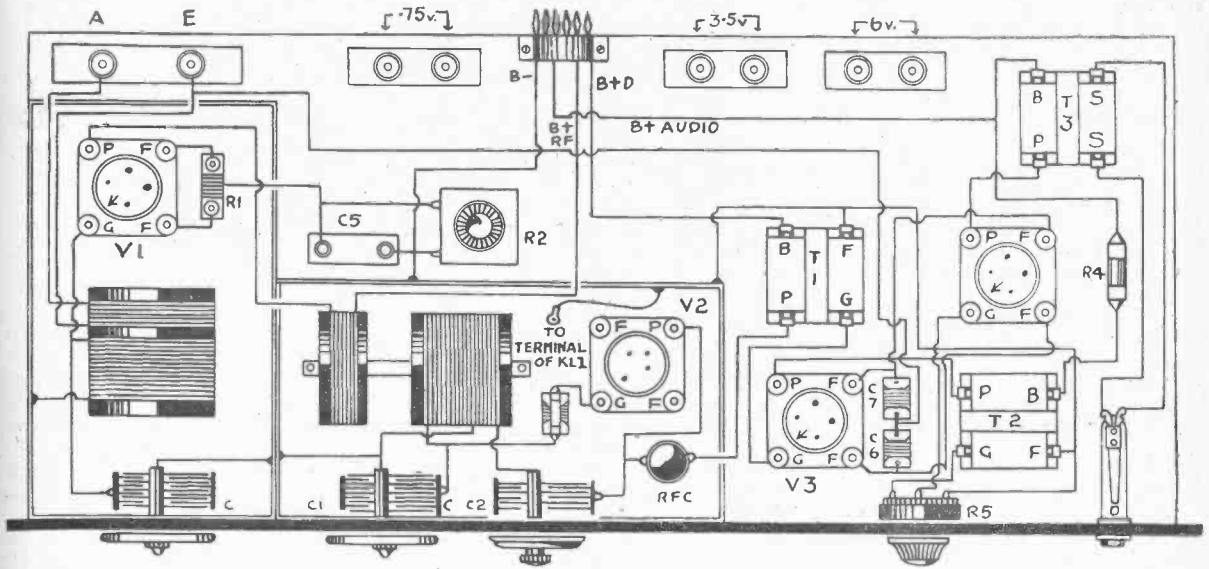
The reason for this is that the variable capacity method of regeneration control is extremely smooth in operation when all the circuit constants are correct. In fact, a well-balanced Reinartz circuit may be aptly named a "constant reaction" circuit, as is often done in English radio journals. The immediate result of these desirable features is that a good increase in volume and selectivity is obtainable, with quite a fair latitude of regeneration control.

Given, then, such an efficient regenerative detector circuit, it was not difficult to imagine the effect of a stage of radio frequency amplification placed before the con-

There is no doubt but that operation of the radio set from the house lighting mains has been the object and dream of engineers in the world's leading laboratories ever since broadcasting became a national necessity.



HUM HAS BEEN REDUCED TO INSIGNIFICANCE



the hum in any stage but the last was treated as a signal by all the valves, and amplified in the same way.

It is in this connection that I have taken liberties with the Marco A.C. Four, illustrated here. The first, or radio frequency, amplifying valve is fed direct from alternating current, the detector is of the independently-heated Cathode type, and the two audio valves are also fed direct from the A.C.

LITTLE HUM.

No doubt this practice will entail a lot of criticism, but it is no exaggeration to say that the amount of an A.C. hum from the two audio stages, using the valves specified, is nothing to worry about. It may not be the same in one receiver as in another, though, owing to even slight differences in the wiring, and in case any trouble is experienced in this way, I will describe a simple method of almost entirely eliminating the hum where an A, B, and C power pack is used.

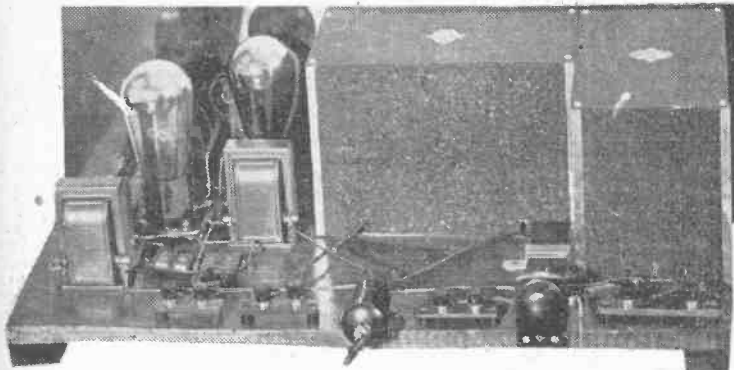
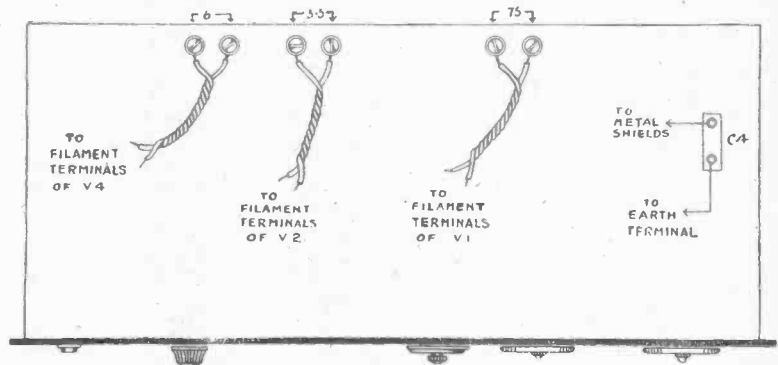
CIRCUIT

Glance over the theoretical circuit diagram, and we will check up on the essen-

tials of this all-electric receiver. In the first case, the coil kit is the standard Marco Four kit, manufactured by Radiokes. The R.F. and detector stages are entirely screened by two of the excellent aluminium boxes, also Radiokes.

SCREENING.

Not only does this metallic screening ensure good selectivity, but it contributes in no little measure to the reduction of A.C. hum. My advice to those who already have battery-operated Marco Four receivers, and



who may consider changing them over to All-electric operation, is under no consideration omit the screening. By its use the efficiency of the receiver soars away up into the heights, and as good as the ordinary Marco is, the results obtained with the A.C. model are far ahead.

VALUES.

It will be seen that there are three separate A.C. filament supplies to this receiver, owing to the valves used, and here it is necessary to mention that it was designed around the valves used, which in this case are all of Osram manufacture. The R.F. amplifying valve is an Osram HL-8, which is a specially-designed A.C. valve for R.F. amplification. The detector is the well-known Osram KL1, independently-heated Cathode type, and as a detector or audio amplifier this particular valve gives the utmost efficiency.

I.H. CATHODE VALVE.

There are no doubt many readers of this article who do not know what is meant by an I.H.C. or independently-heated Cathode valve, so a few words of explanation on the K.L.I. will not be amiss. The thermionic valve, as readers know it, has the filament (or more correctly the cathode) heated by a current passed through it from a low-tension D.C. supply. In the Osram K.L.I. the cathode functions without the use of a low-tension D.C. supply, and is arranged separately from the actual filament.

It takes the form of a metal cylinder, surrounding and heated by an element which obtains the necessary current from the secondary of a suitable transformer, taking its input from the alternating current mains. As there is no direct electrical contact between the cathode and the "filament" (now known as the heater), any undesirable noises from the supply, or A.C. hum, are entirely eliminated.

CONSUMPTION.

The cathode has a large area, enabling the valve to possess characteristics which make it equally suitable as detector or audio amplifier. The heater consumes a current of two amperes at 3.5 volts, which is equal to 7 watts consumption. Thus the K.L.I. valve is considerably more economical than the average house lighting lamp.

AUDIO STAGE.

In the first audio stage is one of the new Osram P625 power valves, and in the last a P625A super power valve. These two valves require 6 volts to the filament, as mentioned before, are supplied from A.C. At this stage it is necessary to mention the source of supply.

As the HL-8 in the R.F. stage takes .75 volt, the K.L.I. 3.5 volts and the two audio valves 6 volts it will be obvious for the man who already uses a B or B and C eliminator that a special heater transformer is necessary.

POWER PACKS.

The whole of the A, B, and C supplies for the Marco A.C. Four illustrated are obtained from a special BGE power pack, which is made to deal with all Osram A.C. valves. There are three heater voltage outputs, which are respectively .75 volt, 3.5 volts, and 6 volts.

If the reader already has a B eliminator it will be necessary to have a transformer made to deliver these voltages, and as such a transformer would not be very bulky, plenty of room has been left for its inclusion by using a large baseboard. The original receiver shown is arranged with two terminals for each heater supply, the leads from the three voltage supplies for this purpose from the power pack coming to each respective two.

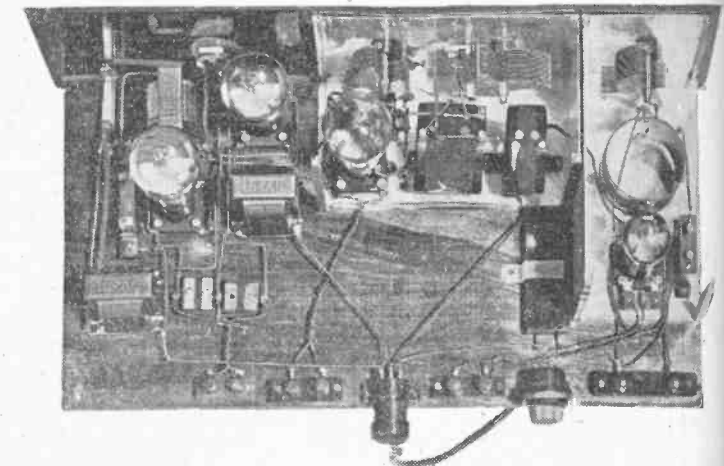
RESISTANCES.

Across the filament (or heater) supply to the HL-8 R.F. valve is shunted a 50 ohm centre-tapped fixed resistance. This is the one marked R.1. The lead from the centre tap connects to one side of a 1 mfd. bypass condenser, and one side of an Emmco-stad No. 1A which has a variable resistance of 0 to 2000 ohms. The other side of the by-pass condenser and the Emmco-stad connect to the grid return and B negative.

It will be seen that a 1 mfd. T.C.C. by-pass condenser C.4 is connected between the grid return and the earth end of the aerial coil. By this means the selectivity is helped along enormously, and it really all depends on location whether this is used or not.

VARIABLE CONDENSERS.

The variable condensers used in the Marco A.C. Four, shown in the photographs, are



particularly neat, and are one of Great Britain's latest products. These are Formo MID-LINE condensers, and are extremely compact, and, with the Marco coil kit, well suited for total screening in the boxes. The rotors of the R.F. and detector tuning condensers C and C.1 are connected directly to the metal screens, but the rotor of the reaction condenser C.2 must be insulated from the metal.

As these are one hole fixing condensers the problem is not at all difficult. Just make a large enough clearance hole in the aluminium, and slip a bakelite or hard rubber bush over the fixing, locking it up to the panel front in the usual way.

TRANSFORMERS

Three transformers are used in the set, and these are all of the A.W.A. Ideal type. T.1 and T.2 are 3 to 1 ratio, and T.3 is a 1 to 1 output transformer. This latter is very desirable in isolating the loud speaker windings from voltage surges. Volume is controlled by a Royalty 0 to 500,000 ohm potentiometer shunted across the secondary of T.2, and in series with the primary of this transformer is a Mullard 50,000 ohm fixed resistance from the plate supply. This resistance, as I have explained in previous articles, is not only a voltage reducer, but a most effective "motor-boat" stopper. Complete stability is assured in the audio amplifier by its use.

FILAMENT SUPPLY.

The filament supply to the two audio valves is by-passed by two .002 Electrad fixed condensers with a connection taken from the centre point of the two directly to earth. It is in connection with this arrangement that an alternative may be used with the C negative from the power pack.

The whole receiver is built up on a large baseboard measuring 23 by 12 by 1/2 inches, with a panel 24 by 8 by 3-16 inches. The baseboard is so attached to the panel that there is a space of half an inch or an inch clear underneath. Two little blocks of wood serve as feet for the back underneath edge.

BRASS SHEET.

This baseboard is covered entirely underneath with a sheet of thin brass, and the value of this will be at once apparent. It may be used as a conductor for many parts of the circuit which are "grounded" by running wires straight down through the baseboard, and soldering them underneath to the brass.

As the earth is really only a capacity

earth, by reason of the fixed condenser C.4 it may be necessary to connect the centre tap from C.6 and C.7 directly to earth, but this must be determined by the constructor when he tries the set out. If by connecting straight to a good earth, the slight hum is entirely eliminated, well and good, but if he finds that the hum is just sufficiently present as to be annoying, then if a power pack with C negative connections is used, the matter is simple.

ELIMINATING HUM.

Instead of connecting the centre tap lead to earth, connect it through a Royalty variable resistance of 1500 to 100,000 ohms to the high C negative of the power pack, and adjust the resistance while listening. It will be found possible to cut that residual hum almost right out, notwithstanding the fact that the filaments of both audio valves have A.C. directly applied. It was found sufficient by directly earthing the centre tap when testing the original receiver, but it was interesting to carry out the test with the power pack C negative, and see how the slight hum was cleared up wonderfully.

PLUGS.

The connections for the B supplies are taken to an Alpha 6 point battery plug mounted on the back edge of the baseboard, but only four of the pins are used. All the home constructor needs here is a U.K. valve socket and the base of a U.K. unit to make his own four-pin plug and socket. Wonderful are the uses one can find for apparently discarded radio components!

CONSTRUCTION.

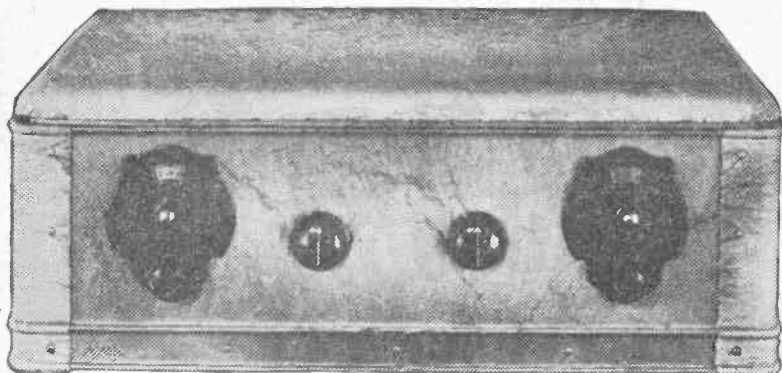
To start construction of the set, build up your panel and baseboard, and in this case don't do any drilling until the boxes are in position. Screw the four corner posts in position on the base of the two Radiocast boxes, and place them on the surface of the baseboard, as shown. Then drill two small holes in the base of each, and mark the positions off on the baseboard, afterwards screwing them down with small counter-sunk headed wood screws.

PANEL.

Hold the boxes firmly up against the back of the panel when doing this. Next mark off the panel for the positions for the three variable condensers, and drill the panel afterwards slipping the end of the left-hand box and the side of the right-hand box into the grooves in the uprights. Then, through the holes in the panel, mark off with a sharp point on the surface of the boxes the positions, remove the sheets, and drill them.

RADIOKES "AC 3-33"

—OFFICIAL FOUNDATION KIT—



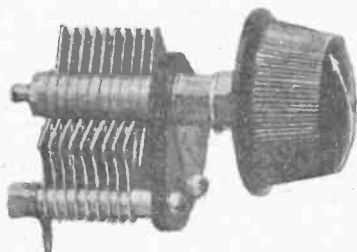
Radiokes Steel Containing Cabinet, all drilled, and beautifully finished in latest two-tone bronze ripple, supplied in knockdown form.

has been chosen as the best for use in construction of this truly remarkable receiver.

The practical solution of the A.C. Set problem.

This Kit allows the Home Constructor to build a full electric receiver with the appearance and performance of a high-grade factory product.

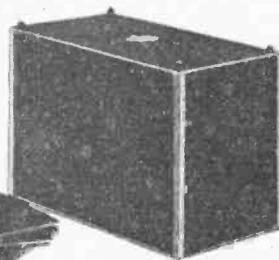
Your electrical and mechanical problems for A.C. Set construction have been solved in the "big" laboratories, and this Kit puts the results of these long and patient researches at your disposal for quite a moderate figure.



Two of these excellent little Radiokes Midgets are included in this famous Kit. They are precisely manufactured, excellently designed, and beautifully finished.



There is no need to dwell on the virtues of this little instrument. They are all too well known.



A special collapsible box shield is put up for this particular Kit. Drilled for the necessary instrument mountings, and finished in crystalline laquer.



A 3-33 Coil Kit is incorporated, consisting of special circloid antenna coupler and a R.F. Banr Pass filler. Highly efficient, ruggedly constructed, easily mounted, and beautifully finished.

The Radiokes A.C. and D.C. 3-33 Kits comprise the following parts:—

	A.C. 3-33	D.C. 3-33
Steel Containing Cabinet	£2 2 6	£2 0 0
Radiokes Box Shield	1 3 0	1 2 0
Radiokes 3-33 Coil Kit	1 12 6	1 12 6
Radiokes 23 Plate Midget Cond.	8 6	8 6
Radiokes 5 Plate Midget Cond.	4 9	4 9
Radiokes R.F. Choke	8 6	8 6
Special Finished Baseboard	5 0	5 0
Special Horizontal Socket and Mounting	6 0	6 0
Radiokes Grid Leak Holder	1 6	1 6
Radiokes Special Terminal	4 6	4 6
	<hr/>	<hr/>
	£6 16 9	£6 13 3

These Complete Kits Boxed for Easy Handling.

A.C. 3-33, £6/7/6 per Kit.

D.C. 3-33, £6/5/ per Kit.

**OBTAINABLE FROM ALL HIGH-CLASS DEALERS,
or direct from Metropolitan Electric Co., Ltd., 126 SUSSEX STREET, SYDNEY.**



CLYDE RADIO BATTERIES

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.

MOUNTING COMPONENTS.

It will be found easy to mount the three variable condensers right through by the one hole fixing, but do not forget to insulate the rotor of the reaction condenser C.2 from the aluminium sheet, as mentioned before.

The next thing to do is to arrange the components inside the two boxes exactly as you see them in the original. The first box holds the U.X. valve socket for the H.L.8 R.F. valve, the R.F. coil, and the R.F. tuning condenser C. The second holds the detector coil unit with its adjustable primary coupling, a Benjamin English type vibration socket for the K.L.1 valve, the grid condenser and leak, C.3 and R.3, a Radiokes R.F. choke, and the tuning and reaction condensers C.1 and C.2.

CONTACT.

Do not forget the 50 ohm centre-tapped fixed resistance across the filament terminals of the U.X. socket in the first box. The fixed condenser C.4 may also be included in this compartment or underneath the baseboard, as shown in the drawing. To make sure of good electrical contact connect the base of both these aluminium boxes to the sheet brass underneath the baseboard.

The rest of the components may be easily identified by reference to the drawings and photographs, and the constructor will find the Radiokes screening boxes very handy for the reason that each side may be slid out of the grooves while doing the assembly and wiring.

FILAMENT LEADS.

For neatness' sake the leads to the filaments (or heaters) of the valves may also be taken underneath the baseboard, although in the original they were on top, so that the reader may tell from the photographs which they are. These leads are made in each case by using Lewcos stranded flexible insulated wire and twisting them together right up to the point where they reach the valve sockets.

The reason for doing this is that the twisted wire forms a small capacity, which has the effect of helping to reduce any possible A.C. hum.

WIRING.

All wiring may be followed by reference to the drawings, and it will be noted that the set has been laid out in such a way as to enable the man possessing a B and C eliminator to go right ahead. Of course, as mentioned before, a heater transformer with the necessary voltage outputs will be needed, but if the power pack is used, as with the original, the whole thing is plain sailing, as the voltages are provided for in this particular power pack.

When all wiring is done correctly and to satisfaction, place the valves in their sockets and connect up the respective heater supplies only. The K.L.1 valve has a small terminal on the valve cap, which is the connection to the cathode. This is made by a short length of flexible wire. Switch the power on and carry out a check with an A.C. voltmeter to see that the valves are getting the right voltage. In the power pack there is a line voltage control from 200 to 250 volts, and this is very useful for regula-

tion, as often (as all power users know in Sydney) the line voltage fluctuates.

AERIAL.

Next attach the aerial and earth (after disconnecting the power), and attach the B supply plug to the socket. Plug-in the loud speaker or headphones, and switch on. If nothing blows up you have wired up correctly, we will assume. Do not be impatient because there is no immediate signal response on turning the detector and reaction condensers—the K.L.1 valve needs a little time for the cathode to heat up. When this happens, you will hear the detector circuit oscillate like any other receiver on moving the reaction condenser back and forth.

Give the K.L.1 about 60 volts on the plate and a two megohm grid leak, and oscillation should be perfectly smooth. The residual hum from the whole circuit will no doubt be just audible, but not enough to annoy. Move the detector tuning condenser until a carrier wave is heard, and then adjust the R.F. tuning condenser as you would any other Marco Four.

At resonance the signal will be greatly amplified, and then the thing to do is to move the primary for the best position in relation to the secondary in the detector circuit. Get hold of the bakelite edges of the primary former when doing this, and not the coil itself, or the plate voltage on the R.F. valve may make its presence felt.

SURPRISING SELECTIVITY

With the average outside aerial the selectivity will be surprising, and if you consider the hum too persistent from the audio stages then adopt the expedient of the Royalty variable resistance to the C negative of the power pack, as mentioned before.

The original set was given a thorough test on local and inter-State stations, and was found to be well worth the construction. The quality was excellent, and one was only just conscious of the fact that the alternating current mains were used for all voltages. There was absolutely no sign of "motor-boating" in the audio stages, and the receiver was a pleasure to use.

May the many devotees of the Marco Four find the Marco A.C. Four a worthy successor, just as the writer of this article did.

THOSE who love the mysterious should not fail to tune in to 3AR on June 12, when the exciting little play, "Knocking at the Door," by Darvers Walker, will be produced by Terence Crisp.

Mr. Optimist and Mr. Pessimist

MR. OPTIMIST and Mr. Pessimist will be heard through 2BL in a series of Bunkum Broadcasts, and will employ song and syntax in the contemplation of Life, Love, and other absurdities. They will treat of an infinite number of subjects, ranging from the timber strike to the binocular reactions of the Eppiglotts in Hindoo literature, and it is proposed to borrow from classical and popular music—as well as to compose special musical settings for the enhancement of their presentation.

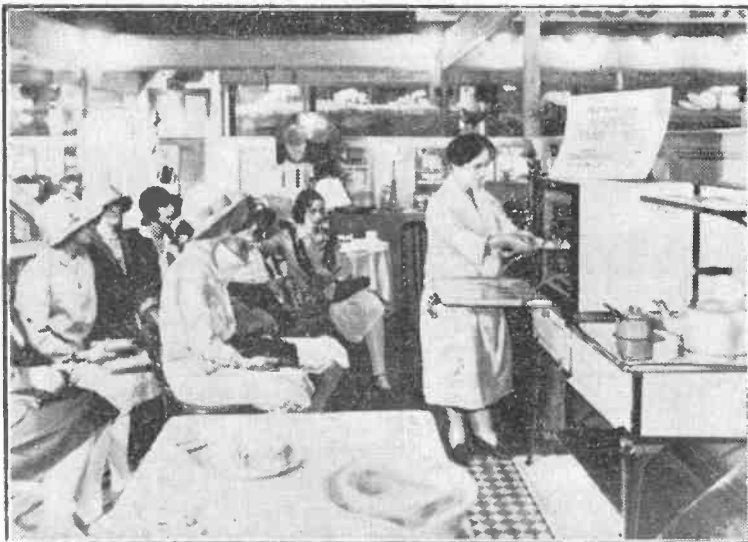
The first broadcast, on the evening of June 14, is announced under the title of "Mr. Optimist and Mr. Pessimist discuss the Races," a very commonplace subject for a broadcast, were it not for the fact that these two gentlemen have gone away to prepare their programmes (they work separately in the development of their script), and they both have quite different ideas as to the meaning of the word "Races." Mr. Pessimist, when last heard of, was under the impression that "The Races" meant the Horse Races. Mr. Optimist, on the other hand, thought that the word was used ethnologically, and has gone away to develop arguments to prove that top hats are better than turbans, and the Geheva League is in no way inferior to the Rugby League.

A.C. Kit

LEVENSON'S Radio Store, of 244 Pitt Street, and 82a Pitt Street, Sydney, is now offering a complete kit of components for the building of an electric three-valve receiver, which includes A.B.C. Eliminator parts. The price of the kit is well within the reach of all. No previous knowledge of radio is necessary to construct this set, a simple chart being supplied with parts.

"Bird Man"

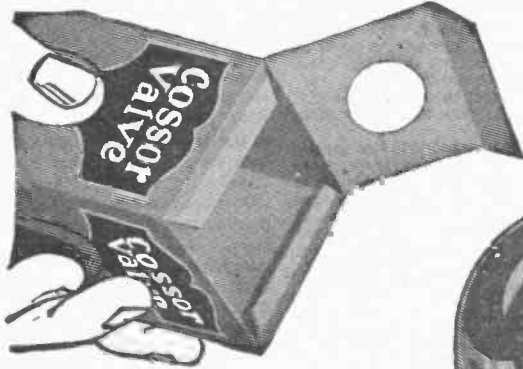
DR. J. A. LEACH, of the Education Department, who might well be called the "Bird Man" of 3LO, has selected, for June 15, "Reed and Grass Warblers" for his subject.



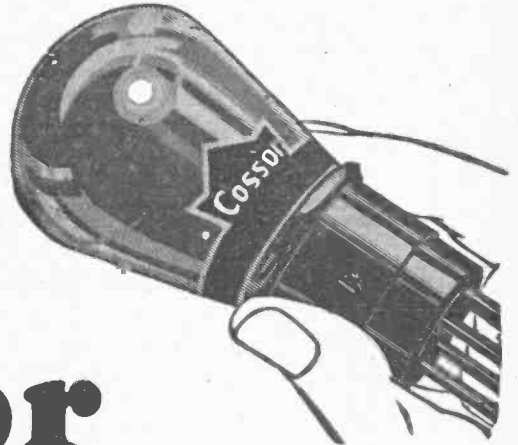
The British General Electric cooking demonstration at the recent Radio Exhibition.

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PROVING RADIO!

No. 24 This article concludes the lesson on condensers. The reader will find that it is a very simple matter to calculate the capacity of any condensers he has on hand. We have now treated the theory and operation of the valve, and of condensers. Other components will be discussed in future issues

OFTEN it will be found that a special capacity condenser will be required. When this is unobtainable, the experimenter may use combinations. As a rule, most radio fans have quite a number of odd variable condensers lying about, and various capacities will result by placing these in series or in parallel.

The following list should prove very handy:—

Condenser capacities in microfarads.	Resultant capacity (mf.)
.0001 and .00025	.000071 .00035
.0001 and .0005	.000083 .0006
.0001 and .001	.000090 .0011
.0001 and .002	.000095 .0021
.0001 and .005	.000098 .0051
.0001 and .006	.000098 .0061
.00025 and .0005	.00016 .00075
.00025 and .001	.0002 .00125
.00025 and .002	.00022 .00225
.00025 and .005	.00023 .00525
.00025 and .006	.00024 .00625
Condenser capacities in microfarads.	Resultant capacity (mf.)
.0005 and .001	.00033 .0015
.0005 and .002	.0004 .0025
.0005 and .005	.00045 .0055
.0005 and .006	.00046 .0065
.001 and .002	.00056 .003
.001 and .005	.00083 .006
.001 and .006	.00085 .007
.002 and .005	.0014 .007
.002 and .006	.0015 .008
.005 and .006	.0027 .011

2 condensers in:	
Capacity	Series. Parallel.
.0001	.00005 .0002
.00025	.000125 .0005
.0005	.00025 .001
.001	.0005 .002
.002	.001 .004
.005	.0025 .010
.006	.003 .012

3 condensers in:		4 condensers in:	
Series.	Parallel.	Series.	Parallel.
.000033	.0003	.000025	.0004
.000083	.00075	.000062	.001
.00018	.0015	.00012	.002
.00033	.003	.00025	.004
.00066	.006	.0005	.008
.0016	.015	.00125	.020
.002	.018	.0015	.024

It is not a difficult matter to calculate the capacity of any variable condenser you have on hand. The capacity can be calculated approximately by a very simple formula, which (though it seems to be a jumble of meaningless letters and figures), is very simple when one looks into it. The formula is—

C equals A x k (n-1)

$4 \times d \times \pi \times 9 \times (10 \text{ to the fifth power})$

We must explain this. C is the abbreviation for capacity. Following out the formula given above, our answer would be capacity

in microfarads. A equals the area of one side of one plate in centimetres. One inch is equal to 2.54 centimetres (two point five four centimetres), so that if the area of one plate is 2 x 2—equals 4 square inches, the area in centimetres will be (2 x 2.54) x (2 x 2.54) centimetres.

N—1 simply represents the number of plates minus one, which will give the number of dielectrics. Then we have a line, which shows that the top row of symbols must be divided by those below the line. The number 4 needs no explanation, but d equals the distance between the plates in centimetres. Pi equals three and one-seventh. Ten to the fifth power is merely 100,000 (one hundred thousand). Ten to the fifth power does not mean that the number must be multiplied by itself five times. This is an error often made by the beginner. In radio calculations you will often find numbers are given to a certain power. This saves showing a long string of noughts. Thus, if we see, in the course of our reading, the phrase, 100 to the 15th power, it merely means 10,000,000,000,000,000. The "power" figure is usually shown in small print, slightly above the figure itself, thus 10⁹ equals 10 to the 9th power.

Now, you should remember that the multiplication sign is usually left out where the symbols cannot be confused, so that the formula should read C equals Ak (n-1)

$4d9\pi(10^5)$

Instructions for calculating the capacity of condensers in series or in parallel appeared in a recent issue of "Proving Radio" when series and parallel connections were being discussed.

I purposely left out an explanation of the symbol K, because it is important enough to require special explanation. K represents the S.I.C. of the dielectric, i.e., the specific inductive capacity of the dielectric. This is a figure determined by comparison with the capability of the dielectric to act as an insulator against electrons. For instance, the S.I.C. of air at normal pressure is 1. Therefore, we merely replace the symbol K by 1 if we are using a condenser in which the dielectric is air. The following is a list showing the S.I.C. values of various types of dielectric:—

Air, 1; flint glass, 6.6-10 (depending on quality); mica, 4.6-8; solid paraffin wax, 2-2.5; sulphur, 3.9-4.2; castor oil, 4.7; porcelain, 4.4; quartz, 4.5; resin, 2.5; olive oil, 3.1; gutta-percha, 3.3-4.9; shellac, 3.1; common glass, 3.1-4; turpentine, 3.23; dry oak wood, 2.5-6.8; ebonite, bakelite, etc., 5-6.

Thus, if we are asked to calculate the capacity of a condenser having 40 plates, air insulated, each plate with an area of 6 centimetres, separated by 3/8-in. washers, our sum would become—

$6 \times 1 \times 39$

$4 \times \pi \times (2.54)^2 \times 9 \times 3.1/7 \times 100,000$, and our answer would be in microfarads.

You remember how we experimented with a piece of apparatus called a Leyden jar? Did you note how the jar could hold a charge of electricity, and how that charge could be obtained at any time by using the discharger, or giving a path for the current to flow? This is exactly the principle used in the condenser. The charge is held indefinitely (except for slight leakages which have already been referred to, such as poor dielectrics), and can be made to flow.

You have noted (or should have noted) that condensers have a capacity for storing. The larger the capacity of the condenser, the greater will be its capacity for storing electricity. Thus some condensers have very small capacities, such as one microfarad, or fractions of a microfarad. These are generally used in radio work, because the current handled is relatively small. This does not mean that a condenser must in itself be large to hold a certain amount of electricity. On the contrary, a one microfarad condenser may be as large as a matchbox, whilst it may also be as large as a house. The capacity of the condenser remains exactly the same, providing its characteristics, such as distance between plates, etc., match in such a manner as to modify the capacity. In other words, though in one sum we may find that the distance between the plates of a .002 condenser, using plates with an area of 3 inches, may only be .002 inches, this distance may be increased to three or four inches when the area of the plates is increased. The capacity of the condenser will remain precisely the same.

A natural question arising from this will be: "What advantage is there in using extra large condensers when they may be made in more compact sizes?" The answer is that certain pressures require a larger and a stronger container. Thus a heavy pressure water main requires a large, strong pipe. If the pipe were of small diameter, and thin, the pressure would be so enormous as to break through the pipe. Exactly the same happens in a condenser which is "overloaded." If too high voltage is used, the pressure is often great enough to break through the dielectric.

Electrically, the pressure becomes great enough to force electrons to flow through the dielectric. When this happens, the plates actually become shorted, and a complete circuit is made by means of the electrons.

The distance between the plates of a condenser is extremely important. If two copper balls were placed opposite one another, and various voltages applied (negative to one ball, and positive to the other), we should find that the distance between the balls would have to be increased as the voltage was increased, otherwise a spark would jump across the air gap, and so a current would flow. This arrangement is called a spark gap (we shall make one later), and used to be used in old-type transmitters.

The spark gap has since been discarded owing to the interference it causes.

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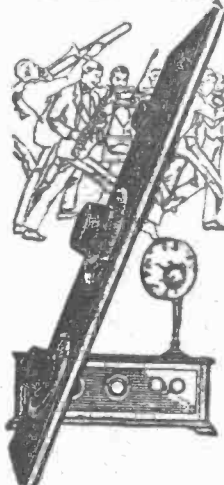


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The condenser (as I mentioned before) has capacity. Before a wireless receiver can receive transmitted signals, the capacity of its circuit must be the same as that of the transmitted station. This is where the variable condenser is so very useful. By its aid, we are able to alter the capacity of our circuit. Thus a .0005 variable condenser may have a minimum capacity of .0001. The capacity of the condenser, by which it is known, is usually the maximum capacity.

Inductance coils have both inductance and capacity. If this were not so, it would be impossible to do without condensers. As the coil has capacity, however, it is possible to do away with condensers, and alter the capacity of the circuit by altering the number of turns of wire in the circuit. This is known as "tuning." Radio sets are al-

ways tuned either by means of variable condensers or variable inductance coils.

It has been stated that the capacity of the circuit may be altered by varying the number of turns in the circuit. There is also another method which has been (and is still) used to a great extent. This method consists of a number of inductance coils placed in close proximity to each other. Varying the distance between the coils will vary the capacity in the circuit. This should be evident to those who performed the galvanometer-inductance coil experiment previously described. Readers who have followed out these experiments should now appreciate their value, since we have referred to the galvanometer experiment several times lately in order to PROVE certain radio phenomena.

When you performed the experiment, you

probably noticed that the energy induced in the galvanometer coil could be decreased by moving the battery-coil away. In other words, the nearer the primary to the secondary, the greater would be the induced current. Try the experiment again, placing the primary at varying distances from the secondary.

Here is No. 3 examination paper:—
Calculate the capacity of the condenser described in this issue.

What would be the capacity in microfarads of a condenser having 15 moving and 16 fixed plates, separated by 1-16th inch washers, using mica as a dielectric, with an S.I.C. of 5? The plates each measure 4 x 5 inches.

These will take you longer than you might think; but see what you can do.

PROVING RADIO CLUB NEWS

Executive Report

THE Hon. Secretary reports the formation of three new groups, one at Ashfield, Five Dock, and Botany, thus making nearly a score of groups. Any readers who are enthusiastic and wish to join up who are enthusiastic and wish to join up with the above groups, get in touch with the Hon. Secretary, Mr. Hook, 29 Blairgowrie Street, Dulwich Hill. (Phone. Pet. 3272).

Great progress has been made for the forthcoming dance at the Palais Royal on June 6, and it is expected to be a huge success.

GROUP REPORTS.

CITY NO. 2.—The membership of this group is very small, and new members are welcome. Up to date we have discussed the atomic theory, static ionisation, and electric currents. These were found to be very interesting, and we are looking forward to the lectures to follow.

EASTERN SUBURBS GROUP.—This has now the largest membership of any group of the club, and new members are rolling up weekly. We are finding great difficulty in accommodating them. Any person who has the time and room to accommodate another group kindly let us know, and we will be able to organise that group at once.

CONCORD WEST GROUP.—We have up to date discussed the atomic theory, static ionisation, and at our last meeting electric currents. The lectures have caused a lot of discussion, and our members have gained a lot of knowledge of these subjects.

KOGARAH GROUP REPORT.—Two new members were enrolled on Wednesday night, when the Group dealt with the electronic theory, also conductors and insulators. It has been decided to form a morse class at the next meeting for those members who desire practice. The meeting concluded with a general discussion, in which all members participated. This group now has a fairly large membership, and will welcome and assist any new members who may care to come along.

DULWICH HILL GROUP.—This group had a large attendance at the last meeting, including several visitors from other groups. The lecture for this meeting being basic units definitions, and various formulae. These were fully explained by the aid of the blackboard, and several problems based on the formulae were given the members to work out. In this way we found that they had a good knowledge of this subject.

SUMMER HILL GROUP.—Report for meeting held on May 16, 1929. We took for this meeting electric current, conductors, and insulators. The theory of these, the movement of the electron in currents, conductors, and insulators, was explained and described by diagrams drawn on the blackboard. When we had finished our lesson on the above we commenced experiments with the Wemshurst machine. With the machine we charged up a condenser having in it about 1100 square inches of tinfoil. This was charged in a few minutes, and gave a spark about half an inch long when discharged. Various other experiments tried with static were successful.

AYR GROUP.—A meeting was held at the residence of Mr. J. D. Gray, Queen Street, Ayr, North Queensland, for the purpose of forming a local radio group. Nine fans were present, and it was decided to form a club, to meet once a fortnight, with the "Proving Radio" section to meet once a week. It was decided that the secretary, Mr. J. D. Gray, write "WIRELESS WEEKLY," intimating their desire to be recognised as a "Proving Radio" Club Group. Since the first meeting a clubroom has been secured, and another meeting has been held. Two new members came along, making the membership 11. It was decided to charge an entrance fee of 5s and a subscription of 1s per week for those in work, and 6d per week for those out of work. At the second meeting the experiments in Nos. 1 and 2 of "Proving Radio" were carried out. These were all very successful. It has been decided to take two parts each week so as to be able to catch up with the articles. After the meeting finished those who were eager to get on with the Morse Code were invited to stay after the meeting. All members stayed. The meeting broke up at 11.15 p.m., when all members reluctantly left. Next week we will proceed with experiments, viz., the polarity indicator, decomposing water, flash-light telegraph, and electroplating. All members are very enthusiastic, and new members are expected next week. We would be very pleased if you would forward to us the membership certificates. (Remarks: Welcome, Ayr Group. Your letter has been passed on to Mr. A. G. Simmonds, "Gunton," Marsh Street, Arncliffe, who is now dealing with country group applications. Please send list of names of members, when certificates will be forwarded.)

MORSE LESSONS.

THE FOLLOWING LETTER will explain itself:—"Dear O.M.,—I happened to see in WIRELESS WEEKLY (Proving Radio) that you were in need of hams to transmit code practice lessons on a definite schedule. I could transmit these sigs. on, say, one night a week, preferably Friday or Sunday, and also preferably on 84 metres, though I can manage to get some juice into the Zepp on 230. I see that VK2KB and VK2AR are already transmitting these lessons, so perhaps there is no need for a third station, though, no doubt, 'the more the merrier,' and if it will help the 'ham-to-be' it is worth some time and trouble. Re the 'Proving Radio' Section. It is FB for anyone who does not understand much about radio—even the elements of it. Well, O.M. 73, and keep up the good work. Yours sincerely, (signed) R. Huey (VK2HU)." Thanks, VK2HU. As you say, "The more the merrier." I have forwarded your letter to the organising secretary, who is in touch with all Groups.

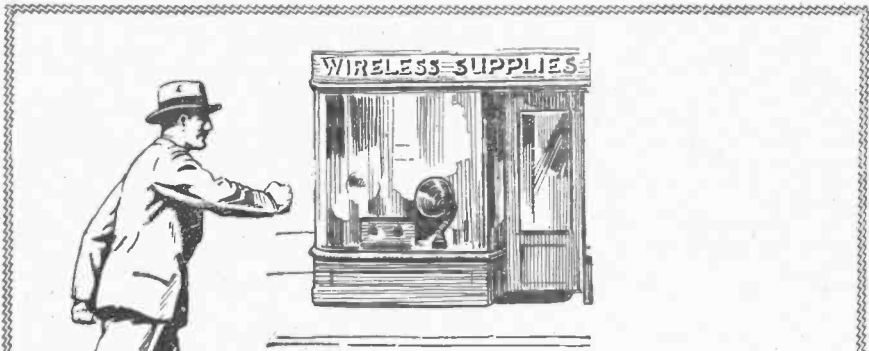
MAROUBRA JUNCTION GROUP.—The following letter has been received from Mr. Richard Mansfield:—"It is proposed to form a 'Proving Radio Club' at Maroubra Junction. Will intending members please send their names and addresses to No. 11 Shepherd Street, Maroubra Junction, and oblige."

Dance Music

A BRIGHT programme of popular melodies will be given from 3LO on June 13, when Bob Molyneux will be heard in some old and new favorites. Bob Molyneux needs no introduction to readers; he is well known throughout Victoria as a concert artist of much ability, and his fine baritone voice is always a pleasing addition to the programmes.

Bob Molyneux

THE music supplied by the Palais Royal Orchestra, at the Movie Ball on June 25, will be transmitted through 2FC. The dance music on the occasion of the Fire Briggades' Ball, at the Town Hall, will also be broadcast; this is set down for June 26 through 2BL. In addition, several programmes are being arranged, and will be broadcast from the Union Hall, Sydney University, in connection with dances held in conjunction with the various colleges.



And they're going to be Mullard this time too!

No more experiments—no more "just as good" try outs—there is no such thing. I've proved to my satisfaction that when buying valves, one cannot afford to experiment—YOU MUST BUY ON REPUTATION—on quality alone!

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KILOCYCLING WITH THE FAST ONES

SHORT WAVE AND AMATEUR NOTES BY VK2NO

BETWEEN you and me and those Kilocycles, one can get a lot of fun out of this short-wave business, even if it IS 1929! The "hams" have been getting a lot of fun out of it, and also done a lot of hard work in investigating the 30 megacycle or 10-metre regions, with the result that the previously despised 10-metre frequency has been proved definitely to be of value.

It is only a very short time ago that over in America the research engineers of a very prominent radio concern stated far and wide that anything below 12 metres was a sheer waste of time—and now, in May, 1929, I get me hold of a certain American radio journal, and I read that a certain short-wave engineer over there, who has designed a "something out of the ordinary" S.W. receiver, has spent most of his time listening to 10-metre signals with it, and openly states "that the channels from 28,00 to 33,000 kilocycles should be reserved for commercial interests." Nice, isn't it? Like the old days over again, when 200 metres and below was "no use for anything much—give it to the amateur."

Talking of 10 metre work—every copy I receive of the T. and R. Bulletin, the journal of the Transmitters' Section of Radio Society of Great Britain, shows a tremendous amount of activity on 10 metres. It seems nothing to work America with about as much power as a pocket lamp delivers, or to maintain reliable contacts with India, Czecho-Slovakia, or Russia.

What a difference to 10-metre work in Australia, where signals at that frequency play a lot of queer tricks. Being geographically situated on the face of the globe as we are in Australia, makes 10-metre work with the rest of the world difficult, which is all the more incentive to "hop to it" and keep plugging away. Some wonderfully good work is being done in Victoria and the West by certain 10-metre "fiends," and their efforts are being slowly but surely rewarded. I often get letters from SWBCL's, who ask if 10 metres will ever be any good for "phone." It may be over very short distances, but not much good for international work. It seems that if a fog passes between the transmitter and receiver, or if a sparrow alights on the aerial—away goes the signal on one of those mysterious journeys which some say go to Mars.

VK2NS breezed into the office this week and reported good DX on the 20-metre band and that the recent 80-metre tests went off well. VK2NS is still the same "old sock" of the Rag Chewers' Club, and has a great regard for 80 metres. A suggestion of his is worth putting in print in the hope that it will reach the gang, although I begin to wonder if they ever see these notes, because none of them send any dope along to the struggling author.

It is just this. All of us who are busy

that there is a tremendous amount of interference from powerful commercial stations operating within the amateur frequencies. If every "ham" who notes such interference at any time will make a note of the station offending, and if possible carry out an accurate check on the frequency, and send his report to the headquarters of the W.I.A., perhaps something will be started.

There are certainly some weird and wonderful stations around 2f metres who seem to indulge in a regular picnic in blotting out the amateur transmitter, and all around the dials on either side of our so-called allocated frequency, there are great big silent gaps—which I think I mentioned before.

The R.A.A.F.R. work is going steadily ahead, and the writer is chafing at the delay in getting his station into operation again. Somehow, in Sydney, it always seems to choose the week-end for Mr. Jupiter Pluvius and it's no joke trying to erect a 60-foot mast in between drenching showers. You other Reserve Hams ought to see the special card for the shack wall for VK2NO. The Red, White, and Blue ring "target" with a gold albatross sailing across the middle. If it reproduces at all well it will be given in these notes as a suggestion for QSL cards.

At last a Ham has sent me some information on his doings. Mr. R. Huey, VK2HU, writes: "VK2HU is now interested in 10 metres. Experiments are being conducted with two kinds of antennae—first a full wave one-quarter wave above an earthed wire for HA radiation. Secondly, a $\frac{1}{2}$ wave exactly $\frac{1}{2}$ wave above earth for LA radiation. The transmitter is a TPTG, which works well on 10 and uses 23 watts with 400 volts on two 201A's.

"Tests are being arranged with VK3BQ, 80 metres seems by far the most interesting band, and two new men are VK2KX and VK2KZ. I have enjoyed more ragchews on 80 than any other band all told, and it will be a great pity if we lose it in June. (Sure O.M.). The best signals on 42 metres here come from VK4RG, who is using a mere 150 volts on a 201A. His R8 sigs have a CC characteristic, though he is using TPTG. For 'phone he QRO's on to a B eliminator—Hi! 20 metres is still the same old band of unexpected DX, and my low-power sigs seem to bring the same reports as the 150 and 250 watters. VK2JJ does well on 20 metres, and has worked every country with three watts except Africa." (Yes, Africa is the real snag.) Thanks, VK2HU. Glad to know that one ham reads these notes, anyway!

Now, you SWBCL's. How do you find the SW "bunk" now? How many listened to KGO yesterday afternoon, I wonder (Wednesday, May 29). From 3 p.m. to 6 p.m. KGO was as powerful as any local station, with no sign of fading, and the most perfect modulation. The writer had the plea-

by Mr. Martin, of Randwick, from the original MIDGET SG FOUR, and it was easily the best SW telephony I ever heard.

If the oscillator in the vicinity of St. Mark's Road, Randwick, sees these notes he will know that his "canary" certainly gets out. By the sound of it he must have been next door with a veritable galaxy of fringe howl, backlash, and whatnot. This Martin SW special receiver is easy to make—uses valve base coils and excellent components, and will be described as a full technical article at an early date.

Mr. Russell Crane passes a few time-worthy comments about SW receivers, with his notes. He says: "I was very interested to closely examine the circuit and all details of the 'New York Times' short-wave receiver used to pick up the Byrd transmissions. It is very satisfactory to note that, although this set is the most modern American creation, we in Australia are right up to date. Such sets as the Midget Screen-grid and the All-Empire are just as efficient if not more so. I would back them to do just as well as the 'New York Times' set. The latter is beautifully made, good parts, and a few extra gadgets, but only in refinements is it superior to the sets mentioned above."

The writer wishes to thank Mr. Killen, of Singleton, N.S.W., for his log of stations heard, but it would be of no interest to list them in these notes, as they are all commercial telegraphy stations—the stations the Hams do NOT like.

A few DX cards for Hams have passed through my hands from Russia, and it is amusing to note a rubber stamped missive on the back, which says "NOTICE—USSR HAMS DO NOT USE THE WASHINGTON INTERMEDIATES." And that's that! Needless to say, our Russian friends will have to toe the line if Great Britain resumes diplomatic relations with the Soviet, as is expected. The Washington Prefix for Russia is RK.

Still More Wallpaper

QSL cards are now held for ZL3IR, VK4CM, ZL3CM, VK7CH, VK5MB, VK3AR, VK2GW, VK2YJ, VK2KD, VK2YI, VK2KD, VK2BB, VK2LG, VK2HM, VK2MF, VK2ZY, VK2FP, VK2PM, VK2BQ, VK2XR, VK4BB, VK2DY, VK4BB, VK3WX, VK3CP, VK4BB, VK4BB (Hi! 4BB, U must have been busy O.M.). VK5HG, VK3CP, VK3CP, VK3PM, VK4GN, VK5BB, VK4HM, VK4MM, VK5JH, VK5CG, VK5HG, VK4GM, VK2FK, VK2TW, VK4BB, VK3CP, VK3OT, VK3CP, VK2LJ, VK5BB, VK4BB, VK3LP, VK3MY. (Note VK4BB that there is a card for VK5BB, but think this is yours.) Most of these cards are from England, Finland, Germany, Holland, Austria, Poland, Burma, France, America,

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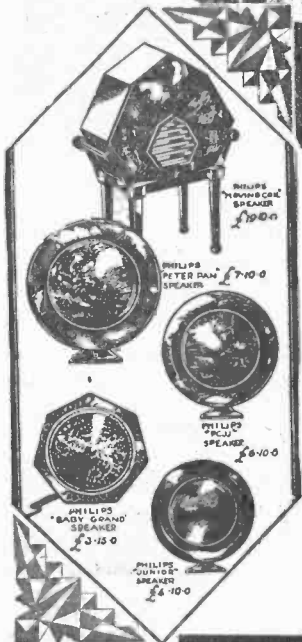


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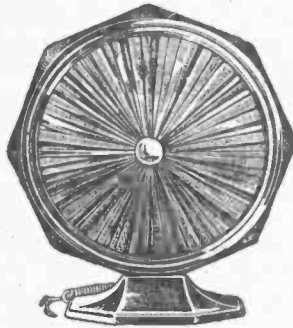
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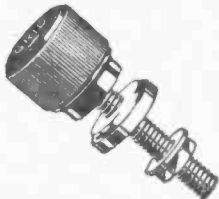
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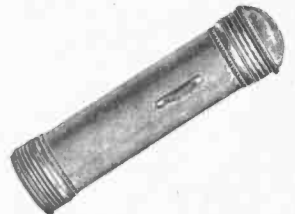


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Local Programmes, Friday, June 7

2FC

EARLY MORNING SESSION.

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

MORNING SESSION.

Announcer, A. S. Cochrane.
10.0: "Big Ben" and announcements. 10.2: Pianoforte reproduction. 10.10: "Sydney Morning Herald" news service. 10.25: Studio music. 10.45: A talk on "Home Cooking and Recipes" by Miss Ruth Furst. 11.0: "Big Ben." A.P.A. and Reuter's cable services. 11.5: Close.

MIDDAY SESSION.

Announcer, A. S. Cochrane.
12.0: "Big Ben" and announcements. 12.1: Stock Exchange, first call. 12.3: Official weather forecast; rainfall. 12.5: Summary of news, "Sydney Morning Herald." 12.10: Rugby wireless news. 12.13: A reading. 12.30: Studio music. 1.0: "Big Ben." Weather intelligence. 1.3: "Evening News" midday news service; Producers' Distributing Society's report. 1.20: Studio music. 1.28: Stock Exchange, second call. 1.30: Popular studio music. 2.0: "Big Ben." Close.

AFTERNOON SESSION.

Announcer: Laurence Halbert.
Accompanist: Ewart Chapple.
2.30: Programme announcements. 2.32: The Book Lover's Corner. 3.0: "Big Ben." Studio music. 3.30: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 3.38: From the studio, Phyllis Broadbent, soprano—(a) "Little Lady of the Moon (Coates), (b) "Sometimes I Seem to Hear You" (Phillips). 3.45: A reading. 4.10: Phyllis Broadbent, soprano—(a) "When Love is Kind" (A.L.), (b) "Cupid" (Sanderson). 4.17: A studio item. 4.22: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 4.32: J. E. Patterson will speak on "Trout Fishing in New South Wales." 4.45: Stock Exchange, third call. 4.47: Studio music. 5.0: "Big Ben." Close.

EARLY EVENING SESSION.

Announcer: A. S. Cochrane.
5.40: The chimes of 2FC. 5.45: The Children's session, conducted by the "Hello Man." Letters and stories; music and entertainment. 6.15: The Farmyard Fire from Kookaburra Gully. 6.30: Daigety's market reports (wool, wheat, and stock). 6.40: Fruit and vegetable markets. 6.43: Stock Exchange information. 6.48: Weather and shipping news. 6.50: Rugby wireless news. 6.55: Late sporting news, by the 2FC Racing Commissioner. 7.0: "Big Ben." Late news service. 7.10: From Farmer's restaurant, in conjunction with Farmer's Orchestra, a programme of dinner music, arranged by the New South Wales Broadcasting Company—(a) "The Daughter of the Regiment" (Donizetti); (b) song; (c) "Scene de Ballet (Luigini); (d) "The Gondoliers" (Sullivan); (e) song; (f) "Intermezzo" (Rosse).

EVENING SESSION.

Announcer: Laurence Halbert.
7.30: Foreword.
7.45: Opening of the State Theatre by the Acting State Premier, Hon. E. A. Buttenshaw, M.L.A., in the presence of their Excellencies Lord and Lady Stonehaven, the State Governor, Sir Dudley de Chair and Lady de Chair.
8.0: The State Theatre Orchestra, conducted by Will Prior.
The State Theatre stage presentation. From the Studio: Ambrose Bourke, baritone, Edith Cowley and Ian Maxwell, entertainers, and Carlton Fay, novelty pianist.
10.28: Late weather and to-morrow's programme.
10.30: National Anthem. Close down.

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2BL

MORNING SESSION.

Announcer: A. C. C. Stevens.
8.0: G.P.O. chimes. Weather report, State and metropolitan. 8.3: Studio music. 8.15: News and information service from the "Daily Telegraph Pictorial." 8.45: Studio music. 9.30: G.P.O. chimes. Half an hour with silent friends. 10.0: G.P.O. chimes. Close.

MIDDAY SESSION.

Announcer: A. C. C. Stevens.
11.0: G.P.O. chimes. 2BL Women's Sports Association session, conducted by Miss Gwen Varley. 11.30: A talk by "Priscilla"; advertising hints. 11.40: Women's session, conducted piano—(a) "Mifanwy" (Forster); (b) "Lil-fare," by Nurse May. 12.0: G.P.O. chimes. Special ocean forecast and weather report. 12.2: Studio music. 12.30: Shipping and mails. 12.35: Market reports. 12.48: "Sun" midday news service. 1.0: G.P.O. chimes. Studio music. 1.30: Talk to children, and special entertainment for children in hospital, by Uncle Steve. 2.0: G.P.O. chimes. Close down.

AFTERNOON SESSION.

Announcer: A. C. C. Stevens.
Accompanist: Kathleen Roe.
3.45: G.P.O. chimes. Studio music. 4.0: G.P.O. chimes. A talk by A. C. C. Stevens. 4.15: Bertha Waters, soprano—(a) "Mifanwy" (Forsters); (b) "Little Princess" (Faraday). 4.22: Studio music. 4.32: Frank Botham, baritone—(a) "The Jester" (Cooper-Lissenden); (b) "Lilies of Lorraine" (O'Connor). 4.39: "Sun" news service. 4.44: Bertha Waters, soprano—(a) "Creole Swing Song" (Denza); (b) "That's All" (Brahe). 4.51: Popular music. 5.0: G.P.O. chimes. Frank Botham, baritone—(a) "Border Ballad" (Cowen); (b) "Harlequin" (Sanderson). 5.7: Pianoforte reproduction. 5.20: Studio items. 5.34: Producers' Distributing Society's market report. 5.37: Features of the evening's programme.

EARLY EVENING SESSION.

Announcer: Basil Kirke.
5.40: Children's session, conducted by Uncle Bas; music and en-

tainment; letters and stories. 6.30: "Sun" news and late sporting. 6.40: From Farmer's Restaurant, in conjunction with Farmer's orchestra, a programme of dinner music arranged by the New South Wales Broadcasting Company—(a) "Hungarian Dance No. 5" (Brahms); (b) "Sans Souci" (Von Blon); (c) "Sunny" (Kern); (d) song; (e) "Russian Peasant Dance" (Lehar); (f) "Vision Orientale" (Cui). 7.7: Australian Mercantile Land and Finance Co.'s report; weather report and forecast, by courtesy of Govt. Meteorologist; Producer' Distributing Society's fruit and vegetable market report; grain and fodder report ("Sun"); dairy produce report ("Sun"). 7.25: Mr. Pim and Miss Pam in advertising talks; handy hints and nonsense. 7.53: An Ad. Special. 7.55: Programme and other announcements.

EVENING SESSION.

Announcer: Basil Kirke.
Accompanist: G. Vern Barnett.
8.0: G.P.O. chimes. The Light Orchestra, conducted by Horace Keats—
(a) "Rhapsodie Russe" (arr. Nussbaum).
(b) "Serenade" (Strauss).
8.20: Jack Kinson, baritone—
(a) "The Little Drummer of Gravelotte" (Temple).
(b) "Simon the Cellarar" (Hatton).
8.27: The Light Orchestra, conducted by Horace Keats—
(a) "Indian Love Lyrics" (Woodforde-Finden).
8.42: Frank Ryan, comedian—
(a) "When You Fleeze it Out."
(b) "Ernest Well Beloved."
8.52: The Light Orchestra, conducted by Horace Keats—
(a) "The Dollar Princess" (Fall).
9.2: Jack Kinson, baritone—
(a) "The Diver" (Loder).
(b) "If Ever I Meet the Sergeant" (Bel-nett).
9.9: Weather report.
9.10: C. R. Dexter, last minute sporting information.
9.25: Harry Croot, in popular numbers—
(a) "Fill a Glass with Golden Wine" (Quilter).
(b) "The Sailor's Paradise" (Richards).
9.35: By courtesy of J. C. Williamson Ltd., a transmission will be taken from one of Sydney's leading theatres.
10.5: From the studio: Late weather.
10.6: Studio Dance Band, conducted by Cec. Morrison.
10.28: To-morrow's programme.
11.30: National Anthem. Close.

2GB

10.0: Music. 10.10: Happiness Talk by A. E. Bennett. 10.20: Music. 10.30: Women's Session by Miss Helen J. Beegling. 11.45: Close down. 2.0: Music. 2.5: Women's Radio Service by Mrs. Dorothy Jordan. 2.50: Music. 3.30: Close down. 5.30: Children's Session by Uncle George. 7.0: Music. 7.30: Feature story. 8.0: Miss Mildred Crick, contralto. 8.7: Violin solos. 8.15: Mr. Clement Q. Williams, baritone. 8.22: Symphony Orchestra. 8.30: Humorous Interlude by Mr. Jack Win and Mr. Heath Burdock. 8.35: Miss Gwen Selva, soprano. 8.45: Address. 9.0: Weather report. 9.3: Violin solos. 9.13: Miss Mildred Crick, contralto. 9.23: Humorous Interlude by Mr. Jack Win and Mr. Heath Burdock. 9.28: Symphony Orchestra. 9.38: Mr. Clement Q. Williams, baritone. 9.48: Band selections. 9.55: Miss Gwen Selva, soprano. 10.5: Orchestral music. 10.30: Close down.

2UW

MIDDAY SESSION.

12.30: Request numbers. 1.0: G.P.O. clock and chimes; music. 1.15: Talk on homecraft by Pandora. 1.40: Music and request numbers. 2.30: Close down. 4.30: Musical programme.

EVENING SESSION.

5.30: Children's hour, conducted by Uncle Jack. 6.30: Close down. 7.0: G.P.O. clock and chimes; request numbers. 8.0: Music. 9.0: G.P.O. clock and chimes; comments on foreign affairs, by Mr. J. M. Prentice. 9.10: Music and request numbers. 10.30: Close down.

POWER BOOSTER

Extraordinary amplification for radio receiver or electric gramophone is provided by a new power amplifier, to be described in next week's "Wireless Weekly." All-electric, and easily built, this piece of apparatus is sure to attract a great deal of attention. Be sure you order your copy early. Although 10,000 more copies than usual were printed last week, many listeners who left it too late, were unable to obtain their numbers.

Interstate Programmes, Friday, June 7

3LO

EARLY MORNING SESSION.

7.15: Early Morning Melodies. 7.20: Morning Exercises to Music. 7.30: Stock reports. Stock Exchange information. General news. Shipping and sporting information. 8.0: Melbourne Observatory time signal. 8.1: Morning Melodies. 8.15: Close down.

MORNING SESSION.

11.0: 3LO's Supper Savories. Oyster Fritters. 11.5: R. H. Simpson, Editor of the "Banks Monthly Review," will speak on "Banking Services Reach Every Home." 11.7: "Au Pair" speaks on "Fashions." 11.45: Under the auspices of the Department of Health, Dr. Rowan will speak on "Health and Environment."

MIDDAY SESSION.

12.0: Melbourne Observatory time signal. 12.1: British official wireless news from Rugby. Reuter's and the Australian Press Association cables. "Argus" news service. 12.15: Newmarket stock sales. Special report by the Associated Stock and Station Agents, Bourke Street, Melbourne. 12.20: The Station Orchestra. Selection, "La Favorita" (Donizetti). 12.30: Orlena Glenni (soprano). "The Last Rose of Summer" (Moore). Selected. 12.37: Stock Exchange information. Prices received by the Australian Mines and Metals Association from the London Stock Exchange this day. 12.43: The Station Orchestra. "Scenes Pittoresques" (Massenet). 12.50: Madoline Knight (contralto). Old-time ballads. 12.57: Meteorological information. Weather forecast for Victoria, New South Wales, South Australia, and Tasmania. Ocean forecasts. river reports. rainfall. 1.5: The Station Orchestra. "Scenes Pittoresques," Part II. (Massenet). 1.11: Orlena Glenni (soprano). "Serenade" (Mozart). Selected. Item. 1.18: The Jedal Trio (Alva Hattenbach, violin; Edna Hattenbach, cello; John Simons, piano). The Trio. (a) "Menuetto" (Beethoven). (b) "Ständchen" (Schubert). John Simons (piano) and Alva Hattenbach (violin). "Rondo," from Sonata, Op. 24. Jedal Trio. (c) "Serenade" (Pache). (d) "By the Brook" (Bischoff). (e) "March Vienaols" (Kreisler). 1.45: Close down.

AFTERNOON SESSION.

2.15: The Station Orchestra. Selection, "The Girl Friend" (Rodgers). March, "Mignon" (Poldini). 2.30: Russell Callow (tenor). "A Little Fairy Tale" (Morris). "Come, for It's June" (Forster). 2.37: The Station Orchestra. Selection, "Oh, Kay" (Gershwin). 2.45: Joseph Barrile (flute). "Tourbillon" (Kraetz). 2.50: The Station Orchestra. Overture, "The Magic Flute" (Mozart). "Marcella Turca" (Mozart). 3.0: Miss Frances Fraser will speak on "Mozart." 3.15: The Strat Trio (Cecil Parkes, violin; Myra Montague, piano; Frank Johnstone, cello). "Trig In B Flat" (Mozart). "Squid" (Larghetto). Allegretto. 3.32: Russell Callow (tenor). "Una Furtiva Lagrima" (Donizetti). 3.3: Cecil Parkes (violin). "Hymn to the Sun" (Rimsky-Korsakov). "Hindoo Dances" (Rimsky-Korsakov). "Zigunerweisen" (Sarasate). 3.48: Russell Callow (tenor). "Olive a Man a Horse He Can Ride" (O'Hara). 3.51: Frank Johnson (cello). "Meditation" (Bach-Gounod). "Danse Rustique" (Squirrel). 3.55: The Strat Trio. "Andante" (Beethoven). "Menuet" (Mozart). "Flower Waltz" (Schalkowsky). "Bob's Mandel" 4.5: Dawn Assheton (coloratura soprano) and Laszlo Schwartz (violin), with Estella Sheehan at the piano, will continue their interesting recital of characteristic music of other lands. "Minutes of Melody." 4.45: Jack Stocks. "The Woman Hater" will give some more reasons for his name. 4.55: News service. Stock Exchange information. 4.5: Close down.

EARLY EVENING SESSION.

8.0: Answers to letters and birthday greetings, by "Bobby Bluegum." 8.25: Musical interlude. 8.30: Captain Donald MacLean, in some more tales of "The Pirates of the Pacific." 8.45: "Bobby Bluegum," something different.

EVENING SESSION

8.50: Madame Soward—"French Waltzes." 7.5: Stock Exchange information. 7.15: Official report of the Newmarket stock sales by the Associated Stock and Station Agents, Bourke Street, Melbourne. Retail prices, wireless prices of next week's markets. Fish market reports by J. R. Borrett, Ltd. Rabbit prices. River reports. Rainfall. Weather synopsis. Market reports by the Victorian Producers' Co-operative Company, Ltd. Farm and dairy produce and carcass meat reports. Market reports of fruit by the Victorian Fruitgrowers' Association. Retail prices, wireless prices of fruit by the Wholesale Fruit Merchants' Association. Citrus fruits. 7.30: News service. 7.43: Birthday greetings. 7.45: Out of the Past. 7.46: Under the auspices of the Department of Agriculture, J. T. Ramsay, Potato Expert, will speak on "Potato Culture—Seed Storage."

NIGHT SESSION.

8.0: Programme announcements. 8.1: H. K. Love will speak on "Technicalities." 8.15: Collingwood Citizens' Band—March, "The White Plume." Fantasia, "Songs of England." 8.25: Jack Stocks, "The Woman Hater"—"Popular Favorites." 8.35: Collingwood Citizens' Band—Selection, "I Puritana." 8.45: Madoline Knight (contralto)—Old-time Ballads. 8.52: Lindsay Biggins (piano)—"Fantasia in D Minor" (Mozart). "Sonata in A Major" (Mozart). "Refrain Berceuse" (Falmgren).

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"Prelude" and "Chaire de Lune" (Debussy).
9.22: Dawn Assheton (coloratura soprano) and Laszlo Schwartz, violin; assisted by Estella Sheehan at the piano—
"A Cane of Music"
Folk Songs and Dances of Other Countries.
10.2: News service. British official wireless news from Rugby. Meteorological information. Announcements.
10.10: Collingwood Citizens' Band—Overture, "Semiramide."
10.17: Eric Welch will speak on to-morrow's races at Moonee Valley.
10.27: Collingwood Citizens' Band—Fox Trot, "I'm Always Chasing Rainbows" (Ken Hallow).
10.34: Madoline Knight (contralto)—Old-time Ballads.
10.41: Ern. Hall's Radio Revellers, with Hugh Huchan—
"Roll Up the Carpets" (Nixon).
"To-day, To-morrow, Forever" (Nichols).
"Shinamik Da" (Carlton).
"Who Knows" (Dixon).
"Lady of the Morning" (Burton).
"I'm Crazy Over You" (Lewis).
"Old Man Sunshine" (Dixon).
"Wipin' the Fan" (Bae).
"Guess Who's in Town" (Razaff).
"That Stolen Melody" (Fisher).
11.39: God Save the King.

3AR

MORNING NEWS SESSION.

10.0: G.P.O. clock says, "Ten." 10.1: Market reports: Farm and station produce, fruit, fish, and vegetables. 10.25: Shipping reports. Ocean forecasts. 10.30: Mail notices. Express train information. 10.35: News service. 10.55: Weather forecast.

MORNING MUSICAL SESSION

11.0: Ancient Airs Along the Airways and a Bravura of Beautiful Ballads. 12.20: British official wireless news. Announcements. 12.30: Close down.

AFTERNOON SESSION.

3.0: Beautiful Ballads. 3.30: The Jedal Trio (Alva Hattenbach, violin; Edna Hattenbach, cello; and John Simons, piano. Trio, "Adagio, from B Flat Major Trio" (Beethoven). "Variations" (Beethoven). Piano, "Liebestraum" (Liszt). Trio, "Tango" (Albeniz). "Prelude in A Flat" (Cull). 4.0: Beautiful Ballads. 4.30: Close down.

EVENING SESSION.

8.0: Orchestral Chefs d'Ouvre. 7.10: News service. Announcements. 7.20: Sweet Solace on the Seraphine.

NIGHT SESSION.

8.29: Did You Know That—8.30: Transmission from Ballarat. 8.35: News service. Announcements. "God Save the King."

4QG

EARLY MORNING SESSION.

7.43: Time signals. 7.45: News service. 8.0: Records. 8.15: News service. 8.30: Close down.

MORNING SESSION.

11.0: Music. 11.5: Social news. 11.15: Lecture. 11.30: Music. 11.35: More social news. 11.45: Music. 12.0 (noon): Close.

MIDDAY SESSION.

1.0: Market reports; weather information. 1.20: From the Paris Cafe: Lunch-hour music. 2.0: Close down.

AFTERNOON SESSION.

3.0: Records. 3.30: Meal train running times. 3.31: From St. John's Cathedral: A recital by Mr. George Sampson, F.R.C.O. (City Organist). 4.15: This afternoon's news. 4.30: Close down.

EARLY EVENING SESSION.

8.0: Mail train running times; market information. Shipping news. 8.5: Dinner music. 6.25: Commercial announcements.

THE CHILDREN'S HOUR.

8.30: Bedtime stories conducted by "The Bandman." 7.0: News in brief. 7.5: Stock Exchange news. 7.6: Metal quotations. 7.7: Market reports.

7.25: Fenwick's Stock report. 7.30: Weather information. 7.40: Announcements. 7.43: Standard time signals. 7.45: To-morrow's sporting fixtures reviewed.

NIGHT SESSION.

Note: At three times during the evening musical numbers from "The Country Girl," played by the Brisbane Comic Opera Company, will be relayed from the Cremorne Theatre. It is impossible to state the exact times, therefore the items will be announced from the studio and a change over will be made to the same Theatre.
8.0: The Studio Orchestra—Overture, "Festival" (Luther).
Phyllis Verner (soprano)—
"Somewhere a Voice is Calling" (Tate).
"At Dawning" (Cadmam).
Fred Monument and Bert Harrow—
"Another Argument."
Mrs. O. Williams (violinist)—
"Lament" (Marie), accompanied by the Studio Orchestra.
John Morgan (baritone)—Selected.
The Studio Orchestra—
Rag, "The Maple Leaf" (Joplin).
9.0: Metropolitan weather forecast.
9.1: Doris M'Intosh (soprano)—
"In the Marshes" (Riego).
"All for You" (Brown).
9.8: Mrs. Winifred Wilkinson (eclectonist)—
Monologues—
"The Magic Glass" (Service).
"Snowflakes" (Major).
9.14: The Studio Orchestra—
"Cotton" (Foster).
9.21: Harry Collins and the Orchestra.
9.31: Blanche Currow (contralto)—
"Laugh and Sing" (Drummond).
"Ode" (Lohr).
9.40: The Studio Orchestra—
Twenty minutes dance music.
10.0: News; weather; close down.

5CL

MORNING SESSION.

11.0: Chimes. 11.1: Morning melodies. 11.15: Kitchen chat and menu talk. 11.45: Mr. L. G. Cox will speak on "First Aid to the Injured." 12: Chimes. 12.1: Midday music. 12.15: General news service; British official wireless news. 12.40: More midday music. 12.52: Stock Exchange information; meteorological information. 1.0: Chimes. 1.1: Community singing from the Adelaide Town Hall. 1.2: Chimes; close down.

AFTERNOON SESSION.

3.0: Chimes. 3.1: The Classic Trio. 3.12: Violet Jackson, soprano. 3.19: Tom O'Dea, comedian. 12: George Cowley, baritone. 3.32: The Classic Trio. 3.45: Violet Jackson, soprano. 3.52: Tom O'Dea, comedian. 3.55: George Cowley, baritone. 4.5: The Classic Trio. 4.15: "Musical Appreciations," a short lecture on Franz Schubert, with illustrated recordings. 4.55: Stock Exchange information. 5.0: Chimes; close down.

EVENING SESSION.

8.0: Chimes. 8.1: Children's happy moments. 8.2: An interlude of dinner music. 8.30: 5CL's sporting service supplied by "Silvius." 7.0: Chimes. 11: Stock Exchange information. 7.6: General market reports—Dairy and grain. Retail prices. 7.10: Grocers' Association, dairy produce. 7.10: About "Football." 7.25: Mr. Keith Minchin, M.A. and a Gentleman's Price, M.A., F.R.C.S., will continue his series of talks on "Pioneers of Australia—Colony George Warde."

NIGHT SESSION.

8.0: Chimes. 8.1: Boake Smith's Palais Royal Band—"Forty-seven Ginger-headed Sailors" (Saroyi). "Hit Up on a Trip" (Bee). "My Blackbirds are Bluebirds Now" (Friend). 8.10: Violet Jackson, soprano—A Selection from her repertoire. 8.13: Boake Smith's Palais Royal Band—"There's a Rainbow round my Shoulder" (Jolson). "Me and the Man in the Moon" (Leslie). "Ricky and Racket Shack" (Tobias). 8.22: Fred Guster, bass—"The Horn" (Flegler). 8.25: Boake Smith's Palais Royal Band—"Lily of Lagunas" (Stuart). "Mexican Serenade" (Terese). "Ma Sorry, Sally" (Kah). 8.34: Will Rung, comedian—Five Minutes' Humor. 8.39: Boake Smith's Palais Royal Band—"The Song of the Lark" (Lester). "Alabama Stomp" (Johnson). "Flower of Love." 8.49: Nettie Rodney and Jack Burgess—Entertainers, in a new number with Ukulele accompaniment. 8.52: Boake Smith's Palais Royal Band—"The Saphyros" (Sisk). "I Ain't Do without You" (Berlin). "Some Day, Somewhere" (Pollack). 9.1: Meteorological information, including Sea-weather times. 9.2: Overseas grain report. 9.3: Announcements. 9.4: Boake Smith's Palais Royal Band—"Glad Rag Doll" (Yellen). "Sally of my Dreams" (Kernell). 9.14: Fred Guster, bass—"Juggin' Along the Highway" (Samuel). 9.17: Boake Smith's Palais Royal Band—

- "Out of the Dawn" (Donaldson).
- "Mother, I Still Have You" (Jolson).
- "Sometimes I'm Happy" (Youmans).
- 9.26: Will Runge, comedian—
Will entertain you again.
- 9.30: Boake Smith's Palais Royal Band—
"All by Yourself in the Moonlight" (Stattord).
"Dream House" (Davis).
"Dem Golden Slippers" (Fox).
- 9.39: Nella Rodney and Jack Burgess, Entertainers.
In a new number, with Ukulele accompaniment.
- 9.43: Boake Smith's Palais Royal Band—
"A Siren's Dream" (Clapp).
"I Just Roll Along" (Trent).
"We, my Honey and Me" (Tobias).
- 9.53: Fred Guster, bass—
"I Forget, I Forget" (Newton).
- 9.56: Boake Smith's Palais Royal Band—
"Beautiful" (Shay).
"Promise Me" (Van Cooths).
"Laugh, Clown, Laugh" (Lewis).
- 10.6: Violet Jackson, soprano—
Another selection from her repertoire.
- 10.9: Boake Smith's Palais Royal Band—
"Dream Sweetheart" (Wendall).
"Just Like a Melody out of the Sky" (Donaldson).
- 10.15: General news service.
British official wireless news.
Meteorological information.
- 10.20: 5CL's sporting service, supplied by "Silvius."
Including a review of to-morrow's races at
Victoria Park and Moonee Valley.
- 10.30: Boake Smith's Palais Royal Band—
"Without You, Sweetheart" (De Sylva).
"Adoree" (West).
"Mississippi Mud" (Barris).
"Oh, You Have No Idea" (Dougherty).
"Avalon Town" (Brown).
"Dream House" (Davis).
"I Fell Head over Heels in Love" (Thayer).
"Bonny Boy" (Aksit).
"Precious Little Thing They Call Love" (Davis).
"Hallelujah" ("Hit the Deck").
- 11.0: Close down.

6WF

- 10.0: Tune in. Gramophone and phonograph records from the studio.
- 11.0: Close down.
- 12.30: Tune in. 12.35: Markets, news, etc. 1.0: Time signal. 1.1: Weather bulletin, supplied by the Meteorological Bureau of Western Australia. 1.3: Music from the studio by the Misses Chapman and Dean. 2.0: Close down.
- 3.30: Tune in. 3.35: Musical programme relayed from the Primrose Cafe de Luxe; vocal items from the studio. 4.30: Close down.
- 6.45: Tune in. 6.48: Bedtime stories by Uncle Duffy. 7.5: Light music by the Radio Trio. 7.30: Commercial and general information. 7.45: Racing talk by the Sporting Editor of the "Truth" Newspaper Co., Ltd. 8.0: Time signal. 8.1: First weather bulletin. 8.3: Musical programme from the studio. Songs by Signor Palmetto; pianiste, Miss Audrey Dean. 8.50: Late news items, by courtesy of the "Daily News" Newspaper Co., Ltd.; station announcements; ships within range announcement; late weather bulletin. 8.57: "Gardening" talk by Mr. James Conarty. 9.12: Programme continued from the studio. 10.30: "God Save the King."

104.5 METRE TRANSMISSION.

Simultaneous broadcast on 104.5 metres of programme given on 1250 metres, commencing at 6.45 p.m.

7ZL

MIDDAY SESSION

- 11.30: Selections. 11.34: Midlands weather forecast. 11.55: Tasmanian station's 9 a.m. weather report. 12.0: Chimes. 12.1: Shipping information. Ships within wireless range. Mail notices. Housewives' Guide. Commercial news. 12.11: British official wireless news. 12.29: Announcements. 12.55: News service. Railway auction produce sales held at railway. 1.30: Close down.

AFTERNOON SESSION.

(Announcer: Jack Broadbent.)

- 3.0: Chimes. 3.4: Weather information. 3.15: Jacques Jacob's Ensemble. Waltz; Muriel Brunskill, contralto; the J. H. Squire Celeste Octet; Signor Lenghi-Cellini, tenor; Edith Thomson, Celligians, waltz; duet, Dame Clara Butt and Kennerley Rutherford; Columbia Symphony Orchestra; Lener String Quartet. 4.15: Personalities. Readings from the "Weekly Courier." 4.30: Close down.

EARLY EVENING SESSION.

- 6.15: Selections. 6.45: Little Peggy Dyer. 7.0: Answers to letters and birthday greetings, by "Uncle David" and "The Story Lady." 7.10: News session.

EVENING SESSION.

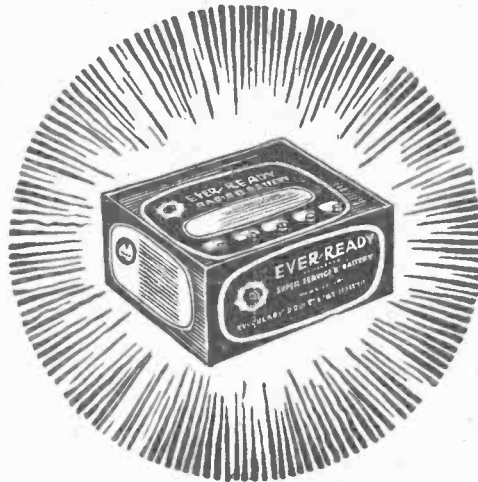
- 7.15: Sid Jones will speak on "Football." 7.30: A Studio Concert by 7ZL artists and Columbia. Wilfred Kemp, violin solo, "At Dawning." 7.35: Harley Rigney (soprano), "Massenet" (Ashdown). "The Hand of You" (Bond). 7.40: The Black Diamonds' Band, "Lohengrin" selection, part 1. 7.43: Doreen Ellison (soprano), "The Cuckoo" (Lehmanna). "A Love Note" (Rogers). 7.50: Wilfred Kemp (violin solo), "Minuet in G" (Beethoven). 7.53: Mary Moore (contralto), "Sincerity" (Clarke), "O String of Pearls." 8.4: Light Opera Co., "Songs of the East," part 3. 8.7: Harley Rigney (soprano), "By the Waters of Minnetonka" (Lieurance). "The Street of Quiet Windows." 8.14: Wilfred Kemp (violin solo), "Legende" (Weinlawski). 8.18: Doreen Ellison (soprano), "So People Say" (Fisher). "That's All" (Graham). 8.25: Spencer Shaw (organ solo), "Tannhauser" (Wagner), "Finlandia" (Sibelius). 8.32: Mary Moore (contralto), "Whatever is Is Best." "When Song is Sweet" (Sans-Sous). 8.39: Herbert Dawson (organ solo), "Meditation" (d'Evry). "Toccata" (Dubois). 8.45: J. M. Counsel, "An Hour with the Old Masters." "The History and Development of Music." 9.45: News session. Close down.

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2FC

EARLY MORNING SESSION.

Announcer, A. S. Cochrane.

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

MORNING SESSION.

Announcer: Eric Bessemer.

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

MIDDAY SESSION.

Announcer: Ewart Chapple.

Note: Race results from Randwick. 12.0: "Big Ben" and announcements. 12.2: Stock Exchange Information. 12.4: Studio music. 12.10: "Sydney Morning Herald" news service. 12.15: Rugby wireless news. 12.20: Studio music. 1.0: "Big Ben." "Evening News" service. 1.20: Studio music. 2.0: "Big Ben." Close.

AFTERNOON SESSION.

Announcer: Laurence Halbert.

Accompanist: Ewart Chapple.

2.55: Race results and announcements. 3.0: From the Sydney Sports Ground: Description of the football match. 3.15: From the studio, Cliff Gane, comedian; race results; popular items. 3.30: From the Sydney Sports Ground: Description of the football match. 3.45: From the studio, Hazel M'Pherson, contralto; race results; popular items. 3.55: From the Sydney Sports Ground: Description of the football match. 4.10: From the studio, race results; Cliff Gane, comedian. 4.25: From the Sydney Sports Ground: Description of the football match. 4.45: From the studio, sporting resume; Hazel M'Pherson, contralto. 5.0: "Big Ben." Close.

EARLY EVENING SESSION.

Announcer: A. S. Cochrane.

5.40: The chimes of 2FC. 5.45: The children's session, conducted by the "Hello Man"; letters and stories; music and entertainment. 6.40: Stock Exchange Information. 6.45: Weather and shipping news. 6.48: Rugby wireless news. 6.53: Late sporting news. 7.0: "Big Ben." Late news service. 7.10: The 2FC Dinner Quartette, conducted by Horace Keath—(a) "The Blue Danube" (Strauss); (b) "Popular Songs" (del Riego); (c) "The Dance of the Hours" (Ponchielli); (d) "Gumnuts" Dance" (Rallton).

EVENING SESSION.

Announcer: Laurence Halbert.

Accompanist: Ewart Chapple.

7.40: Popular music.
7.45: Programme announcements.
7.48: A record recital.
8.0: "Big Ben." From the Conservatorium of Music, a concert arranged by the Welsh Choral Society, "The Banner of St. George" (Elgar).
9.0: From the studio, weather report and announcements.
9.10: From the Conservatorium of Music: Second half of concert arranged by the Welsh Choral Society.
10.10: From the studio, Studio Dance Band, conducted by Cec. Morrison.
10.28: Late weather report.
10.30: Studio Dance Band, conducted by Cec. Morrison.
10.57: To-morrow's programme.
10.59: Studio Dance Band, conducted by Cec. Morrison.
11.30: National Anthem. Close.

2BL

MORNING SESSION.

8.0: G.P.O. chimes. Weather report—State and Metropolitan. 8.3: Studio music. 8.15: News and information service from the "Daily Telegraph Pictorial." 8.45: Studio music. 9.30: G.P.O. chimes. Half an hour with silent friends. 10.0: G.P.O. chimes Close.

MIDDAY AND AFTERNOON SESSIONS.

Announcers: A. C. C. Stevens and
Eric Bessemer.

11.0: G.P.O. chimes. Women's Session, conducted by Mrs. Cranfield. What's on at the Pictures and Theatres. 11.15: Miss May Mitchell will speak on "Mother's Day." 11.30: Advertising hints. 11.40: Talk on "Gardening" by Mr. Cooper, Park Superintendent, City Council. 12.0: G.P.O. chimes. Special ocean forecast and weather report. 12.3: Studio music. 12.30: "Sun" midday news service. 12.50: From Randwick—Description of the races in the running. Items from the Studio during intervals by the Happy Trio. 5.0: "Big Ben." Close.

EARLY EVENING SESSION.

Announcer: Basil Kirke.

5.40: Children's Session, conducted by Uncle Bas. Music and entertainment. Letters and stories. 6.30: "Sun" news service. 6.40: 2BL Dinner Quartette—(a) "The Fortune Teller" (Herbert), (b) "Barcarolle" (Offenbach), (c) "Three Bavarian Dances" (Elgar), (d) "Badinage" (Herbert), (e) "Farewell, My Love" (Lehar). 7.7: Complete sporting and racing resume. 7.30: Mr. Pim and Miss Pam in Advertising Talks, Handy Hints, and nonsense. 7.53: An ad. special. 8.50: Programme and other announcements.

EVENING SESSION.

Announcer: Basil Kirke.

Accompanist: G. Vern Barnett.

8.0: G.P.O. chimes. The Troubadours
8.10: Carlton Fay, novelty pianist.
8.20: Amy Ostinga, contralto.
8.27: Walter Champney.
8.37: The Troubadours.
8.47: Carlton Fay, novelty pianist.
8.57: Announcements.
9.0: G.P.O. chimes and weather report.
9.1: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
9.12: From the Studio: Amy Ostinga, contralto.
9.19: Walter Champney.
9.29: Impression of to-night's big fight, by an eye-witness.
9.44: The Troubadours.
9.54: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
10.4: From the Studio: Anne Luciano, popular vocalist.
10.11: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
10.21: Anne Luciano, popular vocalist.
10.28: Late weather; late "Sun" news service.
10.38: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
10.57: To-morrow's programme.
10.59: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
11.30: National Anthem. Close.

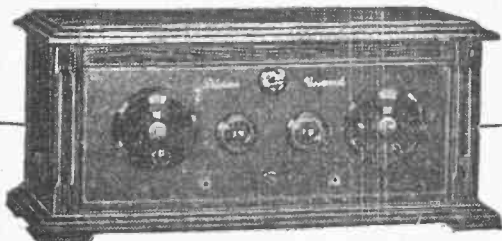
2GB

3.0: Musical session. 5.30: Children's session by Uncle George. 7.0: Request evening 8.0: Instrumental and dance programme 10.30: Close down.

2UW

5.30 p.m.: Children's hour, conducted by Uncle Jack. 6.30: Close down. 7.0: Request numbers. 10.30: Close down.

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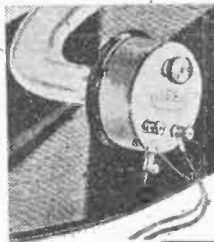
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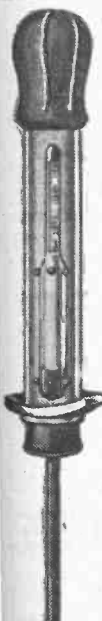
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Interstate Programmes, Saturday, June 8

3LO

EARLY MORNING SESSION.

7.15 to 8.15. See Friday.

MORNING SESSION.

10.50: Eric Welch will speak on to-day's races at Moonee Valley. 11.0: The Strad Trio (Cecil Parkes violin, Myra Montague piano, Frank Johnstone cello); "Tro. Op. 35," No. 3, G Major (Hummel). Allgrove can Brno. Menuetto. Rondo Scherzando. 11.12: Ciella Genoni McNeill, soprano; "Lo, Here the Gentle Lark," (Toselli). 11.19: Cecil Parkes, violin; "Serenade" (Schubert), "Ballet Music from Rosamunde" (Schubert), "Caprice No. 24" (Paganini). 11.29: Ciella Genoni McNeill, soprano; "Lo, Here the Gentle Lark," (Toselli). Selected. 11.36: Myra Montague, piano; "Wiegenlied" (Kjerulf), "Gavotte" (Karganoff), "Nocturne" (Sibelius). 11.43: The Strad Trio; "Nobody Knows" (Waltz-Parkes), "Melody" (Gluck), "Gavotte Louis" (Anon.), "Berceuse" (Hynski), "Marche Militaire" (Schubert).

MIDDAY SESSION.

12.0: Melbourne Observatory time signal. 12.1: British official wireless news from Rugby. Reuters and the Australian Press Association cables; "Argus" news service. 12.20: The Radio Revelers; "She's Got a Great Big Army of Friends" (Nelson), "Courder" (Stann), "Falling in Love With You" (Mayne). 12.30: Jack Stocks. 12.37: Stock Exchange information; prices received by the Australian Mines and Metals Association from the London Stock Exchange. 12.40: The Radio Revelers; "I Love to Dunk a Bunk of Spougecake" (Castill), "Sweet Sue, Just You" (Harris), "Roses of Yesterday" (Berlin). 1.0: Meteorological information; weather forecasts for New South Wales, South Australia, and Tasmania; ocean forecasts; river reports; rainfall. 1.7: The Radio Revelers; "The Voice of the Southland" (Austin), "My Heaven is Home" (Coburnson). 1.16: Jack Stocks. 1.23: The Radio Revelers; "I'm on the Crest of a Wave" (Henderson), "Mother, I Still Have You" (Johnson). 1.30: Description of baseball match, Carlton v. Melbourne, at Carlton, by Percy Steel.

AFTERNOON SESSION.

1.57: Description of Banyule Hurdle Race, 2 miles, Moonee Valley races, by Eric Welch. 2.5: Description of baseball match, Carlton v. Melbourne, at Carlton, by Percy Steel. 2.28: Description of Warracoo Welter, 8 furlongs, Moonee Valley races. 2.45, 3.5, 4.0, 4.25, and 4.55: Description of Interstate football match, Victoria v. South Australia, by Rod McGregor. 2.58: Description of Brunswick Steeplechase, 2 miles 8 chains, Moonee Valley races. 3.38: Description of Nonga Handicap, 9/2 furlongs, Moonee Valley races. 3.45: Sonora recital from the studio. 4.13: Description of Keera Welter, 1 mile, Moonee Valley races. 4.48: Description of Morang Handicap, 7 furlongs, Moonee Valley races. 5.18: News service. 5.30: Final scores.

EARLY EVENING SESSION.

5.45: All sporting results. 6.0: Birthday greetings and answers to letters by "Little Miss Kookaburra." 6.25: Captain Donald MacLean will continue his series of adventure stories. 6.40: "Little Miss Kookaburra" will tell another instalment of "The Guide Camp at Heron's Bay." (The treasure seekers set out.)

EVENING SESSION.

6.55: Market reports. 7.10: News session; final scores of football matches. 7.30: Birthday greetings. 7.24: Out of the Past. 7.25: Frederick Chapman, A.L.S., F.O.S., Commonwealth Palaeontologist, will speak on "Fossil Shells in the Fossil Galleries of the Museum." 7.40: A Master of History. 7.41: Dr. J. A. Leach will speak on "Bristle-Birds."

NIGHT SESSION.

7.55: "The Five O'Clock Girl." Book by Guy Bolton and Fred Thompson. Lyrics and music by Bert Kalmar and Harry Ruby. Play produced by Frederick Blackman. Musical director, William Quintrell. Cast of Characters (in order of their appearance):

Madame Irene: Ivy Parker.
Madame Worthington: Winnie Tate.
Ronnie Webb: Elved Jay.
Roy: Cecil Kelleway.
Oswald: Leo Franklyn.
Policeman: John Dunne.
Susan Snow: Tul Black.

Hudgins (Gerry's father): Alfred Frith.
Patricia Brown: Helen Patterson.
Gerald Brooks: William Valentine.
Molly (Gerry's maid-servant): Lucy Greenhill.
Cora Wainwright: Mary Right.
Jasper Cobb: Frank Leighton.
Jules (Head Waiter at Kit-Kat Club): George Jennings.

Quartet: In Scene 7, Act I; and Scene 7, Act 2.
Oliver: Kingette, Eileen Starr, Grace Fraser, Margaret McKenzie.

SYNOPSIS OF SCENES—ACT I.

Scene 1—A Block Party near Beckman Place, New York.
Scene 2—On the telephone.
Scene 3—A room in Gerry's roof garden apartment.
Scene 4—On the way from Gerry's apartment.
Scene 5—The Snowflake Cleaner's shop.
Scene 6—Outside the Kit-Kat Club.
Scene 7—The Kit-Kat Club.

ACT II.

Scene 1—Outside the Field and Stream Hotel, Southampton.
Scene 2—On the Merrick Road.
Scene 3—The Snowflake Cleaner's shop.
Scene 4—Outside Ronnie's roof garden apartment.

Scene 5—Ronnie's roof garden.
Scene 6—On the way to the Church.
Scene 7—Outside the Church.

MUSICAL NUMBERS—ACT I.

1. Opening, Ensemble Party, Jay and Girls.
2. "I'm One Little Party," Jay and Girls.
3. "Love is a Terrible Thing," Tul Black, Cecil Kelleway, and Leo Franklyn.
4. "I Just Want You," Tul Black and Alfred Frith.
5. "Thinking of You," Helen Patterson and Wm. Valentine.
6. "I Kiss Your Hand," William Valentine.
7. "Happy-Go-Lucky Bird," William Valentine and Girls.
8. "Up in the Clouds," Helen Patterson, William Valentine, and Ensemble.
9. "Any Little Thing," Tul Black and Alfred Frith.
10. "Following Father's Footsteps," Leo Franklyn and Cecil Kelleway.
11. Dance, Winkle Tate.
12. The Kit-Kat Ballet, The Ballet.
13. "Lonely Romeo," Helen Patterson and Boys.
14. Reprise, "Up in the Clouds," Helen Patterson and William Valentine.
15. Finale.

FROM THE STUDIO.

9.46: Song feature of the week.
9.49: 3LO's weekly Tasmanian Letter from the "Courier," Launceston.

FROM THE THEATRE ROYAL—ACT II.

- 9.55: Opening, "You'll Find Us There," Ensemble.
1. "Danced with the Prince of Wales," Tul Black, Cecil Kelleway, and Leo Franklyn.
2. "Who's Did? You Did," Helen Patterson and William Valentine.
4. "Tell the World I'm Through," William Valentine and Boys.
6. Reprise, "I Kiss Your Hand," Helen Patterson and William Valentine.
6. "The Long Low Wall," Alfred Frith.
7. Finalette, Miss Company.
8. Specially, Leo Franklyn and Cecil Kelleway.
9. Dance, Danny Dove.
10. Specialty, Helen Patterson.
11. "Ever So Goosey," Alfred Frith and Ensemble.
12. Finale, Entire Company.

FROM THE STUDIO.

11.1: Ern. Hall's Radio Revelers, with Hugh Huxham—
"My Blackbirds Are Bluebirds Now" (Friend).
"Casablanca" (Evans).
"Gradle of Love" (Wayne).
"Oh, Isabella" (Schuster).
"Sweet Forget-Me-Not" (Lorenzo).
"Pansies" (Nichols).
"You Ought to Hear Olaf Laff" (Baer).
11.30: God Save the King.

3AR

MORNING NEWS SESSION.

10.0 to 10.59: See Friday. 10.0: G.P.O. clock says, "Ten." 10.1: Market reports. Farm and station produce, fruit, fish, and vegetables. 10.25: Shipping reports. Ocean forecasts. 10.30: Mail notices. Express train information. 10.35: "Ace" news service, exclusive to 3AR. 10.59: Weather forecast.

MORNING MUSICAL SESSION.

11.0: A Musical Masterpiece—Choral Symphony No. 9 (Beethoven) in D Minor. Felix Weingartner and the London Symphony Orchestra. Choral work by Miriam Licette, Muriel Brunskill, Hubert Eisdell, Harold Wallace, and Chorus. 11.50: British official wireless news. Announcements. Rates of Exchange as supplied by Thos. Cook and Son. 12.0: Close down.

AFTERNOON SESSION.

3.0: The Station Orchestra. "Cobweb Castle."
3.10: Madoline Knight (contralto). "Old-time Ballads."
3.17: The Station Orchestra. Selection, "The Gondollers."
3.27: Dawn Assheton (coloratura so-

prano) and Laszlo Schwartz (violinist), Estah Sheehan at the piano, in Folk Songs and Operas Arias. 4.7: The Jedal Trio. Trio, "Andante" (Haydn), "Marche Militaire" (Schubert). Cello solo, "Sar le Lac" (Godeard). Trio, "Lebesgarten" (Schumann), "Menuetto" (Mozart). 4.37: Madoline Knight (contralto), "Old-time Ballads." 4.44: The Station Orchestra. Selection, "Queen High" (Gensler). Suite, "In Italian" (Goldmark).

EVENING SESSION

(Announcer: John Stuart).
6.0: A Bravura of Beautiful Ballads. 7.10: News service. Announcements. 7.20: Orchestral Masterpieces.

NIGHT SESSION

8.0: All sporting results.
8.29: Did You Know That—
8.30: The Jedal Trio (Alva Hattenbach, viola; Edna Hattenbach, cello; and John Simons, piano). Trio, "Ave Maria" (Schubert).
"The Palms" (Faure).
"Adagio Pathetico" (Beethoven).
"Cello Melodie" (Scharpenter).
9.0: Ciella Genoni McNeill (soprano)—
Selections from Italian Operas.
9.7: The Station Orchestra.
Selection, "The Desert Song" (Romberg).
9.20: Ciella Genoni McNeill (soprano)—
Selections from Italian Operas.
9.27: Dawn Assheton (coloratura soprano), Laszlo Schwartz, Hungarian violinist, and Estah Sheehan, at the piano, in Songs from Many Lands.
9.57: The Station Orchestra—
"A Southern Rhapsody" (Hosmer).
10.7: Organ Recital by C. E. Montath, P.R.C.O. Transmission from St. Peter's Church, Eastern Hill. Selections from three English composers.
10.25: News session.
"God Save the King."

4QG

EARLY MORNING SESSION.

7.43 to 8.30: See Friday.
8.30: Records. 3.30: Mail train running times. 4.15: This afternoon's news. 4.30: Close down.

AFTERNOON SESSION.

6.15: News service for distant listeners. 6.30: Bedtime stories conducted by "Uncle Ben." 1.0: To-day's race results in detail. 7.20: General sporting notes. 7.30: Sailing notes by Mr. Fred Smith.

NIGHT SESSION.

8.0: The Musical Comedy, "The Country Girl" played by the Brisbane Comico Opera Company, will be relayed from the Cremorne Theatre.
10.0: News; weather; close down.

5CL

AFTERNOON SESSION.

12.0: Chimes. 12.1: Special late selections for Moonee Valley races by Mr. Eric Welch. 3LO's Special Sporting Commission. 12.3: Probable starters and selections for Victoria Park races supplied by "Silvius." 12.15: News service; British official wireless news; railway information; Stock Exchange, and Meteorological information. 12.50: From Victoria Park riders and positions for Handicap Hurdle, about two miles. 1.0: From Victoria Park, description of Handicap Hurdles by Mr. Arnold Treaw. 1.30: From Victoria Park, riders and positions for first division of the Welter Handicap, one m. 13/16. From studio, race result, Barryule Hurdle, 1/4 m. From Victoria Park, running description of first division Welter Handicap. 2.0: Chimes. 2.1: Resume of race results. 2.6: Moonee Valley race result, Warracoo Welter. 2.10: From Victoria Park, riders and positions for second division Welter Handicap, one mile. 2.20: From Victoria Park, description of second division Welter Handicap. 2.35: Moonee Valley race re-

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sult, Brunswick Steeplechase. 2.50: From Victoria Park, riders and positions for Licensed Victuallers' Winter Handicap, 1 1/4 mlie. 2.55: Description of League football by "M" Manning. 3.0: From Victoria Park, description of Licensed Victuallers' Winter Handicap. 3.8: Description of League football. 3.15: Moonee Valley race result, Nonga Handicap. 3.16: Description of League football. 3.25: Description of League football. 3.30: From Victoria Park, riders and positions for Juvenile Handicap, 6 1/4 furlongs. 3.35: Description of League football. 3.40: From Victoria Park, description of Juvenile Handicap. 3.45: Description of League football. 3.55: Moonee Valley race result, Keera Welter. 4.1: Resume of race results. 4.8: Description of League football. 4.10: From Victoria Park, riders and positions for the Steeplechase, about 2 1/2 miles. 4.15: Description of League football. 4.20: From Victoria Park, running description of the Steeplechase. 4.25: Moonee Valley race result, Morang Handicap. 4.28: Description of League football. 4.31: From studio. 4.41: Description of League football. 4.50: From Victoria Park, riders and positions for Final Handicap, 6 1/2 furlongs. 4.55: Description of League football. 5.0: From Victoria Park, running description of Final Handicap. 5.5: Description of League football. 5.8: From studio, dividends on Final Handicap; resume of race results; final football scores; close down.

EVENING SESSION.

6.0 to 7.0: See Friday. 7.10: Rev. G. E. Hale, B.A., will give a talk (by request) on "The Grace of Gratitude." 7.25: Mr. C. G. Riley on "Items of Interest." 7.40: 5CL's sporting service, including Victoria Park and Moonee Valley race results and final football scores.

NIGHT SESSION.

8.0: Chimes. 8.1: Phyllis Delaine, jazz pianiste. 8.7: Violet Jackson, soprano. 8.14: Phyllis Tier, entertainer—
In a Child Impersonation: "The Oldest of the Family." 8.20: Les Crisp, tenor—
"Duna."
"Sally Horner" (Traditional). 8.27: Dave Howard, saxophonist. 8.33: Violet Jackson, soprano. 8.39: Phyllis Delaine, jazz pianiste. 8.45: Wrestling from the Exhibition Building. 10.0: From 5CL Studio, Les Crisp, tenor—
"Muleteer of Malaga."
"The Machree" (Ball). 10.11: Phyllis Tier, entertainer—
"Castles in the Air." 10.16: Dave Howard, saxophonist. 10.20: 5CL's sporting service, supplied by "Silvius," including Victoria Park and Moonee Valley race results and final football scores. 10.30: Modern dance records. 11.0: Chimes; close down.

6WF

10.0: Tune in. Gramophone and phonograph records from the studio. 11.0: Close down. 12.0: Tune in. 12.2: Racing anticipations. 12.8: Pianoforte solos by Miss Audrey Dean. 12.44: Markets, news, etc. 1.0: Time signal. 1.1: Weather bulletin, supplied by the Meteorological Bureau of Western Australia. 1.3: Close down. 2.30: Sporting session; description and results of races run at Canning Park racecourse will be broadcast during the afternoon, also quarter-time scores of the various football matches. 5.30: approx.: Close down. 6.45: Tune in. 6.48: Bedtime stories by Auntie Amy. 7.12: Sports results. 7.30: Commercial and general information. 7.45: Music. 8.0: Time signal. 8.1: First weather bulletin. 8.3: Variety programme, vocal artists from the studio; Miss Audrey Dean, pianiste. 8.30: Relay from Temple Court Cabaret of dance music by Merv. Lyon and his Symphonic Orchestra. 8.50: Late news items, by courtesy of the "Daily News" Newspaper Co., Ltd.; station announcements; ships within range announcements; late weather bulletin. 9.5: Programme continued from the studio and Temple Court Cabaret. 10.30: "God Save the King."

104.5 METRE TRANSMISSION.

Simultaneous broadcast on 104.5 metres of programme given on 1250 metres, commencing at 6.45 p.m.

7ZL

MIDDAY SESSION.

11.30 to 1.30: See Friday. 2.0: Description of Barryule Hurdle Race, two miles, Moonee Valley, Melbourne. 2.5: Close down. 2.30: Description of Waroona Welter, 6 furlongs. 2.35: Close down.

AFTERNOON SESSION.

3.0: Description of Brunswick Steeplechase, 2 miles 8 chains, Moonee Valley, Melbourne. 3.5: Transmission from the North Hobart Oval, football match, Lefroy v. Cananore, described by Sid Jones. 3.40: Description of Nonga Handicap, 9 1/2 furlongs, Moonee Valley. 3.5: Football match, Lefroy v. Cananore. 4.20: Description of Keera Welter, 1 mile, Moonee Valley. 4.25: Football match, Cananore v. Lefroy. 4.50: Description of Morang Handicap, 7 furlongs, Moonee Valley. 4.55: Football match, Lefroy v. Cananore. 5.0: All sporting results to hand. 5.10: Close down.

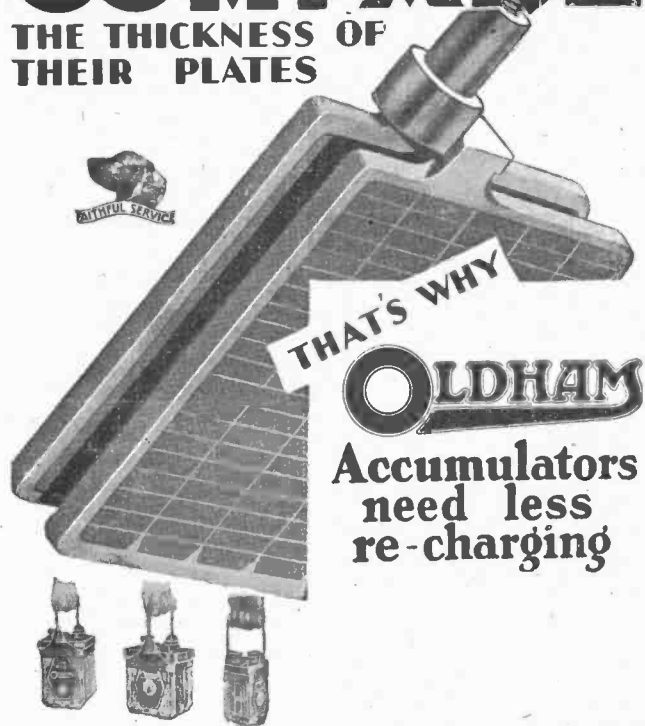
EARLY EVENING SESSION.

6.0: All sporting results to hand. 6.30: "Uncle David." 7.0: Answers to letters and birthday greetings by "Uncle David." 7.15: News session.

EVENING SESSION.

7.30: Roy Johnson will speak on, "Manual Training." 7.45: J. M. Counsel will speak on, "European Affairs." 8.15: A special studio concert. 10.1: News session. Close down.

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Local Programmes, Sunday, June 9

2FC

MORNING SESSION.

Announcer: A. S. Cochrane.

- 10.0: "Big Ben" and announcements.
- 10.2: News service
- 10.20: The Captain to His Comrades.
- 10.35: The Comrades' Book Shelf.
- 10.40: Studio music.
- 11.0: "Big Ben." From St. Andrew's Cathedral: Morning Service, conducted by the Very Rev. the Dean of Sydney.
- 12.15 (approx.): Close.

AFTERNOON SESSION.

Announcer: Eric Bessemer.

- 2.30: Programme announcements.
- 2.32: Children's Session, conducted by the "Hello Man."
- 3.0: "Big Ben." From the Lyceum Hall, Pitt Street: Pleasant Sunday Afternoon Service.
- 4.30: From the Studio: Studio music.
- 4.45: A Talk on the Deaconess Work in the Bush and various other avenues of their service, by Miss Anne E. Pallister, Head of Deaconess Institution.
- 5.0: "Big Ben." Close.

EVENING SESSION.

Announcer: Laurence Halbert.

- Accompanist: Kathleen Roe.
- 6.0: "Big Ben" and announcements.
- 6.2: S. H. Bowden will speak on "The Bulb Fields of Holland."
- 6.20: From the Pitt Street Congregational Church: Organ Recital by Lillian Frost.
- 7.0: Evening Service, conducted by Rev. T. E. Ruth.
- 8.30: Weather report.
- 8.31: Elsie Steele—A Violin Recital by Elsie Steele. Accompanist: Miss Gladys Teece.
- 8.56: Muriel O'Malley, contralto.
- 9.3: From the Victory Theatre, Kogarah—Organ Recital by Horace Weber.

- 9.23: From the Studio—Muriel O'Malley, contralto.
- 9.30: From the Victory Theatre, Kogarah—Organ Recital by Horace Weber.
- 9.50: From the Studio—A Record Recital
- 10.28: Late weather report.
- 10.30: National Anthem. Close.

2BL

Announcer: A. C. C. Stevens.

- 11.0: G.P.O. Chimes From Central Baptist Church. Morning service, conducted by Rev. John Complin. 12.15 approx: From the Studio: "Sun" news service. 12.30: Studio music. 2.0: G.P.O. chimes. Close.

AFTERNOON SESSION.

Announcer: Basil Kirke.

- 3.0: G.P.O. chimes. A record recital. 3.30: Roger Jones, baritone. 3.37: Molly James, pianist. 3.47: Basil Kirke will give a talk. 4.2: Roger Jones, baritone. 4.9: Molly James, pianist. 4.19: Studio items. 4.30: Pianoforte reproduction. 5.0: "Big Ben." Close.

EVENING SESSION.

Announcer: G. Vern Barnett.

- Accompanist: Kathleen Roe.
- 6.0: G.P.O. chimes.
- 6.1: Birthday calls.
- 6.5: A programme supplied by the Cheer-up Society.
- 7.0: From the Randwick Presbyterian Church: Evening service, conducted by the Rev. J. Grant.
- 8.30: From the Studio: The Instrumental Ensemble, under the direction of Alexander Sverjensky—Piano concerto (Beethoven), 1st movement.
- 8.50: Daisy Morgan, soprano—(a) "God Smiled Upon the Dessert" (Cadmans). (b) "The Bells of Spring" (Liddle). (c) "The Bird of the Wilderness" (Horsman).
- 8.57: Instrumental Ensemble, under the direction of Alexander Sverjensky—"Trout Quintet" (Schubert). 1st Movement. Variations. Finale.
- 9.17: John Benjamin, tenor.
- 9.24: Instrumental Ensemble, under the direction of Alexander Sverjensky—"String Quartet" (Dvorak), 2nd Movement. Finale.
- "Andante Cantabile" (Tschalkowsky).
- 9.34: Daisy Morgan, soprano—(a) "The Little Star" (Moussorgsky). (b) "Butterflies" (Seller). (c) "All Round My Hat" (Goodhart).
- 9.41: Instrumental Ensemble, under the direction of Alexander Sverjensky—Selected.
- 9.51: John Benjamin, tenor.
- 9.58: To-morrow's programme.
- 10.0: National Anthem. Close.

SUNDAY MORNING

WIRELESS TALKS

BY

VICTOR E. CROMER

ON

HEALTH

AND

MARY RIVETT

ON

PSYCHOLOGY

Commencing **JUNE 9th,**

9 TO 10 O'CLOCK A.M.

Station 2GB—316 Metres

2GB

- 9.0: Lecturette by Mary Rivett: Man's Latent Powers. 9.30: A Talk by Victor E. Cromer on Radiating Vitality. 10.15: Organ music from St. Alban's Church, Regent Street, Sydney. 10.30: Morning service from St. Alban's Church. 12 noon: Close down. 3.0: Musical session. 5.30: Children's session by Uncle George. 7.0: Lecture from Adyar House. 8.0: Music from Studio. 8.15: Concert arranged by courtesy of Winkworth and Sons, Uebel-Lechleiter Piano solos. 8.23: Miss Ethel Muller, contralto. 8.30: Mr. William Green, tenor. 8.37: Mr. Leslie Sproule, flautist. 8.45: Miss Gladys Aubin, soprano. 8.52: Uebel-Lechleiter Piano. 9.0: Weather report. 9.2: Miss Ethel Muller, contralto. 9.12: Mr. William Green, tenor. 9.16: Mr. Leslie Sproule, flautist. 9.24: Miss Gladys Aubin, soprano. 9.31: Uebel-Lechleiter Piano. 9.35: Close down.

2UW

- 10.30 a.m.: Music and request numbers. 1 p.m.: Close down. 5.30 p.m.: Children's hour, conducted by Uncle Jack. 6.30: Close down. 7.0: Musical programme. 10.30: Close down.

Interstate Programmes, Sunday, June 9

3LO

MORNING SESSION:

10.30: Bells from St. Paul's Cathedral. 10.45: Express train information: British official wireless news from Rugby; news from yesterday's papers. 11.0: Morning service from Baptist Church, Collins Street, Melbourne—Preacher, Rev. W. D. Jackson, B.A. Choir Direction, Madame Elia Kingston. Sanctus. Call to Worship. Invocation and Lord's Prayer; hymn, "Let Us with a Gladness Mind"; Scripture, Mark 8, 22-26, 9, 2-9; Children's talk; solo, "Safe in the Arms of Jesus" (Fanny Crosby); notices, offering, anthem, prayer; hymn, "Lord, Thou Hast All my Prayers Made" (Metheson); sermon, Mark 8, 22, "Christ and a Blind Man"; song by the Male Voice Choir; hymn, "O, Love that will Not Let Me Go" (Metheson); benediction. Note—In keeping with the theme of the sermon hymns written by blind people have been chosen. 12.15: Close down.

AFTERNOON SESSION.

2.0: Sonora recital of the world's most famous records. 3.0: Pleasant Sunday Afternoon. Chairman, Rev. Dr. S. J. Hoban. Hymn, No. 68, "Sing we the King who is Coming to Reign"; prayer; orchestral selection, G. M. Williams, conductor; hymn, No. 25, "I Heard the Voice of Jesus Say"; quartette, The Stonnington Quartette Party; orchestra; quartette, The Stonnington Quartette Party; notices, offering, and orchestra; address, Rev. Charles N. Lack (China Inland Mission, Honan), "The China of To-day"; National Anthem; benediction; orchestra. 4.30: Close down.

CHILDREN'S HOUR.

5.45: Shipping information. 6.47: Answers to letters and birthday greetings by "Billy Bunny." 6.55: "Brother Bill's" talk this week is entitled, "The Pilot." 8.45: Adult birthday greetings. 6.47: Bells from St. Paul's Cathedral.

EVENING SESSION.

7.0: Hymn, 395. Approach, my Soul, the Mercy Seat.; prayer; prose, Psalm 118, v.v. 14-29, "The Lord is My Strength and Song"; chants, Old Testament lesson, Psalm 4; hymn, No. 207, "O, Love that will Not Let Me Go"; hymn, conductor; hymn, No. 25, "I Heard the Voice of Jesus Say"; quartette, The Stonnington Quartette Party; notices, offering, and orchestra; address, Rev. Charles N. Lack (China Inland Mission, Honan), "The China of To-day"; National Anthem; benediction; orchestra. 4.30: Close down.

NIGHT SESSION.

8.30: Cecil Parkes (violin), George Parkes (second violin), Kingsley Parkes (viola), Frank Johnstone (cello) The String Quartette. "Op. 18 in F Major" (Beethoven). "Allegro con Brio." "Cherzo."
8.46: Cecil Parkes, violin—"On Wings of Song" (Mendelssohn). "Variations on Theme Corelli" (Tartini-Kreiser).
8.53: Eileen Starr, soprano—"Thou Art Like a Lovely Flower" (Schumann). "The Almond Tree" (Schumann).
9.0: Cecil Parkes (violin), Kingsley Parkes (viola), Frank Johnstone (cello), piano. "Op. 47 in E Flat" (Schumann). "Allegro ma non Troppo." "Infante Cantabile." Finales.

9.18: The Jubilee Singers (programme arranged by Graham Burgin)—The Jubilee Singers' Part Songs. "In this Hour of Softened Sencdour (Pinsuti). Ruby Dunstan and Graham Burgin: Duet, "The Wanderers' Night Song." The Jubilee Singers: Negro Spirituals—"Steal Away From Me, Jesus." "Peter, Go Ring Dem Bells." Madge Sissons, piano. "Menuetto" (Schubert). The Jubilee Spirituals: "Swing Low." "Go Down, Moses." Graham Burgin, baritone: "Thou'rt Passing Hence." The Jubilee Singers, Op. 57 in E Flat" (Schubert).
9.40: Eileen Starr, soprano—"Lullaby" (Brahms). "The Blacksmith" (Brahms).
9.47: Cecil Parkes (violin), George Paton (second violin), Kingsley Parkes (viola), Frank Johnstone (cello)—String Quartettes, "Variations" (Beethoven). "March Militaire, Op. 57 in E Flat" (Schubert).

9.56: News service; announcements.
10.0: God Save King.

3AR

MORNING SESSION.

10.45: Morning service from St. Paul's Cathedral, Melbourne. Matins and Litany (choral), Sentence, Exhortation, Absolution, The Lord's Prayer, Versicles and Responses, The Venite, Psalms 12 and 13. First Lesson, Te Deum, Second Lesson, Benedictus, The Apostles' Creed, Collects, Anthem, Prayers and Litany. Hymn, Sermon, (The Dean), Hymn, The Benediction. 12.15: British official wireless news; announcements. 12.25: Close down.

AFTERNOON SESSION.

3.0: Eddie Pugh at the Wuritzer organ, transmission from the Regent Theatre, Melbourne. 4.0: Close down.

EVENING SESSION.

5.0: "Erer Rabbit," Stories for the Children. 5.30: Close down.

NIGHT SESSION.

7.0: Excerpts from "The Barber of Seville" (Rossini), recorded at the Scala Theatre, Milan. Ed. Baldini, baritone; Ed. Taliani, tenor; Umberto Di Lello, basso; Davide Camerini, basso cantante; Melvina Pereira, soprano; Carlo Sabino, conductor.
8.15: Malvern Tramways Band—March, "Wellington" (Zehle). March, "The Virtuoso" (Rimmer).
8.25: Diana Belmont, contralto—"Supplic Ode" (Brahms). "Thou Bringest Peace."
8.32: Malvern Tramways Band—March, "Sons of the Wild" (Rimmer). Selection, "Amorette" (Rimmer).
8.39: Lucyas Biggins, piano recital—"Tambourin" (Rameau). "Sonata C Major" (Mozart).
9.0: Herold Krag, basso cantante—Selections from his repertoire.
9.10: Malvern Tramways Band—Euphonium solo, "Selected." Soloist, E. Ellis.
9.20: Diana Belmont, contralto—"A Spirit Flower" (Tipton). "Beloved Sleep" (Slater).
9.27: Rev. J. Booth, St. Paul's Cathedral Spire.
9.37: Malvern Tramways Band—Selection, "Semiramide" (Rossini).
9.50: News service; announcements.
10.10: God Save the King.

4QG

MORNING SESSION.

11.0: The complete morning service will be relayed from the City Congregational Church. 12.15: Close down.

AFTERNOON SESSION.

3.15: The band concert will be relayed from the Botanic Gardens. 4.30: Close down.

EARLY EVENING SESSION.

6.0: Greetings to little listeners and replies to letters.

NIGHT SESSION.

7.0: The complete evening service will be relayed from the City Congregational Church.
7.30: Evening service.
At the conclusion of the church service the concert by the Brisbane Municipal Band will be relayed from Wickham Park.
9.30: Close down.

5CL

MORNING SESSION.

10.45: Carillon of bells from Adelaide Town Hall. 11.0: Chimes. 11.1: Divine Service, from Parkside Baptist Church. 12.10: British Official Wireless news. 12.15: Close down.

AFTERNOON SESSION.

3.0: Chimes. 3.1: A Pleasant Sunday Afternoon Service from Massey Church, Franklin Street. 4.0: Chimes. Close down. 4.30: From Victoria Hall Jubilee celebrations, Y.M.C.A. and Y.W.C.A. 5.30: Close down.

EVENING SESSION.

6.0: G.P.Q. Chimes. 6.1: Children's happy moments. 6.30: "The Bird Lady" and "The Sunshine Songsters." 7.0: Chimes. 7.1: A religious service from St. Bartholomew's Church of England, Norwood.

NIGHT SESSION.

8.20: A short piano-forte recital, by Irene Kemp, L.A.B. "Rondo in E Flat" (Johann Hummel); "Rhapsody No. 8" (Liszt).
8.32: Mrs. John Close, contralto. "The Lord is My Light" (Allstein). "Rest Thee, Sad Heart" (Teresa del Riego).
8.39: The South Australian Trio (Harold Parsons, Mus.Bac., cello; Irene Kemp, L.A.B., piano; Hilda Reimann, A.M.U.A., violin), first and second movements of Beethoven's "Trio in C Minor."
8.49: Charles Baggot, tenor. "I'll Sing Thee Songs of Araby" (Frederick Clay). "I Love a Little Cottage" (Geoff. O'Hara).
8.56: Oswald Summerton, trumpeter (holder of the Australian championship). "Like to a Damask Rose" (Edward Elgar), by special request. "My Heart At Thy Sweet Voice" (Saint-Saens).
9.2: P. H. Nicholls will talk to you about "Captain Robert Falcon Scott, Antarctic Explorer."
9.12: The South Australian Trio (Harold Parsons Mus.Bac., cello; Irene Kemp, L.A.B., piano; Hilda Reimann, A.M.U.A., violin). "Romance" (Marschner).
9.20: Mrs. John Close, contralto. "Who is Sylvia?" (Schubert). "When All Was Young," from "Faust" (Gounod).
9.27: Oswald Summerton, trumpeter. "An Old-fashioned Cottage" (Squire). "Ave Maria" (Mascagni).
9.33: Charles Baggot, tenor. "My Message (Guy d'Hardelot). "O Lovely Night" (Landon Ronald).
9.40: The South Australian Trio (Harold Parsons, Mus.Bac., cello; Irene Kemp, L.A.B., piano; Hilda Reimann, A.M.U.A., violin). Minuet and last movement of Beethoven's "Trio in C Minor."
9.50: General news; British Official Wireless news.
10.0: Chimes. Close down.

6WF

10.25: Tune in. 10.30: Special half-hour for the enthusiastic listener-in. 11.0: Morning service, relayed from Wesley Church. 12.15: Close down.

3.30: Tune in. Musical programme from the studio; Mr. L. Judson, pianist. 4.30: Close down. 6.45: Tune in. 6.48: Bedtime stories by Mr. Robert Edmondson, assisted by the Misses Winnie and Betty Edmondson. 7.15: Music. 7.30: Evening service, relayed from the Church of Christ. 8.45: After-church concert by the Perth City Band, conducted by Mr. L. Price. 10.4: "God Save the King."

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7ZL

MORNING SESSION.

10.45: Bells from Trinity Church. 11.0: Transmission from Memorial Congregational Church, Hobart. 12.30: Close down.

AFTERNOON SESSION.

3.30: A musical programme arranged by The P.S.A. Association. 4.30: Close down. EARLY EVENING SESSION. 6.15: Chorus singing. 6.45: Bertha Southey Brammall.

EVENING SESSION.

7.0: Transmission from the Chalmers Presbyterian Church, Hobart. 8.25: A programme of sacred and classical music arranged by James Counsel. 9.45: News session. Close down.

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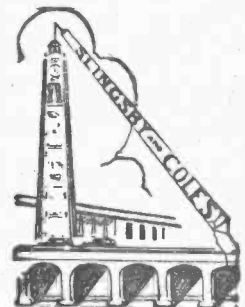
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Local Programmes, Monday, June 10

2FC

EARLY MORNING SESSION.

Announcer: A. S. Cochrane.

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

MORNING SESSION.

Announcer: A. S. Cochrane.

10.0: "Big Ben" and announcements. 10.3: Pianoforte reproduction. 10.10: "Sydney Morning Herald" news service. 10.25: Studio music. 10.30: The 2FC Racing Commissioner; late sporting news. 10.45: A talk on "Home Cooking and Recipes" by Miss Ruth Furst. 11.0: "Big Ben." A.P.A. and Reuter's cable services. 11.5: Close down.

MIDDAY SESSION.

Announcer: A. S. Cochrane.

12.0: "Big Ben" and announcements. 12.2: Stock Exchange first call. 12.3: Official weather forecast; rainfall. 12.5: Summary of news, "Sydney Morning Herald." 12.10: Rugby wireless news. 12.13: A reading. 12.30: Studio music. 1.0: "Big Ben." Weather intelligence. 1.3: "Evening News" midday news service. Producers' Distributing Society's market report. 1.20: Studio music. 1.28: Stock Exchange, second call. 1.30: Popular—Stock Exchange third call. 4.47: Studio items. 5.0: "Big Ben." Close.

AFTERNOON SESSION.

Announcer: Laurence Halbert.

Accompanist: Ewart Chapple.

2.30: Programme announcements. 2.32: The Book Lover's Corner. 3.0: "Big Ben." From Palling's Concert Hall—A Recital by the Students of Iris de Calros Rego. 4.0: "Big Ben." A reading. 4.25: Studio music. 4.35: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 4.45: From the Studio—Stock items. 5.0: "Big Ben." Close.

EARLY EVENING SESSION.

Announcer: A. S. Cochrane.

5.40: The chimes of 2FC. 5.45: The Children's Session, conducted by the "Hello Man." Letters and stories. Music and entertainment. 5.30: Dalgety's market report (wool, wheat, and stock). 6.40: Fruit and vegetable markets. 6.43: Stock Exchange information. 6.48: Weather and shipping news. 6.50: Rugby Wireless news. 6.55: Late sporting news. 7.0: "Big Ben." Late news service. 7.10: The 2FC Dinner Quartette, conducted by Horace Keats—(a) "The Busy Bee" (Bendix), (b) "Baccanal" ("Samson") (Saint-Saens), (c) "Cantabile" (Cui), (d) Suite, "The Conqueror" (German). (e) "The Waters of Minnatonka" (Lieurance), (d) "Dreams of Yesterday" (Humphries).

EVENING SESSION.

Announcer: Laurence Halbert.

Accompanist: Ewart Chapple.

7.40: Popular music. 7.45: Programme announcements. 7.46: A Record Recital. 8.0: "Big Ben." A Studio Production of a well-known play, arranged by Gertrude Boswell. Musical programme played by the Studio Orchestra—Leo Rowan, vocal solos. 10.28: Late weather and to-morrow's programme.

10.30: National Anthem. Close.

2BL

MORNING SESSION.

Announcer: A. C. C. Stevens. 8.0: G.P.O. chimes; weather report. State and metropolitan. 8.3: Studio music. 8.15: News and information service from the "Daily Telegraph Pictorial." 8.45: Studio music. 9.30: Half an hour with silent friends. 10.0: G.P.O. chimes. Close.

MIDDAY SESSION.

Announcer: A. C. C. Stevens. 11.0: G.P.O. chimes. 2BL Women's Sports Association session, conducted by Miss Gwen Varley. Talk on "Tennis" by Miss Gwen Varley; talk

on the Junior Red Cross by Mrs. Barry. 11.30: Advertising hints. 11.40: Women's session, conducted by Mrs. Cranfield. Nurse May will speak on "Infant Welfare." 12.0: Chimes. Special ocean forecast and weather report. 12.3: Studio music. 12.30: Shipping and mails. 12.35: Market reports. 12.48: "Sun" midday news service. 1.0: Studio music. 1.30: Talk to children and special entertainment for children in hospital, by Uncle Steve. 2.0: G.P.O. chimes. Close.

Note: Race results will be broadcast by arrangement with the "Sun" Newspapers. Ltd.

AFTERNOON SESSION.

Announcer: A. C. C. Stevens. Accompanist: Kathleen Roe. 3.45: G.P.O. chimes. Popular music. 4.15: Gladys Carlisle, soprano—(a) "Down in the Forest" (Landon); (b) "A Birthday" (Woodman). 4.22: Captain Fred Aarons will give a talk. 4.37: Studio items. 4.47: Gladys Carlisle, soprano—(a) "Ilac" (Phillips); (b) "Laberum" (Phillips); (c) "Hawthorn" (Phillips) 4.54: "Sun" news service. 5.0: "Big Ben." Pianoforte reproduction. 5.15: Popular music. 5.33: Racing resume. 5.37: Features of the evening's programme.

EARLY EVENING SESSION.

Announcer: Basil Kirke. 5.40: Children's session, conducted by Uncle Bas; music and entertainment; letters and stories. 6.30: "Sun" news and late sporting. 6.40: 2BL Dinner Quartette—(a) Waltz, "Rubens" (Rubens); (b) "Canzonetta" (Herbert); (c) "Aida" (Verdi); (d) "Brown Eyes I Love" (Coates); (e) "Celebre Minuet" (Valensini). 7.7: 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: Mr. Pim and Miss Pam in advertising talks; handy hints and nonsense. 7.53: An Ad. Special. 7.55: Programme and other announcements.

EVENING SESSION.

Announcer: Basil Kirke.

Accompanist: G. Vern Barnett.

8.0: G.P.O. chimes. From King's Cross Theatre, the King's Cross Theatre Orchestra, conducted by Max Saunders.

8.20: From the studio: W. E. Lewis, baritone.

8.27: Josef Kaartinen, saxophone solos.

8.34: Dorrie Ward, soprano.

8.41: Charles Lawrence, comedian.

8.51: S. H. Bowden will continue his topical talk "Week by Week."

9.6: Weather report.

9.7: From King's Cross Theatre, the King's Cross Theatre Orchestra, conducted by Max Saunders.

9.22: From the studio, W. E. Lewis, baritone.

9.29: Josef Kaartinen, saxophone solos.

9.36: Dorrie Ward, soprano.

9.43: Charles Lawrence, comedian.

9.53: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.

10.3: Rae Foster, popular vocalist.

10.10: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.

10.20: Rae Foster, popular vocalist.

10.28: Late weather.

10.30: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.

10.57: To-morrow's programme.

10.59: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.

11.30: National Anthem. Close.

2GB

10.0: Music. 10.10: Happiness Talk by A. E. Bennett. 10.20: Music. 10.30: Women's Session by Miss Helen J. Beegling. 11.45: Close down. 2.0: Music. 2.5: Women's Radio Service by Mrs. Dorothy Jordan. 2.50: Music. 3.30: Close down. 5.30: Children's session by Uncle George. 7.0: Music. 7.30: Talk by Mrs. Jordan. 8.0: Miss Hilda Boyle, soprano. 8.7: Violin solos. 8.15: Mr. Scott Fox, baritone. 8.22: Instrumental music. 8.30: Humorous Interlude by Mr. Jack Winn and Mr. Heath Burdock. 8.35: Miss Vera Winn, contralto. 8.45: Address. 9.0: Weather report. 9.3: Violin solos. 9.13: Miss Hilda Boyle and Mr. Scott Fox, vocal duet. 9.18: Humorous interlude by Mr. Jack Winn and Mr. Heath Burdock. 9.23: Instrumental music. 9.30: Miss Vera Winn. 9.40: Band selection. 9.45: Miss Hilda Boyle. 9.50: Band selection. 9.55: Mr. Scott Fox, baritone. 10.0: Orchestral music. 10.30: Close down.

2UW

MIDDAY SESSION.

12.30: Request numbers. 1.0: G.P.O. clock and chimes; music. 1.15: Talk on homecraft by Pandora. 1.40: Music and request numbers. 2.30: Close down. 4.30: Musical programme.

EVENING SESSION.

5.30: Children's hour, conducted by Uncle Jack. 6.30: Close down. 7.0: G.P.O. clock and chimes; request numbers. 7.45: Wireless talk; hints and advice by Mr. E. Homfray. 8.0: Music. 9.0: G.P.O. clock and chimes; comments on foreign affairs by Mrs. J. M. Prentice. 9.10: Music and request numbers. 10.30: Close down.

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Interstate Programmes, Monday, June 10

3LO

EARLY MORNING SESSION.

7.15 to 8.15: See Friday.

MORNING SESSION.
11.0: 3LO's breakfast dish, Egg Toast. 11.15: Miss Olga Parker will speak on "Stories to Tell the Children: Some Came Men Stories." 11.25: Miss Doreen Berry will speak on "Monie Carlo: Where Fortunes are Won—and Lost." 11.45: Miss I. V. Crawford will speak on "Practical Psychology."

MIDDAY SESSION.

12.0: Melbourne Observatory time signal. 12.1: British official wireless news from Rugby; Reuter's and the Australian Press Association cables; "Argus" news service. 12.15: Newmarket stock sales; entries for the market for Tuesday, Wednesday, and Thurs, day, by the Associated Stock and Station Agents, Bourke Street, Melbourne. 12.20: Community singing conductor, G. V. Mackay; Ern. Hall's Radio Revelers, with Hugh Huxham, the James Girls, Bert Ray. 12.40: Stock Exchange information; prices received by the Australian Mines and Metals Association from the London Stock Exchange this day. 12.43: Community singing resumed. 1.45: Meteorological information; weather forecast for Victoria, New South Wales, South Australia, and Tasmania; ocean forecasts, river reports; rainfall. 2.0: Close down.

AFTERNOON SESSION.

2.15: The Station Orchestra—"Italian Scenes" (Hall). "Funfouli" (Klor). 2.25: Ciella Genoni M'Neill, soprano—Selections from Italian Opera. 2.32: The Station Orchestra—Selection, "I Lombardi" (Verdi). 2.42: Russell Callow, tenor—"Spirito Gentil" (Donizetti). "I Dream" (Schira). 2.50: The Station Orchestra—Selection, "A Day in Naples" (Byng). 3.0: The Jedal Trio (Alva Hattenbach, violin; Edna Hattenbach, cello; John Simons, piano)—John Simons, piano, (a) "Sonata," (b) "Bird Song," (c) "The Sea" (Paimpre), the trio, (a) "Morning" from "Peer Gynt," Suite (Grieg), (b) "The Wood Nymph" (Lind), (c) "Song of the Mountains" (Grieg); Alva Hattenbach, violin, "Berceuse" (For Aull); the Trio, "Arietta" (Grieg). 3.30: The Station Orchestra—Selection, "Merrie England," second selection (German). "Nell Gwynne" (German). 3.45: Russell Callow, tenor—"Dreams of Long Ago" (Garuso); "Nita Gilana" (Newman). 3.52: The Station Orchestra—Suite, "English Folk Songs" (Williams); suite, "My Native Heath" (Wood). 4.8: Madoline Knight, contralto, Old-time Ballads. 4.15: The Station Orchestra—Selection, "The Lady" (Talbot). 4.25: Ciella Genoni M'Neill, soprano—"Good Day, Suzanne" (Delibes). "Your Eyes" (Rabey). 4.32: The Station Orchestra, selection. 4.40: Madoline Knight, contralto—"At Dawning" (Cushman). "Bird Songs of Enevilde" (Coates). 4.47: "Herald" news service; Stock Exchange information; acceptances and barrier positions for the Mentone races to be held on Wednesday. 5.0: Close down.

CHILDREN'S HOUR.

6.0: Birthday greetings and answers to letters by "Billy Bunny." Musical interlude. 6.30: Captain Donald MacLean will tell another of his famous pirate stories. 6.50: "Billy Bunny" will entertain the little ones.

EVENING SESSION.

7.15: Stock Exchange information. 7.15: Market reports. 7.30: 7.43: Birthday greetings. 7.45: Out of the Past. 7.46: Under the auspices of the Department of Agriculture, S. A. Cook, Viticulturist, will speak on "Control of Pests in the Citrus Grove."

NIGHT SESSION.

8.0: Programme announcements.
8.1: Melbourne Banjo Club—Opening numbers, "Jeannine," "True Blue." Banjo solo, selected (William J. Wynne).
8.12: Madoline Knight, contralto—"Bird Songs of Two Negro Spirituals."
8.19: Melbourne Banjo Club—Saxophone walk, "Tm Wings' Home." Fifteen Minutes of Privity.
8.43: Melbourne Banjo Club—A Banjo Trio, "Doll." Selected.
8.50: The Royal Victorian Liedertafel (Conductor, J. Sutton Crow; Pianist, Lindsay Biggins, Part Song, "Ring Out, Wild Bells" (Fletcher). Unaccompanied Part Song—"Holy Night" (Beethoven). "As the Gloaming" (MacDowell). Descriptive Part Song—"Martyrs of the Arena" (De Rilje). Unaccompanied Part Song—"Die Vesper" (Beethoven). "Absence" (Hatten). "Highland War Song" (MacFarren).
9.20: Ciella Genoni M'Neill, soprano—Selections from the Italian Operas.
9.27: Melbourne Banjo Club—"Some Day, Some Day." "All by Yourself in the Moonlight."
9.37: Bert Ray, comedian—"My Old Man." "Who I Am."
9.44: Melbourne Banjo Club—"Tin Pan Parade." "Rio Rita."
9.55: Bert Ray, comedian—"Buttercups." "The Gipsy Warned Me."
10.0: News service—British official wireless news from Rugby; meteorological information; announcement.
SCHUBERT PROGRAMME.
10.10: Lindsay Biggins, piano—"Impromptu G Minor." "Impromptu C Minor." "Moment Musical, A Flat Major." "Moment Musical, F Minor." "Moment Musical, C Sharp Minor."

10.35: Ciella Genoni M'Neill, soprano—Selections from her repertoire.
10.42: Melbourne Banjo Club—"The Banjo Band" will play their latest numbers.
10.48: Ern. Hall's Radio Revelers—"She's Got a Great Big Army of Friends" (Nelson). "Quelida" (Simson). "Falling in Love with You" (Mayne). "I Love to Dunk a Hunk of Sponge Cake" (Castill). "Sweet Sue, Just You" (Harris). "Roses of Yesterday" (Berlin). "The Voice of the Southland" (Austin). "My Heaven is Home" (Collin). "Pickin' Cotton" (Henderson).
11.30: God Save the King.

3AR

MORNING SESSION.

10.0 to 10.59: See Friday.

MORNING MUSICAL SESSION.

11.0: Selections. 12.20: British official wireless news; announcements. 12.30: Close down

AFTERNOON SESSION.

3.0: Selections. 4.30: Close down.

EVENING SESSION.

6.0: Selections. 6.30: The Jedal Trio (Alva Hattenbach, violin; Edna Hattenbach, cello; and John Simons, piano), "Adagio Pathetique" (Beethoven). "Moorish Night Song" (Rasch). "Serenade" (Gounod); violin solo, "Air" (Gluck), "On Wings of Song" (Mendelssohn); trio, "Reverie" (Schumann), "Gavotte" (Bach). 7.15: News service; acceptances and barrier positions for Mentone races on Wednesday. 7.20: Selections.

NIGHT SESSION.

8.0: E. C. H. Taylor will speak on "School, Life and School Sport."
8.15: Under the auspices of the League of Nations Union Professor D. B. Copland will speak on "The Present Stage of the Reparation Discussion."
8.30: Kathleen Lascelles will speak on "The Art of Dancing."
8.40: Did You Know That?
8.41: The Station Orchestra—Selection, "The Southern Maid" (Simson). "Souvenir" (Herbert).
8.55: Freda Trewek, mezzo-soprano—"My Beautiful Lady" (The Pink Lady). "Love's Own" (High Jinks).
9.2: The Station Orchestra—Selection, "The Lido Lady" (Rogers).
9.12: One-act play, "The Rehearsal"—He: Maurice Dudley. She: Mrs. Maurice Dudley. Scene: Any Room Anywhere.
9.32: The Station Orchestra—Selection, "I Lombardi" (Verdi).
9.45: Herold Kyng, basso cantante—Selections from his repertoire.
9.55: The Station Orchestra—Suite, "Summer Days" (Coates). "Little Serenade" (Gruenfeld).
10.5: Freda Trewek, mezzo-soprano—"The Indian Love Call" (Jose Marie). "My Life is Love" ("Maid of the Mountains").
10.12: The Station Orchestra—"The Magic Ring" (Levey).
10.22: News service; announcements.
10.30: God Save the King.

4QG

For early morning, morning, midday, afternoon, and early evening sessions, see Friday.
7.45: Lecturette, Talk on "Pig Raising," by Mr. E. J. Shelton (Senior Instructor in Pig Raising).

NIGHT SESSION.

8.0: From the Studio: The Studio Orchestra—Overture, "The Gay Sultan" (Bres).
8.8: Claude Walker—Ten minutes with Henry Lawson.
8.18: Doris M'Innes (soprano)—"The Valley of Roses" (Wood).
8.22: A Thought on "Pig Raising" (Will H. Lister)—"An Empire—A Kingdom."
8.27: The Studio Orchestra—March, "Cross the Rockies" (Morse).
8.30: Bert Harrow and Fred Monument—Another Argument.
8.45: Doris M'Innes (soprano)—"Boning" (Seredy).
8.50: Arthur Sharman (pianist). Selected.
8.55: The Honolulu Serenaders, Hawaiian music.
9.0: Metropolitan Weather Forecast.
9.1: The Studio Orchestra—Selection, "Operatic Strains" (Seredy).
9.8: Ellen Crowe (soprano)—"Spring Time" (Trindelli).
9.12: Harry Collins, with the Orchestra.
9.22: The Honolulu Serenaders, Hawaiian Music.
9.30: The Albert Trio—A quarter of an hour's music and mirth.
9.45: Ellen Crowe (soprano)—"Cupid Passes By" (Oliver).
9.50: The Honolulu Serenaders—Ten minutes' Hawaiian Music.
10.0: News: Weather. Close down.

5CL

MORNING SESSION.

11.0 to 2.0: See Friday.

AFTERNOON SESSION.

3.0: Chimes. 3.1: Station Quartette. 3.11: Violet Jackson, soprano. 3.18: William Davey, xylophonist. 3.23: Jack Burgess, entertainer. 3.30: Station Quar-

lette. 3.42: Meta Riedel, contralto. 3.49: Arthur Douglas, Scotch comedian. 3.54: Herbert King, tenor. 4.0: Chimes. 4.1: Station Quartette. 4.2: Violet Jackson, soprano. 4.12: William Davey, xylophonist. 4.18: Jack Burgess, entertainer. 4.31: Station Quartette. 4.31: Meta Riedel, contralto. 4.37: Arthur Douglas, Scotch comedian. 4.42: Herbert King, tenor. 4.49: Station Quartette. 4.51: Exchange information. 5.0: Chimes. Close down.

EVENING SESSION.

6.0 to 7.30: See Friday.

NIGHT SESSION.

8.0: Chimes. 8.1: Holden's Silver Band, conducted by Oswald Sumnerston. "Song of Australia." Overture, "Gems from Overtures" (Hawkins). March, "The Flying Squad" (Ord Rume). 8.11: Reg. Harris, tenor. "An Evening Song" (Blumenthal). "Bloom is from the American" (Blahop). 8.18: Arthur Douglas, Scotch comedian. 8.24: Helena Fisher, violiniste. (Miss Fisher will play on a genuine Strad, violin, dated 1859) "On Wings of Song" (Mendelssohn). 8.32: Rita Watson, contralto. "The Cleaners' Sumer Song" (Waltbow). "My Prayer" (Squire). 8.39: Holden's Silver Band. Valse, "Ecstasy." "Duet, Naniama" (Greenwood). Two-step, "The Cuckoos" (Lilting). 8.48: Mostyn Skinner, baritone. "To Anthes" (Hulton). "A Deonchis, Deonchis" (H. Loyal Phillipps). 8.55: Phil Yeatman, glockenspiel. 9.0: G.P.O. chimes. 9.1: Meteorological information, including temperature tides. 9.2: Overseas grain report. 9.3: Violet Jackson, soprano. 9.8: Holden's Silver Band. Selection, "Lightning Switch" (Alford). 9.21: Reg. Harris, tenor. "Lolita" (Poccia). "Mascuila" (MacMurrough). 9.27: Arthur Douglas, Scotch comedian. 9.33: Helena Fisher, violiniste. "Caprice Viennois" (Kreiser). "Minuet" (Pors). 9.38: Rita Watson, contralto. "The Dreary Steppes" (Gretchaninoff). "T Love a Little Cottage" (O'Hara). 9.45: Holden's Silver Band. "Dreary Steppes" (Gretchaninoff). Song number, "Sunshine" (Berlin). 9.51: Mostyn Skinner, baritone. "Black Roses" (Sibelius). "Prologue" from "Pagliacci" (Leoncavallo). 9.59: Phil Yeatman, glockenspiel. Selected. 10.3: Violet Jackson, soprano. 10.9: Holden's Silver Band. "Medley" by Mrs. M. Cowie of the Good Quick-step, "Voice of the Guns" (Alford). 10.15: News session. 10.30: Modern dance records. 11.0: Close down.

6WF

10.0: Tune in Gramophone and phonograph records from the studio. 11.0: Close down. 11.2: Tune in 12.35: Markets, news, etc. 1.0: Time signal. 1.3: Panatropé concert, relayed from Mack Musgrove's, Ltd., Lyric Music, Perth. 2.0: Close down.

3.30: Tune in 3.35: Musical programme, relayed from the Carlton Cafe. 4.30: Close down. 6.45: Tune in 6.48: Bedtime stories by E. Duffy. 7.5: Light music from the Carlton Cafe, consisting of Mr. A. Lynch, violin; Mr. R. Bruce, cello; Mr. H. Shirley, piano. 7.0: Commercial general information. 7.45: Talk by Lieut.-Colonel Le Souef, Director, Zoological Gardens, South Sea. 8.0: Time signal. 8.1: First weather bulletin. 11. Artists from the studio: Items by Miss Zippa Newman, violinist; Miss Audrey Dean, pianist; 11. "Mystery" by Mrs. M. Cowie of the Good Touring Co. 8.50: Late news, by courtesy of the "Daily News" Newspaper Co., Ltd.; station announcements; rhinos within range announced; late weather bulletin. 9.5: A relay from His Majesty's Theatre of concert by the Metropolitan G-men, conducted by Mr. A. J. Leckie, Mus. B. H. "God Save the King."

10.4 METRE TRANSMISSION.
Simultaneous broadcast on 104.5 metres of programme given on 1250 metres, commencing at 10 p.m.

7ZL

MIDDAY SESSION.

11.30 to 1.30: See Friday.

AFTERNOON SESSION.

3.0 to 4.30: See Friday.

EARLY EVENING SESSION.

6.15: Selections. 6.20: "Uncle David." 7.4: Answers to letters and birthday greetings. 7.15: News service. Railway auction produce sales held at Railway, Tasmanian district weather report; announcements.

EVENING SESSION.

7.30: Under the auspices of the Tasmanian University, A. I. Davern will speak on "The Book of Literature." 7.45: Miss Charly Wynne, teacher of dancing, will speak on "Dancing, the Road to Health." 8.15: A concert programme arranged by Madame Helen George. 9.50: News session. News service. British official wireless news. Tasmanian district weather report. 10.0: Chimes. 10.1: Close down.

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Local Programmes, Tuesday, June 11

2FC

EARLY MORNING SESSION.

Announcer: A. S. Cochrane.

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

MORNING SESSION.

Announcer: A. S. Cochrane.

10.0: "Big Ben" and announcements. 10.2: Pianoforte reproduction. 10.10: "Sydney Morning Herald" news service. 10.25: Studio music. 10.30: Last minute sporting information by the 2FC Racing Commissioner. 10.40: Studio music. 10.50: Pianoforte reproduction. 11.0: "Big Ben." A.P.A. and Reuter's Cable services. 11.5: Close down.

MIDDAY SESSION.

Announcer: A. S. Cochrane.

Note: Race results from Menangle will be transmitted as received. 12.0: "Big Ben" and announcements. 12.2: Stock Exchange, first call. 12.3: Official weather forecast; rainfall. 12.5: Summary of news: "Sydney Morning Herald." 12.10: Rugby Wireless news. 12.13: A reading. 12.30: Studio music. 1.0: "Big Ben." Weather intelligence. 1.3: "Evening News" midday news service. 1.15: Producers Distributing Society's market report. 1.20: Studio music. 1.28: Stock Exchange, second call. 1.30: Popular Studio music. 2.0: "Big Ben." Close.

AFTERNOON SESSION.

Announcer: Laurence Halbert.

Accompanist: Ewart Chapple.

2.30: Programme announcements. 2.32: The Book Lover's Corner. 3.0: "Big Ben." Popular music. 3.30: Betty Armstrong, soprano—(a) "A Dream" (Bartlett), (b) "Elegie" (Massenet). 3.37: Studio items. 3.45: A reading. 4.10: Betty Armstrong, soprano—(a) "Ouvre Tes Yeux Bleus" (Massenet), (b) "Mattinata" (Leoncavallo). 4.17: Studio Music. 4.30: J. G. Lockley will continue his series, "Remember." 4.45: Stock Exchange, third call. 5.0: "Big Ben," Close.

EARLY EVENING SESSION.

Announcer: A. S. Cochrane.

5.40: The chimes of 2FC. 5.45: The Children's Session, conducted by the "Hello Man" assisted by Aunt Eily. Letters and stories. Music and entertainment. 6.30: Dalgety's market reports (wool, wheat, and stock). 6.40: Fruit and vegetable markets. 6.43: Stock Exchange information. 6.48: Weather and shipping news. 6.50: Rugby Wireless news. 6.55: Late sporting news. 7.0: "Big Ben." Late news service. 7.10: The 2FC Dinner Quartette, conducted by Horace Keats—(a) "Forest Fancies" (Haines), (b) "The Count of Luxembourg" (Lehar), (c) "Deep River" (Fischer), (d) "An Eastern Romance" (Haines), (e) "Gavotte" (Gossec).

EVENING SESSION.

Announcer: Laurence Halbert.

Accompanist: Ewart Chapple.

7.40: Popular music. 7.45: Programme announcements. 7.48: A Record Recital. 8.0: N.S.W. Tramway Band, conducted by J. J. Heron. 8.20: Franco Izal, baritone—(a) "Ave Maria" (Luzzi), (b) "My Boy" (Foster). 8.27: Dagmar Roberts, pianist—(a) "Intrata" (Bach), (b) "Capriccio" (Scarlatti), (c) "Rondo from Sonata in D Minor" (Beethoven). 8.37: Gladys Fimister, soprano. 8.44: C. N. Baeyertz, will continue his series "Great Writers I Have Met—Frank Anstey." 9.0: "Big Ben." Weather report. 9.1: N.S.W. Tramway Band, conducted by J. J. Heron. 9.16: Franco Izal, baritone—(a) "Only the River Running By," (b) "Sinsiros" (Laurige). 9.23: Dagmar Roberts, pianist—(a) "Valse Melancholique" (Rebikoff), (b) "Danse Orientale" (Rebikoff).



Gerald Walenn, violinist, who will be heard from 2BL at 8.5 to-night.

(c) "Prelude" (Arensky).

(d) "Three Mazurkas" (Chopin).

9.33: Gladys Fimister, soprano.

9.40: N.S.W. Tramway Band, conducted by J. J. Heron.

10.0: "Big Ben." From St. Andrew's College, University of Sydney—Dance Music by Cec. Morrison's Band.

10.12: From the Studio—Late "Evening News" service.

10.20: From St. Andrew's College, University of Sydney—Dance Music by Cec. Morrison's Band.

10.28: From the Studio: Late weather report.

10.30: From St. Andrew's College—Cec. Morrison's Dance Band.

10.57: To-morrow's programme.

10.59: From St. Andrew's College—Cec. Morrison's Dance Band.

11.30: National Anthem. Close.

2BL

MORNING SESSION.

Announcer: A. C. C. Stevens.

8.0: G.P.O. chimes. Weather report—State and Metropolitan. 8.3: Studio music. 8.15: News and information service from the "Daily Telegraph Pictorial." 8.45: Studio music. 9.30: G.P.O. chimes. Half an hour with silent friends. 10.0: G.P.O. chimes. Close down.

MIDDAY SESSION.

Announcer: A. C. C. Stevens.

11.0: G.P.O. chimes. 2BL Women's Sports Association Session, conducted by Miss Gwen Varley. 11.30: Advertising hints. 11.40: Women's Session, conducted by Mrs. Cranfield. Talk on "The Work of the St. John Ambulance Association," by Sister Parry. 12.0: G.P.O. chimes. Special ocean forecast and weather report. 12.3: Studio music. 12.30: Shipping and mails. 12.35: Market reports. 12.48: "Sun" midday news service. 1.0: Studio music. 1.30: Talk to children and special entertainment for children in hospital, by Uncle "Steve." 2.0: G.P.O. chimes. Close down. Note: Race results from Menangle will be broadcast by arrangement with "Sun" Newspapers, Ltd.

AFTERNOON SESSION.

Announcer: A. C. C. Stevens.

Accompanist: Kathleen Roe.

3.45: G.P.O. chimes. Popular music. 3.50: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 4.0: G.P.O. chimes.

AMPLIFICATION!!!!

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Frederick Todd, basso. 4.7: "Sun" news service. 4.10: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 4.20: From the Studio—Nellie Ferguson, songs at the piano—(a) "Is it Safe" (Searson), (b) "Simple Little String" (Monckton). 4.27: Studio items. 4.43: Frederick Todd, basso. 4.50: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 5.0: G.P.O. chimes. Nellie Ferguson, songs at the piano—(a) "Bells" (Johnson), (b) "Bedtime at the Zoo" (Mayne). 5.7: Pianoforte reproduction. 5.17: Studio music. 5.34: Racing resume. 5.37: Features of the evening programme.

EARLY EVENING SESSION.

Announcer: Basil Klrke.

5.40: Children's Session, conducted by Uncle Bas. Music and entertainment. Letters and stories. 6.0: Mr. Norman speaks to the "Bigger Boys." 6.45: "Sun" news and late sporting. 6.55: 2BL Dinner Quartette—(a) "Gretchen" (Martin), (b) "Dream Visions" (Glynn), (c) "Cavalleria Rusticana" (Mascagni), (d) "Elegy" (Massenet), (e) "Chanson Napolitaine" (d'Ambrosio). 7.7: 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"). Mr. Pim and Miss Pam in advertising talks, handy hints, and nonsense. 7.53: An ad. special. 7.55: Programme and other announcements.

EVENING SESSION.

Announcer and accompanist: G. Vera Barnett.

8.0: G.P.O. Chimes. Conservatorium String Quartette.

8.15: Amy Firth, mezzo.

8.22: Gladstone Bell, cellist.

8.32: Conservatorium String Quartette.

8.47: Peter Sutherland, basso.

8.54: Gerald Walenn, violinist.

9.2: Weather report.

9.3: Vera Keogh—Impressions of famous plays: "I Algon," Sarah Bernhardt and Titell Brune.

9.18: Amy Firth, mezzo.

9.25: Conservatorium String Quartette.

9.40: Peter Sutherland, basso.

9.47: Conservatorium String Quartette.

9.57: Late "Sun" news service.

10.10: Recital of celebrity records.

10.28: To-morrow's programme.

10.30: National Anthem. Close.

2GB

10.0: Music. 10.10: Happiness Talk by A. E. Bennett. 10.20: Music. 10.30: Women's Session by Miss Helen J. Beeding. 11.45: Close down. 2.0: Music. 2.5: Women's Radio Service, Mrs. Dorothy Jordan. 2.50: Music. 3.30: Close down. 5.30: Children's Session by Uncle George, Movie Know All. 7.0: Music. 7.30: Talk from the Radio Service Department by Mr. Stan. Critchenden. 8.0: Miss Florence Day, contralto. 8.7: Instrumental Quartet. 8.15: Mr. Cecil Chaseling, baritone. 8.22: Madame Bets-Vincent in an illustrated talk on the making of music. 8.37: Miss Gladys Verona, soprano. 8.47: Cello solos. 8.52: Miss Florence Day, contralto. 9.0: Weather report. 9.3: Address. 9.15: Band selections. 9.25: Mr. Cecil Chaseling, baritone. 9.35: Humorous Interlude by Mr. Jack Win and Mr. Heath Burdock. 9.40: Instrumental Trio. 9.50: Miss Gladys Verona. 10.0: Humorous Interlude by Mr. Jack Win and Mr. Heath Burdock. 10.5: Orchestra music. 10.30: Close down.

2UW

MIDDAY SESSION.

12.30: Request numbers. 1.0: G.P.O. clock and chimes; music. 1.15: Talk on home-craft, by Pandora. 1.40: Music and request numbers. 2.30: Close down. 4.30: Musical programme.

EVENING SESSION.

5.30: Children's hour, conducted by Uncle Jack. 6.30: Close down. 7.0: G.P.O. clock and chimes; request numbers. 8.0: Music. 9.0: G.P.O. clock and chimes; comments on foreign affairs, by Mr. J. M. Prentice. 9.10: Music and request numbers. 10.30: Close down.

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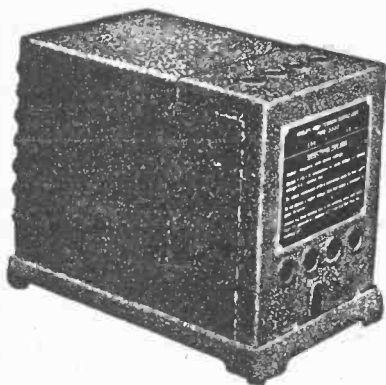
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Interstate Programmes, Tuesday, June 11

3LO

EARLY MORNING SESSION

7.10 to 8.15: See Friday.
MORNING SESSION.
 11.0: Lamb cutlets and green peas. 11.55: Miss E. Noble will speak on "Gas Cookery." 11.25: Mrs. Dorothy Silk will speak on "Homecrafts." 11.45: Miss Rose Brown will speak on "Recollections of Rolf Boldrewood."

MIDDAY NEWS SESSION.

12.0: Melbourne Observatory time signal. 12.1: British official wireless news from Rugby; Reuters and the Australian Press Association cables; "Argus" news service. 12.15: Newmarket stock sales; official report of the sheep market, by the Associated Stock and Station Agents, Bourke Street, Melbourne.

LUNCHEON MUSIC.

12.20: The Station Orchestra. "Summer Days" (Coates). 12.30: Ciella Genoni M'Neill, soprano, selections from opera. 12.37: Stock Exchange information; prices received by the Australian Mines and Metals Association from the London Stock Exchange this day. 12.45: The Jedral Trio (Alva Hattenbach violin, Edna Hattenbach cello, John Simons piano). (a) "Nocturne" (Field). (b) "Bourree" (Bach). (c) "Menuetto" (Gluck); John Simons, piano. (a) "Air" (Rameau). (b) "Rigaudon" and "Gigue" (Rameau). (c) The Trio. (a) "Ronde" (Mozart). (b) "Valse des Fleurs" (Tschalkowsky). 1.10: Meteorological information; weather forecast for Victoria, New South Wales, South Australia, and Tasmania; ocean forecasts; river reports; rainfall. 1.15: The James Girls, in humor and harmony. 1.30: The Station Orchestra. "Little Serenade" (Grundfeldt). 1.35: Ciella Genoni M'Neill, soprano, request items. 1.42: The Station Orchestra, selection, "The Magic Ring" (Levey). 1.50: Close down.

AFTERNOON SESSION.

2.15: The Radio Revelers. "It All Comes Out in the Wash" (Australia and Rio) (Pierney). "The Kink-a-Jou" (Tjerney). "My Mother's Eyes" (Baker). "Next to Me I Like Me Next to You" (Blitz). 2.30: Madeline Knight, contralto. "Give Each Rose a Garden" (Ager). "Pixie Piper Man" (Elliott). 2.37: The Radio Revelers. "Anywhere is Heaven" (Brady). "Down Where the Sun Goes Down" (Jones). "Can You Blame Me?" (Goodwin). "I Want to be Alone with Mary Brown" (Leslie). 2.50: Tom Semple, tenor. "Love, I Have Won You" (Landon Ronald), selected. 2.55: The Radio Revelers. "Ya Comin' Up To-night" (Euh). (Lewis). "Forty-seven Ginger-headed Sailors" (Sarony). "High Tension." "A Bungalow, a Radio, and You" (Dempsey). 3.10: O. G. Manzoni, mandoline. 3.17: The Radio Revelers. "My Heart Stood Still" (Rodgers). "Give Your Baby Lots of Lovin'" (Burke). "When You Know Me" (Baden). "I'm Thirsty for Kisses" (Davis). 3.30: Bert Ray, comedian. "Looking Back to the Two Sweethearts." 3.57: The Radio Revelers. "I'm Sorry, Sally" (Kahn). "My Blackbirds are Bluebirds Now" (Friend). "Casanella" (Evans). "Cradle of Love" (Wayne). 3.59: Madoline Knight, contralto. "Home Town" (Mackenzie). "Wondering Why" (Clarke). 3.57: The Radio Revelers. "Oh, Isabella" (Schuster). "Sweet Forget-me-nots" (Lorenzo). "Pansies" (Nichols). "You Ought to Hear Olaf Laff" (Baer). 4.10: Tom Semple, tenor. 4.17: The Radio Revelers. "Mexico" (Harris). "The Old Front Gate" (Kassal). "I Don't Know Why I Do It" (Val). 4.26: O. G. Manzoni, mandoline. 4.33: The Radio Revelers. "Hum and Strum" (Mayers). "Maybe I'm Wrong" (Harris). "Constantinople" (Carlton). 4.42: Bert Ray, comedian. "Aching Heart." "Boubles." 4.50: "Herald" news service; Stock Exchange information. 5.0: Close down.

CHILDREN'S HOUR.

6.0: "Bobby Bluegun," answers to letters and birthday greetings. 6.30: Captain Donald MacLean will continue his series of adventure stories for boys. 6.45: "Little Miss Kookaburra" has a story for the little ones.
EVENING SESSION.
 7.15: Market reports. 7.30: "The News" (7.42). "Biday" greetings. 7.45: "Out of the Past." 7.48: Dr. K. S. Cunningham, M.A., Ph.D., Dip.Ed., Lecturer in Psychology, Logic, and Ethics at the University of Child Welfare Needs in Victoria. 8.0: "A Maker of History."

NIGHT SESSION.

8.1: Programme announcements.
 8.2: Victorian Railways Institute Orchestra. Overture, "Merry Wives of Windsor" (Nicolai). 8.15: Herold Kyng, basso cantante. Selections from his repertoire.
 8.25: Victorian Railways Institute Orchestra. "Valse," "Beautiful Danube" (Strauss).
 8.35: The "James Girls," in mirth and melody.
 8.50: Victorian Railways Institute Orchestra. Intermezzo, "Pop" (Ross).
 March, "Pomp and Circumstance, No. 2" (Elgar).
 9.0: Transmission from Auburn Methodist Church, Auburn Methodist Church Choir (organist and conductor, J. Sutton Crow).
 Organ, "Fantasia Sonatas, In A Flat," first movement (Rheinberger), J. Sutton Crow.
 Contralto, "O Lord Thou Has Searched Me Out" (Syll Shaw).
 Baritone, "It Is Enough," from "The Elijah" (Mendelssohn).
 Organ, (a) "Andante in E Flat," (b) "Allegro in G" (Mendelssohn), J. Sutton Crow.
 Soprano, "Elizabeth's Prayer," from "Tannhauser" (Wagner), Syll Shaw.
 Contralto, (a) "Thanks Be to God" (Dixon), (b) "Ships that Pass in the Night" (Stephenson), Syll Shaw.
 Organ, "Andante in B Flat" (Dussec), J. Sutton Crow.
 Baritone, "O That We Two Were Young" (Nevin), Alan Eddy.
 Soprano, "Evening" (Ronald), Stella Dredge.

10.0: News service; meteorological information; British official wireless news, from Rugby; Eric Welch's selections for the Mentone races. 10.10: Victorian Railways Institute Orchestra. 10.20: Madoline Knight, contralto. Old-time ballads.
 10.27: The Jedral Trio (Alva Hattenbach violin, Edna Hattenbach cello, John Simons piano). (a) "Serenade" (Widor). (b) "Menuetti" (Beethoven). (c) "Dancing Doll" (Poldini).
 Alva Hattenbach, violin. (a) "Awakening of Spring" (Hattenbach). (b) "Lullaby" (Hattenbach).
 The Trio. (a) "Song of the Mountains" (Grieg). (b) "March Miniature" (Kreisler).
 10.47: Madoline Knight, contralto. Old-time ballads.
 10.55: The Radio Revelers, with Hugh Huxham. "Weavers the Cot-Cot-Cotton Grows" (Klein). "Cinnamon Cake" (Bernard). "My Fleurette" (Kimbrough). "Avalon Town" (Brown). "Shake That Thing" (Jackson). "Glad Rag Doll" (Ager). "You Are Wonderful" (Ash). "There Ought to be a Law Against That" (Friend). "The Rose of Planders" (O'Hagan). "Oh, Ya, Ya" (Kring).
 11.30: God Save the King.

3AR

10.0 to 10.59: See Friday.

MORNING MUSICAL SESSION.

11.0: Selections. 12.30: British official wireless news; announcements. 12.30: Close down.

AFTERNOON SESSION.

3.0: Selections. 3.15: The Strat Trio (Cecil Parkes, violin; Myra Montague piano; and Frank Johnston, cello)—Trio, "Trio Op. 11, B Flat" (Beethoven), allegro con moto, adagio, allegretto. 3.44: Cecil Parkes, violin—"Sonata, E Major" (Handel). 4.4. Frank Johnston, cello—"Melody" (Charpentier). "Guitar" (Popper). 4.20: The Strat Trio—Trio, "Fing'ring Song" (Hill-Parkes). "Blue Lagoon" (Millocker-Parkes). "The Four Waltz" (Coleridge-Taylor). 4.30: Close down.

EVENING SESSION.

6.0: Selections. 7.10: News service; announcements. 7.20: Selections.

NIGHT SESSION.

8.0: Under the auspices of the Numismatic Society of Victoria, A. S. Kenyon will speak on "The Coins of Germany and Austria." 8.15: A. G. Kelson will speak on "Postage Stamps." 8.30: Did you know that? 8.31: The Station Orchestra—Suite, "A Day in Naples" (Byng). 8.40: Bert Ray, comedian, "The Man in the Motor Car." 8.47: The Station Orchestra—Selection, "Undine" (Lortzing). 8.57: The Philharmonic Society (conductor, R. J. Oehr). 9.10: The Station Orchestra—Selection, "Mirella" (Gounod). 9.23: Ciella Genoni M'Neill, soprano, selection from Italian opera. 9.30: Transmission from the Victory Theatre, St. Kilda—the Theatre Orchestra, under the baton of Henri Penn. 10.20: News service; announcements; Eric Welch's selections for the Mentone races, to be held on Wednesday, 12th instant. 10.30: God Save the King.

4QG

For early morning, morning, midday, afternoon, and early evening sessions, see Friday.
 7.45: Lecture, "Talk on Sheep and Wool," Mr. J. Carow, senior Instructor in Sheep Raising.

NIGHT SESSION.

8.0: A classical programme by Mr. Archie Day's party.—Beatrice Pugh (soprano). "Eur Dicesti" (Lotti). "Vol lo Sapete" (Mascagni). Archie Day (pianist). "First Movement, Sonata, E Major" (Beethoven). Fred Homer (baritone). "Adown the Years" (Wilhelmy). "The Sea Hath Its Pearls" (M. V. White). "At Tankerton Inn" (Howard Fisher). Morris Cran (violinist). "Air on G String" (Matheson).

POWER BOOSTER

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"L'Abelle" (Schubert).
 Beatrice Pugh (soprano) and Fred Homer (baritone).
 Vocal duet. Selected.
 Beatrice Pugh (soprano)—"Ave Maria" (Schubert). "The Wind" (Spross).
 Morris Cran (violinist)—"Orientale" (Cesar Cul).
 Fred Homer (baritone)—"Silent Noon" (Vaughan-Williams). "Bright is the Ring of Words" (Vaughan-Williams).
 Morris Cran (violinist) and Archie Day (pianist)—Duet for Violin and Piano, "Sonata No. 7" (Mozart).
 9.0: Metropolitan Weather Forecast.
 9.1: The Studio Orpheans—"Sally in Our Alley" (Gray). Dorothy Sanders (soprano)—"On the Sea" (Handel). "My Message" (d'Ardeois). J. P. Cornwell (bass)—"Before the Dawn" (Lang). "Salam" (Lang). George Williamsson (tenor)—"How Vain is Man Who Boasts in Fight" (Juda Maccaeus). Ray Bruce, C. Rice, and F. Crane—Vocal Trio, "May Morning" (Pieltow). Francis Lane (soubrette)—"There's a Rainbow" (Al Johnson). Studio Orpheans—"Heroes and Gentlemen" (Peskett). E. Harper (baritone)—"Why Shouldn't I?" (Russell). A. Theobald for To-night (Will H. Lister)—"The Urge of Ambition." C. Rice (tenor)—"An Evening Song" (Blumenthal). Tom Muller and the Orpheans—"Oh, Use Tired" (Strong). The Studio Orpheans—"On the Sea" (Buck). F. Crane (baritone)—"The Devout Lover" (White). Ray Bruce (tenor)—"Someday, Somewhere" (Rapee). G. Williamsson, E. Harper, and J. P. Cornwell—Vocal Trio, "Come if You Dare" (from "Eugene Arthur," Purcell (1658-95)). Irene Eplimantova (contralto)—"You've Got Your Mother's Eyes" (Drummond). C. Rice (tenor)—"My Little Banjo" (Dichmont). Francis Lane and the Orpheans—"Lenore" (Cazabon). The Orpheans—"The Bold Gardemars" (Offenbach, 1810-1880). Tom Muller and the Orpheans—"Young Williams" (Browne). Studio Orpheans—"A. J. J. J. J." (Friend). Fred Crane (baritone)—"The Trumpet Call" (Sanderson). "The Studio Orpheans—"Sally." 10.30: News. Weather. "Queenslander" broadcast news service for distant listeners. Close down.

5CL

MORNING SESSION.

11.0 to 2.0: See Friday.
AFTERNOON SESSION.
 3.0: Chimes. 3.1: Red Hot Peppers Dance Band. 3.10: Rev. G. E. Hale, B.A. 3.25: Red Hot Peppers Dance Band. 3.34: Violet Jackson, soprano. 3.41: Arthur Douglas, Scotch comedian. 3.46: Mrs. Lewis Matthews, contralto. 3.53: Red Hot Peppers Dance Band. 4.3: Violet Jackson, soprano. 4.10: Fifteen minutes with Jack Fewster and Tom King. "Elements of Melody." 4.25: Arthur Douglas, Scotch comedian. 4.3: Mrs. Lewis Matthews, contralto. 4.37: Red Hot Peppers Dance Band. 4.43: Violet Jackson, soprano. 4.49: Red Hot Peppers Dance Band. 4.58: Stock Exchange. 5.0: Close down.

EVENING SESSION.

6.0 to 7.40: See Friday.
NIGHT SESSION.
 8.0: Chimes. 8.1: Studio Orchestra—"Overture, "Jolly Robbers" (Suppe). 8.2: Violet Jackson, soprano. 8.15: Arthur Douglas, Scotch comedian. 8.21: Haydn Male Quartette—"The Vintage Song" (Mendelssohn). "Justice" (arr. by Parkes). 8.28: A pianoforte recital by Spruhan Kennedy—Intermezzo No. 1 in E Flat" (E. Brendel-Jones). "Allegro Barbaro" (Bela Bartok). "Erotik" (Grieg). "Hurdy Gurdy Man" (Goossens). "March Orientale" (Granados). "Fantasia Improvptu" (Chopin). 8.45: Fred. Williamsson, tenor—"When My Ships Come Sailing Home" (Deed). "Dear Ye Gullie" (Mc) (Marshall). 8.51: Studio Orchestra—Selection, "The Five O'clock Girl" (Spanish Waltz) (Friml). 9.0: G. F. O. Chimes. 9.1: Meteorological information, including Semaphore tides. 9.2: Overseas grain report. 9.3: Violet Jackson, soprano. 9.10: Arthur Douglas, Scotch comedian. 9.15: Geoff. Goldsworthy, cellist—"Venezuela" (Scott). "Romance" (Davidoff).

- 9.21: The Haydn Male Quartette--
"Lucky Jim" (arr. Parkes).
"Fishing" (arr. Parkes).
- 9.28: Studio Orchestra--
"Malaguena" (Moszkowski).
Melodie, "Pearl o' Mine" (Fletcher).
- 9.38: A Duologue (produced by Jack Ham).
Characters: He, Jack Ham. She, Bessie Francis.
Scene: The hall of a country cottage—a man's
cottage. Through the open door from the
garden a woman comes suddenly. She looks
behind her to see that she is not followed;
round the hall to see that she is alone; then
gets to work. It is a letter she is writing—
one which has just come by post, and should
be waiting here for its owner. Now she is at
the writing desk, and she is no longer alone.
There is a man at the open window watching
her. With a sigh of relief she has picked up
half a dozen letters from the desk, and is
beginning to look through them when he
interrupts her.
- 9.55: Alfred Noske, flautist--
"Graceful Dance" (Lemmone).
"To a Wild Rose" (Terschak).
- 10.0: Fred Williamson, tenor--
"Provence" (Carne).
"Rose Buds" (Drummond).
- 10.7: Studio Orchestra--
Oriental "Chang" (Finck).
March, "The Trumpet Call" (Jalowitz).
- 10.15: General news service.
- 10.30: On with the dance.
- 11.0: Chimes. Close down.

6WF

- 10.0: Tune in. Gramophone and phonograph records
from the studio. 11.0: Close down. 12.30:
Tune in. 12.35: Markets, news, etc. 1.0: Time
signal. 1.1: Weather bulletin, supplied by the
Meteorological Bureau of West Australia. 1.3:
Lunch Hour Music, relayed from the Primrose
Cafe de Luxe. 2.0: Close down.
- 3.30: Tune in. 3.35: Music from the studio:
Pianoforte solos by Miss Audrey Dean; violin solos
by Mr. Frank Romaine. 4.30: Close down.
- 6.45: Tune in. 6.50: Reading stories by Uncle
Duffy. 7.5: Light music by the Perth Piano Trio.
7.30: Commercial and general information. 7.45:
Talk by Dr. Balye, B.A., LL.B. 8.0: Time signal.
- 8.1: Daily weather bulletin. 8.3: A relay from His
Majesty's Theatre of concert by the Metropolitan
Oleemen, conducted by Mr. A. J. Leckie, Mus. B.
- 8.50: Late News Items, by courtesy of the "Daily
News" Newspaper Co. Ltd.; station announcements;
ships within range announcement; late weather bul-
letin. 9.5: Items from the studio by the Radio Trio.
- 10.30: "God Save the King."
- 104.5 METRE TRANSMISSION.

Simultaneous broadcast on 104.5 metres of pro-
gramme given on 1250 metres, commencing at 6.45
p.m.

7ZL

- 11.30 to 1.30: See Friday.
- AFTERNOON SESSION.**
- 3.0 to 4.30: See Friday.
- EARLY EVENING SESSION.**
- 6.15: Selections. "The Story Lady." 7.0:
Answers to letters and birthday greetings. 7.15:
News service.
- EVENING SESSION.**
- 7.30: Under the auster of the Agricultural
Department, O. L. Gillies will give a talk of vital
interest to those on the land. 7.45: W. E. Fuller
will speak on "Literary Lapses and Library Lists."
- 8.0: Chimes. 8.15: A programme of dance music
by the Ritz Dance Band (interspersed with gram-
ophone records). Ritz Dance Band: "Happy Days and
Lonely Nights," "If You Don't Love Me," "One
Night of Love," Cecil Sherwood, tenor: "Eleanore"
(Taylor). "Soft Beams the Light" (Donizetti). Ritz
Dance Band: "Dancing Shadows" (Golden). "You're
Wonderful" (Fields), "Dada, Dada!" (Dore). Duet,
Emma Destinnova (soprano), Dinah Gilly (bari-
tone), "My Homeland." "The Wedding." Ritz
Dance Band: "Just a Little Fond Affection," "Is
There Anything Wrong in That," "Blue Night."
John Brownlee, baritone: "Trees" (Hugh), "Invic-
tes" (Rachach). Ritz Dance Band: "Don't Be Like
That" (Cottler), "That's Her Now" (Teller), "Gusko,"
(Andrew). John McCormack, tenor: "Ah, Moon of
My Delight" (Lehman), "Bring to Me Only." Ritz
Dance Band: "All By Yourself in the Moonlight."
"Tell Me You're Sorry" (Davis), "Beloved" (San-
sers). Robert Radford, baritone: "The Erl King"
(Schubert), "Blow, Blow, Thou Winter Wind." Ritz
Dance Band: "That's the Good Old Sunny South,"
"Cinnamon Cake" (Zoller), Savoy Medley, 9.45:
News session. 10.0: Chimes. 10.1: Close down.

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Local Programmes, Wednesday, June 12

2FC

EARLY MORNING SESSION

Announcer: A. S. Cochrane.

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

MORNING SESSION

Announcer: A. S. Cochrane.

10.0: "Big Ben" and announcements. 10.3: Pianoforte reproduction. 10.10: "Sydney Morning Herald" news service. 10.25: Studio music. 10.30: Last-minute sporting information by the 2FC Racing Commissioner. 10.45: A talk on "Home Coking and Recipes" by Miss Ruth Furst. 11.0: "Big Ben." A.P.A. and Reuters's Cable Services. 11.5: Close down.

MIDDAY SESSION

Announcer: A. S. Cochrane.

Note: Race results from Kensington will be given.

12.0: "Big Ben" and announcements. 12.1: Stock Exchange, first call. 12.3: Official weather forecast; rainfall. 12.5: Summary of news, "Sydney Morning Herald." 12.10: Rugby wireless news. 12.13: A reading. 12.30: Studio music. 1.0: "Big Ben." Weather intelligence. 1.3: "Evening News" midday news service. Producers' Distributing Society's report. 1.20: Studio music. 1.28: Stock Exchange, second call. 1.30: Studio music. 2.0: "Big Ben." Close down.

AFTERNOON SESSION

Announcer: Laurence Halbert.

Accompanist: Ewart Chapple.

2.30: Programme announcements. 2.32: Record recital. 3.0: "Big Ben." Popular music. 3.30: Romano's Cafe dance orchestra, conducted by Bennie Abrahams. 3.40: Peggy Bell soprano—(a) "O Ship of My Delight" (Phillips), (b) "If My Songs Were Only Winged" (Hahn), (c) "Beloved" (Head). 3.46: A reading. 4.10: James Walker, pianist—"Impromptu in F-sharp Major" (Chopin). 4.20: Peggy Bell, soprano—(a) "The Ships of Arcady" (Head), (b) "But Why," from "Songs and Cupid" (Logan). 4.27: James Walker, pianist—(a) "Nocturne in F-sharp Major" (Chopin), (b) "Valse in B Minor" (Chopin). 4.37: Studio items. 4.45: Stock Exchange, third call. 4.47: Romano's Cafe dance orchestra, conducted by Bennie Abrahams. 5.0: "Big Ben." Close.

EARLY EVENING SESSION

Announcer: A. S. Cochrane.

5.40: The chimes of 2FC. 5.45: The children's session, conducted by the "Hello Man," assisted by Uncle Ted and "Sandy." Letters and stories. Music and entertainment. 6.30: Dalgety's market reports (wool, wheat, and stock). 6.40: Fruit and vegetable markets. 6.43: Stock Exchange information. 6.48: Weather and shipping news. 8.50: Rugby wireless news. 6.55: Late sporting news. 7.0: "Big Ben." Late news service. 7.10: The 2FC Dinner Quartette, conducted by Horace Keats—(a) "Gold and Silver" (Lehar), (b) "Hungarian Rhapsody" (Liszt), (c) "Lento" (Chaminade), (d) "Hymn to the Sun" (Rimsky-Korsakoff), (e), (f) "Love Everlasting" (Friml).

EVENING SESSION

Announcer: Laurence Halbert.

Accompanist: Ewart Chapple

7.40: Popular Music.
7.45: Programme announcements.
7.48: A record recital.
8.0: "Big Ben." Classical programme, arranged by Oliver King.
Oliver King, basso—
(a) "Impatience" (Schubert),
(b) "Dedication" (Schumann),
(c) "The Lotus Flower" (Schumann),
(d) "Spring Night" (Schumann).
8.13: Hugh M'Clean, violinist—
Finale of Mendelssohn Concerto in E Minor (Mendelssohn).

8.22: Nance Marley, contralto—
(a) "Che Faro" (Gluck),
(b) "The May Night" (Brahms),
(c) "Over the Steppe" (Gretchaninoff).
8.32: Dagmar Roberts, pianist—
(a) "Eccossales" (Beethoven-Busoni),
(b) "Nos. 11 and 12 from the David's Bundler" (Schumann),
(c) "Liebesgarten" (Schumann),
(d) "Scherzino from "The Carnival Jest" (Schumann).

8.44: Helena Stewart, soprano—
(a) "The Crying of Water" (Campbell-Tipton),
(b) "From the Tomb of an Unknown Woman" (Bantock).

8.52: Athos G. Martelli, cellist—
"Adagio" (Boccherini).

9.0: "Big Ben." Weather report.
9.1: A talk by C. Price Conigrave.

9.15: Oliver King. Second half of classical programme, arranged by Oliver King.
Oliver King, basso—

(a) "Dedication" (Franz)
(b) "Request" (Franz),
(c) "I Love Thee" (Grieg)

9.26: Hugh M'Clean, violinist—
(a) "On Wings of Song" (Mendelssohn),
(b) "Guitarre" (Moszkowski, arr. de Sarasate).

9.34: Nance Marley, contralto—
(a) "Lament of Isis" (Bantock),
(b) "A Woman's Last Word" (Bantock),
(c) "Cradle Song" (Brahms).

9.44: Dagmar Roberts, pianist—
(a) "Hexentanz" (M'Dowell),
(b) "Pastorale" (Smetana),
(c) "Hungarian Rhapsody, No. 10" (Liszt).

9.56: Helena Stewart, soprano—
(a) "L'hure del Iceiuse" (Staub),
(b) "L'Esclave" (Lalo),
(c) "L'Heure Exquise" (Hahn).

10.6: Athos G. Martelli, cellist—
"Cozdas" (Fischer).

10.15: Late "Evening News" service.
10.28: To-morrow's programme.
10.30: National Anthem. Close.

2BL

MORNING SESSION

Announcer: A. C. C. Stevens.

8 a.m.: G.P.O. chimes. Weather report—State and metropolitan. 8.3: Studio music. 8.15: News and information service from the "Daily Telegraph Pictorial." 8.45: Studio music. 9.30: G.P.O. chimes. Half an hour with silent friends. 10.0: G.P.O. Chimes. Close.

MIDDAY SESSION

Announcer: A. C. C. Stevens.

11.0: G.P.O. chimes. 2BL Women's Sports Association session, conducted by Miss Gwen Varley. 11.30: Advertising hints. 11.40: Women's session, conducted by Mrs. Cranfield. 12.0: G.P.O. chimes. Special ocean forecast and weather report. 12.30: Shipping and mails. 12.35: Market reports. 12.48: "Sun" midday news service. 1.30: Talk to children and special entertainment for children in hospital by Uncle Steve. 2.0: G.P.O. chimes. Close. Note: Race results from Kensington will be broadcast by arrangement with the "Sun" Newspapers, Ltd.

AFTERNOON SESSION

Announcer: A. C. C. Stevens.

Accompanist: Kathleen Roe.

3.45: G.P.O. chimes. Popular music. 4.0: G.P.O. chimes. Basil Kirke will give a talk. 4.15: Edward Evans, baritone—(a) "Homeward to You" (Coates), (b) "The Lute Player" (Allitsen). 4.22: Studio music. 4.32: Edna Nelson, soprano—(a) "Wait" (d'Hardel), (b) "Yellow Slippers" (Clarke). 4.39: "Sun" news service. 4.44: Studio items. 4.50: Edward Evans, baritone—Moon Magic—(a) "In the Sky" (Arundale), (b) "My Fairy odmother" (Arundale). 4.57: Popular music. 5.4: Edward Evans, baritone—(a) "Wait" (d'Hardel), (b) "Crown of the Year" (Martin). 5.11: Pianoforte reproduction. 5.34: Racing resume. 5.37: Features of the evening programme.

EARLY EVENING SESSION

Announcer: Basil Kirke.

5.40: Children's session, conducted by

Uncle Bas. Music and entertainment. Letters and stories. 6.30: "Sun" news and late sporting. 6.40: 2BL Dinner Quartette—(a) "The Girl on the Film" (Serrail), (b) "Little Lady of the Moon" (Coates), (c) "Grand Tri Concertant" (Volleweiler), (d) "Liebesträum" (Liszt), (e) "Gipsy Dance" (St.-Saens). 7.7: 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: Mr. Pim and Miss Pam in advertising talks. Handy Hints, and nonsense. 7.53: An Ad special. 7.55: Programme and other announcements.

EVENING SESSION

Announcer: Basil Kirke.

Accompanist: G. Vern Barnett.

8.0: G.P.O. chimes. From the Capitol Theatre: The Capitol Unit Entertainment. 8.7: From the Studio: Ambrose Bourke, baritone.

8.14: Graham and Manning, sketches.
8.24: Ellie M'Donnell and Celine Hooper, vocal duets.

8.34: Maisie Otey, novelty pianist.
8.41: Claude Corbett, will speak on general sporting.

8.56: From the Capitol Theatre: Fred Scholl at the Wurlitzer Organ.

9.16: From the Studio: Ambrose Bourke, baritone.

9.23: Graham and Manning, sketches.
9.33: Ellie M'Donnell and Celine Hooper, vocal duets.

9.43: Maisie Otey, novelty pianist.
9.50: From the Capitol Theatre: Fred Scholl at the Wurlitzer Organ.

10.10: From the Studio: Late "Sun" news service.

10.17: Romano's Cafe dance orchestra conducted by Bennie Abrahams.
10.27: From the Studio: Late weather report.

10.30: Romano's Cafe dance orchestra conducted by Bennie Abrahams.
10.59: Romano's Cafe dance orchestra conducted by Bennie Abrahams.

11.30: National Anthem. Close.

2GB

10.0: Music. 10.10: Happiness Talk by A. E. Bennett. 10.20: Music. 10.30: Women's Session by Miss Helen J. Beegling. 11.45: Close down. 2.0: Music. 2.5: Women's Radio Service by Mrs. Dorothy Jordan. 2.58: Music. 3.0: Labor Saving Demonstration. 4.0: Close down. 5.30: Children's Session by Uncle George. 7.0: Music. 7.30: Short talk by Miss Beegling. 8.0: Miss Mary Neal, contralto. 8.7: Violin solos. 8.15: Mr. Clement Hosking, baritone. 8.25: Symphony Orchestra. 8.30: Humorous Interlude by Mr. Jack Win and Mr. Heath Burdock. 8.35: Miss Elsie Brown, soprano. 8.45: Address. 9.0: Weather report. 9.3: Violin solos. 9.15: Miss Mary Neal, contralto. 9.23: Mr. Heath Burdock, Shakespearean Recital. 9.33: Symphony Orchestra. 9.40: Miss Elsie Brown and Mr. Clement Hosking, vocal duet. 9.50: Humorous Interlude. 9.55: Instrumental music. 10.0: Mr. Clement Hosking, baritone. 10.30: Choral music. 10.30: Close down.

2UW

MIDDAY SESSION

Request numbers. 1.0: G.P.O. clock and chimes; music. 1.15: Talk on home-craft, by Pandora. 1.40: Music and request numbers. 2.30: Close down. 4.30: Musical programme.

EVENING SESSION

5.30: Children's hour, conducted by Uncle Jack. 6.30: Close down. 7.0: G.P.O. clock and chimes; request numbers. 8.0: Music. 9.0: G.P.O. clock and chimes; comments on foreign affairs, by Mr. J. M. Prentice. 9.10: Music and request numbers. 10.30: Close down.

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Interstate Programmes, Wednesday, June 12

3LO

EARLY MORNING SESSION.

7.15 to 8.15: See Friday.
8.50: Eric Welch will speak on to-day's races at Mentone.

MORNING SESSION.

11.0: 3LO's afternoon tea trifles: Rice cake. 11.45: Miss E. M. Hinder, B.Sc., will speak on "The Melbourne G.H.—and Her Play." 11.25: Mrs. M. Callaway, Mahood will speak on "The Art of Decoration." 11.45: Mrs. Clarence Weber will speak on "Physical Culture for Women."

MIDDAY NEWS SESSION.

12.0: Melbourne Observatory time signal. 12.1: Express train information. 12.15: Newmarket stock sales; cattle sales reports—bullocks and calves—by the Associated stock and station agents, Bourke St., Melbourne.

LUNCHEON MUSIC.

12.20: The Radio Revelers, "Wear a Hat with a Silver Lining" (Sherman), "One Alone" (Romberg), "Just Give the Southland to Me" (Sissel). 12.29: Madeline Knight, contralto, old-time ballads. 12.30: Stock Exchange information; prices received this day from the London Stock Exchange by the Australian Mines and Metals Association. 12.42: The Radio Revelers, "The Desert Song" (Romberg), "A Room with a View" (Coward), "What a Girl" (Sanders). 12.50: Ciella Genoni M'Neill, soprano, selections from her repertoire. 12.57: The Radio Revelers, "Dynamic" (Henderson), "The Dance of the Blue Danube" (Fisher), "Rose-time" (Hall). 1.3: Meteorological information; weather forecast for Victoria, New South Wales, South Australia, and Tasmania; ocean forecast; river reports; rainfall. 1.12: Madeline Knight, contralto, old-time ballads. 1.19: The Radio Revelers, "Me and the Man in the Moon" (Monaco), "When You Said Good-night" (Donaldson), "Dooley Dooley Doo" (Sherwin). 1.30: Transmission from the Freemasons' Hall, Collins St., Melbourne, speeches from the Rotary Club luncheon; speaker, Sir George Fowlds, of New Zealand, "Is Rotary Worth While?" 2.0: Close down.

AFTERNOON SESSION.

2.13: Description of Hurdle Race, two miles, by Eric Welch, Mentone races. 2.20: The Station Orchestra, selection, "Pique Dame" (Tschalkowsky). 2.32: J. Alexander Browne, baritone, "Now Sleeps the Crimson Petal" (Quilter), "At Grendon Fair" (Paul Marie). 2.39: A. Anderson, clarinet, "Liebesleid" (Kreisler). 2.43: Description of Open Handicap, six furlongs, Mentone races. 2.50: J. Alexander Browne, baritone, "Edna Hattenbach" (cello, John Simons, piano), (a) "Slavie Dance" (Dvorak), (b) "Melodie" (Faure); Alva Hattenbach, cello, (a) "Melodie" (Hattenbach), (b) "Mazurka" (Hattenbach); the Trio, (a) "Une Larme" (Moussorgsky), (b) "Menuetto" (Boccherini). 3.13: Description of Mentone Handicap, one mile, Mentone races. 3.20: Ciella Genoni M'Neill, soprano, selection from her repertoire. 3.27: The Station Orchestra, suite, "Nautical" (Fletcher), "Spanish Dance" (Bohm), "Love's Melody" (Hurst). 3.45: Description of Trial Plate, six furlongs, Mentone Races. 3.50: J. Alexander Browne, baritone, "A Request" (Woodforde-Pinden), "A Song Remembered" (Coates). 3.57: The Station Orchestra, selection, "The Lido Lady" (Rogers). 4.5: Ciella Genoni M'Neill, soprano, request items. 4.13: Description of Trial Purse, six furlongs, Mentone races. 4.20: Bert Ray, comedian, pantomime fun. 4.30: The Station Orchestra, "Gipsy Suite" (Colderidge), "On the Mountains" (Grieg). 4.43: Description of Jumpers' Flat Race, 1 1/4 mile, Mentone races. 4.50: "Herald" news service: Stock Exchange information. 5.0: Close down.

EVENING SESSION.

6.0: Birthday greetings and answers to letters, by "John the Piper's Son." 6.25: Musical Interlude. 6.30: Under the auspices of the National Safety Council of Australia, H. J. Book will speak on "Roller Bears and the Safety Tribe." 6.45: "John the Piper's Son," more adventures with Nobby Parker.
7.5: Stock Exchange information. 7.15: Market reports. 7.30: News session. 7.43: Birthday greetings. 7.45: "Out of the Past." 7.46: Under the auspices of the National Safety Council of Australia, H. J. Book will speak on "Roller Bears and the Safety Tribe." 7.45: "John the Piper's Son," more adventures with Nobby Parker.
7.5: Stock Exchange information. 7.15: Market reports. 7.30: News session. 7.43: Birthday greetings. 7.45: "Out of the Past." 7.46: Under the auspices of the National Safety Council of Australia, H. J. Book will speak on "Roller Bears and the Safety Tribe." 7.45: "John the Piper's Son," more adventures with Nobby Parker.

NIGHT SESSION.

8.1: Programmes: 3LO's Tasmanian letter from the "Mercury" and, "Illustrated Mail," Hobart.
General Programme To-night.
Hugh Huxham and His Dancing "Peaches" in "Ohloe."
Bert Ray, comedian.
Huxham's Serenader Quartette, in more humor and harmony.
Novelty, The Radio Revelers, with Hugh Huxham, introducing "Forty-seven Ginger-headed Sailors." 10.31: Theatre "Night" Quartette.
Latest and brightest jazz numbers.
11.30: God Save the King.

3AR

10.0 to 10.59: See Friday.
MORNING MUSICAL SESSION
11.0: Selections. 11.20: The Discus Ensemble presents Cortot's "Ready" Trio No. 1, B Flat Major, Op. 99" (Schubert). 12.20: British official wireless news; announcements. 12.30: Close down.

AFTERNOON SESSION.

3.0: His M.C. broadcasting breves; multiplying minims; creating crescendoes of crochets and graved quavers in variations—vocal and violines. 4.30: Close down.

EVENING SESSION.

6.0: Selections. 7.10: News service; announcements. 7.20: Graved quavers.

TO-MORROW.

8.0: A. Firman will speak on "Books of To-day, To-morrow, and Yesterday."
8.18: Under the auspices of the Health Association

of Victoria, C. D. Hearman will speak on "Why a Clean Tooth Sometimes Decays."
8.30: Did you know that?

8.31: The Station Orchestra—Selection, "This Year of Grace" (Coward).
8.40: The Sundowners—Tom Semple, tenor, "Marie, My Girl"; quartette, "Oh in the Billy Night" (Old Irish).
8.47: The Station Orchestra—Sonata for Orchestra.

J. Alexander Browne, baritone—"Little Northern Window," with orchestral accompaniment.
The Station Orchestra—Orchestral Suite, "Pictures from France."
J. Alexander Browne, baritone—"Love Comes but Once," with orchestral accompaniment.
The Station Orchestra—Suite, "Lavender and Lace."

J. Alexander Browne, baritone—"Dear Heart of Mine," "Rose Time," with orchestral accompaniment.
Frederick Hall, piano—"Octave Solo for Piano and Orchestra, Intermezzo Brillante."
9.17: The Sundowners—
Duet, Tom Semple and Herbert Sanderson, tenor and baritone, "Come to the Fair" (Martin).
Robert Gillard, bass, "The Wanderer" (Schubert).

9.24: The Station Orchestra—Overture, "Raymond" (Thomas).
9.34: One-act play, "A Knocking at the Door" (Danvers Walker), produced by Terence Crisp.
9.54: The Station Orchestra—Selection, "Faust."
10.1: The Sundowners—
Quartette, "Ain't It a Shame" (Gaul).
Robert Allan, alto—"Macushla" (Macmurchrough).
Quartette, "The More We are Apart" (Hoit).
10.14: The Station Orchestra—
Selection, "Sybil" (Jacobi).
10.24: News service; announcements.
10.30: God Save the King.

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8.9: Violet Jackson, soprano.
8.15: William and Smith, banjoists.
8.20: Ronnie Rambles Round.
8.26: James Glennon, viola—
"Berceuse" (Jarnfelt).
"L'Arlesienne" (Bizet).

8.31: Gwen Collett, contralto—
"A Song of Thanksgiving" (Alltzen),
"Less Than the Dust" (Amy Woodforde-Pinden).
8.38: Dave Howard, saxophonist—
"Out of the Dust to You" (Dorothy Lee),
"My Heart is Waiting" (Clifford C. Gates).
8.44: Arthur Douglas, Scotch comedian.
8.50: Reed and Dennis, Hawaiian Duo—
"Kihala Waltz" (Alani),
"Kohala March" (Kailli).

8.55: Les Crisp, tenor—
"The Temple Bells" (Amy Woodforde-Pinden),
"When Other Lips" (Balfour).
9.1: Allan's Mouth Organ

All Electric Radio

DOES AWAY WITH THE BATTERY
NUISANCE ONCE AND FOR ALL!

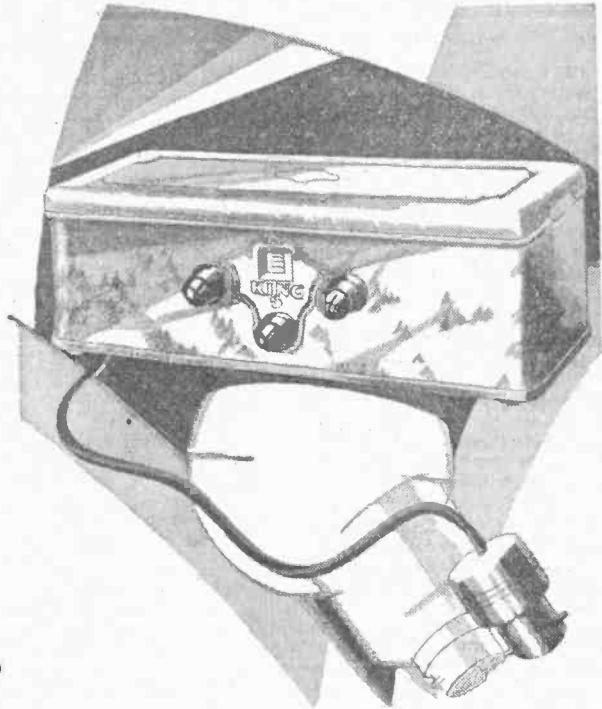
Secure it for
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Cash Price for the King Model "H" including 7 valves; encased in metal case 19½ x 11 x 7½ inches, £46/6/- Deferred rates: 6gns. deposit and 17/- per week for one year!

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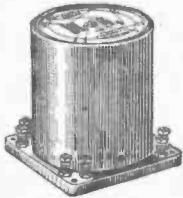
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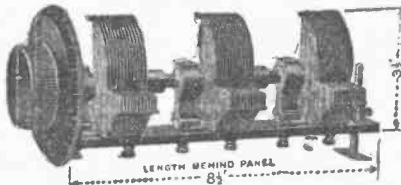


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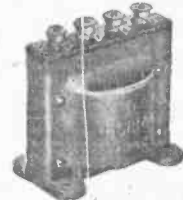
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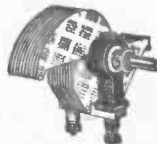
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Local Programmes, Thursday, June 13

2FC

EARLY MORNING SESSION

Announcer: A. S. Cochrane.

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

MORNING SESSION

Announcer: A. S. Cochrane.

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

MIDDAY SESSION

Announcer: A. S. Cochrane.

12.0: "Big Ben" and announcements. 12.2: Stock Exchange, first call. 12.3: Official weather forecast; rainfall. 12.5: Summary of news. "Sydney Morning Herald." 12.10: Rugby wireless news. 12.13: A reading. 12.30: Studio music. 1.0: "Big Ben." Weather intelligence. 1.3: "Evening News" midday news service. Producers' Distributing Society's market report. 1.20: Studio music. 1.28: Stock Exchange, 2nd call. 1.30: Popular studio music. 1.50: Last-minute sporting information, by the 2FC Racing Commissioner. 2.0: "Big Ben." Close.

AFTERNOON SESSION

Announcer: Laurence Halbert.

Accompanist: Ewart Chapple.

2.30: Programme announcements. 2.32: The Book Lovers' Corner. 3.0: "Big Ben." Popular music. 3.30: Avice Garth, mezzo—(a) "Break o' Day" (O'Reilly), (b) "Praize" (Wood). 3.37: Studio items. 3.45: A reading. 4.10: Avice Garth, mezzo—(a) "Wayfarer's Night Song" (Martin), (b) "Brown Eyes I Love" (Coates). 4.17: Studio music. 4.30: Vera Keogh will continue her series of talks, "A Tale of Two Cities." 4.45: Stock Exchange, third call. 4.47: Studio music. 5.0: "Big Ben." Close.

EARLY EVENING SESSION

Announcer: A. S. Cochrane.

5.40: The chimes of 2FC. 5.45: The children's session, conducted by the "Hello Man." Letters and stories. Music and entertainment. The Linden Court Juvenile Choir. 6.30: Dalgety's market reports (wool, wheat, and stock). 6.40: Fruit and vegetable markets. 6.43: Stock Exchange information. 6.48: Weather and shipping news. 6.50: Rugby wireless news. 6.55: Late sporting news. 7.0: "Big Ben." Late news service. 7.10: The 2FC Dinner Quartette, conducted by Horace Keats—(a) "Les Deux Pigeons" (Messager), (b) "Intermezzo" (Cyril Scott), (c) "Melodie" (Paderewski), (d) "Chant du Voyageur" (Paderewski), (e) "Codolera" (Ssai), (f) "In a Hongkong Street" (Humphries).

EVENING SESSION.

Announcer: Laurence Halbert.

Accompanist: Ewart Chapple.

7.40: Popular music.
7.45: Programme announcements.
7.48: A record recital.
8.0: "Big Ben." From the State Theatre by arrangement with Union Theatres, Ltd., The State Theatre Orchestra, conducted by Will Prior.
8.20: From the Studio: Ernest M'Kinlay, tenor—
(a) "Aubade" (Le Roi D'ys) (Lalo).

(b) "Eleanore" (Mallinson),
(c) "Lolita" (Buzzi Peccia).
8.30: Vera Keogh, in a sketch.
8.50: Frank Hutchens, pianist.
9.5: Weather report.
9.6: Evelyn Hall, contralto—
(a) "Softly Awakes My Heart" (Saint-Saens).
(b) "Red Roofs" (Brahe).
9.13: Brunton Gibb, continues his series, "Oh, by the Way."
9.25: Frank Hutchens, pianist.
9.37: Ernest M'Kinlay, tenor—
(a) "The Auld Scotch Sanges" (Leeson).
(b) "Bonnie Wee Thine" (Fox).
(c) "Lassie o' Mine" (Walt).
9.47: Vera Keogh, in a sketch.
9.54: Evelyn Hall, contralto—
(a) "Break, Break Break" (Carey).
(b) "My Little Garden World" (Carew).
10.1: From the State Theatre: The State Theatre Orchestra, conducted by Will Prior.
10.20: From the Hotel Australia: Cec. Morrison's Dance Band.
10.32: From the Studio: Late weather report.
10.34: From the Hotel Australia: Cec. Morrison's dance band.
10.57: From the Studio: To-morrow's programme.
10.59: From the Hotel Australia: Cec. Morrison's dance band.
11.30: National Anthem. Close.

2BL

MORNING SESSION.

Announcer: A. C. C. Stevens.

8.0: G.P.O. chimes. Weather report—State and Metropolitan. 8.3: Studio music. 8.15: News and information service from the "Daily Telegraph Pictorial." 8.45: Studio music. 9.30: G.P.O. chimes. Half an hour with silent friends. 10.0: G.P.O. chimes Close down.

MIDDAY SESSION

Announcer: A. C. C. Stevens.

11.0: G.P.O. chimes. 2BL Women's Sports Association Session, conducted by Miss Gwen Varley. 11.30: Advertising Hints. 11.40: Women's Session, conducted by Mrs. Cranfield. 12.0: G.P.O. chimes. Special ocean forecast and weather report. 12.3: Pianoforte reproduction. 12.30: Shipping and mails. 12.35: Market reports. 12.48: "Sun" midday news service. 1.0: Studio music. 1.30: Talk to children and special entertainment for children in hospital, by Uncle Steve. 2.0: G.P.O. chimes. Close down.

AFTERNOON SESSION.

Announcer: A. C. C. Stevens.

Accompanist: Kathleen Roe.

3.45: G.P.O. chimes. Popular music. 3.50: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 4.0: G.P.O. chimes. Millie Hansen, soprano—(a) "Last Night" (Jerulfs), (b) "Milfanwy" (Weatherly). 4.7: Stewart Jarbo, elocutionist—(a) "The Pommy" ("The Rabbit Reflector"), (b) "The Vampire" (Rudyard Kipling). 4.14: Popular music. 4.24: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 4.34: From the Studio: Millie Hansen, soprano—(a) "My Life is Love" (Tate), (b) "The Flight of Ages" (Bevan). 4.41: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 4.51: From the Studio: Stewart Jarbo, elocutionist—(a) "The Victim" (Lord Alfred Tennyson), (b) "If" (Rudyard Kipling). 5.0: G.P.O. chimes. Pianoforte reproduction. 5.15: Popular music. 5.37: Features of the evening programme.

EARLY EVENING SESSION.

Announcer: Basil Kirke.

5.40: Children's Session, conducted by Uncle Bas. Music and entertainment. Letters and stories. 6.30: "Sun" news and late sporting. 6.40: 2BL Dinner Quartette—(a) "La Patrouille de Nuit" (Martell), (b) "Johnny Jones" (Cuvillier), (c) "Lotus Blossoms" (Ohlsson), (d) "Invitation" (Barny), (e) "Londonerry Air" (arr. O'Connor-Morris). 7.7: Australian Mercantile Band and Finance Co.'s report. Weather report and forecast, by courtesy of Government Meteorolo-

gist Producers' Distributing Society's fruit and vegetable market report. Grain and fodder report ("Sun"). Dairy produce report ("Sun"). Weekly traffic bulletin. 7.25: Mr. Pim and Miss Pam in advertising talks, handy hints, and nonsense. 7.53: An Ad. Special. 7.55: Programme and other announcements.

EVENING SESSION.

Announcer: Basil Kirke.

Accompanist: G. Vern Barnett.

8.0: G.P.O. chimes. Marrickville Silver Band—

(a) Meditation, "Princethorpe" (Ostbr).
(b) Fantasia, "Visions" (arr. Marshall).
8.20: Raymond Beatty, basso—
(a) "The Month of May" (Schumann).
(b) "Tears and Sighs" (Schumann).
(c) "The Rose and the Lily" (Schumann).

8.27: Warwick M'Kenzie, violinist—

(a) "Romance" (Rudenyi).
(b) "Serenade Espagnole" (Chaminade-Kreisler).

8.35: Marrickville Silver Band—

(a) Selection, "Great Masters" (arr. Gore).
(b) Chorus, "The Heavens are Telling" (arr. Hawkes).

8.50: Hazel M'Pherson, contralto—

(a) "Beyond the Dawn" (Sanderson).
(b) "Wish o' My Heart" (Travers).

8.57: 2BL interviews to-night's personality.

9.9: Marrickville Silver Band—
(a) Selection, "The Conqueror" (arr. Ball).

(b) Excerpt from "Maritana"—"Alas Those Chimes" (Wallace).
(c) March, "Crowns of Victory" (Coles). (arr. Gore).

9.24: Raymond Beatty, basso—

(a) "The Lime Tree" (Schubert).
(b) "My Last Aboogie" (Schubert).

9.31: Warwick M'Kenzie, violinist—
"Andante" (Concerto) (Mendelssohn).

9.38: Marrickville Silver Band—
(a) March, "Blackpool".

(b) Selection, "War March of the Priests" (arr. Hawkes).

9.55: Hazel M'Pherson, contralto—
(a) "The Mission of the Rose" (Cowen).
(b) "Nightfall at Sea" (Phillips).

10.2: Late "Sun" news service.
10.28: Late weather report. To-morrow's programme.

10.30: National Anthem. Close.

2GB

10.0: Music. 10.10: Happiness Talk by A. E. Bennett. 10.20: Music. 10.30: Women's Session by Miss Helen J. Beegling. 11.45: Close down. 2.0: Music. 2.5: Women's Radio Service by Mrs. Dorothy Jordan. 2.50: Music. 3.30: Close down. 5.30: Children's Session by Uncle George. 7.0: Music. 7.20: Feature story. 8.0: Miss Heather Kinnaird, contralto. 8.7: Band selections. 8.15: Mr. Cecil Houghton, tenor. 8.22: Instrumental music. 8.30: Humorous Interlude by Mr. Jack Win and Mr. Heath Burdock. 8.35: Miss Gwen Selva, soprano. 8.45: Violin solos. 8.50: Miss Heather Kinnaird, contralto solos. 9.0: Weather report. 9.3: Address. 9.15: Band selections. 9.25: Mr. Cecil Houghton, tenor. 9.35: Humorous Interlude by Mr. Jack Win and Mr. Heath Burdock. 9.40: Violin solos. 9.50: Miss Gwen Selva, soprano. 10.10: Dance music. 10.30: Close down.

2UW

MIDDAY SESSION.

12.30: Request numbers. 1.0: G.P.O. clock and chimes; music. 1.15: Talk on home-craft, by Pandora. 1.40: Music and request numbers. 2.30: Close down. 4.30: Musical programme.

EVENING SESSION.

5.30: Children's hour, conducted by Uncle Jack. 6.30: Close down. 7.0: G.P.O. clock and chimes; request numbers. 8.0: Music. 8.15: Garden talk by Mr. S. Hunt. 8.30: Request items. 9.0: G.P.O. clock and chimes; comments on foreign affairs, by Mr. J. M. Prentice. 9.10: Music and request numbers. 10.30: Close down.



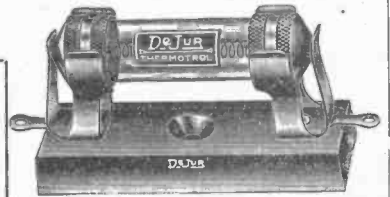
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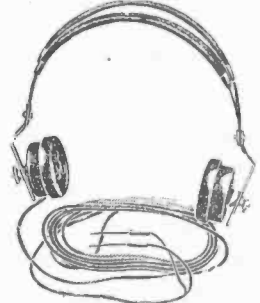


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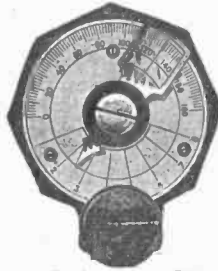
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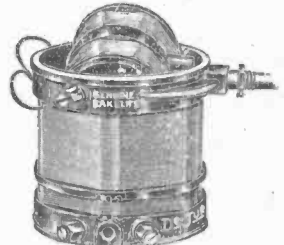
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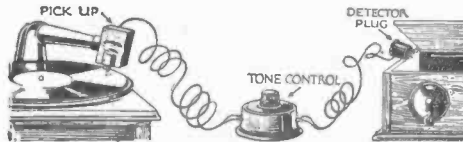
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Interstate Programmes, Thursday, June 13

3LO

EARLY MORNING SESSION.

7.15 to 8.15: See Friday

MORNING SESSION.

11.0: 3LO's Different Dainties for the Daily Dinner. 11.5: Captain Donald Maclean will continue his series, "Famous Women of History." 11.25: Miss B. Macaulay will give a further attractive talk on "Temperament," this time dealing with the practical part. 11.45: Sister Purcell will speak on "Infant Welfare."

MIDDAY SESSION.

12.0: Melbourne Observatory time signal; express train information. 12.1: British official wireless news from Rugby; Reuters' and the Australian Press Association cables; "Argus" news service. 12.15: Newmarket stock sales, cattle sales report, bullocks and calves, by the Associated Stock and Station Agents, Bourke Street, Melbourne. 12.20: Community singing, conductor, Frank Hatherley, assisted by Ern, Hall's Radio Revelers, with Hugh Huxham; the James Girls; Bert Ray, comedian. 12.40: Stock Exchange information; prices received this day from the London Stock Exchange by the Australian Mines and Metals Association. 12.45: Community singing resumed. 1.45: Meteorological information; weather forecast for Victoria, New South Wales, South Australia, and Tasmania; ocean forecasts; river reports; rainfall. 1.55: Close down.

AFTERNOON SESSION.

2.15: The Station Orchestra—"Sunshine and Shadows" (Lohr). 2.25: Madoline Knight, contralto—"Old-time Ballads." 2.32: The Station Orchestra—"International Suite" (Tschalkowsky).

THE EDUCATION HOUR.

2.45: Dr. Loftus Hills will speak on "Topics of the Week." 3.0: William Davis will speak to students of music. 3.15: Rev. William Bottomley will continue his series of talks on William Morris's epic in verse, "Sigurd the Volung."

FOR THE LESS-PEDANTIC.

3.30: The Station Orchestra—"Yesterday" (Huerter). 3.34: Martin LaMott, tenor—"Mary of Argyle" (Neilson). "Mistral Boy" (Moore). 3.41: The Station Orchestra—"Italian Suite" (Gruenfeld). 3.51: Gielia Genoni McNeill, soprano, in selections from her repertoire. 3.58: The Station Orchestra—"Souvenir" (Herbert). "Bal Masque" (Fletcher). 4.4: Madoline Knight, contralto, old-time ballads. 4.11: The Station Orchestra—"The Pipes of Pan" (Logan). "Sally Roses" (Bostel). 4.32: "Herald" news service; Stock Exchange information. 4.45: Evenson, transmitted from St. Paul's Cathedral, Melbourne. 5.20: Acceptances and barrier positions for the Williamstown races, to be held on Saturday, 15th instant. 5.35: Close down.

EARLY EVENING SESSION.

6.0: Birthday greetings and answers to letters, by "Bobby Bluegum." 6.25: Musical interlude. 6.30: Captain Donald Maclean has some really exciting stories for the bigger boys, and no doubt they will be appreciated by the rest. 6.45: "Bobby Bluegum" has promised to bring "Ector" and "Grace" with him.

EVENING SESSION.

7.5: Stock Exchange information. 7.15: Market reports. 7.30: News session. 7.43: Birthday greetings. 7.45: Close of the week. 7.46: A dressing-room talk. 8.0: A Maker of History.

NIGHT SESSION.

8.1: Programme announcements. 8.2: Mr McGreggor will speak on "Football." 8.15: Ern Hall's Radio Revelers, with Hugh Huxham.

"Down by the Old Front Gate" (Kassel).

"I Don't Know Why I Do It" (Vail).

"Hum and Strum" (Meyers).

Ann Middleton, soprano—

"Soft-footed Snow" (Sigurd Li)

8.27: The Radio Revelers—

"Maybe Tim Wrong" (Harris).

"Constantinople" (Carlton).

"My Angelina" (Wayne).

8.36: O. G. Manzoni, mandolin.

8.39: The Radio Revelers—

"There's a Rainbow Round My Shoulder" (Johnson).

"Dada, Dada" (Dore).

"Oh, Is She Mad as Me" (Friend).

8.48: The James Girls, in a jazzy jangle.

8.51: The Radio Revelers—

"High Upon a Hilltop" (Baer).

"When Love Comes Stealing" (Rapee).

"Roll Up the Carpets" (Nixon).

9.0: Bert Ray, dame comedian—

"The Man in the Motor Car."

9.3: The Radio Revelers—

"To-day, To-morrow, for Ever" (Nichols).

"Shinaniki Da" (Carlton).

"Who Knows the Radio?"

9.12: Anne Middleton, soprano—

"Early in the Morning" (Phillips).

9.15: The Radio Revelers—

"Lady of the Morning" (Burton).

"I'm Crazy Over You" (Lewis).

"Old Man Sunshine" (Dixon).

9.24: O. G. Manzoni, mandolin.

9.27: The Radio Revelers—

"Wipin' the Pan" (Baer).

"Guess Who's in Town" (Razaff).

"That Stolen Melody" (Fisher).

9.36: The James Girls, in a merry musical mixture.

9.38: The Radio Revelers—

"Lenora" (Gilbert).

"Japanese Mummy" (Donaldson).

"There's a Rackety Rackety Shack" (Turk).

9.48: Bert Ray, dame comedian—

"Heaven Will Protect the Working Girl."

9.51: The Radio Revelers—

"That's What You Mean to Me" (Davis).

"All by Yourself in the Moonlight" (Wallis). "She's Got a Great Big Army of Friends" (Neilson).

10.1: News service; meteorological information; British official wireless news from Rugby; announcements.

10.15: The Radio Revelers— "Querida" (Simon). "Falling in Love With You" (Mayne). "I Love to Dunk a Bunk of Spongecake" (Cas-

10.24: Anne Middleton, soprano— "Homeward to You" (Coates). "The Radio Revelers—

"Sweet Sue, Just You" (Harris). "Roses of Yesterday" (Merlin). "The Voice of the Southland" (Austin).

10.35: O. G. Manzoni, mandolin. 10.39: The Radio Revelers—

"My Heaven is Home" (Collin). "Pickin' Cotton" (Henderson). "I'm on the Crest of a Wave" (Henderson).

10.48: The James Girls, in mirth and melody. 10.51: The Radio Revelers—

"Mother, I Still Have You" (Johnson). "Out of the Dawn" (Donaldson). "Paradise and You" (Pacey).

11.1: The Radio Revelers— "The Prune Song" (Crumble). "Sincerely I" (Davis). "Sally Rose" (Friend).

"It All Comes Out in the Wash" (Trent). "Rio Rita" (Tierney). "The Kinks-a-Jou" (Tierney).

"My Mother's Eyes" (Baer). "Next to Me I Like Me Next to You" (Bito). "Anywhere is Heaven" (Brody).

"Down Where the Grass Grows" (Jones). 11.30: God Save the King.

3AR

10.0 to 10.59: See Friday last.

MORNING MUSICAL SESSION.

11.0: Selections. 11.3: The Jedal Trio (Alva Hattenbach violin, Edna Hattenbach cello, John Simon piano), trio. "Andante" (Reissiger). "Se-nenade" (Drigo). "Cradle Song" (Una Bourne); cello solo. "Melody" (Rubinstein); trio. "To a Miniature" (Brahms). "Serenata" (Moszkowski). 12.0: Selections. 12.30: British official wireless news; announcements. 12.30: Close down.

AFTERNOON SESSION.

3.0: Selections. 3.10: The Strad Trio (Cecil Parker violin, Myra Montague piano, and Frank Johnston cello), trio. "No. 11, E Flat" (Haydn). Allegro molto. Menuetto. 3.30: Cecil Parker, violin. "Caprice Viennese" (Kreisler). "Toy Soldiers' March" (Kreisler). "Schon Rosmarin" (Kreisler). "Tambourin Chinois" (Kreisler). 3.45: Myra Montague, piano. "Songs Without Words, Nos. 7 and 11" (Mendelssohn). "Spinning Song" (Mendelssohn). 4.10: The Strad Trio, trio. "Song Without Words, Op. 10" (Mendelssohn). "Gavotte" (Martini-Parkes). "Chanson Polonoise" (Wienlowski). "Melody" (Moszkowski). "Polish Dance" (Scharwenka). 4.30: Close down.

EVENING SESSION.

5.0: Selections. 7.10: News service; announcements; acceptances and barrier positions for the Williamstown races, to be held on Saturday, 15th inst. 7.25: Selections.

NIGHT SESSION.

8.0: Dr. Loftus Hills will speak on "Life's Facts and Fancies." 8.15: Under the auspices of the Nurserymen and Seedsmen's Association of Victoria, Edward Wiseman will speak on "Pillar, Climbing, and Polyantha Roses."

8.30: The Station Orchestra. Selection. "Irene" (Tierney).

8.40: Madoline Knight, contralto.

Old-time ballads.

8.47: The Station Orchestra.

Selection. "Haydn Wood's Song."

9.0: Transmission from the Cairns Memorial Church, East Melbourne, concert by the choir.

Organist, Miss F. F. Thurman; conductor, R. J. Oehr.

Anthem. "Hail, Gladdening Light" (Martin).

Hymn. "Abide With Me."

Anthem. "The Lord is My Shepherd" (Schubert).

Duet, A. J. Eherigley, tenor, and Fran. E. Thomson, soprano.

"So Thou Hast Thy Divine Petition" ("The Crucifixion," Stainer).

Anthem, unaccompanied, "O Saviour of the World" (Goss).

Anthem. "Let Not Your Heart Be Troubled" (Poster).

9.30: The Jedal Trio (Alva Hattenbach violin, Edna Hattenbach cello, and John Simon piano).

Trio, "Largo" (Handel).

"Hungarian Dance" (Brahms).

Adagietto" (Bizet).

Piano and voice. "Tempo di Menuetto," from

"Sonata, No. 4" (Mozart).

Trio. "Melody in D" (Faure).

"The Rosary" (Nevin).

10.0: Madoline Knight, contralto.

Old-time ballads.

10.7: The Station Orchestra.

Suite, "A Day in May" (Friml).

10.20: News service; announcements.

10.30: God Save the King.

4QG

For early morning, morning, midday, afternoon, and early evening sessions, see Friday.

7.45: Lecture: A talk on books by Mr. J. Doyle (M'Leods).

NIGHT SESSION.

PART I.

The first portion of to-night's programme will comprise a concert arranged by Messrs. Olsen and Good-

chap, and relayed from their "White House" at Woolloomooloo. "White House"—Concert programme.

8.0: From the "White House"—Concert programme.

PART II.—STUDIO PROGRAMME.

9.0: Metropolitan weather forecast; movement of travelling dental clinic.

9.1: The West End Salvation Army Band—"The Red Shield" (Coffin).

9.6: Blanche Currow (soprano)—

"The Hills of Heaven" (Lohr). 9.10: Dulcie Dunlop (elocutionist)—

"The Sliprails and the Spur" (Lawson). 9.15: The West End Salvation Army Band—

Selection. "The Beauty of Christ" (Kilching). 9.23: Therese O'Brien (elocutionist)—

"Do You Remember?" 9.25: The West End Salvation Army Band—

Selection. "Oh, Remember Calvary" (Ball). 9.36: Blanche Currow (soprano)—

"Love, I Have Won You" (Ronald). 9.40: The West End Salvation Army Band—

A twenty minute recital, including—"Meditation"—"Theodora" (Jakovak). Hymns. "St. Catherine," "Celine," and "Mid-

stone." 10.0: News; weather; close down.

5CL

MORNING SESSION.

11.0 to 2.0: See Friday.

AFTERNOON SESSION.

3.0: Chimes. 3.1: Boake-Smith's Quartette. 3.10: Rev. C. H. Nield. 3.25: Boake-Smith's Quartette. 3.30: Violet Jackson, soprano. 3.40: Arthur Douglas, Scotch comedian.

3.45: Harold Tideman, baritone. 3.52: Boake-Smith's Quartette. 4.55: Stock Exchange. 5.30: Tractor. 4.8: William Davey, xylophonist. 4.14: Violet Jackson, soprano. 4.21: Boake-Smith's Quartette.

4.27: Harold Tideman, baritone. 4.34: Arthur Douglas, comedian. 4.40: Phyllis Everett, contralto. 4.8: Boake-Smith's Quartette. 4.55: Stock Exchange. 5.3: Chimes and close down.

EVENING SESSION.

6.0 to 7.40: See Friday last.

NIGHT SESSION.

8.0: Chimes. 8.1: The News Symphony Orchestra (conducted by Lionel Baird)—

Overture, "Zampa" (Herold). 8.12: Violet Jackson, soprano.

8.19: Arthur Douglas, Scotch comedian. 8.25: Walter Wood, tenor.

"His Epitome" (Ray). "A Sprig of Boronia" (Hull).

8.32: The News Symphony Orchestra—

Selection. "The Condolers" (Sullivan). 8.47: Mrs. Leslie Matthews, contralto—

"The Storm" (Hullah). "A Crown Song" (Landon Ronald).

8.54: Marcus Tozer and Bondi Randall, Hawaiian Duo, in enchanting Hawaiian music.

9.0: Chimes. 9.1: Meteorological information, including Semaphore times.

9.2: Overseas gain report.

9.3: An Organ Recital from Stow Memorial Church, by Foxhall Robinson—

"Lohenrin" (Introduction to Fourth Scene) (Wagner).

"The Keeper Bell" (W. Spilney). "Slut d'Armour" (Elgar).

Three short pieces by modern Russian composers. "Prelude" (Scriabine).

"Album Leaf" (Kopyloff). "Romance" (Wiangeli).

"Elegie" (St. Cyr). 9.20: Violet Jackson, soprano.

9.27: Arthur Douglas, Scotch comedian.

9.33: The News Symphony Orchestra—

Waltz, "My Paradise" (Zameckl). The Celebrated "Largo" (Handel), with harp accompaniment by Miss D. Wallman.

9.40: Walter Wood, tenor.

"Edward Gray" (Sullivan). "Colleen Oge Asthore" (Kenningham).

9.47: Radio Problems Solved: "Atmos" will talk to you about radio problems.

9.57: Marcus Tozer and Bondi Randall, Hawaiian Duo: More Hawaiian music.

10.2: Mrs. Leslie Matthews, contralto—

"Ye Banks and Braces" (Scotch Air). "You're" (Herbert).

10.9: The News Symphony Orchestra—

Quickstep, "Adamant" (Bagley).

10.15: News Session: The "Advertiser" general news service; British official wireless news; meteorological information; announcements.

10.30: On with the Dance.

11.0: Chimes; close down.

6WF

10.0: Tune in. Gramophone and phonograph records from the studio. 11.0: Close down. 12.0: Tune in. 12.35: Markets, news, etc. 1.0: Time signal. 1.1: Weather bulletin, supplied by the Meteorological Bureau, Western Australia. 1.3: Fantasy hour, relayed from Messrs. Musgrove's, Ltd., Lytt House, Perth. 2.0: Close down.

3.30: Tune in. 3.35: Musical programme, relayed from the Carillon Cafe; vocal items from the studio. 4.30: Close down.

6.45: Tune in. 6.48: Bedtime stories by Uncle Duff. 7.5: Light music by the Fifth Piano Trio. 7.30: Commercial Western Australia. 1.3: Fantasy hour, relayed from Messrs. Musgrove's, Ltd., Lytt House, Perth. 2.0: Close down.

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cert from the studio by the Perth City Band, conducted by Mr. Les. Price 8.50: Late news items, by courtesy of the "Daily News" Newspaper Co., Ltd.; station announcements; ships within range announcement; late weather bulletin. 9.45: "Health" talk by Mr. H. Hatton, of the Hatton School of Physical Culture. 10.30: "God Save the King."

104.5 METRE TRANSMISSION.

Simultaneous broadcast on 104.5 metres of programme given on 1250 metres, commencing at 6.45 p.m.

7ZL

MIDDAY SESSION.

11.30 to 1.30: See Friday.

AFTERNOON SESSION.

3.0: Chimes, 3.1: Selections. 3.4: Weather information. 3.8: Selections. 4.18: Child Welfare. 4.30: Close down.

EARLY EVENING SESSION.

6.15: Selections. 6.30: "The Story Lady." 6.45: Selections. 6.50: Harold Ellis. 7.0: Answers to letters and birthday greetings. 7.5: Selections. 7.15: News session.

EVENING SESSION.

7.30: Under the auspices of the "Come to Tasmania" organisation: J. M. Counsel will speak on "Tasmania for Tourists." 7.45: W. H. Gumine will speak on "Soccer." 8.0: Chimes. 8.6: Selections. 8.15: 7ZL Community Singing. 8.15: All, "Mother Machree." "Lay My Head Beneath a Rose." 8.22: W. Thompson, bass: "Selected." 8.25: All, "Jennine." "Ramona." 8.32: Ada Blyth, recitation: "Selected." 8.35: All, "Annie Laurie." "Blue Bells of Scotland." 8.43: One act play, produced by W. E. Fuller. 9.7: A. Holmes, baritone: "Selected." 9.10: All, "Moonlight and Roses." "Last Rose of Summer." 9.17: Male Quartette (A. Rowe, H. Foster, H. Allen, W. Thompson): "Selected." 9.20: All, "All By Yourself in the Moonlight." "That's My Mammy." 9.27: Fred Kummer, tenor: "Selected." 9.30: All, "Desert Song." "One Alone." 9.37: Male Quartette (A. Rowe, H. Foster, H. Allen, W. Thompson): "Selected." 9.40: All, "Goodnight Ladies." "Auld Lang Syne." 9.45: News session. 10.1: Close down.

Large Low Wave Station to be Built at Tokio

JAPAN will soon put the largest radio transmitting station in the world into operation, according to Baron Yasushi Togo, managing director of the Japan Wireless Telegraph Company.

"This has been possible by the co-operation of the Japanese Government and private capital, as the equipment which has been installed in the new Yasomi station was manufactured by the German Telefunken Company and turned over to the Japanese Government as part of the reparations payments," he said.

"Not only will this be the largest station in the world with a power rating of 1000 kilowatts, but it will be of the latest type developed during the last year. The station will be used for direct communication with Europe and will add considerably to the communication facilities between these two different parts of the globe.

"The Yasomi station is now undergoing tests and has already been in communication with the European centres which it will link with Japan. The tests have been highly successful, but it is necessary to train an efficient staff to operate this giant power unit and also to complete a few minor details. The official opening of the station for commercial transmission is scheduled for some time in May, at which time appropriate ceremonies will be observed.

"The main equipment at Yasomi consists of a 1000 kilowatt high-frequency generator, which is the unit manufactured in Germany, while switchboards and other auxiliary equipment were made in Japan."

Mr. C. Price Conigrave will continue "An Australian Travelogue" from 2FC at nine on Thursday night; at four Mr. Basil Kirke will talk on "Japan and her People," from 2BL; and Mr. Claude Corbett will speak on general sporting from the same station at quarter to ten in the evening.

Captain Stevens will interview "To-night's Personality" from 2BL at five to nine on Thursday evening; and Mr. Brunton Gibb's "Oh, by the way" topical discussions will be continued from 2FC at ten past nine.

MARCO 'A.C.' FOUR

BELOW IS A LIST OF PARTS SUITABLE FOR BUILDING THE "MARCO FOUR" AS DESCRIBED IN THIS ISSUE.

	s	d		s	d
1 Panel 24 x 8 x 3/16 Bakelite	12	0	Wood Thread Screws, N.P., per doz.	4	4
1 Alpha, 5-point Battery Plug	6	6	1 A.W.A. 1-1 Output Transformer	19	0
2 Vernier Dials (Emkaybe)	13	6	1 HL.8 A.C. Osram Valve	20	0
1 Radiokes RF Choke	8	6	1 KL.1 Osram Valve	1	10
1 Piece 24-gauge Brass, 23 x 12	4	9	1 P625A Osram Valve	1	0
1 Electrad Grid Cond. with Clip	3	0	1 P625 Osram Valve	1	0
1 Royalty 0-500,000 Potentiometer	13	0	1 B.G.E. Power Pack	12	0
1 Centre Tapped Resistance	5	0	1 U.5 Rectifier Valve	1	7
1 2000 ohm Variable Resistance	11	0	2 A.W.A. Ideal Transformers	1	16
1 Marco Coil Kit Radiokes	1	10	3 A.W.A. Sockets	9	0
1 Benjamin UX or English Socket	4	6	1 Formo .00035 Condensers	8	6
Spaghetti Covering, per yard		4	2 Formo .0005 Condensers	18	0
Metal Thread Screws and Nuts, N.P., per doz.		1	1 Grid Leak	1	3
			Moulded Top Terminals, each		3
			Bus Bar Wire, per doz.		10



Battery-less Radio

What you require is—A set that surpasses anything at near its value in musical reproduction and excels in general all-round performance as well. A set that requires no batteries, trickle chargers, eliminators, or attention.

Let us give you a demonstration with the COLMOVOK and prove its all-round excellence. Demonstrations are given without the slightest obligation to purchase. Ring B2261 and arrange for a demonstration.

COLMOVOK A.C. THREE (Table Model)

CASH PRICE £29/-/-

Terms : £6 deposit, £2/2/2 monthly.

COLMOVOK A.C. THREE (Console)

CASH PRICE £34/-/-

Terms : £7 deposit, £2/9/1 monthly.

Colmovox Receivers are complete with loud speaker and installed free of charge.

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THE NEW ESSANAY CONDENSERS

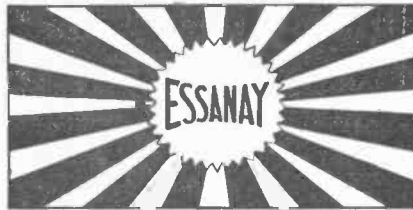
ONE HOLE FIXING

Essanay Condensers are quite new on the radio horizon, but the fact that they are sponsored by an old and reliable company is a guarantee of their efficiency.

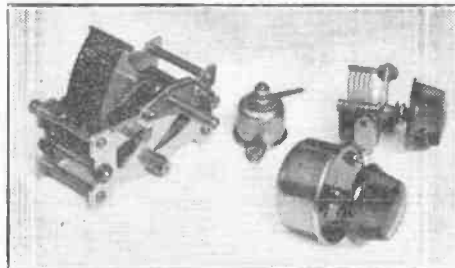
They are designed to fill a modern radio requirement.

Don B. Knock, Technical Editor of "Wireless Weekly," recently tested the "Essanay" products and recommends Essanay Screened Neutralising Condensers for the 1929 Neutrodyne described in the Exhibition number of this magazine.

Essanay condensers are fitted with one hole fixing.



Four Essanay Types of Condenser



'Phone, MA3062 & MA1717, Call or Write
SOLE DISTRIBUTORS FOR N.S.W.:

Essanay Variable Condensers



THE ESSANAY Screened Neutralising Condensers will be found an ideal type for the 1929 Neutrodyne. Price 3/9
ESSANAY Shielded Midget for receivers using screen grid valves and suitable midget coils is particularly interesting to short wave enthusiasts. Price 6/6
THE ESSANAY standard 0005 M.F.D. S.L.F. variable condenser is a good solid engineering job with a smooth running rotor. Price 10/6
See the Essanay Family at your dealers or write direct to the distributors.

FOX and MACGILLYCUDDY Limited
DAILY TELEGRAPH CHAMBERS, KING STREET, SYDNEY

ALL ELECTRIC!

A good proposition for those about to purchase a radio receiver—but for those who already have battery operated sets the New Process Harco High Tension Battery is an investment that will pay good dividends in long life.

THE HARCO NEW PROCESS "B" BATTERY

Made by an entirely new process giving extra long life with compactness of space—

90v. Block	19/6
100v. Block	22/6

Each battery is sealed at the factory, thus preventing anyone using same until seal is broken—see that the seal is intact when purchasing.

Sole Australasian Representatives—

PRICE'S RADIO SERVICE
Wingello House, Angel Place, 3326PP, G.P.O.

The WIRELESS WEEKLY

RADIO REFORMATION

Under the direction of

Ray Aldip

and

Don B. Knock

Service

Correspondence Answered

only through

these

Columns

G.W. (Corranbong).—Thanks. G.W. Just friendly criticism. Hope to hear from you again. A.E.R. (Queensland).—Probably 3-1 or 3 1/2 to 1. F.F.P. (Wilberforce).—Your proposition regarding resistance unit O.K. but there will be a slight drop in volume. 4/3 cheap. Transformer N.G. for output. Glad you like "Proving Radio."

W.A.S. (Fairfield).—It will be necessary to use an A.B.C. eliminator.

J.A.G. (Glenfield).—Three-plate condenser. Two to eight turns, depending on circuit.

R.B.D. (Newtown).—Presume you are using 4-volt accumulator? Valve has probably lost its emission. If you are using an R.F. choke in series with the plate of the detector valve, try shorting it out. Try also a .002 fixed condenser across the secondary of the transformer. If this does not stop the oscillations, reduce number of turns on the reaction coil by about eight, or change the reaction condenser for one of .0025 mfd. Thanks for your very kind remarks regarding our service at the Radio Exhibition.

C.L. (Mayfield).—Never heard of a "Brown and Drake" receiver. Presume you refer to a Brown-Drake? If so, this receiver will suit your requirements. Station you heard was JOBK. Sometimes given out in English, French, German, and Esperanto. W.K.M. is G. McCulloch, 311 Hayeslock Street, Ballarat. VK3GN is H. G. Selman, 51 Fairview Avenue, Newtown. There is no method of calculating the exact wave-length for any set position of the tuning dial except with a wave-meter and curve. Try Marco Four.

"VIDEX" (Double Bay).—Sorry, we have no room for circuit and details of an all-electric Peridyne altered to suit your requirements. If you write as about the matter later, when you see questions as well as answers being given here, it will probably be possible for us to gratify your wishes.

L.J. (Yorketown).—Go-Getter forwarded.

MAC (Sydney).—Wave-trap necessary. Several have appeared in these columns from time to time.

C.L. (Newtown).—The circuit is just the common fundamental crystal. Thanks nevertheless. W.C.R. (Walsend).—Acid may have been split. Test gravity with hydrometer. Perhaps distilled water is required. Battery may have been charged in reverse, or may have been soiled, causing matter to short plates, or it may not have been fully charged.

"REGULAR READER" (Newtown).—Circuit of one valve amplifier appears in these columns.

R.C.D. (Gurley).—The carrier wave is a continuous oscillation, or uninterupted oscillation, upon which is impressed a modulated telephony signal. It is heard in the receiver as a high-pitched whistle. A.W. (Wellington).—The Marco.

L.Y. (Ashfield).—Re all-electric, O.K. Follow the Phillips' A.C. 3-33 circuit.

E.O. (Five Dock).—Merely follow out the detector stage of the R.F. Midget Four.

W.C.R. (Walsend).—S. adaptor O.K. for Marco. Do not use a former. Coils should be set supporting. Turns will depend on band you desire to listen on. See Go-Getter article. Panel 6 x 9 will be O.K. Baseboard 9 x 3. No extra batteries required. Remove R.F. stage from Marco Four when using adaptor, and plug adaptor in detector socket of receiver.

A.E.R. (Queensland).—Probably 3-1 or 3 1/2-1. Condensers (both) are less efficient than variable condensers which have air (a good insulator, and best dielectric known) between the plates.

W.R.F. (Petersham).—It would be impossible to give complete constructional details for a "B" and "C" eliminator and a "trickle charger" through these columns, which are reserved for brief answers to queries, and not for constructional articles. Eliminators of all types have appeared in recent issues, and a trickle charger appeared in "Proving Radio," recently—a bell transformer and rectifier.

"SHORT WAVE" (Paddington).—See Go-Getter article for coil data. Resistances N.G. for your requirements. Never add acid to your accumulator. Phones R.F. in pattern of "The Edison."

K.E.R. (Mosman).—S.G. stands for Screen Grid. A Brachstat is a device for supplying the correct filament voltage to any particular valve; in other words, a filament ballast. The matter you refer to was given in a recent article entitled "Coils and Coils." See also below.

MR. KENNETH E. RICHARDSON, "Angowrie," 1 Beaconsfield Road, Mosman, Sydney, asks if any reader can supply him with "Wireless Weekly," Vol. 13, No. 14.

G.E. (Bundarra).—All parts O.K. S.A. (no address).—Primary of transformer probably burnt out. Try a 100,000 ohm fixed resistance across the primary. May also be a loose lead somewhere in the set.

N.C.W. (Picton).—All in order. We mistook your meaning. Thanks very much, all the same, but we received the copies required O.K. BS coils and shielding, quite O.K. When the R.F. condenser is turned out the set should go out of oscillation. The volume control also tends to stabilise the audio amplifier.

A.N.B. (Tamworth).—Valves O.K. No alterations to coils necessary. Diameter of coils employed 3/4 inches. 100-foot aerial O.K.

P. (Rose Bay).—Try changing grid return. Cracking probably caused by faulty apparatus at tramway power station, which is situated very near you, or may be a loose connection or faulty transformer. Would take several days to fully charge your battery at 25 amps.

C.M. (Willoughby).—Quite O.K., but not much volume. Connect one side of pick-up to grid, and the other side to positive filament terminal of filament socket.

"COUNTRY TWO-VALVER" (Broken Hill).—Yes, it is possible to transmit both telegraphy and telephony with an ordinary receiver. Hope this settles your "dispute," for we cannot, for obvious reasons, explain how this is done.

A.B.G. (N.S.W.).—Proposition O.K.

"MAC" (Banksia).—Your letter is published word for word as a deterrent to others. "Will you please let me know under the heading of 'Mac' why my five-valve set won't work with an eliminator?" You should have advised us as to the age of the receiver, the age of the eliminator, and the age of their children! Please write again advising circuit in use, type of eliminator, and method of rectification used. In all probability you have connected the eliminator wrongly, or the rectifying valve is faulty.

J.P. (Kogarah).—Yes, the Economic Eliminator will suit your purpose well.

G.M. (Grafton).—Re valves, yes. Re audio stages, yes. Re amplification, this would probably be increased owing to the higher amplification of the A.C. valve.

"WIRELESS WEEKLY" READER (Newtown).—You say you are baffled. You would not be if you read the articles before trying to answer the questions. Glad you like "R." Your suggestion considered, but it is thought that there are many who may desire to send in examination papers at a later date, and therefore publishing the answers to the questions would be unwise.

W.W. (Macquarie Street).—Rod aerial 35 feet high, well guyed, and guys broken well with insulators, and bottom of rod insulated. Aluminium may be used, but copper would be better. R.F. currents flow on the outside—or "skin"—therefore pipe is O.K.

R.B.D. (Sydney).—No. queries are only answered through these columns.

E.V.F. (Haberfield).—Your best plan would be to join a "Proving Radio Club" group. The knowledge you require is appearing in the "Proving Radio" series.

A.W. (Bondi).—O.K. for Bondi. C bias 4 1/2 volts, worth while purchasing unit mentioned. Yes, amplifier could be used as suggested. Sveravox cone speaker excellent. Price, 30/.

H.K. (Hurstville).—Yes, but you will have to use additional batteries for the unit.

E.B. (Manly).—Other adaptations of the Marco Four have appeared many times. Using the screen-grid valve it was necessary to screen the R.F. stage. Using the A.C. valves it becomes vitally important that R.F. and detector stages are totally shielded, and layout is also important, otherwise objectionable hum will result. The circuit you refer to was not shielded, and layout was sadly neglected. Further, there were alterations in the wiring which, if followed, will result in reduced volume.

C.A.A. (Mortlake).—One side of condenser to the lead-in, and the other side of condenser to aerial terminal of set.

MR. C. BROWN, "The Rosary, East End Road, Wahroonga (near Junction Road), has all "Wireless Weeklies" from 1927 to 1928, which may be had by any reader paying carriage.

advise that the only ones now available are those back as far as September, 1928, which is the latest issue I have, and so save useless correspondence." Thanks Mrs. Dixon, very much.

Mr. R. THOMSON, 2 Woodberry Plains, Cook Road, Centennial Park, wishes to obtain back numbers of "Wireless Weekly" containing "Proving Radio" articles. Can any reader oblige, please?

A.W.E. (Leichhardt).—No, it is not necessary to change the components. No changes need be made to reaction. An article on the All-Electric Marco appears in this issue. Brachstats cannot be used. No, the A.O.P.C. exam. is not set each year to every holder. Once you have passed the exam. you are O.K., although one of the rules states that the holder of an A.O.P.C. may be called upon at any time to sit for examination.

HETRO (Longueville).—Wind the coil mentioned (76 turns), and tap it at the 38th turn. Take the first turn to terminal No. 1 of the loop aerial, as marked on your diagram. The tapping should be taken to terminal No. 2, and terminal No. 3 connects to the end of the coil.

R.N. (Hillscombe).—Faulty valve, or valve unsuitable.

L.L. (Marrickville).—Try change of grid leak (say, a three megohm.), and also try adjusting detector voltage.

N.S. (Naremburn).—Four or five turns must be added to the coil. Suggest Radiokos Midget 20-plate condenser for this job.

W.T. (Queensland).—Yes; but not at great volume.

W.W. (no address).—See list of stations, as published last week in special supplement. Mostly Wednesday afternoons. Read "Kilocycling with the Fast Ones," as the stations mentioned have been discussed in this section quite lately.

"BYNEA" (no address).—Yes.

X.V.K. (Carlton).—Yes, receiver O.K. Transformers O.K.

R.N. (Annandale).—Capacity should be .0005 (point four 0's five).

A.R.B. (Mortdale).—The circuit is a Reinartz. Try adjusting "B" voltages, and use aerial of 50 feet.

B.H. (Jindabyne).—Circuit of three-valve resistance coupled amplifier recently published in these columns.

NIL DESPERANDUM (Brisbane).—See the Exhibition number of "Wireless Weekly."

G.M.S. (Gladesville).—Transformers suggested O.K. 5-1 first stage and 3 1/2-1 last stage. No alterations necessary.

E. D. McK. (Queensland).—Shorten your letter next time. Condensers O.K. End of L2 should connect to stator plates of C1, continuing to C2, where it connects to the rotor plates. Yes, you can use the two transformers, but if you find set how's reverse primary connections of one of the transformers. Valve suggestion would not be an improvement. The resistance mentioned is a grid leak of two or three megohms. Condensers preferably S.L.P. Suggest you use a .00055 variable condenser in place of the .0005 for reaction.

QUERY COUPON

If you are in difficulties about reception or set-construction, let us know, and we will endeavor to see you right. Make your questions brief to the point, and, where possible, show lay-out and wiring design. Under no circumstances will answers to queries be sent 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. Please enclose the accompanying queries in a WILL-PAID envelope. This information Service is provided at your earliest convenience. I enclose this coupon in order to indicate that I am a bona-fide reader.

A.T.B. (North Bondi).—Condensers do not appear to be matched with each circuit. Slip them round on the shaft whilst listening to a distant station, carefully returning after each adjustment is made; then lock the plates when best position is found. Adjust shields after. Try a power valve in the socket before the crystal.

A.W.C. (S.A.).—You did not even tell us what circuit is being used. Try reducing plate voltage. See that primary connections to the transformers are not reversed. Unless you tell us what circuit is being used or send us a copy of the circuit it is impossible to help you further.

GENERAL.—Will querists please pin all papers together, otherwise pages are liable to become lost or misplaced.

E.W. (Newtown).—Not enough details. Battery may be flat or faulty. Wiring may be bad. Try change of grid leak, and also try changing over valves.

A.C.O. (South Australia).—This circuit was published in Querles Columns a few weeks ago.

F.T.S. (Rockdale).—1929 Neutrodyne, published in Exhibition number. Build this, and use push-pull stage as in the Air King.

P.G.F. (Mascot).—Depends on resistance of voltmeter. Coil data published recently.

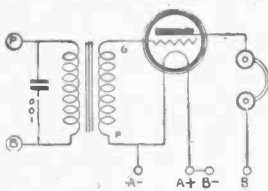
TANGALUNA (Queensland).—Six Sixty SS 6075 HF. makes a good detector. For other two valves use Philips AC9. Try every Wednesday afternoon, 3 to 5 o'clock, Sydney time, for KGO, 23.38 metres. Leave all batteries connected. "C" battery may help. Also experiment with different grid leak and a 500,000 ohm variable resistance across secondary. New name for "Hitting Below the Broadcast Belt," is "Kiloeveling with the Past Ones." G.C.T. is now discarded. It means "Greenwich Central Time."

G.W. (Palmwoods).—Can any reader please forward a copy of "Wireless Weekly" dated July 1, 1928, containing the Extraordinary One Valve, to Mr. George Watt, Palmwoods, N.C. Line, Queensland?

J.N. (Canterbury).—If you can get SLO you should be able to receive 2YA. However, cannot help unless details of the circuit and aerial system are supplied.

A.E. (Petersham).—Output transformer OP1. B443 power valve.

M.B. (Five Dock).—Probably a broken-down condenser.



Several readers (in this issue also) write complaining that, with some types of eliminators, their valves blow as soon as the mains are turned on. This is because one side of the mains is earthed, and because the filament of the set is earthed. The remedy is to place a 1 mfd. fixed condenser, tested 500 volts, in series with the earth lead.

G.S. (Newtown).—Leave out the last audio stage, when the receiver will be a Marco three, i.e., a Reinartz detector with one audio and an R.F. stage.

J.M. (Alexandria).—No, it cannot be used as you propose. It will deliver 2 amps. Tungar is just as economical as metal rectifier.

W.E.C. (Clarence River).—N.G. if reaction is controlled by variable tickler coil. Use a variable resistance or 00025 mfd. condenser, as follows:—Resistance, one side to plate of detector valve, other side to plate terminal of first transformer. Condenser, fixed plates to plate terminal of first transformer, moving plates to the moving plates of the other variable condenser.

A.R. (Mayfield West).—Yes, can be converted to all-electric. Alterations would be required in the circuit. As good as battery operated set. If attention is given to use of good parts and care in layout. Push-pull amplification well worth while.

J.A.B. (Surry Hills).—Wind 50 turns 24-gauge wire on a three-inch former. Connect lead-in to first turn, and also to fixed plates of a .0005 variable condenser. Connect the end of the coil to the moving plates of the condenser and also to the aerial terminal of the set. Other wave-traps have been published in querles columns recently.

L.P. (South Australia).—N.G. except on last audio, otherwise hum will always be present. Advise plugging indirectly heated cathode valve in some other stage where its characteristics will be suitable. Reduce voltages on R.F. and detector stages. R.F. should not require more than 45 volts, and detector about 30. The set is not grid biased.

MR. A. ANGLOW, "Shalimar," GHMith Street, Balrowlah, via Manly, wishes to know if any reader can supply him with a copy of "Wireless Weekly" containing the All Empire S.W. receiver.

W.B.W. (Pilton).—2-inch former, 100 turns 26 D.S.C. B voltage. H.W. (Auburn).—Plates are shaped differently, so that tuning is altered. Help to space stations, and give better control. Difference in types. You will note we have published two or three all-electric sets. G.W.F. (Clively).—Will have one ready in time for next holidays.

G.A.S. (Burwood).—The Perranti transformer has a fixed condenser across the primary (included inside the case). Perhaps this has broken down.

"SHORT WAVE" (Newtown).—Coils O.K. Reason why two sets of coils mentioned cover different bands is because of the difference in tuning capacity of the two sets. Eliminator can be used with the A615, but don't usually recommend eliminators for use on S.W. sets. Try it, anyway!

V.E.T. (West Walsend).—Resistance coupled, but use three stages instead of two stages of amplification. Advice on "all-day suckers" and "all-day radio sets" does not come under my category. Politely advise your neighbor of the disturbance he is causing. Unless he is very bad, do not advise you to cause trouble by getting in touch with authorities. If you show him this reply, perhaps it will help. Maybe your neighbor is not aware of the annoyance he is causing by having his radio set going from morning till night.

W.P. (Queensland).—See below for copy you require. Paris cost about £15. Will suit your requirements.

GENERAL.—Can any reader please supply Mr. W. Prickeft, Yengarie, Queensland, with a copy of "Wireless Weekly" dated February 1, 1928.

L.M. (Lonsueville).—Glad to hear you obtained the number you wanted. Thanks, reader, for forwarding this spare copy.

C.J.L. (Dulwich Hill).—Yes, quite O.K.

D.H.I. (Cremorne).—Using two-inch formers, all consists of 25 turns 24-gauge wire. L4, 55 turns, L5, 42 turns, L6, 63 turns, L7, 42 turns. You will probably have to experiment with coils L4 and L5. Wire O.K. Three-inch formers better, if margin condenser used for reaction. L5 should consist of 55 turns. You will not have such fine control.

H.C. (Kogarah).—Try reversing condenser connections. If two different types of transformers are used, try reversing primary winding connections of one of them. Try a .002 fixed condenser across secondary of first transformer, and a 100,000 ohm variable resistance across secondary of last transformer. See that plate and grid wires are separated, and that they do not run parallel with each other for any appreciable distance. Sorry to hear your Go-Getter was N.D.G., but no doubt these remarks may help you.

V.E.T. (West Walsend).—Your apology not accepted, for it was not required. Fault was mine. Eliminator quite O.K. It would not be necessary to procure a super-eliminator. Recommended resistance coupled, but transformer coupled amplification is good if very best of parts are used. Have answered the "planola" part of your letter in a previous query.

A.R.G. (Manly).—See the supplement issued last week.

H.W.D. (Port Macquarie).—The coils mentioned will be quite O.K. for the S.G. S.W. adaptor.

A.E.B. (West Marriekville).—Probably R.F. valve has lost its emission. Have it tested by your dealer. Swain's used to sell Skindervitium buttons, but not think they are obtainable now. A good button that will serve the purpose may be taken from an old telephone. E.P.O. old stock telephones may be bought at some second-hand shops for 1/-, and there is no need to remove the button from the diaphragm unless you require it for other purposes than a microphone. R.F. amplifier of Marco has will suit the average broadcast set, but as you do not give me circuit of your receiver am unable to design R.F. stage for it. It is necessary to have a license before you can transmit.

A.E.B. (West Ryde).—Repeat R.F. stage of your receiver. W.W. (Kensington).—Morse code outfit for transmitting messages a distance of 100 yards possibly appeared in "Proving Radio."

G.E.W. (Brooklyn).—Parts O.K. Glad our advice proved useful.

Portable Voltmeter

Pattern 136: A most convenient De Luxe Portable Jewell Voltmeter. Beautifully finished of black bakelite, clock stand type of mount. Range of scale 0-7.5—150 volts. Push button switch mounted in the top of flange. Three long leads with 'phone tips. Connected permanently will show filament voltage. By pushing the button the "B" Battery voltage is read.

Write for Radio Instrument Catalogue No. 15c.

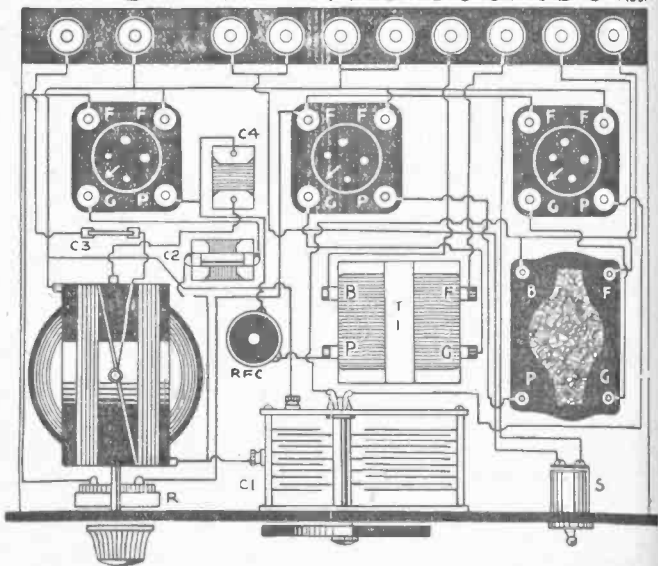
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A compact three-valve set, "The New Year Three," baseboard wiring of which is here shown.

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KELFORD	2	6	
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3½-1 and 5-1	17	6	
Output	17	6	
Gain	2	10	0
Push Pull	3	17	6

Analysing the "B" Eliminator

(Continued From Page 14)

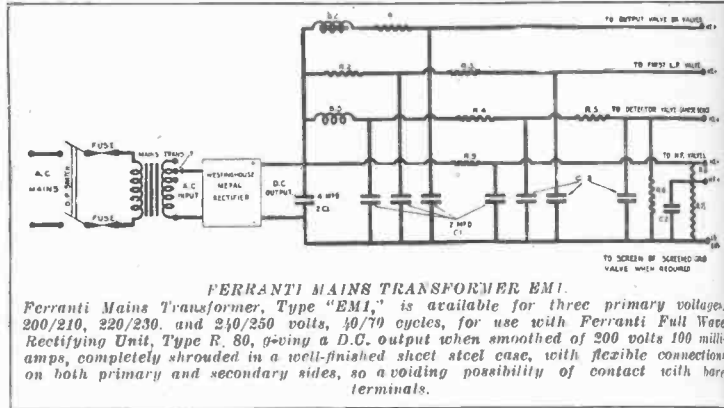
volts of the last stage, from the speaker, in fact, it is necessary to do this because if this is not done and a child came in contact with the terminals of the speaker the shock might be serious on account of the large amount of energy which can pass through the transformer and rectifier. The Eliminators for A.C. mains, used with the sets described, give no appreciable mains hum even when operating a good moving coil speaker, although such a speaker readily reproduces all frequencies and will consequently show up any ripple in the supply, which ripple has a frequency of 100 cycles per second when working on a 50 cycle main.

All the above filters are such that interaction cannot occur between the various audio frequency stages of the set, and extensive tests show that the set working with a filter of this design gives the same ideal result which it would give if each of its valves was fed from a separate H.T. battery of the right voltage. With reference to this point, measurements taken indicate that any set which employs a common battery with tapplings taken off to supply the various voltages does not give the ideal result due to the internal resistance of the H.T. batteries, whether dry or accumulator, causing interaction between the stages. When the internal resistance of the battery increases, the interaction can be so bad as to cause "howling" or "whistling." This howling can be eliminated in battery operated sets by taking all the wires from the end of the battery and using suitable resistance, with bypass condensers, to reduce the voltage at the valve to the desired value. In some older types of ordinary H.T. supply units or eliminators, the filter system filters the current for all the valves in common, and a potentiometer is put across from the positive to the negative side with tapplings of such value as to give the voltages desired in the set, and usually at each tapping a 1 or 2 mfd. condenser is shunted to the negative lead. Such an arrangement leaves a very appreciable resistance between the various stages of the set and causes interaction.

Often the interaction shows itself in the form of violent popping known as "motor boating," especially when good transformers or resistance capacity units which amplify the very low notes are used in the set.

A set can "motor-boat" when fitted with good transformers, yet when poor transformers are put in no popping sound is evident from the speaker, due to the fact that the bad transformers have filtered out a great deal of the music. An eliminator of the type just mentioned would probably work reasonably well if the tapplings gave higher voltages than were desired at the valves and were reduced by resistances say 10,000 or 20,000 ohms, with, of course, the necessary shunting condensers to the negative. The result would not be ideal but would be workable. This, however, means an additional expense, and the filters as described in the diagram, though a little dearer than the ordinary arrangement, avoid this and give results from the point of view of the complete absence of interaction.

Ferranti Ltd. publish a most interesting and ingenious chart giving the method of arriving at the values of resistances required to give the required "B" supply voltages. We shall revert to this chart in a later issue, as our readers will find it most interesting.



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Ferranti Mains Transformer, Type "EMI," is available for three primary voltages, 200/210, 220/230, and 240/250 volts, 40/70 cycles, for use with Ferranti Full Wave Rectifying Unit, Type R. 80, giving a D.C. output when smoothed of 200 volts 100 milliamps, completely shrouded in a well-finished sheet steel case, with flexible connections on both primary and secondary sides, so a voiding possibility of contact with bare terminals.

St. Paul's Spires

A TALK on St. Paul's Cathedral Spires will be given from 3AR on June 9 by the Rev. J. J. Booth, M.A., who has been appointed to carry on the work of raising funds for the completion of the building.

"Child Welfare"

KINDERGARTEN and social workers will be interested in the talk to be given under the auspices of the University Extension Board on June 11 by Dr. K. S. Cunningham, M.A., Dip.Ed., and Lecturer in Psychology, Logic, and Ethics at the University, who will speak on "Child Welfare Needs in Victoria."

The Value of Milk

THE talks to be given by Dr. Featonby from 3LO, on June 14, on "Milk as a Food," should interest a great many. It is recognised in a general way that milk is an excellent form of diet, especially for women and children, and those who wish to know how milk can best be used to ensure good health should not fail to tune in to Dr. Featonby's lecture.

Got the Time?

FROM Mr. Robert Allen, at Apl. Samoa:—"An interesting point in reception here is that, by putting in a broad tuning aerial coil and tuning midway between 2FC and 2YA, I am able to hear the local town clock, and those in Wellington and Sydney, chiming 10, 9, and 8 o'clock respectively and simultaneously." Which shows that radio, besides annihilating space, is making a horrible mess of time.

High Power

Ideal for high power amplification behind any existing receiver, or for electrical gramophone reproduction, the Martin all-electric power amplifier, to be described next week, will interest thousands. Do not miss your copy.

Monte Carlo

CONTINUING her travel through Europe, Miss Doreen Berry will give a description of her visit to Monte Carlo from 3LO on June 10, and draw graphic pictures of the town, the Casino, and the cosmopolitan crowd that make up its patrons. Miss Berry spent some little time in Monte Carlo, and her impressions should be most entertaining.

"Alice in Wonderland"

MISS FRANCES FRASER, from 3LO on June 14, will speak on "Alice in Wonderland for Grown Ups." Many people who have read the delightful nonsense written by Lewis Carroll have not yet been introduced to the author, a grave, shy, and immensely clever Professor of Mathematics, with a wonderful understanding of child nature and imagination. Miss Fraser will seek to supply the link between the author and his work, and her talk should be greatly enjoyed by all lovers of literature.

Arms and the Man

THE H. W. Varna Company are concentrating on a studio production of "Arms and the Man," for their appearance at 2EL on June 19, in response to many requests.

Bert Ray

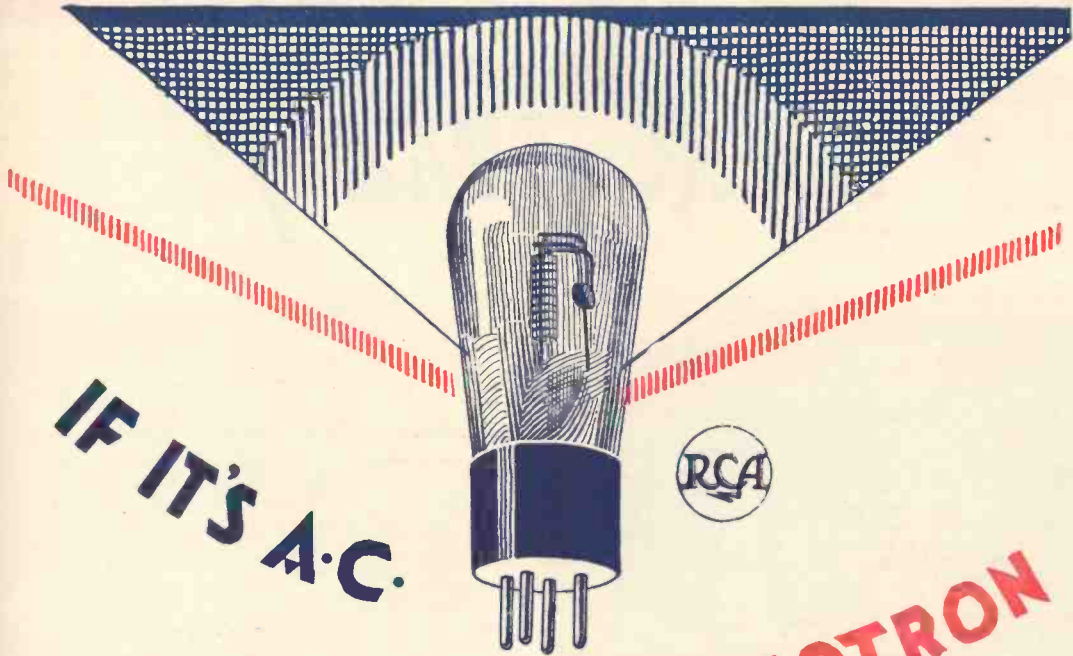
BERT RAY, the popular Australian comedian, will be the star at the 3LO Community Singing Session on June 10.

3LO Tenor

TOM SEMPLE will be on the air on June 11 in some special request numbers. The possessor of a flexible tenor voice, Mr. Semple is a familiar figure on the Melbourne concert platform, and, in addition to much recital work, has sung many times in conjunction with the Melbourne Philharmonic Society and Royal Victorian Leidertafel.

That Dollar

IN "The Wireless Age," journal of the Radio Corporation of America, we came upon the following striking statement:—"Longfellow could take a sheet of paper worth one-tenth of a cent, write a poem on it, and make it worth 5000 dollars. That's Genius." Genius, of course, being a limited capacity for gain.



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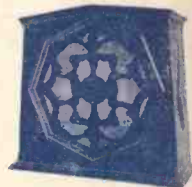
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